

# Maximizing our Nation's Broadband Infrastructure Investment

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We are not working in the most efficient manner possible to maximize the dollars we're investing in our wireless infrastructure.

Obama's American Recovery and Reinvestment Act is an opportunity to be smarter about how we develop these networks.

## Maximizing our Nation's Broadband Infrastructure Investment

Within many communities, public safety and other government agencies often are not working in the most efficient manner to get the most from the dollars they're investing in broadband networks. Local governments are building their own enterprise networks at the same time that public safety units are building out new IP infrastructure connecting tower sites; cable and telephone companies are laying fiber optic cables; and schools are setting up their own broadband capabilities. We are literally crossing over each other with fiber optic, microwave and wireless networks.

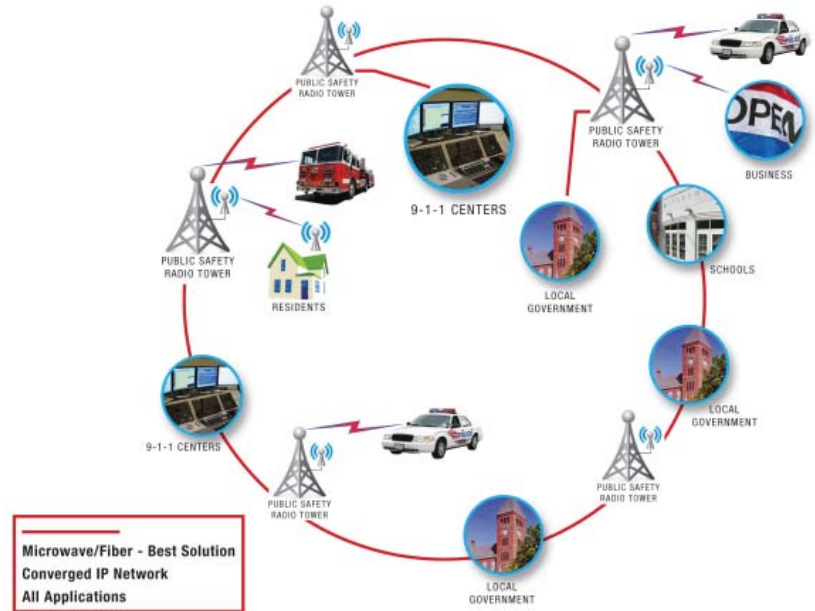
A major emphasis of the Obama Administration's American Recovery and Reinvestment Act is developing broadband networks in rural and underserved areas, as well as funding for broadband systems for educational, government and medical institutions. This presents the mission critical industry with a major opportunity — to jointly invest in converged broadband systems with other stakeholders, such as private business, medical users, education systems and local government.

The billions of dollars available from the stimulus program could take us a very long way toward constructing these backbones across the country. All stakeholders could jointly tap into this converged, integrated backbone network running through their community, with additional investment needed only for the last-mile connections. This will overcome the high costs that often prohibit these types of systems to be constructed and will help create greater ROI of the stimulus plan. Furthermore, combining funding from the broadband stimulus with investments and infrastructure already made or planned by state and local governments can provide network presence throughout areas that were previously not practical.

This backbone network is a super-core that carries enough capacity and speed to serve all the needs that currently are being filled by separate, standalone networks. Whether radio communications, Next Generation (NG) 9-1-1, or broadband and Internet access, a single key enabling element is required to deliver these critical services: a high-speed, high-capacity IP connectivity backbone.

## HIGHLIGHTS

The new broadband funding available can dually support 9-1-1 and radio communications — and act as a springboard for consumer broadband networks.



IP networks are already an integral part of the mission critical communications process. Many public safety users rely on county-wide radio networks to establish seamless communications across agencies and jurisdictions. These networks are intended to meet federal adopted Project 25 (P25) NTIA mandates already in place and help public safety reach the highest level of interoperability on the SAFECOM Department of Homeland Security Continuum.

In addition to radio communications, new, IP-based 9-1-1 networks are replacing legacy telephone networks across the county to support new communications devices that consumers are using, such as Smart Phones, video communications, laptop telecommunications and text messaging. Many of these IP networks are being deployed in the form of Emergency Services IP-Enabled Networks (ESInet). ESInets are wide area networks that can meet these overarching goals and help us migrate to the next generation of 9-1-1.

The new broadband funding available can leverage existing public safety IP networks — whether they be 9-1-1 or radio communications-oriented — and act as a springboard for additional elements such as scalable, wireless broadband networks for the community, schools and private business. Transport mediums, such as fiber optic cable, can expand networks to support additional capabilities. The result — more advanced and consumer-driven public safety services for both 9-1-1 and radio



This approach will help us build a converged high-speed backbone and overcome prohibitive cost and ROI features to implementing these diverse networks today.

communications, new means of communications for our communities, greater access to wireless in our nation's hospitals and schools and increased opportunities for commerce. And it can achieve the true intent of the economic stimulus plan by driving new opportunities for economic growth and providing a balanced benefit to government, our nation's citizens and businesses.

Using stimulus-plan funds to build a converged high-speed backbone can overcome the previously prohibitive cost and ROI issues facing IP providers in many areas. Combining funding from the broadband stimulus with investments and infrastructure already made or planned by state and local governments can provide network presence throughout areas that were previously not practical for providers.

Kimball is working on just such a project with Greater Harris County, Texas. When completed, this system will serve a number of different mission critical applications and provide public safety first responders with a seamless county-wide communications system. Additionally, the IP backbone we're constructing supports the goals of NG 9-1-1, the legacy telephone network, various enterprise applications, and creates a platform for interoperability which will support public safety radio networks. There is also a potential for providing a scalable wireless broadband network for Greater Harris County residents, schools and business.

To help support American Recovery and Reinvestment Act funding, additional funding sources can be pursued through Department of Homeland Security grant sources, education-based grant services, shared public-private revenue streams, federal highway funding sources and agriculture funding sources.

If ever we lived in a time for change, that time is now; let's begin changing the way we think about our broadband future so that everyone will benefit.