Wireless Broadband

Background

At the Federal Communications Commission (FCC), facilitating access to broadband services for all Americans, and thereby improving lives both at home and at work, is a central policy objective. Indeed, the President has called for affordable and universal broadband by 2007, and Congress has charged the FCC with ensuring the reasonable and timely deployment of advanced telecommunications services. To this end, the FCC strives to establish policies that promote competition, innovation, and investment in broadband services and facilities. Wireless broadband technologies are playing a crucial role in achieving our objective.

Benefits

To ensure that the goal for access to broadband is met, the FCC is reaching out to businesses, consumers and municipalities alike so that no community is left behind. Broadband deployment is so crucial because of the many ways it touches people's lives. Broadband services provide users high-speed access to data, video, audio and voice services all over one connection -- bringing tremendous benefits and achieving important goals.

- *Education*. Distance learning and Internet research are enabled, allowing students anywhere to access resources and obtain real-time instruction from qualified educators that might not otherwise be available in their local community.

- *Healthcare*. Remote or small clinics can be connected to experts and medical centers throughout the country, broadening access to medical expertise and specialties.

- *Jobs & Productivity*. The availability of broadband access is critical to attracting new businesses and giving existing businesses the ability to compete. With broadband access, worker productivity increases, jobs are created, and wages and the tax base grow.

- *Homeland Security*. Local public safety officials can get timely access to the information they need to assess and act on threats. In times of crisis or a natural disaster, getting accurate information to residents can be a life saver. Informed citizens are better prepared to help themselves and their neighbors in times of need.

Multiple Broadband Technologies

There are many different types of broadband access technologies, such as cable, DSL, powerline, satellite, and wireless. Each of these technologies can compete to provide similar services to consumers and businesses.

What advantages are provided by wireless broadband?

Wireless networks can cover wide geographic areas efficiently, providing the first available broadband service, or a competitive service, into many communities. Networks of varying sizes can be deployed in places where it would be prohibitively expensive to run wires. Because trenches do not have to be dug, there may be less overall disruption and visual impact to communities. Particularly for rural areas, wireless technologies may enable less burdensome service at lower cost. Wireless also has opportunities for mobile uses that other technologies do not.

What is a WISP?

Wireless Internet Service Providers (WISPs) use radio technology in place of cable or phone lines to provide broadband service to customers.

WISPs range from small businesses using off-the-shelf equipment to provide service to their neighbors, to large commercial operations serving local or regional areas.

Does unlicensed mean unregulated?

Many WISPs use what is termed "unlicensed" or "license exempt" devices to provide broadband services. This does not mean that they pose any safety concerns, or are somehow operating outside the law. The FCC tests and authorizes all wireless communications equipment. The FCC, however, permits some lower-powered communications devices to operate according to certain technical specifications without first acquiring a license. While users of these license exempt devices do not have to apply for individual licenses or pay to use the spectrum, there are still rules that must be followed. Two important issues, interference protection and radio frequency safety, are among those addressed by the rules that the FCC has adopted.

- *Interference Protection.* For license exempt equipment, the FCC has adopted rules limiting transmission power, antenna configurations, and **prohibiting interference** to other **licensed** users of radio spectrum.

- *Radio Frequency Safety*. All equipment sold for use in these bands must undergo FCC certification testing to ensure RF safety compliance. **This testing ensures safety to humans and to property**. For more RF safety information visit: *http://ftp.fcc.gov/oet/rfsafety/rf-faqs.html*

How can local governments help?

Local governments can play an active role to bring the advantages of wireless broadband to their citizens.

- *Permits.* In order to deploy a wireless network, operators typically must mount small, safe antennas to towers, buildings, or other tall structures and, in many cases, on their customers' rooftops. A WISP may need the appropriate permits for the placement of antennas necessary to ensure system coverage. With respect to equipment on the customer's premises, however, federal regulations generally prohibit local jurisdictions from requiring permits. For more information regarding consumer antennas visit: *http://ftp.fcc.gov/cgb/consumerfacts/consumerdish.html.*

- *Access to Rights-of-Way and Public Property.* Sometimes local governments control access to the most beneficial structures (such as a water tower or high rooftop) that would enable a WISP to reach a large portion of the community. Some WISPS may also use access to smaller structures in rights-of-way, such as streetlights or telephone poles to set up their networks.

- *Flexibility.* WISPs often vary in size and use different and multiple frequencies. They may have very different requirements and economies than the cellular telephone and other operators with whom local governments may be accustomed to dealing. In order to bring the benefits of broadband to their communities, municipalities may need to work closely with the WISP to ensure that the WISP is able to move forward and that the greatest benefit is brought to the community in terms of service.

Where to Go For Additional Information and Assistance

For further information about Wireless Broadband please visit the FCC Wireless Broadband Access Task Force Web Page: *http://www.fcc.gov/wbatf*