

Broadband Capabilities Today and in the Future Panel

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First of all, I'd like to thank the FCC for inviting the fixed wireless service providers industry to present at this panel. On behalf of my over 2000 wireless ISP (WISP) colleagues, we thank you for the opportunity to have a seat at the table for this discussion about the future of broadband in the U.S.

Fixed wireless technology is evolving rapidly. When I started Vistabeam in 2004, we were using wifi based gear that was basically an indoor card hooked up to a high gain antenna and the fastest connection we offered was 512Kb. Fast forward seven years, and I now have a 25meg connection at my house in the country that is 5 meg faster than the cable across the road, and 22meg faster than the available DSL. While cable and DSL speeds have seen incremental speed increases over the last decade, fixed wireless networks have seen exponential increases and continue to evolve rapidly.

Fixed wireless deployments are economically efficient to deploy. The base station that services my house – and has the capacity to serve over 100 customers - costs \$600. The radio on my rooftop is \$79. Using these numbers, the equipment cost for providing 25meg speeds is \$85 per subscriber. Including installation, total system cost is well under \$200, and half of that goes toward the employment of an installer – a job that contributes to the local economy.

Right now, over 2000 WISPs using unlicensed spectrum are delivering quality broadband to several million customers. Fixed wireless networks deliver higher speeds, lower latency and better overall network performance than mobile wireless or satellite systems. For years, WISP customers have been using voice-over-IP telephones, watching online video, telecommuting with VPNs and videoconferencing – applications that satellite and mobile wireless do not handle well because of latency. Fixed wireless can be rolled out faster than fiber and cable systems – and provides the quickest way to get broadband to unserved areas. Fiber to the end user may be the desired end result, but fixed wireless is an important transitional bridge for many places that will otherwise be left behind.

Fixed wireless technology will continue to evolve and play a very important role in America's broadband future. Technologies such as GPS sync and beamforming are being deployed right now and enable fixed wireless networks to deliver speeds to end users that will double or triple that of LTE and 4G networks. Independent demographic studies show that 71% of US households are within or just outside of WISP coverage areas – but the lack of tree penetrating spectrum and congestion of existing unlicensed spectrum inhibits the ability to deliver service to many parts of the country. Availability of more unlicensed and lightly licensed spectrum for fixed wireless broadband deployment will increase the capacity and reach of WISPs.

Lost in the shadows of 4G and LTE media blitzes and lobbying of big telecommunications companies, WISPs have been toiling away in unserved and underserved areas, delivering broadband at competitive prices and doing it with shared spectrum and little or no government subsidy. The transition to the Connect America Fund should have consideration for the important role that fixed wireless and the WISP “wireless cowboys” play in our broadband ecosystem.