

serve more than 3,000,000 people, many of whom reside in rural, unserved and underserved areas where wired technologies may not be available. For some schools and libraries in these areas, WISPs may provide the only cost-effective source of fixed broadband access. In areas where other broadband options are available, WISPs provide a local access alternative that fosters competition in service, cost and features. To deliver last-mile broadband service, WISPs rely principally on unlicensed spectrum in the 900 MHz, 2.4 GHz and 5 GHz bands, along with “lightly licensed” spectrum in the 3650-3700 MHz band. For middle mile services, WISPs use unlicensed links and microwave links licensed under Part 101 of the Commission’s rules.

Three of WISPA’s overall regulatory objectives are to (1) secure access to additional unlicensed spectrum for fixed broadband services, (2) help ensure that federal subsidies are not used in areas where WISPs already offer fixed broadband services, and (3) enable WISPs to serve residences, businesses, schools and libraries that might otherwise have few if any broadband access choices. Within this latter category, WISPA’s goal in this proceeding is to enable greater participation by WISPs so that they can deploy E-rate services to schools and libraries that can best be served via fixed wireless technologies, especially those schools and libraries located in rural areas where wired technologies may not be available or cost-effective to deploy.

Discussion

The *NPRM* reports that during the 15 years since the Telecommunications Act of 1996 authorized the E-rate program, “the financial support provided by the E-rate program has helped revolutionize schools’ and libraries’ access to modern communications networks.”² With the vast majority of schools and libraries connected to the Internet, “[t]he challenge we now face is

² *Id.* ¶ 1.

modernizing the program to ensure that our nation’s students and communities have access to high-capacity broadband connections that support digital learning while making sure that the program remains fiscally responsible and fair to consumers and businesses that pay into the universal service fund.”³ WISPA’s Comments suggest ways in which these challenges can be met, with specific emphasis on the first of the Commission’s three stated goals – ensuring that “schools and libraries have affordable access to 21st Century broadband that supports digital learning.”⁴

I. THE E-RATE PROGRAM SHOULD PRIORITIZE FUNDING FOR FIXED WIRELESS BROADBAND SERVICES IN RURAL AREAS.

A. Fixed Wireless Technologies Support Cost-Effective Broadband Services To Schools And Libraries.

The Commission asks for “general comment on the most efficient technological architectures that schools and libraries are likely to use for connectivity.”⁵ The Commission acknowledges that fiber connectivity “may not currently be available in some areas, or requires payment of very high up-front construction charges,” and asks whether fixed wireless solutions may be cost-effective.⁶

In many areas of the country, especially rural areas, fixed wireless is and will be the most cost-effective way to deliver broadband services. A WISP can build a wireless point-to-point link for transport to link the connections at the school or library to the Internet or other educational facilities and can also provide broadband connections within the school. In many small communities, there may be no fiber or cable wiring, and wireless technology is the only terrestrial means by which communities can receive broadband access to the Internet. The areas

³ *Id.* ¶ 2.

⁴ *Id.* ¶ 12. WISPA also generally supports rule changes that will advance the Commission’s two other objectives. *See id.*

⁵ *Id.* ¶ 67.

⁶ *Id.* ¶ 68.

where wireless technology is most cost-effective are precisely those areas where wired technologies are either not cost-effective to deploy or simply do not exist.

WISPs are today using both licensed and unlicensed spectrum to provide transport to and among schools. In many cases, fixed wireless may be the most affordable, if not the only, technology that can provide broadband services to schools and libraries located in rural and remote areas. The E-rate services WISPs provide include backbone transport between school facilities, broadband Internet and interconnected VoIP.

Emerging wireless technology is also being tested by libraries. The Gigabit Libraries Network recently announced that six library groups from across the country will participate in nationwide trials where unlicensed TV “white space” spectrum will be used to enable remote Wi-Fi access points on “e-bookmobiles” and other public places.⁷ The ability to use unlicensed TV “white space” spectrum to serve libraries – whether within the E-rate program or not – demonstrates the ability of wireless technology to provide and enable broadband services.

B. The Commission Should Prioritize Fixed Wireless Technology for Schools And Libraries Located In Rural Areas.

The Commission asks whether it “should prioritize fiber connectivity over other types of broadband connectivity.”⁸ The Commission acknowledges, however, that “there may be some schools and libraries, particularly small rural schools and libraries, where fiber deployment is either not necessary or simply cost-prohibitive.”⁹ For schools with a small number of students, schools in rural areas where fiber is not available and libraries that also are not accessible via fiber, fixed wireless technologies are likely the most cost-effective means to provide broadband.

⁷ See Press Release, “Gigabit Libraries Network Announces Results of First National Super Wi-Fi Pilot” (Aug. 29, 2013).

⁸ *NPRM* ¶ 77.

⁹ *Id.*

For these schools and libraries, the Commission's rules and policies should prioritize fixed wireless solutions.

The Commission asks whether it should increase the discount rate or the amount of E-rate funds available for schools and libraries in rural areas, which are currently 5-10 percent above the urban discount rate.¹⁰ The longer distances required for transport and the lack of competition in many rural markets result in substantially higher costs to provide broadband services to rural schools and libraries. Accordingly, WISPA recommends that the discount schedule in Section 54.505(c) be revised to increase the discount rate in rural areas.

The costs associated with fixed wireless broadband deployment to schools and libraries can be funded in two primary ways. For direct costs such as microwave connectivity where the bandwidth is not shared, all costs should be eligible. Where an access point is not solely dedicated to the funded school or library but is shared by residences and businesses, the costs should be allocated to ensure that E-rate funds are not used to support commercial services. These costs would include equipment and recurring charges such as bandwidth and site lease fees.

II. THE COMMISSION'S RULES SHOULD SUPPORT THE USE OF SCHOOLS AND LIBRARIES AS WIRELESS COMMUNITY HOTSPOTS.

The Commission asks a number of questions concerning the extent to which it should permit students and the general public to receive E-rate funded Internet access offsite through wireless hotspots.¹¹ WISPA believes that there should be no restrictions on the ability of wireless broadband deployed at schools to also be used after-hours to support educational uses by students as well as the community at large.

¹⁰ See *id.* ¶ 133.

¹¹ See *id.* ¶ 320.

For offsite services, WISPA supports removal of restrictions that would reduce funding by the amount of any offsite uses that are currently ineligible for E-rate support. Education is not limited to school buildings, and funding distance learning through wireless hotspots is a natural evolution of the E-rate program. The Commission should, however, adopt safeguards to ensure that funding for offsite wireless hotspots does not lead to new cases of waste, fraud and abuse. WISPA thus agrees that the conditions placed on E-rate supported services during non-school hours can be applied to offsite locations.¹²

III. THE COMMISSION SHOULD STREAMLINE ITS RULES FOR MULTI-YEAR CONTRACTS.

While E-rate applicants are permitted to enter into multi-year contracts, Section 54.507(e) prohibits multi-year funding commitments, thereby requiring applicants to undergo annual review. The Commission proposes to allow E-rate applicants with multi-year contracts of no more than three years to file a single Form 471 the first year of the contract.¹³ WISPA agrees with the Commission that such a rule change would potentially reduce the price for services, provide more certainty to both applicants and providers and reduce USAC's administrative burdens.¹⁴

¹² See *id.* ¶ 322.

¹³ See *id.* ¶ 241.

¹⁴ See *id.* ¶ 240.

Conclusion

WISPA applauds the Commission for initiating this proceeding to modernize the E-rate program. In so doing, the Commission should give greater appreciation to the value and cost-effective nature of fixed wireless solutions, especially for providing services to schools and libraries located in rural areas.

Respectfully submitted,

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