Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51

To: The Commission

COMMENTS OF THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

Richard Harnish, President

Stephen E. Coran
Rini Coran, PC
1615 L Street, NW, Suite 1325
Washington, DC 20036
(202) 463-4310
Counsel to the Wireless Internet Service Providers Association

June 8, 2009

Summary of Comments

The Wireless Internet Service Providers Association ("WISPA") is pleased to provide its Comments in response to the Commission's Notice of Inquiry ("*NOI*") to offer perspective and suggestions on the considerations the Commission should take into account as it develops a national broadband plan.

As the trade association representing the wireless Internet service provider ("WISP") industry, WISPA is uniquely qualified to comment on the challenges of deploying unlicensed wireless broadband service in rural communities, and the benefits that wireless technologies can bring relative to other platforms. Building on Acting Chairman Copps' conclusions and recommendations in the recently released *Rural Broadband Report*, WISPA strongly agrees that Congress, the Commission and other governmental agencies can do more to promote broadband deployment, especially in rural, unserved and underserved areas of the country. In constructing its broadband plan, the Commission should keep in mind that a "one size fits all" approach to broadband policy does not adequately account for the vast differences in technologies, competitive landscape and geographic markets. To this end, wireless technologies are often the most cost-effective means by which rural consumers can obtain access to broadband services.

In addition to suggesting definitions of key terms such as "broadband," "capability" and "access" and urging harmonization of such terms with other agencies (specifically with respect to information collection and mapping), WISPA makes several other recommendations. First, WISPA advocates a policy of "spectrum homesteading," whereby unlicensed spectrum would be made available on a non-exclusive basis, and those wireless providers that meet an accelerated build-out and service schedule would

then obtain an exclusive license for the area. WISPA believes that this policy would promote expeditions and cost-effective service, and the prospect of obtaining an exclusive license would also increase opportunities for the provider to obtain financing. With these powerful incentives, broadband services would be deployed more quickly and more affordably in more areas of the country.

Second, a national broadband policy should enable more affordable access to backhaul facilities. Too often, distance and a lack of competition result in costs that are too high to allow WISPs to provide affordable broadband service. WISPA has advocated higher power for TV white spaces to enable wireless backhaul on a shared basis with point-to-point uses. WISPA also believes that facilities-based retail broadband providers should be required to make available access to intermediate transport networks (the "middle mile") and to the Internet backbone, which would allow broadband providers in unserved, underserved or rural areas to have equitable, non-discriminatory access to the rates, terms and conditions that the transport and backbone providers offer their own affiliates and largest customers.

Third, the Commission should initiate steps to help wireless broadband providers to have better access to tower sites. State and local governments should be encouraged expedite requests to access government-owned towers by eliminating approval layers and using standardized forms. The Commission should ask Congress to afford broadband providers the same rights to utility poles and non-discriminatory pricing afforded to cable television systems and providers of telecommunications services. The Commission also should update its database to include a list of towers on federal, state and local lands that would be available for WISPs and other wireless providers to access.

Fourth, as WISPA has stated in other proceedings, the Commission should use the Census Block (not the Census Tract) as the base geographic area for its collection of broadband data. The more granular the area, the better the Commission will be able to determine the locations where broadband need is greatest. Further, where possible, the Commission, NTIA and RUS should all rely on common metrics to make information collection and reporting more uniform.

Fifth, in areas where there is demand for broadband but supply may be too expensive to deploy and make affordable, the Commission should identify the need for Congress to make additional funding available for subsidies, rebates, vouchers and other similar mechanisms designed to make broadband affordable to all residents.

Finally, WISPA encourages the Commission to conduct public hearings in Washington, DC and other areas around the country to expand opportunities for meaningful public participation in the regulatory process.

Table of Contents

Introduction.....1

Discussion.....4

- **A. Approach to Developing the National Broadband Plan**.....5
- **B. Establishing Goals and Benchmarks**.....6
  - **1. Defining Broadband Capability**.....6
  - **2. Defining Access to Broadband**.....10
  - **3. Measuring Progress**.....11
  - **4. Role of Market Analysis**.....12
- **C. Efficient and Effective Mechanisms for Ensuring Access**.....13
  - **1. Market Mechanisms**.....13
  - **2. Determining Costs**.....15
  - **3. Universal Service Programs**.....16
  - **4. Wireless Service Policies**.....17
  - **5. Open Networks**.....18
  - **6. Competition**.....19
  - **7. Other Mechanisms**.....20
- **D. Affordability and Maximum Utilization**.....21
  - **1. Affordability**.....21
  - **2. Maximum Utilization**.....22
  - **3. Broadband Privacy**.....22
- **E. Status of Deployment**.....23
  - **1. Subscribership Data and Mapping**.....23
  - **2. Stimulus Grant and Loan Programs**.....23

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51

To: The Commission

COMMENTS OF THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

The Wireless Internet Service Providers Association ("WISPA") hereby provides its comments in response to the Notice of Inquiry ("*NOI*") adopted in the above-captioned proceeding.[1] As discussed below, WISPA believes that the national broadband plan the Commission is required to develop[2] should promote the expanded deployment of wireless technologies to enable increased access to broadband, especially in rural, underserved and unserved areas of the country where unmet demand is highest. To help make broadband ubiquitous, accessible and affordable, WISPA believes that the national broadband plan should emphasize a policy of "spectrum homesteading," harmonize with other agencies the definition of key terms and data collection metrics and recommend ways to streamline tower site acquisition. The need for these elements, along with other suggestions, is demonstrated in the Comments that follow.

Introduction

Founded in 2004, WISPA is the trade association representing the interests of more than 350 Wireless Internet Service Providers ("WISPs"), vendors, system integrators and others interested in promoting the growth and delivery of wireless broadband service. WISPs provide

[1] *A National Broadband Plan for Our Future*, Notice of Inquiry, FCC 09-31, rel. Apr. 8, 2009 ("*NOI*").
[2] *See* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, § 6001(k)(2) (2009) ("Recovery Act").

fixed wireless Internet access services to more than 2,000,000 consumers and businesses. Many subscribers live in underserved areas of the nation, both rural and urban, where wired technologies, such as DSL and cable modem service, do not reach and are unlikely to extend because of the high infrastructure deployment costs. Fueled by the Commission's allocation of unlicensed spectrum in the early 1990s, many WISPs are eager to extend their networks to remote areas where demand for broadband is great but where broadband currently is not available. Many WISPs operate in license-exempt bands (*e.g.*, 900 MHz, 2.4 GHz and 5.8 GHz), the 3650-3700 MHz "licensed-lite" band and, in some cases, licensed bands. The vast majority of WISPs are "small business concerns," as defined in the Small Business Act.[3]

In recognition of the need to create new opportunities to further extend wireless broadband products and applications to consumers in rural, unserved and underserved areas, WISPA has been a frequent advocate before the Commission and other agencies, seeking to create a more suitable environment for WISPs to invest and deploy service. In 2007, WISPA filed comments in the 700 MHz proceeding seeking to make spectrum more accessible to small entities.[4] More recently, WISPA filed extensive comments,[5] *ex parte* presentations[6] and a petition for reconsideration[7] regarding use of the television white spaces, advocating rules that would promote affordable wide-area fixed wireless services under a "licensed-lite" approach

---

[3] 15 U.S.C. § 632.
[4] *See* WISPA Comments filed May 23, 2007 in *In the Matter of Service Rules for 698-746, 747-762 and 777-792 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 8064 (rel. Apr. 27, 2007).
[5] *See* WISPA Comments filed Feb. 20, 2007 in *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, First Report and Order and Further Notice of Proposed Rulemaking, ET Docket Nos. 04-186, 02-380, 21 FCC Rcd 12266 (rel. Oct. 18, 2006).
[6] *See, e.g.*, Notices of Ex Parte Presentations from Stephen E. Coran, Counsel to WISPA, to Marlene H. Dortch, FCC Secretary, ET Docket Nos. 04-186 and 02-380, dated August 1, 2008; Letter from Jack Unger, WISPA Secretary and FCC Committee Chair, to Marlene H. Dortch, FCC Secretary, ET Docket Nos. 04-186 and 02-380, dated October 22, 2008; Notices of Ex Parte Presentations and Letters from Stephen E. Coran, Counsel to WISPA, to Marlene H. Dortch, FCC Secretary, ET Docket Nos. 04-186 and 02-380, dated Oct. 28, 2008.
[7] *See* WISPA Petition for Reconsideration, ET Docket Nos. 04-186 and 02-380, filed March 16, 2009 ("White Spaces Recon Petition").

similar to that adopted for the 3650 MHz Service. WISPA also met with Commission staff[8] and filed comments making recommendations on the Commission's consultative role with respect to specific provisions of the Recovery Act.[9] In that proceeding, as here, WISPA encouraged the Commission, the National Telecommunications and Information Administration ("NTIA") and the USDA's Rural Utilities Service ("RUS") to use common definitions and to harmonize data collection and mapping metrics, wherever possible and where consistent with each agency's Congressional mandate.

With respect to the Recovery Act, WISPA representatives actively participated in the joint public meetings hosted by the NTIA and RUS advocating grant eligibility and selection criteria that will best promote investment and broadband service to rural, unserved and underserved areas.[10] WISPA articulated its positions on these and other important issues in its comments responding to the NTIA/RUS Request for Information.[11]

Over the years, many WISPs have received federal and state grants and loans to speed and facilitate construction and deployment of broadband facilities in rural areas. In particular, WISPs have utilized the RUS grant, loan and loan guarantee programs to fund community centers, educational services and broadband access in rural communities where a WISP can meet demand for broadband. WISPs have been very involved in these existing programs and have proved to be responsible stewards of public funding.

In the *NOI*, the Commission expressly recognized the valuable contributions that WISPs have made to promote broadband deployment:

---

[8] *See* Notice of Ex Parte Presentation, letter from Stephen E. Coran, counsel to WISPA, to Marlene H. Dortch, FCC Secretary, GN Docket No. 09-40, filed Apr. 6, 2009.
[9] See WISPA Comments, GN Docket 09-40, filed Apr. 13, 2009 ("Rural Broadband Comments").
[10] *See* NTIA/RUS Public Meeting Agenda, American Recovery and Reinvestment Act of 2009 Broadband Initiative, March 19, 2009 (listing Tom DeReggi, WISPA Vice President and Legislative Committee Chair as Speaker on Roundtable on "Definition of Broadband").
[11] *See* WISPA Comments, NTIA Docket No. 090309298-9299-01, filed Apr. 10, 2009 ("NTIA/RUS Comments").

> Unlicensed technologies are often used by Wireless Internet Service Providers (WISPs) to offer broadband service in urban, suburban and rural communities. Unlicensed technologies are increasingly incorporated in devices operating under our licensed radio services rules to enhance consumers' broadband experience, such as cell phones that include Wi-Fi broadband access capability. We also note that the Commission recently established provisions for unlicensed devices to operate in the TV white spaces, which hold promise for the introduction of new broadband services.[12]

Having constructed and operated wireless networks in rural and underserved areas of the country where broadband service would not otherwise be available, WISPs understand well the challenges and benefits of serving areas that other ISPs have chosen not to serve. WISPA appreciates the historic opportunity this proceeding presents to assist the Commission in its preparation of the national broadband plan.

Discussion[13]

Last month, Acting Chairman Copps released the *Rural Broadband Report* that identified problems and proposed solutions as an initial "building block" for making broadband services more available to consumers in rural areas of the country.[14] The *Rural Broadband Report* recognized that rural America has long suffered from a lack of access, stating that "rural America has for most of our history been deemed too remote, too sparsely populated, or too inaccessible to be fully connected with our nation's infrastructures."[15] It further concluded that "[e]very rural area presents its own special challenges, and a particular technological solution may be well-suited to one situation and poorly-suited to another."[16] The Commission also acknowledged the

---

[12] *NOI* at ¶21 (footnotes omitted).
[13] As requested by the Commission, WISPA is organizing its Comments to mirror the organization of the *NOI* where possible. *See NOI* at ¶127. The headings for each of the sections below correspond to the section headings in Part III.A-E of the *NOI*.
[14] "Bringing Broadband to Rural America: Report on a Rural Broadband Strategy," May 22, 2009 ("*Rural Broadband Report*"), at ¶8.
[15] *Id.* at ¶1.
[16] *Id.* at ¶13.

difficulties in collecting accurate broadband data and developing demand for broadband services through education.

WISPA is pleased that the Commission is taking steps to address the concerns of rural areas. But, as the *Rural Broadband Report* observed, more can and should be done – the "likely success of rural initiatives is intimately linked to a sound national broadband policy that reflects the complex interdependencies of regulatory policies, economic issues, and technological innovations."[17]

A. Approach to Developing the National Broadband Plan

As a general proposition that serves as a backdrop to WISPA's Comments, WISPA agrees that a "one size fits all" approach to broadband policy does not adequately account for the vast differences in technologies, competitive landscape and geographic markets that comprise this nation.[18] WISPA believes that Commission policies should promote access to a minimum level of broadband by all residents of the United States, and suggests that different definitions should apply depending on market conditions. For instance, the definitions should acknowledge that metropolitan areas may be able to support fiber-based technologies that will enable greater speeds and can be made more affordable and accessible given the higher population density. To the contrary, in many remote areas of the country, fiber-based technologies will not be readily available, or will be too expensive to access given the distance to the Internet backbone, the lack of competitive alternatives or the inaccessibility of towers to support affordable wireless backhaul.[19] In these markets, many of which are served by WISPs but many of which are not, "broadband capability" and "access" should be defined and assessed differently in light of the

---

[17] *Id.* at ¶8.
[18] *Id.* at ¶11 (acknowledging that the "solutions for rural broadband should reflect consideration of a full range of technological options available").
[19] *Id.* at ¶10 (stating that WISPs "offer fixed wireless broadband services in areas not reached by wireline technologies") (citation omitted).

lower population density, the higher per-home costs to provide service and the lack of competition. Wireless technologies are often much more cost effective to reach rural residents and can be deployed rapidly and effectively.

Moreover, the national broadband plan should encourage investment; too often, the stigma of unlicensed spectrum creates the impression that WISPs do not have a business model conducive to third-party financing, which limits the ability of WISPs to extend their networks. To promote investment and to expedite broadband service, WISPA advocates adoption of a "spectrum homesteading" policy that rewards wireless broadband providers that meet aggressive build-out requirements.

WISPA also offers concrete suggestions on how the Commission can mitigate a significant barrier to market entry – access to tower sites. WISPA believes the Commission should promote policies that would make it much easier for wireless providers to gain expeditious access to tower sites.

B. Establishing Goals and Benchmarks

1. Defining Broadband Capability

The Commission asks how it should define "broadband capability."[20] In its NTIA/RUS Comments and its Rural Broadband Comments, WISPA proposed a definition of "broadband" for fixed services that would apply to grant applications under the Recovery Act. The proposed definition is as follows:

> For purposes of **determining eligibility** for Recovery Act funds, WISPA would define "fixed broadband" as having an average bandwidth of at least 768 kbps in one direction, which is consistent with the Commission's definition (adopted in 2008) of "Basic Broadband Tier 1."
>
> For purposes of **evaluating grant applications**, WISPA would define "fixed broadband" as having a bandwidth of up to 3 Mbps to the customer and at least 2

[20] *NOI* at ¶15.

> Mbps from the customer. No additional preference would be awarded for speeds above these in order to ensure compliance with the "technology neutral" requirements of the Recovery Act.[21]

These criteria are designed to enable NTIA and RUS to use a bright-line test to ensure that each can efficiently and equitably make grant determinations in a technologically neutral manner.

In developing a national broadband plan, the Commission should take a more comprehensive approach. First, as discussed above, there should be separate definitions for "fixed broadband" and "mobile broadband" based primarily on speed. Providers of fixed service generally serve residences and businesses and can be wired or wireless. Providers of mobile service generally offer lower speeds to hand-held consumer devices. Initially, the Commission should define "fixed broadband" as having a bandwidth of up to 3 Mbps to the customer and at least 2 Mbps from the customer. As more spectrum is deployed, such as 700 MHz, the lines between the fixed and mobile product markets may begin to blur, and it may be necessary to revisit the distinction over time.

Second, the Commission should establish tiers for "fixed broadband" that are based not only on speed, but also take into account latency and the kinds of service that can be offered with a high degree of reliability. Non-dial-up Internet access with medium to high latency can support applications such as e-mail, general web browsing and instant messaging, but would not support Voice over IP ("VoIP"), video streaming, gaming, high-bandwidth downloads and remote desktop applications. The next tier of non-dialup access would have low to medium latency and downstream speeds (asynchronous) of at least 768 kbps to 3 Mbps, and consumers could receive services that include all of the above applications, although remote desktop applications (which demand on faster upload speeds) would be more difficult and high-bandwidth downloads would be time-consuming. The third tier would have low latency and

[21] *See, e.g.*, NTIA/RUS Comments at 6-7.

synchronous speeds of 768 kbps to 3 Mbps and would support all of the above applications, especially remote desktop access, and would enable fast downloads for high-bandwidth applications. The final tier would be greater than 3 Mbps and would support all low-latency, synchronous and all current broadband applications. For speeds, latency and applications that fall short of the first broadband tier – *e.g.*, dial-up service – the Commission should collect this data, and recognize that assistance may be needed to promote broadband development.

Third, while its broadband tiers should be defined in technologically neutral manner, the Commission should distinguish between different technologies to determine the most cost-effective broadband platform for a given area. As discussed above, some technologies, such as wireless (whether unlicensed, lightly licensed or licensed), are more cost effective to deploy in rural, unserved and underserved areas that would otherwise never be served wired technologies. These methods are more inexpensive to deploy and support, and thus facilitate service to a larger number of consumers across a wider universe of geographic areas. That said, in some circumstances fiber is an important element of connectivity and, as capacity needs increase over time, may be a key component for many ISPs, wireless or otherwise. As policies are developed, the Commission should consider the benefits that each technology can bring to specific markets, and recognize that the last mile in rural, unserved and underserved areas often can best be served by wireless technologies.

One of WISPA's primary concerns is affordable access to the "middle mile." Consideration of the middle mile is essential. In some cases, WISPs may have been unable to serve a community because it is located too far from the Internet backbone and affordable, high-bandwidth solutions are not available. In other locations, the middle mile may be accessible, but the transport costs charged by the backbone provider are prohibitive. Indeed, the *Rural*

Broadband Report found that "[e]ven in rural areas where broadband is available, infrastructure deployment has not kept pace with the growing need for faster and more reliable connectivity."[22] At a minimum, assuming the WISP can connect to the backbone, there may not be sufficient capacity and consumers will be unable to receive applications such as voice and real-time programs.

In response to the Commission's question concerning the "state of deployment of broadband services that are offered under our rules for unlicensed devices,"[23] WISPA reports that its members continue to succeed in providing broadband services in urban, rural, unserved and underserved areas notwithstanding the difficulties associated with non-exclusive spectrum, site acquisition and middle-mile access. By necessity, WISPs have become experts at designing networks that do not interfere, avoiding interference and resolving interference issues without Commission intervention (in the vast majority of cases). Nevertheless, the interference environment can be harsh and, as systems grow over time, the increase in "noise" from nearby systems can undermine a WISP's ability to continue serving its existing subscribers. For these reasons, WISPA has supported the allocation and assignment of more spectrum – unlicensed, "licensed lite" and licensed – on terms that would help eliminate the potential for increased interference and create more opportunities for WISPs. WISPA's advocacy efforts have included the following:

- Seeking adoption of auction procedures for Auction 73 that would have increased opportunities for WISPs and other small businesses to bid on 700 MHz spectrum (a measure the Commission did not adopt);

- Seeking adoption of "licensed lite" rules, reduced regulatory burdens, higher power limits and operational flexibility in the TV white spaces to enable better interference management and cost-effective coverage (measures the Commission largely did not adopt but are still under consideration;

[22] *Rural Broadband Report* at ¶2.
[23] *NOI* at ¶21.

- Seeking adoption of broadband stimulus rules and grant criteria that would make it easier for WISPs to leverage their existing assets to secure funding from NTIA and RUS; and

- Seeking adoption of more formal interagency cooperation to harmonize broadband policies, particularly in rural areas.

2. Defining Access to Broadband

The Commission requests comment on how it should define broadband access.[24] WISPA strongly believes that all residents should have ready access to broadband services, and the goal should be that each residence and business should have access on-site where people live or work. In the interim, government policies should support availability at Wi-Fi hotspots, libraries, community centers and other public locations. In this regard, WISPA notes the success of the RUS's Community Connect program, which makes grants available to establish community broadband training and access centers in rural communities.

As a general matter, the ability of a consumer to access broadband is largely dependent on its availability and affordability in the area where s/he lives.[25] WISPA suggests that the Commission should adopt the Free Press' three-tiered approach to defining "unserved area:"[26]

- **"Completely Unserved"** - areas where low-latency (capable of less than 100 milliseconds) non-dial-up Internet access service is only available to less than 10% of occupied residential or commercial properties.

- **"Severely Unserved"** - areas where low-latency non-dial-up Internet access service is only available to more than 10% and less than 50% of occupied residential or commercial properties.

- **"Moderately Unserved"** - areas where low-latency non-dial-up Internet access service is only available to more than 50% and less than 90% of occupied residential or commercial properties.[27]

---

[24] *Id.* at ¶23.
[25] *See* below for WISPA's proposal on how areas should be defined.
[26] Turner, S. Derek, "Putting the Angels in the Details: A Roadmap for Broadband Stimulus Success," Free Press (February 2009), at 9-10.
[27] WISPA proposed using these categories as criteria for NTIA grants. *See* NTIA/RUS Comments at 8.

WISPA proposes to defined "underserved area" as a place where service may be widely available, but no "fixed broadband" provider offers service capable of delivering downstream data at average bandwidth exceeding 2 Mbps. All other areas would be considered "served."

These terms should be used in the Commission's data collection and mapping process to identify areas of need, and policies should be adopted to promote broadband access where need is greatest. For example, the Commission should indicate that it would be favorably disposed to allowing higher power limits (by rule or waiver) in the TV white spaces and 3650 MHz Service where the licensee can demonstrate that it would be facilitating movement from a lower tier of "unserved" or "underserved" area to a higher tier (*e.g.*, from "Severely Unserved" to "Moderately Unserved").

3. Measuring Progress

The Commission requests comment on how it should measure progress in developing and implementing its national broadband plan.[28] First, the Commission needs to accurately measure broadband availability at a more granular level. As WISPA stated in its Rural Broadband Comments,[29] "[u]ntil the most recent Form 477 filing in March 2009,[30] the Commission collected broadband availability data by ZIP codes, which may not even be polygons,[31] and

---

[28] *See NOI* at ¶29.

[29] Rural Broadband Comments at 5.

[30] *See Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvements of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, 23 FCC Rcd 9691, 9695 (2008) ("*2008 Data Gathering Order*") (requesting broadband data by Census Tracts).

[31] *See* http://www.manifold.net/doc/zip_codes_are_not_areas.htm. ("ZIP codes are postal codes in the United States created by the US Postal Service. Perhaps the most common misconception in GIS is that Zip codes are polygonal regions or areas. People often think of mapping in the US as a hierarchy of ever-subdivided polygonal areas: states, counties, cities, zip codes. If they need higher resolution than a county, they next leap to zip codes because they think of zip codes as polygons. This is not true. Zip codes are **linear** features associated with specific roads or with specific addresses such as apartment buildings or military bases that are best regarded as a point. In some cases, Zip codes have no physical location because they are assigned to a mobile or abstract "location" such as a military ship. Even in the most common case of Zip codes assigned to streets, Zip codes **do not** clump together in groups that may be covered by rational polygons.") (emphasis in original).

treated an area as 'served' if only one resident in that ZIP code received service." Accordingly, WISPA stated that it "supports use of the more granular Census Blocks as the baseline measurement area because they more accurately define areas of broadband availability. Census Blocks are subdivisions of Census Tracts and unlike ZIP codes constitute polygonal geographic areas, which are more likely to correspond to areas of actual service."[32]

Second, the Commission should measure access according to the definitions of "unserved area" and "underserved area" proposed above.

Third, the Commission should collect data through FCC Form 477 and its own surveys to determine the extent to which broadband is affordable in a given area. Where broadband is available but the "take rate" is below average, the Commission should investigate the reasons for low acceptance and consider addressing the problem through consumer education, subsidies or regulatory relief to meet pent-up demand and enable providers to make service more affordable.

4. Role of Market Analysis

The Commission asks for comments on the relevant product and geographic markets.[33] WISPA agrees that there are different product markets, including mobile broadband, fixed broadband, residential broadband, business broadband and backbone networks. In some geographic markets, there may be multiple providers of broadband services to businesses, but a lack of competition in residential markets. By undertaking market analysis, through Form 477, surveys and exchanging information with NTIA and RUS, deficiencies in the marketplace can be analyzed and addressed.

---

[32] Rural Broadband Comments at 5.
[33] *NOI* at ¶35.

C. Efficient and Effective Mechanisms for Ensuring Access

The Commission asks generally for comment "on how effective and efficient existing mechanisms have been" to ensure access to broadband.[34] WISPs have successfully deployed broadband service in rural, unserved and underserved areas of the country, often without federal or state grants. However, in many communities across the country, a business case for fixed wireless broadband cannot be supported or financed, and where that is the case, a wired solution (*e.g.*, cable modem or DSL) may be even less cost effective. In other communities, RUS grants and loans have proved to be the difference-maker between serving a market or leaving it unserved. Against this backdrop, WISPA strongly believes that governmental intervention, in the form of financial support, policy changes and regulatory action, may be the difference between the ability and inability to serve an unserved or underserved market.

1. Market Mechanisms

The Commission seeks comment on where market-based policies have been unsuccessful in ensuring access, and why have those policies failed.[35] WISPA points to a recent proceeding where the Commission's policies did not succeed in promoting broadband. In the recent 700 MHz auction (Auction 73), WISPA advocated designating a second Cellular Market Area block that would better enable smaller, local companies to serve the public in a more expeditious manner. WISPA observed the need for WISPs to gain access to licensed spectrum without having to bid against large national or regional companies for market areas that would be much larger than necessary to serve the WISP's desired service area. The Commission did not adopt WISPA's proposal and, as a result, high bids were concentrated in a relatively small number of

[34] *Id.* at ¶36.
[35] *Id.* at ¶37.

bidders that were more interested in covering a larger area. Moreover, the build-out rules will allow these carriers to "cream-skim" by providing service in urban areas and ignoring sparsely populated rural areas. The 700 MHz auction experience illustrates a larger point – small entrepreneurs have had limited opportunity or desire to participate meaningfully in spectrum auctions because the high cost of purchased spectrum would leave little capital to deploy infrastructure.

In other cases, the Commission's rules have acted as a disincentive to investment in wireless broadband. In adopting rules for fixed use of the TV white spaces, the Commission failed to adopt WISPA's proposal for non-exclusive licensing – so-called "licensed lite." A license, even a non-exclusive one, coupled with interference avoidance obligations also proposed by WISPA, would have created an environment more suitable for investment and promoted broadband deployment.

From these experiences, the Commission should understand that its policies have not advanced opportunities for entrepreneurs – especially those already providing broadband service – to obtain access to affordable licensed spectrum which in turn could lower costs for consumers and expedite provision of broadband to unserved and underserved areas. WISPA believes the Commission can incorporate "spectrum homesteading" into its national broadband plan. This concept would allow wireless providers to obtain non-exclusive rights to spectrum that, over time and by meeting an accelerated build-out and service schedule, would ripen into an exclusive license for the area in question. If the provider did not meet the build-out and service schedule, its use would remain non-exclusive and no license would be issued. For instance, a user would register to use certain spectrum in a given area. The provider would obtain a non-exclusive license if it covered a specified area or served a specified number of subscribers within a stated

time period. WISPA believes that its "spectrum homesteading" proposal would create a powerful incentive to provide expeditious and affordable service to areas that may otherwise be unserved, and the issuance of a non-exclusive license would encourage investment by third parties.

A program to make low-interest loans available to existing providers in underserved areas would positively affect the availability and capability of service in these areas without unduly creating excessive competition in areas that may not support more than a few providers. WISPA does not believe that tax credits for equipment and infrastructure costs will offer meaningful assistance to small entrepreneurs for the simple reason that the income from operating smaller networks would in many cases not generate enough revenue to provide a significant benefit to them.

2. Determining Costs

In response to the Commission's inquiry,[36] it is necessary and important for the Commission to understand the costs of deploying different technologies. In a rural county that includes 300 possible subscribers, the cost to deploy wireless service may be less than $1,000 per end user, whereas the cost to install fiber may be more than $20,000 per end user, an amount that is not cost-effective under any measure and would not offer a reasonable rate of return within a reasonable time period. In fact, even the wireless cost may be prohibitive, but at least with wireless, government funding and other assistance may bridge the gap. In many cases, there is just no business case to be made to support expensive landline technologies. In many rural communities, wireless may be the only viable choice.

WISPA members have vast experience in serving rural and underserved areas. They have direct experience in estimating the construction and deployment costs based on such

[36] *Id.* at ¶38.

variables as the population density, available backhaul options (if any), tower access fees, equipment costs, back office support and engineering fees. Likewise, WISPs have experience in projecting revenues based on market surveys and penetration estimates. Although projected costs and revenues will vary from market to market, WISPA believes that ranges for each technology can be developed based on relevant metrics, so long as proprietary business planning information is not disclosed to potential competitors.

The Commission's national broadband plan should aspire to enable 100 percent of the country's residents and businesses to have access to broadband within a reasonable time frame. By recognizing that the cost and revenue structure for remote and rural areas are substantially higher than in urban and suburban areas, that deployment costs will differ based on the technology, and that there is only a small, finite amount of funding available under the Recovery Act for broadband, the Commission should implement policies that will make ubiquitous availability a more realizable and sustainable goal.

3. Universal Service Programs

The Commission asks about "the impact of broadband stimulus funds on the Commission's broader efforts to reform the distribution of high-cost support and the collection of universal service contributions."[37] WISPA notes that the broadband stimulus programs have a relatively short life of two years, and that support to high-cost areas should continue beyond that timeframe to help ensure that broadband projects funded through NTIA and RUS can be better sustained. During the grant period, the Commission should evaluate the success of funded projects and initiate a proceeding to collect more timely and accurate data to determine the extent to which universal service support should be extended to high-cost areas. WISPA looks forward

[37] *Id.* at ¶40.

to participating in any proceeding the Commission may initiate concerning universal service reform.

4. Wireless Service Policies

The Commission seeks comment on a number of questions related to its wireless service policies.[38] First, WISPA generally supports auction bidding credits for tribal lands, and believes that similar benefits should apply to users of unlicensed spectrum that serve tribal areas. For a variety of reasons, tribal areas are among the most difficult to serve, and the unavailability of support to WISPs – in the form of service credits, high-cost support or other financial benefits – creates a high barrier to entry into these underserved markets. Moreover, as stated above, WISPs, who would otherwise be likely providers of broadband service to tribal areas, have been largely unable to participate meaningfully in spectrum auctions that are dominated by large national and regional carriers that do not place a priority on serving tribal areas. WISPA believes that the existing tribal credit program should be expanded to provide support to users of unlicensed spectrum.

Second, the Commission should implement the "spectrum homesteading" proposal WISPA advocated above. This policy would encourage rapid investment in and build-out of wireless broadband networks.

Third, WISPA supports passage of the Radio Spectrum Inventory Act (S.649), which would require the Commission and NTIA to prepare a report on the uses, spectrum allocation and number of devices operating in the 300 MHz to 3.5 GHz band.[39] Such an audit would identify vacant spectrum that may have been unused for several years and could be transferred to commercial use. If commercial spectrum has not been allocated, the Commission should

---

[38] *Id.* at ¶¶42-46.
[39] Radio Spectrum Inventory Act, S.649, 111th Cong. § 342 (2009).

proceed with a rule making proceeding to make spectrum available. If commercial spectrum is allocated but existing licensees (in the case of licensed) have not made a timely demonstration of substantial service or received a waiver or extension, the Commission should quickly make the spectrum available – often, as in the case of the 218-219 MHz Service, many years will pass before new auctions are scheduled. With respect to unused government spectrum, Congress should consider creative means to make spectrum available.

The Commission asks whether TV white space spectrum should be "maximized to provide point-to-point backhaul in rural areas."[40] In its White Spaces Recon Petition (and its previous submissions in that proceeding), WISPA advocated higher power limits in rural areas to facilitate backhaul. WISPA cited the expense and burdens associated with gaining access to existing backhaul networks, given the lack of competition and the distance to the Internet backbone in many rural areas of the country. WISPA does not believe that white space spectrum should be set aside exclusively or reserved for backhaul, as some have requested, but believes that the existing spectrum allocation, coupled with "licensed lite" registration, database review and interference remediation procedures, can adequately support WISP, backhaul and other fixed services.

5. Open Networks

WISPA generally believes that facilities-based telecommunications carriers should not prioritize, discriminate or impair the content that it provides to a user, subject to reasonable network management techniques and practices (described below), and that there should be no discrimination based on classes of traffic. Users should have the right to engage in such activities at the end-user site. Examples of network management techniques that should be permitted are as follows:

---

[40] *NOI* at ¶45.

- Prioritization for all 911 services;
- Deep Packet Inspection and other anti-virus techniques for limiting malware and other intrusions that can harm the network; and
- Quality Of Service for protocols such as Voice over Internet Protocol services.

The Commission also should allow providers to take into consideration capacity constraints on networks that require broadband providers to use good engineering practices when managing their networks.[41]

WISPA believes that the "interconnection" obligation should require facilities-based retail broadband providers to have access to intermediate transport networks (the "middle mile") and to the Internet backbone. Broadband providers in unserved, underserved or rural areas should have equitable, non-discriminatory access to the rates, terms and conditions that the transport and backbone providers offer their own affiliates and largest customers. Absent these requirements, WISPs will continue to be forced to pass on higher transport and backbone access costs that could result in higher prices and lower adoption rates.

6. Competition

The Commission requests comment on "whether multiple providers of broadband services are useful or necessary for achieving our goal of providing broadband services to unserved and underserved areas."[42] WISPA strongly believes that, in unserved and underserved areas, the focus of the Commission's efforts should be first on ensuring that broadband service is available. How long it takes to make broadband ubiquitous will depend on the funding made available under the Recovery Act, spectrum policy and other regulatory changes. Only after

[41] Internet service providers should be immune from liability if existing network management capabilities are not engineered for more futuristic applications that are quickly becoming adopted and presented by content providers. Forcing broadband providers to facilitate applications that will unduly degrade network stability and service levels would do more harm than good to consumer broadband service.
[42] *NOI* at ¶49.

broadband capability is available in a market should the Commission consider promoting competition as policy objective.

The Commission should, however, promote competition with respect to backhaul services in rural areas. Too often, WISPs do not have viable alternatives, or the cost to access another carrier's network may be prohibitive. In either case, WISPs that otherwise may desire to extend their networks to nearby areas where demand exists are forced to abandon their plans due to high backhaul costs. WISPA has advocated increased power limits in rural areas in TV white spaces and would support other policies that would make backhaul and Internet connectivity more accessible and affordable.

7. Other Mechanisms

The Commission asks for public input on the impact that regulatory "impediments" have on broadband deployment.[43] In addition to backhaul and connectivity access and costs, perhaps the largest barrier for WISPs is their inability to gain expeditious access to tower sites, whether owned by state or local governmental units or by private companies. For state and local governments, WISPs face bureaucratic red tape in the form of multiple layers of governmental approval, infrequent approval meetings, unnecessary environmental studies on issues (such as RF exposure levels) where the Commission already has spoken, lack of standardized forms and other obstacles. With respect to privately-owned towers, access can be expensive and time-consuming because of excessive lease fees, structural analysis requirements and other roadblocks. In either case, tower sites may be difficult or time-consuming to obtain, and even then the monthly rent may be prohibitive in rural areas where only a small number of subscribers can be served.

---

[43] *Id.* at ¶50.

The Commission can take several steps to help alleviate these problems. First, the Commission should encourage state and local governments to adopt expedited approval processes and standardized forms to handle requests for site access. Second, the Commission should ask Congress to amend Section 224 of the Communications Act of 1934 to extend pole attachment access rights to broadband providers, thereby giving them the same rights and non-discriminatory pricing afforded to cable television systems and providers of telecommunications services.[44] Third, the Commission should update its Antenna Survey Branch registry to include a separate database of towers on federal, state and local lands that would be available for WISPs and other wireless providers to access, which would provide contact information and information about the tower (*e.g.*, location, height, type of structure). This would expedite the wireless broadband provider's ability to locate suitable tower sites and assist the WISP in designing its network.

D. Affordability and Maximum Utilization

1. Affordability

Among other things, the Commission seeks comment on whether broadband subscription costs or computer acquisition costs should be subsidized.[45] If the Commission determines that there are areas where broadband is available but the subscription rate is well below average, the Commission should consider providing financial support either through an extension of the universal service high-cost program or other means such as vouchers or coupons.

WISPA noted in its NTIA/RUS Comments that the Recovery Act makes available at least $250,000,000 for grants for innovative programs to encourage sustainable adoption of broadband services. WISPA stated that:

---

[44] 47 U.S.C. § 224.
[45] *See NOI* at ¶54.

> NTIA should consider using these funds to pay for rebates or vouchers that subscribers seek based on a demonstration of financial need. The funds could be used to help cover the costs of consumer premise equipment ("CPE") and monthly service. In addition, funds from this program could be used to pay a grant recipient for its cost in deploying and providing service to areas where consumers may not be able to afford service. For instance, if a grant applicant shows that 20 percent of the population cannot afford broadband service and requests support, NTIA should cover the costs of free service by paying the grant recipient.[46]

As part of its national broadband plan, the Commission should identify the need for Congress to make additional funding available for subsidies, rebates, vouchers and other similar mechanisms designed to make broadband affordable to all residents.

2. Maximum Utilization

WISPA believes that digital literacy can best be promoted through education in the schools. In many well-to-do school systems, students become very computer and broadband literate in the early elementary grades through "smartboards," wireless response devices and other technologies. Middle school students may even be able to take courses in web design and digital media. Many schools, particularly those in low-income and rural areas, may not have access to these tools, and as a result, students may not be digital literate. The Commission's national broadband plan should propose that the Commission, the Department of Education, parochial schools and local school systems make digital literacy an educational priority, and Congress should be urged to devote more financial resources to ensuring that no student is without the ability to access broadband and digital media in the classroom.

3 Broadband Privacy

WISPA believes that any broadband privacy rules or policies the Commission may adopt should be technologically neutral and should not discriminate against one broadband platform over another. Further, WISPA cautions against the imposition of new regulations that would

[46] NTIA/RUS Comments at 12.

drive up the cost of deployment or increase reporting and compliance burdens on broadband providers. Finally, there should be no private right of action to obtain damages for privacy breaches.

E. Status of Deployment

1. Subscribership Data and Mapping

Although the more detailed information collection procedures for Form 477 require substantially more time to complete than the previous iteration, WISPA appreciates the need for the Commission to gather data at a more granular level. As stated above, however, WISPA believes that the Census Block (not the Census Tract) will give a more accurate picture of the locations where broadband is available and where it is not. Unless or until additional changes are made to Form 477, the information should be used to identify areas where funding and regulatory relief might be appropriate. Further, as WISPA has previously advocated, the Commission, NTIA and RUS should all rely on common metrics to make information collection and reporting more uniform and compliance easier.

2. Stimulus Grant and Loan Programs

WISPA reiterates its praise for the recommendations the Commission made in its *Rural Broadband Report*, in particular those related to coordination with federal agencies, tribal governments, state governments and local communities.[47] This coordination should be a continuing part of any effort to devise and implement a national broadband plan. In addition, based on its experience with the NTIA/RUS public meetings, WISPA encourages the Commission to conduct public hearings, both in Washington, DC and other areas around the country, so that members of the public – particularly those that do not have a presence in Washington, DC – can participate in the regulatory process in a meaningful way. By

[47] *See Rural Broadband Report* at ¶13.

encouraging access to government, reviewing the effectiveness of policies on a frequent and continuous basis and soliciting public input on a regular schedule, the Commission will gain a better understanding of the challenges it can address and the opportunities it can help create.

Respectfully submitted,

THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

June 8, 2009 By: *<u>/s/ Richard Harnish, President</u>*

Stephen E. Coran
Rini Coran, PC
1615 L Street, NW, Suite 1325
Washington, DC 20036
(202) 463-4310
Counsel to the Wireless Internet Service Providers Association