

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

In the Matter of	)	
	)	
Establishing the Digital Opportunity Data Collection	)	WC Docket No. 19-195
	)	
Modernizing the FCC Form 477 Data Program	)	WC Docket No. 11-10
	)	

To:   The Commission

**COMMENTS OF  
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”) hereby responds to the Commission’s August 6, 2019 *Report and Order and Second Further Notice of Proposed Rulemaking* seeking public comment to inform the Commission’s efforts to improve the accuracy and granularity of fixed broadband reporting.<sup>1</sup> WISPA is also a participant in Joint Comments with USTelecom – The Broadband Association and ITTA – The Voice of America’s Broadband Providers that are being submitted contemporaneously with these Comments, and which address a broad range of issues raised in the 2<sup>nd</sup> *FNPRM*. WISPA comments separately here on the discrete issue of establishing “safe harbors” for the submission of geospatial data by fixed wireless broadband providers.

As the Commission is aware, WISPA represents more than 500 providers of fixed wireless broadband service to millions of American consumers, largely in rural and underserved

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<sup>1</sup> *Digital Opportunity Data Collection*, Report and Order and Second Further Notice of Proposed Rulemaking, WC Docket Nos. 19-195 and 10-90, FCC 19-79 (rel. Aug. 6, 2019) (“*R&O*” and “2<sup>nd</sup> *FNPRM*”).

areas of the United States. Accordingly, WISPA has a particular interest in promoting efforts to improve the accuracy, granularity, and utility of data collected from broadband service providers of all types in order to provide a more complete picture of the current state of broadband deployment and, among other benefits, appropriately direct available funding to improve access to broadband service in all parts of the country.

## **Discussion**

### **I. THE COMMISSION SHOULD ESTABLISH “SAFE HARBOR” STANDARDS FOR REPORTING GEOSPATIAL POLYGON DATA TO AVOID UNDUE BURDENS ON FIXED WIRELESS BROADBAND SERVICE PROVIDERS**

The Commission seeks in the 2<sup>nd</sup> *FNPRM* information concerning appropriate reporting standards for fixed wireless broadband service providers.<sup>2</sup> With respect to fixed wireless providers, the Commission asks whether “fundamental differences between fixed wireless and mobile technologies ... would caution against using mobile wireless standards for fixed wireless deployment reporting.”<sup>3</sup> WISPA believes that the complexity of acquiring and presenting broadband coverage data strongly supports the establishment of standardized “safe harbors” for fixed services that are specifically geared to the technology and, in the case of fixed wireless networks, the particular spectrum band used. This approach can reduce the significant financial and operational resource burdens on filers, consistent with an important Commission objective in this proceeding.<sup>4</sup>

WISPA supports the use of geospatial data to define coverage areas (*i.e.*, polygons of coverage filed via shapefiles) as an alternative to reporting via census blocks, street addresses, road segments, or geocoding.<sup>5</sup> Such geospatial data would provide more accurate deployment

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<sup>2</sup> See *id.* at ¶¶ 79 & 80.

<sup>3</sup> See *id.* at ¶ 80.

<sup>4</sup> See, *e.g.*, *R&O* at ¶ 9; 2<sup>nd</sup> *FNPRM* at ¶ 82.

<sup>5</sup> See *R&O* at ¶ 2.

data for wireless broadband services, especially in rural areas – the parts of the country that need more accurate data reporting the most. Such data would also be a less burdensome reporting metric for WISPA’s members than reporting via census blocks, road segments, or street addresses, or conducting geocoding.

In an *ex parte* presentation from October 2018, WISPA offered a specific “safe harbor” proposal based on this approach for various fixed wireless spectrum bands.<sup>6</sup> As WISPA observed at that time, it is commonly understood that fixed wireless and mobile wireless service providers have significant technological and operational differences that necessitate different, tailored reporting metrics.<sup>7</sup> The need for tailoring includes establishing band-specific safe harbors that account for the particular usage (*e.g.*, licensed or unlicensed), the equipment and technology deployed, and the sharing environment and propagation characteristics of individual frequency bands (including terrain, clutter and congestion).

## **II. DIFFERENCES IN THE PROVISION OF FIXED WIRELESS AND FIXED WIRELINE SERVICES JUSTIFY DISTINCT APPROACHES TO ESTABLISHING AN APPROPRIATE SAFE HARBOR STANDARD**

Like mobile and fixed wireless use, there are also substantial differences that distinguish the provision of fixed wireless from fixed wired services. For example, although technology continues to improve, a fixed wireless broadband provider may not be able to determine with absolute certainty whether its service is “available” until a skilled installer is on site at the

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<sup>6</sup> See Letter from S. Jenell Trigg, Counsel to WISPA, to Marlene H. Dortch, FCC Secretary, WC Docket No. 11-10 (filed Oct. 22, 2018), including attached “FCC Form 477 Propagation Methodology for Fixed Wireless Providers.”

<sup>7</sup> *Id.*, Attachment at 1. As examples, cellular/mobile modeling metrics are more standardized across the industry because fewer bands are used and equipment is generally more interoperable between carriers. Fixed wireless providers have much more variability due to the inherent nature of this technology, including widely varying spectrum bands (licensed, unlicensed, and shared), a wide variety of standardized and proprietary equipment and technology, and significant variations in signal-to-noise ratio and interference (*e.g.*, clutter, terrain, trees, buildings, congestion, other users).

potential customer's premises. Each installation is unique because each customer's geographic location, building, other structures and obstacles may provide different challenges.

Fixed wired broadband service providers using copper, cable, or fiber know exactly where their physical facilities are located, and such services generally are constructed using roads and streets as a controlling parameter of where service is currently provided and where it is "available." By contrast, fixed wireless deployment is very different because streets and roads do not dictate how or where service is "available." Instead, the location of access points, the propagation characteristics of the various spectrum bands used, obstructions between the tower and the customer, and the presence of sources of potential harmful interference are controlling parameters for where service is currently provided or may be made available.

Although the Commission did not address it in the 2<sup>nd</sup> *FNPRM*, WISPA's proposed two-pronged process for the submission of geospatial data using more uniform parameters, where possible, accommodates small, mid-sized and large providers, and meets the Commission's need for more granular data in all areas of the country, especially rural and other unserved or underserved areas. This proposal also minimizes the significant economic impact on small providers of revisions to the broadband reporting requirements.

The first prong of the WISPA proposal mandates the use of pre-determined, standardized industry parameters, such as the customer antenna, signal strength, and the computed coverage assuming a given customer antenna gain. The standard parameters define a "safe harbor" for creating the necessary propagation maps in each of the principal frequency bands currently used to provide fixed wireless broadband service.<sup>8</sup>

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<sup>8</sup> See Attachment, "Suggested Safe Harbor Parameters for Frequency Bands Used to Provide Fixed Wireless Broadband Service."

The second prong allows providers to use parameters that deviate from the standard ones *if* there are material differences in their networks that warrant divergence from the typical safe harbor rubric in order to provide accurate coverage data. The reporting provider would be required to identify the propagation model or modeling tool used and explain its methodology. The ability to identify atypical parameters and transmitting characteristics can be especially useful to small providers with unique technology footprints and service areas, and this approach would address the Commission's expressed desire to avoid undue burdens on smaller fixed wireless providers.<sup>9</sup> Conversely, applying international propagation standards as a default requirement would likely be too burdensome for small providers that do not have access to advanced propagation tools.

WISPA understands that AT&T and other potential parties in this proceeding may have alternative approaches for establishing fixed wireless safe harbors. WISPA believes that there can be latitude for more than one approach to these reporting obligations, so long as the various mechanisms adopted do not produce substantially inconsistent modeling. WISPA is prepared to work together with other commenters proposing alternative approaches to establish safe harbor guidelines that are consistent and fair to all types of service providers.

### **III. THE COMMISSION SHOULD EMPLOY A MIX OF METHODS AS A MEANS OF VERIFYING THE ACCURACY OF SUBMITTED BROADBAND DATA**

Giving providers clear requirements for reporting critical coverage data should make the task of reviewing and corroborating submitted data significantly easier. As the Commission suggests, it is appropriate for it to employ a mix of methods in order to verify the accuracy of

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<sup>9</sup> See 2d FNPRM at ¶ 82.

submitted data, including independent verification by USAC staff, random audits of service availability in critical areas, and crowdsourcing information from the public.<sup>10</sup> All of these methods can serve as efficient and cost effective means of substantiating that actual coverage is consistent with theoretical coverage.

### **Conclusion**

WISPA strongly supports the establishment of standardized “safe harbors” for fixed wireless broadband data reporting. Such safe harbor criteria should be specifically geared to the technology and the particular spectrum band being used. It is entirely appropriate for the Commission to establish distinct safe harbor standards to account for differences in such factors as equipment in use, the sharing environment, and the interference protection and propagation characteristics (including terrain, clutter and congestion) present in a particular frequency band. Such an approach would reduce the significant financial and operational resource burdens on filers, consistent with an important Commission objective in this proceeding.

Respectfully submitted,

### **WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

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<sup>10</sup> See *id.* at ¶ 83.

## **Attachment**

### **Suggested Safe Harbor Parameters for Frequency Bands Used to Provide Fixed Wireless Broadband Service**

WISPA recommends the following “safe harbor” parameters to establish a reasonable estimation of the coverage area for future broadband coverage reporting by the Fixed Wireless Industry. Coverage metrics for the fixed wireless industry will vary based on the spectrum band in use due to different types of antennas, varying power levels, particular propagation characteristics and potential interference unique to each frequency band. Fixed wireless providers can factor in customer antenna gain and height, and signal strength based on the parameters for each spectrum band. WISPA recommends that the following parameters be adopted for creation of propagation maps in each of the fixed wireless service frequency bands listed below:

#### **5 GHz**

- Customer antenna up to 10 meters above ground; or higher or lower antenna heights as needed to reach the customer and as explained by the provider
- Signal strength as low as -75 dBm
- Coverage computed assuming up to 25 dB customer antenna gain, or as allowed by the Commission

#### **3550 -3700 MHz (CBRS)**

- Customer antenna up to 10 meters above ground; or higher or lower antenna heights as needed to reach the customer and as explained by the provider
- Receiver signal strength as low as -77 dBm (uncertain because of new allocation in this band)
- Coverage computed assuming up to 17 dB customer antenna gain, or as allowed by the Commission

#### **2.4 GHz**

- Customer antenna up to 10 meters above ground; or higher or lower antenna heights as needed to reach the customer and as explained by the provider
- Signal strength as low as -77 dBm
- Coverage computed assuming up to 16 dB customer antenna gain, or as allowed by the Commission

### **900 MHz**

- Customer antenna up to 10 meters above; or higher or lower antenna heights as needed to reach the customer and as explained by the provider
- Signal strength as low as -72 dBm
- Coverage computed assuming up to 11 dB customer antenna gain, or as allowed by the Commission

### **600 MHz (TV White Spaces)**

- Customer antenna up to 10 meters above ground; or higher or lower antenna heights as needed to reach the customer and as explained by the provider
- Signal strength as low as -74 dBm
- Coverage computed assuming up to 8 dB customer antenna gain, or as allowed by the Commission

### **Suggested Models:**

Overall, the specific model used should be the provider's choice; providers must have flexibility given differences in terrain, as well as software and/or third-party modeling services that have already been acquired or are under contract. Providers will need to factor "local parameters" used by a propagation model (e.g., height of trees, buildings). The only requirement is that the model used must be reasonably accurate at the time of filing.

As an example, an inexpensive modeling tool named "Radio Mobile," written by Roger Coudé, is widely used in the fixed wireless industry for the purpose of RF planning. The RF model used by Radio Mobile is largely based on the ITM standard with enhancements for clutter data. At least one commercial vendor (i.e., TowerCoverage.com) uses the same model to generate coverage maps for fixed wireless providers and to generate FCC Form 477 coverage data. WISPA recommends that this model be accepted as a safe harbor model for future broadband coverage filing purposes.