Telecommunications Industry Association
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June 21, 2022

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street, NE
Washington, DC 20554

Re: Ex Parte Presentation, *Digital Opportunity Data Collection*, WC Docket No. 19-195; *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10.

Dear Ms. Dortch:

The Telecommunications Industry Association ("TIA") submits this letter to urge the Commission to take necessary steps to ensure that its Broadband Data Collection ("BDC") results in consistent and comparable mobile broadband maps. To the extent that the Commission requires the submission of in-vehicle mobile propagation maps, TIA urges the Commission to adopt or endorse the use of standardized parameters for in-vehicle mobile mapping, such as those proposed in the industry best practices submitted by CTIA on June 3, 2022.[1]

Access to broadband services has never been more central to American life. TIA strongly supports private and governmental efforts to ensure that all Americans have access to high-speed broadband services, including mobile broadband. Recognizing that the first step to ensuring ubiquitous high-speed broadband is understanding where deployment needs remain, the Commission's effort to fulfill Congress's mandate in the Broadband DATA Act ("BDA") to develop accurate and reliable maps of broadband coverage, including mobile broadband coverage.

As providers prepare their submissions for the inaugural Broadband Data Collection,[2] the Commission has taken numerous steps to maximize the accuracy and consistency of its new broadband maps, including providing extensive direction on how mobile propagation maps are to

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[1] Letter from Sarah Leggin, Director, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 19-195 and 11-10 (filed June 3, 2022) ("*Best Practices Letter*"). As discussed in more detail below, the best way to ensure consistent, comparable mobile coverage maps is to eliminate the in-vehicle mapping requirement. *See infra* pp. 3-4. The Commission also should grant CTIA's petition for reconsideration of the disparate treatment of mobile link budget information. *See id.*

[2] *See Broadband Data Task Force and Office of Economics and Analytics Announce Inaugural Broadband Data Collection Filing Dates*, Public Notice, DA 22-182 (BDTF OEA rel. Feb. 22, 2022) ("*BDC Filing Window Public Notice*").

be prepared and submitted,[3] and how other parties may challenge the accuracy of mobile coverage maps.[4] In the context of this effort, the industry best practices for mapping in-vehicle mobile coverage, submitted by CTIA on June 3, 2022, are a significant positive contribution. To the extent that the Commission continues to require the submission of mobile in-vehicle coverage maps, TIA recommends that the Commission require or endorse the use of standardized parameters such as those proffered in the *Best Practices Letter*.

If the Commission requires mobile broadband providers to submit in-vehicle mobile coverage maps and subjects such maps to third-party challenges, it is incumbent on the Commission to establish baseline assumptions about how in-vehicle mobile coverage is to be modeled and measured. The Commission has long recognized that "measuring performance on mobile broadband networks is inherently variable" because "many factors can affect a user's experience, making it difficult to develop a coverage map that provides the exact mobile coverage and speed that a consumer experiences."[5] As a result, Congress and the Commission have determined that, for mobile broadband maps to be reliable and comparable, they must be prepared using consistent assumptions. For example, Congress in the BDA required the Commission to adopt "*uniform standards* for the reporting of broadband internet access service data,"[6] and "established *standardized propagation model details*" for mobile broadband providers' submissions.[7] The Commission should fully implement this clear statutory directive for uniformity and not revert to open-ended mapping exercises of the past that have failed to provide needed consistency.[8]

It is critically important for the Commission's current mobile broadband mapping effort to avoid pitfalls that have hindered its prior efforts. As CTIA observes in proffering the industry best practices, "[w]ithout common parameters for these first-time maps, providers will inevitably use different parameters to model their in-vehicle coverage, making it practically impossible to make

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[3] *See, e.g., Broadband Data Task Force and Office of Economics and Analytics Publish Data Specifications for the Broadband Data Collection*, Public Notice, DA 22-229 (BDTF OEA rel. March 4, 2022); *Broadband Data Task Force and Office of Economics and Analytics Publish Additional Data Specifications for the Submission of Mobile Speed Test and Infrastructure Data into the Broadband Data Collection*, Public Notice, DA 22-242 (BDTF OEA rel. March 9, 2022); *see also* 47 C.F.R. § 1.7004(c).

[4] *See Establishing the Digital Opportunity Data Collection,* Order, DA 22-241 (WTB OEA OET rel. March 9, 2022).

[5] *Establishing the Digital Opportunity Data Collection*, Report and Order and Second Further Notice of Proposed Rulemaking, 34 FCC Rcd 7505, 7549 ¶ 112 (2019) ("*First Report and Order*").

[6] 47 U.S.C. § 642(b)(2) (emphasis added).

[7] *BDC Filing Window Public Notice* at ¶ 4 (emphasis added), *citing* 47 U.S.C. § 642(b)(2)(B), (b)(3).

[8] Indeed, the Commission has stated that these BDA provisions standardizing propagation modeling "are similar to proposals and recommendations" that the Commission had developed based on its own past experience with earlier mobile mapping efforts that failed to provide needed consistency. *Establishing the Digital Opportunity Data Collection*, Second Report and Order and Third Further Notice of Proposed Rulemaking, 35 FCC Rcd 7460, 7475-76 ¶¶ 36-37 (2020) ("*Second Report and Order*").

meaningful comparisons between mobile providers' in-vehicle coverage maps, or between challengers' test data and providers' maps."[9]

To address this need for consistency, the industry best practices propose to standardize two key parameters for in-vehicle mobile propagation mapping—in-vehicle signal attenuation (dB loss) and vehicle speed. The Commission itself has observed that these two factors are the principal reasons why mobile broadband speeds may be lower inside a moving vehicle.[10]
To appropriately model the impact of dB loss, CTIA has identified a detailed study by LS Telecom and Siroda for the British regulator Ofcom based on extensive drive testing to measure signal attenuation when mobile devices are inside moving vehicles.[11]

Based on the finding in the Ofcom study, CTIA proposes specific parameters for in-vehicle mobile mapping for these parameters:

- In-vehicle attenuation (dB loss): Add 8.9 dB of signal loss relative to outdoor stationary coverage, and increase the fade margin calculation in the model based on the following formula: $\sqrt{5.6^2 + stdevFM^2}$ where "stdevFM" is the standard deviation of the fade margin assumed in the provider's applicable mobile link budget; and

- Vehicle speed: 40 mph.

By standardizing these parameters across providers' mapping efforts, the Commission can ensure that filers' in-vehicle map submissions are consistent and comparable, and also facilitate a meaningful challenge process.[12] Absent a clear mandate to standardize these parameters, the available data show that providers could make a range of assumptions for these variables which could be deemed reasonable but would lead to differing coverage showings. Specifically, the Ofcom study demonstrates that the mean attenuation values varied across a range;[13] as such, providers could potentially present "reasonable" propagation models using almost any value in the range. This outcome would undermine Congress's and the Commission's goals for consistent and comparable broadband maps. Consistent assumptions are therefore needed, and the Commission can address this need by adopting or endorsing standard parameters such as those proposed in the *Best Practices Letter*.

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[9] *Best Practices Letter* at 2-3.

[10] *Establishing the Digital Opportunity Data Collection*, Order, WC Docket No. 19-195, DA 22-241 at ¶ 32 n.135 (WTB, OEA, OET Mar. 9, 2022) (mobile users typically experience slower speeds while inside a moving vehicle "because of the additional vehicle signal penetration losses and sudden variations to the signal quality compared to the stationary scenario, resulting in lower achievable users' data speeds").

[11] *Best Practices Letter* at 4 n.17, citing LS Telecom, *Final Report: In-car Mobile Signal Attenuation Measurements* (Nov. 8, 2017) ("Ofcom Study"), https://www.ofcom.org.uk/__data/assets/pdf_file/0019/108127/in-car-mobile-signal-attenuation-report.pdf.

[12] *See Best Practices Letter* at 2-3.

[13] Ofcom Study at 4-5.

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While standardized parameters for in-vehicle mobile maps would improve such mapping efforts, the best way to ensure reliable, consistent, and comparable coverage maps from mobile wireless providers is to eliminate the requirement that providers submit in-vehicle coverage maps at all.[14] As one commenter observed, "[f]ocusing solely on outdoor stationary maps—particularly given the lack of any real parameters on in-vehicle testing—will meet Congress's goal of refining the accuracy of 4G LTE coverage maps that can be used for other public policy purposes, including identification of unserved areas for funding."[15] And, as CTIA notes, there is unanimous support in the record for reconsidering the in-vehicle mapping requirement.[16]

Finally, as providers move to finalize their inaugural Broadband Data Collection submissions, the Commission also should reconsider the disparate treatment of the confidentiality of mobile wireless providers' link budget submissions as compared to fixed wireless providers.[17] As CTIA has shown, the Commission has acknowledged the confidential nature of link budget assumptions with respect to *fixed* wireless providers' submissions and offered no explanation for its contrary decision with respect to mobile wireless providers' link budget information.[18] Resolution of this outstanding issue by ensuring confidential treatment of link budgets for all providers using radiofrequency networks will avoid competitive harm from disclosure of competitively sensitive link budget information.

Please do not hesitate to contact me with any questions.

Sincerely,

Melissa Newman
Vice President, Government Affairs

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[14] *Best Practices Letter* at 2. *See also* Comments and Petition for Reconsideration of CTIA at 3-7, WC Docket Nos. 19-195, 11-10 (Sept. 8, 2020) ("CTIA Reconsideration Petition").

[15] Reply Comments of T-Mobile USA, Inc., WC Docket No. 19-195, at 3 (filed Sept. 27, 2021).

[16] *Best Practices Letter* at 2 & n.7 (collecting citations).

[17] CTIA Reconsideration Petition at 3-5.

[18] *Id.*