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November 9, 2017

**Ex Parte**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**Re: Use of Spectrum Bands Above 24 GHz for Mobile Radio Services  
GN Docket No. 14-177; IB Docket No. 15-256; WT Docket No. 10-112; IB Docket  
No. 97-95**

Dear Ms. Dortch:

On November 8, 2017, I had a telephone conversation with Umair Javed in Commissioner Rosenworcel's office to discuss the FCC's plans to adopt a Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order in this proceeding.<sup>1</sup> Verizon appreciates the Commission's continuing work in this docket to unleash millimeter wave spectrum for 5G use. In the discussion, I explained that clarifying the transient population rules and definitions in certain ways could hamper 5G deployment in less populated areas, including areas where people congregate or travel in large numbers. For example, by not including "Rural Principal Arterial" roads or either "Urban or Rural Minor Arterial" roads,<sup>2</sup> the *Spectrum Frontiers 2017 Draft* would overturn the Commission's 2016 decision to exclude all arterials streets from earth station protection.<sup>3</sup>

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<sup>1</sup> See *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services; et al.*, Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order [*as circulated*], GN Docket No. 14-177, *et al.*; FCC-CIRC1711-02 (circ. Oct. 26, 2017) ("*Spectrum Frontiers 2017 Draft*").

<sup>2</sup> *Id.*, ¶ 127. Appendix B to the *Spectrum Frontiers 2017 Draft* claims that 12.1% of the total mileage of U.S. streets and roads would be excluded from satellite earth station protection, but it is unclear how that number is derived given that proposed rule 25.136(c)(3) does not include "Rural Other Principal Arterial" or any "Minor Arterial" roads in either urban or rural areas in the exclusion. See *Spectrum Frontiers 2017 Draft*, Appendix B, ¶ 1.

<sup>3</sup> See *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services; et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, ¶ 93 (2016) ("*Spectrum Frontiers Order*").

Arterial roads could be key to 5G deployment, particularly in rural areas, where arterial roads deliver traffic from collector roads to larger highways or freeways. For example, Rural Minor Arterials “[l]ink cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service.”<sup>4</sup> Allowing protection of satellite earth stations in such arterials makes no sense given the likely 5G demand from the converging volume of traffic in those areas. Based on the figures in Appendix B of the *Spectrum Frontiers 2017 Draft*, adding these categories to the arterial road exclusion in rural areas would add 222,634 miles; those are crucial collecting areas of the roadways but make up only 7.6% of rural miles. And adding 113,592 miles of “Minor Arterial” roads in urban areas to the arterial road exclusion would represent 9.4% of total urban miles. Adding these categories collectively to the arterial road exclusion from satellite protection would thus affect only 8.1% of all urban and rural miles, while ensuring that 5G deployment is not hampered to these key convergence areas. The Commission should protect all arterial streets so as not to potentially allow disruption of critical rural infrastructure.

The satellite industry continues to push for changes to definitions of other terms related to transient populations in the name of “clarity.” But clarifying the terms with the self-serving definitions proposed by the satellite industry could seriously affect access to 5G in less populated areas. For example, creating an arbitrary definition of a venue based on 10,000 seat capacity<sup>5</sup> would exclude many popular and vibrant venues throughout the United States, particularly in middle America. Even a cursory review of arena statistics show that more than half of the major indoor venues in the United States hold fewer than 10,000 seats.<sup>6</sup>

As one illustration, the Verizon Center in Mankato, Minnesota seats 5,280 for Minnesota State Mavericks ice hockey and 8,200 for concerts. The Mankato Symphony calls the facility’s Grand Hall home, and the convention center hosts trade shows and other economic development events.<sup>7</sup> Situated along the banks of the Minnesota River in the heart of downtown, Verizon Center is a critical part of civic life in the Mankato community. But because the arena seats fewer than 10,000, if the satellite proposal were adopted, a single satellite earth station, located on the roof of one of many neighboring multi-story buildings, could impair 5G deployment within the Verizon Center.

Similar examples abound. Tony’s Pizza Events Center, nicknamed Mid-America’s Meeting Place, describes itself as “providing central Kansas a place to meet, play and experience events that

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<sup>4</sup> US Dept of Transportation Federal Highway Administration, HIGHWAY FUNCTIONAL CLASSIFICATION CONCEPTS, CRITERIA AND PROCEDURES, at Table 3-2 (June 28, 2017), [https://www.fhwa.dot.gov/planning/processes/statewide/related/highway\\_functional\\_classifications/section03.cfm](https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm).

<sup>5</sup> See The Boeing Co., *et al.* (“Satellite Broadband Cos.”), Joint Reply to Oppositions, *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, GN Docket No. 14-177, *et al.*, at 10-11 (Feb. 24, 2017) (“Satellite Broadband Cos. Joint Reply”).

<sup>6</sup> More than half of the 270 largest municipal arenas hosting professional teams and entertainment events in the United States seat fewer than 10,000, and this list does not include many university facilities. See Wikipedia, List of Indoor Arenas in the United States, [https://en.wikipedia.org/wiki/List\\_of\\_indoor\\_arenas\\_in\\_the\\_United\\_States](https://en.wikipedia.org/wiki/List_of_indoor_arenas_in_the_United_States) (last visited Nov. 9, 2017); see also Chad Burgess, SeatGeek, “1285 Venues Ranked by Seating Capacity” (Jan. 6, 2014), <https://seatgeek.com/tba/articles/capacities-sizes/> (last visited Nov. 9, 2017).

<sup>7</sup> See City of Mankato, <https://www.mankatomn.gov/government/service-areas/verizon-center> (last visited Nov. 9, 2017).

enhance living-in and visiting the City of Salina.”<sup>8</sup> Yet with a seating capacity of 7,500, the center could be excluded from 5G deployment if a satellite earth station is located nearby and the satellite proposal were adopted. This unacceptable result could be repeated in examples throughout less populated communities.

The satellite industry also would overly restrict the definition of passenger train systems to Amtrak trains.<sup>9</sup> But that would exclude key commuter rail systems throughout the United States where Amtrak does not run. For example, Metra operates the commuter rail system in northeastern Illinois, serving Chicago and its suburbs.<sup>10</sup> While many of its routes share facilities with Amtrak, the Union Pacific - West (“UP-W”) route from Chicago’s Ogilvie Transportation Center to Elburn, Illinois, does not; the route includes large suburbs like Oak Park, Elmhurst and Geneva and serves over 8 million passenger trips annually.<sup>11</sup>

Similarly, the Southeastern Pennsylvania Transportation Authority’s Landsdale/Doylestown line does not share track with Amtrak in Bucks County, where it runs for nearly a mile through the bucolic but unpopulated farm facilities of Delaware Valley University. Under the satellite proposal, this stretch of critical suburban connecting infrastructure, carrying over 17,000 passengers each day,<sup>12</sup> could be impaired by a satellite earth station at one of its stops. This type of arbitrary exclusion was not what the Commission envisioned when setting the rules for transient population areas. Instead of focusing only on Amtrak, the Commission should continue to forbid impairment of all passenger railroads.

The Commission should not continue to entertain further expansion of the generous compromise given to the satellite industry in the *Spectrum Frontiers Order*, particularly in areas with transient populations. And it should not try to “clarify” definitions in a manner that could impair 5G deployment in rural and other less populated areas.

Sincerely,

/s/

Gregory M. Romano  
Vice President & Associate General Counsel

Cc: Umair Javed  
Rachel Bender  
Kevin Holmes  
Erin McGrath  
Louis Peraertz

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<sup>8</sup> See “About Us,” <http://www.tonypizzaeventscenter.com/>.

<sup>9</sup> See Satellite Broadband Cos. Joint Reply, at 12.

<sup>10</sup> See Metra, <https://metrarail.com/>.

<sup>11</sup> See Metra Division of Strategic Capital Planning, RIDERSHIP TRENDS JULY 2017, at 3, Table 3 (Sept. 2017), [https://metrarail.com/sites/default/files/assets/planning/ridership/ridership\\_report\\_-\\_july\\_2017\\_standalone.pdf](https://metrarail.com/sites/default/files/assets/planning/ridership/ridership_report_-_july_2017_standalone.pdf).

<sup>12</sup> See SEPTA Service Planning Department, 2017 ROUTE STATISTICS, at SEPTA Regional Rail, LANSDALE/ DOYLESTOWN LINE Service Levels (Spring 2017), <http://www.septa.org/strategic-plan/reports/route-statistics.pdf>.