



T-Mobile USA, Inc.
601 Pennsylvania Avenue, Washington, DC 20004

February 17, 2020

Via ECFS

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

Re: **Notice of Ex Parte**
Mobility Fund II Coverage Maps Investigation, GN Docket No. 19-367

Dear Ms. Dortch:

On February 13, 2020, representatives of T-Mobile USA, Inc. (“T-Mobile”)¹ and I met with members of the Rural Broadband Auctions Task Force to discuss the December *Staff Report*.² Present at the meeting were Rural Broadband Auctions Task Force Director and Assistant Chief, Office of Economics and Analytics (“OEA”) Michael Janson and OEA staff members Jonathan McCormack, Patrick Sun, Emily Burke, Patrick DeGraba, Nicholas Copeland, and Murtaza Nasafi. Chris Wieczorek, Steve Willingham, and Indra Chalk joined me from T-Mobile. T-Mobile representatives explained that we stand behind our coverage maps and disagree with the *Staff Report’s* conclusion that T-Mobile provided unreliable Mobility Fund II (“MF-II”) coverage maps. T-Mobile supports the FCC’s goal of ensuring that mobile deployment coverage data is accurate and hopes that our discussion of the *Staff Report* will assist in achieving that goal.

T-Mobile explained that the *Staff Report* was released without notice or an opportunity to discuss the assumptions underlying T-Mobile’s maps or the FCC’s attempts to verify our data.³ While the *Staff Report* correctly finds that T-Mobile violated no rules for submission of MF-II data, it incorrectly implies, based on a flawed verification process, that we overstated coverage. We identified and explained these

¹ T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

² Mobility Fund II Coverage Maps Investigation, Staff Report, GN Docket No. 19-367 (Rural Broadband Auctions Task Force, rel. Dec. 4, 2019) (“*Staff Report*”).

³ *Id.* at ¶ 4. While Verizon and US Cellular received subpoenas from the FCC, T-Mobile did not. T-Mobile’s limited interaction with staff consisted of providing additional requested information via email on the uplink criteria for its maps. While the *Staff Report* suggests that T-Mobile’s only attempt to “defend its maps” was to “reject[] RWA’s contention that its coverage maps were incorrect because they did not reflect service as of January 2018,” T-Mobile’s responses to RWA’s procedurally improper informal request for Commission action cannot be taken as a full-throated technical response to RWA’s mapping allegations on their merits. *Id.* at ¶¶ 28-29. Because T-Mobile did not see the challenger data upon which RWA relied, T-Mobile never had the opportunity to review the information and respond.

deficiencies, particularly with regard to the FCC's assessment of T-Mobile's 4G LTE coverage in the portions of Montana tested by FCC staff.

T-Mobile explained that when the FCC collected speed-test data to evaluate T-Mobile's maps, it failed to follow commonly-accepted coverage testing procedures as well as its own MF-II instructions. For example:

- the sampling was extremely limited and not statistically sound, using only a single testing point for each grid;
- in contravention of the FCC's own requirement to measure outdoor coverage, staff conducted drive tests using handsets mounted inside cars, which is considered in-vehicle coverage;⁴
- testers failed to recognize or remedy the fact that their device was locked onto a 3G signal while attempting to test 4G speeds; and
- the *Staff Report* contains obvious measurement errors.

First, sampling was extremely limited and not statistically sound, using a single testing point for each grid. The sample tested by staff was too small for it to draw its broad conclusions. For T-Mobile, the outdoor testing consisted of only seven test locations in the two states. Moreover, these stationary tests were completed at the locations only once—one instance at a location, one time of day and day of the week, and one experience of network loading. This is insufficient from a statistical basis to form conclusions regarding specific locations and is wholly inadequate to form the basis for conclusions about coverage.

Second, drive tests were conducted using handsets mounted inside a car, which is inconsistent with the requirement to measure outdoor coverage. Staff used handsets mounted *inside* the car during testing despite the fact that the MF-II specification requested a “map . . . represent[ing] *outdoor* . . . 4G LTE coverage.”⁵ Measuring in-vehicle coverage, rather than the FCC-prescribed outdoor coverage, likely resulted in approximately 6 dB of signal attenuation due to blockage from the vehicle. If in-vehicle coverage maps incorporating in-car penetration losses were compared to the Staff's drive testing, the two data sets would be much more closely aligned.

Third, testers failed to recognize or remedy the fact that their device was locked onto a 3G signal while attempting to test 4G speeds. A number of the so-called “failed” tests apparently occurred when the testing device was inadvertently operating on 3G technology even though the phone was in an area with 4G LTE coverage. T Mobile suspects this is because the test phone may have been inadvertently locked or “camping” on 3G during testing even though 4G LTE signals were present at the test location. For example, in western Montana and northwest North Dakota, staff's testing on April 1, 2019 showed 109 failing samples on 3G technologies in areas where 4G LTE was available. This constitutes nearly one-third of the failures in Montana. In T-Mobile's experience, when a device is stuck in 3G mode, performing speed tests with short idle intervals between active mode tests (which appears to be exactly

⁴ In explaining wireless coverage, industry convention is to categorize signal strength at four different levels—(1) outdoor, (2) in-vehicle, (3) in-building residential, and (4) in-building commercial. The last three categories show the appropriate signal attenuation experienced as a result of the signal having to travel through vehicles and buildings such as steel, glass, drywall, and so on.

⁵ MF-II Mapping Instructions at 5 (emphasis added).

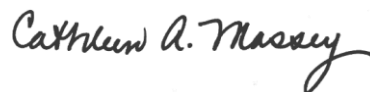
what the staff was doing) may fail to reacquire 4G LTE even though strong 4G LTE coverage is available. This issue is understood within the drive-testing community, and normally test operators will guard against it before conducting a speed test by making sure that the device is manually locked onto the correct mode (in this case, 4G LTE). FCC staff appears not to have attempted this standard remedy.

Finally, the Staff Report contains obvious measurement errors. The *Staff Report* contains measurement errors. Multiple measurements, in fact, had RSRP values outside of realistic values, suggesting a testing error. For example, there were more than 60 test results in Montana where the reported RSRP value was less than -150 dBm, often with clearly unrealistic values such as -222 or -218 dBm, while also often observing multi-megabit download speeds. These were not locations where T-Mobile lacked coverage, but rather test points where the measured speeds were clearly not correlated with the measured signal strength. There were more than 130 similar results in Alabama. Furthermore, a large percentage of “MF-II failed” tests—*i.e.* those tests showing less than the MF-II required download speed of 5 Mbps—were affected by those erroneous test points.

T-Mobile is committed to providing accurate coverage information to consumers. We look forward to working with Congress, the FCC, and wireless industry in establishing an efficient and transparent wireless coverage mapping process for the 5G Opportunity Fund and other public policy initiatives in the future.

T-Mobile is filing an electronic copy of this notice of *ex parte* in the above-referenced docket in accordance with section 1.1206(b)(2) of the Commission’s rules.

Sincerely,



Cathleen A. Massey,
Vice President, Federal Regulatory Affairs

cc: Michael Janson
Jonathan McCormack
Patrick Sun
Emily Burke
Patrick DeGraba
Nicholas Copeland
Murtaza Nasafi
Kirk Burgee
Chelsea Fallon