

November 20, 2023

Alice Busching Reynolds, President  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

Dear President Reynolds,

We, the undersigned cities, write to you today to respectfully request the prioritization of *multifamily dwelling units (MDUs) and low-income communities* as a key component of California’s Broadband Equity, Access, and Deployment (BEAD) Plan.

**Nearly 1 of every 4 disconnected households in California live in an MDU<sup>1</sup>**, and a specific focus on the unique circumstances of these communities is necessary to reverse decades of underinvestment that prevents Californians from accessing essential services and reliable, high-speed internet as a 21st-century civil right. Effective policy adopted by the California Public Utilities Commission (CPUC) has the potential to direct this once-in-a-generation broadband funding into the communities where it will have the greatest impact.

The National Telecommunications and Information Administration (NTIA) explicitly acknowledges the importance of “deployment of Wi-Fi service within multi-family buildings” on page 7 of the [BEAD NOFO](#),<sup>2</sup> but their affiliated guidance to States—absent considerable modification—would effectively bar many of these MDUs from qualifying for the funding intended to serve them. As such, we urge the CPUC to incorporate the following language into California’s BEAD Initial Proposal:

**1. Include the [NTIA’s Area Challenge Module](#) as is explicitly stated in the BEAD Model Challenge Process on page 18<sup>3</sup>**

- a. **Recommendation:** [NTIA BEAD Model Challenge Process](#): “An area challenge reverses the burden of proof for availability, speed, latency, data caps, and technology if a defined number of challenges for a particular category, across all challengers, have been submitted for a provider.

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<sup>1</sup> U.S. Census Bureau (2020) Public Use Microdata Samples ACS 5 Year. Retrieved 2021 from <https://www.census.gov/programs-surveys/acs/microdata.html>. Data sourced from Census ACS 5 Year 2020 Public Use Microdata Sample(PUMS). 22% of California unconnected households are within MDUs. MDUs are defined here as buildings with 10 or more residential units. Unconnected households are defined as households with either no internet at all, cell phone only internet and/or dial up only internet.

<sup>2</sup> *Broadband Equity, Access, and Deployment Program*, Notice of Funding Opportunity, at 7 (rel. May 12, 2022) (NTIA BEAD NOFO).

<sup>3</sup> NTIA, *Internet for All: BEAD Model Challenge Process* at 18 (last modified Sept. 5, 2023) (NTIA BEAD Model Challenge Process).

Thus, the provider receiving an area challenge must demonstrate that they are meeting the availability, speed, latency, data cap, and technology requirements, respectively, for all (served) locations within the area or all units within an MDU . . . An area challenge is triggered if 6 or more broadband serviceable locations using a particular technology and a single provider within a census block group are challenged” (page 18).

- b. **Justification:** According to Volume 1, the CPUC is planning on utilizing the National Broadband Map as a basis for the California BEAD Challenge Process and the CPUC’s BEAD grantmaking. However, the [National Broadband Map](#) is vastly inaccurate, severely undercounting need in the lowest income communities. As the map requires changes of great magnitude to create a better source of truth and the challenge process spans only 30 days, there must be a viable pathway to correct inaccuracies on a larger scale. The area challenge module, as outlined in the BEAD Model Challenge Process, achieves this goal.
2. **Include the [NTIA's MDU Challenge Module](#) with the modification that an MDU challenge is initiated by the challenge of one or more units**
- a. **Recommendation:** The CPUC should include in its BEAD Initial Proposal that an MDU challenge ***only requires a challenge by one or more units*** of the unit count of the multi-dwelling unit listed in the Fabric within the broadband serviceable location.
  - b. **Justification:** [California Senate Bill 745](#) set a precedent in the state (although no longer in effect) by defining “unserved” as a housing development where at least one housing unit is not offering broadband service. Therefore, this request is consistent with prior California state law.
    1. From a network perspective, all units in an MDU rely on the same internal wiring. Therefore, it is reasonable to assume one unit in an MDU is “unserved” by a provider and a specific technology (e.g., coaxial cable), then other units attempting to access the internet with the same technology and provider will also be “unserved.”
    2. Furthermore, the recommended language that would require the larger of 3 units or 10% of the unit count listed in the Fabric within the same broadband serviceable location places an undue burden on residents who are the least connected to file multiple submissions to local government or nonprofits to challenge on their behalf.

3. For [NTIA's Optional Module 2](#), modify the classification of DSL locations from “underserved” to “*unserved*”

- a. **Recommendation:** As noted by way of the Optional Module 2 example in the NTIA BEAD Model Challenge Process, the CPUC should treat locations showing available qualifying broadband service (i.e., a location that is “served”) delivered via DSL as “unserved” if DSL is the only technology at the location satisfying the “served” requirements. Importantly, as the module notes, “this designation cannot be challenged or rebutted by the provider” (page 8).
- b. **Justification:** In [Decision 22-04-055](#) released last year, “the Commission adopts a rebuttable presumption that legacy networks cannot provide reliable Internet service at speeds of 25Mbps download and 3 Mbps upload. Specifically, areas with Internet service provided only by legacy technologies such as copper telephone lines (typically using Digital Subscriber Line technology)...these legacy technologies typically lag on speeds, latency, and other factors, as compared to more modern technologies like fiber.” (page 20). In addition, NTIA’s optional module 2, states that reassigning DSL “will better reflect the locations eligible for BEAD funding because it will facilitate the phase-out of legacy copper facilities and ensure the delivery of “future-proof” broadband service” (page 8).
  1. The CPUC’s BEAD workshop on October 26, highlighted an interesting point, with panelist Lance Ware from AVN Networks noting, “providers like AT&T have discouraged the use of copper lines for voice - DSL has all but been abandoned - ultimately abandoning them in Catalina - we think there is a strong case for raising the bar and categorizing DSL as unserved.” Marking these locations as unserved will facilitate the phase-out of legacy copper facilities and ensure the delivery of “future-proof” broadband service.<sup>4</sup>
  2. Households in an MDU with DSL service experience different speeds based on the distance of the copper runs from the unit to the ISP’s facilities. Providers try to overcome this limitation of DSL by pair-bonding copper wiring. In doing so, they effectively take 2 copper lines and turn them into one connection. As a result, only 1 of 2 households would have access to service; consequently, a substantial share of

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<sup>4</sup> NTIA Model Challenge Process at 8.

households would now be unserved.

4. **Include a Module on Cellular Licensed Fixed Wireless served locations reclassified as “unserved”**

- a. **Recommendations:** The CPUC should treat the “served” locations on the National Broadband Map where Licensed Fixed Wireless using cellular technologies (e.g., T-Mobile or Verizon 4G/5G Home Internet) is the only technology at the location satisfying the “served” requirements as “unserved”.
- b. **Justification:** According to speedtest.net, as of March 2023, the median cellular internet speeds in the United States are approximately 80 Mbps download and 10 Mbps upload,<sup>5</sup> which do not meet the definition of served.<sup>6</sup> Additionally, cellular networks, by design, have a significant drop-off of data rates the farther a user is from the source (e.g., a cell tower). Marketed data rates are often not reached at only 1-2 miles from the cellular source. While mobile broadband providers may not impose unreasonable data caps, they do impose throughput limits and deprioritization of traffic on data plans<sup>7</sup>. A heavy data user could be defined as a customer using as little as 50Gb of data in a single bill cycle. These customers can experience extreme data throttling (i.e., reducing bandwidth allocation) during periods of high demand when a network is congested; consequently, users will often experience inconsistent broadband service, including the inability to access speeds of 25/3 or 100/20 to meet the underserved or served requirements of the BEAD Program respectively.<sup>8</sup>

Earlier this year, Assembly Bill 1065, amending the requirements of the California Advanced Service Fund (CASF) Broadband Infrastructure Grant Account and Federal Funding Account, aimed to expand CASF eligibility to include wireless projects. The bill was met with opposition from the community and ultimately vetoed by Governor Newsom. In his remarks concerning the bill and its impacts on communities, Governor Newsom uplifted the importance of reserving funding for “superior technologies”, with a specific emphasis on the long-term reliability of fiber optic cables in

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<sup>5</sup> *Speedtest Global Index: United States Median Country Speeds*, SPEEDTEST (last visited May 5, 2023), <https://www.speedtest.net/global-index/united-states>.

<sup>6</sup> See, Speed Test Global Index ranking mobile and fixed broadband speeds from around the world on a monthly basis, available at <https://www.speedtest.net/global-index/united-states> (Last accessed May 5, 2023)

<sup>7</sup> Examples can be found in Verizon’s documentation <https://www.verizon.com/support/broadband-services/> (Last accessed May 5, 2023)

<sup>8</sup> Additional examples of language from providers is provided in the Appendix to this letter

the digital era. This commitment to ensuring communities are future-proofed illustrates California's dedication to providing dependable connectivity for all residents.

5. **Modify the “[Speed Test Requirements](#)” to ensure municipalities and non-profits can support data collection resulting in mapping accuracy**
  - a. **Recommendations:** The CPUC should eliminate the requirement of “A certification of the speed tier to which the customer subscribes (e.g., a copy of the customer’s last invoice or signed certification by the customer of the speed tier and a statement indicating the customer is subscribed to the highest service tier available)” (page 21). The Commission should also eliminate the requirement of “An agreement, using an online form provided by the CPUC, that grants access to these information elements to the CPUC, any contractors supporting the challenge process, and the service provider” (page 21).
  - b. **Justification:** These requirements are invasive, cumbersome, and unnecessary. This requirement necessitates customers to individually submit their internet bill when they may lack internet access and/or the digital skills to do so. The vast majority of plans available in these cities do not offer a subscription tier below served, meaning that all customers are paying for above 25/3 mbps.
  - c. Requiring an agreement from each challenger does not allow municipalities and non-profits to support data collection at scale, which is needed to correct a map as erroneous as the National Broadband Map.
  
6. **Expand the state's definition of Community Anchor Institution to include public housing and/or low-income communities, as is [currently being considered by the CPUC](#)<sup>9</sup>**
  - a. **Recommendation:** Adopt the inclusive definition of low-income communities currently under consideration for the CASF Broadband Public Housing Account Program, and include low-income communities in the state’s definition of Community Anchor Institution.<sup>10</sup>
  - b. **Justification:** As acknowledged in the Broadband Public Housing Account proceeding, the majority of qualified low-income Californians do not live in publicly-owned housing, but instead find housing in a wide array of publicly-supported and financed housing types. These often function as

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<sup>9</sup> See *Order Instituting Rulemaking Regarding Revisions to the California Advanced Services Fund*, Assigned Commissioner’s Ruling Inviting Comments on Proposed Modifications to Broadband public Housing Account Program, Rulemaking 20-08-021, at 3 (filed Apr. 27, 2023) (listing definition for “Low-income community”).

<sup>10</sup> Further information about CPUC’s “low-income communities” definition in the Appendix

Community Anchor Institutions in exactly the same way publicly-owned housing does, so should be considered as equivalent in the state's definition for BEAD eligibility.

We, the undersigned, very much appreciate your consideration of these recommendations and your service to the most unconnected in our state.

Sincerely,

Luisa Calumpong  
City Broadband Manager  
City of Oakland

Signature

DocuSigned by:  
*Luisa Calumpong*  
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Date

11/20/2023

Darin Arcolino  
Chief Information Officer  
City of Sacramento

Signature

DocuSigned by:  
*Darin Arcolino*  
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Date

11/20/2023

cc: Genevieve Shiroma, Commissioner  
Darcie L. Houck, Commissioner  
John Reynolds, Commissioner  
Karen Douglas, Commissioner

## Appendix

### I. *Low-income community definition:*

- B. *“Low-income community” is a*
  - a. *A publicly supported housing development*
  - b. *Farmworker housing*
  - c. *Other housing development*
  - d. *Mobile home park*
  - e. *One or more Census block group(s), each with a median household income at or below 80 percent of the statewide median income or with median household incomes at or below the county-specific threshold designated as “low-income” by the Department of Housing and Community Development’s list of state income limits adopted pursuant to Section 50093.*
    - C. *“Other Housing Development” is*
      - (a) *any multi-dwelling unit development in which all units are owned by the same entity(ies) and that has 80% or greater residential units that are “low-income;”*
      - (b) *tribal housing, including developments funded with Housing and Urban Development (HUD) funding or through a Tribally Designated Housing Entity (TDHE)*

### II. *Cellular Fixed Wireless Provider Disclosure Language*

*The following disclosure language was accessed directly from the websites of cellular fixed wireless providers Verizon and T-Mobile during the week of October 23, 2023. The disclosure language demonstrates that providers’ practices of delivering inconsistent broadband service may leave many households, in reality, “unserved.”<sup>11</sup>*

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<sup>11</sup> Verizon and T-Mobile websites accessed during the week of October 23, 2023

## Verizon:

### Lack of speed guarantees

- [Broadband Services Info](#) & [Terms of Service](#): *Speeds and plans vary depending on address/location, equipment, and network connection*
- Specific plan details are described in "[Important Plan Information](#)" which show most plans have a speed range that typically does not meet advertised speeds with only 1 plan claiming a range of upload speeds that meets BEAD served criteria of 20Mbps: *"5G Home Plus plan with up to 1 Gig download speeds"*

### Lowering speeds based on:

- **Network load**
  - [Broadband Services Info](#): *"On certain plans, we may prioritize your 5G and 4G LTE data behind other traffic. If the cell site you are connected to begins experiencing high demand during the duration of your session, your 5G and 4G LTE data speeds may be slower than the other traffic's. Once the demand on the site lessens, or if you connect to a different site not experiencing high demand, your speed will return to normal. Any such network management practices will be disclosed in the descriptions of impacted plans."*
- **Video Streaming**
  - [Broadband Services Info](#): *Video speeds may be slower....in order to optimize customers' video viewing experiences...Verizon limits the throughput speeds of such video downloads or streams over our 5G and 4G LTE networks (which may be below the 9 - 56 Mbps 5G and 4G LTE download speeds typically provided)*
- **Data Usage**
  - From the [customer agreement](#): *If the amount of a single mobile line's total monthly data use in a bill cycle exceeds the average amount of data consumed by the top 0.5% of users on our network during the preceding six-month period, we may reduce data speeds to your device to 4Mbps for the remainder of the cycle. If the amount of a single 5G Home Internet or LTE Home Internet line's total monthly data use in a bill cycle exceeds the average amount of data consumed by the top 0.5% of users on our network during the preceding six-month period, we may reduce data speeds for the remainder of the cycle to (i) 5 Mbps for*



*LTE Home, LTE Home Plus and 5G Home plans, and (ii) 15 Mbps for 5G Home Plus plans. We can also temporarily limit your Service for any operational or governmental reason.*

## **T-Mobile:**

### **Overview:**

- T-Mobile's terms of service make clear that speeds are not guaranteed, due to cellular technology limitations to the number of users and limited bandwidth causing congestion leading to lower speeds for users.
- Smartphones are prioritized over wireless internet (Wi-Fi) users.
- They also illustrate that certain video streams are "optimized", meaning downgraded, and that they even restrict access to certain TV streaming services.
- They reserve the right to implement other practices to ensure optimization, meaning additional throttling, deprioritization, etc.

### **Sources:**

<https://www.t-mobile.com/home-internet>


- Not available in all areas. Delivered via 5G cellular network; speeds vary due to factors affecting cellular networks.
- During congestion, Home Internet customers may notice speeds lower than other customers due to data prioritization.
- Video streaming resolution depends on available speeds.
- Not compatible with some live TV streaming services.

<https://www.t-mobile.com/responsibility/legal/terms-and-conditions>

- Your experience on our networks may vary and change without notice depending on a variety of factors. You agree that we are not liable for problems relating to Service availability or quality.
- We prioritize the data usage of a small percentage of our heavy data users, below that of other customers.
- Customers whose data is prioritized lower may notice speeds lower than customers with higher priority in times and locations where there are competing customer demands for network resources.
- We prioritize smartphone and mobile internet (tablet) over Smartphone Mobile HotSpot (tethering) and wireless internet traffic on our network.

- We utilize streaming video optimization technology in our networks to help minimize data consumption while also improving the service experience for all customers.
- Additionally, we may implement other network practices, to ensure optimized network performance as technologies evolve.
- Devices also have varying speed capabilities and may connect to different networks depending on technology. Even within coverage areas and with broadband-capable devices, network changes, traffic volume, outages, technical limitations, signal strength, obstructions, weather, public safety needs, and other conditions may impact speeds and service availability.
- We engineer our network to provide consistent high-speed data service, but at times and at locations where the number of customers using the network exceeds available network resources, customers will experience reduced data speeds.
- At times and locations where the network is heavily loaded in relation to available capacity, however, these customers will likely see significant reductions in data speeds, especially if they are engaged in data-intensive activities.

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## WHERE, HOW, AND WHEN DOES MY SERVICE WORK?

These T&Cs describe the experience you can expect on our networks, including information about our reasonable network management practices, and the experience on our roaming partners' networks. Please check our coverage maps, which approximate our anticipated coverage area outdoors. **Your experience on our networks may vary and change without notice depending on a variety of factors. You agree that we are not liable for problems relating to Service availability or quality.** To provide the best possible experience for the most possible customers on T-Mobile or Sprint branded rate plans, for many Rate Plans, **we prioritize the data usage of a small percentage of our heavy data users, below that of other customers.** This threshold number is specified in your Rate Plan and is also periodically evaluated and may change over time. We also prioritize the data of customers who choose certain Rate Plans after the data for other T-Mobile or Sprint branded rate plans, but before customers who are prioritized as heavy data users. **Customers whose data is prioritized lower may notice speeds lower than customers with higher priority in times and locations where there are competing customer demands for network resources.** See your selected service or visit our Open Internet page at the link below for details. **We prioritize smartphone and mobile internet (tablet) over Smartphone Mobile HotSpot (tethering) and wireless internet traffic on our network. We utilize streaming video optimization technology in our networks to help minimize data consumption while also improving the service experience for all customers.** For example, a small number of Rate Plans experience video optimization via the Binge On feature. Some qualifying video providers may choose to opt-out of the Binge On program. For a list of opt-out providers visit [http://www.t-mobile.com/offer/binge-on-streaming-video.html#\[D11\]](http://www.t-mobile.com/offer/binge-on-streaming-video.html#[D11]) . The Binge On optimization technology is not applied to the video services of these providers, and high-speed data consumption will continue as if Binge On were not enabled. **Additionally, we may implement other network practices, to ensure optimized network performance as technologies evolve.** For example, some plans may offer gaming or audio streaming at standard or at high definition. Our Open Internet Policy, located at [www.T-Mobile.com/OpenInternet#\[D12\]](http://www.T-Mobile.com/OpenInternet#[D12]) , includes important information on these topics as well as information on commercial terms and performance characteristics (such as expected speed, latency, and network practices.)

## WILL MY SERVICE VARY? WHAT FACTORS MAY AFFECT MY SERVICE?

As our customer, your actual Service area, network availability, coverage and quality may vary based on several factors, including your selected service, network capacity, terrain, weather, if you are on a private or public Wi-Fi network, using a non-T-Mobile device, or if your Device no longer supports network technologies compatible with or available on T-Mobile's network or the networks of our roaming partners. Outages and interruptions in Service may occur, and speed of Service varies. Devices also have varying speed capabilities and may connect to different networks depending on technology. **Even within coverage areas and with broadband-capable devices, network changes, traffic volume, outages, technical limitations, signal strength, obstructions, weather, public safety needs, and other conditions may impact speeds and service availability.**

We engineer our network to provide consistent high-speed data service, **but at times and at locations where the number of customers using the network exceeds available network resources, customers will experience reduced data speeds.** In those cases, customers who choose certain rate plans may notice speeds lower than customers on other T-Mobile or Sprint branded rate plans, which are prioritized higher on our networks. Further, to provide the best possible on-device experience for the most possible customers on T-Mobile or Sprint branded plans and minimize capacity issues and degradation in network performance, we may, without advance notice, take any actions necessary to manage our network on a content-agnostic basis, including prioritizing all on-device data over Smartphone Mobile HotSpot (tethering) data and, for the vast majority of Rate Plans, further prioritizing the data usage of a small percentage of heavy data users (as defined in their Rate Plans) and wireless internet, below that of all other customers in times and locations where there are competing customer demands for network resources, for the remainder of the billing cycle. This threshold number is periodically evaluated and may change over time.

Where the network is lightly loaded in relation to available capacity, a customer whose data is prioritized below other data traffic will notice little, if any, effect from having lower priority. This will be the case in most times and locations. **At times and locations where the network is heavily loaded in relation to available capacity, however, these customers will likely see significant reductions in data speeds, especially if they are engaged in data-intensive activities.** Customers should be aware that these practices may occasionally result in speeds below those typically experienced on our 5G or LTE networks. We constantly work to improve network performance and capacity, but there are physical and technical limits on how much capacity is available, and in constrained locations the frequency of heavy loading in relation to available capacity may be greater than in other locations. When network loading goes down or the customer moves to a location that is less heavily loaded in relation to available capacity, the customer's speeds will likely improve. Visit [www.T-Mobile.com/OpenInternet](http://www.T-Mobile.com/OpenInternet) for details and for current data amount subject to this practice.