



**BEFORE THE PUBLIC UTILITIES
COMMISSION OF THE STATE OF CALIFORNIA**

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Order Instituting Rulemaking Proceeding to
Consider Rules to Implement the Broadband
Equity, Access, and Deployment Program

Rulemaking 23-02-016
(Filed February 23, 2023)

**REPLY COMMENTS OF TARANA WIRELESS, INC. ON BEAD STAFF
PROPOSAL**

Gabriel Moran
Government Affairs & Policy Associate
Tarana Wireless, Inc.
Tel: (925) 817-0770
630 Alder Dr,
Milpitas, CA 95035
E-mail: gmoran@taranawireless.com

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I. Introduction

Tarana Wireless, Inc. ("Tarana Wireless," "Tarana," or the "Company") is a next generation Fixed Wireless Access ("ngFWA") technology company that produces hardware and software used by internet service providers to provide reliable, high-speed broadband in the United States and around the world. Headquartered in the Bay Area, Tarana Wireless was founded by three UC Berkeley PhD students who came from communities deeply impacted by the digital divide. These shared experiences informed their determination and decision to create an innovative technology solution to bring reliable high-speed internet to families and communities. Tarana Wireless' ngFWA technology is used by nearly 300 internet service providers in 45 U.S. states and 21 countries to deliver proven broadband service. In just over two years, Tarana Wireless' proven award-winning technologies serve tens of thousands of families with 1,500 to 2,000 new subscribers added every week. Numerous internet service providers in California have used state funds to deploy ngFWA technology and deliver broadband internet to diverse communities at or above the Federal Communications Commission's speed standards of 100/20 Mbps.

Tarana Wireless supports the Commission's efforts to develop a Broadband Equity, Access, and Deployment ("BEAD") strategy that looks to bring all Californians

on the right side of the digital divide. Tarana Wireless, Inc. is working with subgrantees and eligible entities as they prepare to obtain BEAD funding. Based on Tarana Wireless' deep expertise in ngFWA technologies and experience in working with internet service providers in California, the Company respectfully submits these reply comments in response to its accepted opening comments and comments of other parties.

II. Discussion

1. Extremely High Cost Per Location Threshold

As part of Tarana Wireless' Opening Comments on the BEAD Initial Proposal, the Company expressed support for the CPUC to pursue a process of setting the Extremely High Cost Per Location Threshold ("EHCPLT") after providers have submitted BEAD project applications. Tarana Wireless believes project application data will provide the CPUC with market rate pricing that faithfully captures the true cost of broadband projects. The CPUC states in Volume II that it will still look to "prioritize an EHCPLT as high as feasible to ensure greater fiber coverage."¹ Tarana questions why the CPUC would look to set an EHCPLT as high as possible when Volume II readily acknowledges that the BEAD allocation would not be able to provide fiber-to-the-premises to even all of the unserved BSLs.² This priority stands in the way of the central objective of the BEAD program, which is intentionally entitled, "Internet for All." The ultimate success of the CPUC in the design and administration of California's BEAD program will not be judged by the miles of fiber optic cable that are deployed, but the extension of reliable, high-speed broadband service to hundreds of thousands of Californians who are currently unserved or underserved. This is the most important outcome for California's BEAD program. We strongly encourage the CPUC to anchor its math in calculating the EHCPLT around the outcome of extending broadband access to all unserved and underserved Californians.

Given the imperative to meet the clear objectives outlined in the BEAD NOFO, which encompasses providing service to unserved BSLs, underserved BSLs, and Community Anchor Institutions, the CPUC must adopt a diversified approach. A high EHCPLT designed to maximize the amount of fiber that is awarded and deployed will jeopardize connectivity for Californians and deplete financing that should be used for important digital equity initiatives.

The CPUC has consistently referenced internal analyses suggesting that a fiber-to-the-premises approach may fall short in providing service to even all of the unserved Broadband Serviceable Location

¹ Volume II, at 42

² Volume II, at 34

("BSL") areas. Despite the conclusion of this fiber study, we are surprised that the CPUC has not disclosed any subsequent modeling looking at the feasibility of utilizing both fiber and non-fiber technologies to bridge California's digital divide. In response, we recommend that the forthcoming revision of Volume II incorporates CPUC's internal analysis detailing the anticipated costs associated with extending universal service to all Californians (unserved and underserved) through a blend of technologies - that meet (and preferably exceed) the FCC's reliable, high speed, low latency, home broadband standards. Such modeling, grounded in historical project data, holds the potential to offer valuable insights into the optimal composition of required broadband infrastructure. Moreover, it could indicate whether the CPUC could potentially have funding left over for vital non-deployment digital equity programs, rightfully highlighted by iFoster in their opening comments.³

As previously recommended by Tarana Wireless and already embraced by states like Kansas⁴, Kentucky⁵, and Missouri⁶, California should consider allowing service providers to submit applications that leverage a combination of technologies. This approach would enable the optimization of California's limited resources, strategically deploying fiber where it is most effective, while harnessing alternative, reliable broadband technologies to achieve the overarching goal of 100% universal service in designated project areas.

2. Low-Speed Fixed Wireless Modification

In opening comments submitted on November 27th, Tarana Wireless provided additional clarification concerning the current state of Fixed Wireless Access " (FWA) technology. The amendment labeled "Low-Speed Fixed Wireless" in Volume I included several generalizations that were based on outdated information regarding fixed wireless technology. Tarana Wireless concurs with critiques provided by WISPA⁷ and GeoLinks⁸ regarding the muddled description of FWA. Tarana Wireless is concerned that the CPUC's out of date understanding of fixed wireless technology will be the basis of CPUC decisions that hamper their efforts to develop a BEAD strategy that adopts robust broadband technologies to achieve

³ Opening Comments of iFoster, Inc. on BEAD Staff Proposal.

⁴ Kansas BEAD Initial Proposal Volume 2, pg. 30 (accessed at https://www.kansascommerce.gov/wp-content/uploads/2021/04/1-BEAD-IP-Vol2_for-Public-Comment_20231011.2.pdf)

⁵ Kentucky BEAD Initial Proposal Volume 1, pg. 12. (accessed at <https://broadband.ky.gov/Documents/DRAFT%20Kentucky%20Initial%20Proposal%20Volume%20II%20for%20comment.pdf>)

⁶ Missouri BEAD Initial Proposal Volume 2, pg. 35 (accessed at <https://ded.mo.gov/media/pdf/bead-initial-proposal-volume-2>).

⁷ Comments of WISPA – Broadband Without Boundaries.

⁸ Comments of California Internet, L.P. (U-7326-C) DBA GeoLinks on Broadband Equity, Access, and Deployment (BEAD) Program – Initial Proposal Volumes 1 and 2.

universal broadband access for all California families.

Tarana Wireless has taken the initiative to address these outdated and incorrect characterizations of fixed wireless technologies by attaching a letter signed by nineteen PhD's, with more than 250 years of collective academic and professional technological expertise.⁹ This letter presents well-founded evidence to counter the mischaracterizations found on page 9 of Volume I. Our objective is to ensure that the CPUC is equipped with accurate and up-to-date information, fostering informed decision-making in the ongoing efforts to advance broadband accessibility and achieve universal service.

3. Non-Fiber Scoring Criteria

In opening comments, Tarana Wireless recommended that Other Last-Mile Broadband Deployment Projects be scored based on objective technical capability standards. Tarana proffered scoring criteria that awarded 4 points for utilizing technology capable of surpassing the 100/20 Mbps performance floor. A score of 4 points is granted for a network speed equal to or exceeding 1000 Mbps (download) and 250 Mbps (upload) with a latency under 100 milliseconds (“ms”). Achieving a network speed of at least 400 Mbps (download) and 200 Mbps (upload) with latency under 100 ms results in 3 points. For network speeds meeting or surpassing 200 Mbps (download) and 50 Mbps (upload) with latency under 100 ms, 2 points are awarded. A network speed greater than 100 Mbps (download) and 20 Mbps (upload) with latency under 100 ms earns 1 point. Finally, meeting the criteria of exactly 100 Mbps (download) and 20 Mbps (upload) with a latency under 100 ms results in 0 points.

We concur with the opening comments offered by Community Legal Services which cites speed and performance tiers based on those proposed by New Jersey in their Initial Proposal.¹⁰ However, we would recommend that the CPUC offer no additional points for applications that propose to offer speeds of 100/20 Mbps. If the CPUC is serious about meeting the Governor’s 2021 Executive Order and the BEAD plan, they will need to deploy non-fiber technologies. With this reality in mind, the CPUC should do all that it can to incentivize providers to deploy best-in-class technologies capable of providing broadband access that will serve generations of California families.

III. Conclusion

Tarana Wireless, Inc. expresses gratitude to the Commission for the opportunity to submit Reply Comments on the Staff Proposal and underscores its desire for the Commission to formulate a

⁹ This letter is included in Attachment A to these comments.

¹⁰ Opening Comments of Community Legal Services on Broadband Equity, Access, and Deployment (BEAD) Draft Initial Proposal Volumes I and II.

comprehensive broadband strategy that leverages multiple technologies to bridge the digital divide in California. Tarana earnestly hopes that the CPUC will recalibrate its BEAD strategy to utilize this once in a lifetime financing to ensure every Californian is on the right side of the digital divide. Failing to do so may put future generations at a distinct disadvantage in an increasingly online world.

Dated: December 7, 2023

Respectfully submitted,

/s/Gabriel Moran
Gabriel Moran
Government Affairs & Policy Associate
Tarana Wireless, Inc.
Tel: (925) 817-0770
E-mail: gmoran@taranawireless.com