

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



FILED
09/03/21
04:59 PM

Order Instituting Rulemaking
Regarding Broadband Infrastructure
Deployment and to Support Service Providers
in the State of California.

Rulemaking 20-09-001
(Filed August 6, 2021)

**CALIFORNIA COMMUNITY FOUNDATION (CCF)
COMMENTS ON LOCATIONS FOR A STATEWIDE OPEN-ACCESS MIDDLEMILE
BROADBAND NETWORK**

Antonia Hernandez, President and Chief Executive Officer
Jarrett Barrios, Senior Vice President
Efrain Escobedo, Vice President
California Community Foundation
221 S Figueroa St #400
Los Angeles, CA 90012
Tel: 213-413-4130
Email: digitaldivide@calfund.org

September 2, 2021

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

Order Instituting Rulemaking Regarding
Broadband Infrastructure Deployment and to
Support Service Providers in the State of
California.

Rulemaking 20-09-001
(Filed Sept. 10, 2020)

**CALIFORNIA COMMUNITY FOUNDATION (CCF)
COMMENTS ON LOCATIONS FOR A STATEWIDE OPEN-ACCESS MIDDLE-
MILE BROADBAND NETWORK**

I. Introduction

California Community Foundation (“CCF”) respectfully submits these comments in response to the August 6, 2021 Assigned Commissioner’s Ruling (“Ruling”) requesting comments, and the Administrative Law Judge’s Ruling issued on August 20, 2021, to inform locations for the statewide open-access middle mile network, per requirements included in SB156, signed into law by Governor Gavin Newsom.

CCF’s mission is to lead positive systemic change that strengthens Los Angeles County – the California county with the greatest number of residents lacking access to fast, reliable, and affordable broadband. CCF envisions a future where all Angelenos have the opportunity to contribute to the productivity, health and well-being of our region, and we believe that our fates are shared, determined by how successfully we improve the quality of life for all of our residents.

While the Digital Divide is a long-standing barrier to equity in Los Angeles County and beyond, the COVID pandemic amplified its catastrophic impacts across every one of CCF's program areas: education, health, immigration, housing, and civic engagement. The tragedy faced by thousands of Los Angeles' students -- from pre-K to community college -- unable to access their virtual classrooms due to poor or absent broadband connectivity was well documented. Less obvious, but equally unacceptable, were Angelenos' persistent barriers to health care, economic opportunity, government services, housing support, as well as to participation in the community's civic life through the Census, voter registration, and public meetings; in so many essential arenas of life, the pandemic laid bare the reality that broadband access was inequitable, a burden borne disproportionately by our community's Black and Latino residents. In no uncertain terms, COVID-19 brought the issue of broadband access into focus as a civil rights issue.

As noted in the Ruling, the lack of available middle-mile broadband infrastructure has been a major contributing factor to leaving many communities unserved and underserved across California. This is as true in Los Angeles County as in any other county in the state, only with far larger numbers of households left out. While Los Angeles County is home to significant middle-mile capacity, it is almost entirely owned privately by Internet Service Providers (ISPs) and companies dealing in dark fiber. To the best of CCF's knowledge, much of this fiber is single-use and none of it is open-access. Without the availability of open-access middle mile infrastructure, public and private entities operating in the public interest must negotiate for capacity, often from the private ISPs with whom they are competing. These private ISPs profit from their near-monopoly and lack any incentive to open up the Los Angeles broadband market to competition. Functioning markets are critical; the current lack of open access fiber prevents

competition from producing “efficient” prices for consumers,¹ contributing to the inequities experienced by so many Angelenos.

Private, middle-mile networks cannot be presumed to have sufficient capacity to support last-mile solutions designed to reach unserved and underserved households without significant new regulation. Such regulation must require private networks be made available to competing providers without prejudice, including public and public-private providers, on very long term, affordable wholesale terms.

The lack of open-access infrastructure impacts all consumers negatively, but the greatest negative impacts are upon unserved and underserved communities. The absence of open-access middle mile infrastructure prevents any alternative to the inequitable status quo from developing. Currently, almost all of Los Angeles County is served by a sole provider or, at most, two providers. This reigning duopoly prevents meaningful market remedies in communities across Los Angeles County that are underserved by these incumbent providers.² These two ISPs have persistently failed to extend access to high speed, reliable, and affordable broadband to the 19%

¹ See U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines, p. 5; <http://www.justice.gov/atr/public/guidelines/hmg-2010.pdf> (hereafter, Horizontal Merger Guidelines).

² CONNECTED CITIES AND INCLUSIVE GROWTH (CCIG), Policy Brief # 1, December 2016, Home Broadband in Los Angeles County <https://www.lse.ac.uk/media-and-communications/assets/documents/research/projects/disto/Policy-Brief-LA-Mapping.pdf>

of Los Angeles County— more than two million residents— who still do not have a broadband subscription at home.³

Communities with the highest rates of poverty and lowest broadband subscription rates are also the most likely to have only one wireline provider option.⁴ This structural problem with the market has been further compounded by decisions made by ISPs that “redline” these same communities for reduced investment in broadband infrastructure.⁵ This issue of digital redlining has been explored at length by the Commission as part of the Commission’s Assigned Administrative Law Judge Ruling in Phase II-B of these proceedings.⁶

For these reasons, CCF strongly supports the plan for a statewide public open-access middle-mile broadband network included in the recently enacted Senate Bill (SB) 156, and urges the Commission to prioritize locations for the network with two top-level considerations:

- 1) In identifying existing middle infrastructure that may be relevant to this inquiry, all three elements are simultaneously critical: open access, sufficient capacity, and affordable rates; and
- 2) To maximize the number of Californians who are able to secure fast, reliable and affordable broadband connections sufficient to meet the minimum standards for full participation in our society, the Commission should take a balanced approach to

³ [The CETF/USC 2021 Statewide Broadband Adoption Survey](#) found that, at 19%, Los Angeles County is second only to the Central Valley in terms of percentage of households unconnected or underconnected. According to the latest Census, there are just over 10 million residents of Los Angeles County, meaning about two million Angelenos do not have access to broadband services.

⁴ California Broadband Interactive Map; <https://www.broadbandmap.ca.gov/>

⁵ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M349/K206/349206429.PDF>

⁶ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M385/K618/385618661.PDF>

addressing the widely varying reasons for lack of connection, including as criteria both the lack of *any* infrastructure *and* the lack of infrastructure that can be leveraged to connect the unserved and underserved.

II. RECOMMENDED PRINCIPLES FOR LOCATING THE STATEWIDE OPEN-ACCESS MIDDLE-MILE NETWORK TO BEST SERVE THE PUBLIC INTEREST IN FAST, RELIABLE, AND AFFORDABLE BROADBAND FOR EVERY CALIFORNIAN

A. The Commission Should Consider Historic Structural Inequities Built into and Perpetuated by the Existing System

As was explored in-depth in comments in response to this proceeding's ruling regarding digital redlining,

[T]he same communities that have long been subject to predatory and racially discriminatory housing and lending laws, policies, and practices also continue to face obstacles to equal education and healthcare access. . . . Reliable, affordable Internet access could provide multifarious economic, educational, and health opportunities for communities that have been disadvantaged for decades. Unfortunately, many of those same communities lack equitable broadband access and remain excluded from critical resources, many of which have migrated exclusively online. In making decisions about where to locate the state's open access middle mile network, there is risk of doubling down on the well-documented inequities in infrastructure investment that have defined broadband deployment to date. In every geography, and in particular in urban areas, the overly broad data the FCC requires from internet service providers masks vast swaths of unserved and underserved communities.⁷

A holistic review – a review that is data-driven but also sensitive to the varied ways in which data collection has masked historic inequities, and sensitive, as well, to infrastructure deployments that have bypassed Black and Latino communities -- will allow the Commission to

⁷ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M385/K618/385618661.PDF> (citations omitted).

prioritize public investments in infrastructure that meaningfully redress historic wrongs, connecting the unconnected regardless of the specific reasons they lack access.

B. The state’s middle-mile network must be truly open-access.

The Commission must ensure the state’s middle-mile network is built for the full range of potential last-mile providers. This public network should be designed for use by not only private providers but also counties, municipalities, non-profits, cooperatives, school districts, and other public-serving entities. The Commission should ensure that these organizations are placed on equal footing with private ISPs to avail themselves of the California Advanced Services Fund grants for last-mile infrastructure. Similarly, the Commission should ensure that these organizations are positioned to leverage SB 156’s loan-loss reserve fund for public-serving entities to build public and public-private solutions.

CCF joins the Central Coast Broadband Consortium and others in emphasizing that the statewide network must remain consistent with the legislature’s intent and built to be made available to all, not favoring any individual service provider, nor favoring a specific class of providers, in its design, construction and in future planning.⁸

C. Build the middle-mile for tomorrow’s technology needs and capabilities.

There is broad consensus that the Federal Communication Commission’s 25/3 Mbps definition for minimum adequate broadband is an inadequate benchmark for broadband speed

⁸ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M403/K447/403447489.PDF>

that meets today's needs.⁹ Our reliance on broadband is growing and the demand for more bandwidth and more speed will grow with it, escalating demand. Dramatically asymmetrical upload and download speed requirements are a relic of bygone days. Today's multigenerational households, families with more than one school-age child needing access to online learning, families with members living with disabilities, couples with would-be entrepreneurs working to launched businesses that may be home-based to start, and homes using household devices that are constantly connected to the internet (things like smart locks and smart thermostats) are just a few examples of those who rely on fast upload speeds as much as fast download speeds.

Regardless of the FCC's minimum standard, technology to provide 100 Mbps symmetrical speeds is widely available and deployed broadly in many communities in California. Fiber-to-the-home networks across the country, including some built upon open-access middle-mile networks, have been providing Gigabit symmetrical speeds for over a decade.¹⁰ This has been true not only for urban areas, but also in extremely rural areas.¹¹

The Commission is leading decision-making around how to deploy a generational investment in broadband infrastructure that should benefit all unserved and underserved communities. Its process should abandon these already-outdated minimum standards.

⁹ See EFF: The American Federal Definition of Broadband Is Both Useless and Harmful; <https://www.eff.org/deeplinks/2020/07/american-federal-definition-broadband-both-useless-and-harmful>

¹⁰ See e.g., A Public Housing Digital Inclusion Blueprint; <https://ilsr.org/wp-content/uploads/2019/03/sf-broadband-public-housing-2019.pdf>

¹¹ See "How Local Providers Built the Nation's Best Internet Access in Rural North Dakota" by the Institute for Local Self- Reliance. <https://ilsr.org/case-study-shows-how-local-providers-built-world-class-broadband-in-rural-north-dakota/>

III. DETAILED RESPONSE TO ISSUES FOR PUBLIC COMMENT

A. Identifying Existing Middle Mile Infrastructure

- *What routes, if any, should be modified, removed from consideration, or revised? Provide an explanation for these suggestions.*

The proposed segments along US Highway 10 and State Highway 110 in Los Angeles County will bypass some of the least-connected communities in Los Angeles County and pick up again in some of the best connected. For example, the proposed CA110 segment includes South Pasadena, a predominantly white community of census tracts with 60%+ and 80%+ 25/3 adoption rates, but bypasses census tracts in Jefferson Park, a predominantly Black community with 20%+ and 40%+ 25/3 adoption rates. Similarly, the proposed US10 segment includes Santa Monica, a majority white community in which all census tracts have at least 60%+ 25/3 adoption, but bypasses entirely tracts in the Alvarado Terrace Historic District and Koreatown, predominantly Black and brown communities with just 20%+ 25/3 adoption rates.¹²

Moreover, these proposed segment gaps may preclude the network's connection to the One Wilshire building – the so-called telecommunications hub of the West Coast and home to one of the world's densest arrays of interconnections.¹³ To build a statewide middle mile open-access network that bypasses the “meet me” rooms that connect the majority of the Los Angeles region's networks appears on its face as a missed opportunity.

¹² All adoption rate data is per the publicly-available maps provided on the CPUC's public tableau library. These percentages reference census-tract level data published on the EOY 2019 CA Fixed Broadband Adoptions Map by Census Tract;

https://public.tableau.com/shared/TQWBRJC24?:display_count=n&:origin=viz_share_link

¹³ <https://www.one-wilshire.com>

- *Are there existing middle-mile routes that are open access, with sufficient capacity, and at affordable rates on the county highway routes listed in Attachment A?*

To CCF's knowledge, there are no truly open-access middle-mile routes in LA County, though there are several municipal networks – including the South Bay Fiber Network, a multi-jurisdictional middle-mile network that leases fiber from American Dark fiber – providing broadband service to anchor institutions and municipal buildings.¹⁴ Two municipal networks, Beverly Hills Fiber and Santa Monica City Net, offer or are scheduled to offer limited to-the-home services built on city-owned dark fiber.¹⁵ Given CCF's focus on historically excluded populations, it is worth noting that neither Beverly Hills nor Santa Monica are classifiable as unserved or underserved areas, with 60%+ and 80%+ 25/3 adoption rates across effectively all census tracts in those communities

The lack of a competitive marketplace for broadband services spans the whole of Los Angeles County, including even the County's most affluent and white areas, as well as rural communities in the northern parts of the County. This lack of competitiveness is especially pronounced in the County's dense, high-poverty, urban communities of color. Not coincidentally, these are the communities that have been historically redlined by private ISPs. The current lack of open-access middle-mile infrastructure in the county denies new entrants into the market for service, including any publicly-owned and/or -operated options, that might change the status quo with service offerings that are fast, reliable and affordable.

¹⁴ <https://www.southbaycities.org/programs/south-bay-fiber-network>

¹⁵ ConnectCalifornia: Municipal Broadband Providers in California;
<https://www.connectcalifornia.com/internet-service/municipal-broadband-providers>

Existing fiber network owners may be productive partners in bridging middle-mile gaps in areas with a better business case. Crown Castle and American Dark Fiber are two companies with extensive capacity in Los Angeles County that, while not open-access are not typically single use, have been leveraged by public entities to connect municipal complexes.¹⁶

- *In the context of these comments, what is sufficient capacity and affordable rates?*

To ensure the longevity of SB 156's extraordinary investment in public broadband infrastructure, planning and construction of this publicly-owned middle-mile open access network should favor higher strand counts and more capacity. The specific strand count will and should vary with the density of the area to be served by the network, and the Commission should engage local communities and nationwide experts to identify the ranges used by successful networks across the country.

Similarly, the question of affordable rates should be linked to the cost passed on to last-mile providers: what is the rate that makes leasing this capacity affordable for new providers, whether private or public? A review of effectively operating markets should offer useful intelligence on this question.¹⁷

- *For routes that are identified as being open access, with sufficient capacity, and at affordable rates, how should the Commission verify these claims (e.g., should Communications Division send a data request for service term sheets, rates, approximate dark fiber, lit fiber, and conduit capacity, etc.)? Are there any other criteria that should be used to verify these claims?*

¹⁶ See, e.g. South Bay Fiber Network; <https://www.southbaycities.org/programs/south-bay-fiber-network>

¹⁷ See e.g. What Is the "Ammon Model"? <https://www.bbcmag.com/community-broadband/what-is-the-ammon-model>

Data requests for service term sheets, rates, dark and lit fiber, conduit capacity, available capacity, terms of service (i.e. what is the remedy if capacity limits are reached?) will help verify claims of open-access, high capacity, affordable network availability. As the Commission routinely does, all information supplied by incumbent providers should be independently validated, and at a level of granularity which prevents data masking and allows for accurate mapping against unserved and underserved areas of need. Additionally, this information should be publicly available and posted on the Commission's website.

B. Priority Areas

- *Is it reasonable to assume counties with a disproportionately high number of unserved households (e.g., 50% or more unserved at 100 Mbps download) are areas with insufficient middle-mile network access?*

It is reasonable to assume that areas with a disproportionately high number of unserved households are areas with insufficient middle-mile network access, with several caveats:

- 1) 50% or more unserved at 100 Mbps download metric should be neither the only nor the primary metric for identifying areas with insufficient middle-mile network access, in part because that metric applies to a vanishingly small set of areas of the state – just six counties meet that threshold, per Attachment A of the ruling.
- 2) Counties are not optimal units for planning and data aggregation, especially given the tremendous diversity of geography and demographics both *across* and *within* those counties with the highest number of unserved and underserved residents. US Census Bureau Public Use Microdata Areas (PUMAs) are a viable alternative as they are easily incorporated into existing census tract-level analysis like those already made public by the CPUC, they represent large enough population sets to provide actionable information (there can be no fewer than 100,000 people in any PUMA), and they provide coherent

community boundaries.¹⁸ PUMAs have already been used for productive analysis of the American Community Survey PULSE Survey, illuminating granular variances within and across counties. For example, one such analysis identified areas within Sonoma County with very high rates of broadband adoption and areas within Los Angeles County with adoption rates among the lowest in the state.¹⁹

- 3) Whether the Commission uses Counties or PUMAs, its proposal to use the *percentage* of unserved at 100 Mbps download, or at any speed, is insufficient. The Commission also should consider the *number* unserved within any unit of measurement when identifying areas with insufficient open-access middle mile network access. An *exclusive* focus on percentage unserved or underserved incentivizes investments that may connect a very small number of people, turning a blind eye to the greatest number of Californians lacking access to fast, reliable, and affordable broadband.
- *What other indicators, if any, should the Commission use to identify priority statewide open-access middle-mile broadband network locations (i.e., built expeditiously, areas with no known middle-mile network access, regions underserved by middle-mile networks, regions without sufficient capacity to meet future middle-mile needs)?*

The Commission should incorporate adoption rates, availability of competitive internet service providers, digital redlining maps, and areas without existing open-access middle-mile networks to identify priority statewide open-access middle-mile broadband network locations.

In comments previously filed as part of this proceeding’s ruling on digital redlining, The Utility Reform Network proposed a framework for the Commission to use when contemplating remedies to redlining.²⁰ While ensuring that “area” is not defined at the County level but at the

¹⁸ US Census Bureau: Public Use Microdata Areas (PUMAs); <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/pumas.html>

¹⁹ See e.g. Public Policy Institute of California Fact Sheet, California’s Digital Divide, February 2021; <https://www.ppic.org/publication/californias-digital-divide/>

²⁰ <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M394/K796/394796987.PDF>

PUMA or other more granular level, as discussed above, CCF urges the Commission to adopt a similar framework to prioritize areas for the state's investment in open-access middle-mile networks, as well as subsequent last-mile projects:

- 1st – Areas without broadband service at any speed.
- 2nd – Areas with a single broadband provider offering speeds less than 100 Mbps and adoption rates at less than the statewide average.
- 3rd - Areas with a single broadband provider offering speeds greater than 100 Mbps and adoption rates at less than the statewide average.
- 4th - Areas with two broadband providers, one offering speeds above 100 Mbps; the other offering speeds below 100 Mbps, and adoption rates at less than the statewide average.
- 5th - Other factors, such as the persistent lack of investment by incumbent broadband ISPs that affect historically disadvantaged areas and issues associated with broadband affordability.

Within the context of this framework, the Commission should engage local communities for guidance. Many regions have conducted digital equity studies showing the level of granular data that surfaces inequitable results stemming from systems-level drivers of low adoption rates. This engagement will further the Commission's understanding of the interplay between limited- or non-existent open-access middle-mile networks and the last-mile, affordability, noncompetitive markets, and redlining challenges driving critically low adoption rates.

C. Assessing the Affordability of Middle Mile Infrastructure

CCF encourages the Commission to request detailed information from successfully operating publicly-owned middle-mile networks that are effectively supporting competitive markets, with last-mile services that are fast, reliable, and affordable for consumers, regarding the pricing rates, structure, and terms for those middle mile services.

D. Leasing Existing Infrastructure

- *If there is existing open access communications infrastructure with sufficient capacity to meet the state's needs, should the state purchase IRUs from that network?*
- *Is there any value in the state purchasing an IRU from the network if capacity is already available?*
- *If the state relies on IRUs for the development of the statewide network, will the generational investment that this funding provides be diminished when the IRU leases end 20 to 30 years later? Will existing networks run out of spare capacity?*

CCF urges the Commission to engage these questions from the perspective of building a once-in-a-generation public asset that can, if deployed properly and in concert with last-mile and other investments also made with the public interest in mind, permanently end the so-called digital divide. From that perspective, the answer to the question of allocating these historic public dollars to rent private assets on a temporary (even if long-term) basis has to be, in most cases, “probably not,” as such arrangements may merely pass the problem down the line for a future generation to solve.

In the event that the State does rely on IRUs for the development of the statewide network, it is critical that lease arrangements include accountability mechanisms around maintenance, capacity limits, and renewing at affordable rates at the end of the currently negotiated IRU.

Additionally, the Commission should also plan for the possibility that parts of the state's publicly-built open-access middle-mile network may ultimately be sold, including safeguards that the network will remain open-access in perpetuity.

E. Interconnection.

- *At what points should the statewide network interconnect (e.g., to other networks, servers, etc.)?*

CCF recommends the Commission explore the following interconnection points in Los Angeles County (most in or near the One Wilshire hub, off the 110 highway):

- CoreSite Any2 LA, 900 North Alameda Street, Los Angeles, 90012
- CIIX, 818 West 7th Street, Los Angeles, 90017 (
- EQIX-LA, 818 West 7th Street, Los Angeles, 90017
- EQIX-LA, 700 Wilshire Boulevard, Los Angeles, 90017
- LAIIX, 626 Wilshire Boulevard, Los Angeles, 90017
- EQIX-LA, 600 West 7th Street, Los Angeles, 90017
- CIIX, 600 West 7th Street, Los Angeles, 90017
- CIIX, 624 South Grand Avenue, Los Angeles, 90017
- CoreSite Any2, 624 South Grand Avenue, Los Angeles, 90017

IV. Conclusion

Digital inequity and its longstanding implications have a multitude of causes and antecedents. Much of today's inequitable outcomes result from systemic inequities built into the physical infrastructure of the internet – from digital redlining to anti-competitive proprietary core networks preventing public-serving entities from enacting meaningful remedies. While the state's open-access middle mile network will be just one piece of a comprehensive set of solutions that must include and be inextricably linked to parallel investments in last-mile infrastructure, digital literacy, and more, it is a critical piece. CCF appreciates the gravity and scale of the work the assigned Commissioner, Administrative Law Judge, and CPUC staff have committed to ensuring broadband deployment that advances equity, and respectfully request consideration of the above comments.

Dated: September 2, 2021

Respectfully submitted,

/s/ Antonia Hernandez

Antonia Hernandez, President and Chief Executive Officer
Jarrett Barrios, Senior Vice President
Efrain Escobedo, Vice President
California Community Foundation
221 S Figueroa St #400
Los Angeles, CA 90012
Tel: 213-413-4130
Email: digitaldivide@calfund.org