

**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 October 15, 2021)**

INSTITUTE FOR LOCAL SELF-RELIANCE REPLY COMMENTS

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I. Introduction

Institute for Local Self Reliance (ILSR) respectfully submits these reply comments in response to opening comments to the Assigned Administrative Law Judge (ALJ) ruling issued September 9, 2021, with additional questions related to the Commission's Middle-Mile Data Collection.

II. Key Takeaways from Public Middle-Mile Projects in Other States

In opening comments, incumbent providers and trade associations that advocate for their interests made a variety of claims about public broadband projects around the country that the Commission should discount as misguided and irrelevant.

Parties' comments focused on claims of failure in publicly owned last-mile networks demonstrate either a lack of understanding of the goals of publicly owned networks (i.e. short-term profitability is not the primary goal) or ideological opposition to publicly owned or managed solutions. Though opponents of public networks have made many claims in many arenas over the years, when the FCC compiled an extensive record about the merits of such networks, public networks were demonstrated to be quite successful and the vast majority of claims of failure were demonstrated to be hollow.¹

¹ FCC Memorandum Opinion and Order, Dockets 14-115 and 14-116, Adopted: February 26, 2015 Released: March 12, 2015; https://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0312/FCC-15-25A1.pdf

Even if Parties' claims regarding shortcomings in community networks serving residents and businesses were accurate, they are irrelevant to the question of California's statewide open-access middle mile network. The business models for last mile and middle mile differ significantly and even involve different technologies.

With respect to applicable lessons learned from middle mile networks across the country, the Commission should consider the time frame. Networks built 15 years ago had different challenges and different economics. The cost of fiber and related equipment has changed significantly, leading to different considerations in building networks regarding the number of fibers and even what routes are economical under different circumstances given the vastly increased demand today.

For many of the networks discussed by commenters, ILSR agrees with CCTA that given the scope of what California aims to achieve, "it is difficult to draw applicable lessons."² California is aiming to address broadband market failure on a scale that no other state has. Many of the state networks discussed do not offer particularly powerful insights.

Some commenters focused on Kentucky and the Kentucky Wired project, a public-private partnership that has indeed struggled to achieve its goals. CCTA more accurately notes the problems, which include cost overruns and delays, than ACLP, which offers no evidence in its comments for its suggestion that KentuckyWired would have been better served by focusing on the highest cost, lowest density areas first.

KentuckyWired was plagued by mismanagement and an extremely complicated contract that significantly benefited the private partner. In fact, if KentuckyWired had started with the areas of Lexington and Louisville that have large numbers of underserved residents and businesses, it probably would have performed much better financially. But its goal should be to meet the needs of all Kentuckians and adopting a blended strategy was a reasonable approach. Its failure to date is almost certainly more related to the fact that the private partner had not previously completed a comparable project in the United States than any of the considerations offered by CCTA or ACLP. It is odd that neither CCTA or ACLP suggest that the failure of the private partner to perform in Kentucky suggests

² Comments of the California Cable and Telecommunications Association, P8;
<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M411/K463/411463309.PDF>

California should focus on a purely-public approach. ILSR is not necessarily of that mind, believing that a layered approach that recognizes different parts of the state have different assets and challenges is probably more appropriate than a simple, ideologically-driven model.

ACLP references Utah's UTOPIA network and describes "the dramatic fall and still-ongoing rise" of this success story. The lesson learned from UTOPIA is to approach public broadband infrastructure projects as the long-term investments that they are. That success is not predicated on large, short-term return on investment as it is for private sector buildouts. It is a feature, not a bug, of public projects. Per the Benton Institute's report, "If We Build it Will They Come? Lessons Learned From Open Access Middle Mile Networks,"³

Open-access, middle-mile networks do not happen overnight. It is true that UTOPIA was, for a long time, considered a failure, with one newspaper calling it a "half-billion dollar fiasco menacing city budgets in four counties." Now, UTOPIA has found success as a middle- and last-mile network, building out to new communities in Utah and even expanding into Idaho and Montana with a list of many cities hoping it will expand to them next.

III. Middle Mile Alone is Insufficient

While projects in other localities are not generally comparable in scope to what California aims to accomplish, state efforts like the one in Massachusetts and the ambitious SuperNet in Alberta province of Canada, all suggest across time and space that a focus solely on middle mile is insufficient to actually connect the households and businesses that need better Internet access.

The most important lesson is that middle mile networks alone, even when reasonably priced, are insufficient to catalyze connections to residents and businesses in most cases. Though the federal broadband stimulus programs - BIP and BTOP - both invested significantly in middle mile networks, those projects did not significantly change the landscape for underserved communities. They connected anchor institutions but did not change the fundamentally daunting costs of building local distribution networks to connect residents and businesses. Having a robust middle mile improves the business case by lowering expected operating expenses and the potential capital expenses if a new middle mile must be built, but it does little to reduce the cost of passing all the dwellings and businesses. If the goal is to connect households and businesses, a middle mile must be constructed with a plan for developing the needed last mile networks.

³ https://www.benton.org/sites/default/files/OAMM_networks.pdf

The Three-Ring Binder project in Maine has been widely viewed as one of the more successful public middle mile projects. One of its architects, Fletcher Kittredge, spoke about the need to get both middle mile and last mile investments planned because both are required to solve the connectivity challenge in rural areas.⁴ In part because of a powerful coalition of public and private stakeholders, the project has resulted in significant investment in networks to connect residents and businesses. Unfortunately, in recent years, the Three Ring Binder has changed ownership and local informal reports suggest it no longer offers the same reasonable terms for rural communities as it once did. Such rumors may not be strong evidence in a court of law, but are red flags in support of the Commission including planning for how the networks it creates will continue to operate in the public interest for decades, not just years.

IV. The Middle Mile Should Be Equally Available for All Business Models

The middle mile network should be accessible by all business models, without privileging private for-profit business models over others. Nebraska offers a compelling cautionary tale regarding the perils of privileging private for-profit models. For many years, Nebraska has maintained one of the most restrictive approaches to broadband, greatly limiting local government authority to build or partner for networks while also effectively prohibiting public power districts and cooperatives from even leasing dark fiber for middle mile services.⁵ The result? According to the *Omaha World Herald*: “A 2019 state task force study found that Nebraska ranked behind all of its neighboring states except Wyoming in broadband availability. A year ago, BroadbandNow, a California-based research firm, ranked Nebraska 48th in terms of access, price and speed.”⁶

V. Municipal Broadband Networks are Successful Across the Country

As noted above, the record of last-mile municipal networks is not particularly useful in discussing lessons for middle mile networks, but we are compelled to set the record straight on some of these claims nonetheless. In many regions, communities are leading the way to connect their residents and businesses to high-quality Internet access. As local businesses and residents demand better Internet options, local governments have stepped up with a variety of approaches from citywide municipal

⁴ [Middle Mile vs Last Mile - Community Broadband Bits Podcast 214](#)

⁵ <http://www.localnetchoice.org/wp-content/uploads/2021/08/CLIC-List-State-Barriers-7-1-21.pdf>

⁶ https://omaha.com/news/state-and-regional/govt-and-politics/plan-to-spend-40-million-on-broadband-expansion-in-nebraska-advances/article_2ab5eca6-a770-11eb-9bf3-173ee79a2e7a.html

networks to incremental fiber-optic investments to partnerships to conduit systems to encourage competition.

In their opening comments, AT&T claims that Middle Mile projects in other states do not offer promising examples for the Commission to look to because they have “encountered significant financial setbacks.”⁷ The citation AT&T provides for this claim is a 2017 paper authored by Christopher Yoo and Timothy Pfenninger.⁸ Importantly, none of the networks included in the Yoo and Pfenninger paper were statewide Middle Mile projects. Moreover, the paper has been thoroughly debunked, with the author quietly issuing a press release walking back some of the dramatic claims against Wilson, Lafayette, and Chattanooga, and casting serious doubt on his understanding of the financing of these networks.

[<https://muninetworks.org/sites/www.muninetworks.org/files/fiber-fallacy-upenn-yoo.pdf>]

Yoo and Pfenninger made numerous mistakes in their analysis and selected a methodology that was inappropriate to the data available. Key errors and misdirections in the report that render it unusable as a reference for consideration:

- Networks like Chattanooga and Wilson not only operate in the black financially, they have nearly finished repaying the debt incurred in building their networks though that study predicts they will take far longer to “break even.”
- Each of the cities we talked with disputed the accuracy of the numbers used in the calculations for their communities.
- They make a variety of basic factual errors, including when many of the networks studied began connecting subscribers (the listed “start of project” is inconsistent and often significantly predated when the network began connecting customers.)
- The paper uses the Net Present Value (NPV) metric - an inappropriate measure for this evaluation and particularly when the data set contains so many municipal networks that were engaged in large one-time capital expenditures during the period studied. Those expenditures bias the NPV to make the network appear less financially viable.

Other errors, such as confusing the technologies used by at least two networks, are less important but decrease the study’s credibility. The simple fact of the matter is that the majority of municipal

⁷ AT&T Opening comments on AJL Ruling, September 9, 2021; at P15

⁸ Christopher Yoo and Timothy Pfenninger, *Municipal Fiber in the United States: An Empirical Assessment of Financial Performance*, at 12 (May 2017)

networks have paid all their bills and are on track to do so while generating important benefits for their communities.

The Yoo and Pfenninger report does not provide any convincing evidence that municipal networks are bad investments, much less that their findings are in any way relevant to the public open-access middle mile investment under consideration by the Commission in this proceeding. As summarized in an ILSR report debunking the Yoo and Pfenninger analysis⁹:

The [analysis] is akin to the developers of a major shopping center asking consultants to rigorously examine their plans. After studying the plans, the consultants reply that the parking lot is a total waste of money. It will sit on valuable land, be expensive to build and maintain, and most damning, never earn a dime for anyone. The consultants in this example aren't necessarily wrong, but they ignore essential context.

VI. Conclusion

The state of California has made a groundbreaking, first-of-its kind commitment in terms of scale and scope to investing in broadband infrastructure to allow every Californian access to fast, reliable, and affordable internet. While specific lessons learned from other states' middle mile project are difficult to map to the Commission's decision-making, the generalizable lesson is clear: maintaining a focus on interests of local communities and Californians who are unserved and underserved in rural and urban areas alike, and placing the profit- and grow-interests of major national publicly traded corporations at the end of the list, will be the critical ingredient for an open access middle mile that is successful for the long term.

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⁹ Correcting Community Fiber Fallacies, Community Networks Initiative at the Institute for Local Self-Reliance June 2017 (<https://muninetworks.org/sites/www.muninetworks.org/files/fiber-fallacy-upenn-yoo.pdf>)

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Respectfully submitted on October 15, 2021.

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