Broadband Networks Must Be Viable

Strategic Considerations For Effective Legislation to Implement Governor Newsom’s Proposed Multi-Billion Dollar Statewide Open Access Middle-Mile Network

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**Introduction**

Common sense and basic government accountability require that public funds be spent only on projects that are economically viable. For broadband networks, this means that public funds should pay for constructing only those networks that can demonstrate demand for service that will generate sufficient revenue to cover ongoing costs. The Governor’s proposed “statewide open access middle-mile broadband network” must demonstrate demand by last-mile providers that want to interconnect, and last-mile providers must demonstrate that enough households are likely to subscribe to service. The Benton Institute report cited as support for the Governor’s broadband proposal makes exactly this point -- if a middle-mile open access network is to have any chance of success, it must demonstrate demand prior to construction, with “realistic business strategies” and a customer base to maintain “financial sustainability.”¹

Thus, legislation implementing the Governor’s proposal must include a “viability” requirement, and no public funds should be used for middle-mile infrastructure unless coupled with last-mile providers that are committed to use that middle-mile infrastructure to connect unserved households that want service.

**CASF Program Has a “Viability” Requirement**

The California Advanced Services Fund (“CASF”) program has a “viability” requirement that a project applicant must meet prior to being awarded a grant:

“Project Viability: The applicant must provide a five-year projected project business plan showing project profitability, revenues, and expenses [and] include an [earnings before interest and taxes] for the project overall. The project viability forecast must include projected revenue from customers, showing changes in subscriptions and service rates and charges through the pricing commitment period and the period thereafter, years three through five, as applicable.”²

**Governor’s Proposal Needs a Viability Requirement**

The Governor is proposing to spend $4 billion on an open access middle-mile network without any requirement to demonstrate that any last-mile provider wants to interconnect with that network. Even the trailer bill directing the CPUC to identify areas for middle-mile infrastructure deployment does not require any consideration of viability. The Governor should not rely on hope and speculation that last-mile providers will connect to an open access middle-mile network. Legislation must require project viability based on demonstrated demand by last-mile providers that have a financially sustainable business plan to serve end users.

The CASF program already funds both middle-mile and last-mile infrastructure – and includes a viability requirement. There is no need to create an entirely new program in another agency to fund middle-mile. That will only create delay, expense, and more bureaucracy, wasting precious federal funds.


Middle-Mile Projects Cited as Models from Other States Have Not Been Viable

CPUC documents supporting the Governor's proposal claim that a $4 billion stand-alone middle-mile open access network will bring many benefits, and they cite to publicly funded networks in nine other states as examples. California’s recently funded open access middle-mile network projects have questionable success actually connecting households.

- **Digital 299** – an open access middle-mile broadband project awarded $47 million in public funds in 2017 that was terminated before any of it was built, citing a need for more funding.3
- **Klamath Project** – a broadband project with open access middle-mile infrastructure that was awarded $6 million in public funds in 2013 and an additional $10.8 million in 2020 and is still under construction.4
- **Digital 395** – a fiber optic open access middle-mile network from Reno to Barstow that connects many anchor institutions but an unknown number of last-mile providers that provide broadband service to households.5

At least one of the open access networks cited as examples from other states – **Washington** – is a middle-mile network that originated with public utility districts and is subsidized by rates from utility services such as water and electricity.6

In addition, at least three more of the examples cited – **Michigan,**7 **North Carolina,**8 and **Ohio**9 – are networks that connect public schools and universities, similar to California’s CENIC network that already connects K-12 schools, colleges, universities and libraries statewide.10

Other examples cited, including **Kentucky** and **Massachusetts,** have experienced great delay in producing any of the projected benefits or have not been economically viable at all, as set forth below. University of Pennsylvania Professor Christopher Yoo surveyed every municipal fiber project that publicly reports its financial results, and found that over half could not cover their operating costs.11 California should not opt for this risky path by ensuring that middle-mile infrastructure will actually connect unserved households.

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4“Approving Supplemental Funding for Grant Application of Karuk Tribe from CASF Fund.” California Public Utilities Commission, 8 May 2020, docs.cpuc.ca.gov/PublishedDocs/Published/G000/M337/K051/337051399.pdf.


7“ABOUT MERIT.” Merit, www.merit.edu/about/.


9“OARnet History.” OARnet, 6 May 2021, www.oar.net/about/history.

10“CENIC: Overview.” Cenic.org, cenic.org/about/.

Struggling Middle-Mile Project: KentuckyWired

The embattled KentuckyWired network is a struggling statewide middle-mile network that has faced continual cost overruns and deployment delays. While the project is nominally “complete,” it has received nearly ubiquitous criticism and has yet to show any meaningful use.

**Scope.** KentuckyWired is a 3,200-mile middle-mile network built by the state in partnership with Macquarie Capital.

**Cost.** The initial estimated buildout cost of this project was $324M; a recent audit estimated that the total 30-year cost approaches $1.5B.

**Financing.** The network was initially financed through several different avenues: $30M came from state general funds; $23.5M came from a federal Appalachian Regional Commission grant; and the remaining $270M came via private bonds. Macquarie “receives an annual concession fee of about $29 million” to oversee the project.

**Status.** Over-budget and behind schedule for years, officials announced the project was “complete” in March 2021. To-date, the network’s operating entity Accelecom has not announced any partnerships with ISPs to provide last-mile service, and the network sits unused, save for servicing “close to 140 state government offices."

**Costly Delays.** Delays and financial issues plagued the network since construction began in 2015. Officials vastly underestimated the time it would take to secure access to the poles needed to support network fiber. While initial estimates pegged completion of the statewide network within one year of its launch, nearly six years passed before the network was declared “substantially complete."

**Myriad Struggles.** The project remains mired in controversy. It was the subject of at least two official investigations by the state, and a September 2018 audit found a cost overrun of “at least 35 percent” and questionable practices that placed a huge burden on taxpayers. In early 2018, several state officials called for the project to be abandoned because of uncertainty about its long-term financial viability. By that point, costs had ballooned by $188 million, with those overseeing the project requesting an $88 million injection of funding. Giving up on the project would have cost the state $500 million. As a result, the legislature approved $68 million in additional funding. In February 2019, officials sought an additional $20M to keep the project afloat, a request that was met with calls for ending the project once and for all. Later that year, officials finalized another $100M in bond sales, $93M of which went towards a settlement between the Network Authority and the project’s former primary contractor.
MASSACHUSETTS

Failed Middle-Mile Project: MassBroadband 123

The MassBroadband 123 middle-mile network was launched to connect government buildings and anchor institutions and bolster rural broadband connectivity via government owned last-mile providers. Although the network has mostly accomplished its first goal, albeit at an astronomical cost, it has not resulted in any improvements to last-mile connectivity.

Scope. The MassBroadband 123 network “consists of approximately 1,200 miles of fiber, connecting 123 communities in western and north central Massachusetts.”

Cost. Approximately $90M.

Financing. In 2010, the Massachusetts Broadband Institute (MBI) received $45.4M in federal funding, which was matched with state funding.

Status. The network was completed in 2014, but its role and the role of the MBI in spurring last-mile network deployment in rural areas has shifted considerably in light of their inability to meet the project’s original vision. In 2021, a group of towns authored a letter urging the state to “make the middle mile network more reliable” following a series of weather-related service issues.

Initial Vision Not Achieved. The original goal was to have municipalities connect to the middle-mile network by building their own government owned networks. About $40M in funding was made available to eligible cities via the MBI, with participating municipalities required to kick in additional funding. A consortium of towns, dubbed WiredWest, was formed to build out FTTH networks to “30 of the 44 towns that [didn’t] have broadband, using a combination of state and local tax money.” By December 2015, the MBI halted funding to the WiredWest program, citing “concerns with project operations and sustainability.”

Diminished Role. In May 2016, the Governor articulated a new approach to bringing broadband to unserved parts of the state, expressing a preference for having towns work with experienced service providers when developing connectivity plans. To accomplish this, the state created a new Flexible Grant Program that “provide[s] grant funding to capable communications network companies that are willing to design, build, own, operate and maintain a communications network in one or more of the participating towns that will provide residents with broadband internet access that meets or exceeds the current [FCC] broadband benchmark speeds.” To date, numerous grants have been awarded using this new approach, incentivizing deployment in these difficult-to-serve areas. The MassBroadband 123 network has played a minimal role in these new deployments.