



First Report to the Legislature on the Middle-Mile Broadband Initiative

MARCH 14, 2022

Executive Summary

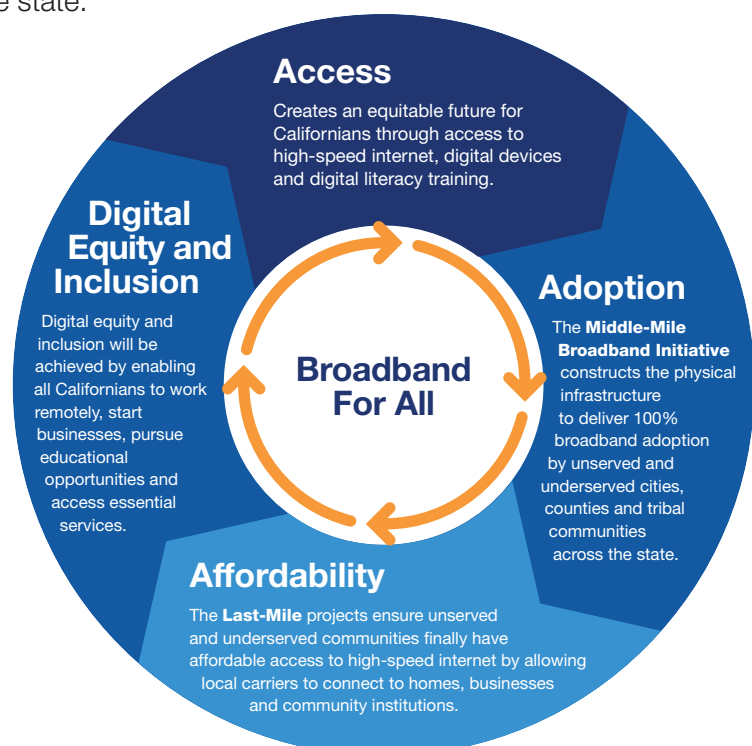
Broadband For All

A reliable and affordable broadband connection makes the difference between having access to healthcare, education and employment or sometimes going without. And yet, many Californians still don't have the broadband service they need. There is no equity as long as the digital divide persists. California is bridging the gap by facilitating affordable access to high-speed internet service in every corner of the state.

In August 2020 Governor Newsom issued Executive Order [N-73-20](#) that is fully developed in the [Broadband For All Action Plan](#) with the understanding that broadband access, adoption, and training are essential components to achieve digital equity throughout California. The Broadband For All Action Plan was developed by the [California Broadband Council](#) with extensive engagement and input from state and local agencies, state legislative leaders, tribal nations, broadband industry leaders, nonprofits, and members of the public. The Action Plan outlines three long-term goals for all Californians:

- Create access to high-performance broadband at home, schools, libraries, and businesses everywhere in the state.
- Make available affordable broadband and the devices necessary to access the internet.
- Provide avenues for training and support to enable digital inclusion.

To achieve these goals, California is leveraging the state's full range of tools, including policy, programs, funding, partnerships, and collaborations with federal, local, and tribal governments.



Middle-Mile Broadband Initiative

In July 2021, Governor Gavin Newsom signed into law Senate Bill 156 to create an open-access middle-mile network to bring equitable high-speed broadband service to Californians. SB 156 provides \$3.25 billion to build the necessary infrastructure to connect unserved and underserved communities. To complement the middle-mile network, SB 156 included \$2 billion to build last-mile infrastructure to provide Californians with access to high-speed broadband service, provide funding for local agency technical assistance, and a loan loss reserve to bring internet connectivity to homes, businesses and community institutions.

Per SB 156, the California Department of Technology (CDT) and the Office of Broadband and Digital Literacy oversee the acquisition and management of contracts for the development, construction, maintenance and operation of the network. CDT retained a third-party administrator to manage the network under CDT oversight, and created a nine-member Middle-Mile Advisory Committee. The MMAC monitors the design and construction of the middle-mile network.

In addition, other state and contracted entities will continue to work together and with CDT to implement this major initiative:

- [GoldenStateNet](#) has been retained as the third-party administrator to manage the development, acquisition, construction, maintenance and operation of the statewide open-access middle-mile broadband network.
- The California Public Utilities Commission (CPUC), in collaboration with the third-party administrator, will provide locations for the middle-mile infrastructure to enable last-mile connectivity. The CPUC will also administer last-mile efforts funded by SB 156, and coordinate with CDT to enable that [last-mile efforts](#) connect to the Middle Mile network.
- The California Department of Transportation (Caltrans) will work with the third-party administrator to manage construction of the middle-mile infrastructure along state highways and rights of way.

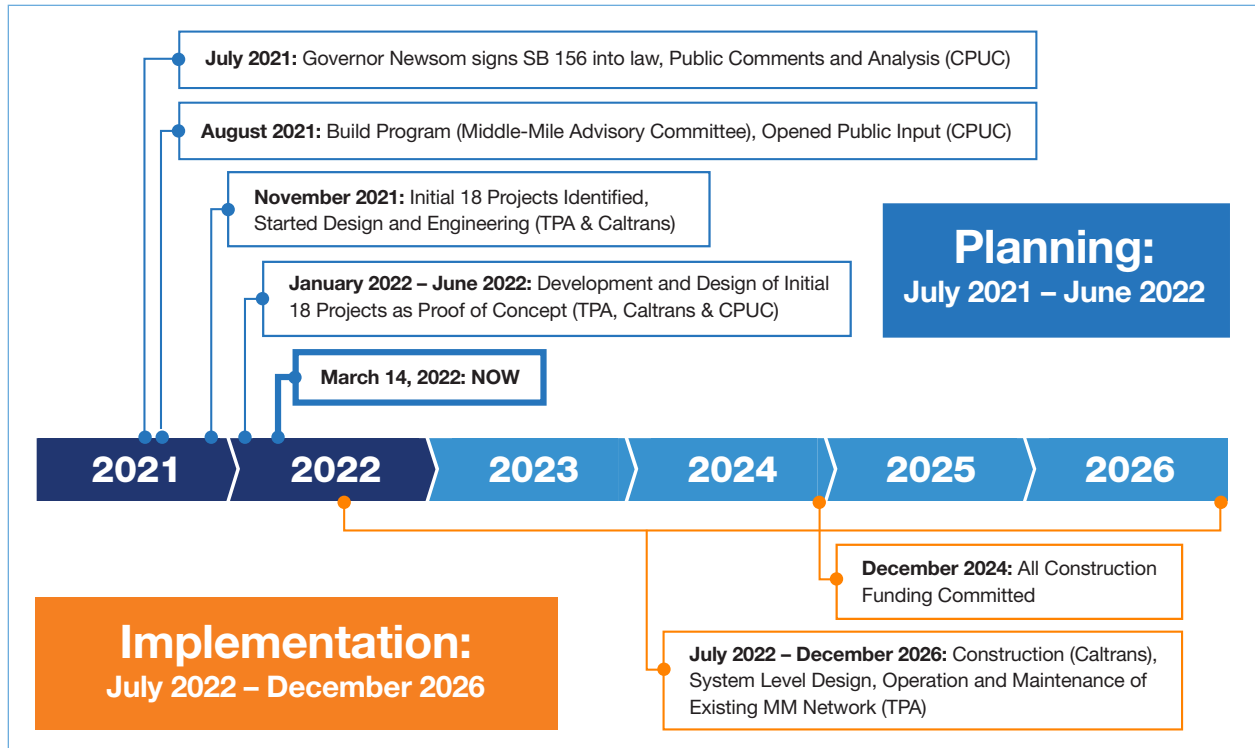
The Middle-Mile Broadband Initiative is expanding broadband infrastructure so more Californians can receive the service they need. It allows for connection between the global internet and the endpoints, or last-mile connections, that offer service to people and businesses.

The Middle-Mile Advisory Committee convened in August 2021, and by November 2021, 18 initial locations were chosen after a public comment process conducted by the CPUC. The 18 locations present an opportunity to learn from a variety of implementation methods, geographic locations, and service needs.

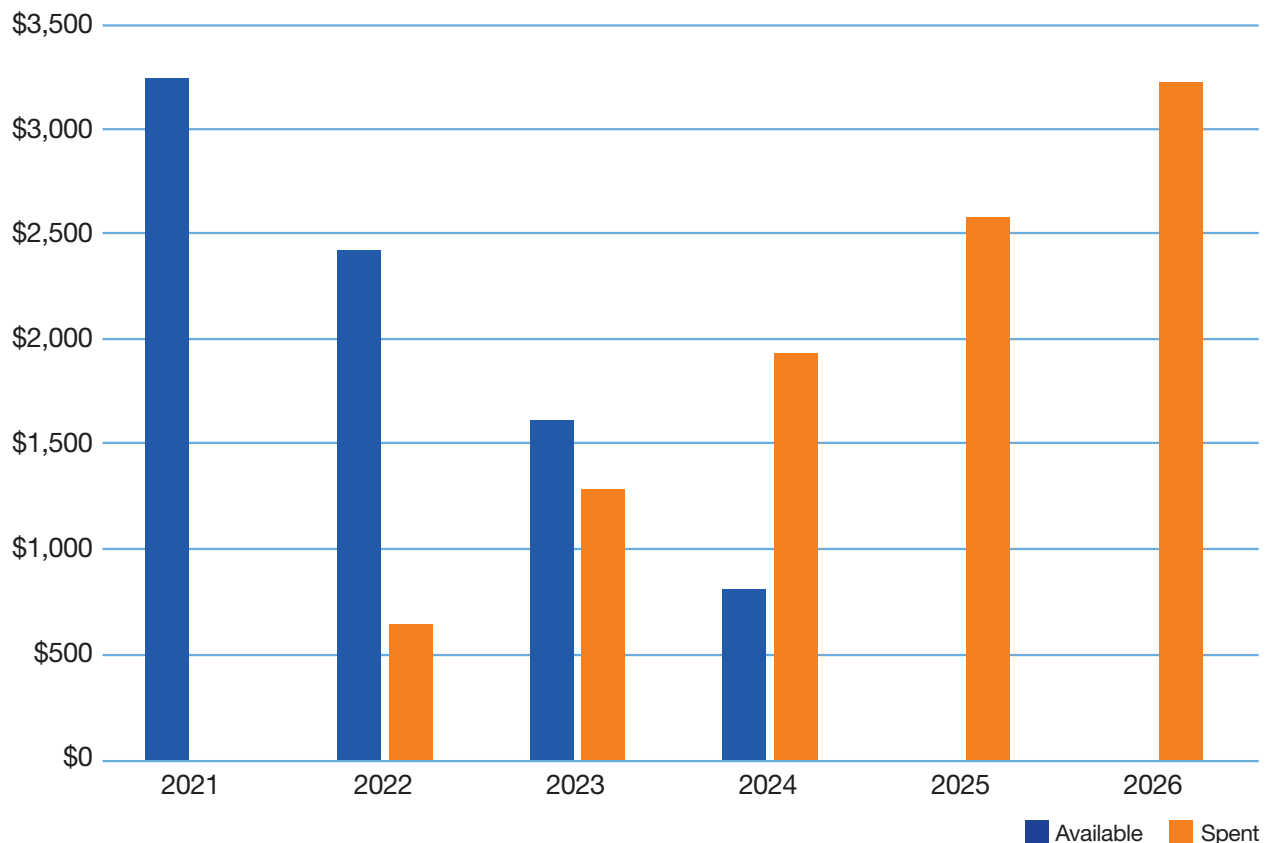
Planning and construction of a middle-mile network to enable delivery of broadband service is a massive undertaking, and work has progressed at an unprecedented speed. The \$3.25 billion MMBI project is funded entirely from American Rescue Plan Act (ARPA) funding that must be encumbered by December 2024. The ARPA expenditures must be liquidated, and the project completed by December 2026. The \$3.25 billion in ARPA funding is estimated to be enough to build approximately 6,000 miles of the proposed 8,100-mile system. CDT will attempt to maximize the funding to build as many miles of the network as possible.

CDT has developed a [Middle-Mile Broadband Initiative webpage](#) to enable stakeholders including members of the legislature and the public to learn more about the initiative.

Timeline



Middle-Mile Broadband Initiative (MMBI) Cumulative Expenditure Pattern



MMBI Status

Length of Middle-Mile Network

The total length of the proposed statewide open-access middle-mile broadband network is approximately 8,100 miles, which is based on CPUC analysis. Proposed locations can be explored in the [interactive maps on the CDT website](#).

Progress of Network Construction by Quarter

The MMBI kicked off in August 2021 with a Middle-Mile Advisory Committee meeting, only one month after legislation was signed and approved. By November 2021, the initial 18 locations were chosen following a comprehensive public comment process.

Caltrans is in the process of preconstruction work on 17 of the initial 18 locations. Caltrans is not slated to perform construction for Location 17 in the Coachella Valley. Caltrans is also evaluating the viability of adding broadband infrastructure to existing highway projects, narrowing the focus to just over 100 potential projects for broadband installation. Caltrans is identifying potential project locations that are more likely to have challenges with environmental clearance, permitting, and working around existing utilities. Caltrans and CDT are working with permitting agencies to identify opportunities to streamline permitting processes.

CDT has asked the third-party administrator, GoldenStateNet, to develop System Level Design alternatives for the broader system to help inform CDT's decisions regarding how to maximize what the state is able to build and how to close any gaps with lease alternatives.

Number of ISPs on Middle-Mile Network

Per SB 156, any of the more than 200 ISPs currently operating in the state of California, and other eligible entities including local and tribal governments, may connect to the open-access middle-mile network. SB 156 supports the construction of last-mile infrastructure to provide Californians with access to high-speed broadband service, through processes administered by the CPUC.

Number of Households Connected to Middle-Mile Network

The initial 18 locations identified in November 2021 will provide the middle-mile infrastructure to enable last-mile connection to approximately 279,000 homes, schools, anchor institutions and businesses within a five mile radius of the project locations. Each project provides the potential to enable last-mile connection to other customers and entities far beyond the immediate region and increases reliability, affordability and competition in these areas. This allows for greater access for more Californians at a reasonable cost. Completion of the construction of the middle-mile network is projected by December 2026.

Middle-Mile Broadband Initiative Estimated Project Costs

The cost of the initial 18 locations is currently estimated at \$341.6 million.

Cost estimates will be updated when projects reach the Project Approval/Environmental milestones and again at the Plans, Specifications, and Estimates (PS&E) milestone in the [Caltrans construction process](#).

The estimated total cost is the sum of all costs involved in delivering a project. This includes the capital cost to construct the project and the support cost to develop the project including performing environmental studies; securing permits; preparing project plans, specifications, and estimates; and administering construction contracts.

Cost estimates are based on a statewide average of \$350,000 per mile for capital cost (based on Caltrans fiber optic projects) and \$105,000 per mile for support cost. Since the estimated statewide average cost per mile was provided, industry has been affected by materials delay due to supply chain issues and other factors, which may result in increased costs as project estimates are updated after the MMBI design details are finalized.

Moving Forward — Next 18 Months

The Middle-Mile Broadband Initiative is one component of a larger strategy to bring broadband access, affordability, equity and inclusion to every Californian.

In the next 18 months, the third-party administrator GoldenStateNet will create the design for the entire middle-mile network and preferred timeline for building it. CDT is procuring fiber and materials, and Caltrans will continue to do pre-construction work for the first wave of projects.

The following progress is expected to take place in the next 18 months:

- A) The total length of the middle-mile network is expected to remain at approximately 8,100 miles.
- B) Construction on a portion of the initial 18 projects is expected to begin in the next 18 months.
- C) Construction must be completed before ISPs can connect to constructed segments.
- D) It is expected the first 18 locations will enable last mile service to more than 279,000 unserved units including residential and non-residential locations within a five mile radius of each project location. This is a conservative estimate and many additional last-mile connections will be made possible with each project.
- E) By 2024, all \$3.25 billion of the ARPA funds will be encumbered.

Projected Expenditure of SB 156 Funds

Expenditures (in billions)	2021	2022	2023	2024	2025	2026	Total
Encumbrances	\$ 1.40	\$ 0.62	\$ 0.62	\$ 0.62	\$ -	\$ -	\$ 3.25
Liquidation	\$ -	\$ 0.65	\$ 0.65	\$ 0.65	\$ 0.65	\$ 0.65	\$ 3.25