AGENDA

- Welcome

- Executive Report

- Project Updates

- Public Comment

Mark Monroe

Deputy Director
Middle Mile Broadband Initiative
California Department of Technology

MMBI Progress on Statewide Network

Recap

- **Proceeding with execution phase**
- **Permitting Summit**
- **Contractor forums**

Updates

- **Statewide – CDT**
- **Stakeholder Engagement – CDT**
- **Build Efforts – Caltrans**
- **Core Network Backbone Design – GoldenStateNet**
- **Last Mile Coordination – CPUC**

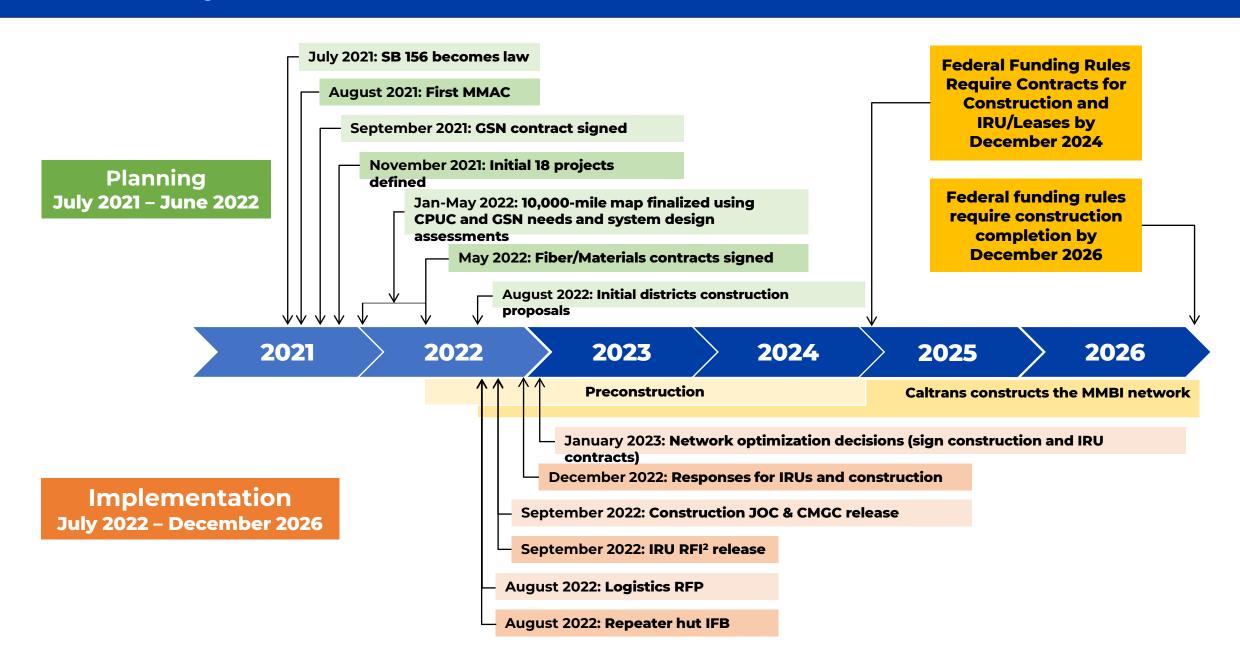## Coming up

- **Market Research – CDT**

Recap

- **Continuation of execution phase**
  - **Caltrans continues build efforts**
    - **Preconstruction/permitting streamlining**
    - **Initial construction contracts proposed by districts**
    - **Development of broader, systemwide construction contracting approaches.**
  - **GSN developing core network backbone**
- **Permitting Summits**
  - **Streamlining processes & resources.**
- **Contractor forums**
  - **Alternative contracting methods**

May 2022 Statewide Network Design
County Boundaries
100 Miles

6/13/2022

MMBI Project Timeline

Planning
July 2021 – June 2022

July 2021: SB 156 becomes law

August 2021: First MMAC

September 2021: GSN contract signed

November 2021: Initial 18 projects defined

Jan-May 2022: 10,000-mile map finalized using CPUC and GSN needs and system design assessments

May 2022: Fiber/Materials contracts signed

August 2022: Initial districts construction proposals

Federal Funding Rules Require Contracts for Construction and IRU/Leases by December 2024

Federal funding rules require construction completion by December 2026

2021 **2022** **2023** **2024** **2025** **2026**

Preconstruction

Caltrans constructs the MMBI network

January 2023: Network optimization decisions (sign construction and IRU contracts)

December 2022: Responses for IRUs and construction

September 2022: Construction JOC & CMGC release

September 2022: IRU RFI[2] release

August 2022: Logistics RFP

August 2022: Repeater hut IFB

Implementation
July 2022 – December 2026

MMBI Statewide Update

Logistics Contract
Bid in August

- **Receive bids by September**
- **Work with construction contractors and suppliers**
- **Plan for storage and/or direct delivery**
- **Timing and location of materials delivery consistent with ongoing MMBI construction**

Construction Contracts
Bid in September

- **Receive bids by December 2022**
- **Estimated dozen large contracts**
- **Get bids on more than 75 precent of the overall network**
- **Inform updated cost model**
- **Allow earlier decisions regarding optimizing the network relative to available funding.**

Lease (IRU) Contract
Bid in September

- **Receive bids by December 2022**
- **Market research on what existing infrastructure the private sector will make available, and at what price**
- **Comparison between building and leasing to optimize the entire network**
- **Informs updated cost model**
- **Allows earlier decisions regarding optimizing the network relative to available funding.**
- **May provide for earlier connections for last mile providers**

Market Research

- **Market sounding on the demand for broadband**
- **Business plan for ongoing maintenance and operation**

Scott Adams

Deputy Director
Broadband For All
California Department of Technology

Stakeholder Outreach

- **North State Planning and Development Collective – 4th Annual Broadband Summit**
- **LA Deal – Local Solutions Advancing Digital Equity**
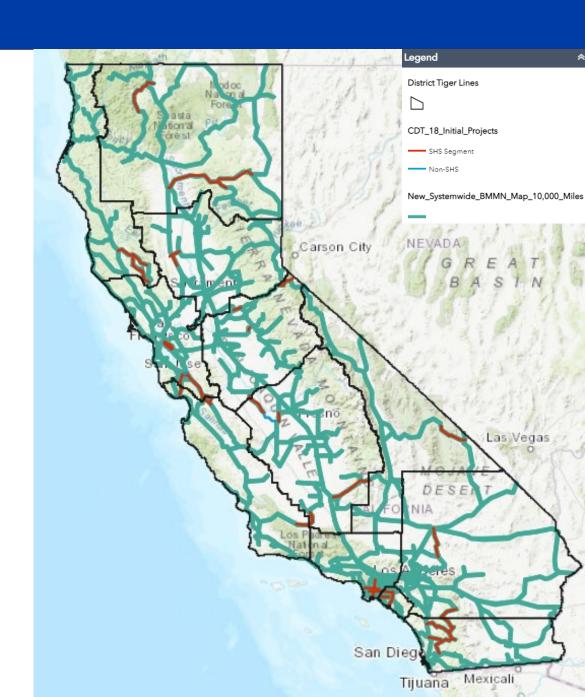- **NTIA Digital Equity Team Listening Sessions**
  - **Fresno**
  - **Oakland**
  - **San Francisco**

Janice Benton
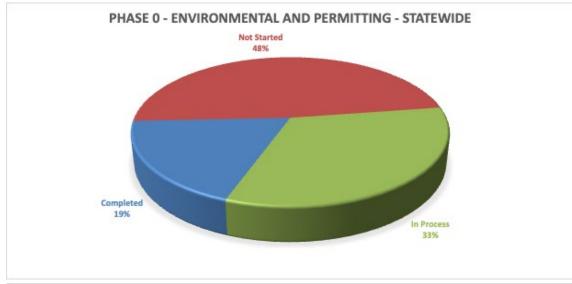
**Division Chief
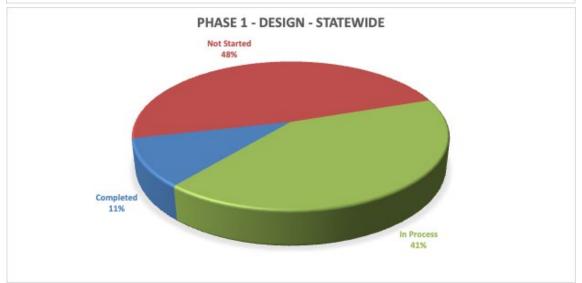California Department of Transportation**

Project Delivery Update

- **Over 2,000 miles of projects proposed, construction by early 2023.**

- **On-going efforts to streamline permitting and right-of-way/use agreement.**

- Status of Initial 18:

    - **3 project segments moving to construction.**

    - **Remaining segments in planning and preconstruction/permitting process.**

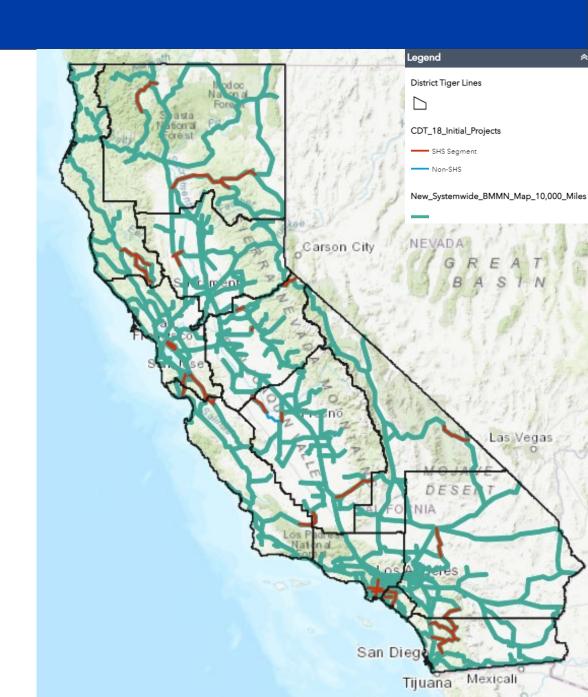   - **Supporting IRU/leases being explored.**

Legend

District Tiger Lines

CDT_18_Initial_Projects
— SHS Segment
— Non-SHS

New_Systemwide_BMMN_Map_10,000_Miles
—

Project Delivery – Update

Preconstruction status on entire 10,000-mile MMBI network provided in May

PHASE 0 - ENVIRONMENTAL AND PERMITTING - STATEWIDE

Not Started 48%
In Process 33%
Completed 19%

PHASE 1 - DESIGN - STATEWIDE

Not Started 48%
In Process 41%
Completed 11%

Legend

District Tiger Lines

CDT_18_Initial_Projects
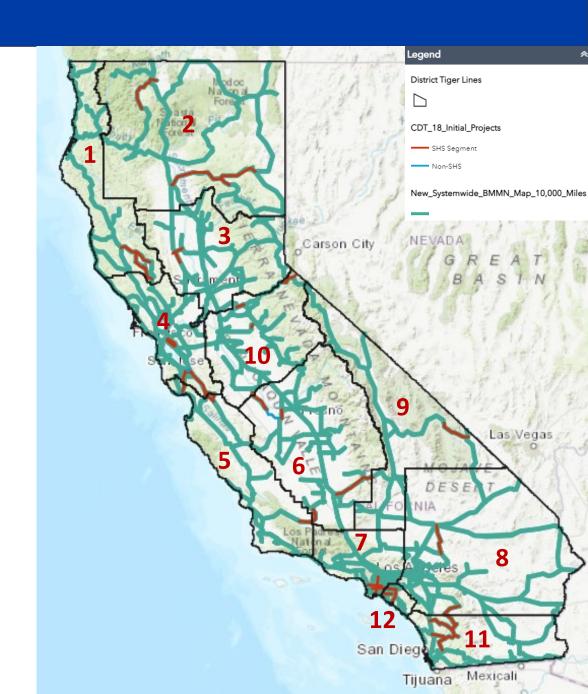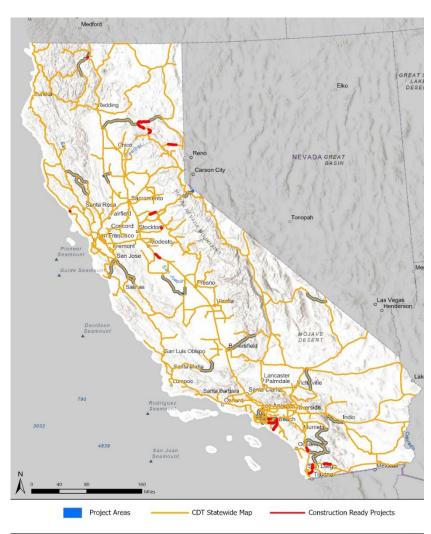— SHS Segment
— Non-SHS

New_Systemwide_BMMN_Map_10,000_Miles
—

Project Delivery Updates

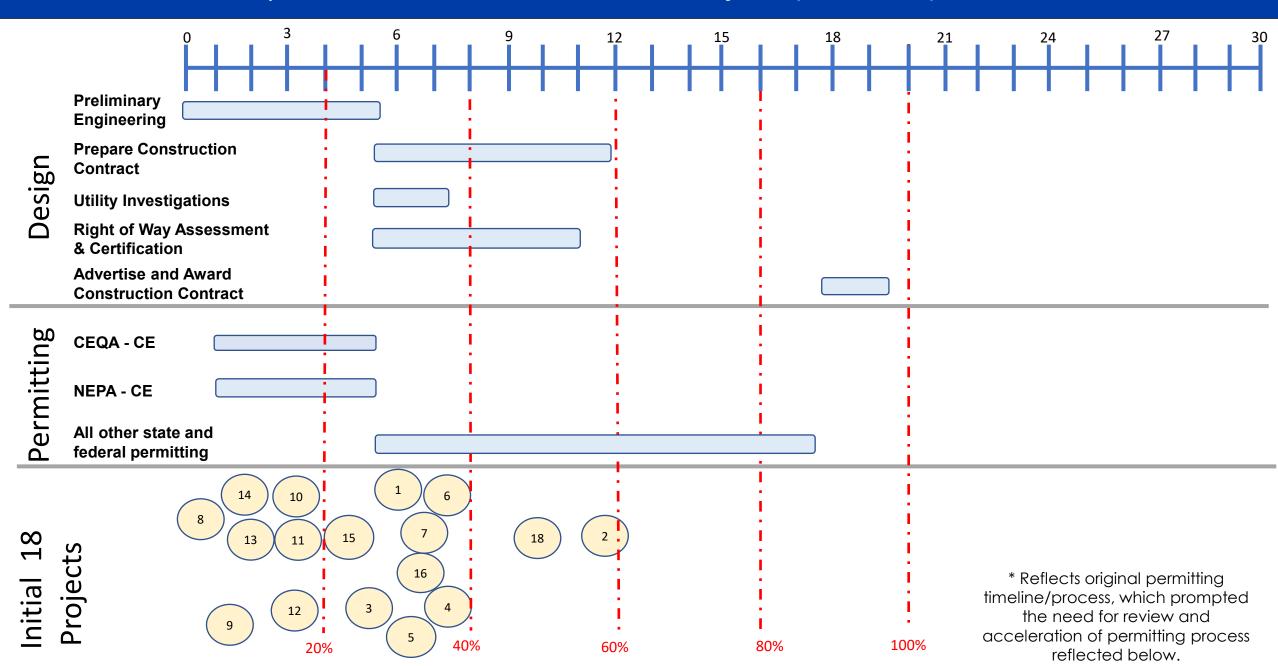## Preconstruction status on the 10,000 miles by Caltrans district.

Dig Smart Opportunities

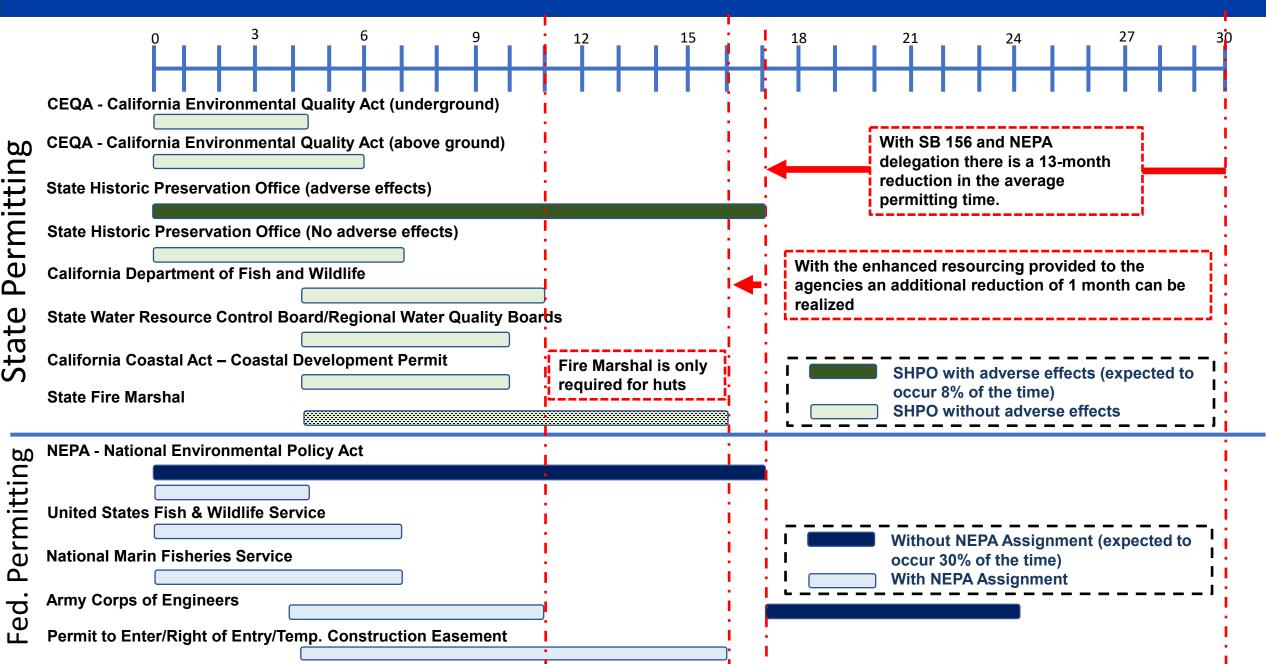| Dig Smart	Initial 18 MMBI Locations (~855 miles)		Non-Initial 18 MMBI Locations (~9,040 miles)		Total MMBI Network (~9,986 miles)	
	Number of Viable Projects	Miles of Fiber	Number of Viable Projects	Miles of Fiber	Number of Viable Projects	Miles of Fiber
Starting in 2022	3	22	10	68	13	90
Starting in 2023	9	88	12	146	21	234
Under Evaluation	0	0	55	198	55	343
Total	12	110	77	412	89	667

Project Delivery Updates

Preliminary list of projects* using CMGC and JOC** to build as much as 2,000 miles or 20% of the entire network. CDT is working with Caltrans to develop these as part of a broader potential construction contracting effort this fall.

	Counties	Delivery Method	Mileage	Target Advertise Date	Target Award Date
Districts 8 & 11	San Diego, Riverside	CMGC	**132 miles**	July 2022 *(advertised)*	October 2022
District 10	San Joaquin, Stanislaus	JOC	**63 miles**	August 2022	October 2022
District 10	Calaveras, Merced	CMGC	**95 miles**	August 2022	December 2022
District 8	San Bernardino, Riverside	CMGC	**982 miles**	September 2022	January 2023
District 8	San Bernardino, Riverside	JOC	**238 miles**	November 2022	December 2022
District 6	Kern, Fresno, Merced	JOC	**48 miles**	November 2022	January 2023
District 7	Los Angeles, Ventura, Orange	JOC	**581 miles**	July 2023	September 2023

* All projects are subject to the Caltrans/CDT budget approval process.
**Construction Manager/General Contractor (CMGC)
 Job Order Contracting (JOC)

More Resources Helping to Streamline Processing Timelines

Timeline scale (months): 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

State Permitting

- CEQA - California Environmental Quality Act (underground)
- CEQA - California Environmental Quality Act (above ground)
- State Historic Preservation Office (adverse effects)
- State Historic Preservation Office (No adverse effects)
- California Department of Fish and Wildlife
- State Water Resource Control Board/Regional Water Quality Boards
- California Coastal Act – Coastal Development Permit
- State Fire Marshal

Fed. Permitting

- NEPA - National Environmental Policy Act
- United States Fish & Wildlife Service
- National Marin Fisheries Service
- Army Corps of Engineers
- Permit to Enter/Right of Entry/Temp. Construction Easement

With SB 156 and NEPA delegation there is a 13-month reduction in the average permitting time.

With the enhanced resourcing provided to the agencies an additional reduction of 1 month can be realized

Fire Marshal is only required for huts

Legend:
- SHPO with adverse effects (expected to occur 8% of the time)
- SHPO without adverse effects
- Without NEPA Assignment (expected to occur 30% of the time)
- With NEPA Assignment

Tony Naughtin

President and Chief Operating Officer
GoldenStateNet

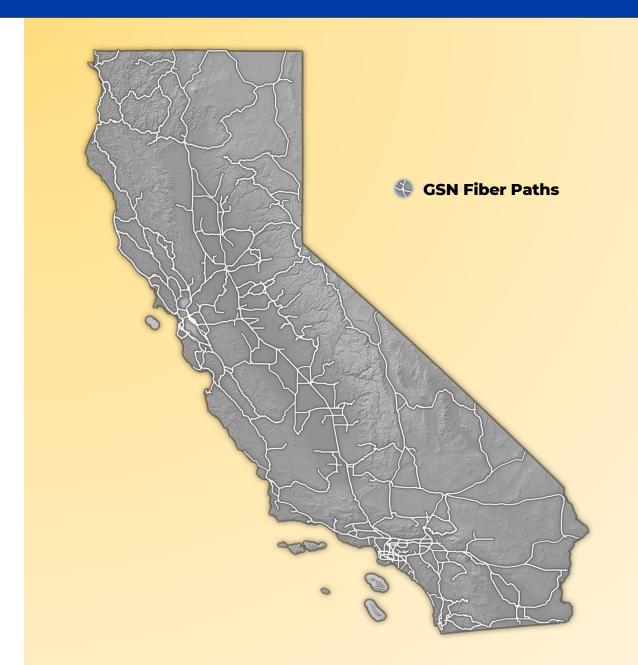**Submitted core network backbone design to CDT, including:**

- **Core backbone routes**

- **Recommended locations for initial 13 Regional Exchange Points (RXPs)**

- **Access to major Internet Points of Presence (PoPs) for access to global Internet core**
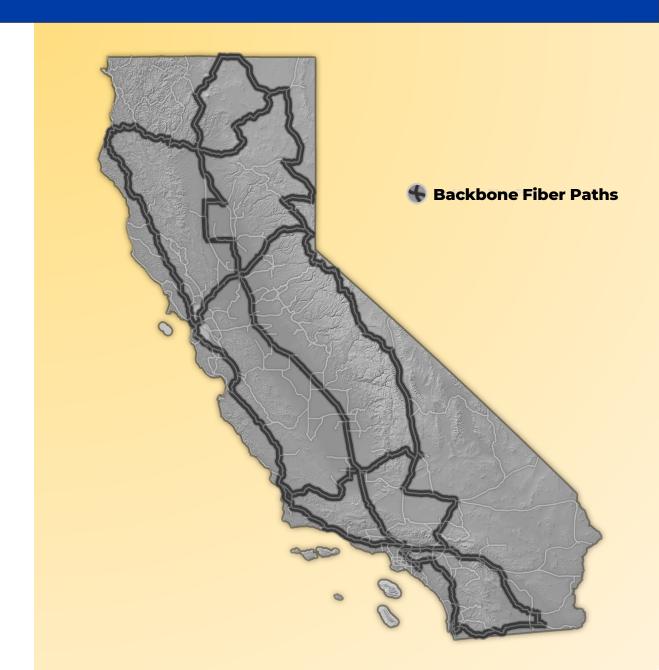
GoldenStateNet Core Backbone Fiber Paths

In order to understand how to meet these goals, it is helpful to think of the network as something other than an undifferentiated mass of fiber such as in the figure to the right:

- A *core* or *backbone* network, a central ring or rings from which other parts of the network extend.

- Traffic that enters the network from any point will flow toward the backbone, where it will be forwarded to the appropriate destination.

- The backbone generally has higher capacity than other parts of the network, because essentially all traffic, wherever it enters the network, will eventually flow over the backbone.
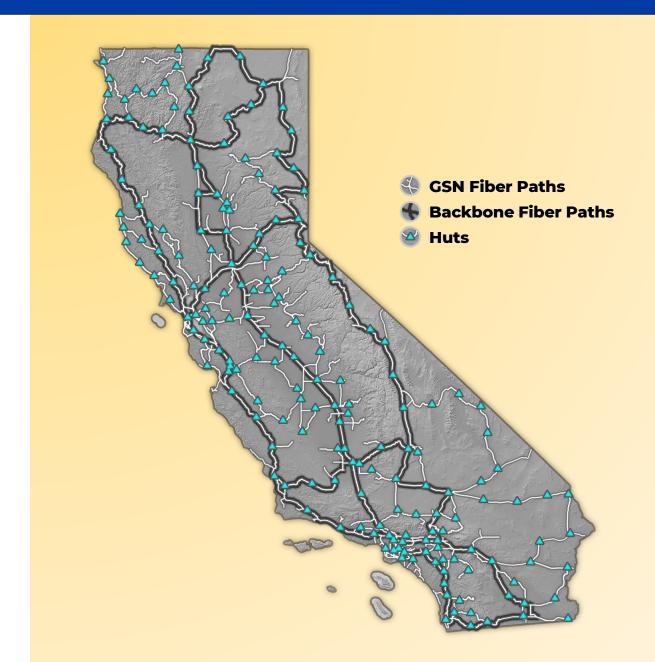

GSN Fiber Paths

A subset of fiber paths as backbone:

Backbone Fiber Paths

GoldenStateNet Backbone Fiber Paths and Huts

A subset of fiber paths as backbone:

- **With backbone routing equipment in** key cities **along the proposed backbone paths.**

- **Lower capacity equipment in other huts along the backbone**

- **Still lower capacity equipment on spurs, or non-backbone paths**

GSN Fiber Paths
Backbone Fiber Paths
Huts

GoldenStateNet Regional Exchange Points and Internet Points of Presence
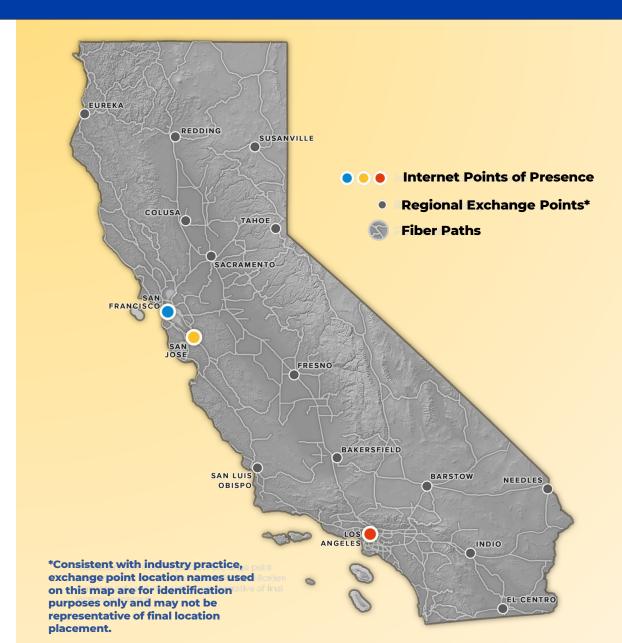
The selection of fiber paths involves many factors:

- The primary driving consideration is access to:
  - Regional Exchange Points
  - Internet points of presence for access to global core

- Also focus on:
  - Resiliency
  - Latency
  - Proximity to unserved and underserved communities

Key cities for backbone equipment are chosen for their proximity to Regional Exchange Points and Internet Points of Presence.

Regional Exchange Points are locations where GoldenStateNet has access to other California-based networks for local traffic exchange.

These are to be placed in strategic locations throughout the state.

● ● ● ● Internet Points of Presence
● Regional Exchange Points*
Fiber Paths

*Consistent with industry practice, exchange point location names used on this map are for identification purposes only and may not be representative of final location placement.

While the work of system development continues, GSN is also looking ahead towards future operational issues:

- **Evaluation of application systems needed to develop and operate the network with recommendations to CDT to follow for:**
  - **Fiber management system**
  - **Inventory management system**
  - **CRM system**
  - **Billing system**

- **Work continues on:**
  - **ILA hut development processes and standards**
  - **Active electronics planning**
  - **Dark Fiber and joint build opportunities**
  - **Business model opex and revenue projections**

Robert Osborn

Communications Division
California Public Utilities Commission

Local Agency Technical Assistance

$50 Million for Local and Tribal Governments

- To facilitate last-mile broadband infrastructure projects
- Supporting local agency and Tribal efforts expanding broadband to families and communities lacking sufficient internet access

Eligibility

- Application window opened on August 1, 2022
- Broad eligibility includes cities, counties, community service districts, municipal utilities districts, school districts, electrical cooperatives, sovereign tribal governments, and Joint Powers Authorities

Examples of Local Agency Technical Assistance

- Includes pre-construction costs, environmental, feasibility, and engineering design studies or reports; needs assessments, broadband studies and plans

California Advanced Services Fund Broadband Grants Received

Broadband Adoption and Digital Equity

Grants to public entities and community-based organizations for digital literacy and broadband access projects

- On July 1, CPUC received 99 project applications.

Consortia

Regional consortiums of public entities and community-based organizations to help deploy broadband infrastructure and service by assisting California Advanced Services fund infrastructure applicants or potential applicants of new programs created under SB 156 and AB 164 applicants in the project development or grant application process.

- On July 15, the CPUC received 15 applications.

Public Housing and Low-Income Communities

Grants to build broadband networks offering free broadband service for residents of low-income communities including but not limited to, publicly supported housing developments, and housing or mobile home parks with low-income residents

- On July 1, CPUC received 19 project applications.

2022 Broadband Investment Last-Mile Broadband Initiative Snapshot

	TECHNICAL ASSISTANCE	LOAN LOSS RESERVE FUND	FEDERAL FUNDING ACCOUNT	CALIFORNIA ADVANCED SERVICES FUND
Amount	**$50 million**	**$750 million**	**$2 billion**	**$150 million per year**
Summary	**Assist local governments & Tribes to prepare for broadband infrastructure investments.**	**Enable local governments & nonprofits to secure financing for broadband infrastructure.**	**Fund last-mile broadband infrastructure projects in every county.**	**Assist with broadband infrastructure deployment & adoption in public housing, Tribes, & unserved areas.**
Target	**Apply monthly now**	**Comment on proposal to be issued in August**	**Priority Areas to be released before applications open**	**Now accepting Grant Applications**