California Department of Technology

Middle-Mile Advisory Committee Meeting

November 17, 2021

AGENDA

Item	Topic	Presenter(s)	Time
1	Welcome / Opening Comments	Amy Tong, Chair	5 minutes
2	Executive Report Out	Mark Monroe, Deputy Director, BMMI	5 minutes
3	Information Items	• Update from California Department of Technology (CDT) • Update from Third Party Administrator (TPA) • Update from California Public Utilities Commission (CPUC) • Update from Caltrans	45 minutes
4	Public Comment	• Public	30 minutes

Executive Report Out

Program Update

- Initial Projects

CDT Update

SB 156:

- Requires the California Public Utilities Commission (CPUC) to do an assessment of where the network needs to be developed to address need.
- This CPUC process includes a public proceeding, which was completed in October.
- CPUC staff have done an initial assessment of these 18 locations.
- CPUC staff are in the process of reviewing additional public comment and developing a broader map of the statewide need for the open-access middle-mile network.

Initial Project List

- CDT asked CPUC staff if there were any areas identified where network development could begin before the broader network map was complete.
- CPUC staff were able to identify 18 locations that had been assessed and met the requirements of SB 156 for determining need.
- We are moving forward with 18 projects. These projects will:
  - Give CDT, TPA and Caltrans an opportunity to start work several months earlier.
  - Learn about building, design, leases, and connectivity, to inform us regarding subsequent projects.

Initial Project List

The 18 initial projects will:

- Give us experience in geographically diverse locations.
- Benefit urban, rural, and tribal communities.
- Support earlier connectivity for several communities by connecting the core to last mile locations.
- Take advantage of co-build opportunities and project readiness at Caltrans.
- Allow us to work with the Third Party Administrator (TPA) in exploring the mechanics of lease agreements such as IRUs.

First Steps

- These projects meet the process requirements of SB 156, including CPUC's review.
- A complete map is anticipated from CPUC by December 31, 2021
- Additional projects will follow the release of the CPUC map.

Process going forward

- Caltrans will begin its pre-construction work, which includes design, surveying, permitting, and environmental.
- The TPA will begin reaching out to providers and operators to explore options for IRUs.
- Also exploring options to remediate supply-chain issues and get ahead of potential competing demands among states.

TPA Update

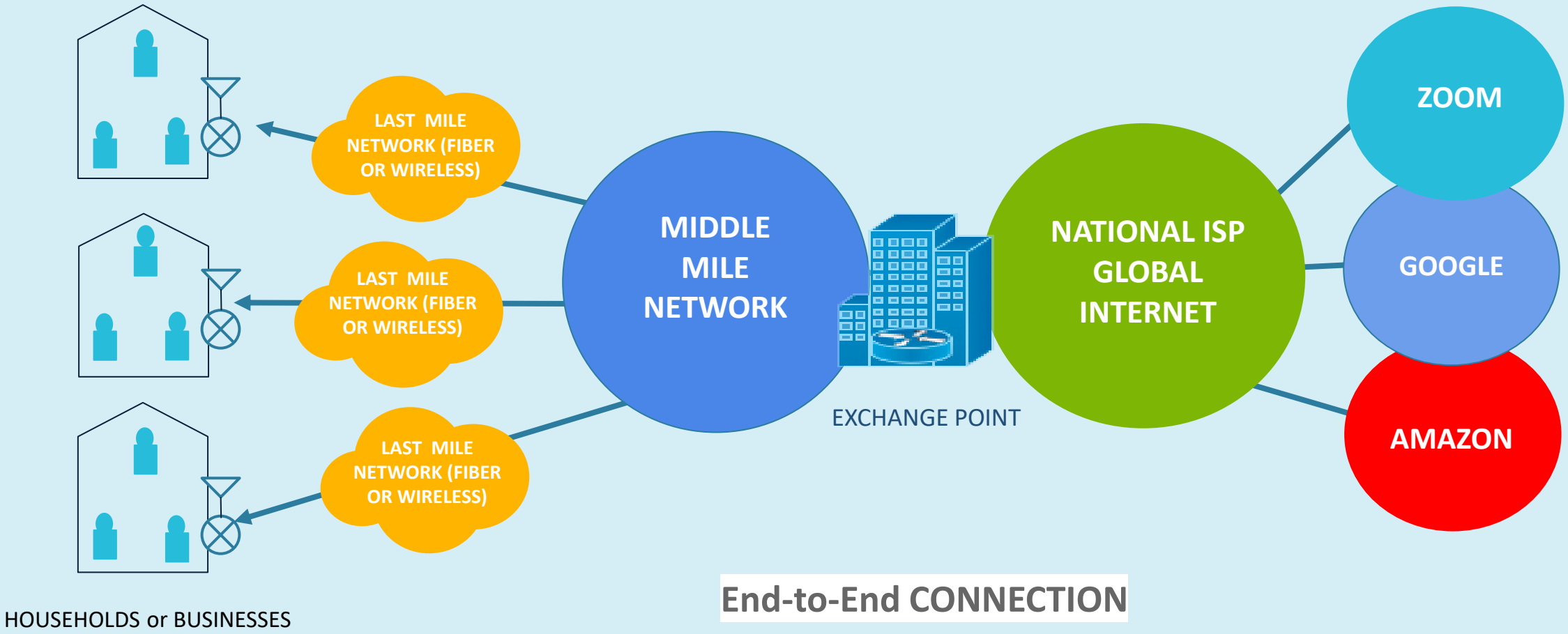
Key definitions:

- What is the “Middle Mile”?
  - It is the mid-section of a *network of networks* that interconnects the last mile (or “edge”) broadband network upstream to the public “core” of the Internet
  - The public core of the Internet is accessed at centralized, high-capacity exchange points where the major networks and ISP backbones of the global Internet “peer” their networks to exchange traffic with each other

- What is “Middle Mile” Development? These are the steps leading to the creation of middle mile network infrastructure either by:
  - New construction of optical fiber routes (Caltrans), or
  - Leasing capacity from existing networks, such as Dark Fiber capacity

Service Across Last Mile, Middle Mile, And Global Internet Core

Users at a home network use a Last Mile and Middle mile connection to reach the Global Internet. The internal complexities in this *network of networks* are hidden from end-users, who see only the Internet applications and services they are communicating with.



TPA Update: Middle Mile Development Work

- For locations calling for newly-constructed fiber, TPA is working with CDT, CPUC, Caltrans:
  - Route confirmation (including interconnectivity to last mile and upstream core)
  - Feasibility analysis, including any options for Dark Fiber
  - Design process and final design for construction
  - Oversight of construction activity
  - Acceptance testing
  - Activation

TPA Update: Middle Mile Development Work

- Network Development Projects (using leased capacity) preferably using Dark Fiber IRUs
- What is a Dark Fiber IRU?:
  - The leasing of an inactive (i.e. unlit, dark) optical fiber pair already in place, though unused, on a carrier (or other service provider) route
  - Based on an Indefeasible Right-of-Use (IRU), typically for a 20 year term
- Lessee activates and operates Dark Fiber subject to terms of IRU agreement
- In Telecom Projects, TPA is responsible for:
  - Design process and final design for activation
  - Oversight of activation engineering work
  - Acceptance testing
  - Activation

CPUC Update

[Open Access Middle Mile Page]

[Preliminary middle mile locations]

[Broadband Deployment Proceeding Overview]

[Middle mile public comments]

AUGUST 6 RULING - MIDDLE-MILE PUBLIC COMMENTS

SEPTEMBER 9 RULING - MIDDLE-MILE PUBLIC COMMENTS

Informal Public Comments

	Name/Organization	Comments
1	CA State Senator Anna M. Caballero, 12th Senate District	Letter
2	Additional informal comments are here- click on "public comments" tab	

Formal Public Comments

	Organization	Opening Comments	Replies
1	#OaklandUndivided Coalition and The Greenlining Institute	Comments	N/A
2	Advanced Communications Law & Policy Institute (ACLP)	Comments	N/A
3	AT&T	Comments	Replies
4	Borrego Springs Infrastructure Subcommittee	Comments	N/A
5	California Broadband Cooperative (CBC)	N/A	Replies
6	California Cable and Telecommunications Association (CCTA)	Comments	Replies
7	California Community Foundation (CCF)	Comments	N/A
8	California Emerging Technology Fund (CETF)	Comments	Replies
9	California Public Advocates Office (Cal Advocates)	Comments	Replies
10	Corporation for Education Network Initiatives in CA (CENIC)	Comments	Replies
11	Center for Accessible Technologies (CforAT)	Comments	Replies

Caltrans Delivery

Authorize Work → Develop Project → Construct Project

Authorize Work

- CDT authorizes Caltrans to proceed on BMMN build location

Develop Project

- Caltrans identifies delivery method
- Caltrans carries out pre-construction work, including preparing construction contract plans, specifications, and estimates

Construct Project

- Caltrans advertises and awards construction contract
- Caltrans administers construction contract

Thank You