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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 No. 20-09-001

CALIFORNIA EMERGING TECHNOLOGY FUND COMMENTS ON RULING ORDERING ADDITIONAL COMMENTS ON MIDDLE-MILE DATA COLLECTION

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Pursuant to Rule 6.2 of the Commission's Rules of Practice and Procedure and the schedule established in the Assigned ALJ's E-mail Ruling Ordering Additional Comments as Part of the Middle-Mile Data Collection, dated September 9, 2021 ("Ruling"), the California Emerging Technology Fund ("CETF") hereby files comments on additional issues in the Ruling relating to recommended locations for a statewide open-access middle-mile broadband network. A non-profit organization formed by this Commission with a mission to close the Digital Divide in California, CETF previously filed comments on the prior August 6, 2021, ruling on issues relating to this middle-mile network. CETF hereby responds to the additional questions as follows:

1. **Open-Access: As described in more detail in the Order Instituting Rulemaking that initiated this proceeding, the Commission has regulatory authority [over] telecommunications service providers.**
    - **How can the Commission use its regulatory authority to assure durable and enforceable open-access and affordability requirements in perpetuity?**

On open-access requirements, the Commission may impose them on entities over which it has regulatory authority, but unequal requirements depending on regulatory status may bring imbalance to the competitive broadband industry. A useful method so far has been to mandate open-access as a condition where an Internet provider has sought grants of government funds, such as in the federal high-cost funds, federal grants like the Broadband Technologies Opportunity Program under the American Recovery and Reinvestment Act, the California high-cost funds, and the California Advanced Services

Fund. In that situation, an open-access requirement has been imposed as a condition of the grant. CETF supports open-access requirements on middle-mile facilities built with government grants (but not on last-mile facilities).

Another way to achieve open access is to use a Request for Partnership ("RFP") process which then allows the Commission to enter into a contractual relationship with ISPs that is more enforceable legally (more binding) than regulations. As CETF suggested in its opening Middle Mile Comments, after identifying unserved areas and the middle-mile routes to serve them, the California Department of Technology ("CDT") and the Third Party Administrator ("TPA") should issue an open, competitive "Request for Partnerships" ("RFP") to determine which existing Internet Service Providers ("ISPs"), both private and public, are willing to step up to provide access to existing middle-mile and/or build the missing middle-mile segments to reach last-mile unserved hardest-to-reach households. This approach ensures transparency and fairness in determining which ISPs are willing to work in support of the State's goal to achieve ubiquitous broadband deployment while avoiding unnecessary duplication of middle-mile infrastructure. San Diego Association of Governments ("SANDAG") and San Diego Association of Governments ("SCAG") are jointly developing an RFP that can serve as an example. The RFPs of these leading Metropolitan Planning Organizations ("MPOs") will include a Map of Needs and Opportunities with layers of data overlaid on the CPUC Broadband Map, including high-poverty areas, anchor institutions, and public assets, for ISPs to explicitly declare willingness and ability to step up to serve. It is intended that the RFP will be structured such that those ISPs that do not respond to the RFP will have voluntarily and officially "stepped aside" without rights to future challenges to new entrants. If an incumbent claims that a proposed State Route is served by existing middle-mile, then hard questions should be asked about the availability, pricing, and capacity for last-mile providers. If an existing middle-mile segment lacks available dark fiber, or is priced unreasonably, then it is not viable for other last-mile ISPs to use to reach unserved households.

CETF urges the Commission to review the past excellent work of Regional Broadband Consortia that prepared the Strategic Broadband Corridors Report and submitted it to the California Broadband Council in November 2018. Further, other

existing efforts by groups like SANDAG and SCAG are foundational to jump-start planning the middle-mile network. There is no need to reinvent the wheel. All investments in constructing government-owned middle-mile infrastructure should be prioritized to reach unconnected households, with special attention to high-poverty areas and Tribal Lands. Further, the most cost-effective strategy is to focus on planning deployment to the hardest-to-reach unserved households, including all Tribal Lands, and then connect all other locations such as anchor institutions and small businesses along the path of deployment. Any other approach will sub-optimize State investments and waste funds that otherwise could be used to reach last-mile unserved households.

On affordability, the Commission recently has held a proceeding on affordability of communications and other utility rates. It found that the combination of telecommunications and Internet bills collectively were the highest bills shouldered by consumers, higher than electricity and water. CETF observes that the ongoing LifeLine rulemaking proceeding has sought to add more robust broadband options to the LifeLine services available to low-income households, which will assist some of the most poverty-stricken consumers. But more must be done to ensure affordability. CETF has advocated many years for the Commission to require all Internet Service Providers (ISPs) serving California to offer affordable broadband plans at $10-$20/month, which would assist consumers who do not qualify for LifeLine or who do not wish to participate in a government program. CETF has obtained voluntary affordable plans from some ISPs by participating at its own expense in their corporate consolidation activities at the Commission, but these typically are short-term offerings (usually three years) that expire. Further, sometimes it is difficult to encourage ISPs to advertise the affordable offers.

- **Should the Commission adopt a tariffing requirement for open-access networks?**

CETF is hesitant whether a tariffing requirement for open-access networks is the best approach, given tariffs arise from a rigid "command-and-control" regulatory mindset. Would the Commission have regulatory authority over the Statewide Middle-Mile Network operator such that it could even impose a tariff requirement on this entity? On the other hand, the benefit of a tariff is that it is public and thus all rates and terms and conditions of service will be transparent.

If the goal is to bring affordable rates, the Commission should instead go through the CETF-proposed RFP process described above on any given middle-mile segment where there is existing middle-mile infrastructure. If an incumbent claims that a proposed State Route is served by existing middle-mile, then hard questions should be asked about the availability, pricing, and capacity for last-mile providers. If an existing middle-mile segment lacks available dark fiber, or is priced unreasonably, then it is not viable for other last-mile ISPs to use to reach unserved households.

- **In October 2020, the Federal Communications Commission (FCC) eliminated a number of network unbundling and resale requirements placed on Incumbent Local Exchange Carriers, including requirements for DS1 and DS3 loops, and dark fiber transport provisioned from wire centers within a half-mile of competitive fiber networks. (See *In the Matter of Modernizing Unbundling and Resale Requirements in an Era of Next-Generation Networks and Services*, WC Docket No. 19-308, FCC 20-152) How will this impact Competitive Local Exchange Carriers in California that currently utilize these services to provide telecommunications services, including last-mile broadband Internet access service?**

CETF joins with other consumer groups that commented on this important development in the federal regulatory arena. In summary, this development means that Incumbent Local Exchange Carriers (ILECs) such as AT&T and Frontier Communications will no longer have an obligation to resale DS1 and DS3 loops, and dark fiber transport provisioned from wire centers within a half mile of competitive fiber networks. The result of this development is clear. Competitive Local Exchange Carriers ("CLECs") can no longer rely on the availability of these middle-mile facilities from ILECs; if the ILEC declines to resell a certain middle-mile service for any reason, then the CLEC must seek alternative middle-mile providers, if any, or build that middle-mile facility itself. This development means that the new Statewide Middle-Mile Network may play a more prominent role to fill in any gaps that may appear in the future, should that middle-mile be necessary to reach unserved or underserved households.

2. Additional Factors to Consider: What additional criteria should the Staff Report take into consideration and to what extent, including, but not limited to:

- **Affordability**
- **Redlining**
- **Route redundancy**
- **Competition**
- **Hardening, undergrounding, deployment in high fire threat areas**
- **Cell coverage, and**
- **Labor and economic development benefits.**

CETF recommends that all these additional factors be considered. CETF emphasizes the importance of "route redundancy" or "network redundancy" which it defines as "the process of adding additional instances of network devices and lines of communications to help ensure network availability and decrease the risk of failure along the critical data path. As an example, if the primary Internet middle-mile fiber is cut on a route to a remote mountain community, network redundancy would mean that the network would be able to send data on alternate routes to continue to deliver data traffic to users in the remote community. In many of the CASF workshops through the years, California consumers and businesses have complained of fiber cuts that shut off all Internet service to their towns for days, effectively shutting down most business activities, often rending emergency responders unable to communicate, and cutting off any distance learning, telemedicine or telecommuting activities.

On cellular coverage, CETF agrees this is a factor to be considered but cautions whether mere cellular coverage affords a user the full ability to engage in modern applications, given the download and upload speed limitations that may be present, in addition to any signal interruption due to weather, foliage or terrain features.

On labor and economic development benefits, CETF agrees these both are important factors. CETF emphasizes the current labor shortage for broadband projects, given the high level of activity of broadband and 5G projects. There is an opportunity for recruiting and training a skilled workforce from digitally-disadvantaged members of the workforce to assist with the construction, installation and management of the Statewide

Middle-Mile Network. Providing good jobs to such workers will serve some of the goals of the Commission's Environmental and Social Justice Action Plan.

CETF recommends adding "reliability" to the list. CETF defines "reliability" as an attribute of a computer network that it will consistently perform according to its specifications.

CETF would also add "quality of service" which it defines as a set of technologies that work on a network to guarantee its ability to dependably run high-priority applications and traffic under limited network capacity. Measurements should include bandwidth (throughput), latency (delay), jitter (variance in latency), and error rates.

3. **Middle-Mile Network Services for ISPs: The statute mandates that the State of California take into consideration various aspects that will increase the attractiveness and usefulness of the statewide open-access middle-mile broadband network for commercial internet service providers.**
    - **What specific locations, routes, interconnection points, regeneration points, and tie-ins should the Commission consider in order to increase the attractiveness and usefulness of the statewide open-access middle-mile broadband network for commercial internet service providers?**

The process to identify priority State Routes for an open access middle-mile network should start first by comparing the list of candidate routes in Attachment A with the Strategic Broadband Corridors Report prepared by the Regional Consortia and submitted to the California Broadband Council in November 2018. The Strategic Broadband Corridors were identified through an open consultation process with Regional Transportation Agencies, coordinated by the California Association of Councils of Governments, under the umbrella of California Forward in cooperation with the California Department of Transportation ("Caltrans"). Importantly, the Broadband Strategic Corridors were identified and prioritized *based on reaching unserved households*, which should remain the primary criterion for State investment in government-owned middle-mile infrastructure. CETF recommends that all middle-mile investments should be driven by a priority focus on reaching last-mile unserved households, especially high-poverty areas and Tribal Lands.

For several Regional Consortia, identification of Broadband Strategic Corridors was based upon their work to prepare Preferred Scenarios to achieve ubiquitous deployment at scale throughout their region, thereby assisting the Commission in meeting the State's statutory goal of achieving at least 98% in all regions by 2022.[1] Although the Regional Consortia used CPUC broadband maps with the previous definition of "unserved" (10 Mbps. download and 1 Mbps. upload), the Preferred Scenarios remain viable because they focused on getting to the hardest-to-reach households, which means that all newly-defined "unserved" households at speeds of 25 Mbps. download and 3 Mbps. upload and all anchor institutions that are passed along the path of deployment. Further, the Preferred Scenarios planned to reach 100% of all unserved households, which is the strategic approach to be assured of achieving at least 98%.

Also, in 2018, Caltrans and the California Transportation Commission ("CTC") adopted updated guidelines for transportation corridor planning that recognize "broadband as a green strategy" to improve mobility and reduce transportation sector impacts on the environment. These transportation guidelines are practical tools in advancing the notion of "Dig One, Dig Smart" policies and practices because they encourage the incorporation of broadband into transportation projects for economies of scale, not just use transportation corridors rights-of-way (ROWs) to build government-owned middle-mile broadband networks. CETF recommends that the CPUC should advocate – and the CDT must ensure – that the TPA engaged to oversee construction of the middle-mile network actually incorporates the spirit and intent of "Dig Once, Dig Smart" policies and practices. This means that another prioritization of the middle-mile network by the CPUC, CDT, and TPA must come from taking into consideration: (a) all planned transportation projects (including scheduled maintenance resurfacing and overlay projects; and (b) all Caltrans priority corridors for intelligent transportation systems ("ITS") for traffic controls. There also are segments of the State's transportation network for which conduit was installed at the time of construction to facilitate the deployment of broadband, including Highway 99 in Merced County and State Route 198 in King and Tulare Counties. These segments with existing conduit are assets to consider as another factor in prioritizing deployment.

[1] SB156 has moved the 98% coverage of population in each consortia region goal to December 2026. However, the 98% goal is far from being achieved, and it is now October 2021.

While the government-owned middle-mile network is envisioned to align primarily with the State's surface transportation network, there are other ROWs and alignments that should be considered, particularly High-Speed Rail Project, State Passenger Train System, State Water Project, Irrigation and Water Districts, and energy utilities.[2] For example, in Imperial County, the Imperial Irrigation District (IID) owns as many vital ROWs as Caltrans. Fortuitously, the Southern Border Broadband Consortium (managed by Imperial Valley Economic Development Corporation) secured from IID a willingness to consider collaboration in conjunction with preparation of the Imperial County Preferred Scenario. Another example of substantial planning with explicit engagement of an investor-owned utility (IOU) was led by Riverside County with the cooperation of all 28 cities.

Finally, there are pending applications before the CPUC that will provide critical middle-mile infrastructure that should be approved, several of which should have been expedited and approved years ago, such as the Northeast Loop for five Counties along State Route 299, State Route 139, and State Route 36, and the Kern Valley Project along State Route 178 and State Route 14. Deployment of broadband infrastructure along Highway 299 from Eureka to Redding to Alturas is obviously critically necessary. A new solution for the Eureka to Redding project (known as the Digital 299 project) should be reviewed.[3] Further, all of the pending projects for the Redwood Coast Region will establish vital middle-mile segments.

It must be underscored that the State investment in a middle-mile government-owned network needs to be approached by the Commission, CDT and TPA with an intensity of focus and sustained, engaged collaboration akin to the Manhattan Project, but with openness and transparency. CETF recommends that CDT, TPA, and the Commission work with and through

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[2] CETF appreciates the focus on whether infrastructure, ROWs or dark fiber owned by Investor-Owned Utilities may be used to assist last mile providers in extending middle-mile facilities to rural, remote, and Tribal areas in another phase of this rulemaking. CETF supports the Commission's efforts to continue to strongly encourage cooperation by IOUs in this important state broadband goal, given IOUs benefit by broadband connections to their consumers in numerous ways.

[3] The Digital 299 route should be considered as a middle mile priority; the route has been negotiated with Caltrans already and the costs are known to the CPUC. CETF also notes that the Redding to Alturas segment is part of the Northeast Loop Project was negotiated by CETF in the Memorandum of Understanding with Frontier Communications during its restructuring proceeding, A.20-05-007.

existing structures and ongoing efforts, especially the Regional Broadband Consortia and leading Metropolitan Planning Organizations ("MPOs"), such as Southern California Association of Governments ("SCAG") and San Diego Association of Governments ("SANDAG") under joint collaborative umbrella of Southern California Transformation. SANDAG and SCAG are providing trailblazing leadership to close achieve Digital Equity and are working with their Regional Consortia. The State should respect and incorporate their recommendations.

There also are many Local Governments that have taken the initiative to accelerate broadband deployment and adoption, such as the City of San Jose, City of Los Angeles, City of Fresno, South Bay Cities Association in the SCAG Region, County of Los Angeles, County of Nevada, County of Tuolumne, and County of Ventura. Other Local Governments will be stepping forward as a result of the historic State investment in broadband. This local leadership should be enthusiastically embraced by the Commission and incorporated into the middle-mile planning. Outside of Southern California, CPUC, CDT, TPA should request and rely upon the Regional Consortia to convene all of the Local Governments in their regions to provide input on priorities for middle-mile deployment, which they did previously in identifying Broadband Strategic Corridors in 2018.

Once the above work has been completed to prioritize essential middle-mile infrastructure to reach all unserved households and Tribal Land, then CDT and the TPA should issue an open, competitive "Request for Partnerships" ("RFP") to determine which existing Internet Service Providers (ISPs), both private and public, are willing to step up to provide access to existing middle-mile and/or build the missing middle-mile segments to reach last-mile unserved hardest-to-reach households. This approach ensures transparency and fairness in determining which ISPs are willing to help the State achieve ubiquitous broadband deployment while avoiding unnecessary duplication of middle-mile infrastructure. SANDAG and SCAG are jointly developing an RFP that can serve as an example. The MPOs' RFPs will include a Map of Needs and Opportunities with layers of data overlaid on the CPUC Broadband Map, including high-poverty areas, anchor institutions, and public assets, for ISPs to explicitly declare willingness and ability to step up to serve. It is intended that the RFP will be structured such that those ISPs that do not respond to the RFP will have voluntarily and officially "stepped aside" without rights to

future challenges to new entrants.

If an incumbent claims that a proposed State Route is served by existing middle-mile, then hard questions should be asked about the availability, pricing, and capacity for last-mile providers. If an existing middle-mile segment lacks available dark fiber, or is priced unreasonably, then it is not viable for other last-mile ISPs to use to reach unserved households.

In summary, the past work and existing efforts are foundational to jump-start planning the middle-mile network. We urge the Commission to embrace this process. As nearly all commenting parties agreed in the last comment round, all investments in constructing government-owned middle-mile infrastructure should be prioritized to reach unconnected households, with special attention to high-poverty areas and Tribal Lands. Further, the most cost-effective strategy is to focus on planning deployment to the hardest-to-reach unserved households, including all Tribal Lands, and then connect all other locations such as anchor institutions and small businesses along the path of deployment. Any other approach will sub-optimize State investments and waste funds that otherwise could be used to reach last-mile unserved households.

- **How can existing interconnection points or the creation of new interconnection points improve access for communities?**

CETF is aware of small communities that report that fiber from an ISP runs down their main streets, but the ISP has declined to bring service to those small communities due to failure to meet return on investment criteria of the ISP. The creation of new interconnection points will provide new opportunities for other ISPs to purchase middle-mile access and bring new broadband service to the unserved community.

- **What technical performance characteristics will increase the attractiveness and usefulness of the statewide open-access middle-mile broadband network for commercial internet service providers?**

CETF declines to comment and defers to other stakeholders but reserves the right to file reply comments.

- **What network design and other design, technical, business, and operational considerations will increase the attractiveness and usefulness of the statewide open-access middle-mile broadband network for commercial Internet service providers?**

CETF recommends the Statewide Middle-Mile Network be subject to open-access obligations, be required to have affordable rates that are publicly available for transparency, be reliable and include network redundancy, and be built to support forecasted capacity for the next decades. CETF further urges the Commission to take into consideration the route specifications that were expressed by many stakeholders in this phase of the proceeding, particularly those representing local governments, regional broadband consortia and other MPOs.

- **What services should the network provide commercial providers (e.g., dark fiber, lit fiber, colocation, wireless backhaul, etc.)?**

CETF recommends that the Statewide Middle-Mile Network provider have flexibility to offer any middle-mile service in the commercial space. These will change over time, and the Commission should not make recommendations that may be limiting in the future.

- **If the network offers dark fiber, how many strands of dark fiber should the network make available on each route? What should the lease terms be?**

CETF defers to other parties with more technical knowledge as to this question, but urges the network be robust and futureproof. CETF does not recommend the Commission dictate lease terms, but allow the TPA to negotiation lease terms that are typical in the marketplace.

4. Middle Mile Network Services for Consumers

- **The middle mile network must prioritize connections to anchor institutions that lack sufficient high-bandwidth connections. Should the statewide middle mile network provide direct service to anchor institutions?**

SB156 is crystal clear that first, the Commission must prioritize service by the Network to last-mile unserved communities -- which mostly are located in rural, remote and Tribal Lands and may also be located in high-poverty urban neighborhoods. The primary purpose of the Statewide Middle-Mile Network is to enable broadband service to unserved locations; losing focus on this primary purpose will waste resources and cause the state to end up with the "Middle-Mile

To Nowhere." Only after there is a middle-mile route to an unserved community, along the "path of deployment" of such middle-mile project, all unserved anchor institutions should be connected. The order is important. The goal of the law is to connect unserved households. As a secondary benefit, anchor institutions that have no service along the path may be served also.

- **Should the middle-mile network directly provide broadband Internet access service, voice service, etc.**

CETF recommends that the Statewide Middle-Mile Network not provide broadband Internet access service or voice service directly because it will disrupt the competitive Internet market mandated by the federal and state government. The only exception is where the Network is providing Internet service to an unserved anchor institution that is along the path of deployment of a middle-mile project to an unserved area, as discussed in the response to the prior question. Only in the limited instance should direct Internet or voice service be provided by the Network.

- **The Commission's 72-hour backup power requirements apply to all facilities-based wireline and wireless communications service providers that provide service in Tier 2 and Tier 3 High Fire Threat Districts. Should the Commission consider additional requirements?**

CETF recommends that any back-up power requirements for facilities-based communications service providers be equally applied to the Statewide Middle-Mile Network that are located in Tier 2 and Tier 2 High Fire Threat Districts for increased reliability. These back-up power requirements greatly assist in keeping communications service up in rolling blackouts and power outages.

5. **Last-Mile Providers: The middle-mile network must enable last-mile connections.**

- **How can the middle-mile network enable last mile connections in unserved, underserved and served areas of the state?**

CETF recommendations covered in its answer to Question 1 of its initial Middle-Mile Comments, at pages 1-6 apply here.

- **How can the middle mile network assist the operation and development of public broadband networks? Are there opportunities**

to aggregate network monitoring, provide a managed voice service, security services, call center, and other back-office services among public networks?

(Rachelle some level of these management services can be included in peering agreements which local governments will need for it to be a Statewide Middle-Mile Network.) If these types of additional services are desired by a local government or Tribal Government for a public network, this can be included in the Request for Partnership issued to ISPs. If no ISP or other provider of such services fails to respond as to these specific services, then it is possible that the Statewide Middle-Mile Network could provide these specific services for public broadband networks. However, this should be ancillary services offered by the Network, whose primary focus should be on the operation and maintenance of the Network.

6. **Other States: Numerous other states operate open-access networks, including but not limited to Illinois, Kentucky, Massachusetts, Michigan, Missouri, North Carolina, Ohio, Virginia, and Washington.**
   - **Are there any successes or pitfalls the State of California should take into consideration from other statewide open-access networks or even from other countries?**

   There are many open-access models operated by states or local governments. One model is where a muni network offers full retail services directly to the public just like a private Internet Service Provider, offering telephone and Internet access to consumers. This is often the case in very rural towns where there is no economic case for private Internet Service Providers to enter the market. Often this type of muni network is operated by a municipal electric utility, who places the broadband facilities on its electric right of ways. The benefit is that the town receives broadband and voice services when it would not be able to obtain them from private ISPs. This will provide economic development benefits. The downside is there is no competition to the sole muni provider, which many mean less diverse choices and higher rates due to the lack of competition. This is best used in a situation where there are no private ISPs willing to serve the town.

   Another muni model is for the municipality to install dark fiber and conduit, perhaps when opening the main street or state highway for roadwork, and then make the

dark fiber available for lease to local ISPs. The ISPs in turn offer retail last- mile services to consumers. The benefit of this model is cost savings to lay the dark fiber while the roadway is open, and broadband speed improvement. Then last-mile competitors may share the cost of the fiber. The ability to have competing ISPs for last-mile services to consumers will drive prices down and bring innovation. Sometimes this model is used only for the business district, and sometimes it is used to provide fiber to the home for the entire town.

Another muni model is for the municipality to construct a fiber network, and then make it available to multiple independent ISPs who compete for last-mile retail subscribers. The municipality in this model does not compete for last-mile subscribers and is only the middle-mile provider. This model brings cost savings of a shared fiber network, and also promotes competition between ISPs, which will keep prices low and bring innovation. It can promote bringing faster broadband speeds to an area.

Yet another municipal model is for the muni to begin by connecting its own schools, libraries, public safety, and city departments with fiber, and then offering dark fiber leases to ISPs or retail services to businesses. This model is used in Santa Monica, California. The upside is business have access to fast fiber services it may otherwise not have. Local ISPs benefit by having the option to lease dark fiber and not have to build their own.

While studying such open-access networks, CETF suggests that aspects to consider are local government savings, whether speeds of broadband services increased, was service competition enhanced leading to affordable pricing, and did it spur economic development.

CETF suggests that the Commission look at the take-rates that have been achieved by such open-access networks. By "take rates," CETF means the number of persons who were offered the service and actually subscribed.

Pricing should be reviewed to see if pricing was low or high compared to pricing offered by ISPs in surrounding areas. Affordable prices should be a key consideration.

Also, how much time did it take for deployment to all the unserved areas within the open-access network service area? If deployment was swifter than using private ISPs, this is a huge benefit to bring broadband access to all residents.

The broadband speeds to be achieved should be as high as possible, in order to spur economic development in our state. It is a fact that businesses require very fast broadband, and states and regions with fast networks attract more businesses. Further, high broadband speeds are critical for anchor institutions, like universities, research institutions, large school districts, community colleges, and technology businesses.

How was the funding provided, and was it sustainable? Some municipalities fund the fiber with bonds. Others self-fund. California is very fortunate to have a large federal grant to help bring a Statewide Middle-Mile Network to our State, in order to connect unserved areas. This is a rare opportunity to bring Digital Equity to all Californians, and bring economic development to every region.

7. Other Issues Not Covered

- **Are there any issues the State of California should take into consideration as it develops the statewide middle mile network?**

It appears from the State Highway Anchor Build Highway map that the Commission's Staff envisions alignment of the Statewide Middle-Mile Network with the State's surface transportation network, which is a strategy that makes good sense. CETF notes that, similarly, there are other right-of-ways and alignments that are available, such as the High-Speed Rail Project, State Passenger Train System, State Water Project, Irrigation and Water Districts, and certain energy utilities. For example, in Imperial County, the Imperial Irrigation District ("IID) owns as many vital right-of-ways as Caltrans. The Southern Border Broadband Consortium, managed by Imperial Valley Economic Development Corporation, secured from IID a willingness to collaboration in conjunction with preparation of the Imperial County Preferred Scenario. Another example of substantial planning with explicit engagement of an investor-owned utility (IOU) was led by Riverside County with the cooperation of all 28 cities. These are important existing work that should be capitalized on by the Middle-Mile Network.

Finally, in CETF's Opening Comments, it emphasized many pending CASF applications that could provide urgently needed middle-mile infrastructure leading to unserved areas that should be promptly approved. Among them are the Northeast Loop for five counties along State Route ("SR") 299, SR139 and SR 36, and the Kern Valley Project along SR 178 and SR 14. In addition, deployment of broadband middle-mile along Highway 299 from Eureka to Redding to Alturas is a critical and obvious need. This region suffers serious multi-day outages frequently. Despite two CASF grants, the Highway 299 middle-mile route has failed to be achieved, and so focus and effort should be brought to bear on this priority project. Finally, all the pending projects for the Redwood Coast Region will establish vital middle-mile segments and should be granted.

Finally, there are some unique situations off the coast of California that may be used for middle-mile backhaul such as underwater fiber cable to Catalina Island for the City of Avalon. The City of Avalon is working with civic organizations and ISPs to upgrade the island network, but the need for a fiber connection to the mainland is necessary to promote economic vitality and ensure public safety considerations.

WHEREFORE, CETF respectfully requests that the Commission consider its comments herein when it provides the Staff Report to the California Department of Technology.

Respectfully submitted,

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