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November 6, 2018

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California Air Resources Board
California Environmental Protection Agency
1001 I Street
Sacramento, California 95814

Dear Chair Nichols and Members of the California Air Resources Board:

On behalf of the California Emerging Technology Fund (CETF) and our regional and community partners, thank you for the opportunity to submit Comments on the Cap-and-Trade Auction Proceeds Third Investment Plan regarding the how broadband (a generic term for high-speed Internet access infrastructure) and Digital Inclusion (getting all residents online) are essential as a "green strategy" to help the State achieve its goals for reducing greenhouse gas (GHG) emissions in implementing the priorities for the Greenhouse Gas Reduction Fund (GGRF). We were pleased that 10 civic leadership and community organizations also submitted Comments in support of the CETF testimony and Recommendations which were acknowledged in Appendix C of the Revised Draft. However, we were disappointed that that the proposed Response doesn't support the power of a "Connected California" to reduce GHG emissions and reach Disadvantaged Communities:

> *"The evolving structure of California Climate Investments and the emphasis on GHG emission reductions and other benefits give agencies the flexibility to expand their suite of project types, as long as programs achieve GHG emission reductions. The Revised Draft recommends avoiding establishing new programs because they increase the administrative costs to California Climate Investments as a whole."*

Digital Inclusion should be an <u>integral strategy</u> in the Investment Plan, not viewed as an additional demand on GGRF or added burden for staff. Ubiquitous broadband is axiomatic to achieving GHG reduction goals.

You are to be commended for the focus on Disadvantaged Communities, but the Third Investment Plan is silent on how to achieve the fundamental equity it seeks in light of the alarming reality of the Digital Divide:
— 31% are unconnected (13%) or underconnected (18%) (smartphone only).
— 43% of rural communities have unreliable broadband.
— Energy utilities (IOUs) have email addresses for less than half of their low-income households (CARE customers).

However, these data beg the question: What is the plan for reaching residents in Disadvantaged Communities and achieving equity so they are able to receive climate change information online, participate in energy demand management programs, or reduce vehicle trips? It is not possible to achieve the equity objective in the Investment Plan without Digital Inclusion.

The Third Investment Plan should embrace the "Connected California" concept as central to reaching Disadvantaged Communities and reducing GHG emissions. The CETF Comments set forth 5 common-sense Recommendations that should be incorporated into the Third Investment Plan which also will significantly align and integrate other State goals and priorities:
1. Request HSRA to integrate broadband expeditiously.
2. Endorse incorporation of broadband strategic corridors into transportation planning by CTC and Caltrans.
3. Encourage GGRF grantees to collaborate with Digital Inclusion CBOs.
4. Urge energy utilities to get all low-income households online.
5. Authorize Digital Inclusion projects as eligible for GGRF funding.

Internet infrastructure is foundational for all the GGRF investment priorities:
— Transportation: Given that half of overall energy use is in the transportation sector, GHG reductions must involve strategies to decrease vehicle trips. For both traffic congestion relief and GHG mission reductions, the best trip is a "virtual trip." If low-income residents are not online, they often do transactions in person, generating GHG, such as going to the DMV or energy utility to pay (40% DMV payments are in cash). Paper bills must be printed and mailed, instead of sent by email. Telehealth can reduce 40% of follow-up visits.
— Energy: Energy utilities need encouragement to get online all low-income households, an inescapable requisite to achieve equity in access for all customers.
— Natural Resources: Management of water systems requires a reliable Internet network as well as the electricity grid, which is managed over the Internet. Efficient resource use is managed through broadband connections.
— Agriculture: Broadband signals into farms are required to reduce resources applications for agriculture. The AgTech Pilot Projects showed water use can be reduced 10%-20% (with increased production) depending on the crop.
— Resiliency: Protection of natural resources and Disadvantaged Communities (particularly in rural areas) is enhanced with availability of broadband infrastructure (such as remote monitoring of wildfires and real-time information to ground forces). In addition, recovery is accelerated with the access to broadband, especially critical for small businesses. And, the unfortunate experiences with wildfires and emergencies show that the locations used for staging responses and evacuations are not permanently connected.

The GGRF Third Investment Plan is the moment in time to advance a vital vision and provide the leadership to accelerate progress in meeting the State's goals for reducing GHG emissions while ensuring inclusion of Disadvantaged Communities.

Sincerely,

Sunne Wright McPeak
President and CEO

C: Richard Corey, Executive Officer

Stakeholders Meeting on Strategic Corridors
Thursday, September 27, 2018
1:00PM – 4:00PM
California Department of Technology
1325 J Street, Suite 1600, Sacramento, California

SUMMARY REPORT

Purpose of the Stakeholder Meeting

The California Broadband Council (CBC), chaired by the Department of Technology Director Amy Tong, is following implementation of the statutory "Dig Once" policy to facilitate the deployment of broadband. On August 2, 2018 the CBC authorized convening State Agencies and stakeholders to explore the concept of "strategic corridors" to support broadband deployment, in which conduit would be installed in conjunction with transportation projects even if no Internet Service Provider (ISP) or public agency want to be in the trench at the time of construction. The purpose of the Stakeholder Meeting on Strategic Corridors was to:

➤ Bring together State Agencies, Internet Service Providers (ISPs), Broadband Regional Consortia, transportation organizations, and other stakeholders to develop approaches that will build upon and advance "Dig Once" policies to inform the California Transportation Commission (CTC) Draft Comprehensive Multimodal Corridor Planning Guidelines and Department of Transportation (Caltrans) Draft Corridor Planning Guidebook.
➤ Identify "strategic corridors" to support broadband deployment and delineate conduit specifications for strategic corridors where no ISP or public agency is prepared for an installation at the time of construction of a transportation project.
➤ Develop a plan of action among State Agencies and stakeholders to address issues, provide input on pending policy and guidelines, and improve communication and collaboration on strategic corridors throughout the state.

Welcome and Introduction

<u>Amy Tong, State CIO, Director, Department of Technology, and Chair, California Broadband Council</u>
Director Amy Tong welcomed everyone to the Stakeholder Meeting and introduced Department of Technology leaders: Chief Information Officer Chris Cruz; Stephanie Tom, Deputy Director Broadband and Digital Literacy; and Laura Askins, Broadband and Digital Literacy and Legislation. She said the California Broadband Council (CBC) and Department of Technology support the purpose and intent of the Stakeholder Meeting and commend all participants for attending and being willing to engage in the conversation regarding strategic corridors. She said it is vital that all parties work together. She introduced CBC Members George Akiyama, Chief Information Officer for the State Transportation Agency (for Secretary Brian Annis) and Sunne Wright McPeak, President and CEO of the California Emerging Technology Fund (CETF), whom she asked to help facilitate the Meeting. She kicked off the forum by inviting everyone to introduce themselves (see attached Attendee List)

<u>Sunne Wright McPeak, President and CEO, California Emerging Technology Fund (CETF)</u>
- CETF appreciates the opportunity to partner with the CBC and Department of Technology to convene the Stakeholder Meeting to advance the "Dig Once" policy, identify strategic corridors for broadband deployment, and determine conduit specifications for transportation projects.
- CETF promotes broadband as a "green strategy" to reduce traffic congestion and decrease impacts on the environment impacts—in the transportation management the best trip is a "virtual trip". CETF has submitted testimony to CTC and Caltrans recommending that broadband be incorporated into planning for transportation corridors as a tool to reduce congestion and decrease impacts on the environment. CTC and Caltrans have responded positively and are referencing broadband in their current corridor planning processes. The Stakeholder Meeting will provide additional input.
- CETF is grateful for the contribution of time and expertise by all participants to engage in a sincere conversation about how work together to meet the State's goals for broadband deployment.

Presentations and Reports by State Agencies and USDA

<u>Garth Hopkins, Deputy Director, Planning, California Transportation Commission (CTC)</u>
- CTC supports good transportation planning. It is critical that ISPs and Broadband Regional Consortia (RCs) work together with State and regional transportation agencies to address strategic corridor needs early in the planning processes and are included in Regional Transportation Plans.
- $5 billion annually is slated in SB1 to fund the Solutions for Congested Corridors Program. CTC has a 3-year grants cycle; the first cycle is completed. The CTC Comprehensive Multimodal Corridor Planning Guidelines will be used for the second and third grant cycles. CTC will review the Draft Guidelines at the October 17-18, 2018 meeting and is scheduled to adopt them on December 5-6. The second grant cycle will commence following adoption of the CTC Guidelines.
- Broadband has been included in the final draft CTC Comprehensive Multimodal Corridor Planning Guidelines. CTC and Caltrans held four workshops from July to September to receive input about the both the CTC Corridor Guidelines and the Caltrans Draft Corridor Planning Guidebook. CETF provided comments that led to broadband being included in the CTC Guidelines which are now in final draft (see 2nd Draft Comprehensive Multimodal Corridor Plan Guidelines 9-28-1.). The intent is for Caltrans to incorporate the CTC Guidelines into its Corridor Planning Guidebook.

<u>Chris Schmidt, Chief, Transportation Planning, California Department of Transportation (Caltrans)</u>
<u>Brian Simi, Chief, Office of Technology, Innovation and Deployment, Caltrans</u>
(See Caltrans PowerPoint Presentation)
- AB1549 ("Dig Once" legislation) required Caltrans to develop guidance by January 1, 2018 to facilitate deployment of wired broadband in State rights-of-ways (ROW). Caltrans updated the Wired Broadband Guidelines May 25, 2018. Caltrans Corridor Planning Guidebook will be informed by the Wired Broadband Guidelines and will capture the intent of the CTC Comprehensive Multimodal Corridor Planning Guidelines.
- Each of the Caltrans Districts has designated a single point of contact to facilitate inquiries regarding wired broadband facilities within ROWs. Guidelines address two kinds of encroachment permits: (1) Stand-Alone Encroachment Permit; and (2) Planned Partnering Project Permit. Locally-funded State highway projects are referred to the local agency sponsor or project administrator.
- The next steps in the Caltrans process includes coordination with the CPUC on corridor gaps and identification of future Caltrans needs in the Transportation Corridor Planning Guidebook. Caltrans welcomes input from broadband stakeholders and encourages industry to reach consensus on conduit specifications.

- Caltrans has a website with an interactive GIS Map: "Proposed Highway Improvement and Repair Projects" http://www.dot.ca.gov/wiredbroadband/ The GIS Map could be used to identify strategic corridors and add overlay information. Additional Caltrans maps include:
  - California Highway System Map
  - California Road System Maps
- The response to the Wired Broadband Guidelines has been minimal to date probably because transportation planning and ISP business cycles have different time-frames.

Comments and Questions from Participants
- ISPs stated that the Encroachment Permit process could be improved if Caltrans would approve industry-accepted conduit specifications, and if approvals were consistent throughout all 12 Caltrans Districts. Some participants expressed concern that that State Agencies be aware that It also was suggested that an "e-permitting" system be established to save time, cost and resources to deploy broadband more quickly to serve communities, especially unserved areas.
- Tom West, North Bay North Coast RC, stated that there needs to be open access to conduit and corridors, and there needs to be ongoing accessibility and affordability.
- Chris Schmidt replied that planned partnering offers the biggest opportunity because conduit can be included early in the transportation planning and design process. Other partnering opportunities include Caltrans communications projects (Brian Simi is contact) and maintenance operations. Caltrans invites ISPs, RCs and other stakeholder to communicate their needs regarding strategic corridors. He observed that fiber deployment has been primarily in urban areas and suggested that stakeholders not look only at highways, but also consider "travel sheds" when identifying strategic corridors for broadband deployment.
- Some participants expressed concern that the State Agencies may not be aware that although conduit and/or fiber may be installed in a ROW, it may not be available for use by ISPs. A planner may think that because there is a conduit that no further broadband planning is needed, but a given ISP may not be able to access it and has to install additional conduit and fiber.
- Bernie Orozco, California Cable and Telecommunications Association (CCTA), suggested that Caltrans conduct a webinar on using the Wired Broadband Guidelines and their Interactive GIS Map. ISPs agreed with recommendation and said training was needed. ISPs further requested that Caltrans have each Caltrans District outreach in their regions to ISPs, transportation planners, engineers and RCs regarding the Wired Broadband Guidelines and GIS Map.

Cynthia Walker, Director, Communications Division, California Public Utilities Commission (CPUC)
Tom Glegola, Supervisor, Communications Division, CASF Infrastructure and Market Analysis, CPUC
- The CPUC provides regulatory oversight and implementation for broadband deployment. The CPUC Communications Department (CD) administers the California Advanced Services Fund (CASF) Broadband Infrastructure and Adoption Grant Program. It also manages the State's Interactive Broadband Map.
- CPUC CD is willing to be involved in identifying strategic corridors for broadband deployment, However, the State needs to determine which Agency should have the lead responsibility. CPUC CD is available to provide input to other State Agencies and meet with ISPs and welcomes the opportunity to meet and confer.
- Access to Caltrans State Highway System GIS Map would allow CPUC to overlay the California Interactive Broadband GIS Map information which would help identify gaps in broadband service related to state highway features that may be obstacles such as bridges, rivers, and difficult terrain. The overlaying of GIS information could provide the ability to identify strategic corridors where broadband deployment is most needed.

Comments and Questions from Participants

- Participants noted that CPUC cannot identify strategic corridors alone and that end-users, ISPs and Regional Consortia must work with Caltrans. Some noted that the Legislature's CASF standard for broadband service of 6 Mbps download and 1 Mbps upload is relatively slow, and that a higher threshold speed (such as the FCC 25/3 Mbps) would be more appropriate for identifying strategic corridors for future deployment needs.
- Matthew Rantanen, Southern California Tribal Digital Village, also mentioned that power companies need to be involved in broadband discussions because they have extensive conduit and fiber networks (including excess dark fiber), sometimes installed in aerial rights-of-way on utility poles. As an example, it was noted that Southern California Edison had a published rate sheet for access to its dark fiber and was included in the Riverside County "Request for Partners" last year.
- Sunne Wright McPeak commented that CETF will work CBC, Caltrans, CPUC, ISPs, RCs and other stakeholders on the next stage conversations regarding identification of strategic corridors.

Budge Currier, 9-1-1 Communications Branch Manager, Office of Emergency Services (Cal OES)

- CalOES appreciates being included in the deliberations on strategic corridors. There is a need for more robust high-speed Internet infrastructure to better respond to emergencies.
- Wireline broadband service generally provides good communications in 9-1-1 outages. Cellular service is fairly good and cable VoIP can work. However, overhead fiber on poles can be a problem during emergencies. Wildfire-prone areas, especially on the North Coast and in the Sierras, need wireline broadband.
- Emergency response needs redundant communications paths which should be considered in identifying strategic corridors for broadband deployment.

Comments and Questions from Participants

- Lexie Smith, GeoLinks, said that fixed wireless may be appropriate for use in emergencies, as it can provide 2-3 gigabit service. Companies that provide fixed wireless should be part of the emergency response and 9-1-1 systems.
- Matthew Rantanen commented that there are over 100 tribal organizations throughout the state, and that casinos, in addition to fairgrounds, should be considered by CalOES for emergency response and evacuation centers: casinos have large parking lots, protected structures and Internet connectivity. He also stated that tribal relationships are important in broadband deployment and assistance during emergency and 9-1-1 events.
- Participants generally noted that fiber wireline connections have multiple public benefits.
- Michael Ort, CEO, Inyo Networks, said that once fiber wireline is installed that service that can be "turned up" to reach gigabit speeds very quickly, which is important for emergency response. He suggested that fiber be deployed permanently in high-response areas for public safety purposes.

Ken Anater, Marketing Division, Fairs and Expositions, California Department of Food and Agriculture (CFDA)

- CDFA appreciates being consulted in identifying strategic corridors.
- Maps are needed with overlays to include highways, fairgrounds, and broadband access. County fairgrounds, which are State assets, host a range of events and activities that would benefit from high-speed Internet access. Several fairgrounds also serve as economic incubators and could better serve rural California with broadband infrastructure.
- Agriculture remains a major industry for California and technology can significantly assist resource application efficiency, crop productivity, and access to external markets.

Comments and Questions from Participants

- Michael Ort, CEO, Inyo Networks, and David Espinoza, Broadband Specialist, CSU Chico, which manages the Northeastern California Connect and Upland California Connect Regional Consortia, presented a map showing the State Highway System overlaid with all of the fairgrounds in the state, and a map showing fairgrounds overlaid with unserved and served areas using 25/3 mbps as a threshold. Using the 25/3 definition for broadband service, there are 10 fairgrounds with no Internet service, 24 fairgrounds that are considered unserved, and 43 that have acceptable service.
- Budge Currier and Ken Anater concurred that more capacity is needed at fairgrounds and high-speed Internet connectivity to these facilities would be a great asset for public safety.

Robert Tse, Office of the Assistant Administrator, Telecommunications Program, Rural Development, U.S. Department of Agriculture (USDA)
(See PowerPoint Presentation)
- Agriculture is vital to California's economy and broadband connectivity is central to increased efficiency and productivity. AgTech is an emerging focus for policymakers. Dig-Once policies are needed for corridors that reach major farming area and fairgrounds. When any road improvements or paving is done near a fairground, there should be planning and budgeting for installation of conduit and fiber to avoid future digging in the ROW. Currently, when a fair is active, the amount of broadband that is used often impacts Internet service for area residents. This is an issue that needs to be addressed. Improving broadband service by utilizing strategic corridors is a good idea.
- There are partnering models for broadband at fairgrounds. For example, fairgrounds in Pennsylvania host the fair, provide emergency staging and response, and also house distributed manufacturing to boost economy. Installing broadband at the fairgrounds not only provides the essential bandwidth for emergency response, but also stimulates economic development. He also noted that fairgrounds allow pets, so people ho hesitate to evacuate without pets can be moved more quickly if that information could be communicated more effectively.
- Water and irrigation districts also should be involved in the strategic broadband corridor discussion because they have linear rights-of-way to farms in rural area, and they use broadband for moisture sensing and other farming applications.

Comments and Questions from Participants
- Tom Glegola asked those advocating for connectivity to fairgrounds to further delineate the needs and inventory the status of their current known conduit access and fiber connectivity. Knowing there is a broadband conduit ready to go and available is the key.
- Robert Tse replied that when fiber is not available at fairgrounds during emergencies, first responders often order work-around temporary solutions that can take more time and money than if the connectivity had been installed permanently.
- Sunne Wright McPeak noted that more information needs to be gathered regarding broadband access to fairgrounds to provide input to the identification of strategic corridors.

Kim Lewis, Legislative Advocate, CENIC (Corporation for Education Network Initiatives in California)
- CENIC network serves over 20 million users across California, including the vast majority of K-20 students along with educators, researchers, and individuals at other vital public-serving institutions. Anchor institutions served by CENIC, such as schools and libraries, also are used for staging emergency response and temporarily housing people during evacuations.
- CENIC sites need "diversity" (also referred to as "redundancy" by others) to describe the advantage of a variety of types of broadband service and multiple paths to ensure continuity of service during emergencies and other unexpected circumstances.

- CENIC identified the following routes to be considered as strategic corridors for broadband planning:
  — US Hwy 40
  — US Hwy 101
  — SR 3 (Trinity and Siskiyou Counties)
  — SR 36 (Humboldt and Lassen Counties)
  — SR 49 (11 Counties, especially Gold Country: Amador, Calaveras, Tuolumne, Mariposa Counties)
  — SR 58 (Kern County)
  — SR 59 (Merced County)
  — SR 104 (Amador County)
  — SR 155 (Kern County in Lake Isabella Area)
  — SR 178 (Kern and San Bernardino Counties)
  — SR 180 (Fresno County)
  — SR 211 (Humboldt County)
  — SR 243 (Riverside County)
  — SR 247 (San Bernardino County)
  — SR 299 (Humboldt, Trinity, Shasta and Modoc Counties)

Comments and Questions from Participants
- David Espinoza added the following routes to be considered for strategic corridors:
  — I-5
  — SR 44 (Shasta and Lassen Counties)
  — SR 172 (Tehama County)

Summary Report on Input from ISPs Regarding Strategic Corridors and Conduit Specifications

Ann Spaulding, CETF Consultant and Member, East Bay Broadband Consortium
Martha van Rooijen, MVR Consulting and Executive Director, Inland Empire Broadband Consortium
Ann Spaulding and Martha van Rooijen thanked the ISPs for input and referenced the Summary Report.

Input from Internet Service Providers: Discussion of Strategic Corridors and Conduit Specifications

Alice Perez, External Affairs, Victoria Kneer, Network Process and Quality Manager, and Clem Cole, Network Construction & Engineering, AT&T
- There is an overall concern about consistency in interpretation of Caltrans guidelines across the 12 Caltrans Districts that impact the time involved in planning and permitting broadband deployment. It appears that District engineers have more influence than District Directors or Headquarters. Leadership from Caltrans Headquarters is needed to achieve consistency in guidelines and specifications interpretation and to achieve more collaboration in working with ISPs.
- AT&T utilizes conduits that are specific to their company and requested that Caltrans be open to conduit specifications preferred by ISPs rather than the current standards in Caltrans guidelines. Conduit Specification Note in the Wired Guidelines states "Conduit Duct Size and Quantity May Vary" is typically ignored by the Districts. For example, Guidelines specify 4" conduit with four (4) 1" ducts inside, but this specification is not possible as four (4) 1" ducts do not fit in 4" conduit; so, the ISP is left to either put 3 ducts in the 4" conduit or propose a different specification which usually means that permitting takes many submittals and an excessive amount of time for approvals.

- Existing and emerging technologies for high-speed Internet connectivity need a supportive environment for effective and efficient deployment, including revising and accepting new standards and specifications. It is important to have sustained interaction between leadership from the State Agencies and ISPs to be prepared and open when funding is available. Caltrans should implement an E-Permit program so that application progress, milestones, and outstanding items can be viewed online and be consistent across all Districts.

Comments and Questions from Participants
- Chris Schmidt and Brian Simi commented that although Caltrans has some software applications used for project management, that a robust E-Permit system would have to be developed and there is no funding available for that kind of a project. However, Caltrans is willing to meet with the ISPs to review permitting issues and discuss ideas for improving the process.
- Sunne Wright McPeak expressed sympathy with Caltrans not having authorized budget for development of an E-Permit system but suggested that it could be funded through a surcharge on permits for broadband encroachments. ISPs generally agreed with exploring that concept provided it would result in saving time and accelerating broadband deployment. She said CETF would work with the stakeholders to further discuss the potential for developing an E-Permit system.

Bernie Orozco, Vice President Government Affairs, California Cable and Telecommunications Association (CCTA)
- Progress is being made by in implementing the Dig Once policy and Caltrans deserves credit for finding some common ground with ISPs to improve the process. More consistency on policies and procedures is needed across the Caltrans Districts.
- More user-friendly Caltrans GIS Maps with training on the Dig Once procedures would go a long ways to increasing use of the process established by Caltrans. Caltrans should conduct a seminar or webinar for ISPs and District personnel to foster more collaboration.
- E-permitting would be welcomed and CCTA is willing to work with the State Agencies and stakeholders to continue the discussion.

Charlie Born, Director, Governmental & External Affairs, and Mike Riley, AVP-OSP Engineering-California, Frontier Communications
- The Stakeholder Meeting is a positive step forward and the conversation should continue. Frontier welcomes the opportunity to participate. Coordination among State Agencies and across Caltrans Districts would be very helpful.
- Caltrans did have an expedited permitting process for broadband deployment ROW encroachments during the housing boom, particularly in conjunction with new development, but that faded away during the recession. The process takes longer now. There needs to be a better way for the ISPs.
- Direct conversation with Caltrans management to explain the permitting needs and issues helps get a more timely resolution.

Michael Ort, CEO, Inyo Networks and Praxis (Digital 395 and Digital 299)
- Transportation should be redefined to include information, not just goods and people.
- There are good alternatives to the Guidelines specifications, such as the conduit sample shown to the participants, which fits inside a 4" conduit and contains a total of five (5) ducts of varying sizes, costs approximately $2 per foot, comes in 1,200-foot reels (an added benefit because contractors only need one type of conduit reel rather than varying sizes that deplete at different intervals as they are pulled), and can accommodate future needs at a lower cost if installed in strategic corridors. Stakeholders were very interested in considering the sample conduit for the future.

- The sample conduit also could be a good candidate for Caltrans and other transportation agencies to deploy for their own Intelligent Transportation Systems (ITS) projects.

Carlos Alcantar, Vice President, Engineering, Race Communications
- The conduit shown by Michael Ort would be a good candidate for installation in strategic corridors if no ISP or other partners are participating in a transportation project at the time of construction. It would save time and resources for everyone and be an appropriate way for Caltrans to advance the Dig Once Policy. Caltrans and transportation agencies would find this useful for their future needs.
- The process of working with Caltrans is difficult and there are examples of existing conduit to which ISPs cannot access for a variety of reasons. These situations need to be examined to see if there can be resolutions and a better process.
- Education and training such as a webinar for ISPs on the Caltrans GIS mapping tools is a good idea.

Lexie Smith, VP of Business Development, GeoLinks
- In many cases fixed wireless broadband is a better solution than fiber in that it can be installed in difficult areas with less permitting and time. GeoLinks wants to close the Digital Divide now and is committed to using fixed wireless to deploy broadband as quickly as possible.
- GeoLinks could provide broadband to every part of the State without laying anymore fiber because there is so much fiber in the ground. Fixed wireless can deploy high-speed broadband service nearly anywhere in California.
- Medium-sized companies have fewer constraints than some of the larger ISPs, so companies such as GeoLinks should be considered as an option to deploy broadband quickly. They should also be considered for deployment and use during 9-1-1- emergency events.

Comments and Questions from Participants
- Cynthia Walker said it was becoming clear that a technology hybrid approach is needed to achieve the State's goal of 98% deployment: a combination of wireline and fixed wireless infrastructure are needed to support broadband access and adoption throughout the state. She invited a direct conversation with GeoLinks and other ISPs to explore strategies and solutions.

Ross Shapiro, General Manager and Director, US West, Verizon
- Verizon appreciates the opportunity to attend the Stakeholder Meeting and is willing to participate in future discussions.
- Broadband deployment is based upon a business model and that overall a project needs to be a good value proposition. Whether it is private investment, government grants, or a public-private partnership, a business case must be made for deployment.
- Policymakers and planners should consider using service objectives and theory-of-constraints modeling, such as the Six Sigma approach that focuses on looking at constraints in achieving measurable and quantifiable results. This kind of analysis and methodology also could be used to identify and prioritize strategic corridors for broadband deployment.

Yolanda Benson, Advocate, Government Strategies, California Communications Association (CCA)
- CCA appreciates being invited to the Stakeholder Meeting and consulted in these policy matters.
- CCA members, smaller rural telecommunications companies, primarily use wireline broadband technology, which provides advantages over other types of broadband delivery methods.
- Rural telcos definitely need to be consulted and engaged in the conversation to determine strategic corridors because the CCA members can help bring broadband service to unserved areas.

<u>Pamela Loomis, Loomis Advocacy Solutions, California Communications Association (CCA)</u>
- CCA members have small service areas, so it is very difficult to imagine who is going to pay for and build broadband infrastructure and provide service. There are regulatory constraints as to where CCA members can build and extend service
- CCA wants to be involved in continuing stakeholder dialogue on broadband deployment in rural areas and identification of strategic corridors.
- CCA members will be asked again about middle-mile access and/or backhaul to their service areas to determine if there are strategic corridors to be considered for conduit installation for future use.

<u>David Nelson, CEO, Vast Networks (formerly CVIN)</u>
- Broadband corridors won't get built unless Caltrans modifies its standards. More needs to be done in partnership with Caltrans.
- Conduit could be deployed when roads are repaired or replaced along strategic corridors, not just in conjunction with major new transportation projects.
- SR 20 and SR 49 are good candidates for strategic corridors.

<u>Comments and Questions from Participants</u>
- Chris Schmidt underscored that a large part of the Caltrans budget is devoted to maintenance and repair of the State highway system and that there should be more conversation about whether not these kinds of projects presented opportunities for facilitating broadband deployment. He again offered to meet with ISPs to continue the conversation.

Input from Transportation Stakeholders

<u>Bill Higgins, Executive Director, California Council of Governments (CalCOG)</u>
- CalCOG agencies are concerned about trenches under roads, yet the future of transportation and autonomous vehicles need connectivity. Caltrans and CTC should be considering these needs as part of the broadband deployment process, especially in strategic corridors.
- It is important that the identification and prioritization of strategic corridors for broadband deployment be included in Regional Transportation Plans. Metropolitan Planning Organizations (MPO's) and County Transportation Authorities develop their own regional plans to receive approval from CTC and receive funding for transportation improvements.
- CalCOG will host a meeting regarding strategic corridors with Regional Consortia, ISPs, MPOs and County Transportation Authorities, Councils of Governments (COGs), and State Agencies to ensure a substantive conversation about how to identify strategic corridors and foster collaboration within each region as well as statewide.

<u>Comments and Questions from Participants</u>
- Sunne Wright McPeak thanked Bill Higgins and commended CalCOG for being willing to host a meeting that involves the regional transportation organizations and Regional Consortia and said CETF is willing to assist with the convening of those stakeholders. She also acknowledged that the California State Association of Counties (CSAC) and Rural County Representatives of California (RCRC) had attended the Stakeholder Meeting and need to be involved in all the conversations regarding strategic corridors in the future because several are key county arterials and roads.
- Tom West offered to take responsibility to reach out to all the Regional Consortia to get more input on strategic corridors and work with David Espinoza to map the results that can be used for presentation to CTC in October. That offer was accepted by participants.

Summary of Agreements and Next Steps

Sunne Wright McPeak summarized "Next Steps" at the end of the Stakeholder Meeting (which was distributed by the Department of Technology on behalf of the California Broadband Council on Friday, September 28, 2018) along with the PowerPoint Presentations and List of Attendees.

- Prepare and distribute a Summary Report on the Stakeholder Meeting presentations and discussion and submit to the California Broadband Council (Chair Amy Tong and Members). Submit the Summary Report to the California Transportation Commission (CTC) and Department of Transportation (Caltrans) for their corridor planning processes.

- Prepare and distribute to participants "user friendly" maps with overlays of all vital information, including unserved and underserved areas, county fairgrounds and other anchor institutions, and Tribal Lands for identification of Strategic Corridors.

- Distribute to participants a List of the Caltrans 12 District Contacts for facilitation of broadband deployment.

- Request Caltrans to convene a webinar or forum to brief Internet Service Providers (ISPs) about how to use the "Dig Once" tools.

- Request Broadband Regional Consortia (RCs) to identify Strategic Corridors in their regions for consideration by Caltrans and CTC. (Acknowledge that North Bay North Coast RC Executive Officer Tom West volunteered to assist with this effort, CENIC will submit their specific recommendations, and OES 9-1-1 Manager Budge Currier and CDFA Fairs Marketing Manager Ken Anater will contribute as appropriate. Recognize that it is important to seek input from CSAC and RCRC regarding county roads.)

- Acknowledge that Caltrans (Chris Schmidt and Brian Simi) agreed to meet with ISPs with major projects and responsible District lead personnel to address requests for the companies' preferred conduit specifications and to identify ways to streamline the process. Recognize that Caltrans invites ISP input for standard specifications for conduit installation on Strategic Corridors in conjunction with transportation projects when no ISP or other public agency has requested participation in the trench at the time of construction.

- Request Caltrans and other State Agencies to consider developing an E-permit process which can be funded as part of the Cap-and-Trade allocation or by a fee on permits (which ISPs indicated would be a good value proposition if completed on a reasonable timeframe).

- Accept offer from California Public Utilities Commission (CPUC) leaders (Communications Division Director Cynthia Walker, CASF Supervisor Tom Glegola, and Clover Sellden) to provide input to other State Agencies and meet with ISPs.

- Accept offer of CalCOG (Bill Higgins) to convene a meeting of regional transportation leaders with RCs.

Attendee List
Strategic Corridors Stakeholders Meeting
September 27, 2018
Department of Technology
1325 J Street, Suite 1600, Sacramento, CA

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Luis Portillo	Inland Empire Economic Partnership	lportillo@ieep.com

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