



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

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*Order Instituting Rulemaking Regarding
Broadband Infrastructure Deployment and
to Support Service Providers in the state of
California.*

Rulemaking 20-09-001
(Filed 09/09/21)

**ADDITIONAL COMMENTS OF THE COACHELLA VALLEY
ASSOCIATION OF GOVERNMENTS PERTAINING TO MIDDLE MILE
LOCATIONS**

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I. INTRODUCTION

The Coachella Valley Association of Governments (CVAG), a governmental agency organized pursuant to the California Joint Power Act (Cal. Govt. Code § 6500 *et seq.*), respectfully submits these additional comments (“additional Comments”) on the E-mail Ruling Ordering Additional Comments as part of Middle-Mile Data Collection which is part of the Order Instituting Rulemaking Regarding Broadband Infrastructure Deployment and to Support Service Providers in the State of California (R2009001) (the “Order”).

CVAG is a regional planning agency coordinating government services in the Coachella valley. CVAG is governed by leaders of ten city jurisdictions four Tribal nations and the County of Riverside. By providing solutions to the common issues of the local governments and tribes that are its members, CVAG promotes a better quality of life and balanced growth for residents in the Coachella Valley, located in Eastern Riverside County.

As the recognized planning agency with the Riverside County Transportation Commission, CVAG prepares a Regional Transportation Plan for the Coachella Valley. Central to this effort is the Transportation Project Prioritization Study (TPPS), which identifies and prioritizes transportation projects in the region. The projects within the TPPS are fed into a larger regional planning effort by the Southern California Association of Governments (SCAG). CVAG also manages and distributes funds under the Congestion Management Air Quality program, programs transportation improvement projects, and administrates the region's Transportation Mitigation Fee Program.

Additionally, as a general purpose Council of Governments, CVAG also takes on array of projects to meet the needs of the region. These include, but are not limited to, habitat conservation, Desert Community Energy – a community choice aggregation program, and a regional signal synchronization program (“CV Sync”).

CVAG's CV Sync project (see Exhibit-1) includes over 120 miles of streets and corridors and more than 550 traffic signals in the Coachella Valley. The project will improve traffic flow in the Coachella Valley, making it quicker to travel through the Coachella Valley. This will reduce idling times and decrease associated greenhouse gasses. It will also improve the flow of goods and services in the Coachella Valley, contributing to economic vitality of the region. To accomplish this, intersections will be equipped with smart traffic control technologies that will allow all traffic signals to communicate with each other. This system will be built on a 144-strand fiber optic cable network. The planning and environmental documents have been completed for this project, creating a shovel-ready opportunity for middle-mile

The CV Sync project presents a unique opportunity for middle-mile infrastructure that will improve access to broadband in the Coachella Valley (see Exhibit-2). CVAG's Executive Committee has approved \$1 million for design of a broadband middle-mile along the CV Sync route. Currently, the CV Sync project is in phase-two of design and CVAG is incorporating a middle-mile backbone design into this phase. The design of phase two of CV Sync, including the broadband design component, is anticipated to be completed by December, 2021. Subsequently, CVAG will advertise bids for construction in the first quarter of 2022 with an anticipated construction start date in June 2022 which will span over a two-year period (see Exhibit-3).

Incorporating a middle-mile dark fiber network into CV Sync can provide access to internet service in underserved communities and bolster service to the communities already

being served, including the eastern Coachella Valley to North Palm Springs. Furthermore, a middle-mile network as proposed by CVAG can interconnect the networks of local school districts, facilitating high-speed broadband and helping to reduce technological and resource disparities that exists amongst the school districts. Hence, creating a more level playing field for all students of the Coachella Valley as it relates to internet access and reliability. This will help create a more resilient, hardened and reliable internet system throughout the Coachella Valley. Because of the planning, engineering, trenching and other work needed for CV Sync, incorporating a middle-mile network could save \$30 million if otherwise done as a stand-alone project (see Exhibit-4).

CVAG is coordinating and engaging with One Future Coachella Valley Connectivity Task Force. The Task Force is comprised of Palm Springs Unified School District, Coachella Valley Unified School District, Desert Sands Unified School District, and Riverside County Office of Education, University of California Riverside, California State University San Bernardino. Their purpose of the Task Force is to coordinate and collaborate to collect connectivity data and share technical expertise to develop a Regional Plan and metrics related to connectivity. Their goal is to help improve college and career success for students in the Coachella Valley.

A middle-mile network that is distributed into the communities of the Coachella Valley can bolster broadband capabilities and access in the Coachella Valley (see Exhibit-7). In addition to improving internet access for students, it can also support anchor institutions such as health care, government, libraries and also businesses. Hence, creating a middle-mile network that is distributed into the community and directly connects anchor institutions is more beneficial to the Coachella Valley in comparison to middle-mile infrastructure running along the I-10 interstate. The work CVAG is doing on CV Sync is an opportunity to facilitate a distributed middle-mile network in the Coachella Valley, while achieving significant cost savings.

II. DISCUSSION

Issue 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*

Ensuring affordable internet service should be a key factor in determining middle-mile investments. Leveraging local knowledge and resources can help lower costs and ensure an affordable broadband network. Therefore, local resources, plans and technical expertise should be considered, as these resources can optimize investments to meet local needs, which helps to ensure effective and efficient use funds. As a result, this will contribute towards the affordability of the broadband system. For example, CVAG is working with Palm Springs Unified School District, Desert Sands Unified School District, Coachella Valley Unified School District, College of the Desert and the Riverside County Office of Education to understand their respective broadband plans and identify opportunities to interconnect their systems via a middle-mile backbone fiber, as proposed by CVAG through CV Sync.

These educational entities can provide key logistics, planning and technical expertise in deploying and securing educational services onto a middle-mile fiber backbone in support of LTE Broadband deployment. The technical staff at each of the aforementioned entities brings valuable knowledge that can benefit middle-mile investment and bolster broadband service. The aforementioned school districts in the Coachella Valley are working on developing and deploying their private LTE network in their respective district boundaries (see Exhibit-6). The middle-mile network as proposed by CVAG can facilitate the interconnection of the LTE systems being deployed by the three school districts. By integrating the school district's LTE network into a middle-mile fiber network, their systems become more resilient, hardened and reliable, to better serve their students.

- *Route redundancy*

Route redundancy is important to ensure a resilient and reliable system. If there was damage to an internet backbone route or path, having redundancy in the system ensures there is a backup plan and allows for service to continue uninterrupted. By interconnecting the internet systems of each school districts in the Coachella Valley through the proposed CV Sync route, redundancy in systems overall is improved. For example, if one route was damage or congested,

alternate routes can be found to ensure data delivery and internet service. Each of the Coachella Valley School District's and the community college, College of the Desert, have multiple data centers that each would essentially create a network matrix. A middle-mile network as proposed by CVAG can tie these networks together, creating route redundancy and resiliency in the overall network system.

- *Competition*

Partnerships with the local school districts, community college and non-profits, such as One Future Coachella Valley, will create a unique opportunity to increase competition and stimulate business growth. The access to dark fiber for small to medium businesses will provide internet access and inter-connectivity that does not exist today. Technology companies will have opportunities to offer additional services such as VoIP, data center solutions, ISP technologies and technical services. This will make it more attractive for other ISP providers, which can increase competition, which helps to drive down prices and increase affordability.

Issue 3

- *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?*

In the Coachella Valley, locations near Palm Springs Unified School District, Desert Sand Unified School District as well as Coachella Valley Unified School District will be key to the CBRS LTE Deployment plan for the Coachella Valley. Additional location into rural areas of the Coachella Valley will also allow for connectivity to underserved communities as well as allow for faster deployment of the CBRS LTE network.

The Riverside County Office of Education (RCOE) facility at 47110 Calhoun Street, Indio, CA 92201, has a data center and interconnection with CENIC. CVAG's proposed middle-mile backbone can interconnect at this location that can facilitate middle-mile projects. The

RCOE can potentially serve as the internet service provider and help scale internet service given their partnership with CENIC.

Because CVAG's proposed middle-mile route will be distributed throughout the Coachella Valley, it will increase the attractiveness and usefulness of the statewide open-access middle-mile broadband network for commercial internet service providers. This is because the middle-mile route proposed by CVAG facilitates much shorter last mile connections to end-users in the Coachella Valley compared to a middle-mile route along the I-10, which is further away from end-users. The middle-mile network for the Coachella Valley proposed by CVAG can provide direct service to anchor institutions and businesses.

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

Palm Springs Unified School District, Desert Sands Unified School District, Coachella Valley Unified School District, College of the Desert and the Riverside County Office of Education are focusing on delivering no cost broadband to underserved communities in the Coachella Valley. In addition, the deployment of dark fiber into communities will allow for improved access by allowing the school district's LTE network to be more reliable, resilient, and redundant. A fiber network tied into each of the school district's interconnection points will hardened the overall system, including the LTE network, and improve access for the communities of the Coachella Valley.

- *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?*

Yes, where the opportunity presents itself, CVAG supports middle-mile networks to provide direct service to anchor institutions. This eliminates the last mile infrastructure needs, helping to achieve savings, reduce costs and optimize use of available funds. For instance, the middle-mile network proposed by CVAG is distributed into the communities of the Coachella Valley and would run adjacent to many anchor institutions (see Exhibit-2a). This would facilitate

direct connections to the middle-mile network and would be an ancillary benefit of interconnecting the internet systems of the local school districts. CVAG has overlayed on a map its middle-mile network with anchor institutions in the Coachella Valley. The map shows the unique opportunity to serve anchor institutions via a middle-mile network.

In partnerships with school districts, colleges and libraries there will be opportunities to house various datacenter equipment. This will facilitate direct service to anchor institutions in the Coachella Valley. Furthermore, CVAG's proposed design of the middle-mile network will reach into the various communities in the Coachella Valley because it would follow routes of local roads, intersections in areas where anchor institutions are located. It will also support other technologies, such as LTE networks, to reach end-users. CVAG's CV Sync project presents a unique opportunity to facility direct service to anchor institutions via a middle-mile network.

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

Middle-mile networks can serve as foundation to increase the reliability of microwave technologies and better enable last mile connections. For instance, GSMR Broadband technologies and Microwave Technologies can be located at end-points of middle-mile fiber lines to enable last mile connections. This can facilitate internet service at low or free costs to those residents of the Coachella Valley in unserved and underserved areas. Additionally, building microwave technologies on top of fiber networks can provide essential infrastructure to underserved areas. The school districts in the Coachella Valley are currently working on implementing their LTE private networks to serve their students. Integrating their respective systems can be facilitated with the middle-mile network proposed by CVAG's Sync given the proposed route traverses through the communities of the Coachella Valley (see Exhibit-5a-e).

The Coachella Valley has a large underserved population, many of which have no access to broadband internet. The middle-mile network will allow for rapid deployment of LTE base stations in key areas to serve those communities.

III. CONCLUSION

CVAG'S CV Sync project presents an opportunity to achieve the state's goals to increase access to broadband, while addressing historical inequities related to broadband access and achieving positive social and economic results for the state. As various options to bolster broadband access are being considered, CVAG's CV Sync presents a viable option to meet the state's goals while achieving significant savings due to the completed design work for CV Sync. This presents a shovel-ready opportunity to install fiber that will have significant benefits for all the nine cities, four tribes and the County of Riverside, which are served by CVAG.

Dated: September 30, 2021

Respectfully submitted,

/s/ Emmanuel Martinez

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Exhibit-1

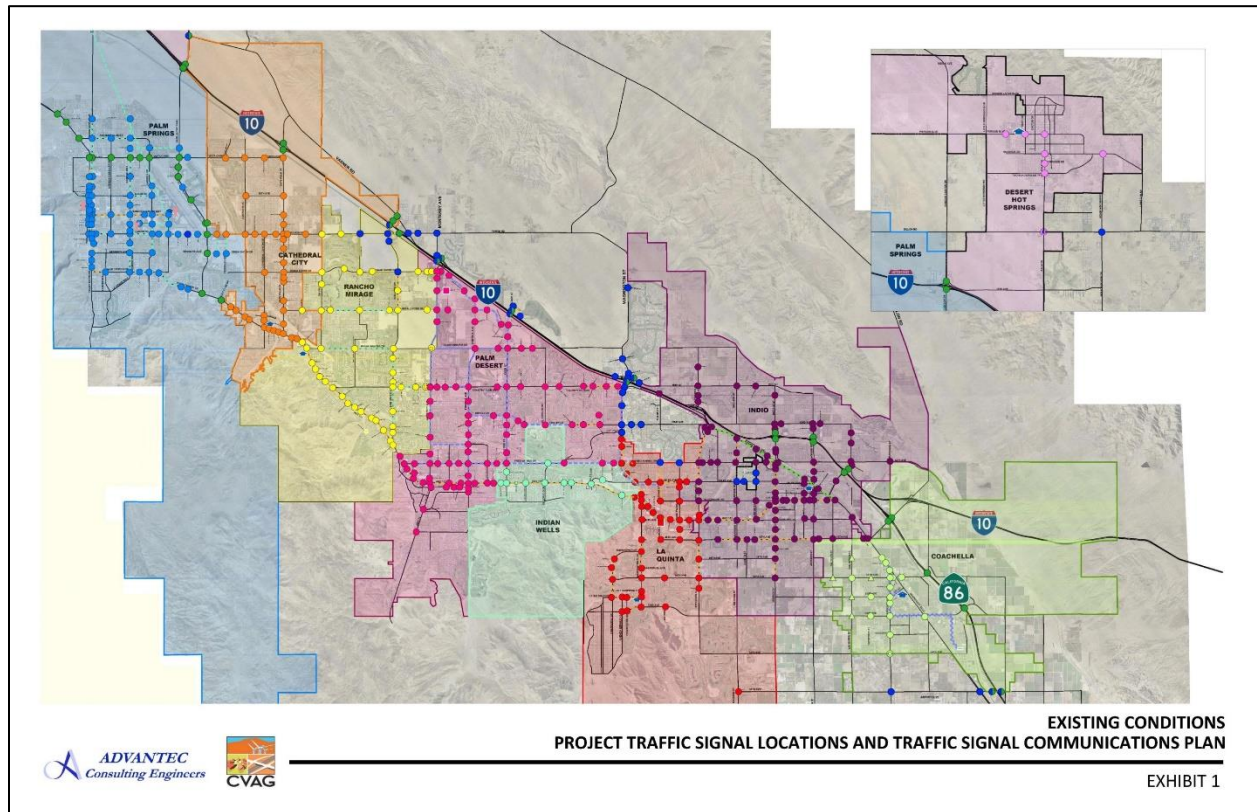


Exhibit-2

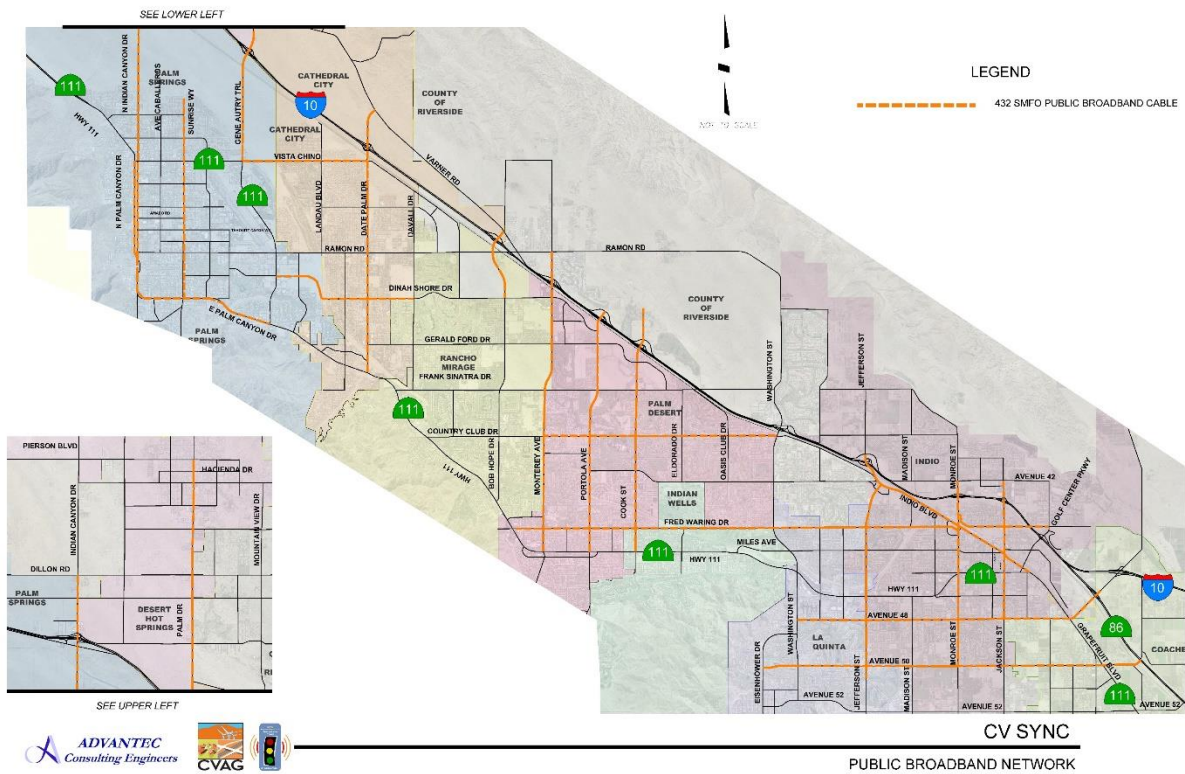
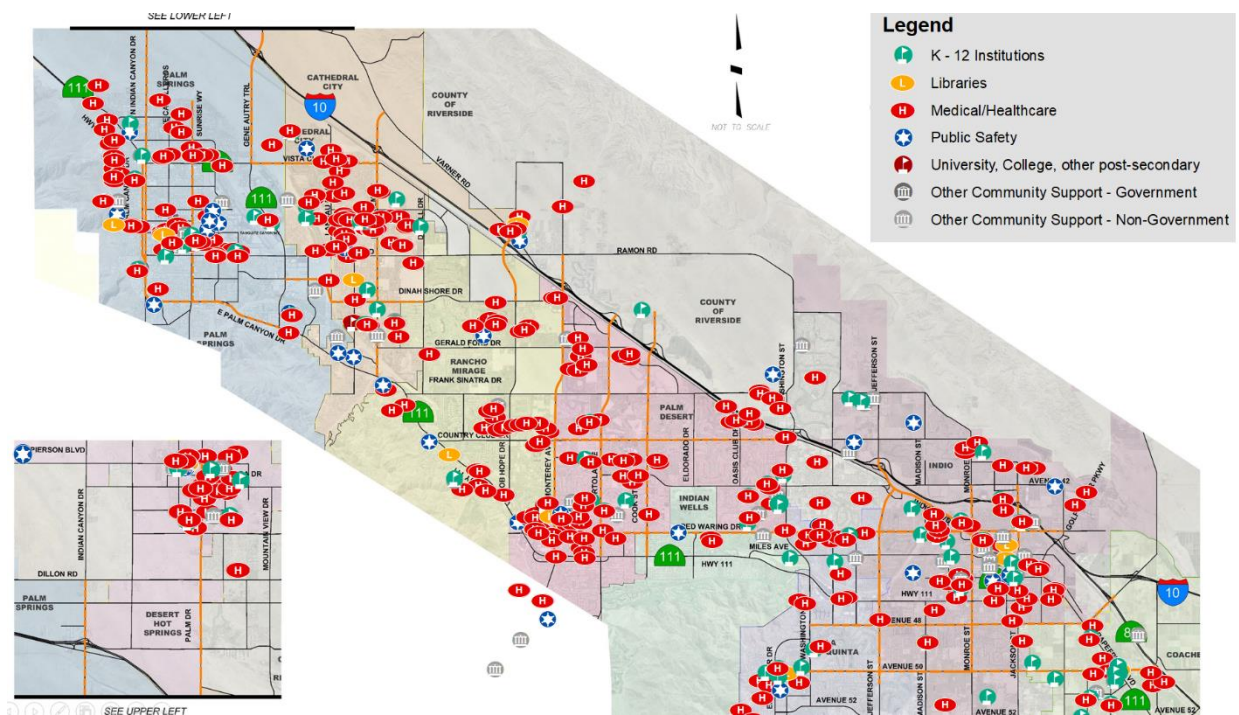


Exhibit-2a



Preliminary Estimate-~~NOT FUNDED~~
120-Mile Dark Fiber Network
(Stand Alone Project)

Item	Quantity	Unit Price	Total
Furnish and install 4" HDPE Conduit by the horizontal boring method including potholing, restoration, traffic control and mobilization.	633,600	\$ 58.00	\$ 36,748,800.00
Furnish and Install Pullboxes every 800'	749	\$ 2,500.00	\$ 1,872,500.00
Furnish and Splice Vaults every 15,000'	43	\$ 5,800.00	\$ 249,400.00
Furnish and Install 7 way duct inside of 4" HDPE Conduit	633,600	\$ 8.25	\$ 5,227,200.00
Furnish and Install Corning 432 Fiber SM Cable in one cell of Microduct	696,960	\$ 8.50	\$ 5,924,160.00
Splice 432 through every 15,000', test, and document	43	\$ 7,800.00	\$ 335,400.00
TOTAL			\$ 50,357,460.00

Preliminary Estimate-~~NOT FUNDED~~
120-Mile Dark Fiber Network
(Additive to CV SYNC Phase II) "DIG ONCE"

Item	Quantity	Unit Price	Total
Furnish and install 2 HDPE Conduit by the horizontal boring method when bored along with a 3" conduit	633,600	\$ 14.00	\$ 8,870,400.00
Furnish and Install Pullboxes every 800'	749	\$ 2,500.00	\$ 1,872,500.00
Furnish and Splice Vaults every 15,000'	43	\$ 5,800.00	\$ 249,400.00
Furnish and Install 1 way duct inside of 2" HDPE Conduit	633,600	\$ 3.00	\$ 1,900,800.00
Furnish and Install Corning 432 Fiber SM Cable in one cell of Microduct	696,960	\$ 8.50	\$ 5,924,160.00
Splice 432 through every 15,000', test, and document	43	\$ 7,800.00	\$ 335,400.00
TOTAL			\$ 19,152,660.00

Reduced Cost by \$30M

Exhibit-5a

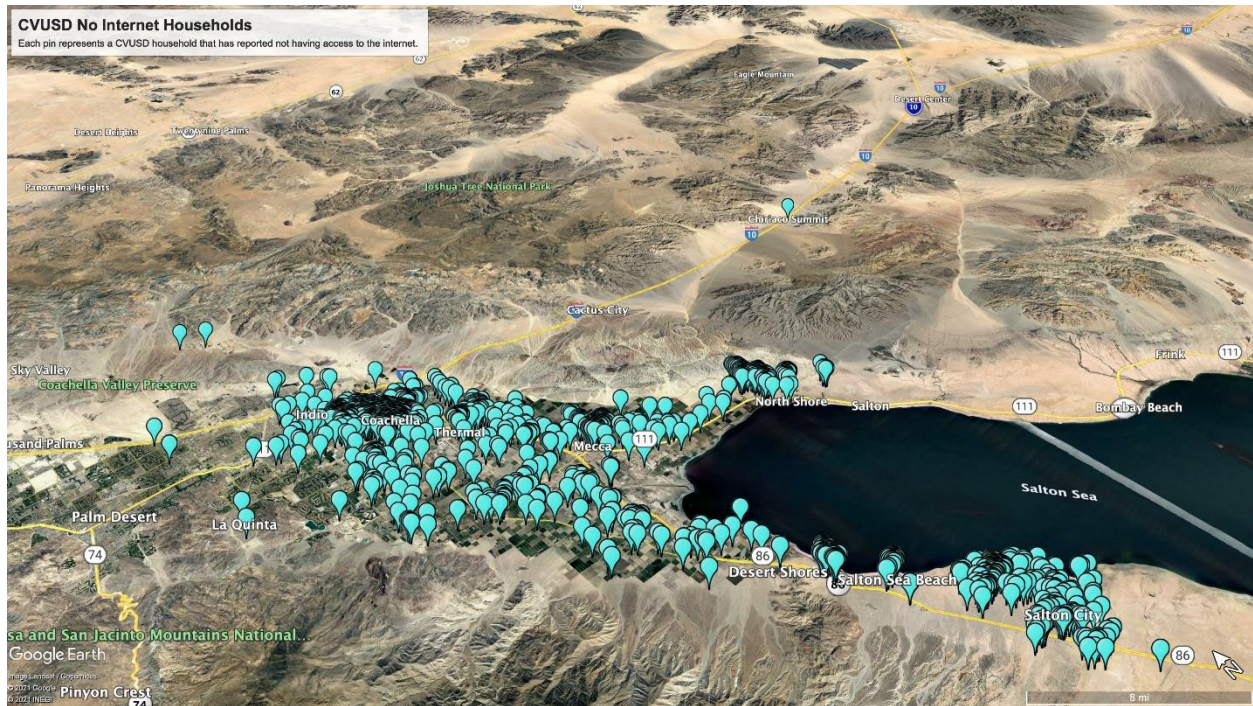


Exhibit-5b

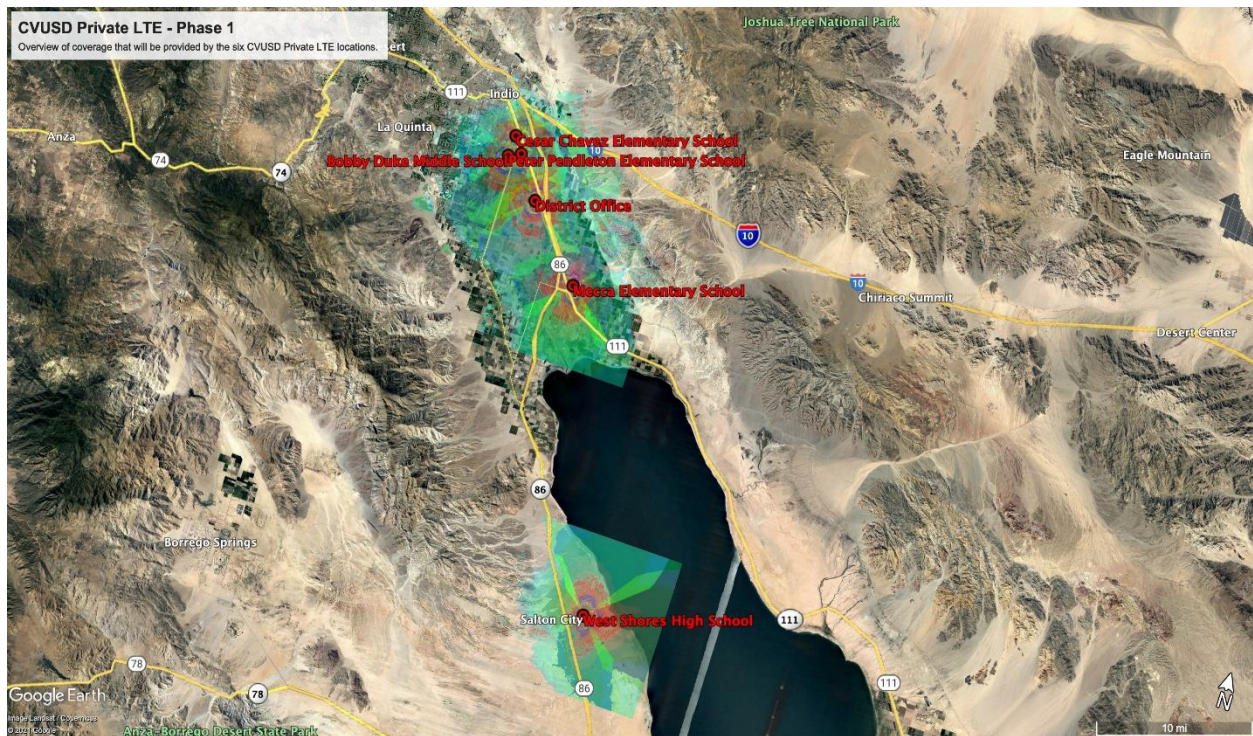


Exhibit-5c



Exhibit-5d

PSUSD LTE Phase II – Power Survey

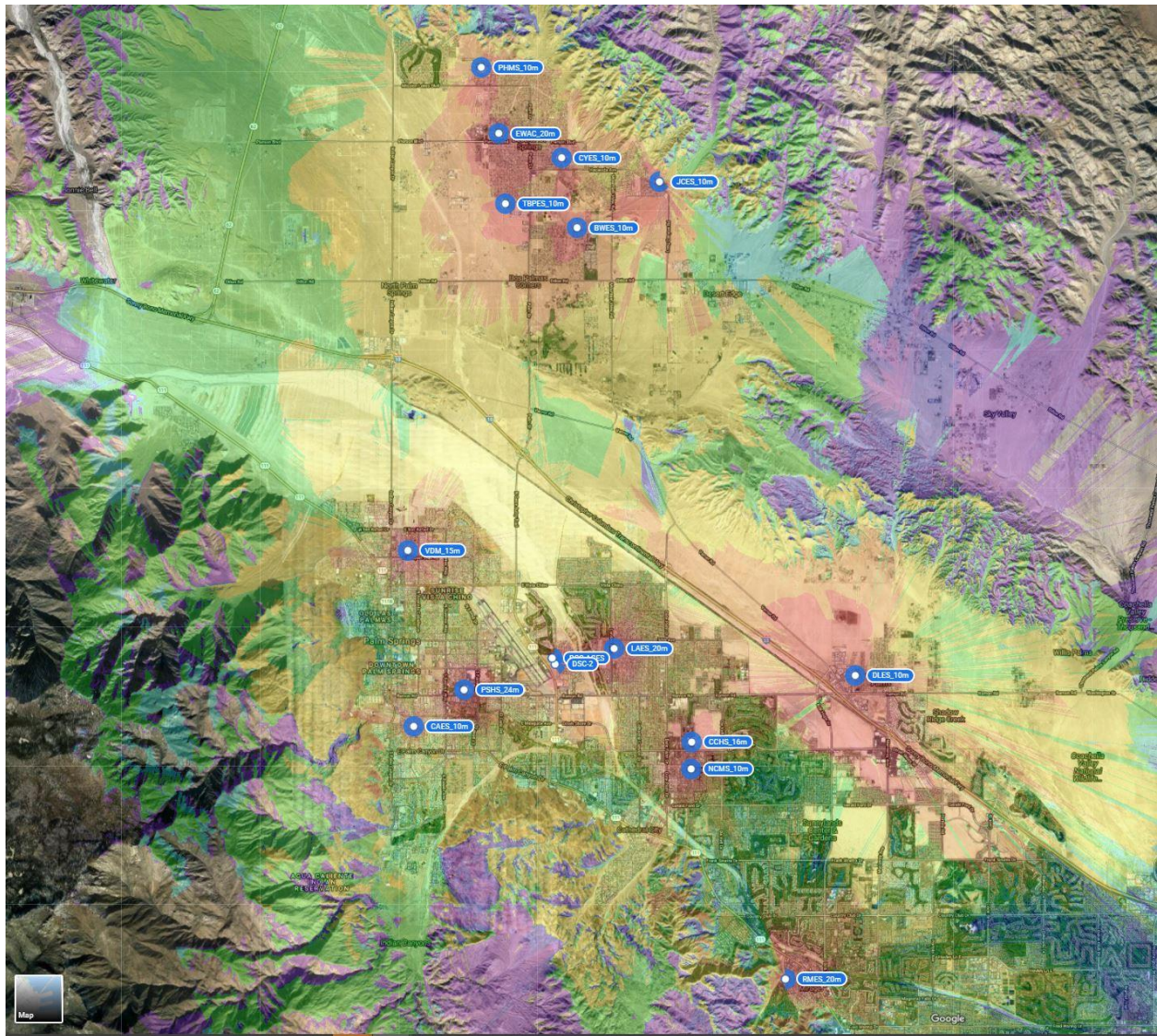


Exhibit-5e

PSUSD LTE Phase II Throughput Survey

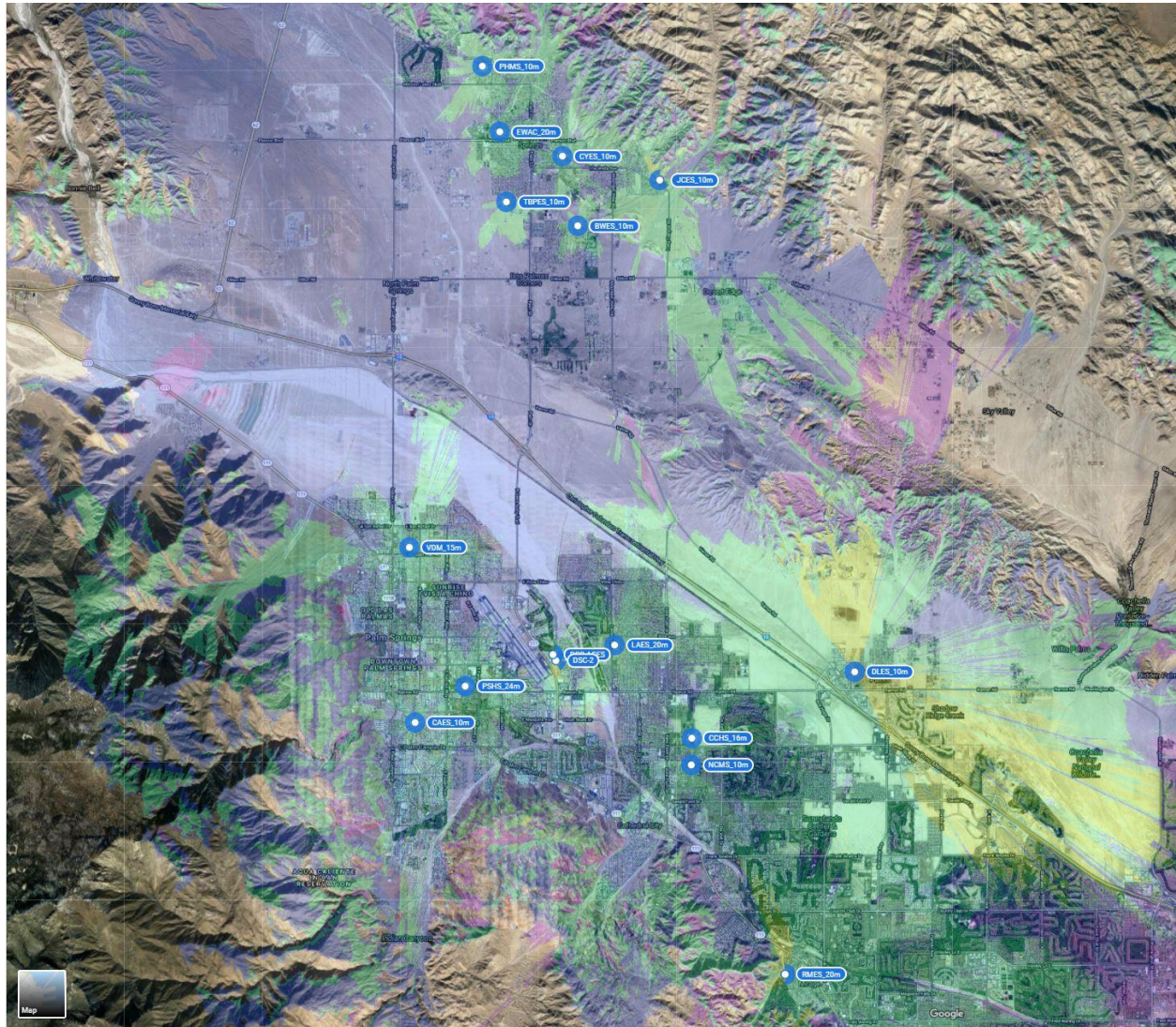


Exhibit-6

School District Borders

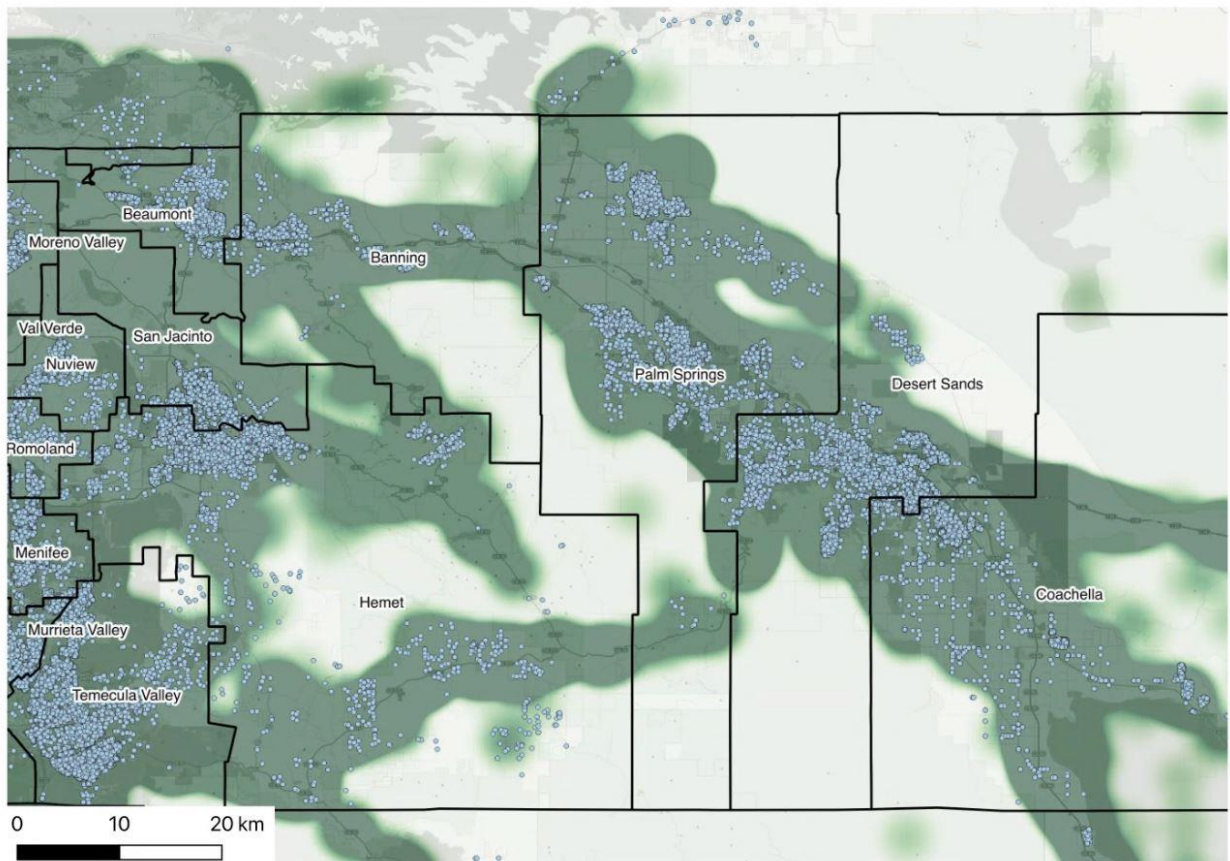


Exhibit-7

