



# Getting Connected

A Broadband Deployment and Adoption  
Resource Guide

*For Local and Regional Government Leaders*



## Foreword

The California Emerging Technology Fund (CETF) is honored to partner with Valley Vision on behalf of the Connected Capital Area Broadband Consortium to update and distribute this **Resource Guide for Local and Regional Government Leaders** to accelerate the deployment and adoption of broadband, a generic term for high-speed Internet infrastructure, including both wireline and wireless network technologies. This **Resource Guide** was first developed a decade ago in partnership with the Orange County Business Council Center for a New Orange County, with input from the California State Association of Counties, League of California Cities, and Rural County Representatives of California.

This updated **Resource Guide** is especially timely in light of the Governor's Executive Order to pursue Broadband For All and adopt an Action Plan to achieve the goal. The Governor's initiative advances the Legislature's commitment in law to the Internet For All Now in 2017. The value of State leadership came into sharper focus as the COVID-19 pandemic and shelter-in-place orders laid bare the Digital Divide—actually revealing a “**Digital Cliff**” as more and more Californians fell off into deeper poverty and greater isolation. The crisis calls for increased state investment in broadband infrastructure and urgent actions to accelerate deployment and adoption.

However, the “rubber meets the road” in local communities within regions. This **Resource Guide** provides a policy framework and blueprint for local action facilitated and supported by the Regional Broadband Consortia funded through the California Advanced Services Fund administered by the California Public Utilities Commission. It builds upon and augments the groundbreaking effort by Regional Consortia to identify Strategic Broadband Corridors which have been recognized by the California Department of Transportation and the California Transportation Commission to facilitate broadband deployment in conjunction with transportation projects. It also assists Local Government and Regional Leaders lay a foundation for partnering with the State and new federal Administrations.

We are grateful to Valley Vision for decades of exemplary civic leadership as stewards of the regional economy and for principled partnership with CETF on Digital Inclusion, School2Home, and Neighborhood Transformation. We also appreciate the commitment and courage of Valley Vision as a trailblazer in seeking State and federal funding for broadband coupled with effective public policy in the quest for Digital Equity.

Sunne Wright McPeak  
President and CEO

California Emerging Technology Fund

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## Introduction

**Our ability to connect through high-speed Internet access — referred to generically as “broadband” — is indispensable to social equity, economic prosperity, and environmental sustainability.** “It is an engine of economic possibility, educational opportunity and access to health care. People and communities that lack available broadband and the means to use it are increasingly left behind.”<sup>1</sup>

**California’s Digital Divide persists.** An [issue brief prepared by the Little Hoover Commission](#) in December 2020 included an estimate by BroadbandNow that roughly 2.3 million Californians lack access to broadband.<sup>2</sup> In the [2019 Statewide Survey on Broadband Adoption](#) — conducted by the UC Berkeley Institute of Governmental Studies, and sponsored by the California Emerging Technology Fund — it was found that one in eight homes still do not have access to high-speed Internet at home (8.4 million residents), **reflecting both infrastructure access and adoption challenges.** Gaps persist especially for low-income, rural, African-American, and Latino households, and for tribal lands. Adoption is limited by factors related to educational attainment, income, age, ethnicity, and disability.<sup>3</sup>

**The COVID-19 pandemic brought the disparities embodied in the Digital Divide into stark contrast, highlighting the need for Digital Equity, investment, and innovative solutions.** High-speed, affordable, ubiquitous broadband is needed more than ever to support remote work, distance learning, telehealth, public safety, and other urgent needs.

**At the state-level, multiple efforts are underway to close the Digital Divide.** In November of 2019, Governor Newsom [announced at the California Economic Summit](#) that he would convene stakeholders, the private sector, education institutions, and government agencies to develop an inclusive “Broadband for All” Action Plan. In August of 2020, Governor Newsom issued an [Executive Order](#) aimed at addressing the urgent broadband access, adoption, and training needs of Californians, in light of the COVID-19 pandemic. The Order directed the California Broadband Council to produce a [State Broadband Action Plan](#) by December 31, 2020 that incorporates a goal of a 100 Mbps download speed for infrastructure investment, and directs proactive state actions to address five core roadblocks: availability (speed and reliability); affordability; access to devices; digital skills; and data.

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<sup>1</sup> “Broadband Action Plan 2020, California Broadband for All,” California Broadband Council, December 2020, p. 2.

<sup>2</sup> “Issue Brief: California’s Digital Divide,” Little Hoover Commission, December 2020, p. 5.

<sup>3</sup> Ibid, p. 7.

The Plan includes a roadmap to accelerate deployment and adoption of broadband by state agencies; supports such deployment and adoption by local governments; and calls for new investments and partnerships to meet the challenges of 21<sup>st</sup> century connectivity, including leveraging new federal and philanthropic funding.

**In December 2020, the California Emerging Technology Fund (CETF) finalized its Strategic Broadband Corridors (SBC) report**, the result of a multi-year effort. The report identified “corridor gaps” — strategic corridors where no internet service provider (ISP) or public agency was prepared for installation of broadband infrastructure in alignment with a transportation project. The SBC project engaged the Regional Broadband Consortia, the California Association of Councils of Governments, the California Department of Transportation (Caltrans), the California Transportation Commission, the California Broadband Council, the California Public Utilities Commission (CPUC), and others, to coordinate planning and development of joint use broadband and transportation projects. Caltrans dedicated broadband leadership is working on project mapping, rights of way, and consistent project permitting processes and project collaboration across its district offices.

**Legislative leaders have responded to the call for urgent action on broadband, with several legislative proposals poised to be enacted in 2021.** The magnitude of required investment is large. According to the CPUC, delivering Gigabit service to **unserved** Californians will require at least \$7 billion in new private, federal, and state investments.<sup>4</sup> Legislative priorities include extending and expanding funding for infrastructure, access, and adoption projects through the CPUC’s California Advanced Services Fund (CASF), which provides subsidies to reach unserved and underserved households, and through other funding mechanisms such as bonds.

**There is consensus about the value of broadband access to individuals and their communities, but multiple barriers remain, including insufficient speeds, costs and pricing, lack of competition, and regulatory processes, among others.** As California continues to grapple with the COVID-19 pandemic and its effects on daily life and the economy, the Digital Divide grows. Distance learning, telecommuting, and telehealth are ever more critical, and it is clear that there can be no real equity without ubiquitous broadband.

**State, regional, and local solutions must be pursued concurrently, in an “all hands-on deck,” multi-pronged approach.** This *Resource Guide* is intended to help catalyze investment and connectivity in communities across the state — with public sector leaders leveraging streamlined and coordinated plans and policies, to lower the barriers for entry, accelerate private sector investments, and spur new partnerships to achieve broadband for all.

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<sup>4</sup> Ibid, p. 11, based on California Broadband Cost Model prepared for the California Public Utilities Commission.

## How to Use This Resource Guide

This **Resource Guide** is a **starting point** for local and regional government leaders who are looking to advance access, deployment, and adoption of broadband through their many leadership roles. It includes:

- An overview of select broadband policies and ordinances across the state for potential replication or adaptation;
- Case studies for broadband deployment and adoption, including for 5G investments; and
- A list of additional resources from national and state broadband agencies and organizations. While the focus is primarily on cities and counties, there are some examples of additional approaches being used by joint powers agencies and councils of governments.

The broadband landscape is constantly evolving with new innovations in technology and policy. To keep abreast of these developments, local and regional government leaders are encouraged to look at the additional resources provided, as well as contact their respective [Regional Broadband Consortium](#) for further guidance and support. This includes connecting with the efforts of the California Broadband Council as it implements the “**Broadband for All**” **Action Plan**, in collaboration with other state agencies and a broad network of public, private and civic sector partners. California Forward, in partnership with the California Emerging Technology Fund, convenes a Broadband for All Working Group, open to all, to support state policy efforts and action for the annual California Economic Summit.

State Associations of local government agencies also are engaged in leadership efforts around broadband policy and action. They include the California League of Cities (CLC), the California State Association of Counties (CSAC), the Local Government Commission (LGC), the Rural County Representatives of California (RCRC), and the California Association of Councils of Governments (CALCOG).

The original CETF Resource Guide, “[Getting Connected for Economic Prosperity and Quality of Life](#)” (2010) remains a valuable resource and includes examples of resolutions that local governments have used to express commitment and the call to action for closing the Digital Divide. Please also see p. 31 for the **Digital Equity Bill of Rights** prepared by the California Emerging Technology Fund which sets forth the foundation for equitable, ubiquitous, affordable broadband infrastructure investment, access and adoption.



## The Role of Local and Regional Government

Although many barriers need to be addressed at the federal or state-level, **local and regional government officials can have a substantial impact on the deployment, access, and adoption of broadband through their many leadership roles.** These roles are embedded in the elected governing bodies of city councils and boards of supervisors, whether or not the jurisdictions appoint specific staff to function in these roles. The following tables illustrate key roles of local jurisdictions and examples of activities that can be undertaken in each area.

| Key Roles                   |                                                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>As Policy Leaders</b>    | Policy Leaders promulgate policies that determine the jurisdiction's attention and attitude towards broadband technology. They also define the approach to facilitating capital investment.             |
| <b>As Planners</b>          | Planning, public works, and economic development officials prepare land use and other related plans that guide economic development policy in their jurisdiction, charting a course for "smart" growth. |
| <b>As Regulators</b>        | Regulators adopt implementing ordinances for policies and plans that promote "smart" infrastructure and facilities.                                                                                     |
| <b>As Consumers</b>         | Consumers purchase and utilize technology that enables residents to access information and services, encouraging innovation and competition.                                                            |
| <b>As Service Providers</b> | Service Providers provide information and services online that increases the relevance of the technology to consumers, thus encouraging adoption.                                                       |

| Examples of Activities for Each Role |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>As Policy Leaders</b>             | Declare broadband as essential 21 <sup>st</sup> century infrastructure; commit to helping close the Digital Divide and promote Digital Inclusion; set an example for other agencies and employers, such as developing a program for telecommuting employees or providing digital literacy training; designate a responsible person or agency for implementing the jurisdiction’s policies, such as a Chief Information Officer or Innovation Officer; appoint as appropriate residents to advise the elected officials and policymakers, through a task force or committee. |
| <b>As Planners</b>                   | Incorporate the need for broadband into general plans; prepare broadband action plans; monitor deployment and adoption; update relevant plans to ensure infrastructure is adequate for future demand; identify and pursue funding and other resources for infrastructure planning and projects.                                                                                                                                                                                                                                                                             |
| <b>As Regulators</b>                 | Adopt ordinances to facilitate and streamline the approval of permits to use rights of way or public facilities; analyze and approve land use and construction permits, or Dig Once, Dig Smart permits; develop and execute lease agreements and other mechanisms for public assets; coordinate with relevant state, federal, and other agencies on joint use projects.                                                                                                                                                                                                     |
| <b>As Consumers</b>                  | Develop and adopt a technology plan for the jurisdiction that utilizes state of the art equipment and software; establish a process to monitor technology innovations, along with a process to regularly update technology plans; consider joint ventures or collaboration with other local governments in purchasing equipment.                                                                                                                                                                                                                                            |
| <b>As Service Providers</b>          | Provide online all policies, plans, ordinances, and information about the jurisdiction; facilitate real-time online participation of residents in all public meetings; establish online public forums and mechanisms (email, surveys, exchange of views) to increase civic engagement and participation; deliver online as many public services as possible to increase access to vital services, decrease trips, and reduce impacts on the environment.                                                                                                                    |

The wildfires and the COVID-19 pandemic have shown the critical importance of connectivity for public safety and emergency services. Delegating responsibility for communications, public safety, and emergency services is another important role that local governments play. Also essential is participation in regional bodies such as councils of government, special districts, and transportation agencies, where regional infrastructure planning and investment decisions are made.



Local governments first to activate these roles to adopt broadband, most frequently cited the following reasons:

| Purpose                                    | Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Critical Infrastructure</b>             | Broadband infrastructure is essential and is comparable to water, sewer, and transportation infrastructure, in terms of how critical it is to economic development, access to essential services public safety, and civic engagement.                                                                                                                                                                                                                                                 |
| <b>Economic Development and Prosperity</b> | Broadband increases innovation and productivity. This in turn attracts capital investments and talent, thereby accelerating job creation in the community, along with equity, as it also can support smaller, minority and women-owned businesses with e-commerce. It is a core enabling technology for multiple industries, including: agri-food tech; smart manufacturing; future mobility (i.e., EV infrastructure, autonomous vehicles, etc.); e-health; ICT; and sustainability. |
| <b>Telecommuting and Quality of Life</b>   | Broadband enables telecommuting/telework, which improves quality of life and reduces <a href="#">Vehicle Miles Traveled</a> . The COVID-19 pandemic has made telework necessary for many, and given rise to new models of work, such as “hybrid” combinations of remote and on-site work.                                                                                                                                                                                             |
| <b>Public Security and Safety</b>          | Broadband increases the effectiveness of emergency response, law enforcement, public security and safety services, as well as disaster recovery strategies.                                                                                                                                                                                                                                                                                                                           |
| <b>Public Services</b>                     | Broadband allows community members to more efficiently and effectively access wide-ranging and vital government services and information, including voting, and now, vaccine information.                                                                                                                                                                                                                                                                                             |
| <b>Public Interest and Education</b>       | Broadband enables distance learning. It empowers educational institutions with a broader range of teaching and learning techniques, to reach more residents, including working students.                                                                                                                                                                                                                                                                                              |
| <b>Digital Inclusion</b>                   | Broadband increases connectivity among residents in a community, and empowers them to take full advantage of online information and opportunities, including distance learning, remote work, telehealth, job searches, and more.                                                                                                                                                                                                                                                      |

## Broadband Masterplans and Ordinances

The following tables provide a summary of selected model broadband masterplans and ordinances throughout the state of California. The tables are organized by subject (e.g., broadband masterplans, Dig Once, Dig Smart policies, license agreements, municipal fiber-to-the-home, etc.) and then by county, city, or town. They contain data on population and number of households for each jurisdiction, to illustrate which masterplans or ordinances could be most effective vis-à-vis the size and demographics of a jurisdiction (data on population and number of households is based on the Census Bureau's [2018 American C192ommmunity Survey 5-Year Estimates](#)). This inventory does not include broadband strategies and plans that have been prepared by Regional Broadband Consortia. See the *List of Additional Resources* for further information.

### BROADBAND MASTERPLANS

*What are broadband masterplans?*

Broadband masterplans are comprehensive plans that outline a jurisdiction or region's priorities and policies. They often contain an in-depth assessment of the community's broadband capability and accessibility; an asset inventory including public rights of way, conduit, fiber, poles, antennas, towers, buildings, and other assets such as anchor institutions that can be used for broadband deployment; and regulations and ordinances with respect to leasing and permitting. They often identify priority broadband project areas, feasibility studies, and funding strategies. Broadband masterplans can be incorporated into a jurisdiction's General Plan; economic development strategy including Comprehensive Economic Development Strategies (CEDs), which are prepared for eligibility for federal funding; or exist as a separate document.

*How does a jurisdiction develop a broadband masterplan?*

Broadband masterplans are an important starting point for advancing broadband deployment and adoption. Jurisdictions that do not have the in-house staff or capacity to develop a broadband masterplan should consider bringing on a consultant to lead the effort. Reaching out to the [Regional Broadband Consortium](#) also can be a helpful first step.

| COUNTY OR CITY                                                                | MASTER PLAN                                                                                                                                                                                                      | SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Counties</i>                                                               |                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>El Dorado County</b><br/>Population: 192,843<br/>Households: 70,794</p> | <p><a href="#">Broadband Feasibility Study and Funding Strategies</a></p> <ul style="list-style-type: none"> <li>- Roadmap Report (adopted in 2018)</li> <li>- Other documents (ongoing through 2020)</li> </ul> | <p>El Dorado County received a grant from the United States Economic Development Administration (EDA) in 2017 to conduct a broadband feasibility study and associated financial modeling and project planning activities. The County has been working with a consultant and is currently in the implementation phase. It is proactively seeking funding from EDA and other agencies for priority projects. The Project is led by the Board of Supervisors and the Broadband Ad Hoc Committee, along with the County Chief Administrative Office.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Assesses the current broadband environment and infrastructure, including policies and ordinances that facilitate broadband deployment, and financial considerations.</li> <li>2. Conducts financial modeling and route verification for priority projects.</li> <li>3. Evaluates financial implications, explores investment models and strategies, and suggests several implementation options.</li> <li>4. Details funding needs for a middle mile fiber project for three community areas, to be built within the County's or the California Department of Transportation public right-of-way. It will address lack of Internet and broadband access, as well as cell phone coverage.</li> </ol> |
| <p><b>Humboldt County</b><br/>Population: 135,768<br/>Households: 54,267</p>  | <p><a href="#">Chapter 6 of its General Plan: Telecommunications</a></p> <ul style="list-style-type: none"> <li>- Adopted by the county on October 3, 2017.</li> </ul>                                           | <p>Humboldt County has a Chapter in their General Plan for telecommunications as a whole, including basic telephone, wireless telephone, and broadband Internet. It lists the benefits of broadband to the community; provides an overview of broadband availability in the county; and identifies broadband goals and policies, priorities, standards, and implementation measures.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| <p><b>Lake County</b><br/>Population:<br/>64,148<br/>Households:<br/>25,966</p> | <p><a href="#">Master Broadband Plan for Lake County</a><br/>- Adopted by the county in March of 2020</p> | <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Encourages service providers to size underground and overhead facilities, to accommodate future expansion, changes in technology, and the facilities of other providers.</li> <li>2. Encourages utilizing permit processes that vary depending upon the physical characteristics of the facility, its location, and its compliance with standards.</li> <li>3. Seeks grant funding to deliver improved communications to outlying rural areas and other underserved communities.</li> </ol> <p>The Lake County Master Broadband Plan has a comprehensive assessment of the broadband landscape in the Lake County, including both wireline and fixed wireless services offered by Internet service providers for residential and business customers. It also provides recommendations. The county's telecommunications infrastructure was severely challenged by the wildfires over the past few years.</p> <p><b>Notable Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. Improves broadband infrastructure by expanding, upgrading, or launching new broadband networks using wireline or wireless technologies.</li> <li>2. Develops and implement policies to reduce barriers for broadband deployment by making available municipal online services; enacting dig once ordinances and conduit standard specifications; generating an inventory of publicly owned assets and a master lease agreement, among others.</li> <li>3. Improves broadband adoption by establishing partnerships with existing organizations working on internet adoption, digital literacy, and digital skills training.</li> </ol> |
| <p><b>Mendocino County</b><br/>Population:<br/>86,749</p>                       | <p>County Broadband Goals and Strategies<br/>- Adopted by the County in 2017</p>                          | <p>Mendocino County's broadband efforts are supported by the Broadband Alliance of Mendocino County (BAMC), the North Bay Broadband Consortium, and the Mendocino County Economic Development and Financing Corporation. BAMC is a partnership of the Mendocino County Board of Supervisors and the Community Foundation of Mendocino County.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| <p><b>Households:</b><br/>34,408</p>                                           | <p><a href="#">2019-2025 Strategic Plan for Digital Infrastructure Development</a></p> <ul style="list-style-type: none"> <li>- Approved by the County in 2019</li> </ul> | <p><b>Notable Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. Develops digital infrastructure for available and affordable high-speed internet to 98% of households by 2025, at speeds of 100 Mbps/down, 20 Mbps/up.</li> <li>2. Cultivates projects to deploy fiber and fixed wireless to remote and rural areas of the County.</li> <li>3. Prepares cost estimates and financing strategies.</li> <li>4. Utilizes inland streamlined wireless tower permit ordinances and develop a coastal ordinance.</li> <li>5. Includes strategies for digital inclusion.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Mono County</b><br/>Population:<br/>14,174<br/>Households:<br/>4,847</p> | <p><a href="#">The Circulation Element and Regional Transportation Plan</a><br/>section of the <a href="#">2015 County General</a></p>                                    | <p>This Mono County General Plan provides broadband distribution and quality of service goals for the County. Under each goal are a corresponding objective, policy, and action.</p> <p><b>Notable Actions and Objectives:</b></p> <ol style="list-style-type: none"> <li>1. Encourages new infrastructure projects to use high-capacity wireline solutions (such as Fiber-to-the-Premise). Providers should demonstrate a justification for alternative technology requirements when wireline is impractical.</li> <li>2. Coordinates and work with Regional Broadband Consortia and other entities to locate funding opportunities for providers interested in building projects in unserved and underserved communities.</li> <li>3. Requires all projects conducted on county property, including rights of way, to follow a Dig Once, Dig Smart objective. Interested parties shall be notified of any opportunity for installing additional conduit or infrastructure in open trenches in County right-of-way.</li> </ol> |
| <p><b>Riverside County</b><br/>Population:<br/>2,470,546</p>                   | <p><a href="#">Riverside County Broadband to the Premise Master Plan</a></p> <ul style="list-style-type: none"> <li>- Adopted by the County in September 2016</li> </ul>  | <p>Riverside County is a long-time leader in addressing the Digital Divide. Rivco Connect is a county initiative supported by the Board of Supervisors and Executive Office, led by the Riverside County Information Technology. The Rivco Connect program provides refurbished computers to county students, in partnership with the Riverside County Office of Education. The program also provides digital equity workshops and more.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| <p>Households:<br/>724,900</p>                                                         |                                                                                  | <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Seeks to remove barriers that obstruct service providers from building out an improved communications infrastructure.</li> <li>2. Presents a Request for Proposal inviting private sector partnerships to deliver at speeds of 1 Gbps and above.</li> <li>3. Recommends expediting permitting procedures, providing low-cost locations for broadband equipment, and offering incentives for anchor tenancy.</li> <li>4. Seeks to provide service to all residents at an affordable cost.</li> </ol>                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>Santa Cruz County</b><br/>Population:<br/>273,765<br/>Households:<br/>95,756</p> | <p><a href="#">Broadband Master Plan</a><br/>- Adopted by the County in 2015</p> | <p>The Santa Cruz County Master Plan recommends a fiber initiative, based on either a passive-infrastructure model or an active lit fiber network model. It discusses business models and ownership, financing options, best practices, policy recommendations, and project phases. The county adopted a Dig Once, Dig Smart policy. It is also implementing standardized design policies for broadband infrastructure and creating a Fiber Initiative Team, which includes local officials and business leaders.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Encourages public-private partnerships.</li> <li>2. Sets as a goal the continued development of a common fiber overlay and Dig Once, Dig Smart policy (i.e., conduit and handholes should be included where appropriate in all new public private construction, and shared trenching should be vigorously pursued).</li> </ol> |
| <p><b>Yolo County</b><br/>Population:<br/>220,500<br/>Households:<br/>74,296</p>       | <p><a href="#">Yolo Broadband Strategic Plan</a><br/>- Adopted 2015</p>          | <p>The Yolo Broadband Strategic Plan was a coordinated effort involving the Yolo County Local Agency Formation Commission (LAFCo), the County, and the County's four jurisdictions. It identifies priority areas to connect unserved and underserved households and anchor institutions, especially in the county's rural areas. It also advances agricultural technology and other economic and business uses. There is a County partnership team working on implementation, which collaborates with the Connected Capital Area Broadband Consortium, including mapping and project development with ISPs.</p>                                                                                                                                                                                                                                                                                                                |



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|                                                                                       |                                                                                                                                                                               | <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Prepares community profiles for each jurisdiction.</li> <li>2. Addresses household, business, and community anchor institution needs.</li> <li>3. Includes surveys of stakeholders.</li> <li>4. Conducts widespread speed testing to validate and update actual levels of service.</li> <li>5. Includes policy and project recommendations including model ordinances.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <i>Cities</i>                                                                         |                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>City of Brentwood</b><br/>Population:<br/>60,446<br/>Households:<br/>19,543</p> | <p><a href="#">Advanced Technology Master Plan</a></p> <ul style="list-style-type: none"> <li>- Adopted in August 2000; most recent revision done in December 2013</li> </ul> | <p>The Brentwood Master Plan <a href="#">builds upon a revision to the Municipal Code</a> that added an advanced technology systems subdivision to the Code. It is a citywide master plan for a fiber optic communication system. Since 2000, the city has extended conduit to over 8,000 homes and businesses, beginning with installations in new homes. In 2015 the city began offering Gigabit services through a partnership with an internet service provider, through a lease agreement with the city. The city receives a revenue stream and Gigabit services at no charge.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Installation of a fiber optic master ring (trunk line system), and interconnection from the ring to the individual residential developments.</li> <li>2. Implementation of a set of rules for conduit placement within new developments.</li> <li>3. Support for details such as joint trench construction and termination of services in residences.</li> </ol> |
| <p><b>City of Loma Linda</b><br/>Population:<br/>24,184<br/>Households:<br/>8,932</p> | <p><a href="#">Loma Linda Connected Community Program</a></p>                                                                                                                 | <p>The Loma Linda Program centers on the development and execution of a fiber optic-based city network utility.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Provides for modifications to building regulations, to ensure that development will be designed to meet broadband needs.</li> <li>2. Provides for the “Loma Linda Standard,” which mandates that new construction connect to the city’s fiber optic communications infrastructure.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| <p><b>City of Oakland</b><br/>Population: 421,042<br/>Households: 161,483</p> | <p><a href="#">Fiber-Optic Network Master Plan and Broadband Development Policy</a><br/>- Adopted 2015, with Update adopted 2019</p> | <p>Prior to the Oakland Master Plan, the design and installation of fiber-optic links to connect essential city facilities in the city of Oakland were done on an as-needed basis with projects led by separate city departments. The result was a disjointed fiber-optic network that was not fully integrated. The Master Plan lays the groundwork for a city-wide fiber-optic network that will increase connections, reliability, and redundancy.</p> <p>The Broadband Development Policy proposes guidelines for ownership and sharing of fiber communications infrastructure, access, and partnership with other public agencies/private sector, as well as permitting and construction guidance.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Includes a Dig Once, Dig Smart policy, managed by the city’s Information Technology Department, with the objective of installing city-owned broadband conduit and/or fiber optic cables in excavations and other construction projects when appropriate.</li> <li>2. Provides that the city will make city-owned telecommunication assets available to qualified public and private sector partners on an open and non-exclusive basis.</li> <li>3. Provides that the city’s Information Technology Department is responsible for maintaining a geodatabase of all city-owned, leased or controlled communication assets, including fiber optic cable and conduit, among others.</li> </ol> |
| <p><b>City of Ontario</b><br/>Population: 173,580<br/>Households: 49,624</p>  | <p><a href="#">Fiber Optic Master Plan</a><br/>- Adopted 2013</p>                                                                    | <p>The Ontario Master Plan provides for the planning, budgeting, and implementation of a fiber optic infrastructure project. In 2019 the City received a grant from the Southern California Association of Governments (SCAG) to implement a Smart City Corridor in its historic downtown where community members, businesses, and government agencies can access technology and data as part of Future Communities Pilot Program.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Identifies the infrastructure locations for fiber and Points of Presence.</li> <li>2. Provides for a multi-phase implementation plan.</li> <li>3. Includes a capacity and demand analysis, and broken-down implementation costs.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| <p><b>City of Redding</b><br/>Population: 91,580<br/>Households: 36,836</p>  | <p><a href="#">Redding Broadband Master Plan</a><br/>- Approved June 2020</p>                                                                                        | <p>The Redding Broadband Master Plan focuses on three potential projects leading to the completion of a municipal fiber network for the City of Redding. The municipal fiber network would leverage its city-owned electric utility (Redding Electric Utility, or REU) to create an autonomous, open-source network that any internet service provider can then use to provide service. The three projects are as follows:</p> <ol style="list-style-type: none"> <li>1. Increasing the fiber count for the REU broadband project for city use.</li> <li>2. Building a fiber optic network to connect city assets.</li> <li>3. Implementing a pilot, followed by a potential city-wide fiber optic network to residents and businesses.</li> </ol> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Offers current telecommunications assessment and upgrade options.</li> <li>2. Provides policy recommendations to implement smart city capabilities.</li> <li>3. Provides policy recommendations for promoting telecommunications infrastructure, including a Dig Once, Dig Smart policy, conduit specifications, master lease agreements, and streamlining for application processes and permit fees.</li> <li>4. Makes available assessment of phasing and feasibility of a pilot for the fiber ring.</li> </ol> |
| <p><b>City of Salinas</b><br/>Population: 156,550<br/>Households: 40,623</p> | <p><a href="#">Broadband Plan</a><br/>- Updated in May 2019; <a href="#">first phase of municipal fiber network approved by the City Council in October 2019</a></p> | <p>The most recent update to the Salinas Plan builds on broadband-friendly policies and actions that the city had adopted in prior years, including encouraging investment in mobile service; embarking on a municipal fiber project in Downtown Salinas; and significant infrastructure and service upgrades by the two primary telecommunications carriers in the cities.</p> <p><b>Notable Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. Develops and implement an open access policy for the city's new municipal dark fiber network.</li> <li>2. Offers incentives to wireless and wireline companies to expand service and infrastructure upgrades across the entire city, including coordinating municipal fiber development with the city's asset leasing program.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| <p><b>City of San Leandro</b><br/>Population: 90,103<br/>Households: 31,727</p>     | <p><a href="#">Fiber Optic Master Plan</a><br/>- Approved in September 2018</p>                                                                  | <p>The San Leandro Master Plan has a Smart City Strategy that identifies areas where San Leandro can further expand its vision as a Smart City. It includes a market assessment, network design and implementation strategy, and fiber-friendly public policies. With funding from the Economic Development Administration, the city constructed a high-speed fiber loop for businesses. San Leandro Dark Fiber LLC owns the asset, and Lit San Leandro maintains and manages the assets, partnering with internet service providers who lease the fiber.</p> <p><b>Notable Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. Undergoes “Digital Transformation,” the process of creating a digital city government experience, often called “e-Government,” including digital services and open data.</li> <li>2. Encourages smart buildings and facilities, connecting facilities and using integrated management systems for climate control, HVAC, energy and IoT.</li> <li>3. Deploys smart streetlights and small cells, in preparation for 5G.</li> <li>4. Installs intelligent traffic signal systems that adapt to real-time traffic conditions, to make San Leandro streets more efficient.</li> <li>5. Encourages Digital Inclusion; expand public Wi-Fi and infrastructure.</li> </ol> |
| <p><b>City of West Sacramento</b><br/>Population: 52,826<br/>Households: 18,174</p> | <p><a href="#">Broadband Infrastructure Assessment and Action Plan</a><br/>- Identified as a high priority in the city's 2017 Strategic Plan</p> | <p>The West Sacramento Assessment and Action Plan provide a report card for the city's broadband infrastructure, service, and adoption, as well as effective policies that the city can adopt and implement.</p> <p><b>Notable Recommendations:</b></p> <ol style="list-style-type: none"> <li>1. Lease the conduit owned by the city to competitive and/or new telecommunications companies interested in upgrading service to industrial and commercial areas; consider creating a smaller pilot network as a public-private partnership.</li> <li>2. Adopt policies that reduce barriers for telecommunications companies to build or upgrade broadband infrastructure, e.g., permit process streamlining, or standards for inclusion of broadband infrastructure in construction projects.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

**DIG ONCE, DIG SMART POLICIES**

*What is Dig Once, Dig Smart?*

As defined by [Next Century Cities](#):

“A ‘Dig Once’ policy encourages the placement of fiber or conduit in the ground any time the road is dug up for a public works project.

“Because construction costs represent the most expensive line item in a broadband deployment budget, as opposed to the fiber and conduit itself, a Dig Once policy is a common-sense method of reducing the cost of communications infrastructure deployment. By lowering cost of deployment, Dig Once breaks down barriers of entry for new market entrants, creating a competitive marketplace that ultimately can result in more options, lower prices, and higher quality of service for consumers. Dig Once can also greatly reduce strain on a community by minimizing traffic, noise, and safety concerns of constant construction work.”

*Note: Many of the Master Plans described above also contain Dig Once, Dig Smart Policies.*

| COUNTY OR CITY                                                                     | ORDINANCE OR BEST PRACTICE                                                                          | SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Counties</i>                                                                    |                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Calaveras and Tuolumne Counties</b><br>Population: 45,905<br>Households: 28,181 | <a href="#">General Permit Conditions and Specifications for Trench Cuts and Street Resurfacing</a> | The Calaveras and Tuolumne Counties Trench Restoration Policy are directed at all contractors and utility companies who perform excavation work within the public Right-of-Way. The Policy focuses on trench restoration, resurfacing, and maintenance, including detailed road resurfacing requirements in an attempt to protect county roads and road infrastructure from the effects of trench installation. The Policy recognizes that a “one size fits all” approach may not be appropriate, and includes the following scenarios: roads repaved or resurfaced within the last 3 year; roads with a Pavement Condition Index (PCI) above 80; and roads in good or fair condition (PCI between 45 and 80), etc. |

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|                                                                      |                                                                                                                    | It includes exceptions to trenching prohibitions (e.g., service for buildings where no other reasonable means of providing service exists) and opportunities for alternative solutions that may benefit the county, contractors, and utility companies.                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>San Benito County</b><br>Population: 59,416<br>Households: 17,740 | <a href="#">Multi-Use Streets Policy</a><br>- Adopted in October 2015                                              | The San Benito County Policy provides for a full range of infrastructure main line and distribution, above and below ground, in initial roadway design and construction and in reconstruction projects involving more than surface pavement treatment.                                                                                                                                                                                                                                                                                                                                                                                                             |
| <i>Cities</i>                                                        |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>City of San Benito</b><br>Population: 4,855<br>Households: 2,132  | <a href="#">Telecommunications Infrastructure Improvements, or "Dig Once" Ordinance</a><br>- Adopted December 2019 | The San Benito Ordinance provides that companies leading construction, reconstruction, or repaving projects involving excavation of city rights-of-way shall notify, advise, and coordinate with other companies (i.e., telephone or telecommunications companies or broadband service providers) regarding construction work to install telecommunications infrastructure in the right-of-way to a practical and feasible extent. As a result of the coordination, installation of, or upgrades to, telecommunications facilities or infrastructure will be included as needed.                                                                                   |
| <b>Town of Paradise</b>                                              | <a href="#">Dig Once Policy</a><br>- Approved in October 2019                                                      | <p>The Town of Paradise Dig Once Ordinance implements an open trench approach that requires coordination between the Town, public utilities and telecommunications companies to cost-efficiently (incremental costs) install conduit for telecommunications services and/or any other utility.</p> <p>The objectives of this ordinance are:</p> <ol style="list-style-type: none"> <li>1. To support an open and transparent process for notifying telecom companies.</li> <li>2. To coordinate between public works, public utilities that are planning to trench within the Town right of-way, and telecom companies for the installation of conduit.</li> </ol> |



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|                                                                                          |                                                                                                                                                                            | <p>The Town of Paradise would be the facilitator in this process by requiring the utilities to obtain a permit prior to excavating within a Town right-of-way. The expected result is that telecom companies will join PG&amp;E to install conduit along its infrastructure undergrounding projects.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>City of Salinas</b><br/>Population: 156,550<br/>Households: 40,623</p>             | <p><a href="#">Dig Once Resolution</a><br/>- <a href="#">Approved by the City Council in February 2017</a></p>                                                             | <p>The Salinas Ordinance provides that all construction, reconstruction, repaving of a city right-of-way shall include a provision for the installation of a public utility infrastructure, such as conduit, tube, duct, or other device designed for enclosing telecommunications wires, fibers, or cables, wherever practical and feasible.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <p><b>City of South San Francisco</b><br/>Population: 323,016<br/>Households: 21,083</p> | <p><a href="#">Broadband Policy Options</a><br/><a href="#">Dig Once Ordinance and Open Trench Notification and Policy and Procedure</a><br/>- Adopted in January 2019</p> | <p>The South San Francisco Broadband Policy Options contains policies and ordinances that make-up the city's Dig Once, Dig Smart policy. The Ordinance standardizes city procedure to coordinate the installation of third-party telecommunications facilities when certain projects meet the triggers in the Ordinance.</p> <p><b>Notable Elements:</b></p> <ol style="list-style-type: none"> <li>1. Open Trench Notification Policy – The Public Works Department will develop a procedure for notifying interested parties when excavations are planned in the public right of way, or when the city performs street improvement work, and facilitates proactive colocation of utility facilities when appropriate.</li> <li>2. Shadow Conduit Policy – In accordance with the city's Broadband Master Plan, the Information Technology Department will evaluate and respond to open trench notifications and advise the Economic and Community Development Department as it administers the Broadband Impact Mitigation Policy and Broadband Impact Fee Ordinance.</li> </ol> |

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|  | <p>3. Broadband Impact Fee Ordinance – The ordinance establishes a fee that will be collected from project developers and used to offset the corresponding increase in demand for city information technology network support resulting from the additional burden on city services. Any broadband impact fees collected will be deposited in an account, and used to fund qualifying capital improvements, including conduit and other facilities installed in response to the Notification Policy.</p> |  |
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| <p><b>MUNICIPAL FTTP (“FIBER TO THE PREMISES”)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
| <p><i>What is FTTP?</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |
| <p>The term is often used interchangeably with FTTH (“Fiber to the Home”) and FTTU (“Fiber to the User”). As defined by <a href="#">Next Century Cities</a>:</p> <p>“As most telecommunications networks use fiber in some part of it, FTTH is used to specify those that use fiber to connect the subscriber. Some claim they have a fiber-optic network because they use fiber to the node even when they use phone lines or a cable network over the last mile. FTTH may be more expensive to install, but offers significant savings in terms of maintenance when compared to copper alternatives.”</p> |  |  |
| <p><i>Note: Some of the initiatives described above also include fiber projects.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |

| COUNTY OR CITY                                                                  | ORDINANCE OR BEST PRACTICE                                                                                                                      | SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <p><b>City of Santa Cruz</b><br/>Population: 162,204<br/>Households: 22,363</p> | <p><a href="#">Santa Cruz Fiber Public-Private Partnership Approval</a><br/>- <a href="#">Approved by the City Council in December 2015</a></p> | <p>The Santa Cruz public-private partnership with Cruzio Internet was entered into in line with the City Council’s approval of a broadband master plan focused on developing an FTTP network. The partnership provides for the analysis and negotiation of a model to develop a municipally owned, but privately-operated fiber optic network to provide affordable, world-class gigabit-speed, ubiquitous internet service to city of Santa Cruz residents and businesses.</p> |

**MASTER LICENSE AGREEMENTS**

*What is a Master License Agreement?*

A Master License Agreement is made between the Licensor (i.e., the jurisdiction, such as a county or city) and Licensee (i.e., the internet service or infrastructure provider). It allows the Licensee to use and make attachments to certain structures, according to the terms set forth in the Agreement. The Licensor commits to accommodating the Licensee’s use and attachment to the structures.

| COUNTY OR CITY                                                                  | AGREEMENT                                                                                                                        | SUMMARY                                                                                                                                                                                                                                                                                       |
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| <p><b>City of Salinas</b><br/>Population: 156,550<br/>Households: 40,623</p>    | <p><a href="#">License Agreement for Wireless Installations on Public Structures</a></p>                                         | <p>Under this Agreement, the city of Salinas grants Extenet Systems California the non-exclusive revocable right to use certain sites throughout the city to replace or upgrade structures and infrastructure, including making wireless installations (i.e., small wireless facilities).</p> |
| <p><b>City of Santa Cruz</b><br/>Population: 162,204<br/>Households: 22,363</p> | <p><a href="#">License Agreement for the Use of City Poles and Rights-of-Way for Small Cell Facilities Pole Installation</a></p> | <p>Under this Agreement, the City of Santa Cruz grants Crown Castle the non-exclusive revocable right to use designated city poles and rights-of-way for installing small cell facilities.</p>                                                                                                |

## **Additional Models and Case Studies**

This section presents information on emerging and innovative models in and across jurisdictions. These models are carried out through collaboration among local governments and other partners, and the use of various governance mechanisms and operating models.

### **Consortium-wide Dig-Once, Dig-Smart Ordinances and Broadband Roadmaps**

The Central Sierra Connect Broadband Consortium — Alpine, Amador, Calaveras, Tuolumne, and Mariposa Counties — is working towards adopting a consortium-wide Dig Once, Dig Smart ordinance and broadband roadmap.

The Dig Once, Dig Smart ordinance has already been adopted by Calaveras and Tuolumne Counties, and adoption is under consideration in the three other counties. The roadmap focuses on accelerating broadband infrastructure by reducing the time that it takes for infrastructure providers, internet service providers, and local jurisdictions to realize those capital investments.

The roadmap will contain an inventory of assets across all the counties, such as rights-of-way and anchor institutions; priority projects in each county, based on the Consortium's Preferred Scenario; and a comprehensive guide to all procedures and applications necessary for deploying broadband infrastructure expansion and upgrades.

The final outcome will include an interactive website to accompany the roadmap document.

The process for developing the ordinance and roadmap began in February 2019. The Consortium convened federal, state, and county leadership, as well as internet service providers, for a broadband conference. Attendees at the conference discussed current broadband infrastructure in the five-county consortium, and strategies for moving forward to further improve availability and access.

In the lead up to that conference, the Consortium also arranged a pre-meeting with some county supervisors and representatives from the California Broadband Council, the California Emerging Technology Fund, the United States Department of Agriculture, and the Rural County Representatives of California. Attendees at the pre-meeting identified and outlined key broadband "basics," including commonly used terminology around technology, speeds, and data. Conversations around broadband can be esoteric, and these basics equipped conference attendees and other stakeholders with the vocabulary and information needed to engage meaningfully in the discussion.

In addition to engaging the internet service providers at the conference, the Consortium also arranged smaller meetings with individual internet service providers and engineers from the

California Public Utilities Commission and the California Advanced Services Fund (CASF). This provided a venue for the internet service providers to ask more detailed questions and better understand the CASF application process.

As of the writing of this Resource Guide, the Consortium has an application pending with the Economic Development Administration for Coronavirus Aid, Relief, and Economic Security (“CARES”) Act funding for implementing the roadmap.

## **County-wide Environmental Impact Report (EIR)**

As of early 2021, the County of Nevada is conducting a study on developing a programmatic county-wide Environmental Impact Report (EIR). The study is being directed by a workgroup that includes county staff, the Sierra Business Council which manages the Gold Country Broadband Consortium, the California Emerging Technology Fund, and an environmental law firm. The goals of the study are as follows:

- Remove or reduce California Environmental Quality Act (CEQA) barriers and streamline the project permitting process, to reduce costs for local broadband providers and expedite implementation of innovative last mile broadband projects.
- Create a toolkit to help internet service providers navigate permitting and CEQA compliance.

The programmatic county-wide EIR would help further the advancement of affordable broadband to all Nevada County residents and businesses, while protecting public health, the environment, historical landmarks, and the indigenous heritage of the area.

## **Municipal Fiber Broadband Networks**

The [Little Hoover Commission identified 19 active or ready to launch municipal broadband providers as of June 2020](#). The providers include cities and municipal-owned utilities, one of which is a cooperative. Network types include fiber, enterprise services, dark fiber, wireless, cable, or some combination of these. Services offered include residential Fiber-to-the-Home, enterprise, anchor institutions, and municipal buildings, often in combination.

One often cited success story is Santa Monica’s Municipal Fiber Network. [This 2014 study by the Institute for Local Self-Reliance](#) details how the city went about planning and building out its fiber ring, including releasing its 1998 Telecommunications Master Plan, developing a cost structure, and implementing the necessary policies. What is most notable about Santa Monica’s approach is that its fiber optic network was constructed incrementally, relying heavily on the successful implementation of a Dig Once, Dig Smart policy. As noted in the study, even though construction was incremental, it was certainly not ad hoc; rather, the city made it a point to identify and map out early on all the places that would eventually need fiber. Having

identified these areas, it was easy to take advantage of and coordinate with other public works projects when the opportunity arose, such as connecting traffic signals or replacing water mains. The fiber network buildout was very forward-leaning, and the city's businesses and economy continues to reap the benefits of this endeavor.

Another, more recent exemplar is the City of Redding. Redding is working towards [municipal fiber broadband](#), leveraging its city-owned electric utility (Redding Electric Utility) to create an autonomous, open-source network that any internet service provider can then use to provide service. The outcome would be a model for public-private partnership — the City rolls out the infrastructure and anyone in the private sector (i.e., any internet service provider) can participate. The effort is taking place in four phases:

- **Phase 1:** Building a 26-mile fiber optic ring around the city.
- **Phase 2:** Connecting all city services and properties and, potentially, stakeholders such as the Shasta County Office of Education and the California Department of Transportation.
- **Phase 3:** Making a commercial offering to businesses and residents — in the form of a pilot, to start.
- **Phase 4:** Conducting city-wide buildout.

As of March 2021, the City is currently focused on Phases 1 and 2. In June of 2020, the City Council adopted city staff recommendations to authorize the completion of the design for the fiber optic ring and the continued study of city-wide fiber optic installation. City staff are also working on developing funding mechanisms for the Phase 3 pilot, including tax bonds, Economic Development Administration grants, and other grants.

## 5G Deployment in San José

Deployment of 5<sup>th</sup> generation mobile networks or “5G,” as it is commonly called, has gained momentum in recent years. 5G enhances citywide voice and data capacity and improves emergency communication capabilities. It is projected to be an asset for prosperity. A “5G-ready” jurisdiction can stay ahead of the curve, leveraging the technology to accelerate many aspects of economic development. However, 5G has to be part of a broader ubiquitous broadband strategy. Otherwise, it will only serve to deepen the Digital Divide of a community.

5G technology combines fiber deployment with wireless connections to end-users, with the fiber needing to be within about 1,000 feet of the end-user. Thus, while 5G small cells can provide a means to increase capacity in existing networks, they require the backbone infrastructure of fiber to work. For this reason, 5G is currently being deployed primarily in population dense, higher-income, and fiber-rich areas and deployment will lag in rural areas



especially. Further, many existing consumer devices are not 5G compatible, and those that are generally cost significantly more.

[The city of San José is a case study for successful 5G deployment in a California city](#), not only for successfully making the technology accessible, but also for using it to help close the Digital Divide. The key elements of San José’s 5G deployment are the following:

1. **A mutually beneficial public-private partnership.** San José partnered with telecommunications companies to develop the necessary citywide digital infrastructure. AT&T, Mobilitie, and Verizon maintain antennas across the city (“small cells”) that are installed on city property (e.g., streetlights, traffic lights, rooftops, etc.).
2. **San José Digital Inclusion Partnership.** By allowing telecommunications companies to install small cells on city property, the city generates revenue through a set fee structure. Income received from small cell usage fee revenue is allocated to the Digital Inclusion Program Fund. The purpose of the Fund is to provide affordable broadband service, devices, and digital literacy to underserved communities, with a particular focus on low-income youth and other vulnerable populations. The city partners with the California Emerging Technology Fund to implement the program.
3. **Clear and specific design guidelines.** The city ensures that there are reasonable and consistent guidelines that help streamline the permitting review and approval process. [Design standards](#) seek to integrate into the existing streetlights, minimize visual impact, and maintain safety and security. For example, small cell devices cannot cause any interference with operation of city facilities, including signs, banners, festoon circuits, and miscellaneous lighting; the color of a small cell device or its enclosure has to match streetlights.
4. **Speedy notification process.** After a mobile carrier reserves a streetlight location with the city through its online platform, which lists all available sites, the carrier is required to:
  - a. Mail certified notice to all occupants within a 250-foot radius of the site for a 20-day notice period;
  - b. Make themselves available to answer questions and receive feedback on the site; and
  - c. Publicly notice within 300-feet of the site at least 72-hours before construction begins, once a permit is reviewed and approved.

## Councils of Government

In collaboration with the Regional Broadband Consortia, the California Emerging Technology Fund, the California Department of Transportation, the California Broadband Council, the California Association of Councils of Governments (CALCOG) and other partners, many local councils of governments (COGs) are working on broadband-related infrastructure projects.

### **The South Bay Fiber Network (SBFN), by the South Bay Cities Council of Governments (SBCCOG).**

The COG's membership includes 15 city councils in Los Angeles County and parts of Los Angeles City. It has developed a ring of dark fiber across the South Bay, with connections to data centers, municipal buildings, and several public agencies.

In 2018, the South Bay Workforce Investment Board and SBCCOG, supported by additional funding from the office of Los Angeles County Supervisor Mark Ridley Thomas, commissioned a feasibility study. The consultant in that study found that, although the region's digital infrastructure network had many assets, they were fragmented and variable, including in terms of service and cost. A master plan provided a detailed blueprint for the broadband and technology infrastructure needed to keep the South Bay at the forefront of the digital economy. The SBCCOG financed the capital costs of the SBFN using \$6.9 million in Los Angeles Metro Measure M sub regional transportation improvement funds — a creative use of funds. In 2019, American Dark Fiber was awarded the contract to build the network.

The core fiber ring became operational in August 2020; 22 sites had been connected by November 2020, with more coming online. The SBFN provides local municipalities and other public agencies with access to a secure, high-speed 1 Gigabyte network, at about half the commercial rates for similar service. Benefits include a range of "smart city" applications — smart city halls providing virtual services to residents, improved traffic management, future Autonomous Vehicle support, telehealth opportunities, and greater resiliency for IT and emergency services. The SBCCOG is proposing a middle mile-direct access pilot project, to connect residents in two low-income neighborhoods.

**Strategic Broadband Corridors Project Collaboration, by the Sacramento Area Council of Governments (SACOG).** SACOG partnered with Valley Vision, the Greater Sacramento Economic Council and the Sacramento Metropolitan Chamber of Commerce to prepare the region's [Greater Sacramento Region Prosperity Strategy](#). It serves as the region's federally designated Comprehensive Economic Development Strategy (CEDS) and qualifies regional projects for federal funding opportunities.

The CEDS incorporates broadband infrastructure priorities as one of its core strategic initiatives, drawing on the region’s long-range transportation plan, the Metropolitan Transportation Plan/Sustainable Communities Strategy. It also links with the Strategic Broadband Corridors’ project priorities for Dig Once, Dig Smart one projects. The CEDS’ broadband infrastructure priorities support key industry sector initiatives, such as:

- The food and agriculture cluster, through agriculture technology adoption in underserved rural communities;
- The future mobility cluster, including electric vehicle infrastructure and autonomous vehicle prototypes and policies; and,
- Digital skills.

SACOG also coordinates closely with Valley Vision in developing the region’s Preferred Scenario Project, to connect 98% of households with high-speed Internet connectivity.

**Policy Adoption, by the Southern California Association of Governments (SCAG) and San Diego Association of Governments (SANDAG).** SCAG and SANDAG are collaborating with the California Emerging Technology Fund and other many partners on strategies to close the Digital Divide and Achieve Digital Equity across their regions. Major first steps included the adoption of resolutions “setting forth support to increase broadband access to bridge the Digital Divide.” These initiatives recognize that closing the Digital Divide also has implications for mobility and sustainability, especially given the impacts of the COVID-19 pandemic and recent emergencies like wildfires which have greatly exacerbated existing disparities. It also will help local governments with “Smart City” initiatives that can improve municipal operations, improve traffic flow, and reduce energy consumption.

SANDAG’s Board passed its [Broadband Access Resolution](#) in January 2021, declaring that “bridging the Digital Divide is integral to developing a healthy, resilient, and economically competitive region.” It directed staff to develop a Digital Equity Strategy and Action Plan, based on a broadband gap analysis and needs assessment that brings regional stakeholders together to identify model policies, tools and implementation strategies to close the Digital Divide in the San Diego region. SANDAG will form a Regional Digital Divide Task Force to develop the strategy and action plan (see the [Task Force Charter](#)). Addressing the Digital Divide is part of SANDAG’s efforts to incorporate social equity into the 2021 Regional Plan.

SCAG is the country’s largest metropolitan planning organization, encompassing 191 cities and six counties. SCAG’s Board adopted its [Broadband Access Resolution](#) in February 2021. The resolution directs SCAG staff to develop a Broadband Action Plan, which would include: developing a model resolution for local jurisdictions; pursuing grant funding opportunities and

partnerships; and convening a working group to develop ways to facilitate rapid deployment of broadband technology such as streamlining the permit process, lowering fees to a reasonable level, and reducing the cost of entry and operation of broadband systems within underserved communities. See page 31 for a sample resolution to increase broadband access for adoption by county boards of supervisors, and a [sample model policy](#) to bring broadband to underserved communities, for use by local governments, developed by SCAG.

With the broadband access resolutions adopted by both SCAG and SANDAG, staff is working on adoption of an ordinance for joint-use transportation and broadband planning, for use across all their member jurisdictions. If adopted, the ordinance would create consistency for projects across the region and help expedite infrastructure investments and project completion. This will enable the organizations and regional partners to compete more effectively for funding as well. The California Emerging Technology Fund has been supporting these efforts to bridge the Digital Divide which will have a broad geographic impact.

## **Regional Economic Development**

**Joint Venture Silicon Valley's [Community Broadband Initiative \(CBI\)](#).** Joint Venture is a nonprofit civic leadership organization that provides a forum for collaborative regional thinking and leadership, from both the public and private sectors. Their CBI is focused on empowering local community and neighborhood groups in unserved and underserved regions of the Silicon Valley. It is a coalition among academia, residents, local governments, business, and the communications industry — all working to improve affordable Gigabit broadband infrastructure for unserved and underserved neighborhoods. Local government partners include San Mateo County and the cities of San Leandro, East Palo Alto, and Morgan Hill.

The CBI is pioneering a new partnership-driven model for financing, installing, and operating open-source broadband networks and services. Several efforts have already been undertaken, including pursuing additional funding through grant opportunities, along with expanding success models. The CBI is also coordinating with Joint Venture's Wireless Communications Initiative and its education partners, to implement broadband networks for underserved communities, for distance learning, telehealth, and digital inclusion.

## Feedback from Internet Service Providers

In developing this *Resource Guide*, Valley Vision reached out to several infrastructure and internet service providers to gather their input on recommended policies and best practices that could facilitate broadband infrastructure and deployment. They are summarized below:

- 1. A complete and up-to-date asset inventory.** This ensures that internet service providers do not run into issues stemming from the segregation of assets, and that the parties involved are seeing all the opportunities for partnerships. This can be done as part of a Broadband Master Plan.
- 2. Updated ordinances.** For example, the definitions for fixed wireless technology and small cell tower technology are not the same, and if ordinances do not reflect these differences, they need to be updated. Fixed wireless deployment requires its own language in municipal codes and ordinances.
- 3. Streamlined and efficient permitting, including more certainty and shorter wait times.** Overly burdensome permitting is more of a time issue than it is a cost issue; for providers, the biggest challenge is not the finance portion, but the project management and timeline aspects of the process. For example, with colocation: When it comes to upgrades, if the expansion is not substantial, then the review process should not have to be as exhaustive. Instead, securing a permit should be administrative or over the counter. If providers know they can secure a permit in 90 days, they are more likely to do business in that jurisdiction.
- 4. Clear permit application processes and efficient online tools.** Navigating the permitting process varies from jurisdiction to jurisdiction. A lack of clear processes forces providers to rely on in-house knowledge, which can lead to delays and additional costs. Glitches in the application or intake process can significantly increase the time it takes to secure the necessary permits.
- 5. Policies that support high-capacity fiber backbone.** There are many benefits to fiber build outs, including bringing in new jobs. A lack of this backbone can hinder wireless internet service providers and 5G carriers from deploying in unserved areas, as well as in urban underserved areas with aging infrastructure.
- 6. Support for broadband coverage validation by the State.** This includes widespread use of the [CalSPEED](#) app by residents and businesses. CalSPEED empowers end-users with a professional-level, industry-standard testing tool to measure the quality and speed of their residential fixed internet connection. This real-time ground truth testing data generated by the app is forwarded to the California Public Utilities Commission, which then uses it to generate more accurate broadband availability maps and information for funding eligibility.



## Digital Equity Bill of Rights

Digital Equity is defined by the National Digital Inclusion Alliance as condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy. Digital Equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services. Digital Equity requires deployment and adoption of information technologies enabled by access to broadband, a generic term for high-speed Internet infrastructure, including wireline and wireless technologies.

To insure **Digital Equity** for all Californians, residents have the right to:

- 1. Broadband that is Sufficient and Reliable:** Speeds must be sufficient to meet the growing demand and reliance for access to education, government, public safety, economic prosperity and healthcare via high-speed access to the Internet. The determination of threshold speeds for high-speed Internet infrastructure should be performance-based to support distance learning, telehealth, and remote working by a majority of households online simultaneously with an increasing need for symmetrical network speeds.
- 2. Broadband that is Ubiquitous:** Sufficient and reliable broadband access must be available everywhere in the state, from the most rural areas, including tribal lands, to the most populated urban areas, including all low-income neighborhoods. Public broadband investments should be prioritized to connect entire communities and address digital redlining in historically unserved and underserved communities.
- 3. Broadband that is Affordable:** Internet service plans must be affordable for all Californians, regardless of geographic location or household income.
- 4. Broadband that Provides Educational Opportunities and Supports Digital Skills Proficiency:** Residents must have access to opportunities to develop needed skills to thrive in a digital world.
- 5. Broadband that Ensures Public Safety and Maintains Peace of Mind:** Residents need the peace of mind that comes with knowing they have reliable access to emergency response services and emergency alert systems in the event of emergencies or catastrophic disasters.



- 6. Broadband that Improves Quality of Life:** Digital Equity advances economic status with access to educational opportunities, new job opportunities and health care to improve the overall quality of life.
- 7. Broadband that Supports Economic Prosperity:** All workers and employers, businesses and entrepreneurs, start-ups and enterprises, small and large, including agriculture, need high-speed Internet access to optimize the value of their contribution to the economy to ensure global competitiveness.
- 8. Broadband that Attracts Capital Investment:** Ubiquitous high-speed Internet infrastructure is essential to ensure that California continues to attract its fair share of global capital investment to support and enhance economic prosperity.
- 9. Broadband that Supports Innovation and Research:** High-speed fiber connects all research institutions to sustain world-class research and innovation to drive economic productivity.
- 10. Broadband that Empowers and Enables Participation in the Democracy:** All residents are connected to the Internet with sufficient speeds to support participation in government, distance learning, and telehealth for quality of life and public safety.

## Sample Broadband Access Resolution

SAMPLE RESOLUTION NO. 2020-XXXX

### SETTING FORTH SUPPORT TO INCREASE BROADBAND ACCESS TO UNDERSERVED COMMUNITIES THROUGHOUT SOUTHERN CALIFORNIA

**WHEREAS**, closing the digital divide is important and provides long-term community benefits that include the ability to fully engage in the digital economy, access existing and emerging services, expands economic opportunities and bridges the economic divide; and

**WHEREAS**, the COVID-19 pandemic has amplified the need for available, reliable and affordable broadband services in all communities; and

**WHEREAS**, the COVID-19 pandemic has caused schools to shift to distance learning; and

**WHEREAS**, the COVID-19 pandemic has made the digital divide within underserved communities and/or areas (which include people of color, low-income households, residents in rural areas, and senior citizens) more apparent; and

**WHEREAS**, we recognize that cost and household income is a primary barrier to broadband access.

**WHEREAS**, all residents, businesses and institutions need high speed broadband services where they work, live, learn and play; and

**WHEREAS**, high speed broadband enables Work from Home and remote workers, enhances business efficiencies, drives job creation throughout the region, and connects customers and partners worldwide to goods and services; and

**WHEREAS**, high speed broadband is a “green technology” that reduces our impact on the environment, shrinks our regional carbon footprint, offsetting vehicle trips and use of resources; and

**WHEREAS**, high speed broadband greatly expands the ability of residents to access medical, behavioral, oral health services and the capacity of public health officials to monitor and respond to health threats such as COVID-19 and other diseases; and

**WHEREAS**, high speed broadband enables greater civic participation and brings communities together, helps improve public safety, and makes our transportation systems more resilient and efficient; and

**WHEREAS**, effective emergency services require using high speed broadband to integrate data in real time from all available sources, so decision-makers have access to the information necessary for the protection of lives and property; and

**WHEREAS**, to accelerate the deployment of broadband, the primary objective is to deploy private-sector capital as quickly as possible through improved public cooperation; and

**NOW, THEREFORE, BE IT RESOLVED** on this XX day of XXXXX 2020 that the XXXXXX County Board of Supervisors does hereby as follows:

1. Supports FCCs (United States Federal Communications Commission) and CPUCs (California Public Utilities Commission) rules, regulations, programs and funding opportunities that support broadband deployment opportunities to bridge the digital divide.
2. Supports Governor Newsom’s Executive Order N-73-20 signed August 14, 2020 that seeks to accelerate work towards closing gaps in access to reliable broadband networks throughout California; and
3. Supports collaboration with [Los Angeles, Orange, Imperial, Riverside, San Bernardino, San Diego and Ventura Counties], broadband providers, school districts (K-12), community college districts, universities, community and business stakeholders, Regional Broadband Consortia, California Emerging Technology Fund, the State of California and other federal and regional organizations that have similar goals to increase broadband access throughout Southern California; and
4. Determines that closing the digital divide is important and provides long-term community benefits; and
5. Supports the request for grant funding from the State and/or Federal government for a regional program that provides funding for free internet access for qualifying residents that bridges the economic digital divide; and
6. Supports a minimum broadband speed capability of 100 megabits per second today and 1 gigabit per second by 2030 for all residential and business customers within the urban, suburban and rural communities of our region; and
7. Supports working with collaborating jurisdictions to affect the deployment decisions of broadband providers by lowering permitting fees to a reasonable level, reduce the cost of entry and operation of broadband systems in our communities, reduce the risks of delays during the planning, permitting and construction phases, provide opportunities for increasing revenue, and creating new avenues for competitive entry; and

8. Supports working with collaborating jurisdictions to identify broadband opportunity zones in underserved communities; and
9. Upon identifying broadband opportunity zones, supports the adoption of an emergency ordinance which would allow local jurisdictions to develop specific rules to expedite low-cost broadband deployment such as: waivers for micro projects, deployment of broadband infrastructure in underserved communities and fixed wireless or other broadband technologies in rural communities; and
10. Supports the adoption of consistent fees and expedited broadband permitting processes within collaborating jurisdictions; and
11. Supports the concept of “Dig Smart” and/or “Dig Once” whereby conduit is installed for future or immediate use for wireless towers, fiber optic or other comparable broadband network installation, whenever underground construction occurs in a roadway.

# Sample Model Policy to Bring Broadband in Underserved Communities

(For Use by Local Governments)

## Findings and Declarations

The [Name of Local Government] hereby finds that the COVID-19 pandemic has forced residents of [Name of City/County] to completely restructure the way we live, work and, learn and access to “broadband” (which includes both wireline and wireless technologies) has become essential advancing public health, education and equity. However, not everyone has equal access to high-speed broadband and the pandemic has exposed the vast and damaging effects of the “digital divide.” Families left behind are concentrated among communities of color, low-income and rural households. As such, 2020 is demanding that local governments address persistent differences in who has high quality internet access at home.

The [Name of Local Government] finds and declares that Broadband is an essential 21<sup>st</sup> Century infrastructure in a digital world and global economy. It is vital to the economic prosperity and quality of life for residents in [Name of Local Government] and throughout California. And, it can enable [Name of Local Government] to mitigate economic, educational and health disparities within underserved communities. During and beyond the current COVID-19 crisis, [Name of Local Government] need to develop long-term and short-term solutions that redress persistent inequalities in broadband access in an expedited manner.

The ability to be “connected” instantly through the Internet to information, services and digital tools is increasingly critical for access to and success in education, jobs, and economic opportunities. The deployment and adoption of broadband is a major strategy to spur economic development because it improves productivity, which attracts more capital investment and generates jobs, while saving both time and money for consumers.

Although California is home to a wellspring of innovation that has given rise to the evolution of information technologies and broadband, the use of broadband technology by California residents is only approximately equivalent to the national average and there is a significant Digital Divide that must be closed to remain globally competitive.

In addition, broadband is a “green technology” that can significantly reduce impacts on the environment, shrink the carbon footprint, and decrease dependence on foreign oil by offsetting vehicle trips, decreasing the use of resources, and saving energy, and assists in

solving key environmental justice issues (reducing environmental and health impacts in low-income communities).

[Name of Local Government] is committed to helping families and children be healthy, productive and self-sufficient. And, it is recognized that the use of broadband can save both time and money for residents while helping them bridge the economic divide. Therefore, it is important that all residents within [Name of Local Government] have high-speed Internet access, particularly those living in lower-income and rural households and those living in publicly supported housing.

[Name of Local Government] also is committed to helping students obtain the highest-quality education possible and understands that the ability to learn and prepare for higher education is significantly enhanced if schools incorporate digital literacy and high-speed Internet connectivity into curriculum. The availability of computing devices both at school and at home are critical teaching and learning tools for academic achievement.

Therefore, it shall be the policy of the [Name of Local Government] to facilitate the rapid deployment and adoption of broadband to provide our residents with opportunities, quality of life, and convenience. Further, it is recognized that consumers need sufficient speeds of data transmission capability for the applications that they perceive as relevant to their daily lives and expect broadband networks to keep pace with those needs over time. Thus, it also shall be the policy of the [Name of Local Government] to encourage and facilitate upgrades to existing broadband infrastructure to ensure that the public and private sectors have access to sufficient broadband speeds to support consumer demand for new and evolving applications that save time, money and resources.

### **Responsibilities and Roles: Opportunities to Promote Broadband**

The [Name of Local Government] recognizes that it has many responsibilities that affect deployment (supply) and adoption (demand) of broadband technologies and applications, including the following roles: (1) policy leader; (2) planner; (3) regulator (of land use); (4) consumer; and (5) service provider. As a policy leader, [Name of Local Government] may promulgate policies and ordinances to advance and protect the public interest or implement state and national laws that promote and accommodate high-speed Internet access. As a planner, [Name of Local Government] identifies opportunity areas, develops ordinances and permit streamlining. As a regulator, [Name of Local Government] approves permits which can encourage, promote and/or require rapid deployment of infrastructure and facilities to underserved communities within our jurisdiction. As a consumer, [Name of Local Government] purchases telecommunications and information technology equipment and services which, in



turn, drives demand and improvements in these technologies and services. And, as a service provider, [Name of Local Government] has the ability to expand e-government functions by providing more information and access to public services online, thus encouraging broadband adoption. It shall be the policy of [Name of Local Government] in all of its roles and responsibilities to work with neighboring jurisdictions, service providers, and other stakeholders to actively identify opportunities to implement policies, programs and actions to encourage broadband deployment and adoption.

## **Implementation**

[Name of Local Government] shall adopt strategies and implement provisions and ordinances that will expedite broadband deployment to underserved and rural communities, as well as promote economic development and improve security within the community:

### *Broadband Opportunity Zones:*

- Collaborate with neighboring cities, county, MPOs, school districts, community college districts, universities, the state of California, the federal government, broadband providers and stakeholders to identify locations without broadband access.
- Develop and conduct multi-lingual surveys specifically targeting households in low-income and/or rural communities, focusing on access, usage, and barriers to internet adoption.
- Quantify and describe [Name of Local Governments] level of digital engagement, Digital Divide, and level and source of digital inequality (city/county-wide and by qualified census tracts).
- Participate in the Federal Communications Commission’s Digital Opportunity Data Collection broadband access map crowdsourcing initiative.
- Develop and disseminate information to support the development of local broadband infrastructure deployment and digital equity plans.
- Develop a public outreach campaign to educate residents in [Name of Local Government] on the science behind new and emerging technologies and try to address potentially unfounded concerns as they become integrated into society.

*Promote existing programs and develop new programs for short term and temporary use:*

- Promote existing programs from broadband providers that offers subsidies or covers the cost of internet for low-income internet access.
- Promote existing state and/or federal government programs that offers subsidies for broadband access.
- Collaborate with broadband providers, community outreach groups, school districts, community colleges, universities and the business community to develop programs to cover the cost of broadband subscriptions for low-income students.
- Promote the use of public buildings, such as libraries, parks and convention centers, as broadband “hot spots” to allow residents affordable [or free] high-speed Internet access.

*Adoption of an Emergency Ordinance for underserved communities*

- Adopt an emergency ordinance to allow for rapid deployment of broadband in identified opportunity areas.
- Require a minimum broadband speed capability of 100 megabits per second today and 1 gigabit per second by 2030.
- Where feasible, exempt broadband opportunity areas from community character ordinances or local jurisdiction design guidelines.
- Where feasible, allow aerial fiber and other broadband infrastructure to be installed on pre-existing infrastructure such as existing powerlines to minimize impacts to aesthetics.
- When aerial fiber or other aboveground broadband infrastructure is not viable for last-mile solutions, allow for micro trenching in suitable areas as a viable short-term option.
- Should underground installation near a roadway occur, require the use of “dig-once” practices whereby conduit is installed for future immediate use for broadband installation.

*Streamline permitting*

- Develop a streamlined permitting process that lowers the cost of entry and operation of broadband systems, reduce the risks of delays during the planning, permitting and

construction phases, provides opportunities for increasing revenue, and creating new avenues for competitive entry.

- Allow for cost/permit waivers for broadband “micro projects”.
- Permit grouping multiple projects under one permit to expedite the planning and construction phase.
- Collaborate with local jurisdictions to determine and agree upon a uniform permitting fee throughout the Southern California region.
- Identify local public rights-of-way and public facilities that can be used for broadband deployment and promulgate procedures to streamline the approval of easement encroachment permits consistent with principles of fairness and competition for all providers.
- Ensure a level playing field for all broadband providers—private and public (or government led), wireline and wireless—making the use of public assets available to all providers on a competitive basis, commensurate with adopted policies regarding public benefits.

#### *Smart and Affordable Housing*

- Require all new residential subdivisions to be served with state-of-art broadband infrastructure with sufficient transmission rates to support applications relevant to residential consumers.
- Require all publicly subsidized housing development projects to provide an independent “advanced communications network” to drive economies of scale that can result in a significantly reduced cost basis for the lower-income residents. An “advanced communications network” is broadband infrastructure that, at a minimum, makes available affordable market-comparable high-speed Internet access service to all units via the aggregation and consolidation of service across the property. It is infrastructure in addition to the standard cables, wiring and other infrastructure required for power, television and telephone service.
- Request the housing authority (authorities) to adopt policies to promote and support smart affordable housing with advanced communications networks whenever their public funds are used to subsidize the construction and provision of housing for lower-income residents.

### *Interagency Cooperation*

- Request that the chief executive officer [County Administrative Officer or City Manager] outline a process for ensuring inter-agency and inter-jurisdictional cooperation which shall include: sharing this policy with other jurisdictions in the region; meeting with them to explore common needs for infrastructure; exploring opportunities to collaborate on broadband applications, such as telemedicine, or regional projects, such as library networks; and notifying neighboring jurisdictions about major infrastructure projects, such as transportation improvements along shared corridors.
  
- Explore opportunities to work with other public and private entities, such as schools, special districts, utilities, and private health and medical providers, to cooperate and joint venture on broadband deployment projects and adoption programs.

## List of Additional Resources

The following are links to the resources that were used in writing this *Resource Guide*, as well as an overview of what those resources can provide, and how they can further help local and regional governments' efforts. The national resources have examples of best practices and innovative models in jurisdictions outside of California.

### [California Broadband Council](#)

The California Broadband Council was established by SB 1462 (Chapter 338, Statutes of 2010) to promote broadband deployment in unserved and underserved areas of the state (as defined by the Public Utilities Commission) and broadband adoption throughout the state. The Council identifies state resources; encourages public and private partnerships; and recommends strategic policies for establishing effective structures, to provide high-speed Internet access throughout California. The 12-member Council is run by the California Department of Technology's Office of Broadband and Digital Literacy, which manages the statewide ecosystem of individuals and organizations dedicated to closing the Digital Divide. The Council prepared the California Broadband for All 2020 Action Plan and will be implementing the Plan in close coordination with a broad network of state, local, regional, civic, nonprofit, and for-profit organizations, and providers.

### [California Department of Transportation \(Caltrans\)](#)

Caltrans has dedicated attention and resources to coordinating transportation plans and projects with broadband infrastructure improvements. This includes addressing permitting processes for Dig Once, Dig Smart projects and infrastructure installation along Caltrans rights-of-way, and fostering consistency across its District offices processes for project development, review, and approval. The agency has a Broadband Facilities Coordinator who leads coordination with other state agency partners, local and regional transportation agencies, and Regional Broadband Consortia. There are also broadband coordinators within each Caltrans District office. Caltrans has a mapping resource that lists state highway projects aligned with the Strategic Broadband Corridors Project. They also developed a 2018 Dig Once, Dig Smart white paper and user guide.

### [California Forward \(CAFwd\)](#)

California Forward is a nonprofit organization that leads a statewide movement, bringing people together across communities, regions, and interests to improve government and build inclusive, sustainable growth for everyone. CAFwd drives collective action, identifying regional solutions that can be taken to scale to meet the challenges the state is facing. In 2019, it partnered with the Newsom Administration on the Regions Rise Together initiative, which included a series of convenings with regional leaders to lift up and empower regional

approaches to economic development. CAFwd serves as the backbone for the [California Stewardship Network](#), an alliance of regional leaders; leads the annual [California Economic Summit](#); and recently launched the [California Dream Index](#). It also convenes a Broadband for All Work Group that is advancing policies to connect all Californians with affordable, equitable high-speed Internet. In 2021, CAFwd is hosting a [series of webinars](#) on innovative broadband practices and structures in 2021, sponsored by the California Emerging Technology Fund.

#### **California Association of Councils of Government**

The California Association of Councils of Government (CALCOG) is a nonprofit organization with 47 members, serving regional government agencies. Most members are involved in planning and funding transportation infrastructure projects; many deliver actual projects, and a few also operate transit systems. CALCOG collaborates closely with the California Emerging Technology Fund and the Regional Broadband Consortia, including on the Strategic Broadband Corridors Project. Broadband Access is a priority policy area and CALCOG has a dedicated section on its [website](#) of legislative and state initiatives, regional activities, case studies, and extensive resources on primers and other materials from state and federal agencies and organizations, and policies and funding programs.

#### **California Public Utilities Commission – California Advanced Services Fund**

The California Public Utilities Commission (CPUC) administers the California Advanced Services Fund (CASF) which provides funding for projects to reach unserved households across the state's regions, with the goal of connecting 98% of all households by 2022. CASF includes funding for infrastructure projects and includes funding for Rural and Regional Broadband Consortia, broadband adoption, and public housing. The program includes resources such as an interactive broadband access map, a speed testing tool to validate actual vs. reported speeds of service, and collaboration with federal agencies to increase California's share of funding resources. Staff assists Regional Consortia, ISPs and other parties to prepare and submit applications for funding.

#### **California State Association of Counties**

The California State Association of Counties (CSAC) represents California's 58 counties before the California Legislature, administrative agencies and the federal government. Through advocacy, research, and programs such as financing CSAC supports and participates in advancing policy to strengthen counties and the residents they serve. CSAC formed a [Broadband Working Group](#) in December, 2020 and staff and leadership is actively engaged in legislative initiatives and leadership coalitions to address the Digital Divide and support infrastructure investments to reach all Californians.



### **National Digital Inclusion Alliance (NDIA)**

The National Digital Inclusion Alliance is a national network organization with more than 520 affiliates in 44 states, the District of Columbia, and the United States Virgin Islands. The NDIA is a unified voice for home broadband access, public broadband access, personal devices, and local technology training and support programs. Affiliates include municipal government bodies, local public libraries and regional library councils, college and university programs, state and local school districts, among others. The NDIA provides valuable resources for practitioners, including policy updates, funding sources, COVID-19 resources, and connections to organizations like the National Skills Coalition, the Pew Research Center, the Benton Foundation, and many more.

### **National Telecommunications and Information Administration (NTIA)**

The National Telecommunications and Information Administration within the United States Department of Commerce “is the Executive Branch agency that is principally responsible for advising the President on telecommunications and information policy issues.” Its website includes [publications](#) on multiple broadband-related topics, including information on [grants](#); a [broadband adoption toolkit](#); and the [National Broadband Availability Map](#). They also host webinars on timely topics and provide capacity assistance to communities and civic organizations.

### **Next Century Cities**

Next Century Cities “supports mayors and community leaders across the country as they seek to ensure that everyone has fast, affordable and reliable internet access.” Its website has a [resources](#) section, which has many categories of information, including a [glossary](#) of broadband terms; a [toolkit](#) for communities to make themselves broadband ready; and a [spotlight cities](#) section, which highlights cities in the United States making great strides in the different aspects broadband deployment.

### **Rural County Representatives of California**

Rural County Representatives of California is a 37-member organization of rural counties that champions policies to serve the state’s rural communities. RCRC’s policy priorities include economic development that is supported by high-speed Internet access and 21<sup>st</sup> century telecommunications infrastructure; RCRC works with coalitions across the state and is pursuing funding opportunities to catalyze broadband infrastructure investment and models in rural regions.

### [The League of California Cities](#)

The League of California Cities is “an association of California city officials who work together to enhance their knowledge and skills, exchange information, and combine resources so that they may influence policy decisions that affect cities.” Its [Transportation, Communications, and Public Works Policy Committee](#) reviews relevant state and federal legislation and regulations.

### [Tellus Venture Associates](#)

Tellus Venture Associates does management, planning, and business development consulting for community broadband. Its [Broadband Development Policy Bank](#) includes links to local policies in different subject matter areas, including [broadband plans](#), [permitting](#), and [conduit specification](#).

### **Other Resources:**

- **The Little Hoover Commission’s** [“Issue Brief: California’s Digital Divide,”](#) December 2020.
- **The Benton Foundation’s** “Recommendations for a National Broadband Agenda” and [many policy resources](#).
- **US Ignite and Altman Solon’s** [new report](#), as a guide for communities considering ways to expand broadband service, with possible broadband models for 6,500 unserved and underserved communities across the United States.
- [The Community Broadband Networks Initiative](#), a project of the Institute for Self-Reliance, working with communities across the country to ensure telecommunications networks that serve communities. Many resources for community leaders are provided, including case studies, webinars, and fact sheets.



## **Contact Information**

### **The California Emerging Technology Fund**

**Street Address:**

2151 Salvio Street, Suite 252  
Concord, CA 94520

**Mailing Address:**

P.O. Box 5897  
Concord, CA 94524

415-744-CETF (2383)

415-744-2399 Fax

**The Petroleum Building:**

714 West Olympic Boulevard, Suite 924  
Los Angeles, CA 90015-4133  
213-443-9952



### **Valley Vision**

**Street Address:**

3400 3<sup>rd</sup> Avenue  
Sacramento, CA 95817  
916-325-1630

[Trish.Kelly@valleyvision.org](mailto:Trish.Kelly@valleyvision.org)

[Isa.Avancena@valleyvision.org](mailto:Isa.Avancena@valleyvision.org)

[David.Espinoza@valleyvision.org](mailto:David.Espinoza@valleyvision.org)