Getting Connected:

A Broadband Deployment and Adoption Resource Guide

for Local and Regional Government Leaders

Housekeeping Rules

- All attendees are muted and have their videos off.
- If you have questions for any of our speakers/panelists, please use the Q&A feature.
- If you encounter any technical difficulties or have any other comments, please use the chat box.

Host: Trish Kelly,

Managing Director of Valley Vision

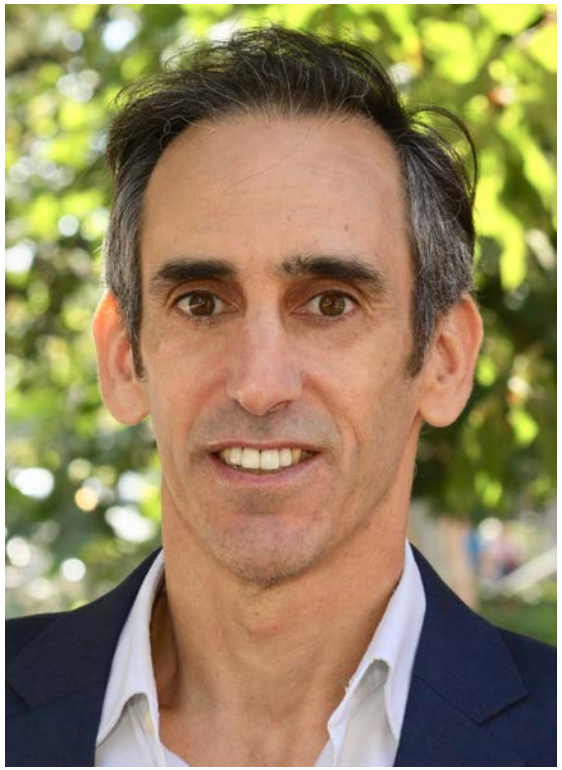
Introduction from the Principals

Evan Schmidt,
CEO of Valley Vision

Micah Weinberg,
CEO of California Forward

Sunne Wright McPeak,
CEO of California Emerging Technology Fund (CETF)

Presentation of the CETF/University of Southern California (USC) Broadband Survey Results



Dr. Hernan Gálperin,

Associate Professor of Communication at University of Southern California

Statewide Survey on Broadband Adoption 2021

Results from a survey conducted for the California Emerging Technology Fund (CETF)

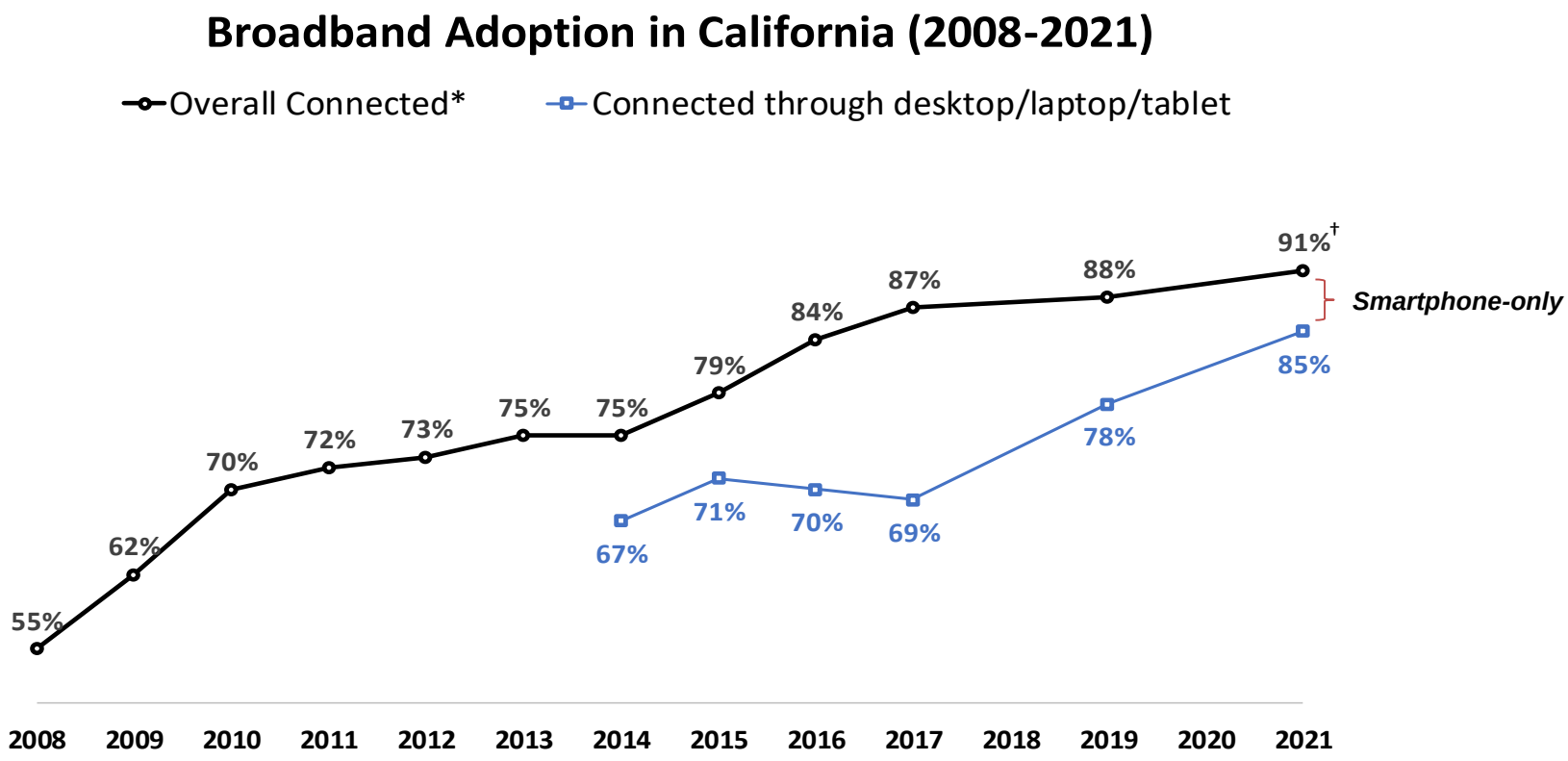
University of Southern California
Principal Investigator: Dr. Hernan Galperin

May 2021

CETF CALIFORNIA EMERGING TECHNOLOGY FUND

USC University of Southern California

Broadband adoption in California continues to rise while the share of smartphone-only users drops.

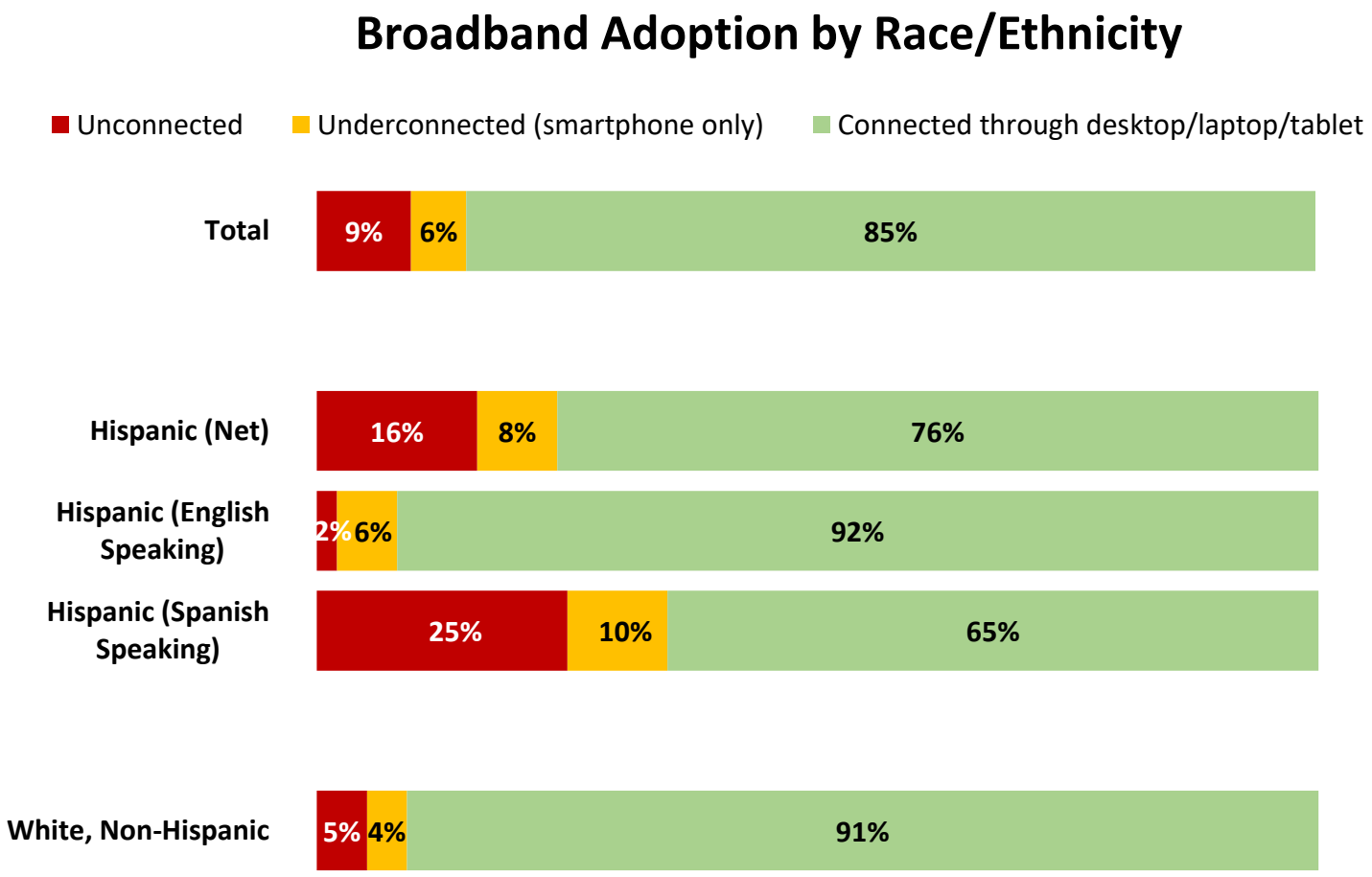


Source: 2021 from USC; 2017/2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll; 2008 to 2013 from PPIC.

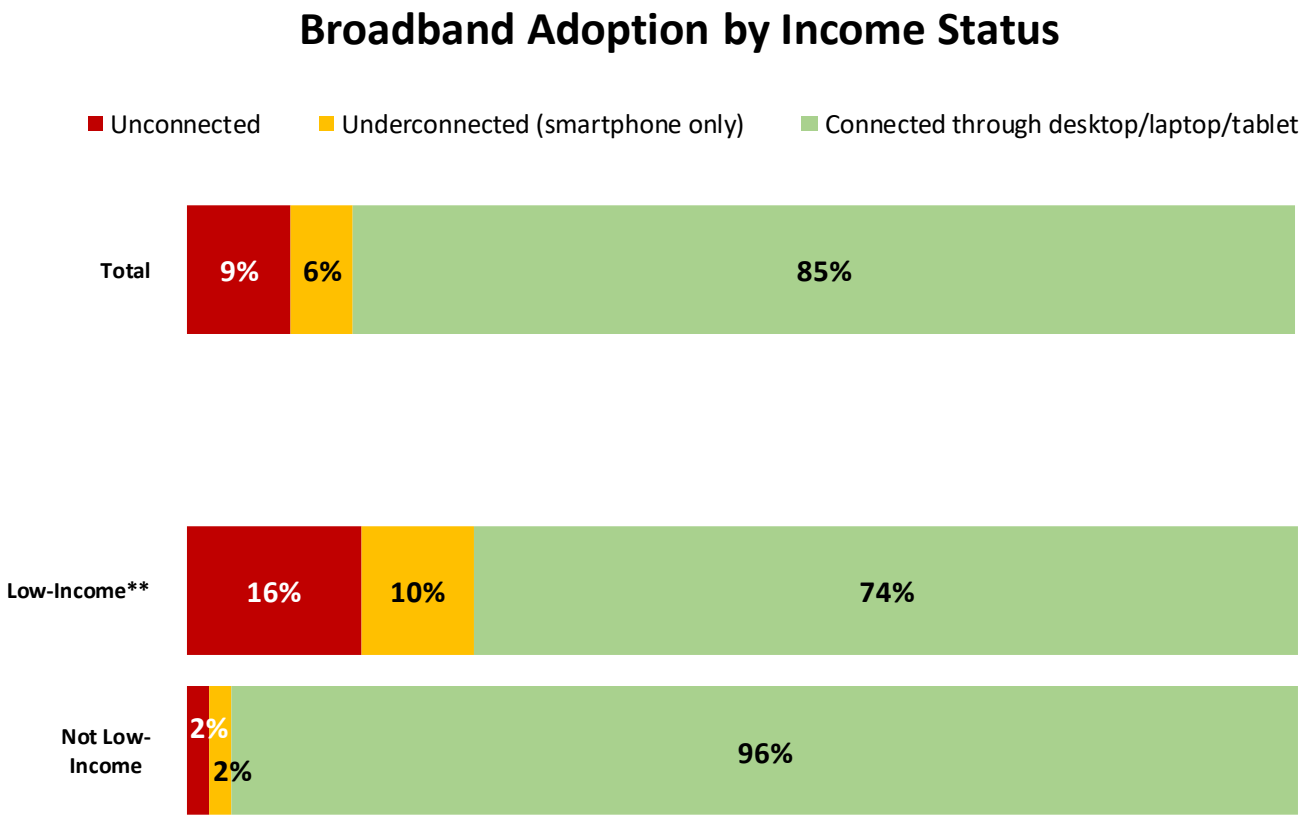
**Includes those who can connect to the Internet either through a desktop, laptop, tablet computer, or smartphone.*

† 90.5% of households are connected, rounding to 91%. 84.8% are connected with a laptop, desktop or tablet, and 5.7% are smartphone only.

Nearly 1 in 4 Hispanics are unconnected or underconnected, significantly behind other racial/ethnic groups.

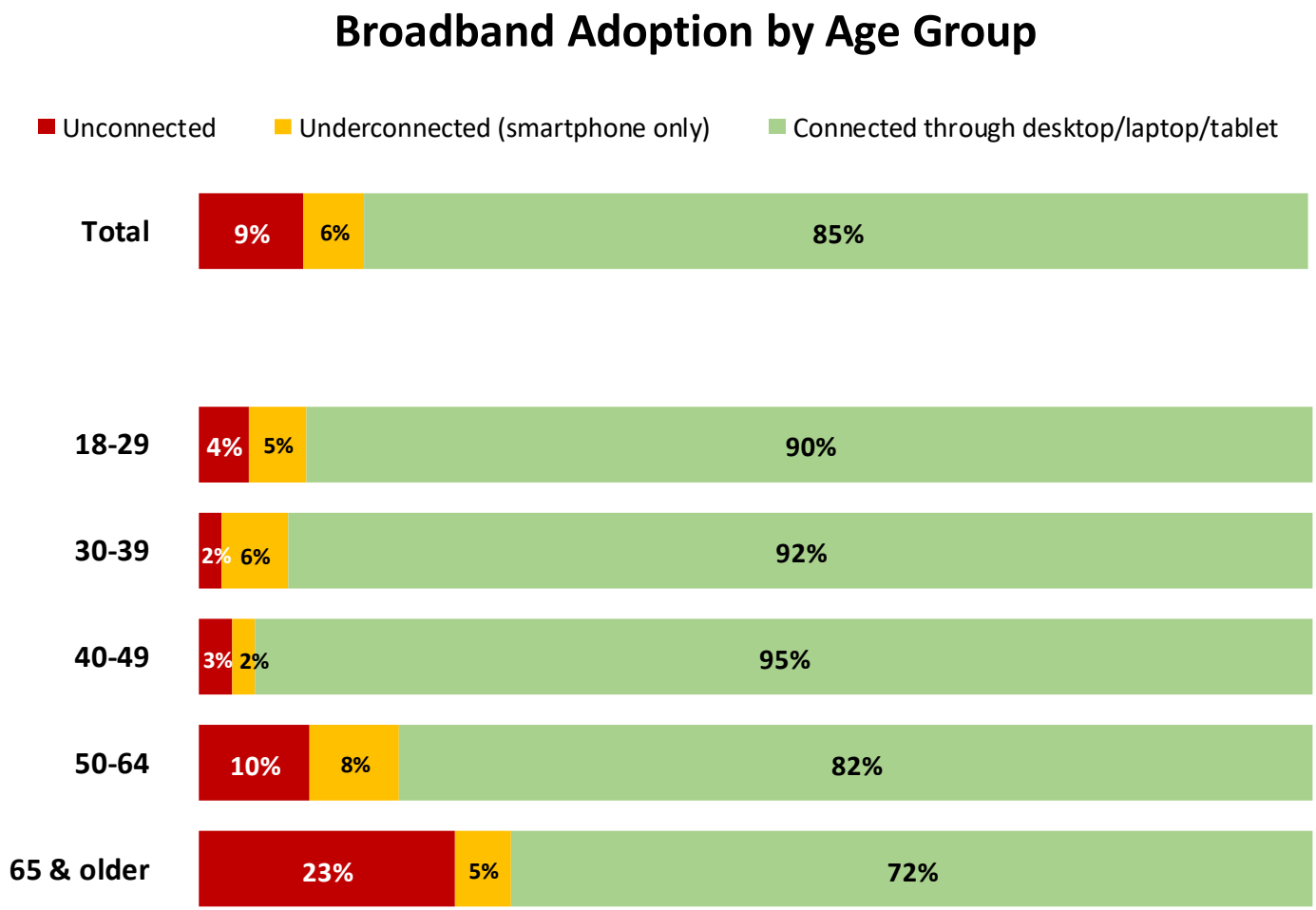


More than 1 in 4 low-income households are unconnected or underconnected, in contrast to near universal adoption among higher-income households.

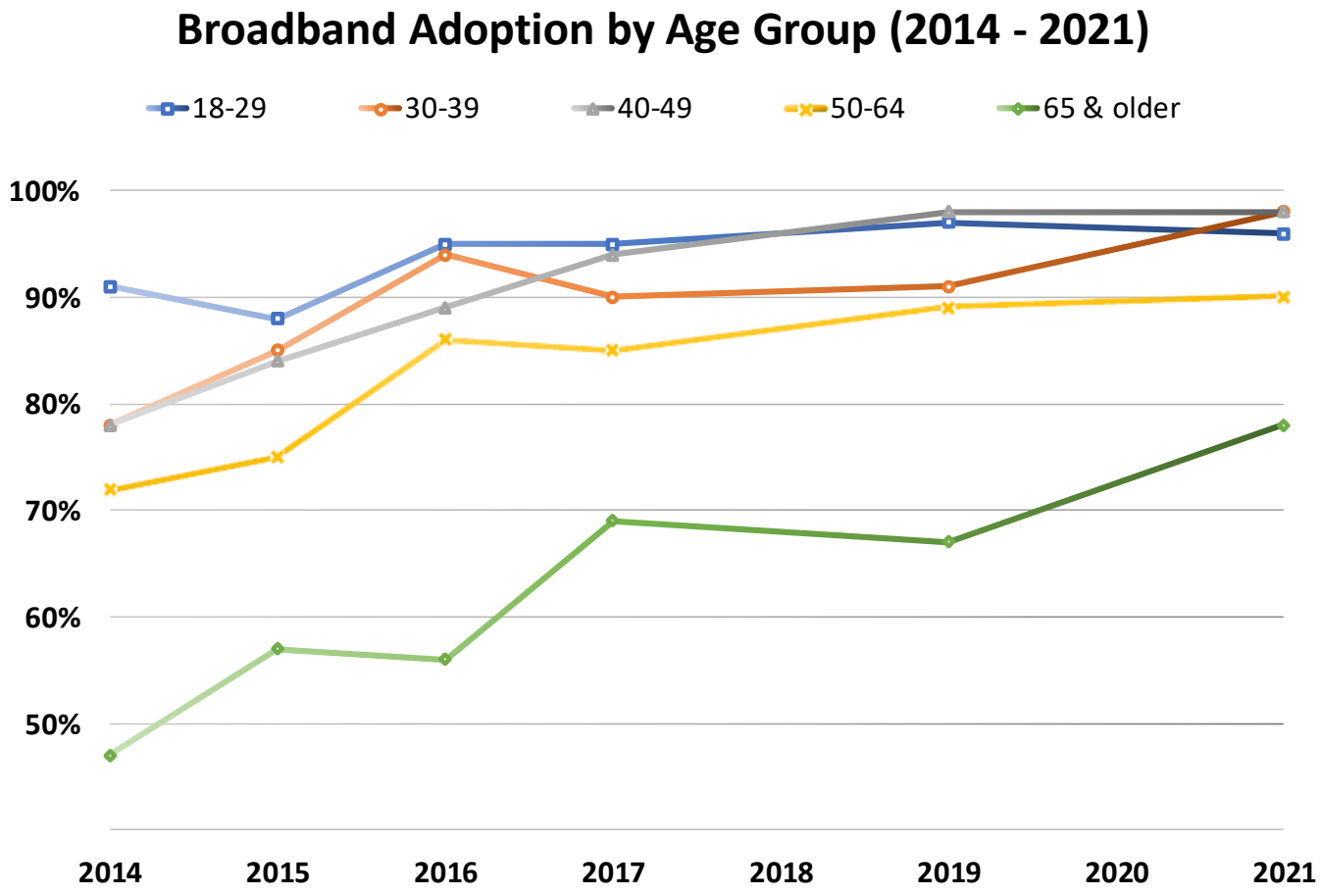


***Low-income is defined as households with income lower than 200% of the Federal Poverty Line depending on number of household members.*

More than 1 in 4 residents age 65 and older are unconnected or underconnected.

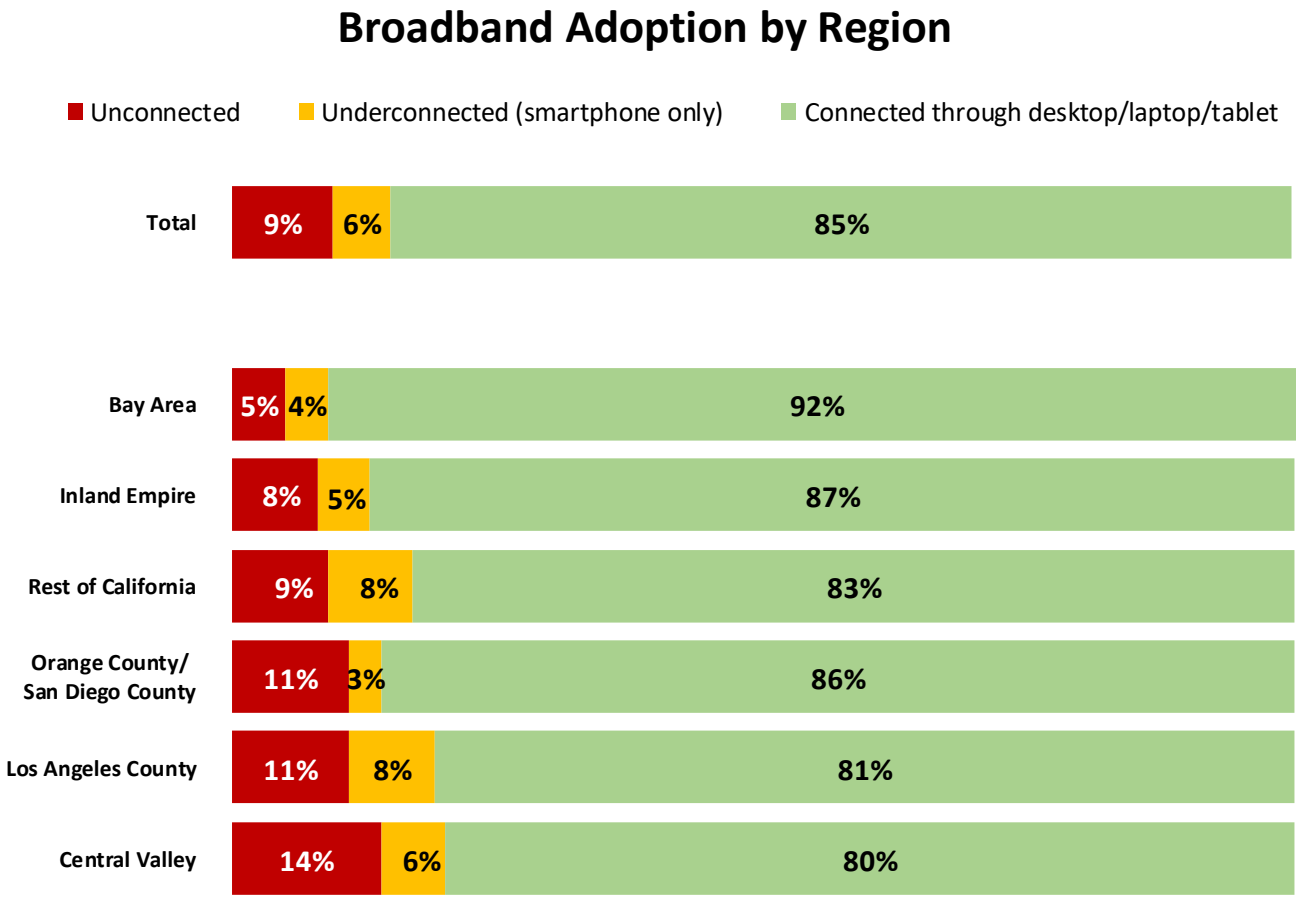


However, there have been significant gains in adoption among older adults since 2019.



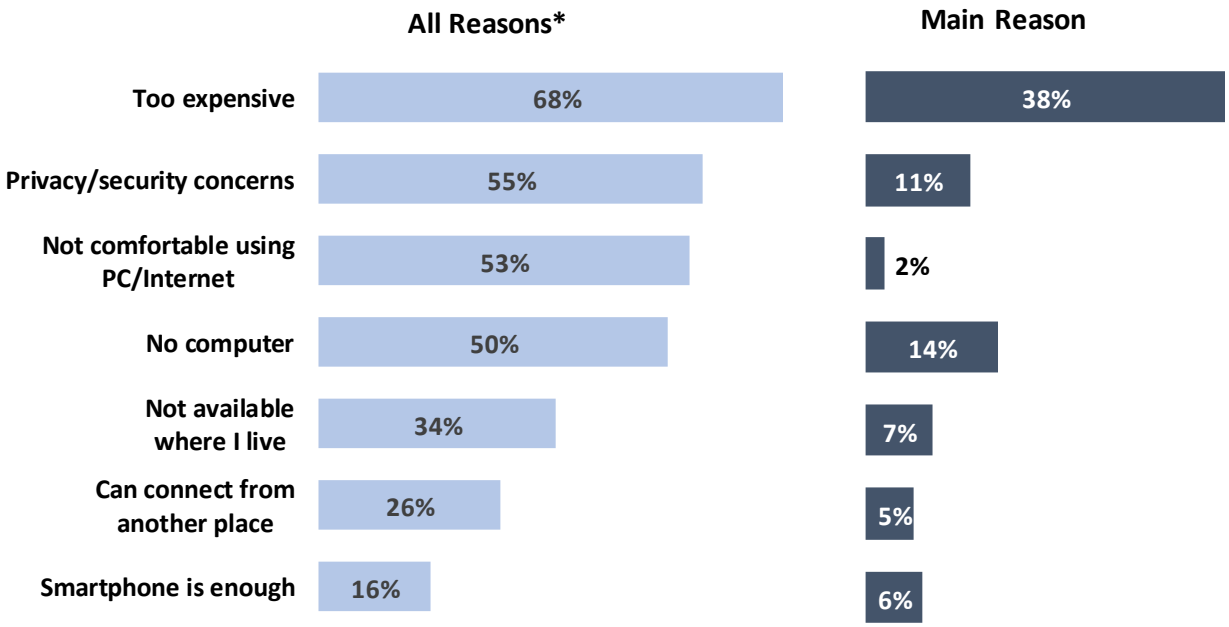
Source: 2021 from USC; 2017-2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll.

There are significant disparities in broadband adoption across California, with Los Angeles County and the Central Valley lagging behind other regions.



Affordability is the main reason that keeps households from adopting broadband; digital literacy and lack of an appropriate device are also relevant factors.

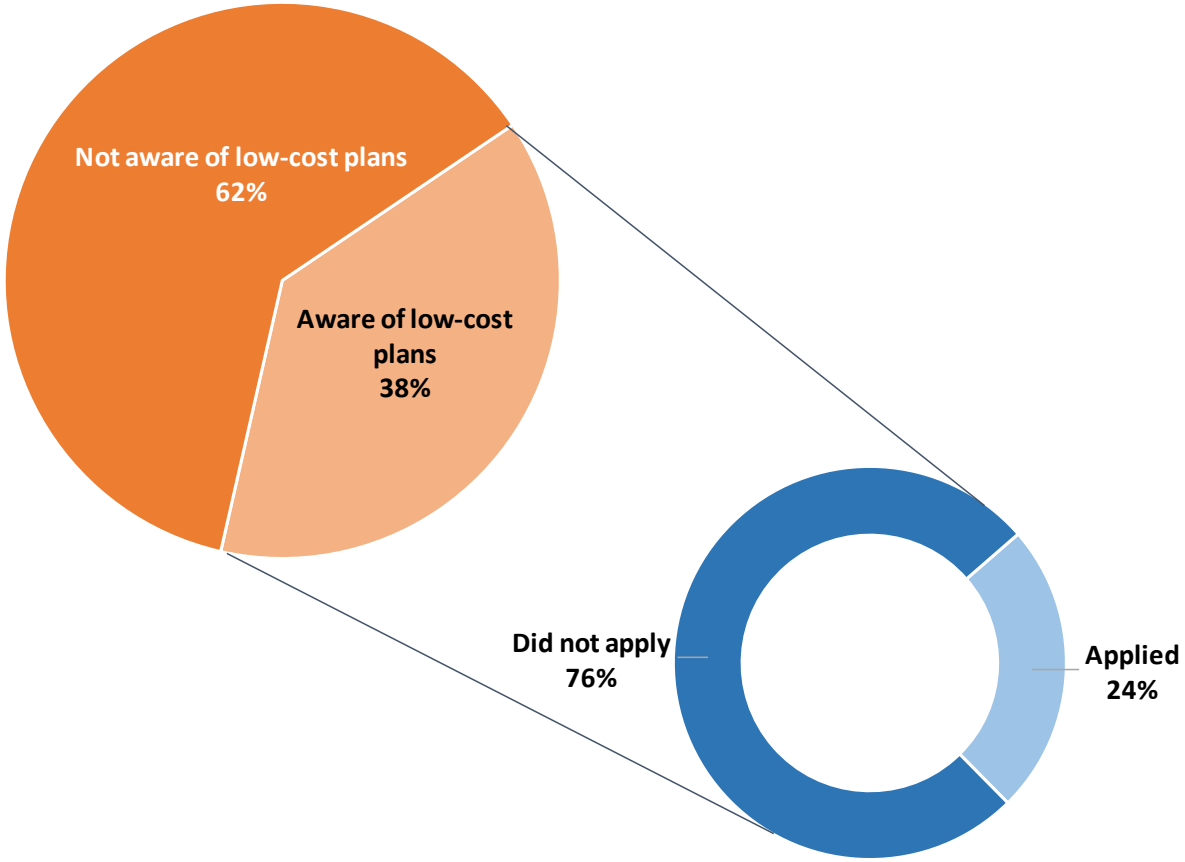
Self-Reported Reasons for Lack of Internet Connectivity at Home Among Unconnected and Underconnected



**Percentages add to more than 100% due to multiple responses*

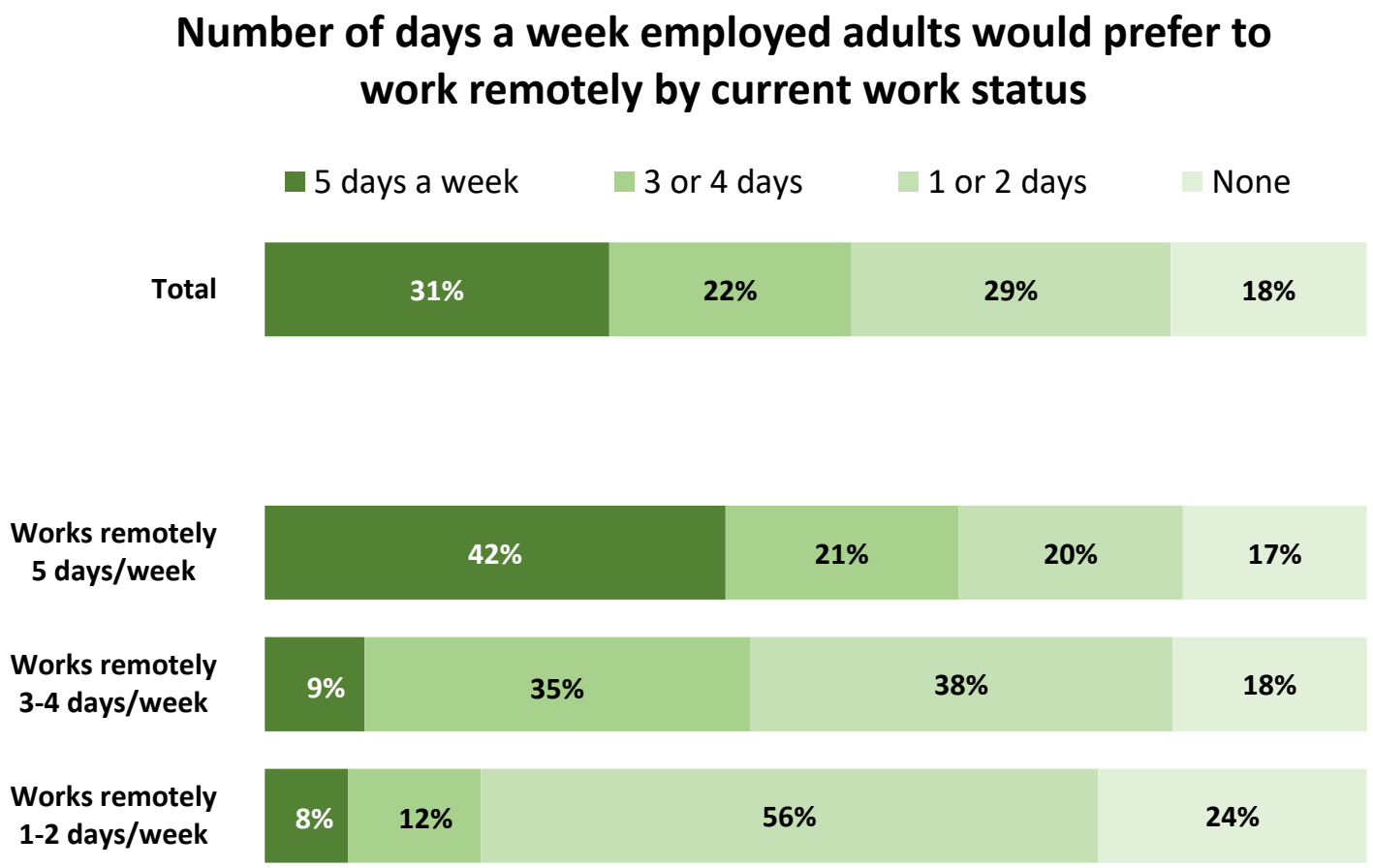
Note: Subsample for unconnected and underconnected n=212 (unweighted)

Nearly 2 in 3 unconnected or smartphone-only households are unaware of discount Internet plans, and fewer than 1 in 4 of those aware report having ever applied.

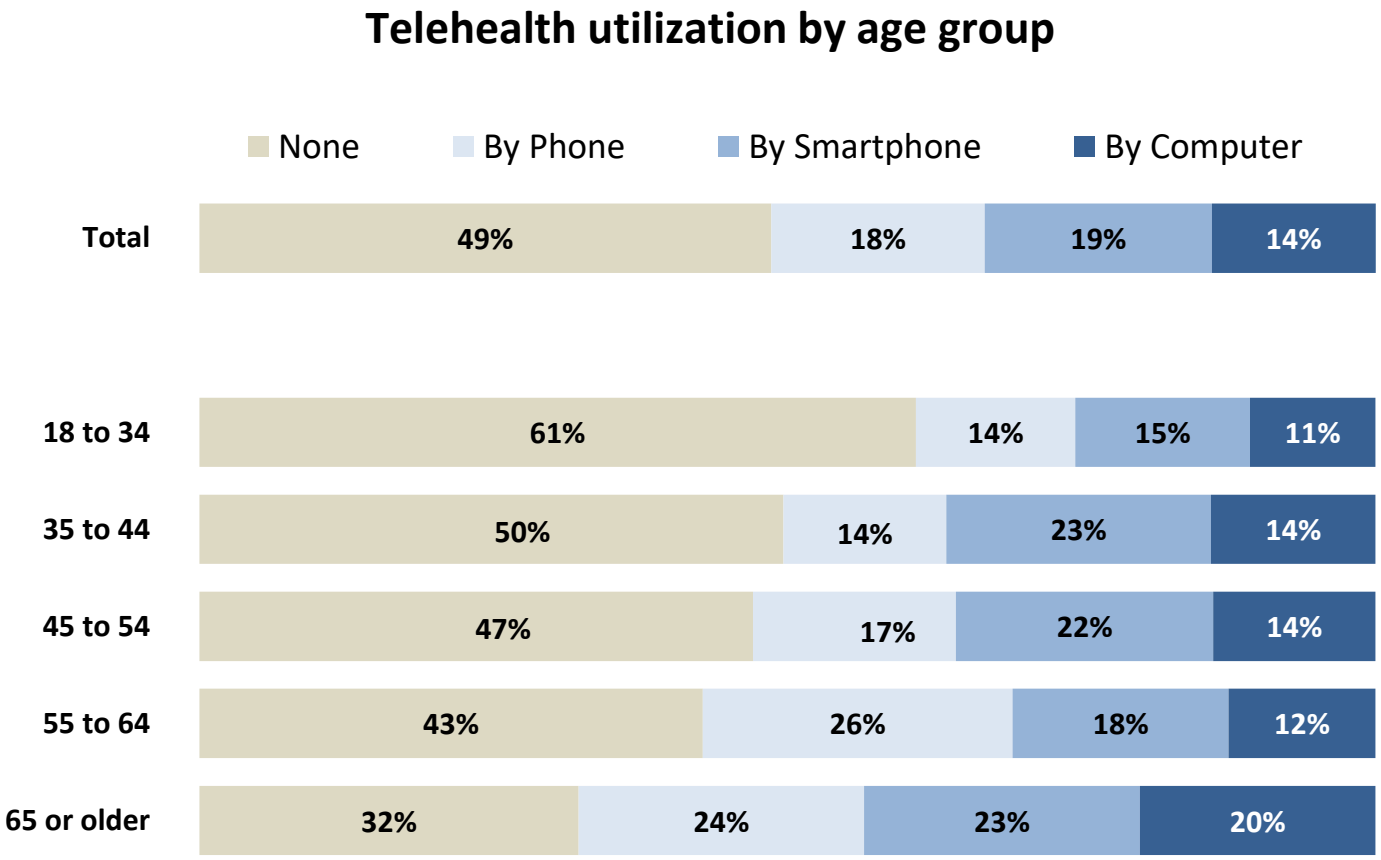


Note: Subsample for unconnected and underconnected n=212 (unweighted)

If working from home, less than 1 in 5 would return to in-person, potentially offsetting 55% of work trips



Over half of respondents have used telehealth in past year, use increases with age



THANK YOU

Hernan Galperin
hernan.galperin@usc.edu

About the Statewide Survey on Adoption

- **Population**: California Adults (age 18 and older)
- **Sample Size**: 1,650 Households
- **Method of Collection**: Telephone Survey
- **Sampling Method**: Random-Digit Dialing (RDD) of Cellphones (94%) and Landlines (6%) in California
- **Languages**: English, Spanish, Mandarin, Vietnamese
- **Margin of Error**: ~2% for 95% Confidence Level
- **Weights**: Results Were Adjusted for Age, Gender, Race/Ethnicity, Education and Region based on ACS 2019
- **Fieldwork Dates**: February 10 – March 22, 2021

Overview of the Resource Guide

Isa Avanceña,
Project Associate for Valley Vision

CETF

CALIFORNIA EMERGING TECHNOLOGY FUND

Getting Connected

A Broadband Deployment and Adoption Resource Guide

For Local and Regional Government Leaders

valley vision

Community Inspired Solutions

The Roles of Local and Regional Government

Local and regional government officials can have substantial impact on the deployment and adoption of broadband through their many leadership roles. These **roles are embedded in the elected governing city councils and boards of supervisors**, whether or not the jurisdictions appoint specific staff to function in these roles.

Role	Definition
Policy Leader	Promulgate policies that determine the jurisdiction's attention and attitude toward broadband technology; define the approach to facilitating capital investment.
Planner	Prepare land use and other related plans that guide the development in their jurisdiction, determining "smart" growth and defining quality of life for residents.
Regulator	Adopt implementing ordinances for policies and plans that promote "smart" infrastructure and facilities.
Consumer	Purchase and utilize technology that enables residents to access information and services, encouraging innovation and competition.
Service Provider	Provide information and services online that increases the relevance of the technology to consumers, encouraging adoption.

How to use this Resource Guide

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

- An overview of select broadband plans and ordinances across the state;
- Case studies for broadband deployment and adoption, including municipal broadband and 5G; and
- A list of additional resources from national and state broadband agencies and organizations.

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 consortia for further guidance and support.

Methodology: How this Resource Guide was put together

Data gathering from several national and statewide organizations that do research, disseminate information, and convene experts and stakeholders around broadband (e.g., Next Century Cities, the National Telecommunications and Information Administration, the League of California Cities, etc.).

Getting Connected Roundtable (local government leaders and Internet Service Providers)

Outreach to consultants who specialize in assisting jurisdictions with advancing broadband infrastructure, deployment, and adoption .

Outreach to California's regional broadband consortia who work with their jurisdictions on identifying and implementing broadband-friendly policies and practices.

Outreach to jurisdictions (counties and cities) working to close the Digital Divide in their communities.

Broadband Masterplans

Broadband masterplans are comprehensive plans that outline a jurisdiction's priorities and policies.

Often includes:

1. An in-depth assessment of the community's broadband capability and accessibility;
2. An asset inventory;
3. Regulations with respect to leasing and permitting; among others; and.
4. Funding strategies.

Broadband masterplans can be incorporated into a jurisdiction's General Plan or exist as a separate document.

County or City	Broadband Masterplan	Summary
El Dorado County Population: 192,843 Households: 70,794	Broadband Feasibility Study and Funding Strategies	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. **Notable Elements:**. 1. Conducts financial modeling and route verification for priority projects. 2. Evaluates financial implications, explores investment models and strategies, and suggests several implementation options. 3. 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.
Humboldt County Population: 135, 768 Households: 54, 267	Chapter 6, General Plan	Deals with *all* telecommunications; lists the benefits of broadband to the community; provides an overview of broadband availability in the county; Identifies broadband goals and policies, priorities, standards, and implementation measures. **Key elements**: • Encourages service providers to size underground and overhead facilities to accommodate future expansion; • Provides for utilizing permit processes that vary depending upon the physical characteristics of the facility, etc.; and • Provides for seeking grant funding for outlying rural areas and other underserved communities.

Dig Once, “Dig Smart” Policies

- Encourages the placement of fiber or conduit in the ground any time the road is dug up for a public works project;
- A commonsense method of reducing the cost of communications infrastructure deployment
- 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;
- Can also greatly reduce strain on a community by minimizing traffic, noise, and safety concerns of constant construction work.

County or City	Ordinance or Best Practice	Summary
Calaveras and Tuolumne Counties **Population**: 45,905 **Households**: 28,181	General Permit Conditions and Specifications for Trench Cuts and Street Resurfacing	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. 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.

Municipal FTTP (“Fiber to the Premises”)

- Used to specify telecommunications that use fiber to connect the subscriber.

- May be more expensive to install but offers significant savings in terms of maintenance when compared to copper alternatives.

County or City	Ordinance or Best Practice	Summary
City of Santa Cruz Population: 162, 204 Households:22, 363	Santa Cruz Fiber Public-Private Partnership Approval	• The 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.

Master License Agreement

- Made between the Licensor (i.e., the jurisdiction, such as a county or city) and Licensee (i.e., the internet service or infrastructure provider).

- 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
City of Salinas Population: 156, 550 Households: 40, 623	License Agreement for Wireless Installations on Public Structures	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).

Additional Models and Case Studies

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

County-wide Environmental Impact Report (EIR)

Municipal Fiber Broadband Networks

5G Deployment in San José

Councils of Government

Feedback from Internet Service Providers

Digital Equity Bill of Rights

Sample Broadband Access Resolution

Sample Model Policy to Bring Broadband in Underserved Communities

Regional/Metropolitan Planning Organizations Panel:

On the region-wide adoption of Digital Equity resolutions and permit streamlining

Moderator: Sunne Wright McPeak, CETF

Kome Ajise,

Executive Director, Southern California Association of Governments (SCAG)

Hasan Ikhrata,

Executive Director, San Diego Association of Governments (SANDAG)

Case Study from El Dorado County:
On their Master Broadband Plan and Implementation

Aaron Magezi,
Deputy Chief Administrative Officer for El Dorado County

Broadband Connectivity

A Recap of the approach taken by El Dorado County

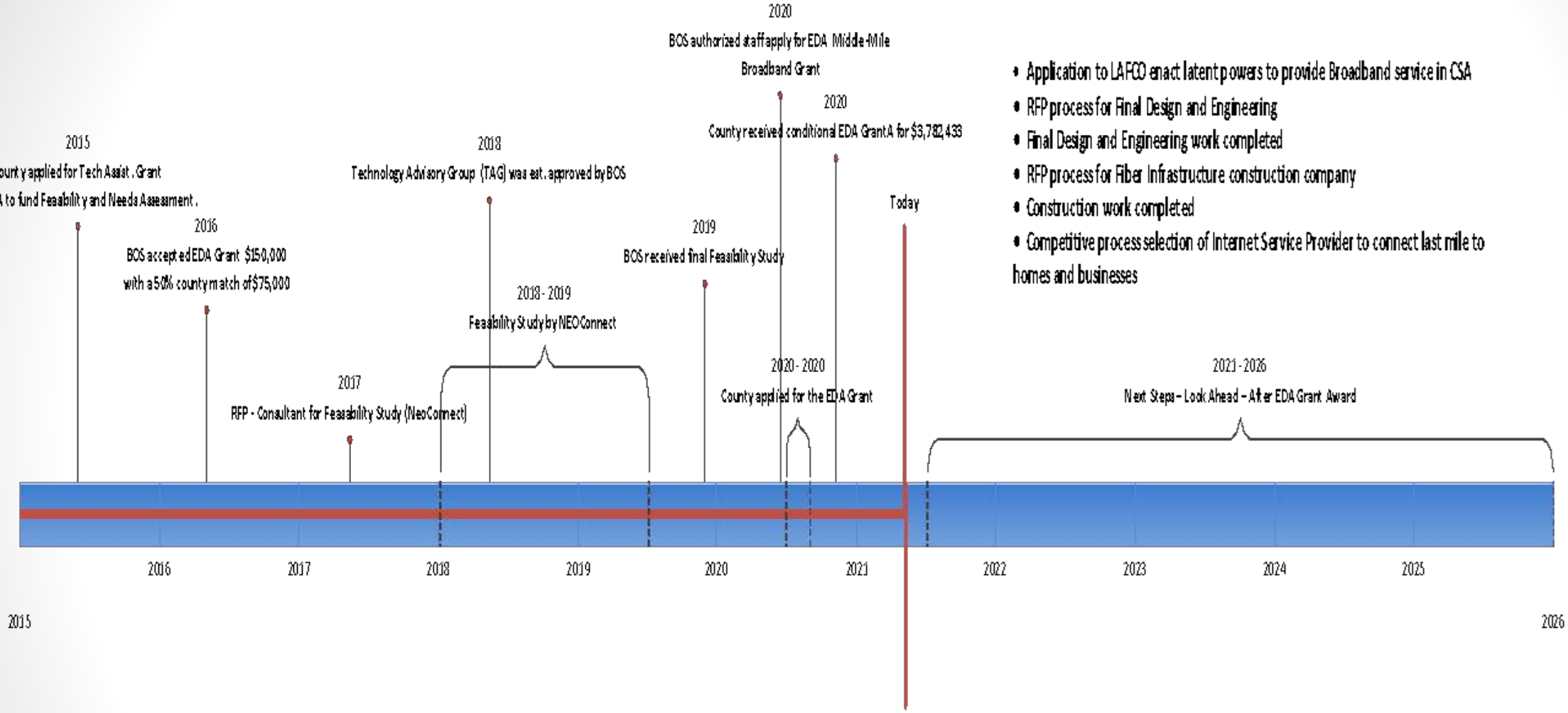
May 14, 2021

El Dorado County Leadership

- Board of Supervisors
  - John Hidal – District 1 Supervisor
  - Geoge Turnboo – District 2 Supervisor
  - Wendy Thomas – District 3 Supervisor
  - Lori Parlin – District 4 Supervisor
  - Sue Novasel – District 5 Supervisor

- Don Ashton, MPA - Chief Administrative Officer

Timeline 2015 to Date



- Application to LAFCO enact latent powers to provide Broadband service in CSA
- RFP process for Final Design and Engineering
- Final Design and Engineering work completed
- RFP process for Fiber Infrastructure construction company
- Construction work completed
- Competitive process selection of Internet Service Provider to connect last mile to homes and businesses

- El Dorado County waiting EDA award (optimistically confident)
- Environmental work and surveys are close to being conducted once species are present

Past

2015: Economic Development Department applied for a technical assistance grant from the EDA to fund a Broadband Feasibility and Needs Assessment.

2016: Board accepted a Grant from the EDA of $150,000 with a 50% county match of $75,000

2017: An RFP was conducted to chose a consultant to perform the Feasibility Study and NEO Fiber, dba NEOConnect was chosen.

2018: Technology Advisory Group (TAG) was established, approved by BOS to become the Broadband Ad Hoc Committee, The goal of this committee was to work through the Feasibility Study results and address follow-on activities as a result of the Feasibility Study

2018-19: The Feasibility Study was conducted by NEOConnect. This effort included the following:

Past – Continued

- ✓ Creation of a team consisting of county staff, community members, the Ad-Hoc Committee, this team became referred to as the TAG team.

- ✓ Regular meetings with the TAG team for NEOConnect to present their findings and request feedback and direction of build-out assumptions.

- ✓ Community outreach meetings to property owners, businesses, medical facilities, schools, on both slopes to gather feedback regarding available Internet and/or Broadband services in their areas.

- ✓ Several presentations by NEOConnect to the Board including status reports and discussion of next steps, including summaries of community feedback, recommended “Dig Once” policies, priority areas/projects, impact of public/private partnerships, overview of various grant opportunities, etc... These presentations are posted on the Broadband Internet page.

Past – Continued

December 2019: Board received the final Feasibility Study report that included financial modeling results and various options for 30-40 year bonds resulting in a countywide property tax assessments as well as public/private partnerships to help pay the large amount required for a countywide infrastructure buildout.

At this time staff was directed by the Board to:

- ✓ **Continue to pursue Broadband development in smaller, priority areas, seek a partnership with an investor and look for grant opportunities.**

Past – Continued

July 2020-Sept 2020: The County applied for an EDA grant and addressed three separate rounds of questions regarding design and engineering and environmental issues.

November 2020: The County received a conditional grant award from the EDA for $3,782,433 with a county match of $420,270 (10%), for a total amount of $4,202,703. The conditions are around soil maps, historical preservation communication and NEPA environmental results.

Present

- ✓ The County continues to work with their consultant to address the outstanding needs of the EDA
  - Some of the soil and vegetation work may need to be performed in the spring.

- ✓ The County is still awaiting EDA award status however is optimistically confident of securing the award.
  - Environmental work and surveys are close to being conducted once species are present.

Future

- Federal grants to rural and tribal populations are coming, but we don't know yet if any parts of the county will qualify, or what the match requirements may be.

- The State has launched their California Broadband For All Plan which captures many of the needs identified by our consultant, however does not identify available funding, at least not yet. It does identify the state agencies that will be responsible for implementing various part of the plan.

- The California Broadband Council will convene quarterly to discuss next steps and the plan will be updated at least annually through 2025.

Future – Continued

- There is pending legislation in AB14 that will enable counties to build Broadband infrastructure and provide services with Board of Supervisor approval, this would alleviate the need to get approval from LAFCO and go through AB8 process involving property tax area research by Assessor and Auditor/Controller. According to County Counsel this legislation if being fast-tracked and may be approved in the late spring timeframe.

- **Ad-Hoc Committee Meetings :**

These meetings occur on occasion when there is news or suggested next steps from our consultant. I send out notices and articles that may be of interest to the group. Participants also send out articles on occasion to the team.

Future – Continued

- **American Rescue Plan Act 2021 (ARPA) Funds - Broadband**

The County is proactively exploring how to use ARPA funding for Broadband. ARPA guidelines : https://home.treasury.gov/system/files/136/FRF-Interim-Final-Rule.pdf.

County Leadership is fully committed to, and engaged in this ongoing effort further more directly involved (**Adhoc committee** includes 02 Supervisors Parlin, Turnboo and the CAO – Don Ashton) and the **TAG** also includes County Economic Development leadership and NEOConnect Consultant /Broadband Expert, among others.

The team plans on meeting within the next two weeks, early June latest to explore and discuss further how to best move this forward.

Future – Continued

Approach is strategic and highly collaborative, leveraging our internal and external experts , including the Ad Hoc committee, to discuss best way forward toward ARPA funding for Broadband. For example, ***if the County allocated funds to Broadband, how and what projects could those funds best be used to leverage additional funding and/or expand Broadband to specific projects/locations in the County.***

The guidelines have **specific criteria regarding upload and download speeds, and require that all funds be obligated by December 2024 and spent by 2026.**

Case Study from the City of San José:
On their 5G Deployment and Digital Inclusion Initiative

Jordan Sun,

Chief Innovation Office of the City of San José

San José Digital Inclusion Fund

San José, California

1 million residents

10th largest US city

40% of residents foreign born

300K residents to be connected to free wifi

Internet is a basic human right, yet…in San José…

95K+

Residents lack access to broadband

50K+

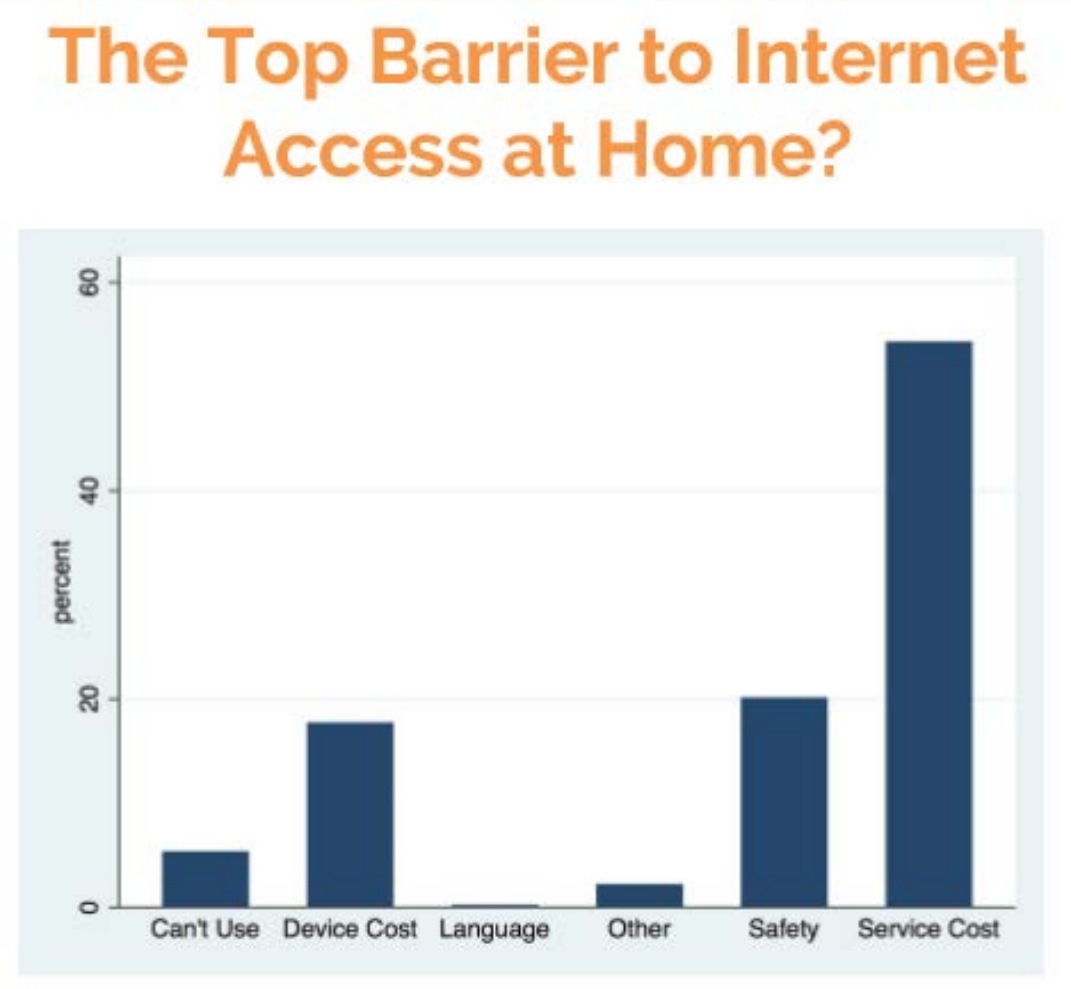
Households without digital access and skills

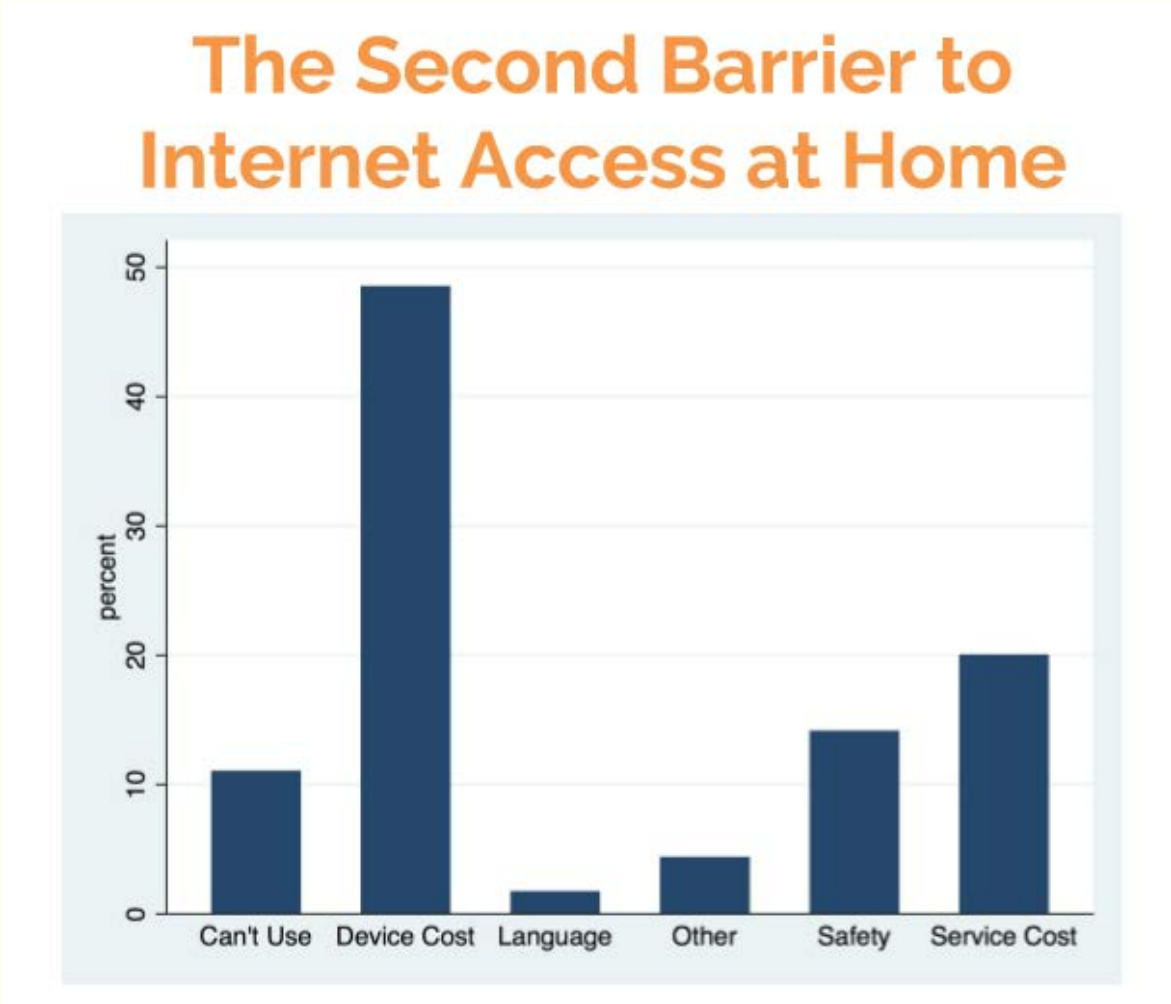
>50%

Low income residents, especially African American & Latino

Sources: 2017 Digital Inclusion Strategy Report, Stanford School of Education & Community Connect Labs on behalf of the City of San Jose

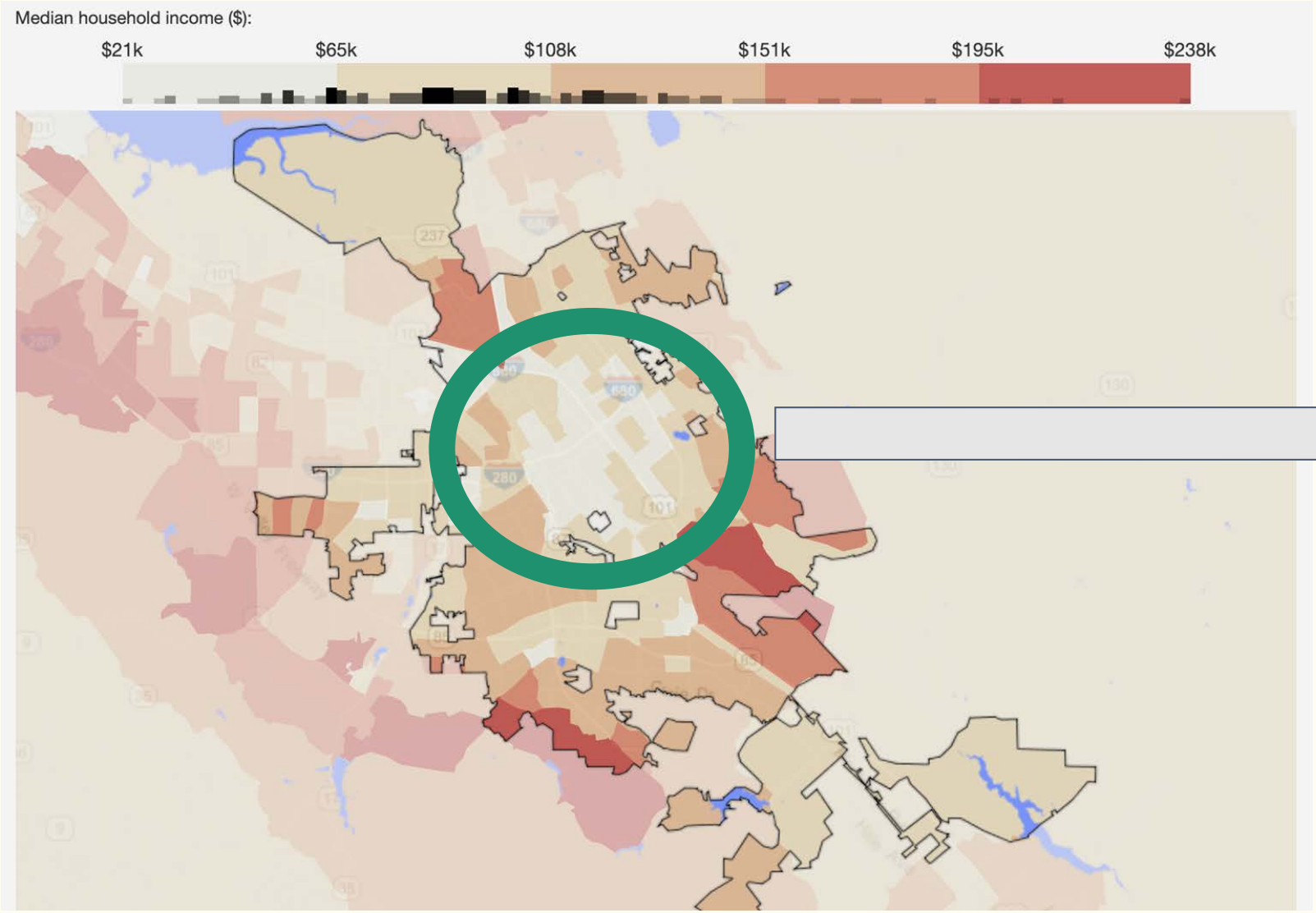
Root Causes in SJ: Service & Device Costs





Sources: 2017 Digital Inclusion Strategy Report, Stanford School of Education & Community Connect Labs on behalf of the City of San Jose

Digital redlining exists in right here in Silicon Valley



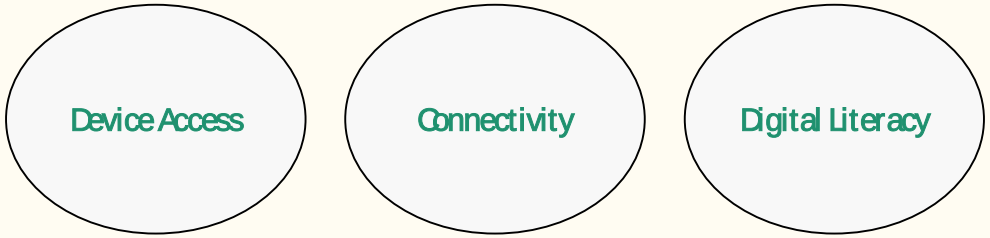
1. Digital divide is correlated with income & race
2. We cover citywide but target pockets of strong systemic inequality
3. San Jose's digital inclusion efforts is the model for the rest of CA and US to follow

San José's $24M Digital Inclusion Fund closes the digital divide sustainably with CEIF

$14M from telecos accelerating 5G small cells + $10M from donations

~$1M in community grants per year to address the 3-legged stool problem

1st San Jose initiative to invest in long-term digital literacy proficiency



During the pandemic...

San José provided devices to 61,203+ low-income students.

Problem

Device donation & refurbishing process is broken.

- ~~Unsustainable~~
- ~~Inconsistent~~
- ~~Cost-center~~
- ~~Decentralized~~

Current Device Refurbishing Models for Charity

Corporate/City device drive yields 100 computing devices
1 week

→ Refurbisher arranges pick-up and refurbishes
2- 6 weeks
- ($150)/device

→ Refurbisher coordinates device drop off
1- 2 weeks

→ SCCOE identifies schools that can accept donated devices with specs
1- 2 weeks

→ School collects devices and distributes them to students
1- 2 weeks
- ($250)/device

→ 
6- 18 weeks

Challenges:
Unknown or varied device specifications; Some devices may or may not be refurbish worthy.

Challenges: Need to identify schools that can use the devices that were refurbished

Challenges: Stopgap solution, schools and teachers are unable to troubleshoot all device types, in-class time spent inefficiently, school still needs to purchase Chromebook for student

Each device results in an additional ($150) loss to the donor or charity.

We surveyed the market to fix this...

revlvn

Plan·IT·ROI

Taneshi

Tech
Exchange

Surplus Service®

Recent Revivn Refurbishing Pilot Success Metrics: Case Study

ServiceNow scheduled 1 pick-up for 124 computing devices

$10,000

Buy-back value of 1 pick-up

$1,000

10% partner benefit

6 weeks

Time from inception to completion

$100,000 in projected annual proceeds with ONLY ServiceNow

** 10 pick-ups, with avg. $10K buyback proceeds from each*

Stay tuned...

Jordan Sun

Chief Innovation Officer, City of San José
@sanjosemoti

Charlene Tatis
Program Director, CEIF
sjdigitalinclusion@gmail.com

Caltrans Broadband Initiatives:
Dig Once/Joint Use and Permit Streamlining Initiatives and Success Stories

Elizabeth Dooher,
Broadband Facilities Coordinator, Caltrans

Caltrans Broadband

Elizabeth A. Dooher
Broadband Facilities Coordinator
California Department of Transportation

Executive Order / State Broadband Action Plan

- Directs state agencies and departments, including CalSTA, Caltrans, and CTC, to work together to help facilitate deployment and adoption of broadband services throughout the state

- All state agencies and departments are directed to examine their processes and implement improvements in order to close the digital divide

- Transportation will focus on fiber and fiber conduit deployment of the “middle mile” along the state highway system

State Broadband Action Plan

Simplify deployment and leverage existing assets

- Implement a Dig Smart policy to install conduit as part of any appropriate and feasible state-funded transportation project in strategic corridors, as an incentive for service build-outs to unconnected and under-connected communities

State Broadband Action Plan

Dig Smart Policies

- Present an opportunity to lower the capital cost of infrastructure deployment
- Minimize disruptions caused by ongoing or duplicitous construction, both incentivizing and expediting new investment

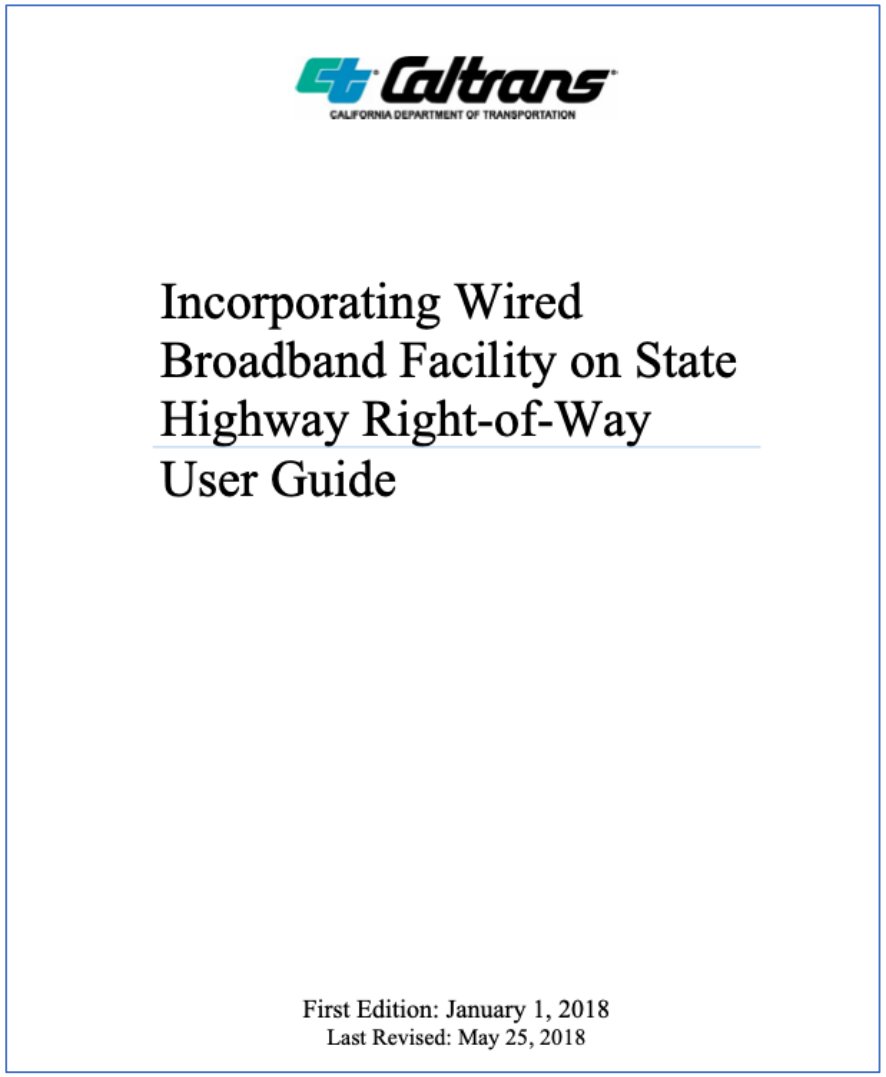
Caltrans Broadband Facilitation

Caltrans Broadband Efforts

- Establishing Broadband Coordinator Position
- Facilitating Standalone and Partnership Projects
- Streamlining Permitting Process
- Hosting Outreach Meetings
- Developing and Maintaining Broadband Website

https://dot.ca.gov/programs/design/wired-broadband

Caltrans Broadband Facilitation


Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Incorporating Wired Broadband Facility on State Highway Right-of-Way User Guide

First Edition: January 1, 2018
Last Revised: May 25, 2018

- Policy and Resources
- Roles and Responsibilities
- Co-Location of Conduits
- Process to incorporate wired broadband facilities
- Facility Specifications
- Conduit Siting Criteria and Environmental Review
- Ownership and Maintenance
- Issue Resolution Process

Caltrans Broadband Facilitation

Opportunities

- Installation of Conduit on Transportation Projects
- Engagement with Regional Broadband Consortia
- Partner with Internet Service Providers

Caltrans Broadband Coordinator

Elizabeth A. Dooher

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Questions

Closing Remarks

Trish Kelly,

Managing Director for Valley Vision

Local Government Q&A Panel

Moderator: Trish Kelly, Valley Vision

Aaron Magezi,
Deputy Chief Administrative Officer for El Dorado County

Jordan Sun,
Chief Innovation Office of the City of San José

Kyle Zimbelman,
Economic and Business Relations Manager for El Dorado County

Diane Kruse,
County Broadband Consultant and CEO of NEO Connect