

CETF-USC **Statewide** **Broadband** **Adoption Survey**

**INTERNET ADOPTION AND THE
“DIGITAL DIVIDE” IN CALIFORNIA**

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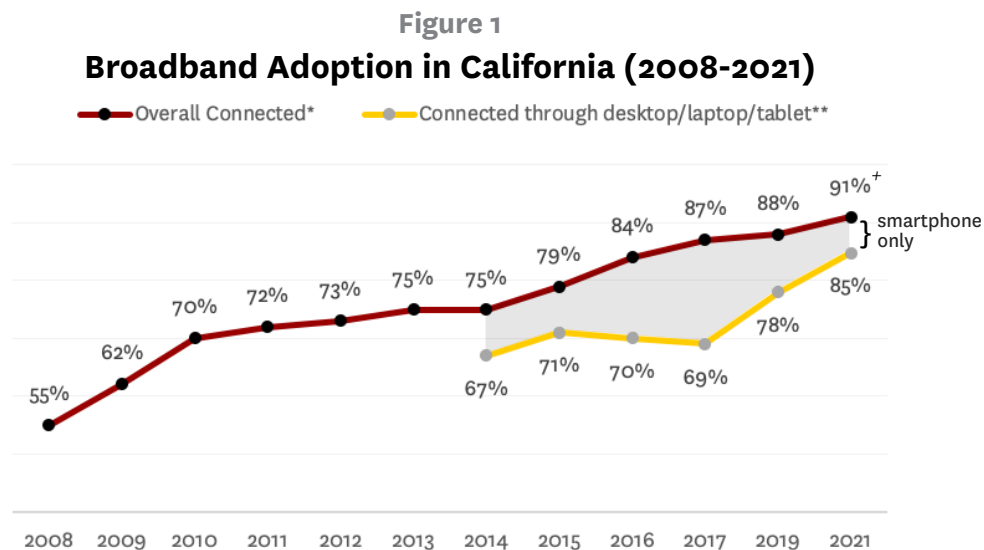
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SINCE 2008, the California Emerging Technology Fund (CETF) has conducted a statewide survey to assess California’s progress towards closing the divide in broadband connectivity across the state. Over the years, the results have shown a steady increase in broadband adoption, though the gains have been uneven across regions and groups. Today more than ever, the COVID-19 pandemic has exposed how these disparities impact opportunities to work, study and access health services.

The 2021 Statewide Survey on Broadband Adoption was conducted by researchers at the University of Southern California (USC), led by Associate Professor Hernan Galperin, as part of a new research partnership between CETF and USC. The findings show that the share of California residents with Internet access at home continues to rise, with overall adoption surpassing the 90% mark for the first time. While this represents an important milestone for the state, the findings also show that progress is uneven and many continue to be on the wrong side of the digital divide. Further, the survey reveals how the COVID-19 pandemic has created both new opportunities as well as new challenges for achieving digital equity.

BROADBAND ADOPTION CONTINUES TO RISE IN CALIFORNIA AND THE SHARE OF SMARTPHONE-ONLY USERS CONTINUES TO FALL, BUT MANY ARE STILL ON THE WRONG SIDE OF THE DIGITAL DIVIDE.

Broadband adoption continues to rise in California. Overall, nearly 91% of residents can access the Internet at home, up from 88% in 2019 (Figure 1). Further, the share of residents that use a computer, laptop or tablet to access the Internet from home has jumped from 78% in 2019 to 85% in 2021, while the share of smartphone-only residents has fallen by almost half - from 10% in 2019 to 6% in 2021. This reflects the significant progress being made in migrating underconnected residents to more robust connectivity alternatives.



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.

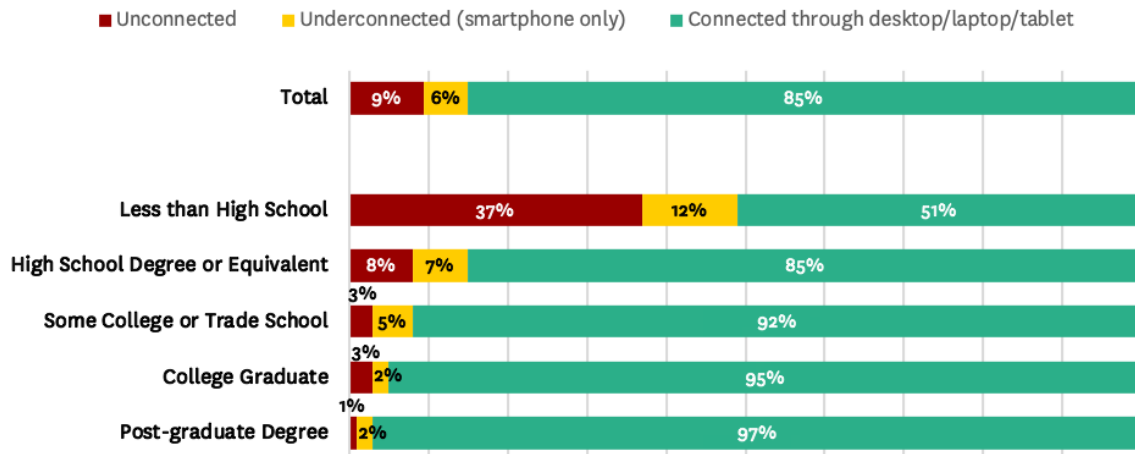
**Device disaggregation not available before 2014.

+ 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.

However, progress remains uneven across income, age groups, education and race/ethnicity lines. For example, nearly half of residents without a high school degree are unconnected or smartphone only, a stark contrast to those with higher educational attainment (Figure 2). Overall adoption for those without a high school degree was found to be lower in 2021 than it was in 2019, likely reflecting the impact of the COVID-19 pandemic on low skill employment.

Figure 2

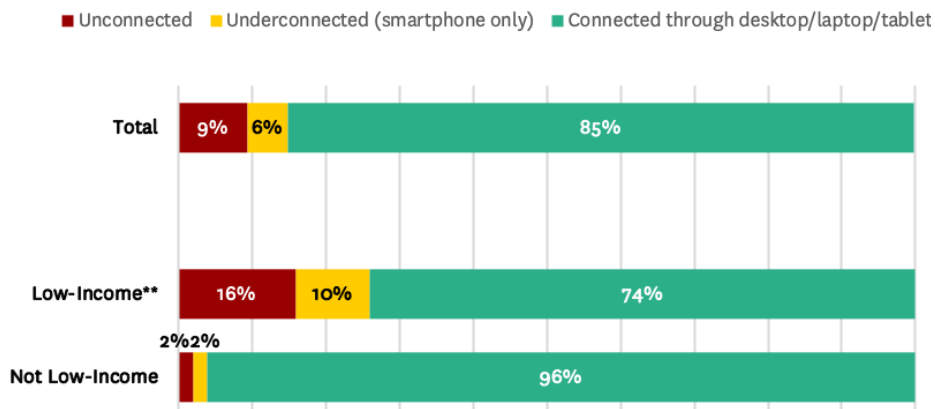
Broadband Adoption by Educational Attainment



Income remains a key determinant of opportunities to use the Internet at home. More than one in four low-income residents remain unconnected or are smartphone only, in contrast to near universal adoption among higher income households (Figure 3).¹ In addition, even when connected at the time of the survey, nearly one in five low-income households report having gone without Internet access for extensive periods of time, revealing the fragility of their connectivity opportunities.

Figure 3

Broadband Adoption by Income Status

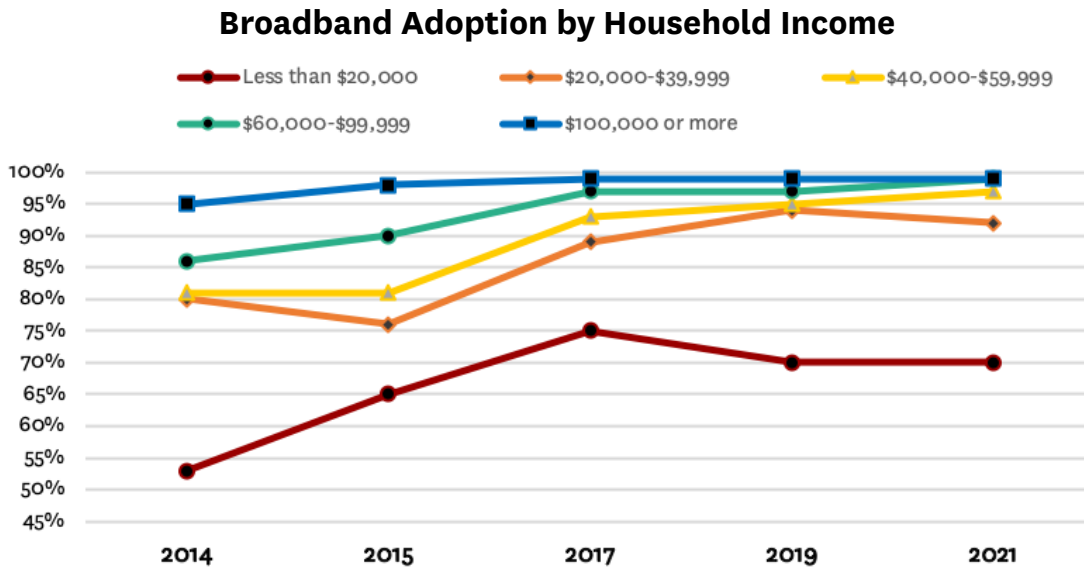


**Low-income is defined as households with income lower than 200% of the Federal Poverty Line depending on number of household members.

¹ Low-income refers to households below 200% of the Federal Poverty Line based on the number of household members.

The results also reveal that earlier progress in connecting the less affluent is slowing, which highlights the need to renew federal and state connectivity programs targeted at low-income communities (Figure 4).

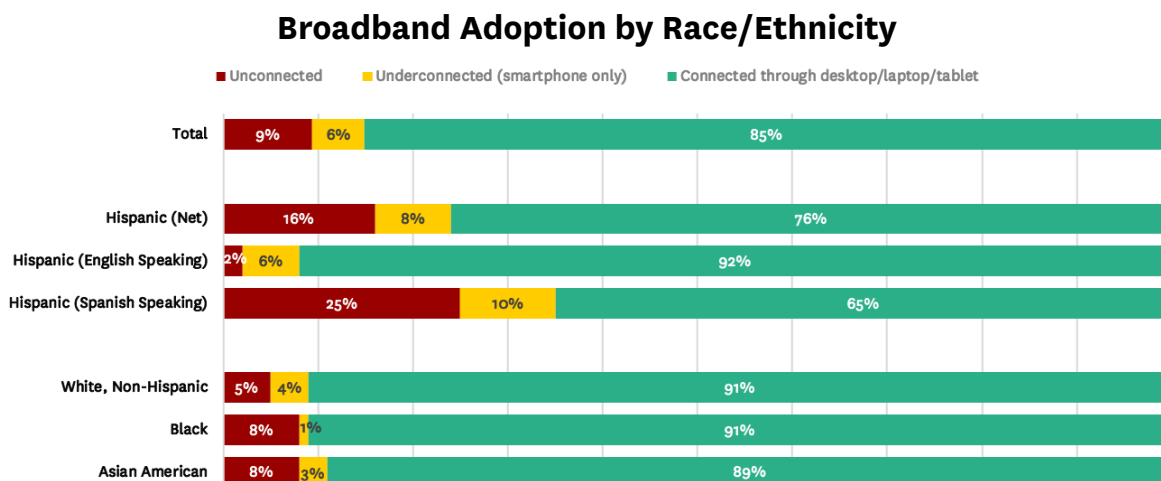
Figure 4



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

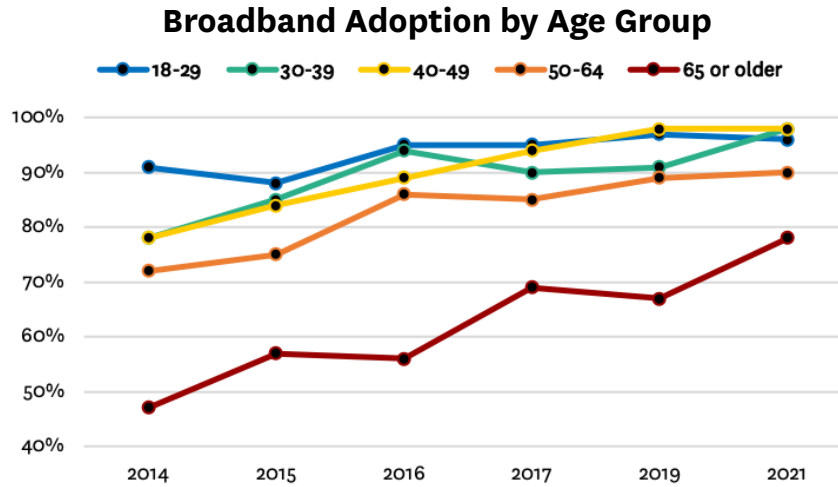
Hispanic residents, who represent nearly 40% of California residents, are significantly less likely to access the Internet at home. Nearly one in four Hispanic households remain unconnected or are smartphone only, a significant gap relative to other racial/ethnic groups (Figure 5). The gap is particularly wide for Hispanic households where Spanish is the primary language, suggesting an interplay between language and multiple other factors - such as income and nationality - that affect residential connectivity opportunities.

Figure 5



The 2021 survey reveals significant progress in connecting older adults, among whom digital skills and experience are often limited. Broadband adoption among those age 65 and over continues to rise, up from 68% in 2019 to 78% in 2021 (Figure 6). Despite these gains, older adults still lag behind other age groups with adoption rates at 90% or above.

Figure 6



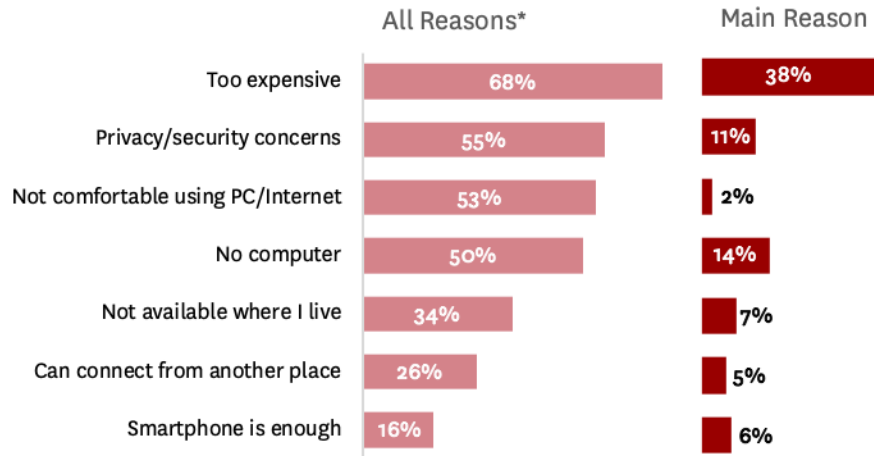
Source: 2021 from USC; 2017-2019 from Berkeley IGS Poll; 2014 to 2016 from The Field Poll
 *Includes those who can connect to the Internet through a desktop, laptop, tablet computer, or smartphone

AFFORDABILITY REMAINS THE KEY BARRIER TO BROADBAND ADOPTION

There are multiple reasons that explain why many California residents still lack Internet connectivity at home, or are only able to connect through a smartphone device with limited capabilities. The results nonetheless confirm that affordability remains the most important and fundamental of all. Among those who remain unconnected or underconnected (smartphone only), over two-thirds cite lack of affordability as one among several reasons, though limited digital skills, lack of an appropriate device and cybersecurity concerns are also important factors (Figure 7, page 5). However, when further asked to choose the most important reason, nearly 40% of unconnected or underconnected (smartphone only) respondents cite lack of affordability, far above other previously cited reasons.

Figure 7

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)

Recognizing the challenges to those that remain unconnected or underconnected (smartphone only) during the COVID-19 pandemic, both the government and the private sector have worked to significantly expand the availability of low-cost Internet programs in California. However, the results reveal that nearly two-thirds of unconnected or smartphone-only residents are unaware of discounted Internet plans. Further, among those who are aware of these alternatives, less than one in four have ever applied. The reasons for not applying range from language barriers to limited digital skills and lack of information about requirements. With the recent increase in funding for federal and state programs to promote broadband adoption, these findings suggest the need to strengthen outreach efforts to match these opportunities with target communities.

THE PATH TOWARDS LONG-TERM DIGITAL EQUITY

California continues to make significant progress towards digital equity. Despite the economic and social disruptions brought about by the COVID-19 pandemic, many more residents are now connected to broadband than in 2019, and the share of those underconnected (smartphone only) has dropped by nearly half. At the same time, progress remains uneven, and the pandemic has exposed the inadequacy of the broadband infrastructure and the connectivity opportunities availability to many California residents.

Today, with the renewed policy attention to digital equity at the federal, state and local levels, there is a unique window of opportunity to formulate policies that help realize the goal of connecting all California residents to fast, robust and affordable broadband. The results of this survey

seek to inform such policies and improve program targeting, so that actions and resources benefit those most in need. The findings also suggest that short-term remedies based on emergency funding and technologies with limited capabilities are likely to fall short, unless coupled with long-term initiatives that promote the deployment of robust broadband infrastructure, address service affordability, and promote digital upskilling.

ABOUT THE STUDY

- Sample size: 1,650 California residents (age 18 and older)
- Sampling method: random-digit dialing (RDD) of cellphones and landlines
- Languages: English, Spanish, Mandarin, Vietnamese
- Margin of error: ~2% for 95% confidence level
- Weighting: results were adjusted for age, gender, race/ethnicity, education and region based on totals from the American Community Survey (ACS)
- Fieldwork dates: February 10-March 22, 2021
- Funding: California Emerging Technology Fund

ABOUT THE TEAM

This report was prepared by Dr. Hernan Galperin, Associate Professor, USC Annenberg School for Communication and Journalism, with research assistance from Thai V. Le, Doctoral Candidate, USC Price School for Public Policy.

FURTHER INQUIRIES

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