

July 2021

Since the COVID-19 pandemic began, we have learned that access to the internet is vital for our daily lives. Essential daily tasks such as remote work, distance learning, telehealth, and social networking are just a few examples of services that rely on high-quality broadband service. However, not everyone in San Diego County has equal access to the internet, a gap known as the digital divide. This SANDAG InfoBits report examines why equal access is important, the current status of connectivity in the region, and how we can work together to ensure greater equity and in turn, prosperity for everyone.

What is the digital divide?

The digital divide refers to the growing gap between the members of society who do and do not have reliable access to broadband service¹ and a suitable device for connecting to the internet. Ensuring access to broadband service for everyone in our community is essential because unconnected and underconnected residents do not have the same educational, economic, and social opportunities as connected residents. Access to broadband is vital for the region's quality of life, economic development, sustainability, and prosperity.

How could broadband help improve transportation?

Broadband is also critical to smarter city and transportation operations. A "Smart City"² requires digital infrastructure to benefit from technology and data that make municipal operations more efficient, sustainable, and in-turn allows cities to deliver digital services to residents. Broadband is also vital for the future of transportation and is an essential component of SANDAG's [Draft 2021 Regional Plan](#), which relies on technology and connectivity to achieve its mobility and sustainability goals.

How could broadband boost our economy?

In a recent telework survey, SANDAG found that 39% of businesses and 42% of employees reported connectivity issues during the pandemic that affected their ability to do their jobs. A study from Purdue University found that every \$1 invested in broadband returns nearly \$4 to the economy,³ and the City of New York found that if universal internet access was realized, the city would gain up to \$142 billion in incremental Gross City Product, 165,000 new jobs, and \$49 billion in personal income.⁴

Did you know?



Around **2 in 5** businesses and employees reported issues with internet and connectivity while employees worked from home during the pandemic



Around **1 in 5** lower income households in the Central San Diego region do not have broadband service at home



Every **\$1** invested in broadband returns **\$4** to local economies, according to a study from Purdue University

¹ For a full list of definitions of key terms related to the digital divide and broadband, please visit: https://www.sandag.org/uploads/committeeid/committeeid_124_29183.pdf

² A smart city is one that uses sensors and other tools to collect data, with insights from the data used to manage assets, resources, and services efficiently and also improve how services are delivered.

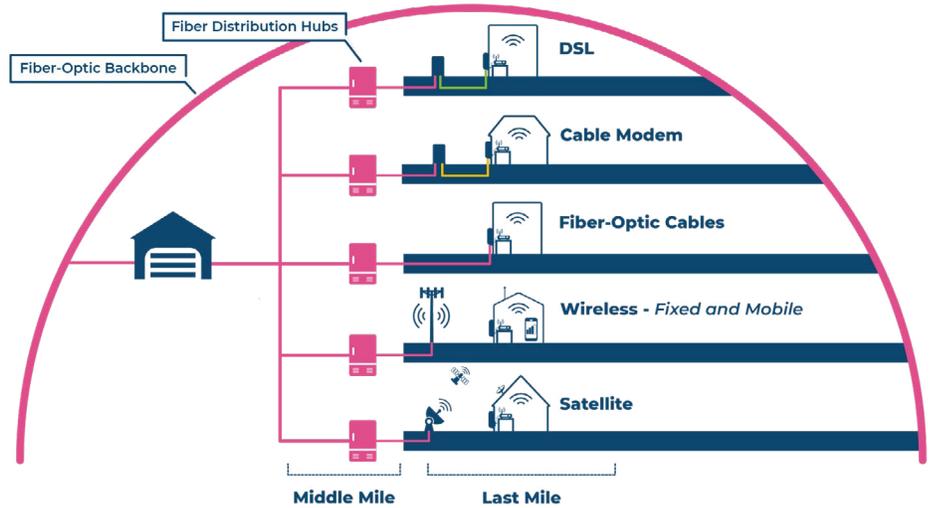
³ <https://www.purdue.edu/newsroom/releases/2018/Q3/report-broadband-access-would-benefit-rural-areas.-state.html>

⁴ https://www1.nyc.gov/assets/cto/downloads/internet-master-plan/NYC_IMP_1.7.20_FINAL-2.pdf

How does broadband work?

Broadband refers to access to high-speed internet service. The broadband network is made up of the backbone, middle, and last mile (Figure 1). The backbone consists of a high-capacity fiber optic network that transmits large amounts of data over long distances. The middle mile links the backbone to the internet service provider's last mile network. The last mile brings the connection to a home or business and can be provided using different types of transmission such as cable, DSL, wireless, fiber, or satellite.

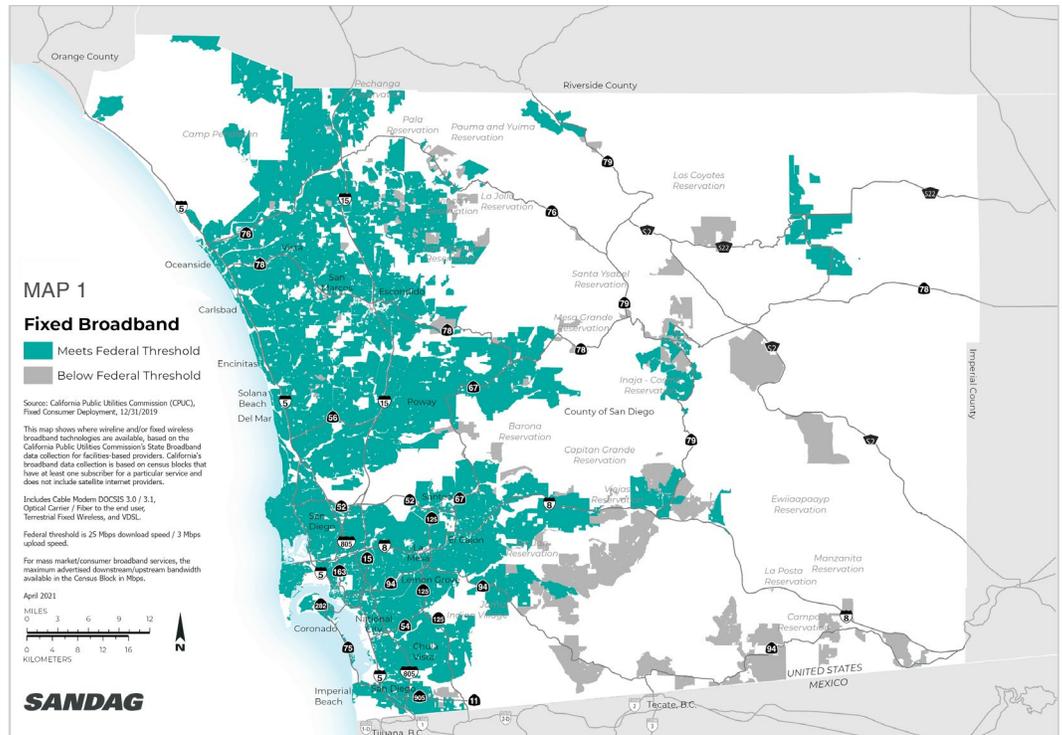
**FIGURE 1
Broadband Network**



What is the state of the digital divide in the San Diego region?

SANDAG has conducted a broadband gap analysis to identify infrastructure gaps, service disparities, and areas where adoption is low. Because data on broadband infrastructure, service availability, and adoption are not comprehensive or readily available, caution should be used when generalizing from them. However, some takeaways include:

- » Many jurisdictions in the region do not have standardized policies and permitting procedures, which leads to slow and costly broadband deployment.
- » Data from the Federal Communications Commission (FCC) indicate that 94% of people in the region's urban areas have access to fixed broadband service, compared to only 66% of people in the region's rural areas (Map 1).⁵



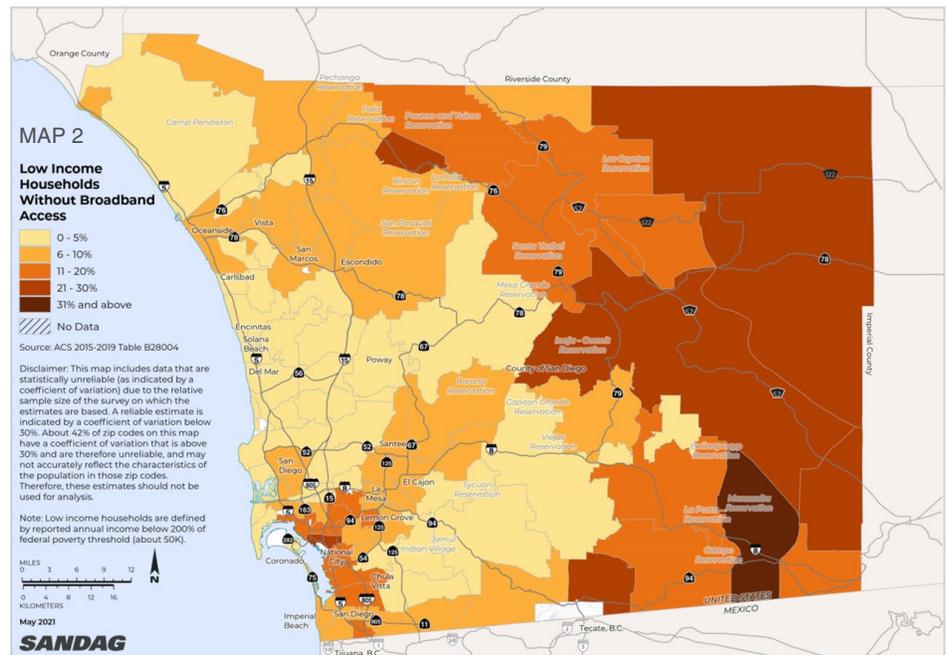
⁵ <https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477>

» A SANDAG analysis of American Community Survey data for the San Diego region revealed high concentrations of low-income households without a broadband subscription in City Heights (16%), San Ysidro (17%), National City (18%), and Barrio Logan/Logan Heights (21%) (Map 2). There are a variety of factors that may contribute to low adoption, including availability of service and affordability.

» Significant disparities in adoption of broadband service also exist for seniors age 65 and older (17% of whom do not have a computer and/or broadband subscription),⁶ and students in many local districts (20%-40%).⁷

» High-cost plans do not necessarily deliver higher speeds. For example, some of the highest priced plans offered in the region's rural and tribal areas deliver speeds that do not meet the FCC broadband definition of 25 Mbps downstream/3 Mbps upstream.⁸

» Hotspots, or a physical location where people can access the internet, typically using Wi-Fi, with a router connected to an internet service provider, have been deployed and distributed during the pandemic. While they have been a useful solution for many, they do not provide a permanent solution and deliver less than broadband speeds.⁹



What is being done to bridge the digital divide in the San Diego region?

In August 2020, Governor Newsom signed [Executive Order N-73-20](#), directing state agencies to increase access to high-quality broadband statewide. Subsequently, the SANDAG Board of Directors adopted [Board Resolution 2021-09](#) in January 2021 committing to establish a [Digital Divide Taskforce](#) consisting of representatives from public agencies, broadband providers, and non-profit organizations that are actively working to bridge the digital divide. This group of experts is working to develop a Digital Equity Strategy and Action Plan in 2021 that will lead to rapid broadband deployment and adoption in the San Diego region.

Key considerations that will be part of the Strategy and Action Plan include:

» **Build consensus that broadband is an essential public service that contributes to greater equity:** Equitable access to broadband can be associated with greater civic engagement, increased access to healthcare, advances in disaster response and early warning systems, gains in labor productivity, bringing new businesses and jobs to the region, increases in personal income, household transportation cost savings, and cost savings from greater efficiency in transportation operations.

6 <https://data.census.gov/cedsci/table?q=2019%20ACS%20Table%20B28005&g=0500000US06073&tid=ACSDT5Y2019.B28005&hidePreview=true>

7 <https://wp.classroomofthefuture.org/get-involved/covid-19-public-education-response-fund/>

8 This data is available on GitHub for download here: <https://github.com/BroadbandNow/Open-Data>

9 Ookla (2021), Ookla Speedtest Intelligence

» **Develop and encourage local adoption of regionally consistent broadband supportive policies and streamlined permitting practices:**

Middle mile fiber infrastructure is critical in providing access to high-quality broadband services. Regionally, a standardized and streamlined approach to broadband permitting is lacking. Several jurisdictions in the region do not have adequate policies and permitting practices, which can lead to slow and costly broadband deployment.

» **Strengthen existing partnerships and build new ones:** Existing and new partnerships between government entities, public utilities, non-government and charitable groups, and private entities are necessary to ensure digital equity. As we move forward, the goal to strengthen partnerships, coordinate initiatives, and share successes and best practices will be key.

» **Expand fiber infrastructure in rural and tribal areas and pursue “dig once” opportunities:** Broadband infrastructure is lacking in the region’s rural areas and tribal reservations, contributing little to no broadband service in these communities. “Dig once” policies can install fiber along with planned roadway improvement projects or utility undergrounding projects. The [SR 67 Pavement Rehabilitation project](#) is an example of a project that will expand reliable and affordable broadband for communities along this corridor and establish the necessary infrastructure to implement transportation operation and safety improvements in the future. In the urban areas, existing public sector fiber could be leveraged to expand service, increase competition, and reduce cost.

» **Support the collection of more reliable data about connectivity:** Attaining accurate and transparent data on broadband access and adoption are critical to understanding community needs. Discrepancies between data sources present a challenge to adequately assess broadband gaps and needs. For example, broadband data from the FCC indicates that about 594,000 people in California lack access to broadband service. However, a recent report from Broadband Now¹⁰ found that FCC data for California is underreported and that the number of people without access to broadband is much closer to 3.9 million people. SANDAG and the Regional Digital Divide Taskforce continue to advocate for better public data and greater transparency around service availability, performance, and cost.

Learn more about SANDAG’s efforts to bridge the digital divide at sandag.org/digitalequity.

Digital Equity Strategy and Action Plan Guiding Principles Include:

- » Collect, share, and use relevant and reliable data
- » Identify and reduce barriers to rapid and equitable broadband deployment
- » Prioritize investment in communities most affected by the digital divide
- » Promote competition in the broadband market
- » Build consensus on a common agenda and work collectively to make the greatest impact

About infobits

SANDAG serves as the region’s clearinghouse for information and data. InfoBits publish timely, relevant information informing the public while providing context on complex issues facing the region.

sandag.org

¹⁰ <https://broadbandnow.com/research/fcc-broadband-overreporting-by-state>