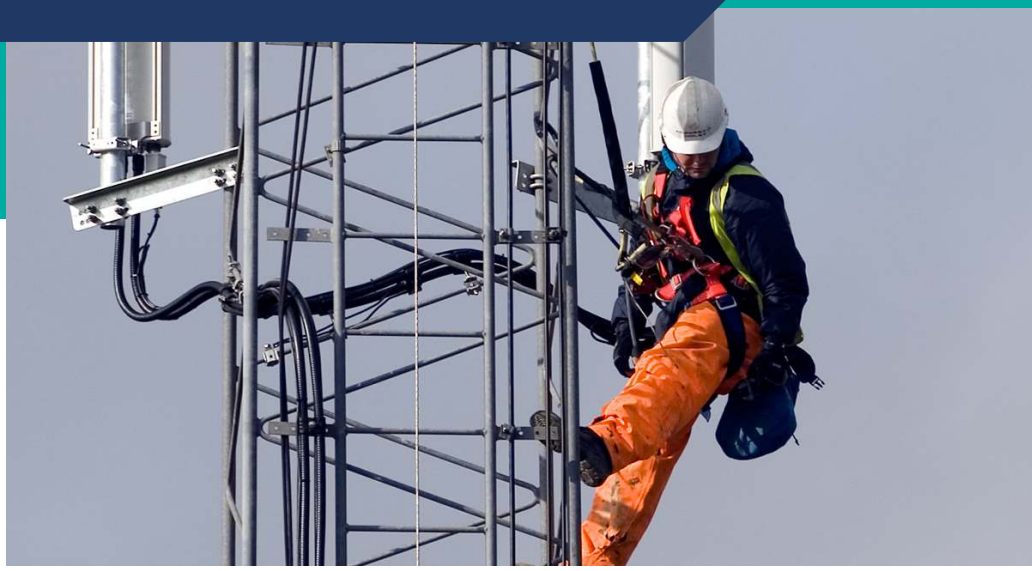
Communications Infrastructure in California: Options for Enhancing Deployment Across the State



April 2023

BAY AREA COUNCIL ECONOMIC INSTITUTE

INTRODUCTION

California companies have pioneered the communications inventions that are now an everyday part of life for billions across the globe. Everything from placing a call on an iPhone, to searching on Google, to streaming a movie on Netflix has its roots in California. While these companies have become well-recognized names, the communications infrastructure that these products rely on is less familiar to consumers. Much in the same way that we expect lights in our homes to turn on with the flip of a switch, we now expect and need our internet connectivity to be functioning at high capacity both at home and on the go.

A vast network of cell towers, small cells, and fiber optic cable serves as the foundation on which communications platforms are built. This has been made possible because private telecommunications companies have spent over $2 trillion nationally since 1996 on wired and wireless infrastructure, enabling the real-time high-speed internet connectivity (broadband) that we enjoy today. As the pace of innovation in wireless broadband technology has accelerated and will become even more rapid—while 5G is still being deployed in the U.S., work is already underway to create standards for 6G technologies—there is now an ever present need to update infrastructure to make it capable of handling requests for more data at faster speeds. With more internet usage coming through mobile devices, the need for continuous broadband connectivity outside of the home is paramount.

However, updates in regulatory policies, local ordinances, and how this critical infrastructure is permitted by local jurisdictions have not kept pace with innovation. Too often, infrastructure providers are met with onerous local permitting processes and additional costs that make the simplest upgrade projects infeasible. As such, California and some of its cities are at risk of falling behind other areas of the U.S. in terms of providing wireless high-speed internet coverage—limiting the state's ability to fully close the digital divide while creating new gaps as more and more aspects of the economy move online.

To highlight the economic importance of broadband infrastructure, this research will explore the often unseen benefits of communications infrastructure in California and shine a light on the policy challenges that impede companies' abilities to locate and build new communications infrastructure. Finally, we will propose multiple policy solutions at the state and local levels that can catalyze more private investment in communications infrastructure.

THE DIGITAL DIVIDE AND COMMUNICATIONS INFRASTRUCTURE

Broadband adoption in California has been steadily growing in recent years as several infrastructure investment and consumer-facing programs have targeted closing the digital divide. Data from the American Community Survey shows that 93% of Californians had a broadband connection of any kind, including mobile, in 2021. This number is up from 88% in 2017. However, broadband adoption, speeds, and reliability remain a challenge for many households in the state:

- According to the California Advanced Services Fund, 97.4% of California households are in census blocks with access to wired or fixed wireless broadband service as of December 2020.
- A 2021 survey from the University of Southern California and the California Emerging Technology Fund found geographic differences in Californians' adoption of broadband. In the Central Valley, 20% of respondents were underserved or unconnected. That same metric was 19% in Los Angeles County, 13% in the Inland Empire, and 9% in the Bay Area.[i]
- While 93% of Californians have an internet subscription in 2021 according to the American Community Survey, approximately 10% of Californians use a cellular data plan as their only means of accessing the internet.
- A 2021 survey conducted by David Binder Research of registered voters found 35% of respondents considered their internet speeds not fast enough for their current needs.

Fully closing the digital divide and providing reliable connectivity has become a priority at the state and federal levels. Federally, the American Rescue Plan Act of 2021 included $360 billion to support broadband expansion projects and last-mile connections with a specific focus on the digital divide. In California, Senate Bill 156 (signed in 2021) provided $6 billion to expand broadband infrastructure and enhance internet access in unserved and underserved communities across California.

In addition to public sector interest in expanding broadband coverage, the private sector has poured a tremendous amount of investment into the country's communications networks. Since 1996, the private sector has made approximately $2 trillion in communications infrastructure investments, including $86 billion invested in 2021 (the highest level of the last 20 years).[ii] These investments—in fiber, cable, cell towers, and small cells—have served to narrow the digital divide, while also providing higher-quality, lower-cost service to customers. Since 2015, prices for broadband service have dropped by an average of 30%, with prices for ultra-high-speed broadband plans falling by nearly $60 per month, from approximately $145 to $85 per month (a 42% price decline).[iii]

Enhanced communications infrastructure across California—especially for wireless infrastructure—can play a role in ensuring greater broadband adoption and can provide residents with fast, reliable, continuous connectivity. This infrastructure is also the backbone that allows advancements in technology to thrive. Without consistent investment in communications infrastructure across California, a new issue will emerge as technologies advance: an innovation gap. With more and more daily activities requiring a robust digital presence, those areas that fall behind on infrastructure investment will also risk creating a new opportunity gap for businesses and residents that are unable to access the latest technologies. This opportunity gap is not static, it grows as more parts of the economy are digitized. The following section highlights the growing economic importance of connectivity and the infrastructure on which it relies.

BROADBAND INVESTMENT AND THE CALIFORNIA ECONOMY

High-speed internet access both inside and outside of the home have been major issues nationally for many years, but the COVID-19 pandemic has made connectivity top of mind for many households and businesses as almost all parts of daily life shifted online. Nearly all schools and colleges switched to distance learning in spring 2020, office-based employers have embraced the time-savings created by remote work, telehealth appointments have gained in popularity, and e-commerce boomed. All these pandemic shifts – some of which will be permanent – have created unprecedented demand for broadband connectivity at home and on the go.

These new demands make investment in best-in-class infrastructure critical across the state, as our reliance on connected technologies will only increase in the future. A few of the most prominent connected benefits of broadband are detailed below:

Telehealth

Medical care via telehealth is one of the most obvious areas where a high-quality internet connection is paramount. It has also become a much more important aspect of healthcare delivery in the U.S. since the onset of the pandemic. According to estimates from McKinsey from 2021, 17% of all out-patient/office visit healthcare claims were for telehealth appointments—this represents claim volume that is approximately 38 times higher than pre-pandemic norms.[iv]

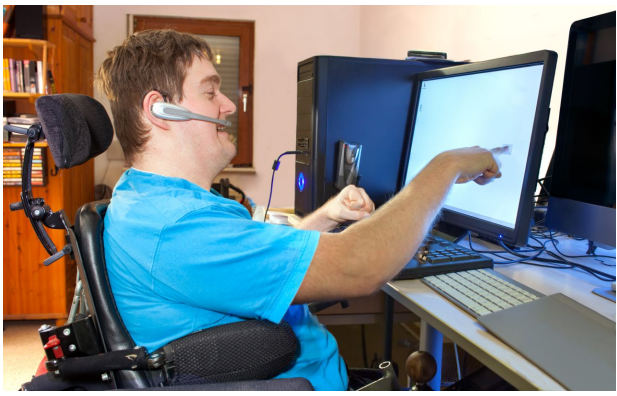
What started as a convenient way to address low-acuity, non-emergency conditions transformed into sophisticated and holistic care during the pandemic. McKinsey estimates that telehealth could become a $250 billion industry, with California accounting for $30 billion in virtual healthcare spending. Virtual urgent care, primary care, specialty care, and behavioral care are now standard offerings with providers. Examples of this care include patients sharing pictures with dermatologists, receiving speech therapy via video, performing physical therapy exercises live or on demand with a physical therapist, and having a follow-up visit to review test results with a doctor. Investments in broadband have made telehealth possible, and future investments in mobile connectivity are likely to bring even more care options directly to patients' fingertips.

Telehealth's biggest benefits include access to care improvements and cost savings. Virtual care has been found to reduce costly trips to emergency rooms. An Anthem study of Medicare claims for acute and non-urgent telehealth utilization found savings of $242 per patient by diverting members

to telehealth visits who would have otherwise gone to an emergency room.[v] Telehealth visits are also estimated to save patients approximately $100 per visit due to reduced demands on the healthcare system.[vi] Car trips and their associated costs and greenhouse gas emissions are also eliminated. Without continuous, high-quality video connectivity, telehealth visits would not be possible, and these benefits would not be realized.

People With Disabilities

Broadband is essential for people with disabilities. Those who are deaf or hearing impaired often rely on webcams and videoconferencing to communicate through sign language. Those who are blind or visually impaired can use screen reader programs to audibly describe website material or even interpret content into Braille. Yet, disabled adults are roughly 20 percentage points less likely to say they subscribe to home broadband or own digital devices.[vii] This means people with disabilities are more likely to miss out on educational, healthcare, and employment opportunities that high-speed broadband could afford them.



Emergency Response

Emergency response is another area that relies significantly on connectivity. In a natural disaster or other emergency event, government entities often utilize text messaging and web-based applications to convey warnings, evacuation information, and assistance center locations. Robust cellular networks are required for these communications to reach their recipients. The vast majority of 911 calls are placed via cell phone (80% according to the National Emergency Number Association); proving the critical requirement for mobile connectivity during an emergency.

First responders also rely on cellular networks to communicate with each other to coordinate rescue plans and share real-time data. For example, searching for survivors of wildfires, earthquakes, flood, or other natural disasters requires a coordinated response between police, fire, and paramedic first responders. To support and enable a more effective emergency response for first responders, the government created *FirstNet*, the first-ever nationwide broadband network dedicated to first responders. This initiative – established in 2012 by Congress – operates, maintains, and improves access to critical voice and data communications during emergencies as well as everyday operations. Efficiencies created by FirstNet allow officers to answer calls for service and engage in prevention activities without having to return to a police facility to access information or file a report.

Wireless networks are at particular risk during natural disasters given their need for power to produce digital signals. In California, the public service power shut offs that often accompany a threat of wildfire mean cell service can be compromised in a wildfire disaster. For example, in Marin during the 2019 Kincade Fire, 57% of the county's cell towers were inoperable.[viii] Large swathes of the population were left unserved, and the remaining towers risked being overloaded with activity. If a large number of people are attempting to place calls or text messages to family and friends during an emergency that also impacts cell coverage, those calls may not go through due to a lack of capacity in the infrastructure. With more ubiquitous and robust wireless towers and broadband coverage, carriers can route overflow calls during times of high demand over the broadband network rather than through traditional cell channels.

Connected Home and City Networks

Smart home and smart city systems that transmit real-time information require robust broadband connectivity. With California's greenhouse gas reduction targets and the need to manage a long-term drought across much of the state, communications infrastructure can play a key, often unseen, role in meeting these goals. Smart home systems, such as those that help in water and energy conservation, rely on a vast network of connected sensors and appliances that transmit information back to homeowners and utility companies. At the industrial level, the ability to track energy and water consumption in real-time is made possible only through broadband connectivity. With networks that provide even faster data transfer capabilities, more can be done across households, utility systems, and the entire state to manage and improve the effectiveness of energy and water usage—particularly during times of energy overloads and extreme drought.

California's transportation networks have evolved with more advanced networks, as we no longer print directions but instead rely on mapping applications on our smartphones. Many of the state's transit systems now use real-time tracking of buses and trains, which allows riders to better plan their trips. Going forward, enhanced wireless broadband communications can also be a backbone for autonomous and near-autonomous vehicles, which must communicate with infrastructure, each other, and the internet to make the best routing decisions. Already, immense amounts of transportation data are being utilized in dynamic app-based pricing for parking and congestion reduction initiatives, and a future link providing real-time road information directly into the vehicle could optimize transportation use.

Economic Opportunity

Economic growth is enabled by broadband, as nearly all aspects of our economy are reliant on digital connectivity. A few examples of the explosive growth in the digital economy include:

- **Remote Work:** Even before the pandemic, videoconferencing was growing in popularity. But once the COVID-19 pandemic hit, effectively all aspects of office work moved fully online. Data from the U.S. Census Bureau from mid-2022 showed that one-third of all Californians worked from home at least part of the time, with 19% working from home five days per week. Remote work is made possible by robust broadband, as an unstable connection can lead to productivity loss and an inability to connect with colleagues and clients.
- **Digital Payments:** Payment systems are becoming more reliant on mobile broadband. McKinsey estimates 89% of Americans used a digital payment platform in 2022. In McKinsey's survey, the share of respondents who report using two or more forms of digital payments has grown rapidly—from 51% in 2021 to 62% in 2022. In-app and peer-to-peer purchases exhibited the greatest gains, though the leading digital use case is still online payments, used by 69% of consumers. Additionally, more than two-thirds of Americans expect to have a digital wallet within the next two years.[ix] The ability to accept mobile payments without worrying about internet downtime is particularly important for small businesses, many of which have entirely cashless systems.
- **Mobile Broadband Connectivity:** 70% of California voters say their work is reliant on mobile broadband connectivity, according to the 2021 survey by David Binder Research. Mobile connectivity is increasingly important for all types of occupations: construction workers need access to plans as they build, delivery drivers are routed efficiently through cities using smartphones, airport ground personnel are monitoring baggage as it moves across the country, real estate agents are signing documents from their phones, and vintners are closely watching weather reports as they harvest their grapes. Without mobile broadband, these in-the-field activities become less efficient, if not impossible.

Access to reliable internet is also a strong predictor of economic opportunity. According to a Deloitte study, a 10% increase in broadband access in 2014 would have resulted in more than 875,000 additional U.S. jobs and $186 billion more in economic output in 2019.[x] The analysis also showed that economic output increases as broadband speeds increase. As technologies advance, high-speed digital connections are likely to unlock even more opportunities for households and businesses across a number of different industries in California.

INFRASTRUCTURE DEFINED

Communications infrastructure deployment in the U.S. has historically been left to the private sector, with various operators and infrastructure specialists making investments in fiber optic cables, wireless towers, and small cells to build out networks across the country. The $2 trillion spent by the telecommunications industry since 1996 was first deployed on capital expenditures that brought internet into homes. Investment strategies have now shifted to deploying backbone fiber infrastructure that can support faster internet speeds, while also creating dense networks of mobile broadband that can facilitate greater connectivity outside of the home. We define some key communications infrastructure terms below:

Fiber Optic Cable: Fiber optic cables are composed of small strands of glass or plastic that conduct light signals, which can produce download speeds up to 100 times faster than traditional copper wires. Fiber optics have supported communications for years as the backbone of the internet. Increasingly, operators are moving to enhance broadband rollouts through additional fiber investments in their networks. These fiber cables are generally placed on existing telephone or utility poles, in existing conduit running underneath municipalities, or in newly trenched conduit.

Mobile Broadband: With 85% of American adults owning a smartphone as of 2021, wireless internet access is critical as a means of connectivity.[xi] Additionally, more than half of the California respondents in the 2021 David Binder Research survey said that access through a wired home connection and mobile device connection were of equal importance to them. Mobile data transmission is predominantly achieved through a wired connection ending in a macro tower site, which broadcasts and receives radio frequency signals in its service area. As the technologies that networks utilize progress, carriers have a need to upgrade cell towers, build more wireless sites, and improve the fiber connections that link wireless antennas to the internet.

Small Cells: These distributed antenna systems increase the density and capacity of cell coverage. By deploying multiple small cells, carriers can improve wireless reception and help to better manage internet traffic on crowded cellular networks, such as in airports, office buildings, and stadiums. Small cells help augment the coverage of larger cell towers by enabling more efficient use of the limited amount of wireless frequency spectrum that each carrier is allotted.

DEPLOYING COMMUNICATIONS INFRASTRUCTURE

While investments in all these technologies are generally made by the private sector, they are facilitated by a vast array of regulatory guidelines put in place at the federal and state levels that direct best practices for permitting and construction at the local level. However, final decision-making for permitting these communications investments remains with local jurisdictions, where there is substantial variation in how the public sector issues work permits, defines costs, and plans for communications infrastructure.

The variation in local permitting processes within jurisdictions is one of the key barriers cited by the private sector, as it keeps operators from upgrading infrastructure in a timely manner. As such, recent federal and California policy has moved in a direction that allows infrastructure investors to have more time and cost certainty in the permitting process. The following sections provide highlights of recent rulemakings and legislation that impact local permitting for communications infrastructure.

Federal Policy: The Federal Communications Commission (FCC) regulates interstate and international communications, including the infrastructure on which it relies. While the FCC has broad rulemaking over various aspects of competition and access, it has more recently exercised its authority over the subjectivity that is present in local permitting of communications infrastructure:

- The FCC has implemented a set of "shot clocks" under which a local jurisdiction must act on communications infrastructure permit applications. Under new definitions for small cell wireless facilities – those generally connected atop utility infrastructure – applications must be processed within a 60-day shot clock for adjustments to existing facilities and 90 days for new facilities that meet zoning requirements.
- Similar FCC shot clocks also exist for cell towers, with a 90-day application window for co-located facilities and 150 days for new towers.
- The FCC has also provided guidelines for jurisdictions that charge providers to use public infrastructure (e.g., streetlights, traffic signals, and utility poles) to site small cells. The FCC established a "safe harbor" amount of $270 per year, though the FCC order has considerable flexibility for localities to charge higher amounts based on their own calculation of costs.

In all these examples, there are a considerable number of loopholes that allow local governments to take greater discretion over permitting processes and costs. Additionally, the enforcement mechanisms for these policies usually involve appeals to federal courts on the part of the private actor, which can be more costly and time consuming than the application process itself.

California Policy: The California legislature has taken additional steps to codify FCC orders into state law. Specifically, Assembly Bill 57 (signed 2015) incorporated "deemed approved" language for communications infrastructure applications that are not acted upon within the FCC shot clock windows. Assembly Bill 537 (signed 2021) added new language that required all necessary permits to be deemed issued to allow the applicant to begin construction when the shot clock window expires.

The state has also acted to facilitate the use of micro-trenching to install fiber optic cables underground. The micro-trenching technique cuts a narrow trench (less than four inches wide and no more than 26 inches in depth) in the sidewalk or roadway as conduit for fiber, which is significantly quicker, less costly, and less invasive than opening large sections of the street for conduit. Senate Bill 378 (signed 2021) requires local governments to allow micro-trenching for the purpose of installing fiber and to adjust policies, ordinances, and construction rules to make micro-trenching feasible.

Similar to policies enacted at the federal level, the enforcement mechanisms at the state level for these laws are limited and there are numerous ways for local jurisdictions to stall, block, or negatively impact the economics of a project. In the case of micro-trenching, while Senate Bill 378 allowed the practice, local governments can still require providers to do restoration that does not reasonably match the impacts to the street—thereby increasing the total costs of the project significantly.

Local Policy in California: Within California, broadband infrastructure permits are not always processed efficiently at the local level compared to treatment received by utilities. Whereas water and electrical providers generally work directly with cities and have projects approved through administrative processes, communications infrastructure is often subject to a broader array of discretionary approvals. This lack of standardization creates wide disparities in permitting processes, speeds, and costs across California jurisdictions. For example, some cities have created ordinances that place clear parameters around small cell aesthetics and deployment. These ordinances result in quick up-front approvals and a final city inspection before the infrastructure is put into service. Other jurisdictions will go through a full approval and plan check process adding unnecessary delays for a project that would simply add a carrier to an existing piece of infrastructure.

For fiber deployment permits, some local governments in the state take as little as 30 days to process applications; on the opposite end of the spectrum, slower jurisdictions can take seven to 10 months. For small cells, the fastest jurisdictions will move permits in 60 to 90 days in accordance with FCC shot clocks, while other jurisdictions use discretionary approval processes to slow the process to five to eight months, or sometimes longer than a year in the slowest moving locations.

There are some common characteristics in jurisdictions with long permit cycle times. These include:

- The city requires a multi-step department review. For example, Department of Planning, Department of Public Works or Engineering; and Department of Transportation may all need to give their own approvals.

- When multi-departmental approval is required, these departments cannot undertake their reviews concurrently.
- Once permitting is completed, providers still need access to electricity for their infrastructure, which can be another obstacle to timely execution of projects.
- Many cities struggle with staffing in permitting departments, which can create permit backlogs and adds time to processes that already require multiple approvals.
- Jurisdictions may have an approved small cell ordinance and/or design standards that have been adopted by City Council, but they still require applicants to distribute public notices to residents within a 300 to 500 foot radius and they allow residents 10 to 15 days to appeal the Planning Department and/or Public Works approval.

FIGURE 1

Fees for Communications Infrastructure Permits in California

Average Fees for Fiber			Average Fees for Small Cells		
City 1	$	300	City 1	$	500
City 2	$	590	City 2	$	1,000
City 3	$	760	City 3	$	1,500
City 4	$	900	City 4	$	2,765
City 5	$	1,300	City 5	$	2,958
City 6	$	4,800	City 6	$	8,436
City 7	$	5,700	City 7	$	16,000

Data Source: Crown Castle

Similar variation is present regarding permitting costs, with local jurisdictions placing far different price tags on similar infrastructure requests. While the dollar amounts presented below are not substantially large, they do add up quickly when multiplied by hundreds of small cell nodes across an entire city.

As a way of creating cost and time certainty, providers of infrastructure have worked with some jurisdictions to develop Master License Agreements with agreed-upon designs and locations for communications infrastructure. These agreements can be approved by city councils, which then allows for more streamlined processes within city departments when applications are submitted that fit the parameters of the Master License Agreement. In a similar vein, some jurisdictions will approve permits in batches if they are for similar technologies on existing sites, rather than requiring a new application process for each piece of new technology.

Even with considerable effort at the federal and state level to facilitate private sector investment in new fiber and wireless technologies, local government is often unable to keep up with the pace of technology change in the industry. Permitting processes that take up to a year or more risk making the technology nearly obsolete by the time it is put into the field. High costs mean private operators can and will prioritize investments in other locations that are more friendly from a cost burden and regulatory hurdle perspective. As it becomes more expensive and time-consuming for providers to deploy infrastructure in certain locations, private sector projects risk being abandoned altogether. Without upgrades to communications infrastructure, cities will limit their residents' abilities to access the benefits that broadband connectivity can bring.

BEST PRACTICES FROM OTHER STATES

California has taken steps to remove permitting hurdles with state legislation focused on streamlining; however, the state continues to grapple with some jurisdictions that place a low priority on broadband expansion or that allow discretionary review and public comment on all new infrastructure investments. The state can learn from best practices from other jurisdictions, a few of which are catalogued below:

In Utah, the state has made a significant push to build best-in-class communications infrastructure for more than 20 years. Starting with the 2002 Salt Lake City Winter Olympics, the state has been on an aggressive campaign to boost connectivity, with private sector collaboration and forward-thinking regulation at the forefront of the strategy. One such example is the Utah Department of Transportation (UDOT), which has taken an active role in facilitating broadband expansion. In nearly all major highway projects in the state, UDOT installs fiber conduit parallel to the roadway. It also partners with providers to develop a "fiber wish list," and it allows communications infrastructure companies to piggyback road projects so that fiber can be easily installed.

Local governments in Utah have followed the state's lead when it comes to communications infrastructure. Salt Lake City has produced comprehensive guidelines for installation of small cell infrastructure in the public right-of-way. These guidelines allow providers to have significant clarity on the rules governing the permitting of small cells in the city. The guidelines cover installation requirements for small cells on a variety of poles and cover everything from the height and width of the equipment and its external shrouding to the color of the small cell itself.

Similar guidelines are in place in San Jose, Santa Monica, and other cities in California that were developed in concert with providers. These standards are adopted by city council, and they provide guidance and expectations for both technology upgrades to existing poles and completely new sites.

Thirty-two states now have similar orders around permit streamlining for small cells, including the Commonwealth of Virginia, which took early steps to ensure that guidelines for small cell permitting are clear. A small cell bill passed in 2017 provides a uniform framework for providers and cities to follow when deploying small cell infrastructure. The bill streamlines permitting processes by allowing providers to include up to 35 permits for wireless facilities on one application. It gives local governments 60 days to approve or deny these permits, and states that if the authority does not respond within 60 days, the permit shall be deemed granted. The bill also caps permit fees at $100 for the first five small cell facilities, and $50 for every additional facility.

PUBLIC OPINION ON COMMUNICATIONS INFRASTRUCTURE IN CALIFORNIA

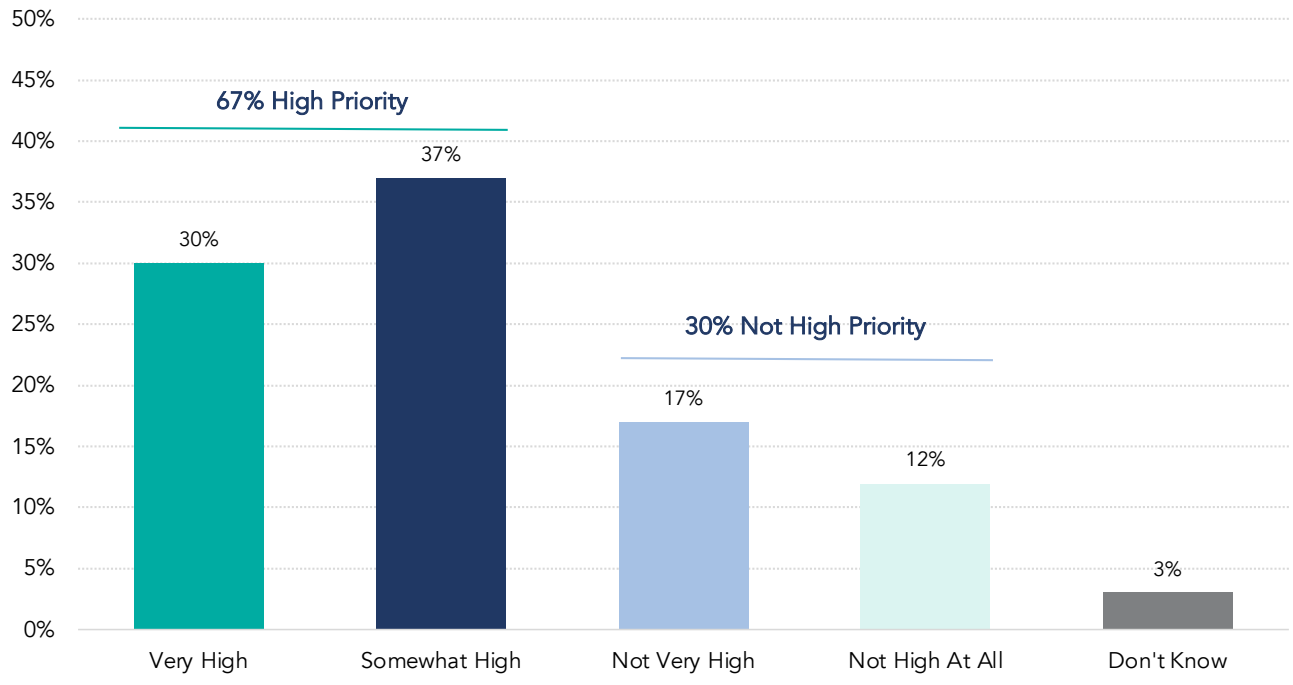
With more technological advances being built on high-speed internet connectivity, states have played a larger role in reducing barriers to broadband deployment. Public sentiment also supports government actions to further streamline broadband projects and increase coverage and speeds.

The following charts detail findings from a December 2021 survey by David Binder Research of 800 registered California voters from across the state. Key findings include:

- **More than two-thirds of California voters believe improving broadband coverage and speed should be a high priority for state government.**
- **Three-quarters of respondents support placing high-speed internet infrastructure on existing infrastructure, such as streetlights and utility poles.**
- **Three-quarters of California voters support statewide streamlining of broadband projects, while 70% support requiring all local governments to follow a uniform state-mandated approval process for broadband projects.**
- **When asked if they prefer localities to control communications infrastructure policies or a statewide set of streamlined regulations, 61% voiced support for a statewide approach.**

FIGURE 2

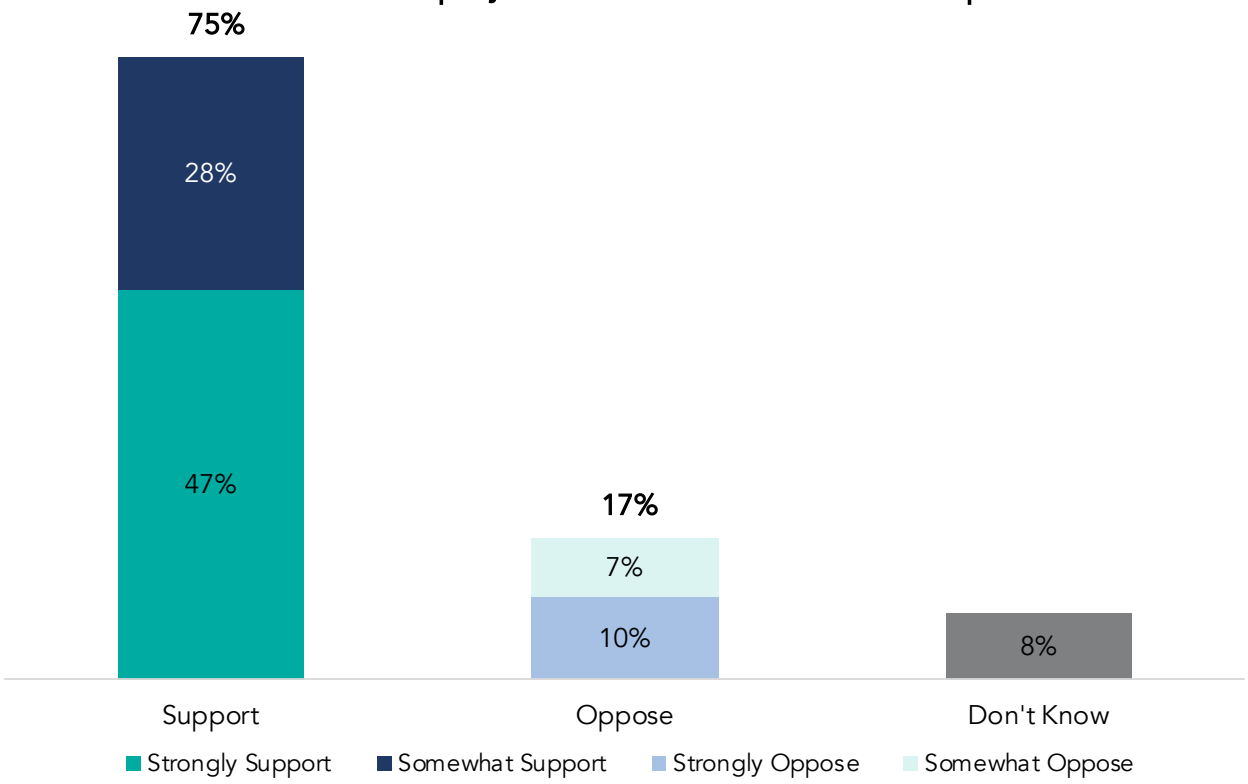
When thinking of the state legislature and governor, do you think improving broadband coverage and speed should be a very high priority, a somewhat high priority, not very high priority or not a priority at all?



Data Source: David Binder Research

FIGURE 3

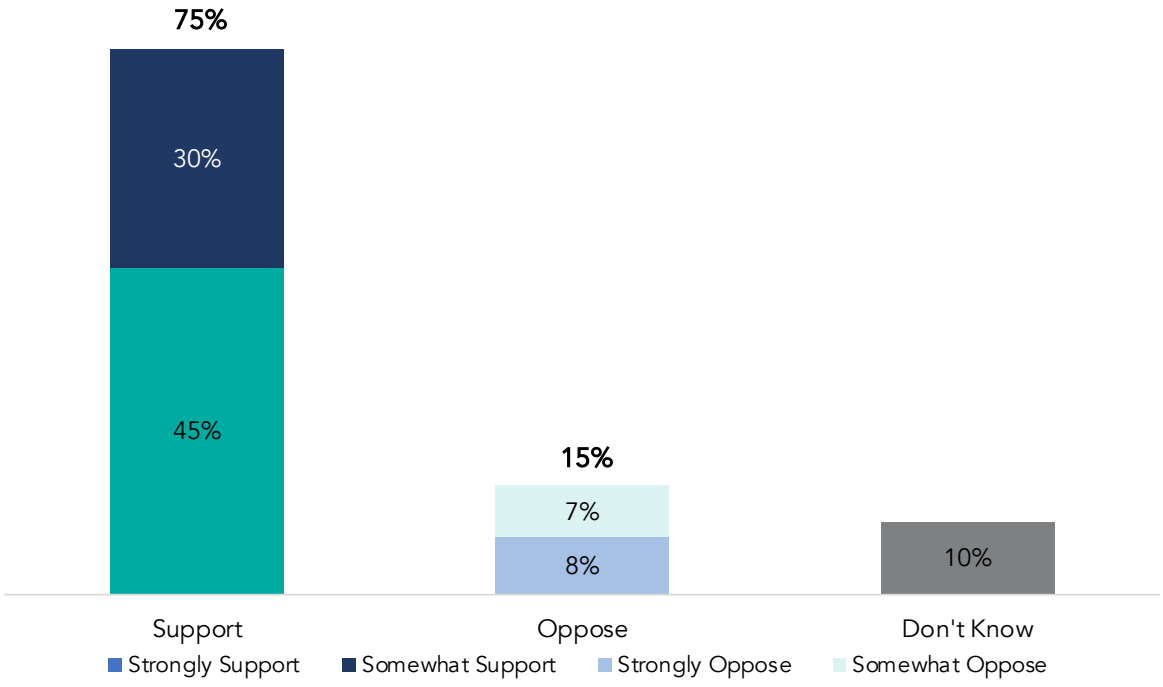
Do you support or oppose California having a statewide streamlined process so all broadband projects in California can be built quicker?



Data Source: David Binder Research

FIGURE 4

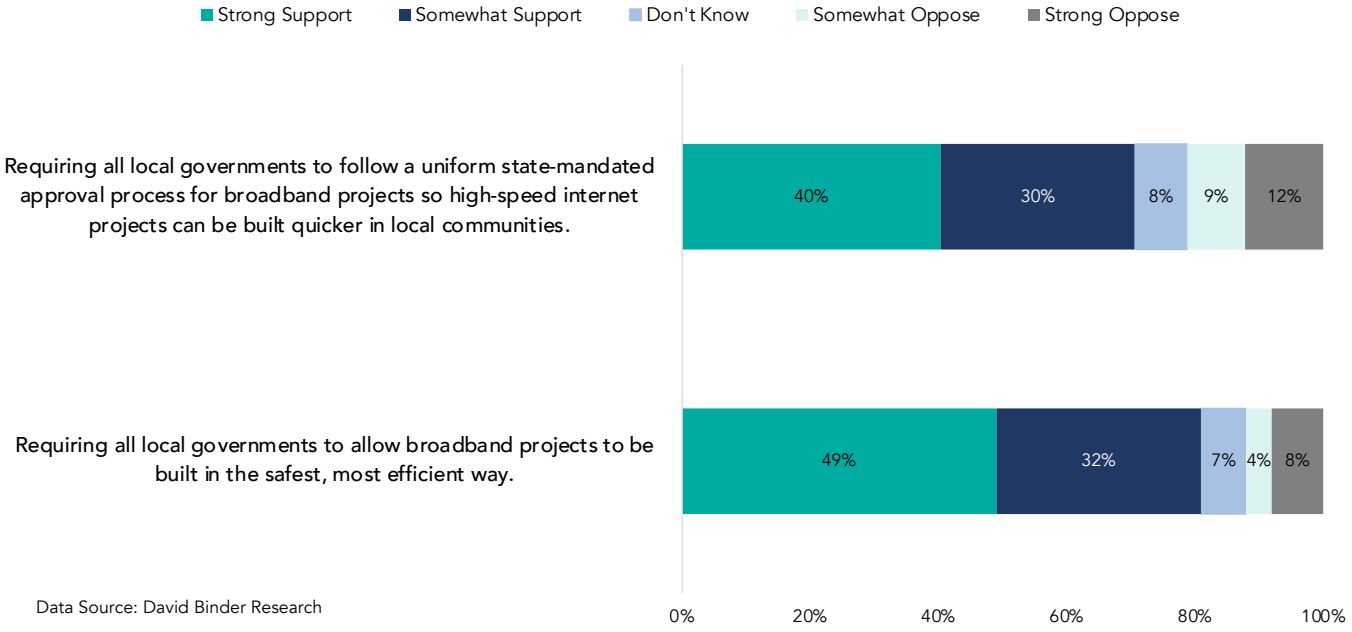
Do you support or oppose 5G infrastructure to be placed on existing infrastructure, like streetlights and utility poles, to make business more efficient and give consumers access to faster, more reliable mobile service?



Data Source: David Binder Research

FIGURE 5

Voters support efficiency and uniform processes in broadband permitting

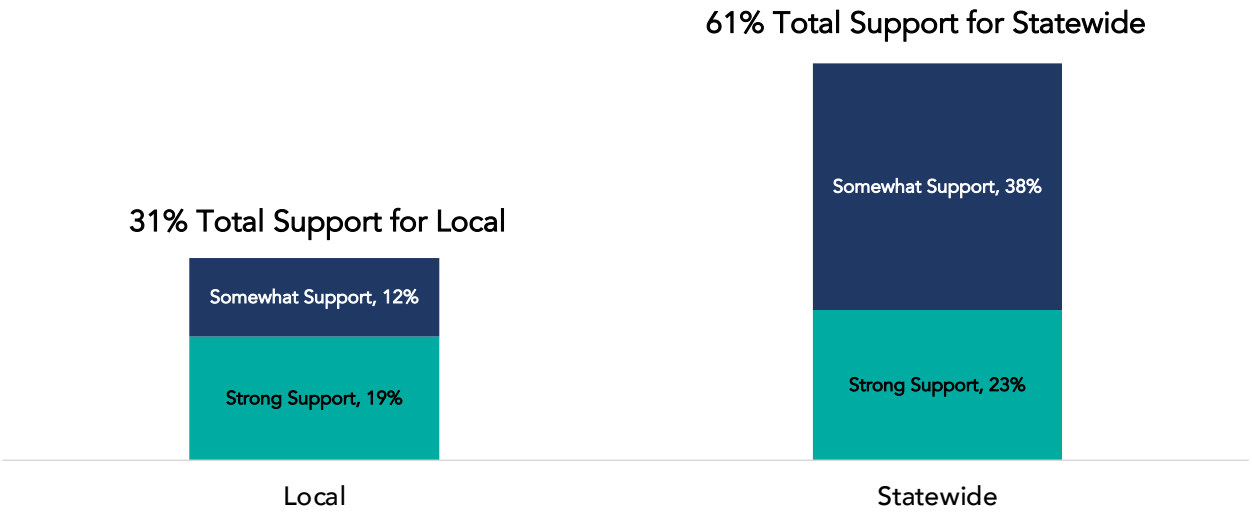


Data Source: David Binder Research

FIGURE 6

When it comes to internet infrastructure development, which do you prefer?

Creating a uniform statewide streamlined set of regulations for internet infrastructure development.
OR
Allowing localities to set their own rules and regulations for internet infrast



Data Source: David Binder Research

Taken together, these survey findings show strong support for California policymakers to take a firmer role in guiding the state to a future where broadband connectivity is ubiquitous over wired and wireless connections, with the capacity and latency needed to allow users to have confidence in their service.

POLICY RECOMMENDATIONS

Given the importance of communications infrastructure to the state's future economic, environmental, and equity goals, more can be done at the state and local level to catalyze private investment. This section is divided into best practices that can be put into place by local governments and statewide policies that would create greater regulatory certainty for providers.

Local Recommendations

Within localities that have jurisdiction over communications infrastructure, the permitting process is the biggest differentiator between those places that are attractive for broadband investment and those that are not. Cities can implement the following broadband strategies to provide more clarity and efficiency in their permitting processes:

1) **Permit streamlining ordinance.** By creating an expedited, streamlined permitting process for broadband network facilities in residential and non-residential locations, cities and counties can greatly enhance the efficiency of the permitting process. These ordinances can be created in collaboration with private sector partners to balance needs of the local jurisdiction and community with the desire of the private sector to make investments in infrastructure.
2) **Permit streamlining checklist.** A checklist of all requirements needed for a complete application for an expedited review process should be posted on the city or county website so that providers have a clear understanding of what is required of them. The jurisdiction must then use this checklist to confirm that the project application is complete.
3) **Permit streamlining approval.** Broadband network facilities that fulfill the expedited checklist requirements should receive administrative (or by right) approval and not be subject to appeal. Under this strategy, permitting processes that once included heavy scrutiny at the front-end from a planning perspective can shift to prioritizing physical inspection at the back end when public health and safety of the project is confirmed.

For cities that are looking for more specific strategies to catalyze broadband investment, the following best practices may apply:

- **Develop Master License Agreements or batched permitting approaches that allow for quicker approval of multiple infrastructure projects.** These streamlined approval processes remove burdens from city staff, allowing them to move through permit backlogs and to effectively balance the needs of the local jurisdiction, community, and the private sector.
- **Issue annual permits for all modifications to existing infrastructure (also known as eligible facilities requests), which cannot be denied under law.** Annual blanket permits are routinely issued to public utilities (e.g., power and water companies), allowing them to conduct routine maintenance, repair, and replacement of their network assets citywide.

- **Require only a single permit approval from a single department for a project to commence.** Jurisdictions can elevate the importance of communications infrastructure by creating a standalone department that possesses the expertise to review and permit all aspects of a project application.
- **Bifurcate application processes for modifications of existing cell tower infrastructure from applications for entirely new sites.**
- **For cities with municipally owned utilities, power provision to new communications facilities should be planned in concert with the city's project approval process.**

State Recommendations

As we have outlined within this brief, there is significant agreement from voters that the state can take on a more prescriptive role in how broadband infrastructure is deployed across the state. Most California residents support statewide regulations for broadband over the current patchwork system of local control for permitting. The following list represents legislative or administrative actions that can be implemented by the state to speed broadband deployment:

1) **Create parameters around reasonable restoration requirements for fiber trenching projects.** Fiber deployment is critical to achieving faster internet speeds that can serve as the backbone for new technologies. However, added costs and city requirements can make investments in fiber uneconomical for providers. Currently, cities can dictate the level of street restoration required during a trenching or micro-trenching project, and the private companies foot the bill. Some cities require only restoration in the immediate vicinity of a trench, while others require repaving of the entire block. The lack of a restoration standard has slowed delivery of fiber due to cost uncertainty.

2) **Standardize permit applications statewide.** With each local jurisdiction in the state implementing its own application process, providers of wired and wireless infrastructure are forced to contend with hundreds of different application processes within California. A standard statewide application that could be used for fiber, cell towers, and small cells, could offset the variation amongst individual cities, and give providers more clarity on application processes, timelines, and costs. The Governor's Office of Business and Economic Development has developed a broadband permitting playbook, released in 2022, which provides strategies that local jurisdictions can employ to enhance permit processes and to facilitate access to key infrastructure assets. This playbook is an important first step in best practice sharing, though its use could be strengthened by greater enforcement mechanisms.

3) **Implement new state enforcement mechanisms.** As shown within this brief, some jurisdictions continue to find loopholes in the FCC and state standards for local permitting of broadband infrastructure. However, the state has few levers it can pull as recourse. Lessons

can be learned from the state's approach to housing, where tracking of housing permit activity is measured against defined goals. Cities that do not meet their goals lose certain aspects of their control over approval processes. A less punitive approach might borrow from the state's oversight of electric vehicle charging stations. The state produces a charging station permitting scorecard for each city and county based on seven metrics. Jurisdictions that receive high marks are deemed "permit ready," as a signal to providers that permitting is streamlined in an area. A similar approach could be applied to communications infrastructure.

4) **Codify local best practices.** There are many local jurisdictions across the state that have already put into place some variation of the local policy recommendations presented here, all while maintaining control over their own strategies and processes. There are other aspects of local permitting, however, that could be codified and standardized across the state:

   - **Automatic renewal of conditional use permits.** Permitting for cell towers often requires a conditional use permit given that they are outside of normal zoning categories. These permits are often granted over a finite period (i.e., 10 years), after which applicants need to file for another permit. However, after 10 years, city standards may have changed from when the project was initially approved, which adds costs and uncertainty as providers must go through new approval processes. A system of automatic renewal for towers that remain in code compliance with no enforcement actions could be more beneficial and remove a major hinderance to maintenance and upgrades of cell towers.
   - **Batched permitting.** Currently, there are no state requirements for cities to accept multiple, similar communications projects filed together under the same permit. Many cities are already offering batched permitting to streamline their approval processes, though many other cities in California do not. Permit batching brings the added benefit of lessening the burden on city staff, who are often dealing with permit backlogs.
   - **Standby generator guidelines.** Under Assembly Bill 2421 (signed 2020) standby generators were made a permitted use at previously permitted cell towers. Standby generation is critical to keeping cell towers operational in times of power failure or emergency shut offs. While the need for standby power to cell towers is clear, cities are putting up roadblocks to their deployment by charging exorbitant prices for space or by not agreeing to lease space. The state can codify best practices around pricing and space provision so that communications networks remain resilient during emergencies.

5) **Elevate policy coordination by appointing a statewide broadband advisor.** There is no single person or office at the state level in charge of broadband infrastructure policy, which creates a lack of accountability within the state. A new role should be created that can monitor the relationships between private providers and jurisdictions around California, implement new policy recommendations (e.g., the statewide permit playbook), message best practices to cities, and make key decisions on how California plans for its infrastructure future.

Endnotes

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About the Bay Area Council Economic Institute

Since 1990, the Bay Area Council Economic Institute has been a leading think tank focused on the economic and policy issues facing the San Francisco Bay Area. The Economic Institute is housed at and supported by the Bay Area Council, a public policy organization that includes hundreds of the region's largest employers and is committed to keeping the Bay Area the world's most competitive economy and best place to live.

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Acknowledgements

This brief was prepared by the Bay Area Council Economic Institute. Support for this project was provided by Crown Castle. The brief was authored by:

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