

BROADBAND PERMIT STREAMLINING

Report

SEPTEMBER 2024



SANDAG

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Introduction and Overview

Over the past three years, the Southern California Association of Governments (SCAG) and the San Diego Association of Governments (SANDAG) have actively participated in and facilitated the Southern California (SoCal) Transformation Working Group. The SoCal Transformation Working Group convenes monthly Meeting monthly and comprises representatives from various sectors, including government, non-profits, education, health, internet service providers (ISPs) and additional private sectors. Meeting agendas span numerous crucial topics, such as the present condition of broadband, relevant legislative developments, funding sources and ongoing efforts. Furthermore, the meetings explore and discuss solutions and actions aimed at bridging the digital divide. Through dialogue within the working group, stakeholders from both public and private sectors have pinpointed permitting issues as a pivotal barrier to the development of broadband infrastructure.^{1,2}

Motivated by the SoCal Transformation Working Group, SCAG and SANDAG have adopted a resolution to address digital disparity. Furthermore, both agencies have endorsed their respective broadband strategic plans: SANDAG adopted the Regional Digital Equity Strategy and Action Plan in December 2021, while SCAG approved the Digital Action Plan in April 2023.^{3,4} Both the resolution and the strategic plans acknowledge the digital divide, committing the agencies to assist in mitigating it within underserved communities. An essential component of the mandates within these resolutions and plans is the obligation for SCAG and SANDAG to formulate and implement strategies that expedite broadband infrastructure deployment, including solutions for streamlining permitting processes.

With funding and support from the California Emerging Technology Fund, both agencies have partnered with each other to develop permit streamlining solutions, with SANDAG convening a permit streamlining task force, known as the Regional Digital Infrastructure Taskforce (ReDIT), and SCAG developing a permit streamlining report, model policy and ordinance. In February 2022, SANDAG initiated the ReDIT, bringing together staff from local agencies and Regional Broadband Consortia. The collective aim is to develop regional permitting standards and practices that streamline deployment of digital communications infrastructure to advance intelligent transportation solutions, smart cities and broadband in underserved areas.

Building upon the findings from ReDIT, SCAG enlisted the expertise of Tectonic Engineering Consultants, et al. ("Tectonic") in December 2022. This collaboration sought to provide professional consultancy services in the development of recommendations for permit streamlining solutions, data collection and analyses in support of the directives established in the broadband resolutions, plans and additional mandates.

¹ Resolution No. 2021-09, SANDAG. Available at: <https://www.sandag.org/-/media/SANDAG/Documents/PDF/projects-and-programs/regional-initiatives/digital-equity/resolution-to-increase-broadband-access-to-bridge-the-digital-divide-2021-01-22.pdf>

² Resolution No. 21-629-2, SCAG. Available at: https://scag.ca.gov/sites/main/files/file-attachments/resolution_no._21-629-2_-_support_to_increase_broadband_access.pdf?1646942018

³ SCAG Digital Action Plan, SCAG. Available at: <https://scag.ca.gov/post/scag-digital-action-plan>

⁴ Regional Digital Equity Strategy and Action Plan. Available at: <https://www.sandag.org/projects-and-programs/regional-initiatives/digital-equity>

Executive Summary

Efforts contributing to this report included reviews of existing documents, including state and regulatory requirements, and numerous surveys. Interviews with small, medium and large jurisdictions gave insight on current permitting best practices for streamlined permitting and challenges faced at the local level. Furthermore, interviews included obtaining perspectives on current permitting processes from ISPs, wireless carriers and fiber networks currently extending networks within the SCAG and SANDAG regions.

Based upon the information gathered and subsequent analysis of successful practices in various jurisdictions, this report summarizes a series of recommendations to streamline permitting within the regions and throughout the state:

1. UNIFORM PERMIT FEES:

- **Problem:** Often, unforeseen costs appear post the initiation of broadband projects, leading to unplanned budget escalations or halted projects.
- **Solution:** Establish a consistent fee structure, pegged to the size and nature of the broadband project. This ensures clarity in budgeting, prevents sudden inflations and offers transparency to service providers.

2. NO EXTRA FEES FOR BROADBAND:

- **Problem:** Some jurisdictions levy ancillary fees, like beautification or road maintenance, which aren't directly related to broadband projects.
- **Solution:** Prohibit ancillary fees, thereby preventing cost escalations and ensuring a focused budgeting process for broadband expansion.

3. INCLUSIVE ZONING PRACTICES:

- **Problem:** Restrictive zoning practices can be a significant barrier to seamless broadband expansion.
- **Solution:** Facilitate broadband development across all zoning districts. This inclusivity ensures consistent network expansion and removes unnecessary roadblocks.

4. LEVERAGE PUBLIC & UTILITY FACILITIES:

- **Problem:** Underutilization of existing infrastructure.
- **Solution:** Encourage broadband projects to utilize public facilities and utility assets, potentially by linking with zoning relief, to simplify the process.

5. DEDICATED STAFF FOR BROADBAND PERMITS:

- **Problem:** Lack of consistency and predictability in processing permits.
- **Solution:** Maintain a dedicated team, well-versed in the intricacies of broadband permitting, not only to ensure efficiency but also to foster stronger, more collaborative relationships with service providers.

6. BROADBAND PERMIT PROCESSORS FOR SMALL JURISDICTIONS:

- **Problem:** Smaller jurisdictions often lack the resources for a streamlined permit process.
- **Solution:** Empower or establish regional entities like councils of governments or joint-power authorities. These can act as centralized hubs, optimizing the permit review process and extending support to smaller jurisdictions.

7. ENHANCED UTILITY MAPPING:

- **Problem:** An integrated view of all utilities, including broadband, is often missing in many jurisdictions.
- **Solution:** Incorporate both current and future broadband installations into GIS systems. Collaborating with service providers for real-time data and potentially crafting confidentiality agreements might be necessary to ensure a comprehensive utility landscape.

8. DIGITAL BROADBAND PERMIT APPLICATIONS:

- **Problem:** Paper-based processes are often slower and less efficient.
- **Solution:** Transition to online portals tailored specifically for broadband projects. These portals can enhance efficiency, provide real-time status updates and even allow for batch permitting when multiple similar projects run concurrently.

9. PRIORITIZE ADMINISTRATIVE & MINISTERIAL REVIEWS:

- **Problem:** Traditional permit processes can be lengthy and often unpredictable.
- **Solution:** Move toward more streamlined, objective and swifter administrative review processes. This approach ensures predictability, transparency and efficiency, greatly benefiting both jurisdictions and service providers.

10. STANDARDIZED BROADBAND ORDINANCE:

- **Problem:** The absence of a standardized framework can lead to inconsistencies across jurisdictions.
- **Solution:** Develop a model broadband ordinance that can act as a practical guide for all jurisdictions, especially the smaller ones. This ensures a unified approach and smoother integration into existing regulatory systems.

These recommendations, when implemented, can significantly enhance the efficiency and effectiveness of the broadband permitting process, ensuring rapid infrastructure development and seamless service provision across all regions.

About SCAG and SANDAG

SCAG

Founded in 1965, the Southern California Association of Governments (SCAG) is a Joint Powers Authority (JPA) under California state law, established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. Under federal law, SCAG is designated as a metropolitan planning organization (MPO) and under state law as a regional transportation planning agency and a council of governments.

The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 191 cities in an area covering more than 38,000 square miles. The agency develops long-range regional transportation plans including sustainable communities' strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and a portion of the South Coast Air Quality management plans. SCAG's governing body consists of an 86-member Regional Council to help accommodate new responsibilities mandated by the federal and state governments, as well as to provide more broad-based representation of Southern California's cities and counties.

In addition to the six counties and 191 cities that make up SCAG's region, there are six county transportation commissions that hold the primary responsibility for programming and implementing transportation projects, programs, and services in their respective counties.

On February 2, 2021, SCAG's Regional Council adopted Resolution No. 21-629-2, committing SCAG to help bridge the digital divide in underserved communities. This resolution acknowledges the existence of the digital divide and instructs staff to formulate a Broadband Action Plan, in addition to executing other initiatives. Among these initiatives is the development of this Broadband Permit Streamlining Report and Ordinance.

SANDAG

The San Diego Association of Governments (SANDAG) is also a JPA under California state law, an MPO under federal law and serves as the county transportation commission within the San Diego region.

The agency is governed by a board of directors made up of elected officials from the region's 18 city councils and the San Diego County Board of Supervisors, who represent every person across the region. Representatives from Imperial County, the California Department of Transportation, U.S. Department of Defense, Port of San Diego, San Diego County Water Authority, San Diego Metropolitan Transit System, San Diego County Regional Airport Authority, North County Transit District, Southern California Tribal Chairmen's Association and Mexico serve on the board as nonvoting advisory members.

In January 2021, the SANDAG Board of Directors adopted Resolution No. 2021-09 to support increased broadband access throughout San Diego County. The resolution calls for the development of a Digital Equity Strategy and Action Plan to expand broadband access and adoption in the San Diego region. To

assist in the development of a plan that directly addresses the needs of the region, SANDAG formed the Regional Digital Divide Taskforce. Taskforce membership includes representation from government organizations, educational institutions, community-based organizations, internet service providers community technology training and network providers and other social service and civic organizations to ensure a holistic and integrated approach to digital equity.

The Digital Divide

Broadband provides endless benefits to society and its residents. However, broadband access can vary widely depending on geographic location and socioeconomic status. The COVID-19 pandemic exacerbated broadband access disparities among low-income urban and rural households, young students and senior citizens, making it hard for many to access essential services dependent on broadband and high-speed internet devices. When compared to those who were connected, those who were unconnected or under connected faced educational, economic, medical and social disadvantages. Those disadvantages and disparities are the digital divide.

Simply put, the digital divide refers to the growing gap between the members of society who have reliable access to broadband service and/or an adequate device for connecting to the internet, and those who do not. However, the digital divide is a complex issue, caused by a multitude of factors. In other words, there is not just one digital divide but multiple digital divides. These digital divides stem primarily from three obstacles: availability, affordability, and digital literacy.

This report focuses primarily on permitting, because permitting obstacles further aggravate the lack of broadband infrastructure. In a survey conducted by SANDAG, elaborated upon in this report, internet service providers (ISPs) identify permitting challenges as a principal hindrance to infrastructure deployment. The survey feedback describes permitting processes as lacking transparency, resource-intensive and inconsistent in terms of fees. The extended duration of permitting processes inflates costs and results in project delays, with consumers bearing much of this added cost. Local regulations and favored practices can also pose hindrances. Many municipalities lean towards ISPs providing terrestrial or subterranean wireline services, discouraging the use of aerial fiber. However, aerial fiber permits ISPs to utilize existing infrastructure like light, energy or telephone poles for conduit deployment, leading to time savings on permits and circumventing expenses related to trenching and road repairs. The survey also underscored road repair costs as a of contention between local jurisdictions and ISPs, especially regarding disagreements over cost-sharing responsibilities during backfill activities.

Why Broadband Is Important

In today's interconnected world, broadband access plays a pivotal role in shaping the social and economic fabric of communities. This report delves deep into the challenges and complexities associated with both wireless and wireline broadband deployment. Through detailed analysis, this report provides strategies to refine permitting processes, reduce the administrative load on local authorities and ensure service providers have a clear, efficient pathway for deployment. The emphasis on broadband is multi-fold:

ACCESSIBILITY: BROADBAND HELPS PEOPLE WITH DISABILITIES TO PARTICIPATE IN SOCIETY

- People who face physical mobility challenges can participate in the workforce via telework.
- The hearing impaired can communicate through chat programs and text messages or use webcams to communicate with sign language.
- People experiencing visual impairment can use text-to-voice programs or learn and connect through audio streaming services.

CIVIC ENGAGEMENT: BROADBAND EMPOWERS CIVIC ENGAGEMENT AND EFFECTIVE GOVERNANCE

- Access to the internet allows residents to attend virtual council meetings, participate in civic life and communicate directly with public officials.
- The internet gives residents access to petitions, comment periods and other forms of engagement that can foster democratic values.
- The internet also assists residents in receiving government benefits.

ECONOMIC DEVELOPMENT: BROADBAND FOSTERS ECONOMIC GROWTH

- Broadband makes it easier for job seekers to search for and apply to jobs and apply.
- Broadband can support business growth through advertisement, e-commerce startups and access to small business loans.
- Broadband also allows people to access financial services, such as traditional banking or stock market investments.

EDUCATION: BROADBAND CAN ENHANCE EDUCATION

- Broadband can help facilitate flexibility to accommodate different learning styles via remote learning.

- Class websites or apps give students the ability to download assignments and materials.
- Students can work with their peers in digital settings to complete group assignments.
- Email and direct messaging allow students or parents to communicate with their teachers.

PUBLIC HEALTH: BROADBAND CAN IMPROVE ACCESS TO HEALTHCARE

- Broadband can help people to connect with medical professionals virtually.
- Broadband allows people to order prescription medication online for delivery to their home.

PUBLIC SAFETY: BROADBAND CAN HELP CREATE A SAFER SOCIETY

- Broadband allows emergency dispatchers to communicate quickly with the police or fire department.
- Improvements to wireless broadband can enable advances to disaster response and early warning systems.
- Enhanced broadband infrastructure can assist in developing a safer and more efficient transportation system (e.g., intelligent transportation systems, traffic signal synchronization, connected and automated vehicles).

BROADBAND IS PIVOTAL FOR NEXT GENERATION TECHNOLOGIES

- Broadband is essential for transportation planning and deployment of intelligent transportation systems.
- Broadband allows for smart resource monitoring systems for water monitoring, trash disposal and electric vehicle charging systems

SUSTAINABILITY: BROADBAND IS A “GREEN STRATEGY”

- Telework, e-learning, and other remote access options have the potential to reduce car travel and the associated greenhouse gas emissions.
- Broadband is necessary to collect, analyze and track climate change data.

Ultimately, permitting, especially for broadband, is not just a procedural necessity but an enabler of growth, safety and sustainability. Its importance will only amplify as societies become more interconnected and reliant on digital infrastructures.

Report Methodology

The authors of this report employed an integrative research methodology to gain a holistic understanding of the current state of broadband permitting. A foundational component of this methodology involved surveying an array of local jurisdictions for information about operational practices, challenges and the details of permitting processes. Direct interviews with jurisdictions offered granular insights into the intricacies of processes and regulations while engagements with various ISPs providing a contrasting and balancing lens on jurisdictional practices. The findings from the Regional Digital Infrastructure Taskforce provided a critical component of the methodology. Their analyses and observations played a pivotal role in drawing a well-rounded picture of the state of broadband permitting. Together, these combined efforts paved the way for the insights and recommendations detailed in this report.

Regional Digital Infrastructure Taskforce (ReDIT) Insights

The findings from interviews and working sessions conducted by ReDIT during 2022 align closely with the outcomes of the survey, interviews and work groups conducted by Tectonic during 2023. Many jurisdictions and ISPs identified comparable challenges which impede broadband development. Additionally, they highlighted procedures that would work to accelerate the permit process for broadband development.

Over the last two years, data collection on broadband procedures revealed that jurisdictions that have adopted a broadband policy and/or updated their broadband/wireless ordinances have improved services. This improvement is attributed to the implementation of concise permit requirements, fees, dedicated staff for permits and applicants and on-line portals. Online portals allow for easy access for information, permit applications, automated processes and timelines, payment of fees, inspection requests and permit closeouts. Notable jurisdictions that have made these improvements include the cities of Long Beach, Los Angeles, Riverside, Oceanside and San Diego as well as Orange and San Diego counties.

The ReDIT taskforce identified the following issues as primary obstacles to broadband permitting:

- **Broadband Policy Shortcomings:** Outdated broadband ordinances, or the lack of any broadband ordinance.
- **Resource-Procedure Mismatch:** Discrepancies between available permitting resources and the application processes across jurisdictions.
- **Ambiguous Timelines:** Uncertain permit processing durations.
- **Elevated Permit Costs:** Fees disproportionate to the application's nature or scope, compounded by subjective costs added post-approval.
- **Information Variability:** Disparities in details about procedures, timelines, documentation and fees.
- **Review Inconsistencies:** Differing standards both within and between departments.
- **Staffing Limitations:** Insufficient personnel to manage application volumes.
- **Public Asset Utilization Issues:** Limited cooperation within jurisdictions on public asset sharing for broadband purposes.
- **Utility Mapping Void:** A noticeable lack of public access to utility mapping or inventory.
- **Jurisdictional Constraints:** Restrictive policies and non-compliance with the Federal Communications Commission's (FCC) 2014 Infrastructure Order disrupts the expected processing cadence.

- **Public Facility Limitations:** A dearth of public facilities available for broadband infrastructure.
- **Policy Outdatedness:** Local policies that lag behind state or federal mandates.
- **Incomplete Submissions:** Frequent encounters with incomplete permit applications.
- **Technological Neglect:** Jurisdictions often omit newer, more efficient broadband technology.
- **Batch Permitting Void:** A glaring absence of batch permitting to speed up processes.
- **Procedural Complications:** Local practices hinder adherence to state and federal timelines, impacting broader infrastructure plans.

Potential solutions suggested from the ReDIT Taskforce:

- **Digital Permit Process:** Push for an intuitive, concise and interactive automated permit process.
- **Transparent Information Sharing:** Clear, organized and easily accessible details on procedures, timelines and fees. Standardized fees reflective of the application and its scope are vital.
- **Infrastructure Sharing:** Tower companies, like Crown Castle, can potentially share space for multiple providers' needs.
- **Flexibility for Major Providers:** ISPs like Verizon and AT&T seek flexible collaborations, sometimes leaning towards exclusive infrastructure setups.
- **Continuous Training:** Regular briefings ensure accurate permit submissions, aiding especially those unfamiliar with local nuances.
- **Microtrenching:** Promote microtrenching as a standard for its potential benefits.
- **Batch Permitting:** Encourage batch permitting for efficient processing.
- **Mapping System:** A visual system to monitor application statuses to curb misjudgments about available plots.
- **Permit Varieties:** Implement annual and blanket permits to optimize processing times.
- **Guided Applications:** Introduce a "Broadband Ready Checklist" to guide and expedite applications.

The State of California Local Permitting Playbook

This permit streamlining report bases its foundational principles on the “State of California Local Permitting Playbook.” The goal of the report is to align its recommendations and methodologies with the standards and guidelines presented in the playbook. As a central reference, the playbook’s strategies and “Smart Practices” significantly shape the approach and offer a consistent framework.

A collaborative effort, published in August 2022, the playbook received inputs from numerous California state entities, such as the Governor’s Office of Business and Economic Development (GO-Biz), the Department of Technology, the California Public Utilities Commission (CPUC), and the Emerging Technology Fund. Valuable outreach contributors like the Rural County Representatives of California, California State Association of Counties and other regional bodies also played pivotal roles. Feedback from local government stakeholders enriched the content, focusing on strategies and “Smart Practices.”

The playbook, while serving as a guiding tool, remains adaptive and open to further stakeholder insights. Its chief aim is to guide local governments in enhancing broadband deployment, emphasizing the critical role of permits in tapping federal resources and deploying broadband infrastructure. The playbook is divided into four main sections:

- Strategies for Enhancing Permitting Processes
- Strategies for Creating Equitable Access to Key Assets
- Strategies for Creating Equitable Access to Information
- Implementing “State of California Local Permitting Playbook” Strategies

The playbook offers strategies to equip communities for broadband expansion, recognizing the substantial state and federal provisions dedicated to this goal in California. The playbook aligns with the “California Broadband for All Action Plan,” spotlighting the necessity of improved local permitting processes to achieve broad broadband access, and guides local governments in simplifying broadband project evolution, irrespective of funding sources or project complexity. While presenting a wide array of “Smart Practices” for permitting, the playbook underscores the idea that not every practice suits every community. Local governments are encouraged to select practices based on policies, specific situations and community needs. The primary goal: expedite broadband deployment with cost efficiency in mind. Moreover, the playbook emphasizes mutual benefits. Communities should derive either tangible or intangible value for backing broadband expansion endeavors. This relationship between communities and deployers should center on the public interest, fostering a balanced dynamic without bias towards the deployer. Below is a comprehensive breakdown and synopsis of the playbook’s four sections.

STRATEGIES FOR ENHANCING THE PERMITTING PROCESSES

Efficient processes play a central role in the development of broadband infrastructure. Local governments operate within a framework that requires the integration of community needs, technological

advancements and partnerships with private stakeholders. A critical component of this framework is the permitting process, which significantly influences the success of project implementations. The strategies that follow shed light on these complexities and offer methodologies to refine the permitting process, aiming for optimal outcomes.

- **Refinement through Transparency:** Grasping the details of permitting and related processes is essential for broadband deployment. Streamlining the permitting process allows for efficient execution of projects, whether they're spearheaded by local governments, private entities or public partners. Many regions have experience with public infrastructure projects. For instance, Santa Clara County introduced design standards for construction, leading to faster review times and uniform aesthetics. Optimizing procurement processes and clarifying aspects of permitting, rights-of-way and inspections can facilitate broadband initiatives. The goal is to balance community needs with the objectives of broadband deployers.
- **Standardizing Design Protocols:** Establishing consistent design standards for components such as fiber and conduits can make the permitting process more straightforward. This strategy aids in the application process and aligns with community aesthetic considerations. A notable example is the city of Los Angeles, which curated an exhaustive policy manual that details permit application nuances, serving as a clear guide for applicants.
- **Periodic Review of Standards:** Regular updates and reviews of standards are necessary to keep pace with the dynamic nature of technology and construction techniques. Regular updates of standards can also incorporate insights from industry experts.
- **Centralized Information Repository:** Consolidating telecommunications deployment data, be it in a manual or a digital platform, is essential. Centralized sources, such as the city of Los Angeles' Policy Manual, provide clarity to all stakeholders, from ISPs to the wider public. This structured approach assists the telecom sector in planning and offers distinct timelines for project stages.
- **Emphasizing Effective Communication:** Maintaining communication pathways between local governments and private deployers is key. Joint planning can help manage permit requests and reduce potential bottlenecks. The city of Oakland, for example, clearly communicates the expected timelines for each procedural step, ensuring aligned expectations between applicants and the city. To continually improve this process, feedback is invaluable. Tools such as surveys or dialogues can help pinpoint areas for enhancement, benefiting both regulatory bodies and applicants.
- **Dedicated Point of Contact:** Assigning specific personnel or a team can simplify the permitting process. The city of Riverside, for example, has adopted a unified permitting approach for both broadband and other applications.⁵
- **Dedicated Permits:** Creating separate permits for telecommunications projects might streamline the procedure. The city of Campbell, for instance, handles all telecom projects in public rights-of-

⁵ Public Permit Portal, City of Riverside. Available at: <https://riversideca.gov/cedd/building-safety/online-services/public-permit-portal>

way under an encroachment permit. In contrast, the city of Oakland categorizes permits as major or minor.

- **Online Permit Portals:** Utilizing online platforms for permit applications can enhance the applicant experience and improve administrative efficiency. Santa Clara County's e-permitting platform is one such system that encourages coordination between departments.
- **Batch Permitting:** Allowing applicants to secure one permit for projects that traditionally require several can be more efficient. The city of Long Beach, for instance, has a batch permitting process for specific wireless installations.
- **Regional Alignment:** Standardizing permit procedures across multiple jurisdictions might provide a consistent application experience.
- **Periodic Policy Reviews:** Regularly reviewing permitting processes ensures jurisdictions stay current with evolving state and federal regulations, minimizes delays and aligns with the shifting regulatory landscape.
- **Scaling Staffing and Support:** Managing processes with short-term projects such as broadband deployments present challenges. Rather than sustaining extensive staff for peak tasks, one strategy is for broadband providers to employ third-party inspectors to maintain local standards. Local governments can periodically assess the performance of these third-party inspectors, with poor performance resulting in removal from the approved list. This approach, applied during the 1990s cable upgrades, ensured consistent adherence to design standards.

SUMMARY OF STRATEGIES FOR FACILITATING ACCESS TO KEY ASSETS

Local governments possess valuable assets that can be strategically leveraged to drive broadband deployment while balancing costs and promoting inclusivity. These assets, combined with forward-thinking policies and collaborations, can lead to efficient, cost-effective and expansive broadband infrastructure.

- **Optimizing Asset Utilization:** The high costs associated with broadband deployment can be significantly reduced when local governments make strategic use of their assets. Leasing resources such as fiber optic cables, conduits and spaces in public buildings not only offsets expenses but also attracts private sector involvement. By providing both tangible and intangible benefits, governments can further enhance the value proposition for broadband deployment, ensuring both fiscal prudence and societal inclusivity.
- **Facilitating Broadband Services During Construction:** Mandating or encouraging developers to incorporate fiber optic pathways ensures buildings are future-ready for broadband. While slight immediate costs may be incurred, the long-term benefits in terms of savings and readiness for technological advancements are substantial.
- **Enhancing Utility Pole Utilization:** Utility poles, crucial for aerial broadband connections, often present challenges due to their current state. By fostering cooperative arrangements between pole owners and broadband providers, local governments can streamline the deployment process. Implementing strategies like one-touch make-ready rules, which allow the new attacher

to perform all work to prepare a pole for a new attachment, can expedite deployments and curtail costs.

- **Proactive Infrastructure Approaches:** The "build once" strategy underscores the importance of foresight. By planning for communication needs and considering future private sector requirements, local governments can maximize investments.
- **Promoting Collaborative Deployments:** Synchronized infrastructure development is the future of broadband. Such a cohesive approach reduces redundancies, conserves resources and ensures a smoother expansion trajectory.
- **Streamlined Infrastructure Management:** For high-density regions, a unified approach to infrastructure management is essential. Establishing a standard conduit bank managed by a centralized entity ensures seamless operations, easy maintenance and a framework that supports future growth.

SUMMARY OF STRATEGIES FOR CREATING EQUITABLE ACCESS TO INFORMATION

Local governments can harness the power of data, especially geographic information systems (GIS), to streamline and enhance the deployment process. With precise planning and collaboration, governments can foster a more connected future for their communities.

- **GIS Dataset Availability for Streamlined Broadband Deployment:** Access to comprehensive GIS datasets, akin to the CPUC's Interactive Broadband Map, is fundamental for efficient infrastructure planning. This dataset, which includes data points such as addresses, streets, rights-of-way, and utility poles, enables broadband deployers to reduce costs, identify potential risks, and minimize on-ground assessments. Ensuring appropriate access controls is crucial to safeguarding sensitive or proprietary information.
- **Documenting Public Fiber Assets:** The longevity and reliability of a public fiber network are directly linked to the quality of its documentation. Integrating documentation with GIS mapping provides a holistic view of the network's construction, maintenance and expansion. Over time, without detailed records like fiber locations or conduit colors, the network's integrity could be compromised, resulting in potential damages and financial losses.
- **Recording Public Conduit Assets:** Given the construction challenges in certain regions, underground conduit is a precious asset. It's imperative for localities to have updated and comprehensive records detailing various attributes of the conduit, such as its path, size and design specifics. Proper documentation ensures that the conduit remains functional and effective for its intended purpose.
- **Collaborative Infrastructure Mapping:** A collaborative approach to telecommunications mapping, exemplified by bodies like the CPUC, offers multiple benefits. By consolidating data and coordinating mapping efforts at the local level, permitting processes become more streamlined, enhancing overall infrastructure planning. Differentiated mapping, tailored to specific audiences—

be it public, private, or internal stakeholders—can further provide invaluable insights for refined broadband strategies.

SUMMARY OF APPROACHES TO IMPLEMENT THE STATE OF CALIFORNIA LOCAL PERMITTING PLAYBOOK STRATEGIES

Broadband deployment in local governments necessitates a well-coordinated strategy that incorporates multiple departments and stakeholders. To enhance the effectiveness of this digital infrastructure expansion, the following practices can be considered:

- **Cross-Agency Collaboration:** It's beneficial for local governments to have a unified approach to broadband planning. This ensures consistent collaboration across various departments, with central figures facilitating this coordination. As an example, inter-departmental collaborations can help streamline and refine permitting procedures. Unified efforts, under coherent leadership, lead to a consistent understanding of policy objectives and focus on desired outcomes.
- **Inclusion in Strategic Planning:** Broadband deployment can be further streamlined by integration with the broader strategic planning of local governments. Engaging with all stakeholders, from established service providers to potential new entrants and underserved communities, fosters a collaborative environment. Meetings between local authorities, broadband contacts and service providers, similar to those held in the city of San José, can enhance the permitting process and promote mutual understanding. Prioritizing broadband in strategic planning not only facilitates smoother processes but also makes the region more attractive for investments.
- **Centralized Coordination Process:** A centralized coordination process ensures consistent communication across departments, addressing potential internal silos. Designating formal roles within the broadband planning process and having a clear point of contact helps streamline efforts. Keeping elected officials informed about broadband developments maintains alignment with overall governance objectives.
- **Effective Review System:** Implementing a centralized system, akin to a clearinghouse, is pivotal for identifying and assessing broadband opportunities. When a new opportunity presents itself, it can be promptly evaluated through this centralized system, ensuring timely technical reviews and further policy assessments when required. The goal is to maintain transparency and accountability at each stage, with well-documented feedback and well-informed decision-makers.

Permit Streamlining Survey to Local Jurisdictions (Planning and Public Works)

SCAG and SANDAG distributed a regional survey created by Tectonic to gather detailed information for this report. The complete version is available in **Appendix A, Planning Department/Public Works Department Infrastructure Deployment Survey**. The survey reached a range of municipalities, jurisdictions and counties within the SCAG and SANDAG regions.

Given the distinct roles associated with permitting broadband infrastructure, the survey was divided into "Planning" and "Public Works" sections, allowing for specific feedback tailored to each domain's unique responsibilities.

The survey addressed various topics, including references to the California Government Code Section 65921, known as "The Permit Streamlining Act." Additionally, the survey inquired about the status of each jurisdiction's broadband infrastructure design standards, the upkeep of records related to underground utilities and particulars of permitting processes, costs and fees.

Planning departments that responded to the survey:

- City of Moreno Valley
- City of Camarillo
- City of Bell
- County of Los Angeles
- City of Bell Gardens (2 Responses)
- City of Monrovia
- City of San Fernando
- City of Torrance

Public Works Departments that responded to the survey:

- City of Bell
- City of Colton
- City of Burbank
- City of Santee
- City of Cerritos
- County of San Diego
- City of Huntington Beach

Because of a large omission of responses, possibly from survey “burn-out” during the COVID era, analysis was supplemented by direct interviews. Summary and results of those interviews are included as follows:

SUMMARY OF SURVEY RESPONSES

Each survey asked several questions related to permitting. Responses are summarized in **Appendix B, Planning Departments and Public Works Department Survey Responses**.

As indicated in the introduction, the survey “is bifurcated between “Planning” and “Public Works” based on their roles in permitting broadband infrastructure. There are several existing laws, policies, and resources that affect conditions in the jurisdictions to expedite and simplify the permitting process for wireless carriers and Internet Service Providers to bring existing and new technologies to your community. As the demand for equitable access to high-speed connectivity grows, it is essential that local jurisdictions like yours facilitate streamlined permitting practices to bring these technologies to your residents, schools, and businesses.”

FINDINGS FROM PERMIT STREAMLINING SURVEY

The survey results revealed that some municipalities and jurisdictions were well-prepared for wireless and broadband deployment, equipped with updated ordinances, standards and detailed data on rights-of-way, city-owned poles and existing utilities. Larger cities and counties rely on this detailed information for their permitting processes. On the other hand, smaller cities showed interest in improving their permitting systems but often lacked these resources.

A significant finding was the inconsistency in maintaining current records: three smaller municipalities admitted to a lack of up-to-date information on underground utilities.

The use of municipal light poles for 5G technology, especially to enhance broadband expansion via “fixed wireless,” has become increasingly prominent. “Small cells” is a term widely recognized among the survey respondents, with the majority having local regulations that accommodate the construction of small cell facilities. Yet, one municipality noted that macro cells are currently sufficient for their internet service needs, although this view may evolve as the push for fixed wireless broadband solutions grows. Major wireless providers and tower companies are looking more into small cell facilities to act as third-party providers to carriers.

Furthermore, the potential for using municipal light poles for the rollout of 5G technology has been identified as a key strategy for supporting broadband expansion, notably through fixed wireless. Respondents generally understood the concept of small cells, with most having regulatory provisions for their construction. The city of Camarillo, however, mentioned that macro cells meet their current internet service needs, a position that may change as the demand for fixed wireless" broadband solutions intensifies, with significant wireless providers and tower companies exploring the use of small cell facilities to serve as intermediaries to carriers.

The “State of California Local Permitting Playbook” offers various strategies for local jurisdictions to ensure rule compliance, address staff limitations, and hasten permit approvals. When questioned about their compliance with the playbook, all but one jurisdiction stated having, or being in the process of setting up, online permitting systems. Interestingly, the one jurisdiction without an online system is neither small nor medium-sized but ranks amongst the largest in the respective county and 38th in the state of California.

None of the public works departments from these jurisdictions had integrated microtrenching standards into their regulations. Some respondents voiced concerns about the vulnerability of shallow trenches underground utility markouts. However, there seemed to be a consensus in favor of microtrenching, provided it adheres to recognized standards, likely those set by larger jurisdictions or agencies.

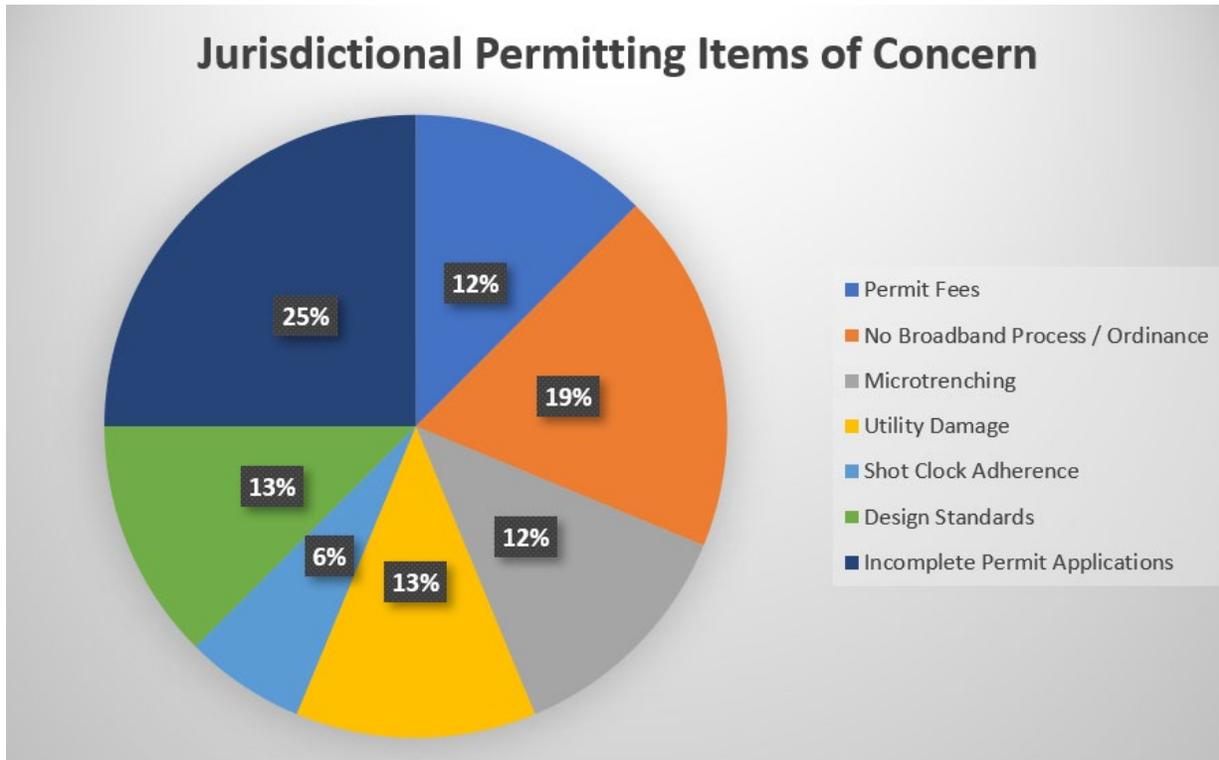
The initial survey results underscored a critical need for more streamlined permitting policies, particularly in smaller and mid-sized cities, though larger cities could also see improvements from refining their permit application processes. The findings emphasized the necessity of collecting more data to pinpoint effective streamlining strategies suitable for the diverse jurisdictions within the SCAG and SANDAG regions. Consequently, individual interviews with these jurisdictions were conducted. This method was complemented by engaging with private sector entities, such as ISPs, wireless carriers, wireless internet service providers and fiber to the premises service providers that specialize in fiber optics.

INTERVIEWS WITH LOCAL JURISDICTIONS

Due to the limited responses from the surveys, additional jurisdictions were directly approached for interviews. Eight jurisdictions were interviewed, including the two largest cities in the SCAG/SANDAG Region, Los Angeles and San Diego; three small- to mid-sized cities, namely the cities of Bell, Bell Gardens and Oceanside; and three counties, namely Los Angeles, San Diego and Orange. Jurisdictional representatives varied but generally included staff from departments such as planning, public works, permitting applications, zoning and managerial/administrative.

Exhibit 1, Jurisdictional Permitting Items of Concern provides a broad overview of concerns held by jurisdictional staff regarding Broadband Permitting. These insights were gathered from comments made by staff throughout the interview process.

Exhibit 1 Jurisdictional Permitting Items of Concern



INSIGHTS AND EXAMPLES OF BEST PRACTICES FROM LOCAL JURISDICTIONS

The city of Oceanside, with a population of approximately 175,000, initiated a partnership with a fiber company, facilitating the deployment of fiber infrastructure throughout the city's rights-of-way through the introduction of the U-Plan/Right of Way Fiber Optic Permit Application. Managed by an external consultant, this application system has led to efficient permit review and approval processes, achieving turnaround times between five to 30 days.

Los Angeles County developed and implemented a new Wireless Communications Ordinance over a two-year period. This ordinance has received commendations from the private sector for the efficiency of the permitting process it has established.

The city of Los Angeles attributes its permitting efficiency to an online application system and a case-by-case review approach, achieving review times ranging from 24 hours to 2 weeks. However, Conditional Use Permits may extend the process to nine to 12 months. While the city does not dedicate staff specifically for wireless reviews, a Supplemental Fee Agreement with T-Mobile ensures dedicated review resources. This arrangement is currently exclusive to T-Mobile.

San Diego County employs an online permitting system that, supported by a fully staffed department, offers prompt application processing times, typically within 10 days, although application processing can extend to 60 days during peak periods or under staffing constraints. The use of external consultants for the detailed review of wireless facilities applications is a practice here, with anticipations of challenges

related to traffic control plans or insufficient documentation. A feedback mechanism ensures applications meet the necessary criteria.

The city of San Diego refined its permitting process, cutting waiting times from 60-80 days to 20-30 days since the revamp. Continuous training for staff, dedicated to specific telecom sectors, supports this efficiency. The city is considering the adoption of microtrenching, though it has yet to see applications for this method.

Orange County offers an automated permitting system complemented by detailed checklists, overseen by the internal Land Development Division for right-of-way and private property applications. Their process is designed for efficiency, with standard and non-5G applications processed within 15 business days and allowing for quick rechecks. Microtrenching, however, is not a commonly explored option here. The county bases its fees on time and materials, aiming for transparency in fiscal matters.

ANALYSIS AND CONCLUSION OF JURISDICTION INTERVIEWS

The survey and interviews highlighted a variety of approaches to broadband permitting across cities of varying sizes. Larger cities have taken steps to streamline their processes, using past complaints and available funding as a catalyst to improve the operations of their planning and public works departments. However, small- and some medium-sized cities find themselves without the necessary resources to implement similar measures. There lies an opportunity for these cities to improve by consolidating their permitting processes within a larger governmental body that possesses the necessary expertise for managing broadband expansion.

There is a general agreement among jurisdictions to allow ISPs and carriers to deploy fiber cables using microtrenching, subject to ISPs and carriers following the standards set by recognized jurisdictions or state entities. While the use of standard and narrow trenching practices is accepted, tracking the installed cables presents a challenge. The reliance is currently on utility callouts rather than a unified system to track all cables, both overhead and underground. The hesitancy of ISPs to provide current data further complicates the situation, leading to incomplete and potentially misleading information that could endanger the infrastructure.

The feedback suggests a significant benefit could be derived from adopting a standardized model broadband policy, including comprehensive checklists, especially for small- and medium-sized communities that currently lack clear guidelines. This absence slows down the permitting process and creates hurdles for review staff who may not be well-versed in the specifics of broadband technology.

INTERVIEWS WITH INTERNET SERVICE PROVIDERS

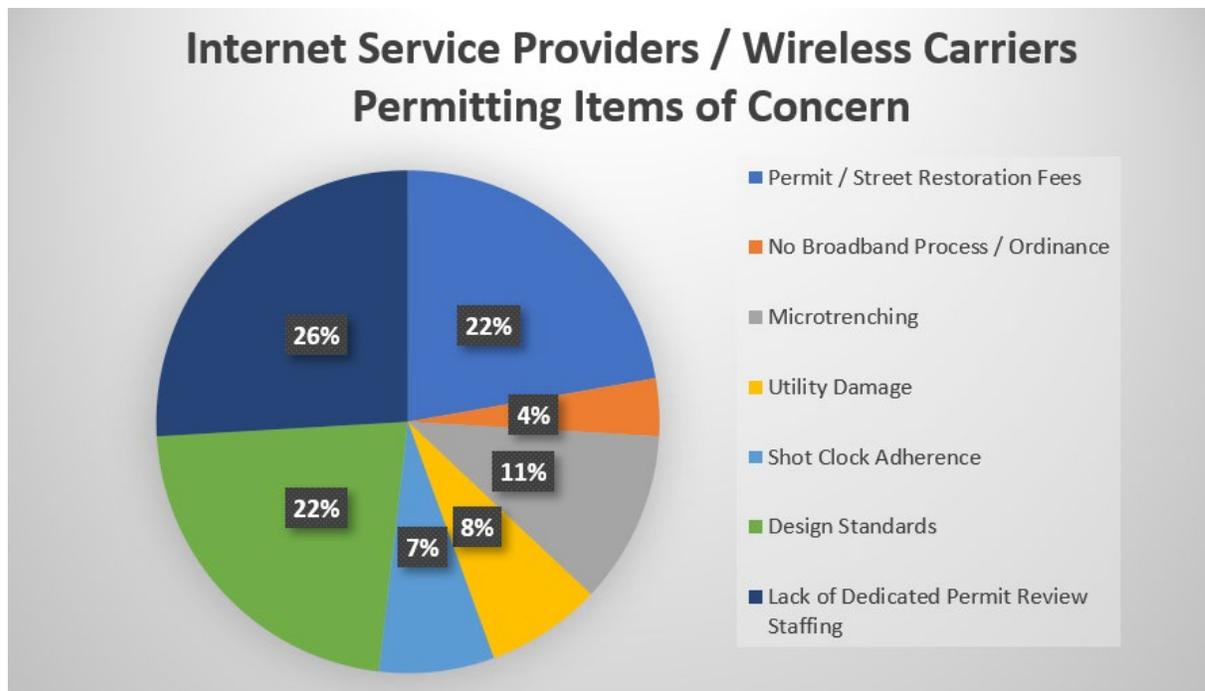
Distinct patterns emerged during extensive engagement with jurisdictions and major ISPs, such as COX, Frontier Communications, T-Mobile, Charter Communications, Verizon Wireless and Crown Castle International. Without focusing on individual jurisdictions, there is a notable difference between jurisdictions that have implemented efficient processes and those that have resulted in extended project timelines and increased costs.

According to the ISPs, these are the key characteristics of efficient permitting processes:

- **Established Guidelines:** Jurisdictions have a dedicated ordinance or guideline, specifically for broadband deployment or an updated telecommunications framework.
- **Dedicated Expertise:** The availability of staff members dedicated to applications and well-versed with the specific ordinance or guideline. Their proficiency extends to understanding the required supporting documentation for the application and their responsiveness to applicants.
- **Defined Checklists:** These jurisdictions provide well-structured, concise written application checklists.
- **Adherence to Timelines:** A commitment to review timelines, often dictated by law or their own policies. More efficient jurisdictions typically boast shorter timelines than mandated by law.
- **Automation:** Their permitting process is largely, if not entirely, automated, covering every phase from application to closeout.

Exhibit 2, Internet Service Providers/Wireless Carriers Permitting Items of Concern offers a high-level overview of concerns related to broadband permitting as expressed by staff from internet service providers and wireless carriers. This synthesis draws from all feedback provided during the interview sessions.

Exhibit 2 Internet Service Providers/Wireless Carriers Permitting Items of Concern



Internet service providers (ISPs), wireless carriers, fiber companies and supporting associations that were interviewed are as follows:

- Frontier Communications
- Cox
- T-Mobile

- Charter
- Southern California Contractors Association
- Verizon
- AT&T
- Crown Castle
- Cityside Networks
- Ubiquity (Ting)
- Southern California Edison

SUMMARY OF INTERNET SERVICE PROVIDER INTERVIEWS

Detailed interview summaries for each ISP are organized based on their respective interview numbers. To ensure the integrity of the interview process and encourage open dialogue, ISPs were anonymized upon their request. This measure allowed these providers to speak candidly, without concerns of affecting their ongoing or future relationships with local jurisdictions.

ISP #A001

The staff pointed out various challenges encountered during the permitting process. A primary hurdle stems from differences in submittal requirements between jurisdictions. These can vary widely, encompassing differences in document size, format and the necessity of engineering seals. This variability isn't limited to paperwork. When considering above-ground infrastructure standards, there have been situations where field inspectors deem pre-approved engineering details as inappropriate due to specific local conditions.

The lack of uniformity in street restoration standards between jurisdictions compounds these challenges. The demands differ; some jurisdictions impose more comprehensive surface repair obligations, introducing further complications.

ISP operational guidelines also introduce their own set of challenges. They stipulate that underground fiber vaults must be ventilated, for example. The costs tied to this mandate renders certain projects impractical, particularly in jurisdictions insisting on purely underground installations.

ISP #A002

This company, offering ISP services statewide, pinpointed permitting and the corresponding restoration fees for street repairs as their primary challenges. This issue, especially in the context of microtrenching, is prevalent across California. They highlighted an instance where a project overshot its budget by \$6 million. From their perspective, challenging these unexpected expenses could compromise potential future projects. Efforts to initiate

ISP Respondent :

“Getting permits is a big chokepoint as well as road remediation and repairs, that they are deploying hundreds of thousands of feet of fiber on a weekly basis and one of the biggest difficulties is the jurisdiction wants them to fix more of the road than what was disturbed”

negotiations were often met with resistance, as jurisdictions would stop communication until an agreement regarding the fees was reached.

Focused on serving both unserved and underserved areas, the company's network expansion strategy is heavily influenced by costs. They recognize the potential advantages of Broadband Equity, Access, and Deployment program grants, but have also voiced concerns over inconsistencies in the FCC Broadband Map, even though it largely matches their service areas.

Regarding fiber installation techniques, the company is familiar with microtrenching. However, due to varying standards, it isn't always their preferred method. They've expressed interest in adopting the Frontier standards for microtrenching. Their current efforts are directed towards enhancing connectivity in areas that lack adequate service, bolstered by both federal and state grants. Fiber to the premises remains their primary service, with no plans to transition to fixed wireless in the near future.

ISP #A003

This service provider has expressed concerns regarding street damage restoration fees. These fees, intended for future street repairs, are viewed by the provider as excessively high relative to their installations. With these fees now comprising the majority of installation-related costs, the provider advocates for a review of this pricing framework to ensure fairness. Notably, some municipalities offer concessions on these fees, especially when road repairs entail comprehensive resealing or repaving.

In the realm of installation methods, while the provider acknowledges the potential of microtrenching, their go-to techniques are open trenching or directional boring. This choice stems from a desire to minimize potential harm to fiber cables. Additionally, there are concerns about the durability of microtrenching grouted caps, given the narrowness of the trenches.

The company has encountered challenges while pivoting exclusively to fiber cabling for their network expansion. Many of their cabinet installations in public areas have been modified, frequently based on subsequent feedback from field inspectors. However, in collaboration with a particular municipality, the company has established a standardized installation procedure, ensuring consistent practices and adherence to mutually agreed-upon guidelines.

ISP #B001

The primary mission of this carrier predominantly is to bring connectivity to unserved and underserved areas, concentrated in the counties of San Bernardino and Riverside as well as the high desert of Los Angeles County and mountain communities using fixed wireless home internet systems. One of the positive aspects they've recognized in their expansion is the cost-controlling benefits of microtrenching for fiber installation.

However, challenges are abundant. Unlike in larger cities where regulations are often met with ease, they frequently grapple with the limited resources in areas like the high desert, making it difficult to adhere to the FCC shot clock requirements. Moreover, their model of leasing fiber ties them to the decisions of fiber companies for backhaul expansion into their desired markets. With the size of these communities typically falling below 200,000 residents, the financial returns are often unsatisfactory. Adding to the complexities, many jurisdictions demonstrate a strong preference for underground fiber over aerial setups, resulting in increased costs.

A persisting concern is the frequent permit revisions by field inspectors, commonly due to omissions such as missing electrical permits or the unavailability of certified technicians for specific roles. The issue of

street repairs has also been a pain point. These repairs often span areas beyond the trenching zones, including those of microtrenching, pushing costs upward. The recent introduction of the city of San Diego's street preservation ordinance is a noteworthy concern. Feedback from peer ISPs indicates that this new ordinance has, in some cases, magnified fiber installation costs by up to tenfold.

ISP #B002

The carrier frequently encounters challenges with jurisdictions that do not comply with the designated shot clock⁶ schedules. Their projects, whether modifications, new builds, or small cells, are often subjected to permit approval delays ranging from six to 12 months. A significant cause of these delays is understaffing, especially evident in smaller jurisdictions. They've noted that some jurisdictions display a reluctance to grant approvals and resort to delaying tactics during the review process. Despite the carrier's position that small cells should be processed as standardized sites, they find each application undergoing thorough review, with traffic control departments often adding to the delay.

Restrictive zoning districts present another challenge, particularly affecting wireless installations on private properties, in contrast to small cell installations in public rights of way.

Additionally, street damage restoration fees (SDRFs) have been problematic. For instance, one project saw an increase in costs by nearly \$700,000 due to an SDRF, which also accounted for fees associated with microtrenching.

A further concern is the prioritization of electric vehicle charging stations on streetlights, which are potential sites for small cells. During the permitting phase, broadband often appears to be a secondary consideration compared to these charging stations. The carrier believes that giving broadband the necessary priority would lead jurisdictions to adhere to the FCC shot clock schedules and allocate the required staff for efficient broadband permit reviews.

In terms of expansion, the carrier's strategy focuses on extending services to unserved and underserved areas using fixed wireless. They plan to utilize fiber mainly for middle-mile connections and commercial applications. While they aim to establish their own fiber infrastructure, they are also open to leasing dark fiber when it's available.

ISP #B003

This service provider has fostered positive relations with both Carlsbad and the wider San Diego County area. The permit review teams and city engineers in these regions have proven to be both competent and cooperative, demonstrating an understanding of the needs of broadband companies. However, challenges often arise in jurisdictions where requirements shift unexpectedly during the project lifecycle.

Historically, discrepancies in building fees have posed issues. At inspection times, the actual fees have sometimes exceeded initial quotations. In such instances, this company has chosen to halt the project. While these incidents occurred in the past, some wireless and service providers still face hurdles in initiating their projects and may opt to abandon them.

For their fiber installations, microtrenching is the primary method employed by this company. Their current focus is on underserved areas, deliberately avoiding regions with high fiber saturation. As for their

⁶ "Shot clock" refers to the presumptively reasonable time defined by the FCC in which a state or local government must act on an application or request for authorization to place, construct or modify personal wireless service facilities.

future expansion, they are eyeing developments in San Bernardino, Orange, Los Angeles and Riverside counties.

ISP #B004

This carrier presented an overview of the challenges and successes they've encountered with broadband permitting in Southern California. A significant portion of their challenges stem from the absence of dedicated review personnel and a structured process aligned with the FCC 6409 mandates. On the other hand, they acknowledge that larger cities, notably San Diego, have made substantial improvements over recent years, boasting both a committed staff and an efficient permitting process. Some of the smaller cities, recognizing their overstretched staff, have sought external assistance, resulting in a swifter permit approval process. Conversely, certain smaller cities and more distant counties retain dated practices, mandating in-person submission of printed documents for permit applications and necessitating physical collection of permits.

At the time of discussion, the company was experimenting with microtrenching for underground fiber deployment. They are cognizant of a statewide initiative advocating for microtrenching standardization across jurisdictions. Nonetheless, they view microtrenching as just one component of their operational toolkit. Depending on site-specific conditions, they anticipate the continued necessity for open trenching and directional boring.

Furthermore, this carrier has grappled with cost-related challenges due to inconsistent requirements for repaving and site restoration.

ISP #C001

The staff expressed their strong support for broadband deployment, but they expressed reservations about the microtrenching method, especially concerning its shallow depth. They articulated a preference for the cable to be situated at a minimum depth of 24 inches. Their main concern revolves around the potential inaccuracies in utility marking, which, during a full-depth asphalt replacement, could pose a risk of the conduit and fiber cables becoming entangled in their machinery. Notably, certain equipment like milling machines could inadvertently grasp the cable, potentially dragging out extensive lengths before any damage is detected. Subsequently, contractors usually bear the liability for such damages.

ISP #C002

This company is laying extensive lengths of fiber across multiple jurisdictions within the regions. They highlighted a significant achievement with one city where they negotiated a term blanket purchase order, enabling them to utilize a single permit in lieu of managing hundreds. A successful strategy they employed involved placing substantial deposits with public works departments. This ensures the prompt availability of inspectors as the project progresses. Furthermore, such deposits have facilitated smaller cities in engaging third-party inspectors who diligently monitor the project's advancement.

The company strongly advocates for microtrenching and intends to incorporate this method into their upcoming yearly term permits. To preempt potential issues with pavement restoration, they furnish all cities with global positioning satellite data, ensuring precise documentation of the underground fiber locations.

Moreover, the company emphasized their proactive approach in seeking consensus on design standards, especially concerning small cells. They found that cities equipped with defined broadband and wireless standards offer the most straightforward construction processes.

ISP #C003

The provider emphasized the occasional tension between providers and jurisdictions, suggesting that such dynamics can sometimes be adversarial. They pointed out that certain jurisdictions introduce ordinances that hinder the adoption of new practices and standards. For instance, they've noticed cities implementing regulations that inadvertently make microtrenching economically challenging. The restoration fees for microtrenching can, in some cases, exceed those for directional boring, acting as a de facto deterrent against the microtrenching method.

This provider expressed concerns that some cities have a biased perspective against microtrenching, either because it's a relatively new technique or due to negative experiences with poor implementations by certain vendors. They cited an instance where a company, hired to set up a network in a city, engaged vendors who delivered subpar work. These vendors neglected utility locations and delivered unsatisfactory restoration work. Their approach on streets that had been long neglected resulted in further damage during the microtrenching process. The provider stressed that the issue in this instance was with the vendor's execution and not with the microtrenching technology itself.

Lastly, they acknowledged that the city of San Diego had a reputation for lengthy permitting processes in the past but commended its current practices. They also expressed openness to any maintenance bonding requirements that might alleviate pavement restoration expenses.

ISP #C004

The provider maintains franchise agreements with all the agencies they partner with, except for the state of California. They noted a distinction when it comes to broadband, which operates under Section 7901—

ISP Respondent :
“We were able to negotiate with the Public Works Department to do a Term / Blanket PO to install 16 miles of aerial fiber and do some make ready work on the utility poles instead of applying for 100s of permits. They signed a contract with them and hired one of the inspectors for 6 weeks during the term permit to ensure that the work was code compliant. They were able to complete the project within a 6-week timeframe”

a state franchise that differs from their city agreements. Working with state agencies has posed challenges due to inconsistencies in their procedures or a lack of enforcement of existing processes.

Their primary suggestion centered on enhancing efficiency: a commitment to reduced response times would significantly aid their planning and scheduling. Specifically, for permit reviews and issuances, they advocate for a guaranteed timeframe within which permits should be issued.

ANALYSIS AND CONCLUSION OF INTERNET SERVICE PROVIDER INTERVIEWS

The interviews with the ISPs reinforced the Regional Digital Infrastructure Taskforce findings, shedding light on concerns that influence the permitting process across many regional jurisdictions:

- **Broadband Permitting:** The dynamics between providers and jurisdictions can sometimes be adversarial. Effective communication and mutual understanding are essential. Larger cities, like San Diego, have shown marked improvement in their permitting processes over the years, acting as an exemplar for other jurisdictions.
- **Microtrenching Concerns:** The technique of microtrenching, while innovative and efficient, faces resistance from some jurisdictions. This resistance stems more from negative experiences with certain vendors than from inherent flaws in the technology. This highlights the need for rigorous vendor selection and clear expectations.
- **State vs. City Franchises:** The distinction between state and city franchise agreements brings layers of complexity to broadband deployment, particularly when faced with inconsistencies in state agency processes. The difference between state franchises like Section 7901 and city franchises underscores the importance of regulatory clarity.
- **Efficiency in Response Times:** A primary concern for providers is the response time for permit reviews and issuances. Committing to guaranteed and expedited response times by jurisdictions can streamline operations and foster more efficient broadband deployment.
- **Outdated Guidelines:** A lack of contemporary ordinances or non-compliance with timeframes set out by bodies like Section 6409.
- **Staffing Concerns:** Absence of dedicated and well-informed staff, leading to inconsistent or erroneous information.
- **Ambiguous Standards:** Jurisdictions lack clear and concise standards or checklists, resulting in multiple rounds of supplemental submissions.
- **Excessive Departmental Reviews:** Applications are often subjected to reviews by multiple departments, causing delays. Sometimes, departments not typically involved in the review process can contribute to hold-ups, with delays occasionally spanning eight to 12 months.
- **Manual Processes:** An absence of an automated system for applications.
- **Unforeseen Fees:** The imposition of fees not directly tied to the application. Some of these are directed towards unrelated projects, while others are imposed post-permit issuance, impacting the project's scope and cost.

- **Impact on Broadband Projects:** Lengthy permit issuance timelines, coupled with these additional fees, can hinder other broadband projects, leading to them being scaled down or altogether scrapped.

Fostering collaborative relationships between providers and jurisdictions, alongside the implementation of standardized and efficient processes, will be instrumental in propelling broadband deployment across various regions.

Permit Streamlining Analysis and Recommendations

Based on insights from interviews with local jurisdictions and internet service providers (ISPs), discussions analyzed by the Regional Digital Infrastructure Taskforce and a review of jurisdictional practices, a compiled list of best management practices (BMPs) is presented. These BMPs are recommended for consideration by local jurisdictions in the implementation of permit streamlining processes. Each BMP includes a summary of implementation techniques, associated risks, advantages, and, where appropriate and feasible, case studies.

FIBER DEPLOYMENT

Traditional underground fiber installation encompasses various techniques, including boring, directional drilling, trenching and excavation. A significant challenge is working near existing underground electric and gas systems, requiring collaboration with utilities and adherence to safety standards.

TECHNIQUES FOR TRADITIONAL FIBER DEPLOYMENT

- **Identifying Underground Utilities:** Contractors must identify all underground utilities before excavation, working closely with utility representatives who can highlight service locations and, in some cases, supervise the work. Cable locators and ground penetration radar (GPR) are used to detect underground services.
- **Trenching and Conduit Installation:** Underground cables are typically housed within conduits buried approximately 1-1.2 meters deep. The installation process involves digging a trench and placing the conduit (often PVC) inside. Some conduits come with pre-installed innerducts, simplifying cable installation.
- **Excavation vs. Trenching:** Excavation refers to any man-made depression or cut in the Earth's surface, while a trench is a specific type of excavation characterized by its narrowness relative to its length. Trench depth typically exceeds its width but doesn't surpass 15 feet.
- **Directional Boring:** This technique is used to avoid surface disruptions, especially when crossing roads or sidewalks. A conductive marker tape is placed above the conduit for future cable detection and safety. Extra conduits are often added during road installations to avoid future excavations.

RISKS ASSOCIATED WITH TRADITIONAL FIBER DEPLOYMENT

- **Risk to Existing Infrastructure:** Excavating near underground electric and gas systems poses significant risks, requiring collaboration with utilities to locate and ensure safety.
- **Utility Identification:** Contractors must accurately identify underground utilities before excavation, relying on tools like Cable Locators and GPR, which can be distorted by power cables.
- **Trenching Caution:** Trenching near existing services demands meticulous care to prevent damage, and contractors are responsible for any damage.

ALTERNATIVE SOLUTIONS FOR FIBER DEPLOYMENT

Traditional underground installation methods, while effective, often encounter obstacles that range from cost overruns to environmental concerns. In response to these issues, innovative techniques and strategies have emerged as potential alternatives to address these challenges more efficiently and cost-effectively. This discussion delves into these alternative approaches, exploring their potential benefits for quicker infrastructure deployment.

MICROTRENCHING

Many installers are increasingly adopting microtrenching, also referred to as slot-cut trenching. This method presents significant advantages over conventional techniques.

TECHNIQUE FOR MICROTRENCHING

Microtrenching involves the use of a specialized diamond circular saw to create a narrow trench, typically 0.75 to 1.5 inches wide and four inches deep. A microduct is placed at the trench's base, and the trench is backfilled and sealed, expediting the installation process. This method contrasts with traditional trenching, which requires wider trenches and multiple backfilling stages.

ADVANTAGES OF MICROTRENCHING

- **Cost-Efficiency:** Microtrenching is significantly more cost-effective than traditional trenching, with potential savings of up to 60 percent.
- **Less Disruptive:** Microtrenching is less disruptive to urban environments due to narrower trenches and reduced surface disturbances.
- **Faster Installation:** Microtrenching accelerates the overall project timeline, allowing for quicker network deployment.
- **Regulatory Flexibility:** Recent legislation in some regions, like California, permits microtrenching for fiber optic lines, providing regulatory flexibility.
- **Lower Initial Costs:** Microtrenching often has a lower upfront cost compared to other installation methods like directional boring.
- **Versatility:** Microtrenching is adaptable to various terrains and landscapes, making it suitable for different deployment scenarios.

AERIAL FIBER

Aerial fiber installation encompasses activities like placing utility poles and pole-line aerial setups.

TECHNIQUE(S) FOR AERIAL FIBER INSTALLATION

- **Design and Feasibility Assessment:** The success of an aerial fiber installation project begins with a meticulous design of the cable plant. This includes a comprehensive survey of proposed routes to identify the optimal paths and an examination of ground conditions to anticipate potential challenges.

- **Component Readiness:** It's crucial to ensure that all required components, such as fiber optic cables, connectors and support hardware, are procured and readily available before initiating the installation process. This step prevents delays and interruptions during installation.
- **Permit Procurement:** Compliance with local regulations is a key priority. Obtaining the necessary permits from local authorities is a mandatory step in the planning process. These permits ensure that the installation adheres to safety and environmental standards while meeting legal requirements.
- **Effective Coordination:** Successful aerial fiber installation demands close coordination with various local agencies, including traffic management and police departments. This coordination ensures the safety of both installation crews and the general public by minimizing disruptions and maintaining smooth traffic flow.
- **Pole Preparation:** When existing utility poles are utilized, it's essential to secure the appropriate permits for adding communication cables. Additionally, these poles must be made ready to support the new fiber optic infrastructure. This preparation phase can be time-consuming and requires the involvement of pole owners or authorized parties.
- **Cable Attachment:** In some instances, lightweight fiber cables may be attached to previously installed cables, such as aging copper phone lines or cable television hardline coaxial cables. However, obtaining the necessary permissions from relevant authorities remains paramount to ensure compliance with regulations.

ADVANTAGES OF AERIAL FIBER INSTALLATION

Aerial fiber installation offers several compelling advantages for network deployment:

- **Speed and Efficiency:** Aerial installation is typically significantly faster to deploy compared to buried networks. This efficiency can lead to quicker network expansion and service provision.
- **Cost-Effectiveness:** Aerial installation often proves to be more budget-friendly than its underground counterpart. The reduced need for extensive excavation and trenching can result in cost savings.
- **Minimal Ground Disruption:** Aerial installation minimizes disruptions to the ground and surface. This is particularly advantageous in urban environments where extensive digging can be logistically challenging and disruptive.
- **Accessibility for Maintenance:** Aerial networks offer easier access for maintenance and repairs compared to underground infrastructure. Technicians can swiftly reach and service cables, reducing downtime in case of issues.
- **Adaptability:** Aerial installations can be adapted to various terrains and landscapes, making them a versatile choice for network expansion projects.
- In Southern California, an initiative by several ISPs to enhance broadband connectivity involved the deployment of aerial fiber-optic cables using existing utility poles. Their projects capitalized on various attachment methods such as lash and span techniques, which are cost-effective and cause minimal disruption. By adhering to established guidelines for clearances and avoiding the need for extensive new construction, the projects minimized environmental impact and streamlined the deployment process.

- Navigating the permitting process posed significant challenges due to varying local regulations. The ISPs focused on early collaboration with municipal authorities, which facilitated a smoother permitting process. This early engagement was critical in avoiding potential delays and ensuring compliance with local standards, which vary widely across Southern California's diverse jurisdictions.
- The deployment strategy resulted in substantial cost savings and reduced installation times. Utilizing existing utility infrastructure allowed the service provider to bypass the more substantial expenses and logistical complications associated with underground fiber installation. The success of this aerial fiber deployment provides a replicable model for other regions, demonstrating the efficacy of leveraging existing utility poles and engaging proactively with local governments to expedite broadband expansion.

CASE STUDIES OF MICROTRENCHING STANDARDS

CITY OF SAN DIEGO

The city of San Diego established a dedicated committee to explore alternatives to micro-trenching. Google was the primary vendor involved. This collaboration culminated in the formation of SDG 165, which pertains to a one-inch wide trench.

From April 2021 to October 2022, the city collaborated with ISPs to establish a standard for micro-trenches, ranging from a minimum width of one inch to a maximum of 2.5 inches. The ISPs presented a proposed standard, delineating key considerations, such as minimum and maximum trench widths and depths, separation distance between the pavement and the conduit's top, conduit size, separation between individual trenches and the number of conduits.

In their deliberations, the city's team scrutinized seven local standards, comparing these pivotal factors. They liaised with other agencies to address any ambiguities arising from the seven standards and evaluated the performance of backfill material mix designs with regard to both the efficacy of the backfill itself and bicycle safety.

While the process of drafting these standards was fraught with challenges, the stakeholders ensured an inclusive dialogue. All participants acknowledged the concerns voiced and realized the necessity for compromise. A few salient recommendations stemming from the committee's discussions include:

- Depth was agreed upon: a compromise was reached to adjust from the initial 18 inches (from the top of the pipe) to a final one foot.
- The separation between the pavement section and the top of the conduit was reduced from an initial six inches to a compromised four inches.
- ISPs expressed concerns about the viability of these standards, especially when encountering cobble during trenching. They debated the profitability of this standard against the narrower trench SDG 117 (with a width ranging from three to six inches) or the SDG 119 Type 1 or Type 2 Trench (six inches to seven feet in width).

To alleviate these concerns, especially regarding cobble presence, the required minimum depth from the pavement's top to the conduit's top was revised from 18 inches down to 12 inches.

CROWN CASTLE AND THE CITY OF LOS ANGELES

Crown Castle, a prominent service provider, played a pivotal role in the adoption of a new micro-trenching ordinance in the city of Los Angeles. Collaborating with both the Los Angeles City Council and the Los Angeles City Bureau of Engineering, Crown Castle presented the advantages and potential of microtrenching. This collaboration initiated a pilot program that featured a parking lot demonstration and subsequent core sample testing.

In response, the city introduced Ordinance No. 186444 to weave microtrenching into the municipal code. Concurrently, the Bureau of Engineering established the "City of LA Microtrenching Standard Plan S-474-0."

As defined by the city of Los Angeles 'code, micro-trenching involves a slender open excavation trench designed for the placement of subsurface pipes or conduits. The specifications dictate that the trench width should not exceed eight inches, with a depth no greater than 26 inches.

CASE STUDIES OF AERIAL FIBER DEPLOYMENT

In Southern California, an initiative by several ISPs to enhance broadband connectivity involved the deployment of aerial fiber-optic cables using existing utility poles. Their projects capitalized on various attachment methods such as lash and span techniques, which are cost-effective and cause minimal disruption. By adhering to established guidelines for clearances and avoiding the need for extensive new construction, the projects minimized environmental impact and streamlined the deployment process.

Navigating the permitting process posed significant challenges due to varying local regulations. The ISPs focused on early collaboration with municipal authorities, which facilitated a smoother permitting process. This early engagement was critical in avoiding potential delays and ensuring compliance with local standards, which vary widely across Southern California's diverse jurisdictions.

The deployment strategy resulted in substantial cost savings and reduced installation times. Utilizing existing utility infrastructure allowed the service provider to bypass the more substantial expenses and logistical complications associated with underground fiber installation. The success of this aerial fiber deployment provides a replicable model for other regions, demonstrating the efficacy of leveraging existing utility poles and engaging proactively with local governments to expedite broadband expansion.

REMAINING CHALLENGES

While there has been progress with installation methods, several challenges remain for service providers in the field:

- **Varying Submittal Standards and Costs:** Submittal standards and permit costs vary by jurisdiction, making it difficult for service providers to navigate the regulatory landscape efficiently.
- **Pre-Application Reviews:** In some areas, service providers must undergo pre-application reviews before applying for encroachment permits, adding complexity and potential delays to the process.
- **Differing Restoration Standards:** Restoration requirements for road surfaces vary by jurisdiction, with some mandating more extensive resurfacing than the area originally disturbed by the work.

- **Lack of Transparency:** Jurisdictional restoration requirements are often not clearly communicated to applicants until the final inspection, creating uncertainty and making it challenging to budget accurately.
- **Prolonged Permit Processing:** Lengthy permit processing cycles further contribute to delays and uncertainties in project timelines and budgets.
- **Unintended Street Impact:** While microtrenching is intended to minimize street and traffic disruption, there are cases where it has resulted in extensive street restoration requirements, including upgrades like Americans with Disability Act-compliant ramps, negating the intended benefits. Escalating such issues to higher authorities might be necessary.

JURISDICTIONS WITH MUNICIPAL-OWNED UTILITY/MLA/JOINT AUTHORITY

Stakeholders have proposed a new regional or sub-regional permitting authority to streamline the intricate interactions between service providers and local permitting agencies.

This authority would standardize the utilization of public rights-of-way and facilities therein, facilitating, rather than hindering, service provider access. To operationalize this standardization, the authority would need to sign a memorandum of understanding (MOU) with both service providers and local governments. This MOU would enable a wireless service provider to submit individual or bulk applications for the installation of macro or small cell facilities on private or municipal properties.

Once an application is submitted to the regional authority, it will have a 30-day window to review the application and issue permits, contingent on the approval of the local jurisdiction. In instances where the proposed installation sites are owned by local governments, a master license agreement (MLA) must be established between the service provider and the municipality. An MLA outlines the terms and conditions under which wireless facilities may be installed on city-owned streetlights, detailing the procedures, requirements, and standards the service provider must follow.

California already hosts models for such regional authorities, like the Northern California Joint Pole Association and the Southern California Joint Pole Committee (SCJPC). Established on October 10, 1906, by telecommunication, electric, and railroad companies, SCJPC aims to reduce the proliferation of utility poles and standardize joint ownership recording. Today, the committee includes over 30 members and is responsible for maintaining a comprehensive record of jointly owned poles, facilitating transactions related to pole ownership, and ensuring joint ownership rights on communication and distribution poles at regulated costs and shared maintenance responsibilities.

The SCJPC also manages joint pole authorizations, promoting uniform participation among its members according to established guidelines. With regular ad-hoc and administrative board meetings, the SCJPC discusses current practices and potential new procedures, exemplifying the operational structure and collaborative potential a regional authority could offer.

SMALL CELL DENSIFICATION

Small cells contain limited telecommunication equipment like antennas and radios and are primarily attached to existing infrastructure (e.g., public streetlights or utility poles). Wireless service providers often seek small cell solutions to complement and amplify traditional wide-area macro cell coverage (cell towers). Because small cells can transmit a large amount of data at high speed over a small area, they provide data capacity relief for densely populated areas as demand continues to surge.

Antennas and related equipment comprising a small wireless facility will vary in size. The purpose of the “volumetric” limitations within the definition is to establish a threshold within which an installation should be permitted with an “administrative review” only, and above which a “discretionary review” should be required. Local governments will need to balance the needs of ISPs to install and deploy current and latest generation small cell technology with the aesthetic impact of such installations.

Small wireless facilities⁷ meet the following conditions:

- The facilities:
 - are mounted on structures 50 feet or less in height including their antennas as defined in section 1.1320(d),
 - are mounted on structures no more than 10 percent taller than other adjacent structures or
 - do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;
- Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in section 1.1320(d)), is no more than three cubic feet in volume;
- All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;
- The facilities do not require antenna structure registration under part 17 of this chapter;
- The facilities are not located on tribal lands, as defined under 36 CFR 800.16(x); and
- The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in section 1.1307(b).

Small cells need dark fiber as transport solution. Fiber solution needs to be identified earlier in the process than typically done for new cells. The transport process can take nine to 12 months. Some cities prefer ISPs use a wireless tariff rate (WTR) rather than a above ground meter in the right-of-way (ROW). Current WTR amps do not support two remote radio unit-draw in front of a residence. Small cell facilities have an approximate range of 150 to 500 feet due to their low mounting height and low power output. Their range is also affected by trees and buildings which can potentially block the signals.

Jurisdictions prefer wireless services providers to locate small cell facilities on streetlight poles. In some jurisdictions, efforts are underway to eventually underground all overhead comm/electrical facilities. As a result, certain aboveground options will no longer be available. Moreover, installations on streetlight poles are visually less intrusive than small cell facilities mounted on wooden utility poles. Ministerial design review and encroachment permit with public works departments are typically required. Planning and engineering departments would confirm that the proposed wireless facility complies with the approved license agreement obtained from cities and in general also conforms to the city's wireless design guidelines and all city standards for construction within public ROW. Upon approval of these

⁷ Accelerating Broadband Deployment by Removing Barriers to Infrastructure Investment, WT Docket No. 17-79, Second Report and Order, Adopted September 26, 2018, and Released September 27, 2018, FCC.

regulatory applications, the service provider can then proceed to install the small cell facility at the subject location, subject to inspection and final acceptance by a city public works inspector.

MACRO NEW SITE BUILD/MACRO MODIFICATION

Wireless infrastructure siting is regulated by local, state, and federal law. Macro new site build is the siting of a new communication facility within a given area to achieve radio frequency (RF) coverage objective. Most jurisdictions restrict siting of cell sites in residential districts; a few jurisdictions allow placement of a new cell site in residential zones. Siting requirements are often discussed with service providers and jurisdictions. There is usually community opposition for placing cell sites in residential areas or near elementary schools. Different stealth techniques are recommended to appease community or jurisdiction concerns, but sites are often denied. In some cases, denials end up in litigation. Service providers and jurisdictions should work together to develop design standards and reasonable submittal requirements to promote faster deployment of macro installations.

A macro new site build consists of self-supporting towers, guyed towers, monopoles, architectural and concealed structures, custom architecture rooftops and monopole-based concealment structures. All service providers prefer to deploy non-stealth structures to avoid high-cost installations. Most jurisdictions have codified stealth designs in their ordinances.

Section 6409(a) of the Middle-Class Tax Relief and Job Creation Act of 2012 (Spectrum Act) states that “a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station” and describes the required timeline (60 days). The associated FCC Report and Order 14-153 provides guidance on what may be considered an “eligible facilities request” and what constitutes “substantial change.”

According to the City of San Diego Wireless Communication Facility Guidelines⁸, Wireless Communication Facilities (WCFs) are defined as the antennas, support structures and other equipment or apparatus necessary for providing personal wireless services and information services. The city reviews each Spectrum Act application to determine whether the project qualifies as an eligible facilities request. Federal laws and policies provide shot clocks for all types of WCF approved by the city of San Diego. The city must decide on a project within the shot clock timeframes outlined below. Shot clocks are tolled while the city awaits resubmittal. Shot clocks for WCF projects have historically been a partnership between the applicant and city staff. The applicant submits a project, and the staff works with the applicant to ensure the project qualifies as an eligible facilities request. The Telecom Review Section of the Project Submittal and Management Division of Development Services processes WCF applications, from the entitlement and discretionary review process to building permit issuance and inspection. As the local regulatory agency, the city’s role is to assess applications for permits to build new or alter existing wireless facilities and ensure sites adhere to responsible regulatory practices. Several examples of these standards reviewed by the city include safety, accessibility, environmental impact, land use, and aesthetics. When wireless infrastructure is sited on public property, the city’s responsibility as the property owner is to work with wireless providers to authorize and access to public property and determine appropriate rent, typically through a license agreement.

The city of San Diego relies on three principles in reviewing a cell site application:

⁸Land Development Manual Wireless Communication Facility (WCF) Guidelines, September 2019, City of San Diego.

- Balance – All visible elements should have symmetry in all visible dimensions. Antennas and concealment elements should not dominate the element they are placed on. Examples of the Principle of Balance include, but are not limited to:
 - Visible antennas should be (or have the appearance of being) equal in length, width, and depth and should be evenly spaced on their support structure.
 - Visible equipment should be grouped in like size and should also be evenly spaced on the support structure in a way that compliments the symmetry of antennas.
 - Visibly placed concealment elements (items that conceal WCF elements but are themselves visible) should also observe this principle. This may require the bilateral symmetry of faux architectural elements or screen boxes, such as adding cupolas or faux chimneys to both sides of a façade instead of one, or raising parapets at two corners of a façade instead of one, etc.
- Context – Specific situations require specific design solutions. What integrates well into one site may not be appropriate for another. Select the best design solution based on site and project characteristics. Examples of the Principle of Context include, but are not limited to:
 - A faux tree may be appropriate if there are other mature trees of a similar height in the vicinity, but not if there aren't.
 - A cupola may be appropriate for certain styles of architecture, but not for others.
 - Façade-mounted antennas may be appropriate for certain styles of architecture, but not for others.
 - Concealment behind a parapet is good, but designs that only raise part of the parapet may not be.
 - A faux saguaro may conceal antennas well but may not work in a park.
 - A faux chimney may look good, but too many of them on a building may not.
 - An eight-foot-tall rooftop box may look appropriate on a three-story industrial building but not on a one-story liquor store.
 - A rustic water tower conceals antennas well but may not be appropriate at Mission Valley Center. A WCF that fits into its context (a faux tree within an area with many trees) is more integrated (concealed) than one that doesn't (a faux tree in the middle of a non-landscaped parking lot). Changing the context of a site can change its level of concealment.
- Least Visibility: The least visible solution is best. Placement on the site should be as minimally visible as possible. Examples of the Principle of Least Visibility include but are not limited to:
 - WCFs should not be located between buildings and the street. They should be concealed on existing buildings or ground mounted adjacent to the side or rear of existing buildings.
 - Unless a site is architecturally integrated, visibility of WCF elements from the public right-of-way is not desirable, regardless of level of concealment.
 - WCFs should not be located between buildings and the street. They should be concealed on existing buildings or ground mounted adjacent to the side or rear of existing buildings.

- Unless a site is architecturally integrated, visibility of WCF elements from the public right-of-way is not desirable, regardless of level of concealment.
- Façade-concealed antennas are preferred over façade-mounted antennas.
- Integration into architectural elements is preferred over covering antennas with something (e.g., appearing flush with a wall or hiding in a cupola is better than concealment behind a façade-mounted box). Design elements of existing façades should be replicated.
- Concealment within a structure is preferred over visible mounting (façade mounts or faux trees).
- Covering or painting the antennas doesn't mean they're well-concealed. Concealment methods can themselves be visible (e.g., antenna skirts, fiber-reinforced plastic (FRP) boxes, etc.). For example, even if it covers the antennas, a large, untapered FRP box can call attention to a facility.
- Complete concealment is preferred over other methods.
- RF safety barriers should be the least visible barrier possible. When possible, striping and restricted access should be used instead of posts, chains and/or fencing. When barriers must be visible, choose building materials that integrate into the site. Radio frequency reports should consider alternative options. Photo simulations and plans should show proposed barriers and signage. The less visible a facility is, the more integrated/concealed it is. Increasing visibility reduces/defeats concealment. Anything that is represented on plans and photo simulations as providing concealment (e.g., adjacent landscaping, paint colors, architectural elements, etc.) should be present for the life of the project, and so must be in an area within the applicant's control.

UNIVERSAL PERMIT FEES

Deploying wireless and broadband infrastructure in California involves navigating a complex landscape of local, state and federal regulations, including those governing the fees that can be charged by local jurisdictions for permitting. Permitting fees for wireless and broadband infrastructure in California are influenced by both state legislation and federal mandates, primarily designed to ensure that fees are based on the actual costs of managing and processing these permits.

Federal Communications Commission (FCC) Order on Small Cells (2018): This FCC order includes stipulations on the fees local jurisdictions can charge for the deployment of small cells. It specifies that fees must be reasonable, cost-based and transparent, and it provides specific fee caps: \$100 per site for small cell applications and \$270 per site per year for all recurring fees (including right-of-way access).⁹

Telecommunications Act of 1996: Under this act, any fees for the placement, construction and modification of telecommunications facilities must be competitively fair and nondiscriminatory and must not exceed actual costs. This federal law sets broad guidelines to prevent local governments from creating prohibitive fee structures that could hinder the expansion of telecommunications services.¹⁰

⁹ See Federal Communications Commission Declaratory Ruling 18-133 (2018), at <https://docs.fcc.gov/public/attachments/FCC-18-133A1.pdf>

¹⁰ See Telecommunications Act of 1996 at <https://transition.fcc.gov/Reports/tcom1996.pdf>

California Senate Bill No. 378: This state rule addresses the regulation of fees that local governments can charge for the deployment of wireless communication facilities, such as those required for broadband and 5G networks. Specifically, the bill mandates that these fees should be based only on the actual and reasonable costs associated with processing applications, issuing permits, and managing necessary administrative procedures. It emphasizes that these costs must be transparently documented and justified by local governments to ensure that fees are fair and do not obstruct technological deployment. The aim is to standardize fee structures across different jurisdictions, thereby promoting equitable and efficient development of essential wireless infrastructure while safeguarding local governments' financial needs.¹¹

The regulatory framework governing permitting fees for wireless and broadband deployment in California seeks to balance the need for infrastructure expansion with fair cost recovery for municipalities. By tying fees to actual costs, state and federal rules help facilitate the widespread adoption of new telecommunications technologies while ensuring local governments are not financially overburdened.

ENHANCED MAPPING UTILITIES

Enhanced utilities mapping serves as a vital tool for California jurisdictions, providing a detailed view of existing and planned infrastructure, including broadband installations. These comprehensive maps significantly boost urban and regional planning, improve coordination among stakeholders, such as utilities, local governments and community organizations, and aid in the deployment of advanced telecommunications technologies. Additionally, accurate mapping reduces the risk of utility strikes, helping to cut costs and foster efficient service expansion.

By maintaining up-to-date utility maps that encompass both current and future broadband needs, California jurisdictions can enhance public safety, streamline permitting processes and support community development. This proactive approach not only meets immediate urban planning requirements but also sets the stage for future technological growth, promoting the development of smarter, safer and more connected communities throughout the state.

BROADBAND PERMIT PROCESSORS IN REGIONAL AUTHORITY

In Southern California, a targeted initiative to enhance broadband connectivity involved the deployment of aerial fiber-optic cables using existing utility poles. The project capitalized on various attachment methods such as lash and span techniques, which are cost-effective and cause minimal disruption. By adhering to established guidelines for clearances and avoiding the need for extensive new construction, the project minimized environmental impact and streamlined the deployment process.

Navigating the permitting process posed significant challenges due to varying local regulations. The project team focused on early collaboration with municipal authorities, which facilitated a smoother permitting journey. This early engagement was critical in avoiding potential delays and ensuring compliance with local standards, which vary widely across Southern California's diverse jurisdictions.

The deployment strategy resulted in substantial cost savings and reduced installation times. Utilizing existing utility infrastructure allowed the service provider to bypass the more substantial expenses and logistical complications associated with underground fiber installation. The success of this aerial fiber deployment provides a replicable model for other regions, demonstrating the efficacy of leveraging existing utility poles and engaging proactively with local governments to expedite broadband expansion.

¹¹ See California Assembly Bill No. 378 at https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB378

CROSS COORDINATION BETWEEN NEIGHBORING LOCAL JURISDICTIONS

There is minimal jurisdictional coordination currently, other than certain jurisdictions outsourcing their building permit reviews to counties like Los Angeles. Each jurisdiction is set on their legal or political boundaries. They share information at a macro regional level, through councils of governments, SCAG or regional conferences, but actual coordination of permitting between jurisdictions is not ubiquitous. According to a recent study produced by Joint Venture Silicon Valley Network, cross jurisdiction coordination is when two or more government entities with a mission to work across traditional jurisdictional boundaries to provide current and/or future services for their citizens to reduce total cost and/or improve efficiencies. In most cases, undefined roles and responsibilities can limit the effectiveness of any collaboration. Communities are also concerned about their level of engagement and the perception that they are creating another layer of government. As a result, collaboration models will fail without the proper infrastructure and external support. Cross-jurisdiction entities can fail due to minimal or unfunded initiatives. Although there are many permutations of cross-jurisdictional enterprise models, typically they are implemented in one of four ways, each with a distinct set of reasons to consider and limitations/ risks.

- **Coordinating.** By coordinating services, the collaborating entities share power and responsibility to provide services through coordinated processes. Coordinating does not involve the formation of a separate entity, and the collaborating entities still maintain discrete identities.
- **Merging.** Merging results in a single entity or functional unit responsible for providing services to all entities.
- **Contracting.** Services may also be contracted out to either an existing local government entity or a third-party provider (public or private entity).
- **Creating a new entity.** Sometimes, it is most suitable to create a new government entity dedicated to providing certain services on a regional level (a special district). Regional entities were created without an increase in power or funding to implement their initiatives.

Summary of Problems and Recommendations

This summary of identified general problems and a set of recommendations were developed based on the information collected and the analysis of the best management practices previously listed.

1. UNIFORM PERMIT FEES:

- **Problem:** Often, unforeseen costs appear post the initiation of broadband projects, leading to unplanned budget escalations or halted projects.
- **Solution:** Establish a consistent fee structure, pegged to the size and nature of the broadband project. This ensures clarity in budgeting, prevents sudden inflations and offers transparency to service providers.

2. NO EXTRA FEES FOR BROADBAND:

- **Problem:** Some jurisdictions levy ancillary fees, like beautification or road maintenance, which aren't directly related to broadband projects.
- **Solution:** Prohibit ancillary fees, thereby preventing cost escalations and ensuring a focused budgeting process for broadband expansion.

3. INCLUSIVE ZONING PRACTICES:

- **Problem:** Restrictive zoning practices can be a significant barrier to seamless broadband expansion.
- **Solution:** Facilitate broadband development across all zoning districts. This inclusivity ensures consistent network expansion and removes unnecessary roadblocks.

4. LEVERAGE PUBLIC & UTILITY FACILITIES:

- **Problem:** Underutilization of existing infrastructure.
- **Solution:** Encourage broadband projects to utilize public facilities and utility assets, potentially by linking with zoning relief, to simplify the process.

5. DEDICATED STAFF FOR BROADBAND PERMITS:

- **Problem:** Lack of consistency and predictability in processing permits.
- **Solution:** Maintain a dedicated team, well-versed in the intricacies of broadband permitting, not only to ensure efficiency but also to foster stronger, more collaborative relationships with service providers.

6. BROADBAND PERMIT PROCESSORS FOR SMALL JURISDICTIONS:

- **Problem:** Smaller jurisdictions often lack the resources for a streamlined permit process.
- **Solution:** Empower or establish regional entities like councils of governments or joint-power authorities. These can act as centralized hubs, optimizing the permit review process and extending support to smaller jurisdictions.

7. ENHANCED UTILITY MAPPING:

- **Problem:** An integrated view of all utilities, including broadband, is often missing in many jurisdictions.
- **Solution:** Incorporate both current and future broadband installations into GIS systems. Collaborating with service providers for real-time data and potentially crafting confidentiality agreements might be necessary to ensure a comprehensive utility landscape.

8. DIGITAL BROADBAND PERMIT APPLICATIONS:

- **Problem:** Paper-based processes are often slower and less efficient.
- **Solution:** Transition to online portals tailored specifically for broadband projects. These portals can enhance efficiency, provide real-time status updates and even allow for batch permitting when multiple similar projects run concurrently.

9. PRIORITIZE ADMINISTRATIVE & MINISTERIAL REVIEWS:

- **Problem:** Traditional permit processes can be lengthy and often unpredictable.
- **Solution:** Move toward more streamlined, objective and swifter administrative review processes. This approach ensures predictability, transparency and efficiency, greatly benefiting both jurisdictions and service providers.

10. STANDARDIZED BROADBAND ORDINANCE:

- **Problem:** The absence of a standardized framework can lead to inconsistencies across jurisdictions.
- **Solution:** Develop a model broadband ordinance that can act as a practical guide for all jurisdictions, especially the smaller ones. This ensures a unified approach and smoother integration into existing regulatory systems.

The recommendations have been integrated into the model ordinance, found in **Appendix F, Model Ordinance for Streamlining Broadband/Wireless Deployment**.

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San Diego Microtrenching Standards – October 10, 2022
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MEETING MINUTES/NOTES REVIEWED:

ReDIT Meeting Minutes – February 24, 2022
ReDIT Meeting Minutes – March 30, 2022
ReDIT Meeting Minutes – April 28, 2022
ReDIT Meeting Minutes – May 26, 2022
ReDIT Meeting Minutes – June 30, 2022
ReDIT Meeting Minutes – July 28, 2022
ReDIT Meeting Minutes – September 29, 2022
ReDIT Meeting Minutes – October 27, 2022
ReDIT Meeting Minutes – January 26, 2023
ReDIT Meeting Minutes – May 10, 2023

PROJECT MEETING MINUTES:

SCAG, SANDAG & Tectonic Kickoff Meeting Minutes December 7, 2022

SCAG, SANDAG & Tectonic project Work Plan Meeting Minutes – December 13, 2022

SoCal Transformation Meeting Minutes – December 15, 2022

SCAG, SANDAG & Tectonic Broadband Permitting Coordination Meeting Minutes – January 18, 2022

California Local Jurisdiction Permitting Playbook Webinar Minutes – January 31, 2023

SCAG, SANDAG & Tectonic Permit Streamlining Review Meeting Minutes – March 2, 2023

SCAG, SANDAG & Tectonic Permit Streamlining Review Meeting Minutes – April 13, 2023

SCAG, SANDAG & Tectonic Permit Streamlining Review Meeting Minutes – May 3, 2023

INTERVIEWS:

A001 Interview – March 14, 2023

A002 Interview – March 10, 2023

A003 Interview – March 30, 2023

B001 Interview – March 24, 2023

C001 Interview – April 7, 2023

B002 Interview – April 18, 2023

C002 Interview – April 19, 2023

B002 Interview – May 8, 2023

D001 Interview – May 10, 2023

D002 Interview – May 16, 2023

C003 Interview – May 17, 2023

D003 Interview – May 24, 2023

B003 Interview – May 25, 2023

D004 Interview – May 30, 2023

D005 Interview – May 31, 2023

D006 Interview – June 13, 2023

C004 Interview – June 14, 2023

D007 Interview – June 29, 2023

B004 Interview – July 11, 2023

D005 Interview – July 12, 2023

D008 Interview – July 17, 2023

Appendix A – Model Ordinance for Streamlining Broadband/ Wireless Deployment

Appendix B – Planning Department/Public Works Department Infrastructure Deployment Survey

Appendix C – Planning Departments and Public Works Departments Survey Responses

PLANNING DEPARTMENTS AND PUBLIC WORKS DEPARTMENTS SURVEY RESPONSES

Survey Question	Response Summary
<p>Yes/No to this Statement: Planning - Design standards are critical to wireless broadband developers because they create a predictable guideline for what is and is not allowed in your jurisdiction. For example, what zone can a new tower be proposed in and how tall can the tower be.</p>	<p>Yes – 5, No – 4</p>
<p>If so, when was the last time these standards were revisited or revised and was an industry expert consulted to assist? Please Explain. Standards are being revisited now and experts are being engaged.</p>	<p>Responses varied – many of the larger jurisdictions have updated their plans including wireless and broadband facilities ranging from years 2005 – 2023. Contrast – smaller cities such as the City of Bell and Bell Gardens are either conducting a zoning code update to include wireless or they are engaging experts to create a wireless ordinance.</p>
<p>Planning - California Government Code § 65921 is known as The Permit Streamlining Act. The Permit Streamlining Act sets forth various time limits within which state and local government agencies must either approve or disapprove permit applications, providing that these time limits may be extended once (and only once) by agreement between the parties.</p>	<p>Four (4) responses that the Permit Streamlining Act has been implemented. Five responses are still relying on Ministerial Actions (30-45) days after a complete application has been submitted.</p>
<p>Planning - Section 6409(a) of the Middle-Class Tax Relief and Job Creation Act of 2012 mandates that a State or local government approve certain wireless broadband facilities siting requests for modifications and collocations of wireless transmission equipment on an existing tower or base station that does not result in a substantial change to the physical dimensions of such tower or base station. This is commonly known as an Eligible Facilities Request. This is important to wireless providers so they can modify and upgrade existing wireless facilities quickly with new technologies to keep pace with growing demand in your community. Is your department familiar with the requirements of Section 6409(a) and what has your department done to accommodate applications for Eligible Facility Requests for modifications to existing wireless facilities? (i.e. has your department created a dedicated permit application form and process for these reviews?) Please Explain.</p>	<p>Five responses that the requirements of Section 6409(a) are followed. Remaining indicated that 6409(a) requests are accommodated through the ministerial actions (30-45 days) or future zoning updates will accommodate the Act.</p>

Survey Question	Response Summary
<p>Planning - As the demand for more wireless broadband infrastructure increases, it is understood that jurisdictions often face higher volumes of applications from wireless and wired providers. This can quickly create a resource problem for staff. In addition, rules such as Section 6409(a) of the Middle-Class Tax Relief and Job Creation Act of 2012 creates a 60-day “shot clock” requirement by which local permitting staff must process and respond to an applicant. The State of California Local Permitting Playbook advises several strategies for local jurisdictions to implement that can help ensure compliance with these rules, alleviate staff constraints, and expedite permit approvals. Has your department implemented any tools such as an online application portal with dedicated staff for processing wireless applications? Please explain.</p>	<p>Seven (7) responses indicate that they have portal/online applications or in process of implementing a portal. One response indicated that they did not have an online system and did not indicate if city was pursuing one.</p>
<p>Planning - Please explain your experience with small cell deployments in your jurisdiction. Staff processes no entitlements for existing facilities with no proposed increases in height after conducting research of approvals.</p>	<p>Responses varied – Three (3) jurisdictions have processes in place for small cells built within public right of ways. Most indicated that small cell permitting is processed through the jurisdictions Public Works Department. One city indicated that a Small Cell Submittal Checklist must be provided upon submission of application.</p>
<p>General Enhancement and Efficiency -Would you be interested in creating or updating your broadband services process to improve the quality of life for residents and businesses in your community and reduce paperwork, timeframes and staff labor?</p>	<p>All respondents indicated “Yes.”</p>
<p>General Enhancement and Efficiency - Please list any concerns or hurdles you foresee in a streamlined broadband services process? Codification process and implementation without addressing the digital divide and barriers to use broadband services.</p>	<p>Responses vary:</p> <p>“A major hurdle is local residents protesting proposed facilities, especially near their homes, due to perceived cumulative impacts.”</p> <p>“Need to update Zoning Code to include design standards and streamline wireless facilities and codify process for upgrading for over-the-counter Planning review.”</p>
<p>General Enhancement and Efficiency - Are you willing to participate in an advisory role in the development of guidelines that would streamline services for rapid deployment of broadband services?</p>	<p>Five (5) municipalities responded yes and provided names and contact information.</p>

PUBLIC WORKS DEPARTMENTS' SURVEY RESPONSES

Survey Question	Response Summary
<p>Public Works/DOT - When an Internet Service Provider proposes to install underground fiber, showing existing utilities on an application planset, it is important to ensure the proposed fiber build is a constructable design that does not interfere with existing utilities. Problems arise where there is no such information available, either from the jurisdiction or local utilities in the area, making this information during the permitting stage a barrier to timelines and costs.</p> <p>Does your department maintain up-to-date records on existing underground conduit and utility mapping in the right-of- way?</p>	<p>Yes – 5, No – 3</p>
<p>If so, are these records accessible to fiber developers and Internet Service Providers?</p> <p>Please explain.</p>	<p>General responses indicate that all plans are available upon request. No indication that the plans are available online or within an authorized user portal.</p>
<p>Public Works/DOT - Jurisdictions are often concerned with utility strikes, traffic interruptions, and improper staging and storage of equipment during a fiber build. Issues like these are important to consider before a project commences to avoid damage to existing utilities and disruption to essential services to the community. What has your department done to implement policies to offer standard practices for Internet Service Providers to follow to address these issues.</p>	<p>Most responses indicate contractors must contact utility underground services alerts (USA) before excavation.</p> <p>One County's excavation, encroachment and traffic control permits contain specific language addressing all aspects of utility construction within the road right-of way.</p>
<p>Does your department have other particular concerns, historical or current, in underground fiber deployment?</p>	<p>Generally, no particular concerns. Comments –</p> <p>“Underground fiber is an essential part of [a] communication facility. Our only concern is to have the fiber facilities installed below the roadway structural section and have all trenches restored meeting the City trench cut requirements.”</p>

Survey Question	Response Summary
<p>Public Works/DOT - Unpredictable costs and fees are a common concern to Internet Service Providers when preparing to deploy fiber. It is helpful for them to know ahead of time whether the local jurisdiction or the Internet Service Provider is responsible for road repair costs and how long negotiations occur to resolve this issue.</p> <p>Does your department have a policy for how road repairs are handled during a fiber deployment and what costs/fees the Internet Service Provider will be responsible for? Please explain.</p>	<p>All but one jurisdiction responded that excavation permits, fees and pavement restoration are part of the jurisdiction’s requirements for the ISPs. Several have indicated that moratoriums on excavating newly paved streets are also enforced.</p>
<p>Public Works/DOT - The cost of laying fiber is an expensive part of bringing broadband to new places. A construction technique that is emerging in popularity to help address cost and complexity of fiber construction is called microtrenching. Microtrenching is digging a narrow trench of one to two inches wide and only a few feet deep and laying multiple conduits for fiber. Has your department adopted a microtrenching policy?</p>	<p>All indicated “No.”</p>
<p>If so, was this policy adopted or modeled after the policy of a nearby/neighborhood jurisdiction?</p>	<p>Some responded “No.” Others left the answer blank.</p>
<p>Please explain and identify any concerns you have about microtrenching in your jurisdiction.</p>	<p>Several responders indicated concerns that shallow trenches are often struck after USA underground utility markouts have been completed. Otherwise – there was a general acceptance of microtrenching provided that it is installed in accordance with known standards (presumably from larger agencies).</p>
<p>Public Works/DOT - Small cells are low-powered cellular radio access nodes that operate shorter range than traditional cell towers but offer great versatility as a capacity solution for Wireless Carriers and higher speeds to customers. Capacity is an important solution for wireless carriers because it allows more wireless users to enjoy high- speeds on their devices at the same time in close proximity to each other. Typically, carriers propose to install dozens to hundreds of small cells on city and utility infrastructure in the public right-of-way. What has your department done to create clear design standards for rapid deployment of small cells on municipal infrastructure in the right-of-way?</p>	<p>All but one jurisdiction indicated that ordinances and standards exist for construction of small cell wireless in public right of ways. Several had indicated that fees were imposed on City owned light poles used for wireless equipment.</p> <p>One city indicated that they did not have any standards as of yet (City with population of 55K – considered small to medium - later in the survey indicated that small cells are being installed on City owned poles).</p>

Survey Question	Response Summary
Please explain your experience with small cell deployments in your jurisdiction.	The responses varied based on City owned or Southern California owned poles. Supporting documentation must be provided in accordance with the requirements in the ordinance for wireless telecommunications facilities.
Public Works/DOT - A critical aspect of small cells deployment planning is what type of existing infrastructure in the public right-of-way can be utilized to attach a small cell to. For instance, some jurisdictions own their light poles, while other jurisdictions have light poles owned by local utilities such as Southern California Edison. This makes a remarkable difference to permitting speed and process for wireless carriers to deploy small cells. Does your jurisdiction own its light poles?	All responses indicated a "Yes."
If so, does your department maintain an inventory of available light pole assets that can be offered to wireless carriers for small cell installations? Please explain.	All responses except one city indicated "Yes." The one city indicated as a "No" was a small – medium sized city.
General Enhancement and Efficiency -Would you be interested in creating or updating your broadband services process to improve the quality of life for residents and businesses in your community and reduce paperwork, timeframes and staff labor?	All responded "Yes."
General Enhancement and Efficiency - Please list any concerns or hurdles you foresee in a streamlined broadband services process?	<p>Responses varied:</p> <p>"Maintaining the City's aesthetic built environment while meeting the broadband needs of the community."</p> <p>"We are open to ideas from companies as long as the understanding is set that the City's goal is to recover cost for issuance of permits and that any improvements apply to all companies or applicants."</p>
General Enhancement and Efficiency - Are you willing to participate in an advisory role in the development of guidelines that would streamline services for rapid deployment of broadband services?	Yes – 3; No – 5

Appendix D – Consideration of Impact of State and Federal Permitting on Deployments

CONSIDERATION OF IMPACT OF STATE AND FEDERAL PERMITTING ON DEPLOYMENTS

The California Public Utilities Commission (CPUC) has historically determined that wireless providers are a utility and, therefore, have all the rights of use of the public right-of-way as any other telecommunications utility under the Public Utilities Code section 7901. Moreover, the Federal Communications Commission has interpreted the Telecommunications Act of 1996 to preempt cities and other local agencies from denying wireless providers access to government-owned structures in the public right-of-way. As a result, a city can merely regulate the use of the public right-of-way and its facilities in the public right-of-way, rather than prohibiting the use by wireless providers. On September 26, 2018, the FCC issued its Declaratory Ruling and Third Report and Order in the Matter of Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment.

The California Environmental Quality Act (CEQA)¹² is a California law that requires public agencies and local governments to evaluate and disclose the environmental impacts of development projects or other major land use decisions, and to limit or avoid those impacts to the extent feasible. The California Natural Resources Agency, with assistance from the Office of Planning and Research, recently completed a comprehensive update to the CEQA Guidelines in late 2018. The laws and rules governing the CEQA process are contained in the CEQA statute (Public Resources Code Section 21000 and following), the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 and following), published court decisions interpreting CEQA and locally adopted CEQA procedures. Most development projects fall into one of the following categories of CEQA review:

- Statutorily exempt.
- Categorically exempt.
- Initial Study and Negative Declaration/Mitigated Negative Declaration (IS/ND and IS/MND, which identifies and analyzes the potential environmental impacts of the proposed project. The information and analysis presented in this document is organized in accordance with the order of CEQA where the analysis identifies potentially significant environmental effects of the project, mitigation measures are prescribed. The mitigation measures prescribed for environmental effects described in the IS/MND will be implemented in conjunction with the project, as required by CEQA. The mitigation measures will be incorporated into the proposed project through project conditions of approval. The lead agency will adopt findings and a Mitigation Monitoring/Reporting Program for the project in conjunction with approval of the project.
- Environmental Impact Report (EIR).

A CEQA checklist is used to describe the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. Included in each discussion are project-specific mitigation measures recommended, as appropriate, as part of the proposed project. For this checklist, the following designations are used:

- Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

¹² CEQA (Public Resources Code 21000–21189) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000–15387). Available at: <https://leginfo.legislature.ca.gov/faces/billSearchClient.xhtml> and [https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I95DAAA70D48811DEBC02831C6D6C108E&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I95DAAA70D48811DEBC02831C6D6C108E&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default)).

- Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.
- Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.
- No Impact: The project would not have any impact.

A standalone utility installation qualifies under the Class 3 exemption. Installation of small cell facilities on existing streetlight poles are categorically exempt from CEQA pursuant to sections 15301, 15302, and 15303 of the Guidelines for CEQA. In a published opinion issued March 15, 2018, *Don't Cell Our Parks v. City of San Diego*, the California Court of Appeal affirmed the trial court's judgment and upheld the City of San Diego's (the City's) determination that a wireless communications facility (the Project) qualified for a categorical exemption for small new facilities under CEQA. For the location exception to CEQA exemptions to apply, a location impacted by a project must be designated as an environmental resource of hazardous or critical concern by an agency.

The National Environmental Policy Act (NEPA)¹³ requires all federal agencies to take certain steps when major federal actions might significantly affect the environment. The FCC has implemented its interpretation of the act in rules located at 47 C.F.R. §§ 1.1301-1320. The NEPA requirements are applicable to new and modified towers. A tower is defined as any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities and includes raw land builds and new or replacement support poles. A facility is a tower (a structure built for the sole or primary purpose of supporting FCC-licensed antennas), an antenna (including all associated equipment), or a tower and its associated antennas. A collocation is defined as the mounting or installation of an antenna on or in an existing building, or on an existing tower or other man-made structure, for the purpose of transmitting and/or receiving radio frequency signals for communications purposes, regardless of whether there is an existing antenna on the structure. See Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process, 47 C.F.R. Part 1, App. C, § II (Nationwide Programmatic Agreement).

Certain projects, like distributed antenna systems, can involve the installation of wire or cable. The installation of wire or cable over existing aerial or underground corridors of prior or permitted use is categorically excluded from environmental and historic preservation review. See 47 C.F.R. § 1.1306. Prior to constructing or modifying a telecommunications facility, service providers must verify that the proposed facility will not significantly affect the environment. The FCC has developed its own rules for this determination under NEPA. These rules also consider other federal environmental laws, including Section 106 of the National Historic Preservation Act. Verification that the site does not fall within the NEPA categories is necessary for every site and must be performed by a qualified environmental consultant. If it is concluded that the construction of a new or modified facility may "significantly affect the environment," an Environmental Assessment (EA) must be prepared for filing at the FCC and approved by the FCC before construction of the Facility can begin. An EA is also required for the construction or (under certain circumstances) modification of a Tower over 450 feet in height above ground level (AGL).

In many cases, modifications or enhancements made to existing towers or support structures are exempt from a complete NEPA review (i.e., all nine NEPA categories). In addition, depending upon the type of modification proposed, some require only Section 106 Review and FCC Tower Construction Notification

¹³ Tower and Antenna Siting, FCC. Available at: [//www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting](https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting)

System (TCNS) submission for an existing wireless facility. Therefore, the analysis of each site is dependent on its specific facts.

Failure to meet these NEPA requirements could result in service providers receiving substantial FCC fines and being subjected to increased FCC compliance and reporting requirements and, in extreme cases, place FCC licenses at risk. It is even possible that the FCC would take action to compel the service providers to dismantle an existing facility that did not undergo the required environmental or historic evaluation.

SECTION 106 REVIEW AND TRIBAL CONSULTATION/TCNS¹⁴

Enhancements to existing towers (including any associated excavation) that do not involve a collocation are exempt from Section 106 Review, including tribal consultation/TCSN, if all the following conditions are met:

- The tower either was constructed on or before March 16, 2001, or was constructed after March 16, 2001, and has already completed the Section 106 Review process; and
- The enhancement does not substantially increase the size of the existing tower, meaning it does not:
 - Increase the height of the tower by more than 10 percent, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet, whichever is greater, unless necessary to avoid interference with existing antennas.
 - Involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter.
 - Involve adding an appurtenance that would protrude from the edge of the tower more than 20 feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, unless necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
- Involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

The FCC has identified the following nine categories of actions likely to result in a significant environmental impact. The categories are:

1. Facilities that are to be located in an officially designated wilderness area.
2. Facilities that are to be located in an officially designated wildlife preserve.
3. Facilities that may affect listed threatened or endangered species or designated critical habitats or are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
4. Facilities that may affect districts, sites, buildings, structures, or objects listed, or eligible for listing, in the National Register of Historic Places (NRHP).
5. Facilities that may affect religious sites of Indigenous people.
6. Facilities to be located in a floodplain if the Facilities will not be placed at least one foot above the base flood elevation of the floodplain.

¹⁴ Consultation with Indian Tribes in the Section 106 Review Process: The Handbook, June 2021, Advisory Council on Historic Preservation.

7. Facilities whose construction will involve significant change in surface features (e.g., wetland fill, deforestation or water diversion).
8. Antenna towers and/or supporting structures that are to be equipped with high intensity white lights located in residential neighborhoods, as defined by the applicable zoning law; and
9. Facilities that would expose workers or the general public to levels of radiofrequency radiation in excess of FCC-adopted standards. The FCC also requires the filing of an EA for new and certain modified towers over 450 feet in height AGL.

The environmental consultant concludes that a Facility falls within one of these nine categories, and that the Facility is not otherwise excluded or exempted from environmental review as discussed below, an environmental assessment ("EA") must be prepared, filed and approved by the FCC prior to construction. According to the FCC, construction includes not only construction of a Tower or installation of a Collocation, but also includes clearing and grading a site.

NATIONAL HISTORIC PRESERVATION ACT (NHPA)¹⁵

The NHPA requires all federal agencies to take certain steps when federal undertakings may have adverse effects on historic properties. The FCC has implemented its interpretation of NHPA in the Nationwide Programmatic Agreement for Review of Effects on Historic Properties for Certain Undertakings Approved by the Federal Communications Commission (October 5, 2004) and the Amended Nationwide Programmatic Agreement for the Collocation of Wireless Antennas (August 3, 2016) ("Collocation Agreement"). If a new tower structure falls within the narrow NEPA exclusion for certain deployments located in a utility or communications right-of-way, only impacts to historic properties, tribal religious sites and RF power levels must be evaluated. This exclusion applies if:

- The facility will be in a right-of-way that is designated by a federal, state, local, or tribal government for communications Towers, above-ground utility transmission or distribution lines, or any associated structures and equipment; and
- The right-of-way is in active use for such designated purposes; and
- The facility will not:
 - Exceed the height of existing support structures that are in the right-of-way within the vicinity of the proposed construction by more than 10 percent or 20 feet, whichever is greater; or
 - Involve the installation of more than four new equipment cabinets or more than one new equipment shelter; or
 - Add an appurtenance to the body of the structure that would protrude from the edge of the structure more than 20 feet, or more than the width of the structure at the level of the appurtenance, whichever is greater (except that the deployment may exceed this size limit if necessary to shelter the antenna from inclement weather or to connect the antenna to the Tower via cable); or
 - Involve excavation outside the current site, defined as the area that is within the boundaries of the leased or owned property surrounding the deployment or that is in proximity to the

¹⁵ Appendix C to Part 1, Title 47 -- Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process, eCFR. Available at: <https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-1/appendix-Appendix%20C%20to%20Part%201>

structure and within the boundaries of the utility easement on which the facility is to be deployed, whichever is smaller.

Historic Areas - Does the Proposed Facility Require Section 106 Review? To determine whether a proposed facility may affect any historic properties, the environmental consultant must consult the following lists to determine whether historic properties are within the vicinity of the proposed Facility:

- Properties listed in the NHRP.
- Properties formally determined eligible for listing by the Keeper of the NRHP.
- Properties that the State Historic Preservation Officer (SHPO) and/or the Tribal Historic Preservation Officer (THPO) certifies are in the process of being nominated to the NRHP.
- Properties previously determined eligible as part of a consensus determination of eligibility between the SHPO/THPO and a federal agency or local government representing the Department of Housing and Urban Development (HUD).
- Properties listed in the SHPO/THPO Inventory that the SHPO/THPO has previously evaluated and found to meet the NRHP criteria, and that are identified accordingly in the SHPO/THPO Inventory.

Unless the proposed facility is categorically excluded from SHPO review under the Nationwide Programmatic Agreement or the FCC's rules, the environmental consultant must consult with federally recognized Tribes and Native Hawaii Organizations, the SHPO and/or the THPO pursuant to Section 106 of the NHPA.⁹ If the site is located on tribal lands, the environmental consultant may only have to contact the THPO if the Tribe has a THPO. The following types of sites are excluded from Section 106 consultation. Exclusions must be documented by the service providers and all documentation of the determination of exclusion must be retained.

New Towers and Other Facilities Excluded from Section 106 Review - New towers (including raw land sites and poles) may be fully or partially excluded from the Section 106 Review process because of exemptions found in the Nationwide Programmatic Agreement.

Temporary Towers - A tower is temporary and excluded from Section 106 Review if the placement of the site is for a maximum deployment of 24 months and does not involve excavation (or the depth of the previous excavation exceeds the proposed construction depth, excluding footings or other anchoring mechanisms, by at least 2 feet). Types of temporary structures are cells-on-wheels or cells-on-light-trucks. Temporary facilities also include those authorized by the FCC for use in emergencies pursuant to special temporary authority.

SHPO/THPO Designated Area - Some SHPOs or THPOs may designate certain areas of their respective states or tribal lands as exempt from Section 106 if a facility has "limited potential to affect Historic Properties." This designation can only be made by the SHPO or THPO.

Partial Exclusions:

Industrial and Commercial Areas - Construction of a Facility less than 200' in height in an industrial park, commercial strip mall, or shopping center that occupies a total land area of 100,000 square feet or more is excluded from Section 106 Review, provided that the industrial park, strip mall or shopping center is not located within the boundaries of or within 500 feet of a historic property or district, as identified by service provider after a preliminary search of relevant records; and the facility completes the process of participation of Indian Tribes.

Communications/Utility Rights-of-Way - Construction of a facility in (or within 50 feet of) the outer boundary of a right-of-way designated by a federal, state, local, or tribal government for the location of communications towers or above-ground utility transmission or distribution lines and associated structures and equipment, and in active use for such purposes, is excluded from Section 106 Review, provided that the facility will not:

- Exceed or increase the height of an existing structure located within the right-of-way and in the vicinity of the proposed facility by more than 10 percent, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet, whichever is greater, unless necessary to avoid interference with existing antennas.
- Involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter.
- Involve adding an appurtenance that would protrude from the edge of the structure by more than 20 feet, or more than the width of the structure at the level of the appurtenance, whichever is greater, unless necessary to shelter the antenna from inclement weather or to connect the antenna to the structure via cable.
- The facility is not located within the boundaries of a historic property or district, as identified by service provider after a preliminary search of relevant records.
- The facility completes the process of participation of Indian Tribes.

To determine whether the proposed facility will directly affect a historic property, the environmental consultant may need to include an archeological field survey in the SHPO submittal. The "area of potential effects" (APE) for direct effects encompasses the area that is to be disturbed or affected physically by the proposed facility, i.e., the actual tower compound and any other area that requires excavation for the site. The environmental consultant shall exert a reasonable good faith effort to identify all historic properties within the APE, which includes examining the following records: 1) properties listed in the NRHP; 2) properties formally determined eligible for listing by the Keeper of the NRHP; 3) properties that the SHPO/THPO certifies are in the process of being nominated to the NRHP; 4) properties previously determined eligible as part of a consensus determination of eligibility between the SHPO/THPO and a Federal Agency or local government representing HUD; and 5) properties listed in the SHPO/THPO inventory that the SHPO/THPO has previously evaluated and found to meet the NRHP criteria and that are identified accordingly in the SHPO/THPO inventory. There are some circumstances where an archaeological survey is not required:

- On a site where ground has been previously disturbed two feet deeper than the depth of proposed construction (excluding footings and other anchoring mechanisms).
- On paved ground in highly developed areas, or where geomorphologic evidence indicates that cultural-resource bearing soils do not occur within the project area or may occur but at more than two feet below the proposed construction depth.

The decision as to whether an archeological survey is necessary can only be made by a Secretary of the Interior-qualified archeologist. If an archeological survey is performed by a non-Secretary of Interior-qualified archeologist, the results of such survey must be signed off by a Secretary of the Interior-qualified archeologist.

Even if a Secretary of the Interior-qualified archeologist makes the determination that an archeological survey is not necessary, the SHPO, THPO or Tribe may still request an archaeological survey if they possess information supporting a high probability of the presence of intact archeological historic

properties within the APE for direct effects (provided, in the case of a Tribe, that it also becomes a consulting party within the timeframes).

The Secretary of Interior-qualified environmental consultant in history, architectural history, architecture or historic architecture must determine what visual effects the proposed facility will have on any historic properties within the area of potential effects or APE. Historic properties are any properties that are listed in the following sources: 1) properties listed in the NRHP; 2) properties formally determined eligible for listing by the Keeper of the NRHP; 3) properties that the SHPO/THPO certifies are in the process of being nominated to the NRHP; 4) properties previously determined eligible as part of a consensus determination of eligibility between the SHPO/THPO and a federal agency or local government representing HUD; and 5) properties listed in the SHPO/THPO inventory that the SHPO/THPO has previously evaluated and found to meet the NRHP criteria and that are identified accordingly in the SHPO/THPO inventory. The guidelines for visual APE are:

- Within a half mile from the tower site if the proposed tower is 200 feet or less overall height.
- Within three-quarters of a mile from the tower site if the proposed Tower is more than 200 but no more than 400 feet in overall height; or
- Within 1.5 miles from the proposed tower site if the proposed tower is more than 400 feet in overall height.

If a smaller APE is used, the environmental consultant must substantiate the reason for the smaller APE in the SHPO/THPO/Tribe submittal. Photographs of all historic properties must be submitted along with a determination of the visual effect the proposed facility will have on each historic property.

Determination of Adverse Effect – If it is determined that the proposed facility will adversely affect historic properties either directly or visually, then it will be necessary for the environmental consultant to begin discussion with the SHPO regarding possible mitigation that can be done to eliminate or minimize the effect of the proposed facility. Usually, the SHPO will request that a memorandum of agreement (MOA) be entered into by the service provider, the SHPO and the FCC, and the parties will agree to certain actions that must be taken by the service provider (e.g., prepare a cultural resources assessment of the area of the proposed site, landscape the proposed facility, build a stealth tower, etc.).

SHPO Review Timeline - The SHPO has 30 days from receipt of the submittal (document it via certified mail or other delivery methods with a receipt) to review. If the SHPO receives a comment between days 25 and 31 of the review period, then the SHPO has five additional calendar days to consider the comment. If the SHPO does not respond within 30 days to a “No Adverse Effect on Historic Properties in APE” recommendation for direct or visual effects determination, the service provider must send the SHPO submittal to regulatory compliance, who will engage the FCC. Unless the FCC comments within 15 days of receipt, the site can be built unless further environmental processing is required for other reasons.

Discovery of Historic Resources During Construction – Should historic resources of any kind be discovered upon construction, service provider will halt work immediately and contact all tribes that were notified of the site, SHPO and the FCC.

TRIBAL RELATIONS

Tribal Consultation Process – This section is an overview of the tribal consultation process, which applies to deployments that will not be located on tribal lands. To determine if a site will have an impact on Indian religious sites, any Tribes (including Native Hawaiian Organizations) that may have an interest in the proposed facility must be notified and given an opportunity to respond. The environmental consultant must seek tribal consultation for every proposed Facility by using the FCC’s Tower Construction

Notification System (TCNS). The environmental consultant should contact Tribes early in the siting process. If changes are made to the site design after a Tribe has been contacted, the environmental consultant must send the updated information to the notified Tribes as soon as possible. A copy of the TCNS submission and all correspondence to and from all notified Tribes must be included with the summary report. The environmental consultant's initial contact must contain all information reasonably necessary for a Tribe to evaluate whether there are historic properties of religious and cultural significance that may be adversely affected by the proposal. The FCC has specified that the information in the Form 620 submission packet constitutes a reasonable and good faith effort to provide the information reasonably necessary for Tribes to ascertain such effects. As part of the initial notification to Tribes, service provider requires the submittal of Form 620 for viewing in TCNS for all projects that require tribal consultation at the time consultation is initiated in TCNS. Until this information is provided, the Tribe will not begin its evaluation and the Section 106 process cannot be completed.

Tribal Responses – Tribes are given 30 days to respond from the date that the Tribe is notified that the Form 620 submission packet is available for viewing via TCNS potential responses and resulting decision trees are discussed below. If the Tribe fails to respond within 30 days, the environmental consultant should follow the 45-day process for moving forward with construction.

Tribe Responds Submission Packet Is Incomplete – The 30-day period for tribal response will not be triggered if the Form 620 submission packet information is inaccurate or incomplete. The FCC encourages the parties to resolve any disputes regarding whether the submission packet is correct and complete, and states that they may copy the FCC on related communications. For example, if a Tribe requests an explanation of the photographs included in the submission packet, the environmental consultant should provide the requested clarifications. If needed, the environmental consultant, in consultation with the Local Market NEPA Contact, may refer the matter to the FCC to help resolve the dispute by providing 1) a complete and detailed explanation of the basis of the dispute, 2) evidence regarding the information that has already been provided to the Tribe and 3) all communications between the applicant and the Tribe.

Tribe Disputes Consultant Qualifications – There may be cases in which the applicant and a Tribe disagree on whether the applicant has met the reasonable and good faith standard in connection with the hiring of paid consultants (including whether consultant services are necessary, what qualifications are required, and whether a particular consultant meets those qualifications). For example, there may be disputes about whether the applicant unreasonably refused to use a Tribe as a consultant considering the amount of the fee requested for such services. If needed, the Tribe or environmental consultant may refer the matter to the FCC to decide whether the applicant's obligations have been satisfied. In a dispute, the applicant must substantiate that it has met the reasonable and good faith standard in connection with the hiring of paid consultants within 15 days of being directed to do so by the FCC. The Tribe must then provide, within 15 days of FCC request, a complete and detailed explanation of why the reasonable and good faith standard has not been met.

Tribe Asks for More Information – If a Tribe seeks, or conditions its response on receiving, information beyond what is contained in the Form 620 submission packet—such as engineering reports, grading plans, ethnographic reports, or SHPO concurrence letters—the environmental consultant should respond that the commission does not require such additional information to be provided. If the Tribe subsequently indicates, within the 30-day response period, that a historic property might be affected and requests to become a consulting party, then the environmental consultant should provide the requested information. If the Tribe fails to indicate that a historic property might be affected within the 30-day response period and fails to request to become a consulting party, the 45-day process for moving forward with construction.

Tribe Disclaims Interest or Agrees No Affect – If the Tribe affirmatively disclaims any interest in participating or agrees with the environmental consultant that the proposal will have “no effect” or “no adverse effect” on historic properties of religious and cultural significance, then tribal consultation is complete as to that Tribe.

Tribe Indicates There Will Be an Adverse Effect – If the Tribe indicates that historic properties of religious and cultural significance may be adversely affected, the environmental consultant should invite the Tribe to become a consulting party and work with the Tribe to mitigate adverse effects. Usually, the Tribe will request that an MOA be established.

CALIFORNIA COASTAL COMMISSION

The California Coastal Commission¹⁶ was established by voter initiative in 1972 (Proposition 20) and later made permanent by the California State Legislature through adoption of the California Coastal Act of 1976. In partnership with coastal cities and counties, the California Coastal Commission (CCC) plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal permit from either the CCC or the local government.

The Coastal Act includes specific policies (see Division 20 of the Public Resources Code) that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the CCC and by local governments, pursuant to the Coastal Act.

The CCC is an independent, quasi-judicial state agency, composed of 12 voting members, appointed equally (four each) by the governor, the Senate Rules Committee, and the speaker of the assembly. Six of the voting commissioners are locally elected officials and six are appointed from the public at large. Three ex officio (non-voting) members represent the California Resources Agency, the California State Transportation Agency and the State Lands Commission.

California's coastal management program is carried out through a partnership between state and local governments. Implementation of Coastal Act policies is accomplished primarily through the preparation of local coastal programs (LCPs) required to be completed by each of the 15 counties and 61 cities located in whole or in part in the coastal zone. Completed LCPs must be submitted to the CCC for review and approval. An LCP includes a land use plan (LUP), which may be the relevant portion of the local general plan, including any maps necessary to administer it, and the zoning ordinances, zoning district maps and other legal instruments necessary to implement the land use plan. Coastal Act policies are the standards by which the CCC evaluates the adequacy of LCPs. Amendments to certified LUPs and LCPs only become effective after approval by the CCC. To ensure that coastal resources are effectively protected in light of changing circumstances, such as new information and changing development pressures and impacts, the CCC is required to review each certified LCP at least once every five years.

Development within the coastal zone may not commence until a coastal development permit has been issued by either the CCC or a local government that has a CCC-certified local coastal program. After certification of an LCP, coastal development permit authority is delegated to the appropriate local

¹⁶ California Coastal Commission website, CCC. Available at: <https://www.coastal.ca.gov/>

government, but the CCC retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The CCC also has appellate authority over development approved by local governments in specified geographic areas as well as certain other developments.

The coastal zone, which was specifically mapped by the Legislature, covers an area larger than the State of Rhode Island. On land, the coastal zone varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas. Offshore, the coastal zone includes a three-mile-wide band of ocean. The coastal zone established by the Coastal Act does not include the San Francisco Bay, where development is regulated by the Bay Conservation and Development Commission.

Whenever a project proposes development within the coastal zone (California Code of Regulations [CCR], Title 14, Section 13050 et seq.), a coastal development permit or verification of an exemption or waiver will be required. Development activities requiring a coastal development permit in the coastal zone are regulated by the CCC and local governments through their respective coastal development permit processes. The term "development" is broadly defined. Upon certification of an LCP by the CCC, local governments assume coastal development permit responsibility for most new development within their jurisdictions. However, the CCC retains original permit jurisdiction (also referred to as "retained permit jurisdiction") over development proposed on tidelands, submerged lands, and public trust lands. The CCC also retains original permit jurisdiction in any areas of deferred LCP certification until such time as the LCP is certified for the local government. In addition, the CCC hears appeals from certain local government coastal permit decisions and must review and approve any amendments to previously certified LCPs.

A project that straddles jurisdictions of both the CCC and the local government would typically require coastal development permits from both the CCC (regulated by the Coastal Act) and from a local government (regulated by the certified LCP). However, Coastal Act Section 30601.3 authorizes the CCC to process a consolidated coastal development permit application when the local government, the applicant, and the CCC all agree to do so. As an alternative to separate coastal permits subject to different standards of review in multiple jurisdictions, the consolidated coastal permit is subject to review and approval only by the CCC; the Coastal Act is the regulating mechanism for the entire project, with the LCP providing guidance for review.

Best practices for any activity assumed to be exempt from the Coastal Act would include coordination with the local government and/or CCC office to verify if the proposed activity is exempt from coastal development permitting requirements and documenting the response in the files prior to initiating the activity. Some CCC district offices will request submittal of an exemption application and will issue a letter of exemption. If the project is in an area covered by a certified LCP, pay particular attention to LCP exemption provisions.

The city of Santa Cruz has proposed amendments to its LCP by updating its implementation plan standards to add a definition for small-cell wireless telecommunication facilities ("small-cell wireless"). The proposed amendment also proposes to exempt small-cell wireless facilities that are in the public right-of-way from the development standards of the existing LCP's wireless ordinance and instead proposes to locate standards for such facilities in a new municipal code section that is not part of the LCP. For coastal development permit purposes, the standard of review would thus be the LCP's general and broader policies requiring protection and enhancement of coastal resources. The city's intent with the proposed amendment is to eliminate certain requirements for small-cell wireless facilities located in the public right-of-way to more quickly process permit applications pursuant to recent federal legislation (i.e., the Middle-Class Tax Relief and Job Creation Act of 2012, otherwise known as the "Spectrum Act," and its associated implementing regulations promulgated by the Federal Communication Commission (FCC)). The Spectrum Act sets certain requirements regarding the period for review and action on such applications. Most relevant here, the Spectrum Act imposes a period (or "shot clock") by which a local jurisdiction has to act

on permit applications for small-cell wireless facilities. This shot clock is 60 days (from the date of deeming an application filed) for co-located small-cell wireless facilities and 90 days from filing for small-cell wireless facilities on new structures. The city indicates that the reason for this proposed change is to respond to the above referenced recent FCC directives, particularly regarding permit processing time, by exempting most small-cell wireless facilities located in the public right-of-way from the current applicable standards, and thus offering a streamlined review approach.

BUREAU OF LAND MANAGEMENT

Wilderness Areas and Wildlife Preserves – Wilderness areas and wildlife preserves are managed federally by the Bureau of Land Management, National Park Service, Fish and Wildlife Service (FWS), and the Forest Service. Some wilderness areas and wildlife preserves are managed by various state and local agencies. To determine if a site will be located within a wilderness area or wildlife preserve, the environmental consultant must examine the official records of the agencies listed above (usually maps and relevant databases for the area), if such records are available/ Otherwise, the environmental consultant must utilize other appropriate publicly available sources. Copies of the maps and databases consulted must be included in the summary report. If the proposed facility will be in an officially designated wilderness area or wildlife preserve, copies of any permits that are required for the site must also be included in the summary report.

Endangered Species – For this category, the environmental consultant must first determine if listed or proposed endangered or threatened species (“endangered species”) or designated or proposed critical habitats (“habitats”) are located within the area of the proposed facility. If so, the environmental consultant must determine what effect, if any, the proposed facility might have on the endangered species or their habitat. The environmental consultant must ascertain the status or locations of endangered species and habitats by utilizing publicly available sources and documents (e.g., maps or lists from relevant FWS databases). An environmental consultant with the requisite bachelor of science degree in Biology may prepare an informal biological assessment or biological evaluation of the area surrounding the proposed location. The environmental consultant must decide whether 1) endangered species or their habitats are located within the area of the proposed facility and 2) the proposed facility might have an effect on any endangered species or their habitats. If the environmental consultant concludes that the site is not in an area of any endangered species or their habitats and/or that the proposed facility might not have an effect on any endangered or threatened species, no further action is required. If the environmental consultant concludes that there are any endangered species or their habitats present and that the proposed facility might affect them, the local market NEPA contact must contact regulatory compliance to discuss the next steps. Copies of all letters, reports, permits and maps relating to the site, including any informal biological assessment or evaluation, must be included in the summary report. Special consideration is required for any facility where bird nesting activity is observed. Nesting migratory birds (including eagles) are federally protected by the Migratory Bird Treaty Act, and bald and golden eagles are afforded additional protections by the Bald and Golden Eagle Protection Act. Should a bird nest or partial nest be encountered during construction of a facility, a nesting bird policy must be followed.

Communications Uses on Public Lands – The Bureau of Land Management (BLM) administers more than 1,500 communications sites on federal public lands in the 11 western states and Alaska. Right-of-way (ROW) grants authorize construction and operation of more than 4,000 facilities—ranging from radio and television transmitters to cellular and wireless broadband towers—under regulations (43 CFR 2800) and supporting policies.

Most BLM communications sites are located at geographic elevations and have one or more facilities (e.g., towers, antennas, buildings, etc.) owned by private or governmental entities. The local BLM field office

manages activities at each site under a resource management plan and a site-specific management plan. Regulations 43 CFR 2806.36(a, b, & c) allow a cellular/wireless lessee to sub-lease space to other providers without additional authorization. The local field office can provide information on collocation opportunities in the area you are considering. The field office will begin processing your application once you have submitted a completed SF-299 Application for Right-of-Way. BLM requires a pre-application meeting to discuss new communications use projects.

Rental Fees for Communications Uses – The BLM rental schedule for communications-use ROW grants and leases is based on the population served and the type of communications use(s) for which the ROW is granted. Regulations require holders of communications-use authorizations to submit an Inventory Certification each year by October 15 to calculate rental fees for the upcoming year.

Appendix E – Summary of Permit Streamlining Resources and Research

SUMMARY OF PERMIT STREAMLINING RESOURCES AND RESEARCH

During development of conclusions and recommendations for streamlining permitting within the SCAG and SANDAG regions, several existing federal and state statutes were reviewed in order to comply with relevant laws and standards. These references are listed as follows:

FCC'S 2009 DECLARATORY RULING AND FEDERAL "SHOT CLOCK" RULES

The original Federal Communications Commission (FCC) rule establishing the shot clock rules for wireless permit applications was set forth in the FCC's 2009 Declaratory Ruling. This ruling was designed to expedite the deployment of wireless infrastructure by setting specific time frames within which state and local governments must act on siting applications for wireless facilities. The intent was to address delays in the deployment of such infrastructure, which were seen as barriers to the rapid expansion of wireless and broadband services. The key provisions of the 2009 FCC Declaratory Ruling are as follows:

- **Time Frames for Action:** The FCC established two primary shot clock time frames for wireless facility siting applications. One for collocation applications and one for new wireless facilities.
 - **Collocation Applications:** For applications seeking to collocate wireless facilities on existing structures, the shot clock is 90 days. Collocation typically involves adding equipment to an existing tower or structure.¹⁷
 - **New Site Applications:** For applications that involve the construction of new wireless facilities, the shot clock is 150 days. This covers situations where a new tower or structure needs to be built to house the wireless facilities.¹⁸
 - **Tolling of the Shot Clock:** The shot clock can be paused or "tolled" under certain circumstances, such as when the reviewing authority needs additional information from the applicant, or there is mutual agreement between the applicant and the authority to extend the review period.¹⁹
- **Failure to Act:** If a state or local government fails to act on an application within the established shot clock time frame, the ruling provided that the application is deemed granted, subject to the applicant notifying the local government of its failure to act and giving it a reasonable opportunity to correct this failure.²⁰
- **Updates and Modifications:** The FCC has periodically updated the rules to adapt to technological advancements and policy changes. For example, modifications to streamline deployment of small cell facilities for 5G networks have been implemented.

¹⁷ Declaratory Ruling, 2009, WT Docket No. 08-165, Page 7, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-09-99A1.pdf>

¹⁸ Declaratory Ruling, 2009, WT Docket No. 08-165, Page 7, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-09-99A1.pdf>

¹⁹ Declaratory Ruling, 2009, WT Docket No. 08-165, Page 7, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-09-99A1.pdf>

²⁰ Declaratory Ruling, 2009, WT Docket No. 08-165, Page 7, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-09-99A1.pdf>

- **Legal Framework:** The ruling was grounded in the FCC's interpretation of the Telecommunications Act of 1996, particularly Section 332(c)(7), which preserves local authority over zoning and land use decisions for wireless siting but prohibits unreasonable discrimination and undue delay.
- **Legal Challenges and Preemption:** FCC declaratory rulings, specifically the shot clock rules, have been subject to legal challenges and interpretations. Courts have generally upheld the FCC's authority to impose these timelines to facilitate the deployment of wireless infrastructure but have also addressed the balance of power between federal mandates and local authority.

This 2009 FCC Declaratory Ruling was a significant step toward streamlining the deployment of wireless infrastructure across the United States, balancing the need for rapid deployment with the authority and concerns of local governments. The ruling has been followed by subsequent FCC actions to further clarify and refine the shot clock rules, especially considering new technologies and the evolving needs of wireless infrastructure deployment.

FCC'S 2020 DECLARATORY RULING

The 2020 FCC Declaratory Ruling further streamlined the deployment of wireless infrastructure, focusing on enhancing and clarifying the regulatory framework established by earlier rulings, including the foundational shot clock rules set out in the 2009 Declaratory Ruling. The 2020 Declaratory Ruling was particularly targeted at facilitating the rapid deployment of small cells, which are crucial for the expansion and implementation of 5G networks across the United States. The key provisions of the 2020 FCC Declaratory Ruling follow:

- **Clarification on Section 6409(a) of the Spectrum Act:** The 2020 Declaratory Ruling provided detailed guidance on the interpretation of Section 6409(a) of the Spectrum Act of 2012, which mandates that state and local governments approve any request for modification of an existing wireless tower or base station that does not substantially change the physical dimensions of the structure. This clarification aimed to eliminate ambiguities regarding what constitutes a "substantial change," facilitating smoother approval processes for modifications necessary to upgrade existing infrastructure for 5G technology.²¹
- **Reasonable Fees and Aesthetic Requirements:** The 2020 Declaratory Ruling addressed concerns regarding the fees charged by local governments for processing applications for the deployment of small cells and the use of public rights-of-way. It stipulated that these fees must be reasonable, cost-based and transparent to avoid undue hindrances to the deployment of wireless infrastructure. Additionally, it clarified that local aesthetic requirements, while permissible, must be reasonable, non-discriminatory and publicly disclosed in advance, ensuring that such regulations do not serve as de facto barriers to entry.²²
- **Refinement of Shot Clock Rules:** Building on the shot clock framework established in 2009, the 2020 Declaratory Ruling reinforced the importance of adhering to these timelines, particularly in the context of small cell deployment, to prevent unreasonable delays. It emphasized the need for swift action on applications to modify existing infrastructure, which is often less intrusive and can be key to enhancing network capacities and capabilities for 5G.

²¹ Declaratory Ruling and Notice of Proposed Rulemaking, 2020, WT Docket No. 19-250, Page 3, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-20-75A1.pdf?bcs-agent-scanner=7993df02-8d5c-ef4f-9d23-212f80e9ab27>

²² Declaratory Ruling and Notice of Proposed Rulemaking, 2020, WT Docket No. 19-250, Page 22, FCC. Available at: <https://docs.fcc.gov/public/attachments/FCC-20-75A1.pdf?bcs-agent-scanner=7993df02-8d5c-ef4f-9d23-212f80e9ab27>

The 2020 Declaratory Ruling enhanced the regulatory framework established in 2009 in several ways. First, by addressing the unique challenges associated with the deployment of small cells for 5G networks, the 2020 Declaratory Ruling specifically targeted the next generation of wireless technology, ensuring that regulations support its rapid deployment. Second, the 2020 ruling provided more detailed guidance on previously established regulations, such as what constitutes a substantial change to existing infrastructure and the reasonableness of local fees and aesthetic requirements. This clarity helps reduce ambiguities and potential conflicts between wireless service providers and local authorities. And third, while the 2009 Declaratory Ruling introduced the concept of the shot clock, the 2020 ruling reinforced its importance, particularly for small cell deployments, emphasizing the need for efficient and timely processing of applications to keep pace with the technological advancements and demands of 5G networks.

The 2020 Declaratory Ruling built upon and clarified the regulatory framework set out in 2009, with a focus on ensuring that local and state regulations facilitate rather than hinder the rapid deployment of 5G infrastructure. It addressed key areas of concern, such as fee structures, aesthetic regulations and the modification of existing structures, aiming to create a more conducive environment for the rollout of next-generation wireless networks.

EXECUTIVE ORDER N-73-20 - CALIFORNIA EXECUTIVE ORDER N-73-20

Issued by California Governor Gavin Newsom, Executive Order N-73-20 aims to improve broadband access throughout the state. The order recognizes the importance of reliable and affordable broadband for economic and workforce development, public safety, education, healthcare and more. It notes that many Californians lack access to high-speed broadband, especially in rural areas, and that the COVID-19 pandemic has amplified the need for broadband. The order sets forth directives to various state agencies to achieve the following goals:

- Set a minimum broadband speed goal of 100 megabits per second download speed.
- Develop a State Broadband Action Plan, which will include a roadmap to accelerate broadband deployment and adoption by state and local agencies, information on funding opportunities and provisions for the inclusion of tribal lands.
- Lead data aggregation and mapping efforts to identify areas without broadband access and gather information on infrastructure, deployment costs and more.
- Engage private-sector companies to understand and predict broadband demand.
- Identify funding opportunities for broadband deployment and adoption.
- Leverage state contract authorities to support broadband access.
- Incorporate conduit and fiber installation into appropriate transportation projects.
- Leverage utility infrastructure to increase access to existing fiber and deploy new fiber.
- Provide an inventory of state property for possible use for broadband infrastructure.
- Coordinate with jurisdictions to expand broadband for public safety and disaster preparedness.
- Identify and facilitate new broadband projects for precision agriculture and food systems.
- Provide recommendations to increase free or low-cost broadband connectivity at publicly subsidized housing communities.
- Coordinate outreach efforts to inform residents of affordable Internet service offerings.

- Ensure students have access to computing devices and connectivity for distance learning.
- Analyze the needs of people ages 60 and older for broadband access.
- Implementation Plan:
 - Goal Setting and Action Plan: All relevant state agencies should work towards achieving a minimum broadband speed of 100 Mbps. The California Broadband Council will be responsible for creating a State Broadband Action Plan by December 31, 2020, to guide infrastructure investments and program implementation.
 - Data Collection and Mapping: The California Public Utilities Commission (CPUC) should lead efforts, in collaboration with the California State Transportation Agency (CalSTA) and other relevant agencies, to aggregate and map data related to broadband access, infrastructure and deployment costs.
 - Private Sector Engagement: The California Department of Technology (CDT), in collaboration with the Governor's Office of Business and Economic Development (GO-Biz) and the Department of General Services (DGS), should regularly convene private-sector companies to understand and predict current and future demand for broadband.
 - Funding Opportunities: GO-Biz should identify funding opportunities for broadband deployment and adoption by collaborating with all cabinet-level agencies, independent departments and independent constitutional officers.
 - Infrastructure Deployment: CalSTA and the California Department of Transportation (Caltrans) should work with the California Transportation Commission to identify and incorporate the installation of conduit and/or fiber into all appropriate and feasible transportation projects along strategic corridors.
 - Utilizing State Assets: DGS should provide an inventory of state property for possible use for broadband infrastructure based on criteria provided by the CPUC, Caltrans and other relevant agencies.
 - Emergency Services and Public Safety: The California Governor's Office of Emergency Services should coordinate with jurisdictions implementing Next-Generation 911 to expand broadband infrastructure for public safety and disaster preparedness.
 - Support for Agriculture and Food Systems: The California Department of Food and Agriculture should identify and facilitate new broadband projects that support precision agriculture and food systems in rural communities.
 - Broadband for Publicly Subsidized Housing: The California Department of Housing and Community Development and the California Housing Finance Agency should provide recommendations to increase free or low-cost broadband connectivity at publicly subsidized housing communities.
 - Outreach and Adoption: GO-Biz should coordinate the outreach efforts of existing statewide programs and institutions to inform residents of affordable Internet service offerings.
 - Support for Education and Older Adults: The California Department of Education should ensure students have the necessary devices and connectivity for distance learning. The California Department of Aging should analyze the broadband needs of people ages 60 and older.

- Monitoring and Reporting: The California Department of Technology's Office of Broadband and Digital Literacy should support and monitor the implementation of the State Broadband Action Plan and Executive Order N-73-20.
- All actions should be implemented in accordance with the requirements and timelines outlined in the executive order and should be coordinated with relevant state agencies, local governments, tribal governments and other stakeholders.

CALIFORNIA SENATE BILL 156

SB 156 appointed the CDT to oversee the acquisition and management of contracts for the development of a statewide open-access middle-mile broadband network. The bill established funding for the development of this network with the purpose of providing broadband access to no less than 98 percent of California households. The middle-mile broadband network would help further the state's goal of closing the digital divide by ensuring rural communities with limited or no access to high-speed broadband internet would be now covered.

- Implementation Plan:
 - Use of Existing Right of Way: The open-access middle-mile broadband network would be built entirely within Caltrans-managed right-of-way. This allows for consistency in design standards and process.
 - Environmental Exemptions: By participating in this network build, projects are considered statutorily exempt from the California Environmental Quality Act (CEQA). This exemption significantly lessens the timeline for getting projects through the environmental clearance stage of a typical broadband deployment.
 - Updated Design Guidelines: For projects that take part in this network build, certain activities that typically occur during the design stage can be moved to the construction stage, at Caltrans discretion. Some examples include:
 - Utility investigation and identification
 - Right-of-way surveying
 - Alignment surveying

WIRELESS MODIFICATIONS 6409(A) RULING AND NPRM – THE 2012 MIDDLE-CLASS TAX RELIEF AND JOB CREATION ACT HAS A PROVISION UNDER SECTION 6409(A)

This requirement mandates local jurisdictions to approve certain modifications to existing wireless communication facilities (like cell towers or antennas), provided they do not substantially change the physical dimensions of the facility. This allows wireless carriers to enhance their networks more quickly to keep pace with growing demands.

- Implementation Plan:
 - Training and Awareness: Ensure that all relevant municipal employees are informed about Section 6409(a) and its implications. Training sessions could be held to ensure everyone understands their roles and responsibilities in this process.

- Pre-Application Process: Establish a pre-application process where wireless providers can engage with the local jurisdiction to understand what will be required for a successful application.
- Develop Clear Guidelines: Create well-defined and transparent criteria for what constitutes a “substantial change” in physical dimensions and what modifications are considered eligible under 6409. This can help streamline the review process and minimize disagreements.
- Timely Review Process: Adopt a timely review process, as stipulated by the FCC. Generally, local jurisdictions must approve or disapprove eligible facilities requests within 60 days of receiving the application.
- Application Checklist: Develop a checklist for the application process, which can be provided to wireless providers to ensure that they submit all necessary documentation. This can help expedite the review process.
- Public Communication: Ensure that the public is well-informed about these modifications. While a full public review may not be required for 6409 modifications, maintaining transparency can reduce community opposition.
- Appeals Process: Have an appeals process in place for situations where there is disagreement over what constitutes a “substantial change” or if the application is denied.
- Ongoing Compliance: Monitor approved modifications to ensure that they remain in compliance with the original approval and any conditions that were set.
- Maintain Records: Keep detailed records of all eligible facilities requests, including applications, communications, decisions, and any other relevant information.
- Regular Review: Periodically review and update the guidelines and processes to reflect changes in technology, federal regulations and local needs.
- It is crucial for local jurisdictions to maintain a balanced approach that enables network enhancement while ensuring that the interests of the community and the local environment are considered. Remember to always consult your local legal counsel to ensure compliance with all relevant laws and regulations.

CALTRANS NON-SB 156 PROCESS

Applicability: For wired or wireless broadband deployments within Caltrans right-of-way that are not part of the SB 156 Middle Mile Broadband Network, an encroachment permit must be obtained.

- Application: Applicants must complete a Standard Encroachment Permit Application (TR-0100) and attach supporting documentation, such as plans, location map, environmental documentation, letter of authorization, surety bonds, liability insurance, any applicable fees, etc., and submit them to the District Encroachment Permits Office with jurisdictional authority over the proposed encroachment site.²³
- Process and Timing: Section 671.5 (a) of the California Streets and Highways Code requires that the Department of Transportation either approves or denies an Encroachment Permit Application submittal within 60 calendar days, upon determination that the submittal is

²³ Encroachment Permit Homepage, Caltrans. Available at: <https://dot.ca.gov/programs/traffic-operations/ep>

- complete. An Encroachment Permit Application submittal is complete when all statutory requirements, including, but not limited to, storm water, the Americans with Disabilities Act (ADA) and CEQA, have been achieved. The term statutory requirement includes both federal and California statutes.²⁴
- Complete Re-submittals: Caltrans is required to either approve or deny a resubmitted revised Encroachment Permit Application for a broadband facility, which is complete, within 30 calendar days.²⁵
 - Departmental Reviews: Depending on the level of complexity of the proposed project, various departments may be required to review and sign off on the submittal package. For most wired and wireless broadband deployments, the following departmental reviews are typically triggered:
 - Engineering Division
 - Landscape and Architecture Division
 - Structures Division
 - Survey Division
 - Environmental Division
 - Fire Marshall
 - Construction Division
 - Traffic Division
 - Supplemental Required Forms: Depending on the level of complexity of the proposed project, various supplemental forms may be required in addition to the required TR-0100 submittal to process the Encroachment Permit Application. For most wired and wireless broadband deployments, the following supplemental required forms are typically triggered:
 - Quality Management Assessment Process
 - Design Engineering Evaluation Report
 - Permit Engineering Evaluation Report (PEER - Form TR-0112)
 - Registered Engineer's Seal and Signature on Utility Plan Sheets
 - Work Plan for a Temporary Pedestrian Access Route
 - Stormwater Prevention Plan
 - Field Review
 - Utility Investigation (including positively identifying all existing utilities)
 - Traffic Control Plan

²⁴ Encroachment Permit Homepage, Caltrans. Available at: <https://dot.ca.gov/programs/traffic-operations/ep>

²⁵ Encroachment Permit Manual, Section 201.5, Caltrans. Available at: <https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/chapter-2-ada-a11y.pdf>

- Geotechnical Studies
 - Structural Information (when proposed on structures)
- Review Determination Criteria: The district permit engineer is typically responsible for determining the appropriate review process for proposed projects submitted to the District Encroachment Permits Office. Submittals are reviewed to determine the impacts of the encroachment on:
 - The safety of motorists, pedestrians and workers.
 - Design, construction, operation, maintenance and/or integrity of the State Highway System.
 - Future and ongoing highway construction work.
 - Aesthetic value of the highway corridor.
 - The environment.
 - Existing drainage.
 - Water quality.
 - The risk of tort liability.²⁶
- Complex Utility Project Agreement: A complex utility project agreement (CUPA) is an agreement that Caltrans and a broadband service provider (permittee) enter-into to implement larger projects within Caltrans right-of-way deemed more complex than a typical utility project. The CUPA will outline activities and establish a reimbursement mechanism for the permittee to cover the costs of state staff time. The CUPA is like a cooperative agreement that Caltrans would enter-into with a public agency for reimbursed work to oversee a transportation project.²⁷
- Applicability: For complex utility projects, the fee charged for an encroachment permit is not adequate to cover state costs in facilitating the project, and Caltrans cannot provide the staff work as a gift of public funds (cite the statute?) The CUPA is the legal mechanism to reimburse Caltrans for project-related environmental and engineering work and oversight. The CUPA also defines Caltrans and the broadband service provider's roles and responsibilities throughout the project delivery process.²⁸

CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD)

The CA MUTCD provides uniform standards and specifications for all official traffic control devices in California. Given the typical scope of wired or wireless broadband deployments, Part 6 (Temporary Traffic Control) tends to govern broadband deployments, as the traffic control needs and efforts are not typically permanent. These standards are used in developing traffic control plans for permit applications and

²⁶ Encroachment Permit Manual, Section 202.1, Caltrans. Available at: <https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/chapter-2-ada-a11y.pdf>

²⁷ Caltrans Broadband FAQ's, May 2020, Pg.12, Caltrans. Available at: <https://dot.ca.gov/-/media/dot-media/programs/design/documents/broadband-faqs-a11y.pdf>

²⁸ Caltrans Broadband FAQ's, May 2020, Pg.12, Caltrans. Available at: <https://dot.ca.gov/-/media/dot-media/programs/design/documents/broadband-faqs-a11y.pdf>

approvals that are to be followed during construction. Part 6 is broken up into the nine chapters below, with a summary description of what each entails:

- 6A General: Establishes Chapter 6's purpose of controlling all road users and persons with disabilities within a California Highway while managing traffic incidents. This chapter also establishes temporary traffic control as the responsibility of the public body having jurisdiction over the highway.
- 6B Fundamental Principles: This chapter outlines the fundamental principles to protect those within the vicinity of a temporary traffic control zone. Part of these principles include utility work being "...planned and conducted with the safety and accessibility of all motorists, bicyclists, pedestrians (including those with disabilities), and workers being considered at all times..."²⁹
- 6C Temporary Traffic Control Elements: This chapter describes the level of detail the temporary traffic control plan is required to have to sufficiently serve Chapter 6's purpose, as well as establishing the responsible persons for preparing such a plan and when such a plan is required. All highway construction, utility work and maintenance operations require a traffic control plan under this chapter.
- 6D Pedestrian and Worker Safety: This chapter describes the level of detail the temporary traffic control plan is required to have to in relation to pedestrian and worker safety consideration, as well as establishing the responsible persons for preparing such a plan, notification and closure requirements, and when such a plan is required.
- 6E Flagger Control: This chapter describes the standard requirements a flagger must have in a temporary traffic control zone including qualifications, safety apparel, hand signaling devices, automated flagger assistance devices, flagger procedures, etc.
- 6F Temporary Traffic Control Zone Devices: This chapter describes the standard types of devices and signs, and their applications for temporary traffic control zones including placement, design, color, etc.
- 6G Type of Temporary Traffic Control Zone Activities: This chapter describes the typical activities associated with certain work durations and locations, including provisions for modifications for special needs and different working conditions.
- 6H Typical Applications: This chapter describes the typical applications for various situations that are encountered within a temporary traffic control zone. The typical applications described are not meant to cover every scenario, however, the standards depicted within are determined to be considered the minimum solution.
- 6I Control of Traffic Through Traffic Incident Management Areas: This chapter establishes the use of the Incident Comment System at traffic incident management scenes, describing what constitutes an incident management area, including incidents such as a road user emergency or natural disaster that impedes the normal flow of traffic.

²⁹ California MUTCD 2014 Edition, Revision 7, Chapter 6B.01.05, Caltrans. Available at: <https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/ca-mutcd/rev7/camutcd2014-part6-chap6b-rev7-a11y.pdf>

GO95/GREENBOOK: STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ADD A BRIEF DISCUSSION ON G095 CODE AND PW GREENBOOK STANDARDS.

The *Greenbook Standard Specifications for Public Works Construction*, often simply called the “Greenbook,” serves as a crucial guideline for public works projects in the United States, primarily in California and other western states. Similarly, General Order 95 (GO95) is a set of regulations pertaining to the overhead design, construction, and maintenance of electrical supply and communication lines. Both are highly influential in shaping the design, implementation and maintenance of various kinds of infrastructure projects. Here is an in-depth discussion and analysis of these standards:

GENERAL ORDER 95

- Objective: GO95 aims to establish safe and efficient standards for electrical supply and communication lines to reduce risks associated with electrical failures, fires and other hazards.
- Key Elements:
 - Outlines the minimum allowable heights of wires above ground, roads or other structures.
 - Sets the guidelines for proper insulation and protection against environmental stressors like wind, rain and heat.
 - Provides details on structural requirements, testing and maintenance procedures.
- Strengths:
 - Safety: By defining minimum requirements, GO95 significantly contributes to safety in both construction and operations.
 - Uniformity: It provides a consistent set of guidelines that all utility companies must follow.
 - Clarity: The rules are specific, leaving little room for interpretation, which helps in maintaining high standards.
- Weaknesses:
 - Rigidity: The standards can sometimes be too strict, not allowing for innovative approaches that could be more efficient but still safe.
 - Cost: Meeting these regulations can be expensive for utility companies, leading to higher costs for consumers.

GREENBOOK STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

- Objective: The Greenbook serves as a comprehensive guide for civil engineering projects including roads, bridges, sewers and other public works projects.
- Key Elements:
 - Material Specifications: Detailed requirements for the materials used in construction.
 - Construction Methods: Accepted best practices and methods for various aspects of construction.

- Measurement and Payment: Guidelines for assessing work and compensating contractors.
- Strengths:
 - Standardization: The Greenbook provides a universally accepted set of standards, making it easier for contractors to bid on projects and for engineers to design them.
 - Quality Control: Ensures high-quality materials and workmanship.
 - Flexibility: Unlike GO95, the Greenbook often allows for 'or equal' substitutions, enabling innovation and cost savings.
- Weaknesses:
 - Complexity: The comprehensive nature of the Greenbook can make it difficult for smaller contractors to fully comprehend or comply.
 - Cost: High standards often mean higher costs, which can be a burden on public funds.
 - Comparative Analysis
 - Scope: While GO95 is more specialized, focusing on electrical and communication lines, the Greenbook is broader, covering a wide range of public works projects.
 - Flexibility vs. Rigidity: GO95 tends to be more rigid to ensure safety in electrical systems, whereas the Greenbook allows for a bit more flexibility to encourage innovation.
 - Updates: Both guidelines are periodically updated, but due to the rapidly evolving technology in communications and electrical systems, GO95 might require more frequent updates.

SUMMARY

Both GO95 and the Greenbook play essential roles in shaping public works and utilities. Their objectives align well with the goals of public safety, standardization and quality. However, their approaches differ significantly, with GO95 focusing on strict compliance for safety, and the Greenbook providing more room for engineering judgment. Both have their own sets of strengths and weaknesses and are tailored to meet the specific needs of the sectors they serve.

Appendix F – Summary and Analysis of Findings to Identify Unserved & Underserved Areas in the SCAG/SANDAG Regions

SUMMARY AND ANALYSIS OF FINDINGS TO IDENTIFY UNSERVED & UNDERSERVED AREAS IN THE SCAG/SANDAG REGIONS

The Federal Communications Commission (FCC) defines broadband as internet access with a minimum of 25 Mbps download speed and 3 Mbps upload speed.³⁰ In California, there were 353,494 households that lacked this basic access as of December 31, 2020, termed “unserved households.”³¹ On the other hand, “underserved households,” those with access to broadband but not to faster speeds of 100 Mbps download and 20 Mbps upload, numbered 743,387.³²

The FCC's definition is significant because it outlines the minimum internet speed considered necessary for basic online activities such as accessing information, online learning and remote working. Factors like latency and reliability, which impact on the user experience, are also noted but are not part of the speed definition.

The numbers from the California Public Utilities Commission illustrate a notable disparity in broadband access in California. More than 350,000 households do not have access to basic broadband as defined by the FCC. This can lead to significant challenges for these households, especially in an increasingly digital world where internet access is crucial for education, employment, and essential services.

Beyond basic access, nearly double the number of households (over 740,000) have access only to slower speeds, making them “underserved.” While they may be able to conduct basic tasks online, their ability to leverage the internet fully, especially for high-bandwidth activities or on multiple devices simultaneously, is compromised. This can be particularly relevant in larger households or in scenarios where multiple members need to access online resources simultaneously.

The data, as of December 31, 2020, indicates a significant challenge in California. However, given the dynamic nature of technology and infrastructural developments, the data set to be released in April 2023 will be crucial to understand any progress made in bridging these gaps.

These numbers emphasize the need for policymakers to focus on expanding broadband infrastructure and accessibility, not only to ensure basic access for all but also to enhance the quality of internet services for a large number of households. It is a call to action to ensure equitable access to digital resources and opportunities.

DISCUSSION OF ISSUES IDENTIFIED BY ISPS AND LOCAL JURISDICTIONS FOR DEVELOPMENT IN UNSERVED & UNDERSERVED AREAS

The SCAG and SANDAG regions of Southern California, encompassing metropolitan hubs such as Los Angeles and San Diego, are often perceived as a hub of technological advancement. Despite this perception, there are still significant pockets in both regions where broadband and wireless services are either absent or insufficiently available. This creates disparities in access to information, opportunities and the ability to connect in our digital age.

- The Problem Defined:

³⁰ FCC Increases Broadband Speed Benchmark, FCC. Available at: <https://docs.fcc.gov/public/attachments/DOC-401205A1.pdf>

³¹ Broadband Infrastructure, Legislative Analyst's Office. Available at: <https://www.lao.ca.gov/Publications/Report/4747>

³² Broadband Infrastructure, Legislative Analyst's Office. Available at: <https://www.lao.ca.gov/Publications/Report/4747>

- Unserved areas: Locations where there is no broadband or wireless service available at all.
- Underserved areas: Locations where service is available but does not meet the minimum speed and reliability criteria set by the FCC or where the choice is limited.
- Identifying the Affected Regions – Some of the most affected areas include:
 - Rural and mountainous areas: Places like Big Bear or Idyllwild, despite being popular getaways, face significant connectivity challenges.
 - Tribal lands: Reservations such as the Morongo or Pechanga have long battled for basic utilities, and broadband is a modern addition to these challenges.
 - Border areas: Towns like Calexico or Tecate, adjacent to the Mexican border, grapple with both infrastructural and regulatory complexities.
 - Desert regions: The vast stretches of places like Joshua Tree or the Salton Sea might be alluring for travelers but are digital deserts.
- Implications of the Digital Divide:
 - Economics: Small businesses cannot compete on a digital scale, hampering local economies. Residents also miss out on the burgeoning gig economy.
 - Educational: Beyond just online classes, the lack of broadband affects homework, research and access to educational resources.
 - Social: For many, especially the elderly, the internet is a vital social connection. It's also increasingly necessary for civic participation.
 - Healthcare: In an age where telemedicine is becoming standard, these residents are left behind, potentially affecting health outcomes.
- Factors Contributing to the Gap:
 - Economic Factors: For many internet service providers (ISPs), the cost to lay fiber or set up towers in sparsely populated areas doesn't justify the potential returns.
 - Geographical Challenges: Physical barriers, such as the San Jacinto Mountains or the Anza-Borrego Desert, present real geographical challenges.
 - Regulatory Hurdles: Bureaucratic red tape, especially in areas with land use disputes or protected lands, can slow down or halt projects.
- Initiatives to Bridge the Gap:
 - State and Federal Grants: Funds like California Advanced Services Fund aren't just financial boosts; they're lifelines for communities that would otherwise be overlooked.
 - Community Broadband Networks: Places like Santa Monica or Burbank are setting examples of how local municipalities can step in to provide what the market hasn't.
 - Technological Advancements: Innovations such as low-orbit satellites or mesh networks might be the solution for the hardest-to-reach areas.
- Recommendations:

- Public-Private Partnerships: Engage both ISPs and local governments to co-invest in broadband infrastructure.
- Streamline Permit Processes: Simplified and expedited permissions can make a significant difference in project timelines.
- Awareness and Education: Inform local communities about the benefits of broadband and how they can advocate for it.
- Leverage Emerging Technologies: Support and encourage pilot projects involving technologies like 5G and satellite-based internet to reach challenging areas.

While Southern California is often in the spotlight for its bustling cities and tech-savvy communities, it's crucial to address the stark digital divide that exists within the region. Only by ensuring that all residents, regardless of where they live, have access to reliable broadband and wireless services, can the region truly claim to be a leader in the digital age.



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