

Appendix J:

Megaregion and Borders Planning and Collaboration

Table of Contents

Appendix J: Megaregion and Borders Planning and Collaboration..... J-1

<i>Binational Considerations</i>	J-1
<i>Interregional Considerations</i>	J-12
<i>Tribal Nations</i>	J-15
<i>Military</i>	J-20

Table of Figures

<i>Figure J.1: California–Baja California Ports of Entry</i>	J-3
<i>Figure J.2: Monthly Northbound Border Crossings at California–Baja California Ports of Entry (Individuals)</i>	J-4
<i>Figure J.3: Monthly Northbound Border Crossings at California–Baja California Ports of Entry (Vehicles)</i>	J-4
<i>Figure J.4: Monthly Bilateral Trade via Truck through California–Baja California Land Ports of Entry</i>	J-5
<i>Figure J.5: Estimated Economic Impacts of Border Delays at California–Baja California Ports of Entry</i>	J-7
<i>Figure J.6: San Diego County–Baja California Multimodal Border Projects</i>	J-10
<i>Figure J.7: Imperial County–Baja California Multimodal Border Projects</i>	J-11
<i>Figure J.8: Share of Housing Units, Jobs, and Population in the Four-County Region (2019)</i>	J-13
<i>Figure J.9: Tribal Lands in the San Diego Region</i>	J-17
<i>Figure J.10: Military Installations in the San Diego Region</i>	J-22

Appendix J: Megaregion and Borders Planning and Collaboration

Our region's successes today—and its future prospects for cultural and economic prosperity—are linked significantly to its relationships with neighboring counties (including Orange County, Riverside County, and Imperial County), Mexico, and the 17 sovereign tribal governments within the region. Each adds a dynamic element to the region's profile and requires the San Diego Association of Governments (SANDAG) to pursue ongoing collaboration to build understanding, identify challenges, and prioritize solutions. For this reason, SANDAG created the Borders Committee in 2001 to bring together elected officials and representatives from all neighboring jurisdictions. This committee addresses joint challenges related to regional planning and collaborates across jurisdictional and international boundaries to develop and implement strategies within the broader context of the megaregion. Megaregions reflect the symbiotic nature of adjacent urban areas that share economic, environmental, and social features as well as infrastructure and geographic connections. It is important, then, to consider how planning decisions at local and regional levels can resonate at a larger megaregional level.

The California–Baja California megaregion experiences high levels of interregional and crossborder commuting and goods transport, and there are many industries that are linked across borders. This larger region is an increasingly important trade and travel corridor, and it has a distinct global competitiveness with unique advantages.

San Diego Forward: The 2021 Regional Plan (2021 Regional Plan) is designed to build on the close working relationships among partners throughout the California–Baja California binational megaregion. Efforts will include completing the Otay Mesa East–Mesa de Otay II port of entry project and implementing the Regional Border Management System (RBMS) and related border wait time monitoring components. These and other initiatives will help create the momentum needed to improve interregional and crossborder mobility.

Binational Considerations

Setting

The California–Baja California binational megaregion benefits from a rich daily economic, social, and cultural exchange occurring through flows of people and goods between the United States and Mexico. The influence of crossborder travel and bilateral trade sets the region apart and provides necessary elements for economic competitiveness and binational cooperation, which are leveraged to advance quality of life. Located along the border, San Diego and Imperial counties share unique traits that naturally create opportunities for collaboration and partnerships on transportation strategies to support

this exchange. Agencies like SANDAG, Caltrans, and the Imperial County Transportation Commission (ICTC) frequently pursue joint efforts to improve border infrastructure and plan for border mobility strategies in coordination with partners in Mexico. Realizing efficiencies at the land ports of entry (POEs) is a key element of these strategies, as they are the gateways for shared benefits and the focal point of the crossborder dynamic.

There are seven existing POEs connecting the United States and Mexico via San Diego and Imperial counties and the state of Baja California. There are four POEs between San Diego County and Baja California:

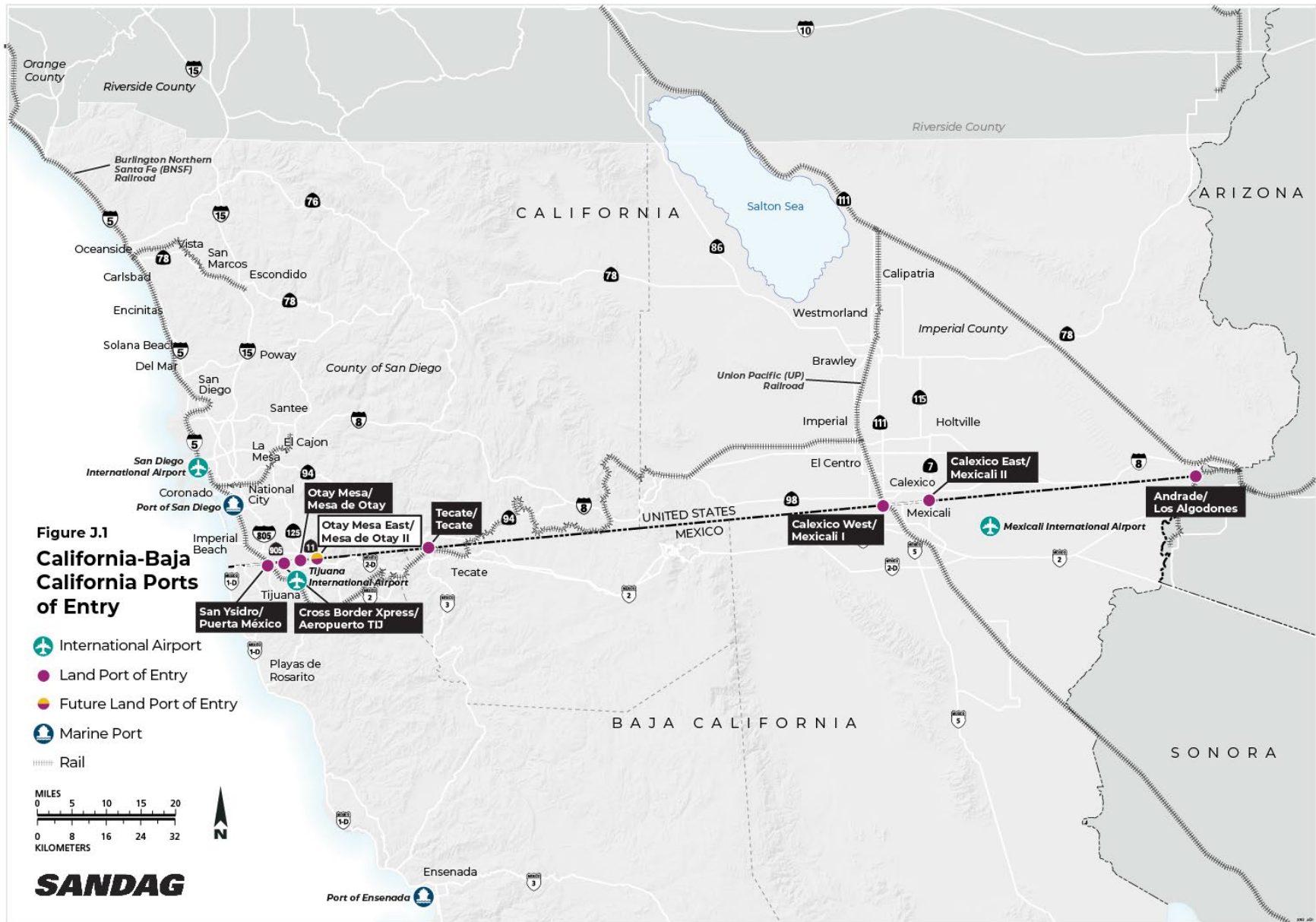
- **San Ysidro–Puerta México/Ped West–El Chaparral:** One of the world’s busiest international land border crossings and the most traveled between the United States and Mexico. This facility serves pedestrians and personal vehicles.
- **Cross Border Xpress (CBX):** A privately funded hybrid crossing facility opened in 2015 serving as an access terminal for ticketed users of the Tijuana International Airport crossing as pedestrians. It is the world’s only airport terminal access facility located directly on an international boundary.
- **Otay Mesa–Mesa de Otay:** The main commercial gateway for international trade between California and Mexico. This POE ranks second in terms of trade value among all U.S. southern border POEs. This facility also processes pedestrian and personal vehicle crossings.
- **Tecate–Tecate:** A POE facility in the rural eastern portion of San Diego County serving pedestrians, personal vehicles, and commercial trucks.

There are three POEs between Imperial County and Baja California:

- **Calexico West–Mexicali I:** The busiest crossing for pedestrians and personal vehicles between Imperial County and Baja California.
- **Calexico East–Mexicali II:** A critical facility for commercial truck crossings between the United States and Mexico. This facility also processes pedestrian and personal vehicle crossings.
- **Andrade–Los Algodones:** A land POE in the southeastern corner of the boundary with Arizona. This facility processes pedestrian and personal vehicle crossings.

Rail lines serve the San Ysidro–Puerta México/Ped West–El Chaparral, Tecate–Tecate, and Calexico West–Mexicali I POEs. Although trade via rail accounts for less than 1% of all trade through the California–Baja California border, rehabilitation efforts are being pursued with the objective of increasing the use of rail lines for crossborder trade in the region.

Figure J.1: California–Baja California Ports of Entry



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Prior to restrictions imposed in response to COVID-19 on non-essential travel through the U.S.–Mexico border, these POEs together accommodated an average of more than 200,000 individuals (people crossing as pedestrians and as occupants in vehicles), 85,000 personal vehicles, and nearly 4,000 commercial trucks each day in just the northbound direction.¹ Travel restrictions imposed since March 21, 2020, have had a clear impact on the number of trips taken through the border, but after reaching a low in April 2020, crossborder travel demand has since rebounded significantly.² By June 2021, volumes increased to 50% of average individual (people) crossings, more than 80% of average personal vehicle (POV) crossings, and had surpassed average commercial truck crossings seen pre-pandemic (see Figures J.2 and J.3 below). The continued high volumes of people and commercial goods crossing daily reflects close interdependence and deeply linked economic realities on both sides of the border.

Figure J.2: Monthly Northbound Border Crossings at California–Baja California Ports of Entry (Individuals)

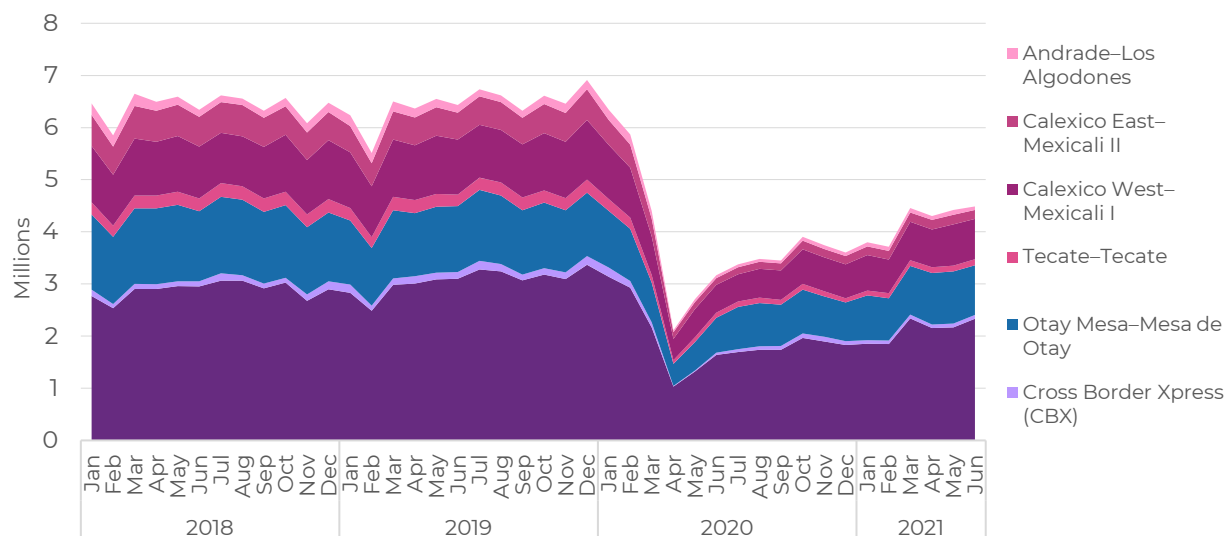
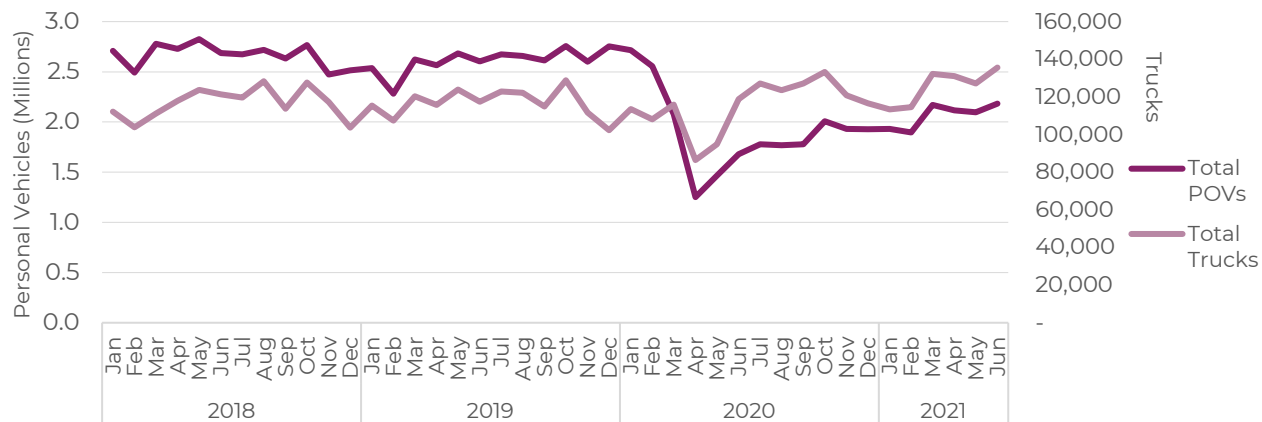


Figure J.3: Monthly Northbound Border Crossings at California–Baja California Ports of Entry (Vehicles)

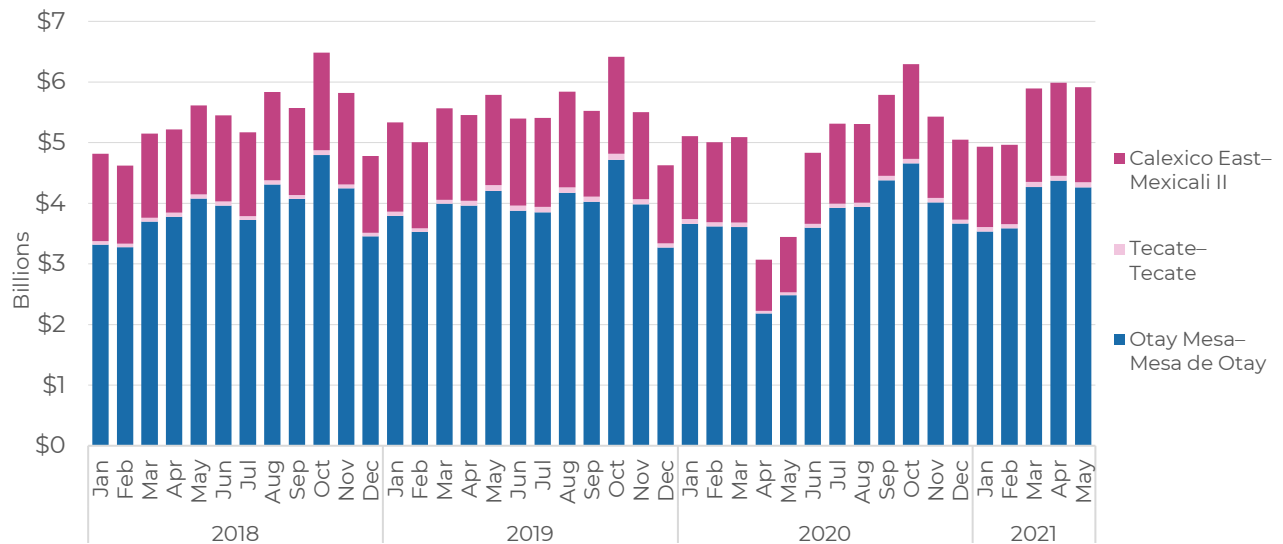


¹ Monthly averages reflect calendar years 2018 and 2019. (U.S. Department of Transportation, Bureau of Transportation Statistics, accessed February 19, 2021.)

² U.S. Embassy in Mexico — Travel Restrictions (Fact Sheet)

Bilateral U.S.–Mexico trade has catalyzed economic prosperity at the regional, state, and national levels in both countries for decades. The binational region has grown increasingly interdependent since the passage of the North American Free Trade Agreement in 1994 and the resulting integration of many North American supply chains. Between 1993 and 2020, U.S.–Mexico trade increased 560%, with the vast majority occurring via commercial truck through land POEs along the southern border.³ Growing economic interdependence has resulted in the megaregion’s ability to leverage crossborder supply chains—especially in periods when markets may become unstable. Similar to the impacts of COVID-19 on personal travel, bilateral trade also was hampered in the first few months of the pandemic; however, trade transported via truck through California–Baja California POEs decreased by only 1% in terms of truck volumes and less than 8% in terms of trade value compared to 2019. Texas, by comparison, which historically processes the most trucks and value of trade, saw its trade figures decrease by nearly 13% in terms of truck volumes and by 14% in terms of trade value. The Otay Mesa–Mesa de Otay POE—which ranked third among U.S.–Mexico land POEs in total value of bilateral trade in 2019—ranked second in 2020.⁴

Figure J.4: Monthly Bilateral Trade via Truck through California–Baja California Land Ports of Entry



Challenge

In addition to numerous benefits resulting from the binational relationship, the demand placed on the infrastructure facilitating these movements creates congestion and associated adverse impacts. In 2021 SANDAG, Caltrans, and the ICTC completed the [Impacts of Border Delays at California–Baja California Land Ports of Entry](#) study, which builds on previous studies, an extensive data collection effort, and peer-reviewed methodology to estimate economic and air quality/climate impacts of border delays in terms of losses to economic output and jobs as well as estimated emissions of key air

³ Calculated on a nominal basis. (U.S. Census Bureau, accessed March 2021.)

⁴ U.S. Department of Transportation, Bureau of Transportation Statistics, accessed February 19, 2021.

pollutants. The analysis found that impacts due to border delays in the base year (2016) resulted in losses of \$3.4 billion in economic output and more than 88,000 jobs to the combined economies of the United States and Mexico (see Figure J.5).⁵ This equates to about as much economic impact as 23 Comic-Con conventions and as many jobs as nearly 15 Fashion Valley malls.⁶ Border delays in 2016 also resulted in an average of 457 metric tons of CO2 emitted per day. These CO2 emissions are equivalent to making about 200 round trips between Downtown San Diego and New York City in an average car.⁷ The study also estimated that by 2025, even with the completion of certain planned improvements (i.e., Phase 3 improvements at San Ysidro, modernization of the existing Otay Mesa, Phase 1 improvements at Calexico West), these losses could increase to \$5.1 billion in lost output and 97,000 lost jobs, and average CO2 emissions could increase to 535 metric tons per day.

Beyond economic and emissions impacts that are more easily measured, long delays endured by the thousands of individuals crossing the border each day are an impediment that shapes personal and social aspects of daily life in the region. Within this context, it is important to consider the diverse profile of border crossers and the broad range of reasons for crossing. The [2019 Crossborder Travel Behavior Survey](#), which collected data through intercept surveys and travel logs at regional POEs, provides the most recent statistical profile of travel behavior for crossers moving through San Diego County POEs. Overall, the primary stated trip purpose of those surveyed was shopping, which was followed by work trips and social visits. While the reported trip purpose of Mexico residents visiting the United States centered on shopping and work, slightly more than half of U.S. residents reported their primary reason for visiting Mexico was to visit a friend or relative. The report also compared differences between the 2019 survey results and the preceding survey completed in 2010, noting the balance of trip purposes across demographics had shifted. Younger individuals (under 35 years of age) reported a substantially higher percentage of work trips in 2019 than in 2010 and full-time workers also reported a higher percentage of trips into the United States in 2019.⁸ While the megaregion benefits from a shared workforce and economy, crossborder travelers face the unique challenge of anticipating and adapting to the unpredictability of border delays when commuting to work, going to school, traveling to medical appointments, or simply connecting with their friends and family.

Opportunity

The Impacts of Border Delays at California–Baja California Land Ports of Entry study also provides a look at how impacts may change when additional investments to border transportation infrastructure, enhanced multimodal services to POEs, and a more efficient/cleaner vehicle fleet come into play. By 2025, when considering additional POE

⁵ Impacts of Border Delays at California–Baja California Land Ports of Entry (SANDAG, 2021).

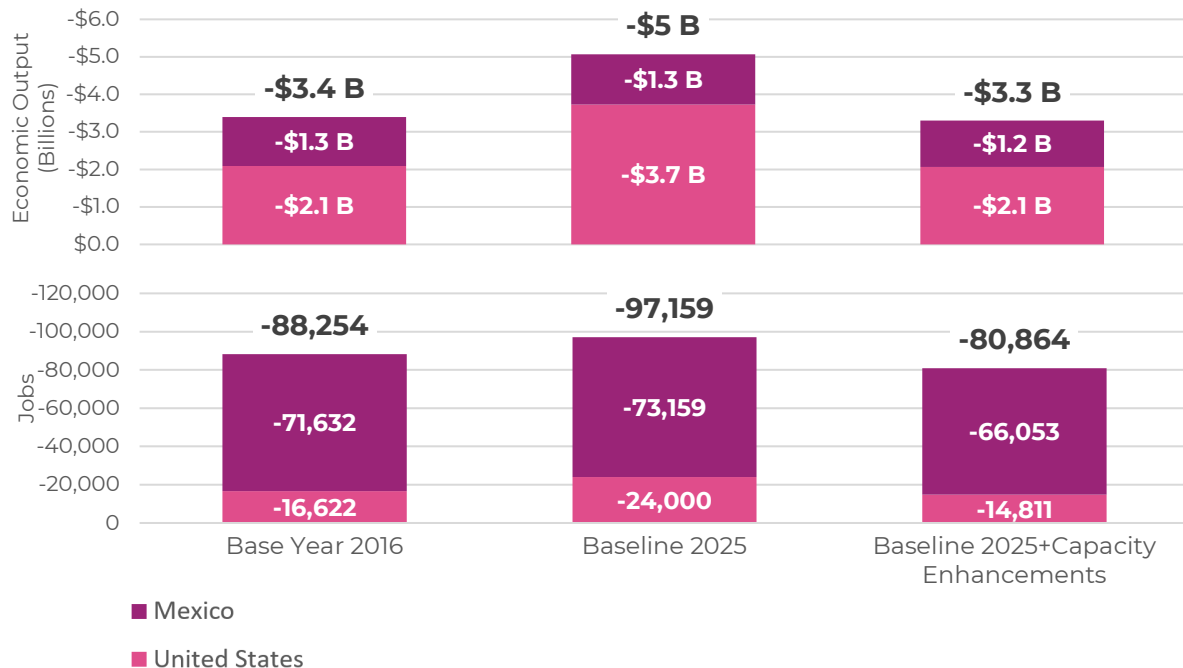
⁶ Estimated regional economic impact of Comic-Con convention was \$149 million in 2019 (CIC Research Inc.). Jobs comparison is SANDAG calculation with 2018 data from the California Employment Development Department.

⁷ SANDAG calculation with data from the U.S. Environmental Protection Agency — Greenhouse Gas Equivalencies Calculator.

⁸ 2019 Crossborder Travel Behavior Survey (SANDAG, 2020).

infrastructure and multimodal improvements (i.e., the opening of the Otay Mesa East–Mesa de Otay II POE, Calexico East Bridge Widening Project, and enhancements to transit and active transportation), economic impacts could be reduced to \$3.3 billion in output losses and less than 81,000 foregone jobs—effectively “buying down” anticipated growth in economic loss to slightly below 2016 base year levels (see Figure J.5). The study report also suggests that planned infrastructure and multimodal projects, in addition to gradual phase-ins of cleaner vehicles and fuels by 2025 and 2035, will result in reduced average emissions stemming from vehicle delay.

Figure J.5: Estimated Economic Impacts of Border Delays at California–Baja California Ports of Entry



Land Ports of Entry

To secure a future with fewer negative impacts to the binational economy, regional air quality, and border communities, it is essential that SANDAG and partner agencies develop and implement strategies that make crossing the border more efficient. Strategies and projects identified in the 2021 Regional Plan would improve travel times to and through POEs via enhanced transportation services and innovative technology solutions facilitating more efficient management of border transportation.

Prior to COVID-19-related travel restrictions, the typical share of northbound personal travel occurring via motorized modes (in personal vehicles or buses) and non-motorized travel (as pedestrians) through the California–Baja California border was 72% and 28%, respectively. This mode share and relatively high propensity of border crossers to opt for non-motorized trips represent a tremendous opportunity for the region to showcase the effectiveness of investing in multimodal alternatives to drive-alone travel. The 2021 Regional Plan includes strategies and projects that will complement ongoing regional and binational efforts

aiming to further encourage non-motorized crossborder travel by providing better transportation services and better ways to manage the flow of people and goods. Those projects are included in Appendix A: Transportation Projects, Programs, and Phasing of the 2021 Regional Plan.

A priority project within the 2021 Regional Plan's vision for the border that promotes efficient crossborder mobility is the SR 11/Otay Mesa East POE project. This project is a joint effort between SANDAG and Caltrans and leverages extensive collaboration with state and federal partners in the U.S. and Mexican governments to create a 21st-century border crossing for the binational megaregion. The Otay Mesa East POE, complemented by Mesa de Otay II on the Mexican side, will provide a new travel option and much-needed relief valve to decrease congestion and wait times experienced throughout the border region. The project provides a unique opportunity to showcase the possibilities of variable tolls to manage traffic demand with innovative features such as:

- Interchangeable passenger and commercial vehicle primary inspection lanes that reduce wait times and maximize efficiency by taking advantage of differing peak travel times throughout the day
- An advanced traveler information system that informs border crossers of toll rates, border wait times, special lane conditions, and incidents at all regional land POEs
- An integrated operations system that intelligently links traffic operations to achieve the 20-minute average wait time goal for the Otay Mesa East POE

A key underlying component of the Otay Mesa East POE project and the 2021 Regional Plan's border vision involves implementation of the Next Operating System solutions, enabling management of POEs and connecting transportation facilities as a coordinated system. In 2020, the U.S. Department of Transportation awarded SANDAG an Advanced Transportation and Congestion Management Technologies Deployment Program grant for the Advancing Connectivity and the Economy through Technology in the San Diego Region effort. Through the deployment of supporting technology and back-office solutions enabling the full capabilities of the RBMS, this project will promote a next-generation management solution that integrates security functions, active travel demand management, dynamic tolling, connected vehicle applications, and integrated corridor management technologies that build from successful deployments of corridor management systems in the region. SANDAG and Caltrans are currently partnering with agencies in Mexico to implement a border wait time monitoring system to provide reliable and real-time measurements of wait times at the POEs, which will inform current operations as well as the future RBMS. This technology and back-office analytics will serve as a new model for providing safer and more resilient systems that can be replicated throughout the nation's border crossings to maximize safety and efficiency.

The success of border efforts contemplated in the 2021 Regional Plan will hinge on the strength of binational partnerships, multiagency collaboration, and support from the border community. Close coordination on a technical level with agencies in both countries will also be critical. The recently completed [2021 California–Baja California Border Master Plan](#) (BMP)—led by Caltrans and the Secretariat of Infrastructure,

Urban Development, and Territorial Reorganization in Baja California with partnership from the U.S.–Mexico Joint Working Committee—demonstrates the ability of stakeholder agencies in the border region to generate support, build consensus, and bring attention to planning strategies that move crossborder mobility forward. Similar to the initial BMP completed in 2008, the 2021 BMP effort incorporates and consolidates input from SANDAG as well as nearly 40 agencies from the United States and Mexico at the federal, state, regional, and local levels in the development of a concise report of short-, mid-, and long-term priority projects and innovative strategies that align with goals and objectives in the 2021 Regional Plan. Figures J.6 and J.7 show multimodal projects planned for the border region included in the 2021 Regional Plan as well as the 2021 BMP.

Figure J.6: San Diego County–Baja California Multimodal Border Projects

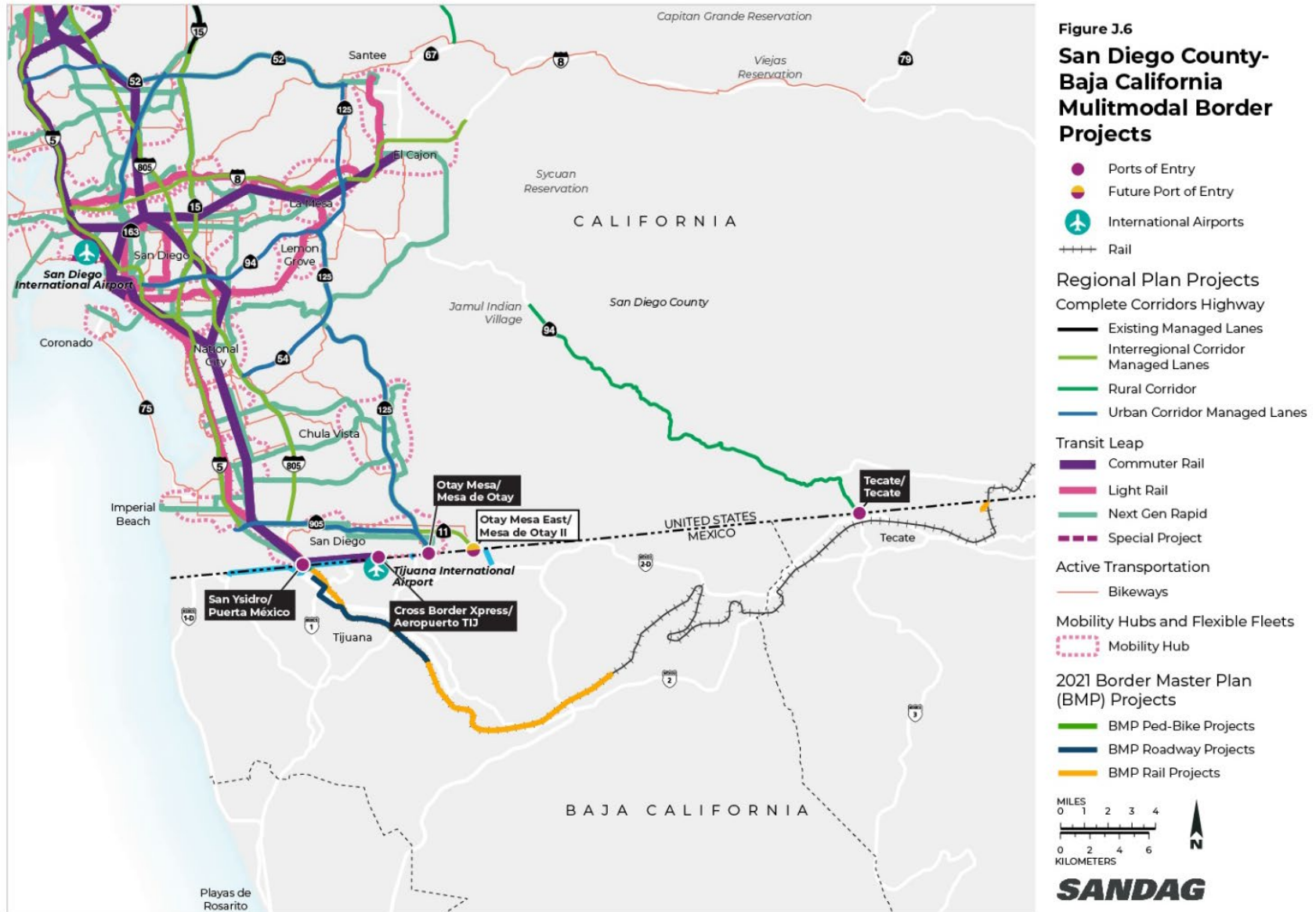
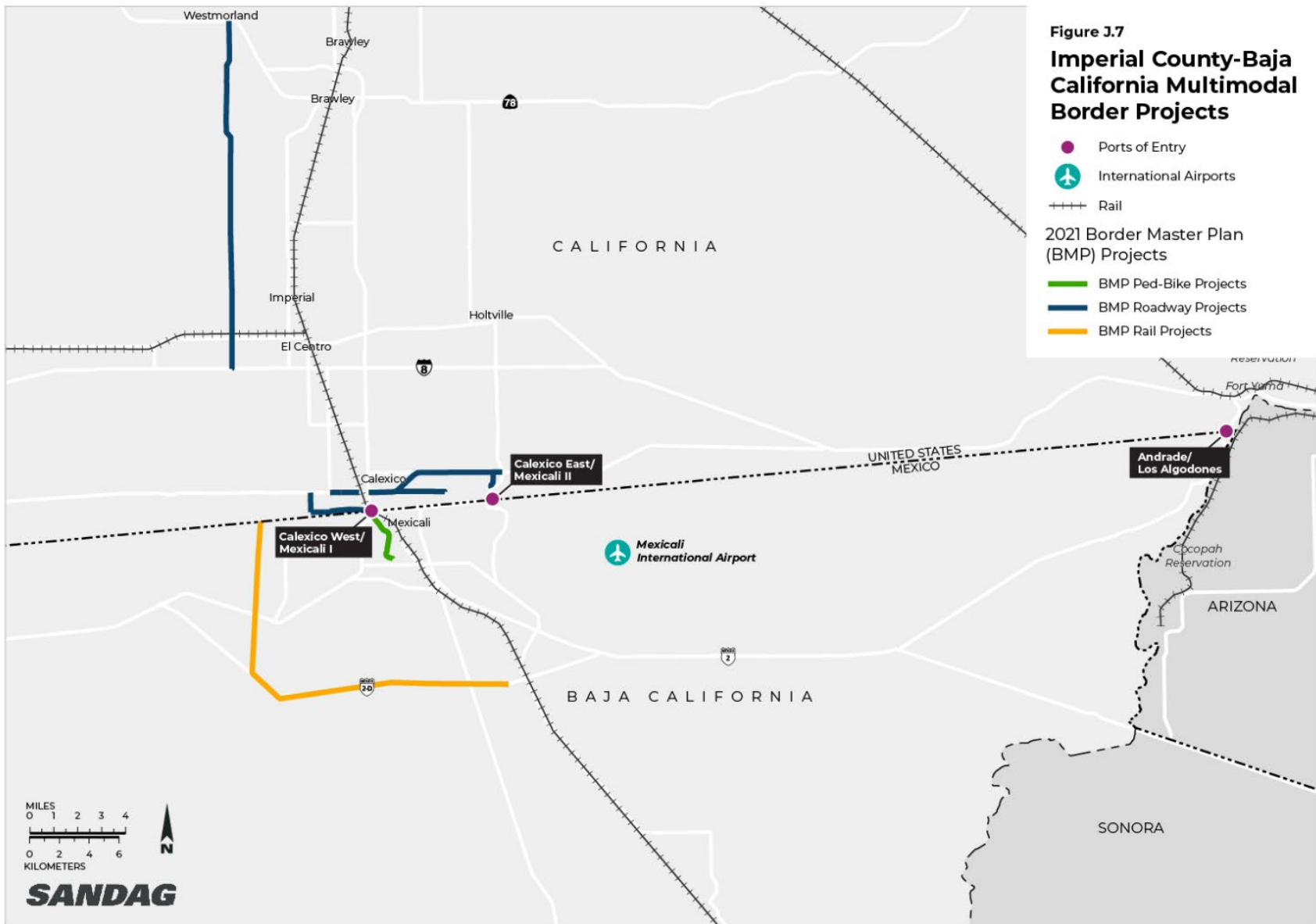


Figure J.7: Imperial County–Baja California Multimodal Border Projects



Leveraging resources like the BMP across all SANDAG planning activities provides a consistent and comprehensive framework to inform decisions related to border transportation. SANDAG and Caltrans are developing several Comprehensive Multimodal Corridor Plans (CMCPs) for key corridors throughout the region that are guiding the development of an innovative transportation network to transform the way people and goods move throughout the network. CMCPs evaluate all travel modes and transportation facilities in a defined corridor—highways and freeways, parallel and connecting roadways, transit (bus, bus rapid transit, light rail, intercity rail, etc.), pathways, and bikeways. The [South Bay to Sorrento \(SB2S\) CMCP](#) effort focuses on 28 miles of one of the most congested and heavily used corridors in the San Diego region, spanning from the U.S.–Mexico border to Sorrento Valley and including critical facilities such as I-5, I-805, SR 905, major arterials, the Bayshore Bikeway, and transit services including the Trolley, *Rapid* lines, and local bus lines. The BMP is being used to support the development of the SB2S CMCP’s suite of border-focused project and strategy recommendations. Consistent with these efforts, work is beginning on the U.S.–Mexico Border Mobility Hub with an initial focus on improvements to the western portion, which includes the San Ysidro Transit Center.

Mechanisms for timely, meaningful, and effective involvement of border stakeholders exist in the SANDAG policymaking and stakeholder engagement structure as well as project- and program-specific outreach. The Borders Committee is the primary forum for policy discussion on border issues and projects. For more than a decade, SANDAG has facilitated the Annual Joint Meeting of the Borders Committee, the Committee on Binational Regional Opportunities, and the municipalities and State Government of Baja California. This joint meeting provides special opportunities to coordinate and strengthen collaboration with binational partners on crossborder mobility and other areas. To continue improving current planning processes and strategies and, ultimately, to deliver the border vision, SANDAG will continue fostering relationships and build on the broad support that the California–Baja California megaregion is known for.

Interregional Considerations

Setting

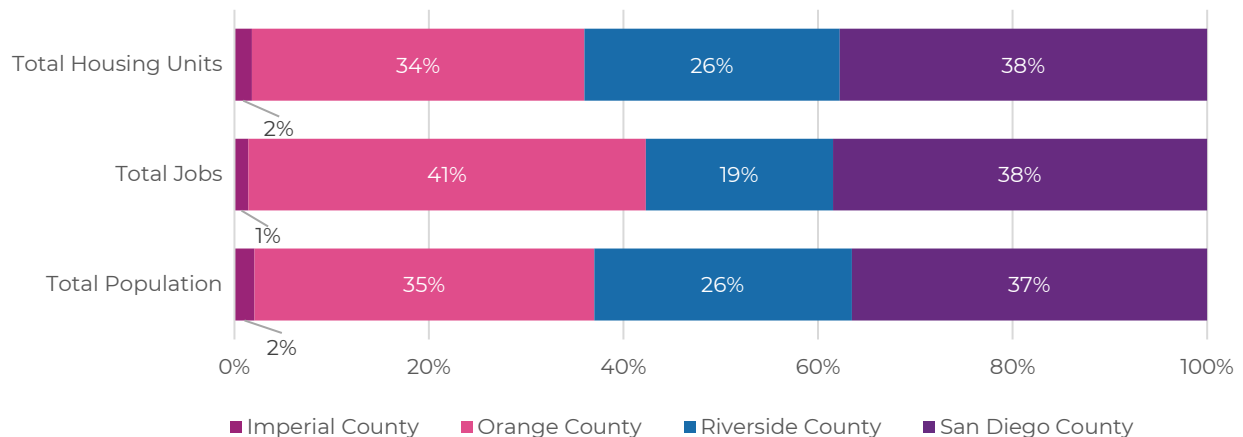
Changes in factors like population, housing availability, economic development, and land use patterns in one part of the megaregion inevitably affect those around it, just as growth in the San Diego region affects the megaregion. These changes can increase demand on shared infrastructure like transportation facilities while putting pressure on the natural environment. Coordination on an interregional basis is needed to address issues of shared interest, promote collaborative solutions, and protect the overall quality of life in the megaregion. SANDAG works toward effective and cohesive interregional planning efforts in partnership with stakeholder agencies in the adjacent counties of Orange, Riverside, and Imperial as well as through the Southern California Association of Governments and Caltrans. Orange, Riverside, and Imperial counties are primarily connected to the San Diego region through major highways, including the I-5, I-15, and

I-8 corridors, while Orange and San Diego counties also share rail infrastructure along the Los Angeles – San Diego – San Luis Obispo Rail Corridor. Similar to the binational relationship, the interregional dynamic is in part shaped by economic factors, creating a unique interplay of housing, employment, and labor markets that in turn impact the shared transportation network.

Challenge

Access to jobs and housing affordability are issues that continue to shape how San Diego and neighboring counties interact, as population growth in one area often is not matched with proportional housing or employment growth. In the decade between 2000 and 2010, total population and total housing units in the combined Orange, Riverside, Imperial, and San Diego county area increased an average of 1.4% and 1.5% per year, respectively; between 2010 and 2019, these figures increased an average of 0.9% and 0.6%, respectively. The trend of population growth outpacing housing unit production leads to an imbalance between jobs and housing, leaving more individuals to seek employment outside of their county of residence (and vice versa). For example, in 2019, Riverside County accounted for approximately 26% of the total population within the four-county region and only 19% of the total jobs. While housing is generally more affordable in Riverside and Imperial counties compared to Orange and San Diego counties, a strong draw of workers to the San Diego job market results in many individuals making longer commutes and incurring higher transportation costs.

Figure J.8: Share of Housing Units, Jobs, and Population in the Four-County Region (2019)⁹



⁹ State of California, Department of Finance (E-5 Population and Housing Estimates) Bureau of Economic Analysis (CAINC30 Economic Profile).

In 2018, more than 60,000 Riverside County residents, nearly 39,000 Orange County residents, and more than 6,000 Imperial County residents were estimated to have their primary job within San Diego County.¹⁰ Currently, alternatives to personal auto travel for completing interregional trips are limited, with only Orange and San Diego counties connected by commuter rail service. Express bus service connecting Riverside to the Oceanside Transit Center and the Escondido Transit Center is currently suspended, leaving private charter bus (i.e., Greyhound) or vanpools, such as those provided by the SANDAG transportation demand management program, iCommute, as the alternative options between Riverside and Imperial counties.¹¹ Long commutes resulting from the jobs and housing imbalance exacerbate congestion on key transportation facilities and make the challenge of improving air quality, reducing greenhouse gas emissions, and meeting related state and federal mandates more difficult.

Opportunity

Interregional travel can bring a mix of positive impacts (i.e., access to economic opportunities) and negative impacts (i.e., increased congestion). Effective coordination between regional agencies to plan and prioritize harmonization of many aspects of projects (e.g., phasing, operations, and data and information sharing) ensures that efforts linking multiple regions have continuity and perform optimally. The 2021 Regional Plan aims to address the negative impacts of interregional travel by providing mobility solutions that diversify choices for travelers moving within and through the region while alleviating congestion on impacted roadways that facilitate interregional movements. Successfully connecting the 2021 Regional Plan's projects, programs, and policies with efforts in neighboring counties will require SANDAG to build on partnerships with agencies in Orange, Riverside, and Imperial counties.

SANDAG continues to engage with interregional partners through policy advisory committee meetings, planning workshops, mobility webinars, and ongoing liaison activities. The [2021 Interregional Transportation Strategic Plan \(ITSP\)](#) update being led by Caltrans is an effort currently underway that provides an opportunity to contribute regional input to the interregional vision for the state of California. The ITSP provides a framework for implementing the interregional components of the California Transportation Plan 2050 through investing in a safe, equitable, and sustainable multimodal transportation system that improves the interregional movement of people and goods. The ITSP also is being developed to align with the California State Rail Plan, California Freight Mobility Plan, and Climate Action Plan for Transportation Infrastructure. SANDAG will look to leverage platforms like the ITSP process to ensure that region-level input gets incorporated into state planning efforts.

¹⁰ U.S. Census Bureau, OnTheMap Application (Version 6.8) and LEHD Origin–Destination Employment Statistics (LODES Version 7.5).

¹¹ Riverside Transit Agency bus service schedule as of January 10, 2021.

Tribal Nations

Setting

Of the 109 federally recognized Indian tribes in California, 17 are in San Diego County—the most in any county in the United States.¹² The tribal members of today's bands represent four Indian cultural/linguistic groups who have populated this entire region for more than 10,000 years, making use of its abundant natural resources and diverse ecological system for their livelihoods. The four cultural/linguistic groups are the Luiseño, who traditionally inhabited the land along the San Luis Rey River in north and northwestern San Diego County; the Cahuilla, who live in the mountains in the northeastern part of the county and into the Coachella and Imperial Valleys; the Cupeño, who live in the Warner Springs area; and the Kumeyaay (Northern Ipai/Southern Tipai), who live in the southern part of the county from the coast to the mountains and all the way to what is today Baja California, Mexico.

As domestic dependent nations, tribes are subject to federal laws but are not subject to local or state laws unless the U.S. Congress delegates implementation of federal law to the state or permits the imposition of state law upon tribal trust lands. From a governance perspective, tribal governments are considered a separate category of government from federal, state, and local governments. In addition to the standard governmental functions of regulating, taxing, and delivering services, tribal governments act to preserve and protect tribal culture and the tribal community, including determining tribal membership. Tribal governments also are responsible for the development, management, and operation of tribal economic enterprises. Most of the land within the boundaries of reservations is owned by the federal government and held in trust for the benefit of tribes and their members. Native American reservations comprise more than 127,000 acres in the San Diego region, making up approximately 4% of the region's land base.

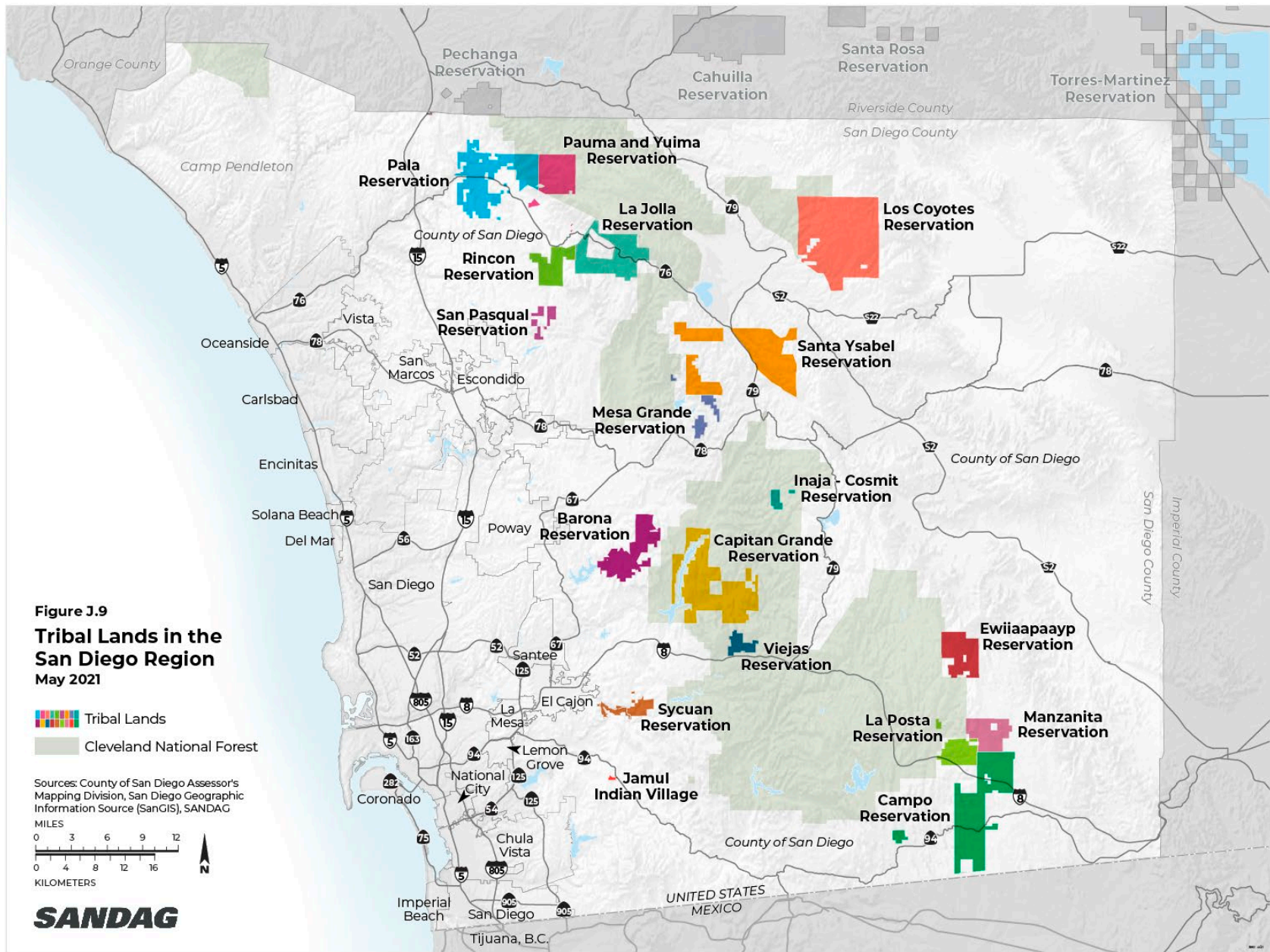
For almost 20 years, SANDAG and the Southern California Tribal Chairmen's Association (SCTCA)—as councils of government—have had a government-to-government framework to engage in a planning dialogue and action at the regional level. The success of this model demonstrates that by working collaboratively, public agencies and tribal governments can create a mechanism for timely, meaningful, and effective involvement in the regional and transportation planning process. An overarching element of the government-to-government framework is having periodic summits between the boards of directors of the two principal intergovernmental agencies: SCTCA and SANDAG. By bringing together these two councils of governments, the summits offer an opportunity for tribal and local elected officials from the region to engage in diplomatic dialogue, identify issues of mutual concern, and develop priority actions that can be carried out through the partnership framework (see Appendix I: Tribal Consultation Process: Communication, Cooperation, and Coordination).

¹² San Diego also has two California tribes who do not have federal recognition. Riverside County is home to 16 federally recognized tribal nations.

Tribal leaders have been part of the regional decision-making process at a policy level, offering a tribal perspective to complex regional issues since 2007. SCTCA representatives sit on the SANDAG Board of Directors and Policy Advisory Committees—including the Transportation Committee, Regional Planning Committee, Borders Committee, and Public Safety Committee—as advisory members. The other element of the government-to-government framework is a technical mechanism for pursuing collaborative action through the Interagency Technical Working Group on Tribal Transportation Issues (Working Group). The purpose of the Working Group is to serve as a forum for tribal governments in the San Diego region to discuss and coordinate transportation issues of mutual concern with the relevant public planning agencies, including SANDAG, Caltrans, the County of San Diego, and the transit operators. In partnership with the SCTCA, the Working Group monitors and provides input on the implementation of the strategies and planning activities related to transportation that were identified at the San Diego Regional Tribal Summit.

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Figure J.9: Tribal Lands in the San Diego Region



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Challenge

Federally recognized tribes face a dilemma for transportation planning and funding. Most tribal transportation funding comes through the Bureau of Indian Affairs (BIA) through a competitive process among all tribal nations in the country. The funding formula is based on population, road inventory, and average tribal shares. Small land-based tribes with small populations and few on-reservation roads do not compete well against larger tribes with extensive road inventories such as the Navajo Nation, which extends over three states. From 2005 to 2009, under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, the Indian Reservation Roads program funding formula was revised to allow tribes to include off-reservation transportation facilities critical to reservation ingress and egress as part of their tribal transportation system. This allowed tribes in the San Diego region to compete successfully for funds. However, the revised funding formula was removed with the 2012 passage of the Moving Ahead for Progress in the 21st Century Act, and the Fixing America's Surface Transportation Act, passed in 2015, maintains that change. As such, the region's tribes lack the resources needed to plan for their mobility needs and address problem areas in the region that most hinder their intraregional mobility.

In addition to limited resources, the process to plan for and implement transportation projects is complicated and involves many agencies and jurisdictions. At a federal level, tribes work with the BIA, the Tribal Transportation Program of the Federal Highway Administration, and, in more recent years, the Federal Transit Administration. In most cases, tribes in the region have worked on an individual basis, not as a group. However, many of the issues that impact their mobility and access to the regional transportation system are shared by several tribes along corridors. The federal government has no mechanism for looking at the regional needs of tribes. Each tribe submits a tribal Long-Range Transportation Plan to the BIA and updates its own road inventory, but there is no forum for looking at their collective concerns. At the state level, the tribes work with Caltrans through the Native American Liaison Branch, which has been highly successful in analyzing the needs of tribes on state transportation facilities. The state receives the Tribal Transportation Improvement Programs for inclusion in the State Transportation Improvement Program, but again, there is no forum for looking at their collective needs in a regional context.

Opportunity

As with all land use authorities, improvements in transportation infrastructure are key to improving the ability of each tribal nation to compete in a global economy and provide access to housing, jobs, education, healthcare, and entertainment for its citizens. To identify and serve the transportation needs of the tribal communities most effectively, these small, land-based tribes in the San Diego region sought out an opportunity to evaluate their mobility issues collectively in a regional context, determine collective priorities for further analysis, and create a collaborative strategy for pursuing the implementation of identified projects.

As a near-term action from San Diego Forward: The 2015 Regional Plan, tribal nations and other agencies that influence tribal transportation in the region developed an [Intraregional Tribal Transportation Strategy](#) (ITTS). In 2015, SANDAG and the SCTCA successfully competed for a Caltrans Strategic Partnership Planning Grant to support this effort. The funding allowed SANDAG and the SCTCA to work together with the County of San Diego, North County Transit District, Metropolitan Transit System, Caltrans, and the BIA to identify key multimodal transportation projects for improving tribal mobility while meeting regional, state, and federal goals.

The ITTS serves as a guide for addressing the transportation needs of tribal communities. A survey was conducted to determine the specific transportation needs for each tribal community to identify opportunities for partnerships and further coordination on funding opportunities. Approximately 126 transportation improvement projects were identified through the survey process. These projects include roadway and intersection improvements; safety improvements; and travel demand management, including transit, bicycle, and pedestrian improvements. To identify opportunities for coordination, projects were summarized by region, corridor, tribal nation, and project type. The project inventory was then mapped and entered into a database with information such as the project description and planning level cost estimate. The ITTS identified four key strategic objectives to guide future tribal transportation solutions: a) support partnerships/collaboration; b) coordinate collaborative planning; c) share data supporting tribal transportation; and d) create opportunities to fund priority tribal transportation projects and programs.

These strategic objectives provide a flexible structure for continued collaboration on tribal multimodal access to the regional system and create an effective framework for near-term and future efforts. The ITTS provides short-term and ongoing actions for the Working Group to consider as it moves forward in the transportation planning process. The recommendations of the ITTS were incorporated into the development of the 2021 Regional Plan. Regionally significant projects identified by the tribes in the ITTS project inventory were analyzed for inclusion in the network. Most of the projects that make up the Rural Corridor in the 2021 Regional Plan were identified in the ITTS as critical to tribal nations.

SANDAG and the SCTCA continue to coordinate based on a government-to-government framework and focus on implementation of strategies to address issues of significance to tribal nations, such as transportation, cultural resource management, environmental preservation, energy, and economic development. On July 1, 2020, the SCTCA and SANDAG signed a memorandum of understanding (MOU) to establish a coordinated effort to implement strategies borne out of government-to-government dialogues and regional planning efforts. In particular, the resources provided through the MOU will allow the SCTCA to advance the ITTS, building capacity to prioritize and pursue transportation projects of interest to tribal nations.

Military

Setting

The San Diego region has a rich history as a strategic hub for the military and is home to the largest concentration of military forces in the country. Installations located throughout the county include Marine Corps Air Station Miramar, Marine Corps Base Camp Pendleton, Marine Corps Recruit Depot San Diego, Naval Base Coronado Complex, Naval Base Point Loma, Naval Base San Diego, and U.S. Coast Guard Station San Diego. The military presence is an integral feature of the region, employing more than 150,000 personnel and generating significant positive economic impacts. The majority of the military facilities in the region are clustered in and around Downtown San Diego and along the region's coastline. Several factors, including housing availability and affordability, may cause military employees and supporting personnel to live far from these facilities, exacerbating long daily commutes. As personnel commute to concentrated military employment centers, the resulting congestion creates impacts for the regional and local transportation networks, including the streets and highways that provide access to military facilities. On-base housing is available, and basic housing allowances permit higher-ranking personnel and families to live within local communities. Off-base military housing is limited and scattered throughout the region. This dispersed housing results in longer commutes and fewer mobility options.

Challenge

Today, most military personnel and civilians accessing the region's military bases and the Port of San Diego drive alone, contributing to vehicular traffic congestion at key base and port access points. As the region's population growth continues, coupled with the military's rebalance to the Pacific, congestion is projected to worsen unless more sustainable transportation options are implemented. Traffic congestion at base and adjacent port access sites impact our national security, community livability, and climate change. High housing costs in our San Diego coastal communities, insufficient regional housing availability, and limited housing allowances create the need for military populations to live in communities located further from military bases, creating long commutes for this population. The SANDAG iCommute program coordinates with military leadership to incentivize alternative commutes to base; however, several factors make transitioning commutes more challenging, including parking availability, shifts that do not coincide with standard transit schedules, first-mile/last-mile challenges from gate to employment locations, transportation incentive program limitations, and differences in governing rules on base, such as helmet requirements. Additionally, security constraints at gates limit access for several on-demand rideshare options.

Opportunity

In collaboration with the San Diego Regional Military Working Group, SANDAG was awarded a Caltrans Strategic Partnership Planning Grant to fund the development of the San Diego regional **Military Multimodal Access Strategy** (MMAS) to identify multimodal transportation solutions facilitating access to military installations while reducing

greenhouse gas emissions. Bringing together the region's military installations, adjacent local jurisdictions, the Port of San Diego, Caltrans, the region's transit operators, and SANDAG, the MMAS helps plan regional transportation investments with supportive regional and local projects, operational improvements, and programs. The MMAS final report was completed in December 2019 and describes the process undertaken to assemble and prioritize a list of projects, operational improvements, and programs that could be implemented to address traffic congestion at key military base and port access points, providing travelers with alternatives to driving alone.

As a follow-up to the successful collaboration between SANDAG and our military installations in 2020, SANDAG was also awarded its first grant from the Department of Defense's Office of Local Defense Community Cooperation for San Diego Region Military Installation Resilience. This study will add a strong resiliency component to work underway on key transportation corridors in the San Diego region, develop business processes and protocols for data and information sharing between SANDAG and Navy Region Southwest, and support sustaining the Navy's mission readiness and resilience toward implementing the National Defense Strategy. In 2021, SANDAG was awarded a second phase of funding through the program and will continue to build upon the strategies and recommendations established in its first phase. Additionally, transportation recommendations that support military personnel and families traveling the region's priority corridors are being developed as part of the corridor planning efforts being carried out. SANDAG also collaborates directly with Military Community Planning Liaison Officers to identify challenges, opportunities, and priority projects that support mission readiness and the region's transportation priorities. Examples of these partnerships include collaboration on the Vesta Bridge Environmental Document, Harbor Drive 2.0 project, and Electric Mobility Living Lab at Marine Corps Air Station Miramar. SANDAG hopes to continue effectively collaborating with our military partners on regional initiatives that support sustaining mission readiness and implementing the National Defense Strategy.

Figure J.10: Military Installations in the San Diego Region

