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Approximately 7.3 million people live on both sides of the 150-mile international border in California and Baja California. The proximity between cities on both sides of the border has resulted in an interdependent relationship, including shared economic and environmental concerns, border infrastructure, and a linked transportation system.

In 2006, SANDAG and Caltrans conducted a study that showed how border delays lead to significant reductions in economic output and employment in the San Diego region. While this study has continued to be widely cited, SANDAG and Caltrans, along with the Imperial County Transportation Commission, recognized that much changed during the past decade and a new and more comprehensive study was needed to measure economic impacts and how emissions affect climate and air quality.<sup>1</sup> This new study began in 2016 and involved data collection at all seven California – Baja California land ports of entry (POEs).

With the recent publication of the three-volume final report, *Impacts of Border Delays at California – Baja California Land Ports of Entry*, this InfoBits publication describes the focus of this study, how it differs from the original effort, and highlights key findings and implications.



### Did you know?



An estimated \$3.40 billion in economic output and over 88,000 jobs were lost in the U.S. and Mexico in 2016 due to border delays.



Without additional POE enhancements, the estimated U.S. – Mexico economic loss will continue to grow to \$5.07 billion and more than 97,000 jobs by 2025. These losses could be fully mitigated with additional POE enhancements and the opening of the Otay Mesa East – Mesa de Otay II POE.



Carbon dioxide emissions related to border delays from all California – Baja California POEs are predicted to increase from 2016 to 2025, but would decrease in 2035 following planned POE improvements and phasing in of cleaner and more efficient vehicles.



<sup>1</sup> This study was separate from the Crossborder Travel Behavior Survey conducted in 2019 that was summarized in an earlier InfoBits report, *Crossborder Travel in the San Diego Region*. While both involved surveys, this later study took place only in San Diego County and was not focused on economic and emissions estimates.

<sup>2</sup> It should be noted this study was completed prior to COVID-19 travel restrictions and that data collection and key assumptions reflect the border environment under the previous trade agreement (NAFTA). In addition, while measures for San Diego and Imperial Counties, Baja California, the U.S., and Mexico are presented individually in the final report, the focus of this InfoBits report is on the impact on the U.S. – Mexico overall and San Diego County – Baja California.

## Study Overview

The purpose of this study was to use the most up-to-date information available, along with the most comprehensive and reasonable assumptions possible, to create a 2016 baseline of economic loss and emissions due to border delays. Compared to the 2006 study, this updated effort was different in that it:

- Involved a partnership between agencies in San Diego and Imperial Counties to measure impacts of delay for all POEs along the California-Baja California border
- Measured the impacts on climate and air pollution, economic output, and job loss
- Included measures of economic impact on emerging industry clusters, subregions, and value added

As Table 1 shows, a variety of data sources were used in these analyses to estimate the 2016 Base Year condition and create two 2025 scenarios<sup>3</sup> (2025 Baseline and 2025 Baseline +) and two 2035 scenarios<sup>4</sup> (2035 Baseline and 2035 Baseline +).

**The average border cross time during this study ranged from 43 minutes at Tecate to almost 80 minutes at San Ysidro (for northbound general purpose lanes).**

## Economic Impacts

The current study estimates the economic impacts on both sides of the U.S. – Mexico border and includes data from pedestrians, privately owned vehicles (POVs), and commercial vehicles. Three types of impacts were measured, including:

- Direct impacts: direct spending by businesses or agencies in the study area
- Indirect impacts: purchases by local firms that are suppliers to the directly affected businesses or agencies
- Induced impacts: the increase in economic activity over and above the direct and indirect effects associated with increased labor income of workers spent on household goods and services purchased from businesses within the study area

As Figures 1 and 2 show, in 2016, the economic output loss due to border delays for the U.S. and Mexico combined was \$3.40 billion and the loss specific to San Diego County and Baja California was \$1.96 billion. Additionally, more than 88,000 jobs were lost in both countries combined, including more than 48,000 in San Diego County and Baja California. If additional enhancements assumed in both the 2025 and 2025+ scenarios are made, there would be a reduction of almost \$1.8 billion in economic loss and more than 16,000 jobs saved.

TABLE 1

### Methodology Overview

- More than 11,000 surveys on border-crossing behavior
- More than 12,000 direct measurements of border-crossing times
- 20 interviews with local businesses on both sides of the border
- Incorporates latest travel demand modeling data
- Peer review with a binational group of experts

*In 2016, the California-Baja California border was crossed approximately 73 million times by people (individuals crossing as pedestrians, in personal vehicles, or buses), over 31 million times by personal vehicles, and over 1 million times by commercial vehicles (trucks), just in the northbound direction. About 70% of all individuals crossed through San Diego POEs, while 30% crossed through Imperial County. Of the more than 1 million truck crossings, the Otay Mesa, Calexico East, and Tecate POEs processed 70%, 26%, and 4% of the total, respectively.*

*Source: U.S. Department of Transportation, Bureau of Transportation Statistics*

<sup>3</sup> The 2025 Baseline scenario included certain planned improvements, such as continued improvements at San Ysidro and modernization of the cargo and pedestrian facilities at Otay Mesa. The 2025 Baseline + included these assumptions as well as the additional Otay Mesa East POE and future transit and bicycle/pedestrian access improvements at all POEs.

<sup>4</sup> The 2035 scenarios include those used in the 2025 Baseline + scenario and assumes that Otay Mesa East will either have a 5x5 (2035 Baseline) or 10x10 (2035 Baseline +) lane configuration (number of POV and commercial vehicle primary lanes assumed).

Additional findings from the economic analysis include:

- 70% of the economic output loss in San Diego County was related to delays in personal trips, and 30% was related to commercial vehicles
- 85% of the output and job loss experienced in San Diego County is in the retail employment sector, one of the employment sectors most impacted by the COVID-19 pandemic
- Machinery & Equipment and Food & Agriculture are the sectors most affected by commercial vehicle (freight) delay

### Greenhouse Gas Emissions

In California, the transportation sector is the largest contributor to greenhouse gas emissions (41% of statewide emissions). Climate and air quality impacts on both sides of the border were estimated for the emissions portion of the study. While five different criteria pollutants were included, the estimated carbon dioxide (CO<sub>2</sub>) emissions are discussed here. As Figure 3 shows, CO<sub>2</sub> emissions are projected to increase from 2016 levels in both of the 2025 scenarios, both in San Diego County and California – Baja California; however, the additional investments included in the 2025+ scenario (such as the opening of the Otay Mesa East POE) would mitigate some of additional emissions related to longer border wait times. Further reductions can be expected in 2035 with additional planned improvements at the POEs and the phasing in of cleaner, more efficient vehicles.

FIGURE 1

#### Economic Impacts to the U.S. and Mexico from Border Delays at All Ports of Entry

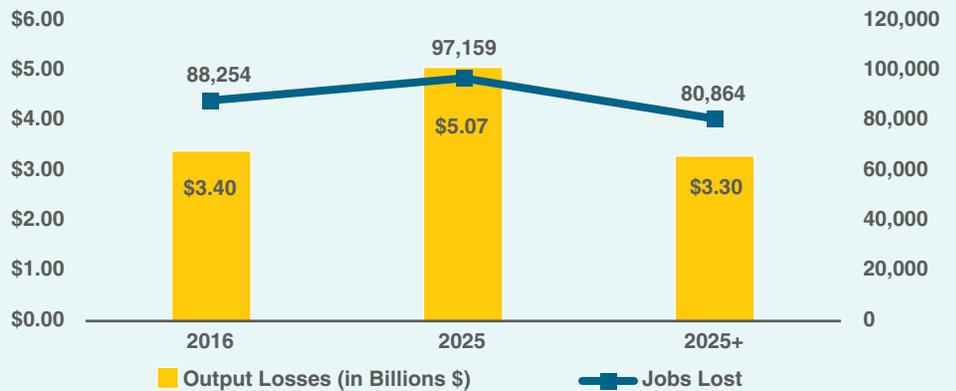


FIGURE 2

#### Economic Impacts to San Diego County and Baja California from Border Delays at San Diego County Ports of Entry

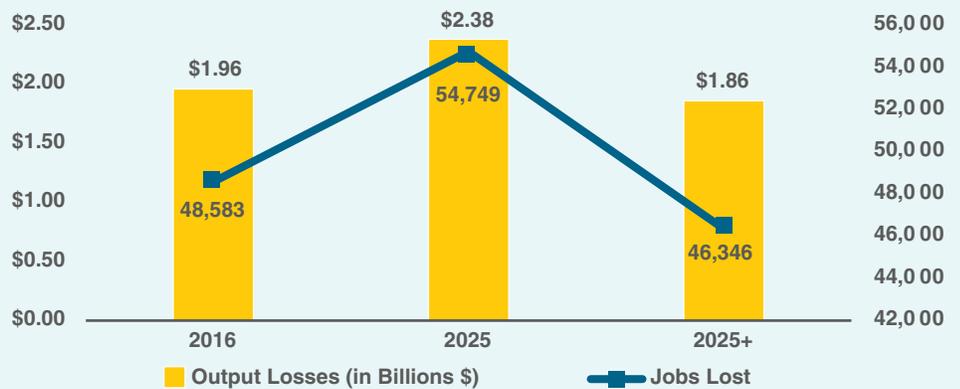


FIGURE 3

#### Estimated Daily Average CO<sub>2</sub> Emissions from Border Delays in San Diego County and California-Baja California (kg/day)



5 It should be noted that the analyses presented in the final report do not take into account a recent Governor's Executive Order (EO N-79-20) for the State of California that states that all sales of new passenger cars and trucks be zero emission by 2035 and that medium and heavy-duty vehicles be zero-emission by 2045. It is possible the rates presented here will be lower if this information was available when these analyses were conducted.

## Looking Forward

Our communities, economies, and quality of life across the U.S. – Mexico border are intrinsically connected. The data presented here show the significant impact of border delays to our economies and environment. As we look out to 2025 and 2035, we have the opportunity to work together collaboratively to reduce impacts due to border delays and ensure thriving economies and environments.

Recommendations from this study to reduce border crossing delays and economic and emission impacts include:

- Investment in POE infrastructure/physical capacity, including additional lanes and booths for motorized vehicles and pedestrians, including the new Otay Mesa East POE
- Improved operations, including a joint inspection facility, unified cargo processing, Southbound Electronic Commercial Clearance, interchangeable and reversible lanes, offering appointment times for truck crossers, extended hours of operation, and variable tolls at the new POE
- Improved access to POEs, including bike/pedestrian access improvements, enhanced transit services, advanced traffic management and traveler information systems, and zero/near-zero truck prioritization
- Corridor-wide improvements, including the Regional Border Management System (RBMS) and related components such as the Freight Advanced Traveler Information System, Integrated Corridor Management, and Active Traffic Management
- Support for binational planning processes for POEs and transportation infrastructure



### About info**bits**

SANDAG serves as the region's clearinghouse for information and data. InfoBits are short reports with relevant and timely information to provide context on complex issues facing the region.

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