



IMPACTS OF BORDER DELAYS AT CALIFORNIA-BAJA CALIFORNIA LAND PORTS OF ENTRY

FREQUENTLY ASKED QUESTIONS (FAQ)

BASICS

Q: What are the main components of the study and what do the results tell us?

A: The study estimates economic and climate/air quality emissions impacts due to delays experienced at the land Ports of Entry (POEs) along the California-Baja California international border. The base year of analysis is 2016 and forecasted impacts are estimated for 2025. An additional forecast year estimates future climate/air quality emissions impacts in the year 2035. Below is a high-level summary of the main analysis components and selection of key findings.

What it is...	What the data tells us...
Economic Impacts due to Border Delays	
<ul style="list-style-type: none"> • Total losses to Economic Output, Labor Income, and Employment (jobs) • Years: 2016, 2025 • Due to delays experienced northbound and southbound by <ul style="list-style-type: none"> ○ Personal trips (Pedestrians and Personal Vehicles) ○ Freight movements (Commercial trucks) • Estimates reported at the county level in the U.S. (San Diego and Imperial Counties), state level (California and Baja California), and national levels (U.S. and Mexico) 	<ul style="list-style-type: none"> • Base year (2016) delays experienced by pedestrians, passenger vehicles and commercial vehicles at the California-Baja California POEs represent substantial impacts to the combined U.S. and Mexican economies, including: <ul style="list-style-type: none"> ○ \$3.4 billion in output losses ○ \$1.0 billion in labor income losses ○ 88,000 jobs lost • By 2025, even with the completion of planned improvements (i.e., Phase 3 improvements at San Ysidro, Otay Mesa Modernization, Phase 1 improvements at Calexico West), these losses are projected to increase to: <ul style="list-style-type: none"> ○ \$5.1 billion in output losses ○ \$1.5 billion in labor income losses ○ 97,000 jobs lost • By 2025, when considering additional planned improvements (i.e., opening of the Otay Mesa East POE, Calexico East Bridge Widening, and enhancements to transit and active transportation), impacts are reduced to: <ul style="list-style-type: none"> ○ \$3.3 billion in output losses ○ \$0.9 billion in labor income losses ○ 81,000 jobs lost

What it is...	What the data tells us...
Climate/Air Quality Emissions Impacts due to Border Delays	
<ul style="list-style-type: none"> • Average daily emissions of CO₂, ROG, NO_x, PM₁₀, and PM_{2.5} reported on a per 1000 vehicle trip basis • Years: 2016, 2025, 2035 • Due to delays experienced northbound and southbound by <ul style="list-style-type: none"> ○ Personal Vehicle (POV) trips ○ Freight movements (Commercial truck trips) • Estimates reported by POE as well as county level aggregations (i.e., “San Diego Regional” total combines emissions for San Ysidro, Otay Mesa and Tecate POEs) 	<ul style="list-style-type: none"> • Planned improvements, in addition to the gradual phase in of cleaner, more efficient vehicles by 2025 and 2035 result in reduced average emissions resulting from delay. • By 2035 however, reductions for some pollutants at the busier POEs can be seen bottoming out. This suggests the need for additional improvements in vehicle technologies as well as capacity and operational enhancements at the POEs to maintain the downward trajectory of emissions past 2035. For example, wintertime carbon monoxide is anticipated to drop by 2,366 grams per day between the 2016 and 2025 scenarios, and then only by 750 grams per day between 2025 and 2035 scenarios.

Q: Does the study consider major events that have recently taken place (i.e., impacts of COVID-19, ratification of USMCA, other legislation)?

A: As noted above, the study was initiated in 2016, completed development of the methodology and major data collection efforts by 2017, and was updated in 2020 to reflect new data available from the SR 11/Otay Mesa East POE project. Although the study team acknowledges the impacts of COVID-19 and related travel restrictions, the ratification of the United States-Mexico-Canada Agreement, and anticipated benefits of Governor Newsom’s Executive Order (EO N-79-20) for the State of California, the current study estimates the economic and climate/air quality emissions impacts under a typical border crossing dynamic.

COMPARISON TO PREVIOUS STUDIES

Q: What are some key differences between the current study and the previous studies completed in 2006 and 2007?

A: In general, the previous studies reflect analysis conducted under a substantially different border dynamic and conditions. Below are some key differences, which also help explain why total economic impacts may be lower than those reported in previous studies:

1. 2008-2009 Great Recession and ripple effects on local & regional economies (e.g., lower employment levels and economic activity than had been forecast for those years and subsequent effects to years following the recession)
2. Lower crossing volumes compared to “peak” years immediately prior to Great Recession

- » Crossborder travel still recovering. Fewer affected crossers means less impact.
- 3. Possible change in profile of border travelers
 - » Elasticities (i.e., relative sensitivity to change) to wait times found to be lower than in previous studies, meaning travelers are less likely to forego trips/more likely to take the trip regardless of wait time, resulting in fewer lost expenditures.
- 4. Increased use of Technology and Trusted Traveler Programs
 - » Leads to reduction in average delays experienced by border crossers
- 5. Introduction of “baseline wait time” and “excess wait time” concept
 - » Accounts for time associated with required minimal CBP inspection, resulting in reduced measure of delay and lower adverse economic impact
- 6. Evolving market conditions
 - For example, economic rebounding after Great Recession, increased trade flows, and integrated supply chains with Mexico under NAFTA, etc.,
- 7. Investments in border infrastructure have improved travel times
 - » i.e., San Ysidro Reconfiguration and Expansion Project (GSA), introduction of dedicated Ready Lane, opening of Cross Border Xpress (CBX) facility, opening of San Ysidro Ped West facility, improvements at Calexico West, etc.,

Q. What else is new in this study compared to the 2006-2007 studies?

A: In addition to the key differences noted above, the current study:

- Incorporates the latest volume and wait time inputs from the SR 11 Binational Travel Demand Model (SR 11 BTDM).
- Uses updated 2016 Input-Output multipliers for the economic impact analysis and accounts for updated information on traveler’s sensitivity to wait times.

ECONOMIC IMPACTS AND METHODOLOGY

Q. What’s the breakdown of economic impacts of delays related to personal travel and freight movements?

A: Base year 2016 estimates indicate about 70% of the U.S. impacts are from delay in movements of people (pedestrian & private vehicle movements) and about 30% from delay in commercial vehicle movements (freight movements).

Q: Why is there such little job impact outside of the county level?

A: Most personal trips are very local in nature and thus are the accompanying impacts. Similar analysis done in the Texas region also found this to be the case. Northbound trips deeper into California and southbound trips deeper into Mexico typically have a higher tolerance to

changes in wait times since it has a smaller relative impact on the total trip time. Also, movements further into either country may involve modes not crossing the land border (e.g., air). Volume 2 also notes that the model assumes economic impacts incurred outside of California due to delays in personal trips are negligible.

Q: Why are freight impacts low/less significant outside of California?

A: Firstly, the reported impacts are relative to “excess” border delays (or wait time) and not the total impacts from freight flows. You’d see more significant impacts if analyzing total economic impact of freight movements. Secondly, as we are looking at impacts from border delays there would be different economic factors at play since the relative impact of delays crossing the border would have differing impacts to local drayage crossing commercial traffic as opposed to longer haul transshipped traffic (i.e., ports of Los Angeles/Long Beach and beyond). However, there still are substantial freight impacts from delays. For example, over a third of the baseline impacts are from freight. Also, there are also substantial freight impacts from delays in the U.S. outside of California (e.g., in the 2025 scenarios it is slightly less than half of the total impact).

Q: What does the estimation of economic impacts for the San Diego County [Major Statistical Areas](#) reveal for the various subregions?

A: The South Suburban MSA accounts for about two-thirds of the output losses in the base year. This sub-region consists of cities and unincorporated communities including: San Ysidro, Otay Mesa, western and eastern portions of Chula Vista, and Imperial Beach. The second greatest level of impact was felt in the Central MSA, which includes National City and large portions of the City of San Diego from Point Loma and Coronado to the west, as far south as State Route 54 (SR 54), as far east as Encanto and the College Area, and as far north as Interstate 8 (I-8). The third largest share of impact was in the North City MSA, which includes areas between Mission Bay and Del Mar to the west, Del Cerro and Poway to the east, and between Rancho Santa Fe and Rancho Bernardo and I-8 to the north and south. These three sub-regions account for about 16% and 11% of output losses, respectively. This is consistent across passenger vehicles, pedestrians, and commercial vehicles.

Q: What’s the impact of southbound border delays shown in the economic findings?

A: Base year 2016 average southbound delays range from about two to three minutes for passenger and commercial vehicles, respectively. Southbound delays increase to about 16 and 10 minutes respectively in the baseline 2025 scenario, but are reduced to 3 and 1 minutes, respectively in the baseline 2025 plus capacity enhancements scenario.

About 25% of output losses from POV delays are from southbound movements, while only about 3% of output losses due to pedestrian delay are from southbound movements. About 20% impacts related to freight are from southbound freight flows.

CLIMATE/AIR QUALITY EMISSIONS IMPACTS AND METHODOLOGY

Q: The northbound queues can sometimes back up for miles before the CBP inspection. Do the air quality/emissions estimates reflect just the queuing occurring at the POE facility?

A: Emissions for POVs reflect a 3-mile approach to the POE and transit through the CBP and Aduanas facilities, while emissions for commercial vehicles reflect a 5-mile approach to the POE and transit through the Aduanas, CBP, and CHP facilities. These 3-mile and 5-mile approach distances were selected to capture the queues approaching the POEs and the emissions estimates reflect vehicle queuing on the POE approaches.

Q: Does the study consider impacts of vehicle emissions from fuel bought in the US versus fuel bought in Mexico? If so, what's the source of the fuel sales data?

A: Yes, the study accounts for fuel purchased in Mexico for vehicles registered in Mexico and vehicles registered in the United States. The study also accounts for fuel purchased in the United States for vehicles registered in either Mexico or the United States. Characteristics for Mexican sourced fuel were derived from 2014 Alliance of Automobile Manufacturers Fuel Survey data for Tijuana and Mexicali, as cited in the Imperial County Air Pollution Control District report [Vehicle Idling Emissions Study at Calexico East and Calexico West Ports-of-Entry](#) (2015). Fuel sales data was based on intercept surveys conducted as part of this study.

Q: What's the contribution/impact of CO₂ emissions at the border to total CO₂ emissions for the San Diego region and for Imperial County? What is the change/improvement in GHG emissions for the various scenarios? (kg and percentage)

A: The CO₂ emissions generated by border delay at POEs between San Diego County and Baja California reflect about 1% of the CO₂ emissions from on-road motor vehicles in San Diego County. Similarly, the CO₂ emissions generated by border delay between Imperial County and Baja California reflect between 2% and 3% of the CO₂ emissions from on-road motor vehicles in Imperial County. Changes in CO₂ emissions between scenarios are relatively small ranging from 10 metric tons of CO₂ per day to 36 metric tons per day. These changes represent less than 0.1% of the San Diego County CO₂ emissions from on-road motor vehicles, and less than 0.01% of the Imperial County CO₂ emissions from on-road motor vehicles.

OTHER

Q: Did the study evaluate health impacts of pollution for border communities?

A: No. Health impacts are proportional to the duration of exposure and pollutant concentration. This study looked at total emissions but did not estimate the resulting ambient pollutant concentrations or population exposure. The mass of pollutants emitted is commonly used as a

surrogate for the potential health effects (i.e., health risk is generally proportional to the amount of pollution generated).

Q: I remember a presentation on this study at a meeting a few years ago. Why is the Final Report only being released now?

A: The study was initiated in 2016 and completed development of the methodology and major data collection efforts by 2017. Some of the initial analyses were based on modeling data developed as part of the SR 11/Otay Mesa East POE project (specifically forecasted crossing volumes and wait times). Draft analysis and study results were compiled in 2018 which reflected those earlier assumptions. An update to the SR 11/Otay Mesa East modeling data became available in April 2020 and was incorporated in the economic and emissions analyses. The source of the updated modeling data is the “Otay Mesa East-Mesa de Otay II Port of Entry Innovation Analysis, Concept Design, Modeling, and Traffic and Revenue Study” (referred to in the Final Report as the “Tier II Traffic and Revenue” model).