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Challenges and Opportunities in Cross-Border Transportation

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Introduction

The state of California and Baja California share a 140-mile international border and have fostered deep social, environmental, and economic connections. Since the signing of the North American Free Trade Agreement in 1994 and its successor, the United States Mexico Canada Agreement; Mexico has emerged as one of the most vital US partners and a leading investment destination for firms looking to access the North American market. According to a Brookings Institute report, both Mexico and Canada are key suppliers within critical supply chains for US industries resulting in more than \$1 million of goods and services traded per minute¹.

Economic integration and cross-border collaboration will continue to fuel rapid growth in the border region, which is currently home to approximately 7 million people. By 2040, the population is expected to expand by an additional 1.5 million, reaching 8.5 million residents². This rapid growth is expected to drive unprecedented demand for cross-border travel, placing further strain on Ports of Entry (POEs), the connecting roadways, and exacerbating existing challenges in the border region.

This policy brief examines key transportation challenges between Mexico and California that impede the efficient movement of people,

goods, and services. It highlights critical pain points such as disconnected transit systems, truck idling emissions at congested POEs, and regulatory misalignment that increase costs, pollution, and delays for businesses and commuters. Simultaneously, this brief identifies strategic opportunities for collaboration, including a clean freight corridor, harmonized electric vehicle (EV) policies, and establishing binational data sharing frameworks to enable long-term infrastructure planning. By addressing these issues, Mexico and California can aim to develop a model for sustainable cross-border transport, offering lessons for other regions facing similar integration challenges while advancing shared climate and economic goals.

Key Challenges and Opportunities

Mobility Gaps in Cross Border Transit

The US-Mexico border region suffers from a lack of an integrated mobility ecosystem, forcing thousands of daily commuters including workers, students, and travelers to navigate inefficient and poorly coordinated networks. In metropolitan areas like San Diego-Tijuana and Calexico-Mexicali, it is common for residents to cross the border daily or weekly but face significant barriers to reach their destination

¹ Negroponte, D. V. (2013, May 2). Obama's Mexico trip: Putting trade and investment at the top of the agenda. Brookings Institution. <https://www.brookings.edu/articles/obamas-mexico-trip-putting-trade-and-investment-at-the-top-of-the-agenda/>

² California Department of Transportation & Baja California Secretariat of Infrastructure, Urban Development, and Territorial Reorganization. (n.d.). California-Baja California Border Master Plan. <https://www.calibajabmp.org/>

due to disconnected bus routes, insufficient transit hubs near POEs, and long wait times between transfers³.

For example, while San Diego's Metropolitan Transit System operates the Trolley to the San Ysidro border crossing, passengers must walk across and rely on fragmented Mexican transit options, with no seamless transfers. Similarly, in

Calexico, public buses terminate at the border without direct connections to Mexicali's transit system, forcing pedestrians to cross on foot and find alternative transportation. This disconnect disproportionately impacts low-income workers who rely on affordable mobility options, exacerbating economic inefficiencies and reducing quality of life.

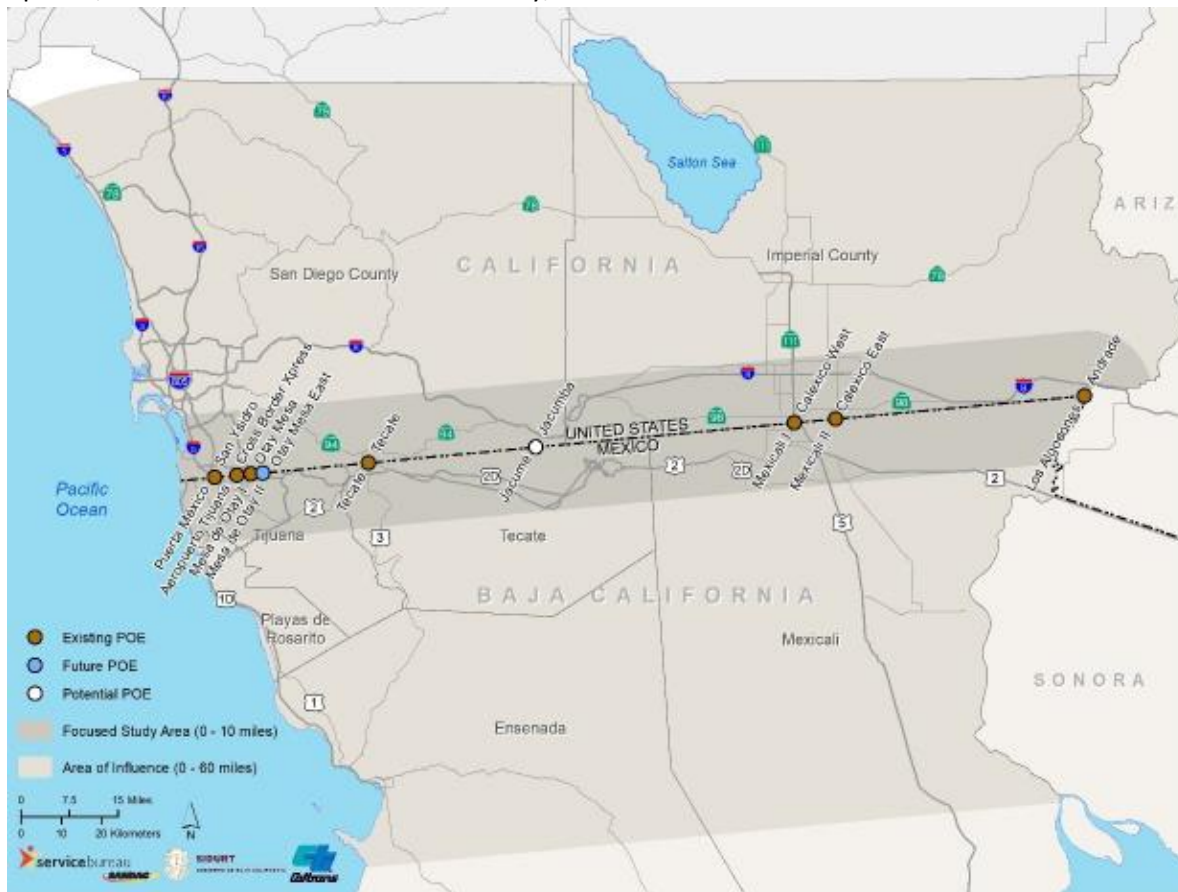


Figure 1: Current and Future Points of Entry. Credit to 2021 California-Baja California Border Master Plan

Opportunity

The California-Baja California Border Master Plan (BMP) is a binational initiative to design, coordinate, and propose transportation infrastructure projects with the purpose of improving cross-border mobility for people and goods. Fundamental to the development of the

BMP is the co-creation of these projects that included the participation of 40 agencies in Mexico and US. In the most recent iteration (2021), the BMP plan outlines 11 Innovative Strategic Objectives that are used as guiding principles for the desired outcomes of each of the proposed projects.

³ U.S. Department of Transportation, Office of the Secretary. (2023, August). Improving cross-border mobility and trade: A border transportation planning framework for the 21st century (Edition 1). https://www.transportation.gov/sites/dot.gov/files/2023-08/OSTX-Momentum-Toolkit-Border-Planning_August2023_0.pdf

Among the most promising strategies to achieve these objectives are the establishment of formal partnerships between U.S. and Mexican transit agencies to create seamless bus to rail connections which include synchronized schedules and potentially shared fare system. Additionally, the 2021 BMP outlines strategies for deploying zero-emission shuttles that operate between transit or employment hubs near the border. These services could be privately operated and would primarily serve pre-screened frequent travelers. Services like these could help alleviate congestion, mitigate air pollution, and improve connectivity to key destinations.

Another transformative opportunity lies in extending San Diego's Trolley network further into Tijuana or integrating it with Baja California's Bus Rapid Transit systems to form a unified transit corridor⁴. However, implementing these solutions will require robust binational coordination and political commitment to align investment and regulatory priorities among mobility providers. By advancing these connections, the border region can boost economic productivity, reduce emissions, and improve mobility for people that rely on cross-border transit daily.

Benefits

Closing the mobility divide in the US-Mexico border region offers transformative economic, environmental, and social rewards. Integrated transit systems, such as synchronized cross-border rail and bus networks, could save daily commuters travel time and unlock the regions' economic potential through enhanced workforce participation and reduced productivity losses. Furthermore, replacing

fragmented transit with zero-emission shuttles and coordinated routes could reduce vehicle miles traveled in the border areas, reducing congestion at POEs and in turn reducing CO2 emissions. Finally, seamless transit would improve accessibility to key life opportunities, such as employment and education, especially for thousands of low-income residents that rely on public modes of transport for their cross-border mobility needs.

Harmonizing Light-Duty Vehicle Targets

Differing emissions standards and zero emissions vehicle (ZEV) policies between California and Mexico have created fragmentation that affect cross-border markets and slowing widespread ZEV adoption. The California's Advanced Clean Cars II (ACC 2) regulation, which mandates that 100% of new light-duty vehicle (LDVs) sales be ZEVs by 2035, contrasts with Mexico's less stringent regulations and less binding ZEV targets for the country. This misalignment causes compliance burdens for automakers, limits consumer access to affordable ZEVs in border regions, and perpetuates reliance on internal combustion vehicles⁵.

Opportunity

Aligning ZEV mandates, emissions standards, and incentive structures across California and Mexico has the potential to create a cohesive market for clean vehicles. The development of a more cohesive ecosystem can help reduce costs for manufacturers, accelerate consumer adoption, and support the development of a binational used-EV market. Through these collaborative efforts the border region has the

⁴ San Diego Association of Governments. (n.d.). Advancing Border Connectivity. <https://www.sandag.org/projects-and-programs/borders-and-interregional-collaboration/binational/advancing-border-connectivity>

⁵ Pelaez-Fernandez, A. (2023, March 21). Mexico makes lots of electric cars, but few Mexicans drive them. Reuters. <https://www.reuters.com/business/autos-transportation/mexico-makes-lots-electric-cars-few-mexicans-drive-them-2023-03-21/>

potential to position itself as a model for equitable, cross-jurisdictional climate action.

Regulatory Harmonization

Adopting ZEV sales targets and tailpipe emissions standards, anchored to California's Advanced Clean Cars II (ACC 2) framework, would reduce compliance burdens for automakers and expand consumer access to affordable ZEVs. Currently, Mexico has an ambitious target to reach 100% ZEVs by 2040, however the absence of a robust policy framework will limit the country's ability to make meaningful strides towards that goal⁶. By institutionalizing key milestones supported by policy instruments that resemble the ACC 2 will generate consistency for manufacturers operating in both markets. Mutual recognition of vehicle certifications under the USMCA trade framework would further streamline cross-border sales by eliminating redundant testing and lowering costs for producers. Such an alignment would encourage automakers to prioritize ZEV production for both markets, with the goal of leveling the existing disparity in ZEV adoption rates.

Joint Incentives for EV Adoption

Funded by state agencies and managed by border region air districts, a binational discount and incentive program could accelerate ZEV uptake in border communities. Expanding existing air district discount and incentive programs, such as San Diego Gas & Electric discount⁷, to include Baja California residents that commute frequently to the US would lower upfront costs for new and used ZEVs. Pairing this with co-developed charging infrastructure leveraging California's National Electric Vehicle Infrastructure (NEVI) program and Mexico's *Red Nacional de Cargadores* would ensure reliable

fast-charging access along high-traffic corridors like Tijuana-San Diego and Mexicali-Calexico, and may also alleviate range anxiety for cross-border commuters.

Binational Used-EV Market

Structured standards for used-EVs exported from California to Mexico could unlock a sustainable, affordable secondary market. California's transition to ZEV is likely to generate a surplus of used EVs; establishing safety and emissions certifications would ensure quality, while providing low-cost personal mobility options for Mexican consumers. Cross-border financial partnerships, such as tax exemptions and low-interest loans, could further enhance accessibility to this market. Pilot programs in Baja California, modeled on California's Clean Cars 4 All initiative, could propel adoption of these vehicles by low- to middle-income households accelerating the transition away from internal combustion engines. By aligning these policies and markets, border regions can transform regulatory challenges into a blueprint for binational cooperation on clean mobility.

Benefits

Harmonizing LDV regulations across the US-Mexico border promises advantages for economic vitality, environmental sustainability, and public health. A unified regulatory framework could reduce automakers' compliance costs and propel lowering barriers to regional investment that foster cross-border manufacturing synergies. Simultaneously, aligning emissions standards would drive reductions in CO2 emissions from LDVs in border regions, advancing climate resilience in shared airsheds like San Diego-Tijuana.

⁶ Pineda, L. (2022, October 7). What's missing in Mexico's EV strategy? International Council on Clean Transportation. <https://theicct.org/whats-missing-mexicos-ev-strategy-oct22/>

⁷ San Diego Gas & Electric. (n.d.). Electric Vehicle Incentives. <https://ev.sdge.com/incentives>

Finally, a robust binational used-EV market could deploy more affordable electric vehicles on Mexican to meet 2040 targets, accelerating decarbonization efforts while extending California's clean mobility goals to reach low- and middle-income households. Collaborative action under the USMCA framework will ensure that these efforts benefit communities, industries, and ecosystems on both sides of the border and transform the region into a hub for clean transportation.

Environmental & Efficiency Concerns: Truck Idling at the Border

Long wait times at US-Mexico POEs, such as Otay Mesa and Calexico, contribute to excessive emissions as trucks idle for hours while awaiting inspection and processing. These delays not only hinder supply chain efficiency but also exacerbate air pollution, posing significant environmental and public health risks. Diesel exhaust contains harmful pollutants, including nitrogen oxides and particulate matter (PM_{2.5}), which are linked to respiratory diseases, disrupt cognitive development, and intensify climate change⁸. Consequently, border regions which are already burdened by high traffic volumes tend to experience worsening air quality, disproportionately affecting nearby communities.

Opportunity

To expedite processing and clearance for pre-approved, low-risk shipments agencies may seek to expand trusted trader programs such as Free and Secure Trade (FAST) and Customs-Trade Partnership Against Terrorism (C-TPAT).

By incentivizing more carriers to join these programs, border agencies can reduce delays and their associated emissions⁹. Additionally, investment in smart border technologies such as AI-driven queue management systems could optimize traffic flow, minimizing idle times. These systems would rely on real-time analytics to develop automated scheduling that could stagger truck arrivals, preventing further congestion.

Another critical opportunity is the electrification of drayage trucks operating in border zones. Transitioning to zero-emission trucks (ZET), coupled with expanded charging infrastructure near POEs, would drastically cut emissions. Pilot programs, like California's Hybrid and ZEV Truck and Bus Voucher Incentive Project¹⁰, demonstrate the feasibility of this shift. Additional state incentives could accelerate adoption, aligning with broader climate goals. By combining policy reforms, technological innovation, and sustainable transportation upgrades, border operations can become both more efficient and help mitigate poor environmental conditions experienced by communities on both sides of the border.

Benefits

Addressing truck idling at border crossings through integrated solutions offers transformative environmental, economic, and public health gains. Expanding trusted trader programs like FAST/C-TPAT and transitioning to zero-emission drayage trucks could slash harmful truck emissions mitigating the adverse conditions in some of the states most pollution-burdened regions. Concurrently, reducing idling

⁸ U.S. Environmental Protection Agency. (n.d.). Learn about impacts of diesel exhaust and the Diesel Emissions Reduction Act (DERA). <https://www.epa.gov/dera/learn-about-impacts-diesel-exhaust-and-diesel-emissions-reduction-act-dera>

⁹ U.S. Customs and Border Protection. (2024). CTPAT 2023 Impact Report. https://www.cbp.gov/sites/default/files/2024-06/ctpat_2023_impact_report_508.pdf

¹⁰ California Air Resources Board. (n.d.). Clean Truck & Bus Vouchers (HVIP). <https://ww2.arb.ca.gov/our-work/programs/clean-truck-bus-vouchers-hvip>

times would save billions¹¹ in labor and fuel costs while smart technologies could alleviate border processing expenses freeing capital for sustainable infrastructure investments.

Moreover, optimizing cross-border efficiency would bolster supply chain resilience, reducing delays and enhance the competitiveness of binational trade. Faster, predictable crossings would streamline manufacturing and agricultural exports, shielding industries from costly supply disruptions. By pairing emission reductions with economic and operational upgrades, these strategies not only mitigate environmental harm but also position border regions as models of sustainable and equitable movement of goods.

British Columbia to Baja California (BC to BC) Heavy-Duty Clean Freight Corridor

The Pacific trade route, spanning from British Columbia, Canada, to Baja California, Mexico, is a critical artery for North American commerce, with much of US-Mexico trade flowing through California border crossings alone¹². However, this corridor is heavily reliant on diesel powered trucks, which contribute disproportionately to GHG emissions and local air pollution. Diesel freight vehicles contribute significantly to transport-related nitrogen oxide emissions in border regions, exacerbating public health risks for nearby communities, and undermining climate goals across these jurisdictions.

Opportunity

To tackle this issue, Canada, Mexico, and the US have proposed a transformative British

Columbia to Baja California (BC-to-BC) Heavy-Duty Clean Freight Corridor. This corridor would be the 1,387-mile zero-emission freight route along the I-5 highway.¹³ Anchored by the ZEV-WISE Global Green Road Corridors Initiative, this corridor aims to decarbonize freight movement by deploying both hydrogen and ZET infrastructure, harmonizing HDV regulations, and aligning cross-border incentives. By connecting British Columbia, Washington, Oregon, California, and Baja California, this effort would serve as a blueprint for transnational cooperation for the decarbonization of freight.

Infrastructure Development Through Public-Private Partnerships

California's Clean Transportation Infrastructure Program has already identified priority locations for ZET charging hubs, offering a replicable model for Oregon, Washington, and Baja California. British Columbia's Medium- and HDV Charger Rebate Program further reinforces the infrastructure rollout. Meanwhile, Mexico's federal administration has designated Baja California as a strategic priority for electric mobility investment, creating opportunities for cross-border alignment.

Frameworks for collaborative infrastructure development already exist, including California's National Electric Vehicle Infrastructure (NEVI) Program and the U.S. Department of Transportation's binational working groups, which focus on charging and hydrogen refueling stations. However, accelerating deployment will require robust public-private partnerships to leverage private-sector innovation and nimble financing

¹¹ San Diego Association of Governments. (2021, February 1). Impacts of border delays at California–Baja California land ports of entry. <https://www.sandag.org/-/media/SANDAG/Documents/PDF/projects-and-programs/featured-projects/sr-11-otay-mesa-east-port-of-entry/impacts-of-border-delays-at-california-baja-california-land-ports-of-entry-2021-02-01.pdf>

¹² California Department of Transportation. (2023, July). California Freight Mobility Plan 2023. <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/cfmp/cfmp-july-2023-final-v1-a11y.pdf>

¹³ Drive to Zero. (2024, May). ZEVWISE Zero-Emission Freight Corridors Fact Sheet. <https://globaldrivetozero.org/publication/zevwise-ze-freight-corridors-fact-sheet/>

mechanisms. By combining public oversight with private efficiency, these partnerships can close critical infrastructure gaps while ensuring cost-effective solutions for cross-border clean transportation.

Harmonized Incentives for Clean Truck Adoption

The current patchwork of incentive programs across jurisdictions creates significant challenges for fleet operators transitioning to ZET. Harmonizing rebates, tax credits, and low-interest financing initiatives such as California's Hybrid and ZET and Bus Voucher Incentive Project (HVIP)¹⁴ and British Columbia's Clean BC Go Electric Program¹⁵ would lower adoption costs while distributing the financial burden more equitably. Additionally, cross-border reciprocal incentive agreements could enable Mexican carriers operating in California to access California's HVIP funds. This reciprocity would create a truly integrated North American market for clean freight vehicles, removing artificial barriers to decarbonization.

Leveraging the 2026 FIFA World Cup Momentum

The 2026 FIFA World Cup to be hosted across North America cities presents a unique opportunity to accelerate development of a BC-to-BC corridor while capturing global attention. California can lead a coalition of subnational governments (BC, Washington, Oregon, Baja CA) to position the corridor as a flagship climate initiative, unlocking private investment and federal funding¹⁶. This effort aligns with California's leadership in the Global

Memorandum of Understanding (MOU) on Zero-Emission Medium- and Heavy-Duty Vehicles, already endorsed by 38 countries and subnational entities¹⁷. By expanding the MOU to include Oregon, Washington, BC, and Baja California, the region can strengthen regulatory harmonization, streamline cross-border freight operations, and solidify its role as world leader in sustainable goods movement. The World Cup's platform offers an unparalleled chance to showcase tangible progress on ZET infrastructure, while attracting investors and policymakers committed to a clean transportation future.

Benefits

From a financial perspective, operators can expect savings due to lower fuel and maintenance costs over the lifespan of a ZET, while streamlined border processes and reduced idling times bolstered by FAST/C-TPAT expansion would enhance supply chain efficiency and regional trade competitiveness. By harmonizing incentives and infrastructure through initiatives like California's HVIP and British Columbia's Clean BC Go Electric, the corridor would accelerate decarbonization and position the region as a global leader in sustainable freight. Most importantly, by leveraging the global platform provided by the 2026 FIFA World Cup, this initiative could attract transnational investment and showcase scalable climate action, delivering cleaner air, and sustainable cross-border commerce.

¹⁴ California Air Resources Board. (n.d.). Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). Retrieved May 14, 2025, from <https://californiahvip.org/>

¹⁵ Government of British Columbia. (2025, April 30). CleanBC Go Electric Program. Retrieved May 14, 2025, from <https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/clean-transportation-policies-programs/clean-energy-vehicle-program>

¹⁶ Unpublished Internal Concept Note

¹⁷ Drive to Zero. (n.d.). Global Memorandum of Understanding on Zero-Emission Medium- and Heavy-Duty Vehicles. Retrieved May 14, 2025, from <https://globaldrivetozero.org/mou-nations/>

Improved Data Collection & Metrics for Long-Term Planning

Currently, there are major gaps in the collection of freight volumes, travel distances, and emissions data that is hindering effective long-term planning. Enhanced data collection, as outlined in California's Freight Mobility Plan, can inform infrastructure siting and establish harmonized metrics for measuring progress. Transnational research and data collection on existing border conditions are critical for setting a baseline understanding of needs and tackling future issues.

California's three major truck border crossings with Mexico—Otay Mesa, Calexico, and Tecate—manage approximately 4,000 trucks daily in each direction, almost entirely operated by Mexican-domiciled carriers¹⁸. However, critical data gaps persist, limiting the ability to optimize cross-border freight flows and assess environmental impacts. Border transportation planning processes should incorporate comprehensive data on infrastructure use, transportation network connectivity, driving patterns, and broader socio-economic factors. Governments should aim to collaborate with key stakeholders to gather essential information, including population dynamics, employment patterns, land use, environmental conditions, and supply chain performance. Institutionalizing data-sharing protocols through binational groups could ensure consistent metrics and coordinated infrastructure investments. By addressing these gaps, policymakers can better align long-term

planning efforts with economic, environmental, and mobility goals¹⁹.

Opportunity

Deploying advanced technologies, such as Internet of Things (IoT) sensors, next-generation license plate readers, and a binational data-sharing platform, can propel efficiency in freight analytics at the US-Mexico border. A University of California (UC) led multicampus initiative is already piloting innovative solutions to address critical data gaps, providing models for data-driven decision-making. These technologies enable real-time monitoring of freight volumes, vehicle emissions, and traffic patterns. By strengthening data collection and fostering cross-border collaboration, California can optimize infrastructure investments, accelerate emissions reductions, and ensure accurate and actionable insights while mitigating adverse environmental conditions for disadvantaged communities.

Advanced Dual-Plate Recognition Technology

One promising opportunity lies in the development of advanced dual-plate recognition technology. Researchers at UC Irvine and UC Riverside²⁰ are testing a cutting-edge license plate reader system at Otay Mesa and Calexico, integrating LiDAR and inductive loop sensors to accurately capture both plates on Mexican trucks. This enables precise identification of vehicle age, make, and model, all essential data for emissions modeling and fleet turnover strategies. Although the project is

¹⁸ Bureau of Transportation Statistics. (n.d.). TransBorder Freight Data. U.S. Department of Transportation. Retrieved May 14, 2025, from <https://data.bts.gov/stories/s/myhq-rm6q>

¹⁹ Center for Environmental Research & Technology. (2024, June 27). CE-CERT faculty meet with medium and heavy-duty zero emission vehicle stakeholders in Mexico. University of California, Riverside. <https://www.cert.ucr.edu/news/2024/06/27/ce-cert-faculty-meet-medium-and-heavy-duty-zero-emission-vehicle-stakeholders>

²⁰ University of California Institute of Transportation Studies. (2023). Analyzing cross-border truck activity to inform California's transition to zero-emission trucks. Retrieved May 14, 2025, from <https://ucits.org/projects/analyzing-cross-border-truck-activity-to-inform-californias-transition-to-zero-emission-trucks/>

constraint by technology challenges, resolving dual-plate ambiguities will allow regulatory agencies like CARB to understand the behavior and profile of Mexican- domiciled fleets, an estimated 30% of which are over 15 years old²¹. Data from this research can inform targeted incentive programs to accelerate the adoption of cleaner trucks operating in the border region.

GPS-Driven Activity Tracking

Another key opportunity involves GPS-driven activity tracking to better understand cross-border freight movements. Researchers at UC Riverside are leading a pilot program that recruits cross-border fleets to share anonymized GPS data, enabling analysis of trip distances, dwell times, and fuel consumption patterns. This granular data will clarify operational trends such as the prevalence of short-haul drayage versus long-hauls that extend to other border states, helping planners strategically site ZET infrastructure along high-traffic corridors like I-8 and I-15.

Binational Data-Sharing Platform

Developing a binational data-sharing platform would significantly enhance real-time decision-making by integrating IoT sensors at border crossings to track wait times, idling emissions, and freight volumes with greater precision²². This platform would be made accessible to government agencies, researchers, and industry stakeholders sharing real-time analytics and predictive insights, improving operational efficiency and environmental monitoring. By leveraging the environmental cooperation

framework under the USMCA, the two regions could establish standardized emissions reporting and infrastructure performance metrics, fostering long-term alignment between California and Mexico.

Benefits

The benefits of these advancements are substantial. Improved data analytics will enable targeted deployment of ZEV and ZET infrastructure, with GPS and freight movement data identifying priority locations for charging and hydrogen stations reducing range anxiety for drivers. Enhanced emissions tracking could help to reduce NOx exposure, especially in disadvantaged communities like Calexico and Otay Mesa through smarter fleet modernization incentives. Real-time monitoring of border wait times may reduce delays, reduce fuel and labor costs, and improve commercial efficiencies²³.

Most critically continuous air quality monitoring in frontline communities will ensure health and environmental equity remains a focal point. By capitalizing on these technological and collaborative opportunities, California can transform border freight operations into a more efficient, sustainable, and equitable system that contributes towards climate goals while supporting economic growth and protecting vulnerable communities.

²¹ The Climate Group. (2023). Accelerating the transition to zero-emission vehicles: A global overview. Retrieved May 14, 2025, from <https://www.theclimategroup.org/media/23721/download>

²² U.S. Department of Transportation, Office of the Secretary. (2023, August). Improving cross-border mobility and trade: A border transportation planning framework for the 21st century (Edition 1). Retrieved May 14, 2025, from https://www.transportation.gov/sites/dot.gov/files/2023-08/OSTX-Momentum-Toolkit-Border-Planning_August2023_0.pdf

²³ Brugués Rodríguez, A., Byrd, J., Fuentes Flores, N. A., Gaytan, D., Gibson, J., Hernández, C., Maldonado, M., Marczak, J., Mendoza Cota, J. E., Ransom, R., & Ulloa, I. (2022, September). The economic impact of a more efficient US-Mexico border: How reducing wait times at land ports of entry would promote commerce, resilience, and job creation. Atlantic Council. <https://www.atlanticcouncil.org/wp-content/uploads/2022/09/The-Economic-Impact-of-a-More-Efficient-US-Mexico-Border.pdf>

Policy Roadmap

Table 1 provides an overview of potential policy actions and components that can be implemented to tackle and optimize challenges and opportunities in the border region.

Conclusion

The US-Mexico border region stands at a pivotal moment; as trade between the two nations continues to grow, the strain on transportation infrastructure and the resulting environmental costs can no longer be ignored. This brief outlines several priority areas for collaboration and improvement including disconnected transit systems, ZEV regulatory misalignment, truck-idling emissions, clean freight corridor, and gaps in data collection.

These priorities are not just logistical hurdles; they represent missed economic opportunities and threaten public health, particularly for frontline communities already burdened by pollution.

Transformative improvements in these areas can yield substantial and far-reaching benefits. California and Mexico can unlock economic

growth and slash emissions, while making strides towards a cleaner environment by implementing solutions proposed such as seamless cross-border transit networks, harmonized ZEV policies, a "BC to BC" clean freight corridor, and advanced data-sharing systems. However, this vision demands bold leadership from all stakeholders, calling for federal agencies that provide critical resources, state agencies on both sides of the border that can work in partnership, the versatility of private-sector actors to fill in critical gaps, and the ingenuity of academic institutions to inform data-driven solutions.

In addition, the 2026 FIFA World Cup offers a near-term deadline to showcase progress, but the long-term imperative is undeniable. By acting now, California and Mexico can pioneer a model of sustainable, equitable border transportation that strengthens economic ties, protects vulnerable communities, and meets the climate goals both nations have pledged. The tools are at hand; what's needed is the collective and collaborative will to deploy them to develop a border region that responsibly serves the people, commerce, and the planet.

Table 1: Principle entities and their proposed roles

Timeframe	Policy Action	Key Components
Short-Term	1. Border Wait-Time Reduction Pilot Program	- Deploy sensors for real-time queue monitoring - Optimize staffing during peak hours - Test pre-clearance for zero-emission trucks
	2. Electric Drayage Truck Pilot	- Deploy 50 ZEV drayage trucks at Otay Mesa - Install temporary charging infrastructure - Offer carrier incentives
	3. Binational Transit Task Force	- Coordinate cross-border public transit routes - Standardize fare systems - Address pedestrian/bike bottlenecks
Medium-Term	4. "BC to BC" Clean Freight Corridor Plan	- Map charging/hydrogen stations from Baja to British Columbia - Harmonize truck size/weight regulations - Green lane incentives
	5. Light-Duty Vehicle Regulation Alignment	- Joint emissions standards working group - Smog check reciprocity - EV rebate portability
Long-Term	6. Binational Transportation Data Institute	- UC-led research hub with Mexican universities - Shared emissions/freight analytics platform - Predictive modeling for infrastructure
	7. Federal ZEV Border Infrastructure Fund	-Investments for coordinated charging/hydrogen station at POEs -Grid resilience investments -Workforce development and training programs