

BORDER TASK FORCE REPORT

PASO DEL NORTE REGION

July 2022

Prepared by Arrowhead Center and
the Center for Border Economic
Development at New Mexico State University

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Border Task Force Report

July 2022

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Foreword

With the advancement of near-shoring and friend-shoring, the vibrant binational region of El Paso, Texas, Ciudad Juárez, Chihuahua and Doña Ana County in southern New Mexico is poised to take advantage of these shifting supply chains and an increase of trade through the area. However, to be fully competitive and unleash the significant human and economic potential of the region, we must modernize our regional border infrastructure.

In February, U.S. Rep. Veronica Escobar (TX-16) and co-chairs Gov. Michelle Lujan Grisham of the State of New Mexico and Gov. María Eugenia Campos Galván of the State of Chihuahua, Mexico formed the Binational Infrastructure Task Force. This task force was established with the goal of engaging with public and private stakeholders from each region. The enclosed report is the direct result of these engagements and seeks to highlight the many different infrastructure priorities and opportunities throughout our communities while ensuring each stakeholder know what is on the horizon for our partners for more effective collaboration and success.

This report demonstrates that in order to bring the border region into the 21st century, there must be significant investments at the federal, state and local levels in addition to increased collaboration. There must also be vision. That means re-envisioning our land ports of entry so they can move commerce and people as quickly as our airports do, investing in sustainable transportation options that will connect our communities like cross-border light rail, and confronting and eliminating sub-standard conditions that exist in our colonias and other economically disadvantaged areas in border communities. Our report sets the stage for better communication between our stakeholders while allowing us to better understand how to achieve these goals and more.

We thank all those who worked on this report and those who contributed to its contents. This report is a momentous step forward for our communities, but it is just the first step. It is now on us to follow through on its contents, coordinate our efforts, continue the collaboration and make the investments needed to fulfill our vision.



U.S. Rep. Veronica Escobar
(TX-16)



Gov. María Eugenia Campos
Galván of the State of
Chihuahua, Mexico



Gov. Michelle Lujan Grisham
of the State of New Mexico



Prefacio

Con el avance del “near-shoring” y el “ally-shoring”, la vibrante región binacional de El Paso, Texas, Ciudad Juárez, Chihuahua y el condado de Doña Ana en el sur de Nuevo México está preparada para aprovechar estas cadenas de suministro cambiantes y un incremento del comercio a través de la zona. Sin embargo, para ser completamente competitivos y realizar el significativo potencial humano y económico de la región, debemos modernizar nuestra infraestructura fronteriza regional.

En febrero pasado, se formó el Grupo de Trabajo Binacional de Infraestructura, presidido por la Representante Federal de EUA Verónica Escobar (TX-16) y las copresidentas, Michelle Lujan Grisham, gobernadora del Estado de Nuevo México, EUA y María Eugenia Campos Galván gobernadora del Estado de Chihuahua, México. Este grupo de trabajo se estableció con el objetivo de involucrar a las partes interesadas públicas y privadas de cada región. El informe adjunto es el resultado directo de ello y busca resaltar las diferentes prioridades y oportunidades de infraestructura en nuestras comunidades mientras garantiza que cada parte interesada conozca lo que está en el horizonte para nuestros socios y para obtener una colaboración más efectiva y exitosa.

Este informe demuestra que para llevar a la región fronteriza al siglo XXI, debe haber inversiones sustanciales a nivel federal, estatal y local, además de una mayor colaboración. También debe haber visión. Eso significa volver a visualizar nuestros puertos de entrada terrestres para que puedan movilizar el comercio y a las personas tan rápidamente como lo hacen nuestros aeropuertos, invertir en opciones de transporte sostenible que conecten a nuestras comunidades, como el tranvía transfronterizo, y confrontar y eliminar las condiciones deficientes que existen en nuestros municipios, colonias y otras áreas económicamente desfavorecidas en las comunidades fronterizas. Nuestro informe establece la base para una mejor comunicación entre las partes interesadas mientras que nos permite comprender mejor cómo lograr estos objetivos y más.

Agradecemos a todos quienes trabajaron en este informe y a los que contribuyeron a su contenido. Este informe es un paso trascendental para nuestras comunidades, pero es solo el primer paso. Ahora depende de nosotros dar seguimiento a su contenido, coordinar nuestros esfuerzos, continuar la colaboración y realizar las inversiones necesarias para cumplir nuestra visión.



U.S. Rep. Veronica Escobar
(TX-16)



Mtra. María Eugenia Campos
Galván Gobernadora del
Estado de Chihuahua



Gov. Michelle Lujan Grisham
of the State of New Mexico



Executive Summary

The Paso del Norte region is truly unique: a tri-state, binational area spanning over 13,000 square miles where borders are blurred by people with common needs and goals. Southern New Mexico, west Texas, and northern Chihuahua, Mexico, face similar challenges and opportunities and can work together to create a region with more and better jobs and a higher quality of life for its residents.

Economic trends and political factors have aligned favorably for the region, leading many stakeholders to believe “*the time is now*” for the full realization of the region’s potential. The region has significant untapped possibilities for trade, travel, and economic development. Border infrastructure improvements are necessary to meet current needs and facilitate new growth.

To address the region’s opportunity, U.S. Rep. Veronica Escobar (TX-16), Gov. María Eugenia Campos Galván of the State of Chihuahua, Mexico, and Gov. Michelle Lujan Grisham of the State of New Mexico formed the Border Task Force to identify opportunities and propose solutions to longstanding border infrastructure challenges in the Paso del Norte region. The idea of a binational border effort for the area was discussed at a meeting with stakeholders convened by United States Ambassador Ken Salazar. At this meeting, it was determined that Representative Veronica Escobar would lead the task force with co-chairs Governor Lujan Grisham and Governor María Eugenia Campos Galván. The Border Task Force includes stakeholders drawn from government agencies, private businesses, NGOs, and the general public. The goal was to ensure that points of view from all three states and the two nations were included.

The New Mexico Economic Development Department, on behalf of the Border Task Force, contracted with Arrowhead Center (Arrowhead) and the Center for Border Economic Development (C-BED) at New Mexico State University (NMSU) to develop this comprehensive report to identify critical infrastructure and policy priorities for the region. These priorities include cross-border investments for land ports of entry, roads, electricity, economic development, housing, security, commercial and pedestrian transportation, water, and other infrastructure.

Paso del Norte Vision

To unite Mexico and the United States to create a world-class hub for global trade that celebrates the people, culture, and environment of the border region through dignified and efficient border crossings, cutting-edge infrastructure, and shared spaces for binational collaboration.



The purpose of this report is to present strategic initiatives from the Paso del Norte region to form an aligned strategy for developing regional capacities and competitive advantages. The vision identified for this region is to unite the U.S. and Mexico to create a world-class hub for global trade that celebrates the people, culture, and environment of the border region through dignified and efficient border crossings, cutting-edge infrastructure, and shared spaces for binational collaboration.

During the development of this report, input was gathered through individual and group meetings with stakeholders from the Paso del Norte region.¹ Additionally, Arrowhead and C-BED reviewed existing plans and studies on border infrastructure. These provided a broader understanding of the Paso del Norte region's history, the current situation and challenges, and promising visions for the future. Immediate regional needs are listed at the end of this executive summary.

'The Time is Now'

From border crossing improvements that enhance the binational community and reduce wait times to reshoring and nearshoring of far-flung supply chains, the Paso del Norte region has enormous potential. Viewed as a single region, diverse strengths can be leveraged to create a total package for new business locations and strategic supply chain investments.

"The time is now" theme emerged from stakeholder meetings and reflects economic and political factors that have aligned to unlock the region's potential. These factors are a combination of long- and short-term trends, as well as increased interest and engagement from U.S. and Mexican

¹ Stakeholders are listed in Appendix 2

Key Findings

- There is an immediate need for investment in infrastructure projects.
- All stakeholders are unanimously focused on building dignified and efficient border crossings.
- "The time is now" to act on unlocking the region's potential and become a "region of the future."
- U.S. and Mexican governments are engaged, each with plans for multibillion dollar investments on both sides of the border.



governments, each with plans for multibillion-dollar investments on both sides of the border.² This combination of interest, funding, and economic trends presents a truly once-in-a-generation opportunity to develop this binational region.

The COVID-19 pandemic demonstrated the risks inherent to long supply chains and international dependencies in the face of rising global tensions. This has refocused the industry from a lowest-cost mindset to one of resiliency; a shift from “just-in-time” to “just-in-case” has been pursued in many industries.³ U.S. policy views the reshoring of supply chains as a matter of national security for crucial industries such as electronics and pharmaceuticals.⁴ Nearshoring and reshoring present opportunities to maintain “just-in-time” advantages while limiting risk by consolidating supply chains in North America. New trade agreements and long-term trends support this shift, as well.⁵

The region offers intermodal transportation options to access major markets in the U.S. while benefiting from a geographically confined supply chain, lower labor costs and currency advantages.

Labor costs in China have been outpacing labor costs in Mexico for more than a decade.⁶ In manufacturing, the trend is even more pronounced.⁷ This trend can in part be explained by currency movements relative to the dollar in the Chinese Yuan and Mexican Peso. This relative movement in currency exchange rates benefits manufacturing in Mexico beyond labor costs. For U.S. companies with dollar-denominated budgets, it makes everything purchased in pesos relatively less expensive, including raw materials sourced in Mexico.

The region offers intermodal transportation options to access major markets in the U.S. while benefiting from a geographically confined supply chain. The Paso del Norte region also possesses unique advantages over competitors – Phoenix, AZ; Dallas, TX; Guadalajara, MX; and Monterrey, MX – for similar industries and business locations because the region is binational, sharing the benefits of each side of the border in a single region with substantial room for development. The

² (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022); (Averbach & Nacha, 2022); (Fact Sheet: Competitive Infrastructure Funding Opportunities for Local Governments, 2022)

³ (Balancing just-in-time with just-in-case: Profitable redundancy in supply chains, 2022)

⁴ (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022)

⁵ (Gantz, 2020)

⁶ (Advantages of Manufacturing in Mexico vs China, 2019)

⁷ (PwC, 2020)



San Jerónimo/Santa Teresa binational area – termed Los Santos – has the largest privately-owned landmass (70,000+ acres) in North America, located adjacent to a major metropolitan area.⁸

Combined, these factors make the Paso del Norte region a leading option for many aspects of the supply chain. The region is especially well-positioned in industries with international supply chain risks: pharmaceuticals (\$117 billion in U.S. imports in 2019, and a target industry for El Paso), medical devices (\$46 billion in U.S. imports in 2019, 20% from Mexico), automotive (\$300 billion in U.S. imports in 2019, 30% from Mexico) and electronics (\$314 billion in U.S. imports in 2019, 23% from Mexico).⁹ The substantial size of these industries demonstrates the magnitude of the opportunity in the Paso del Norte region. As regional infrastructure investments continue to make the region more competitive, more of the market share of these industries can be captured in the Paso del Norte region. Additionally, enhancing the ease of travel across borders and reimagining shared binational spaces would bring the Paso del Norte region communities closer together, unlock significant economic value, and encourage collaboration, innovation, commerce, tourism, and community-building.

To address key capacity issues and enhance regional competitiveness, Border Task Force stakeholders identified several immediate needs on both sides of the border, shown in Tables 1-3. These are projects and initiatives requiring immediate implementation that need additional funding. Stakeholders also mentioned several policy recommendations to allow for wider and flatter bridge crossings and an extension of the Section 301 Tariff exclusions that are important for regional competitiveness and new solar power installations.

⁸ (Why Los Santos, 2022)

⁹ (The Atlas of Economic Complexity, 2022)



Immediate Regional Needs

Stakeholders from the Paso del Norte region identified projects and initiatives as immediate regional needs. This designation was based on two criteria: (1) considered a top priority by stakeholders, and (2) not fully funded through existing channels. Costs were drawn from stakeholder meetings, the 2021 Texas-Mexico Border Master Plan, and the 2021 New Mexico-Chihuahua Border Master Plan.¹⁰ Due to price changes for required materials and construction activities, estimated costs may vary. Costs for economic development programs and projects in New Mexico and Texas were estimated at 1% of total costs. Projects in Chihuahua are grouped by Port of Entry (POE), and projects for New Mexico and Texas are grouped by category due to regional preferences. As the projects identified in these tables are unfunded (with the exception of two of the projects in Table 1), the specific source or responsibility for funding these projects is undetermined.

Funding and executing on high priority projects is necessary to catalyze regional growth.

Table 1: Immediate Border Infrastructure Needs, Chihuahua, Mexico

POE	Top Project Proposals	Amount (Millions of Pesos) ¹¹
Zaragoza/Ysleta	POE Modernization; Access routes to POE	TBD ¹²
San Jerónimo/ Santa Teresa	POE Modernization and Juárez rail bypass to Santa Teresa	\$1,600
	San Jerónimo Federal Highway 2	\$700
Córdova - Américas/ Bridge of the Americas	POE Modernization; Access routes to POE	TBD

¹⁰ (El Paso Stakeholder Meetings, 2022); (Mexico Stakeholder Meetings, 2022); (NM Stakeholder Meetings, 2022); (Texas-Mexico Border Master Transportation Plan, 2021); (New Mexico Department of Transportation, 2021)

¹¹ The amounts shown reflect funding by the Federal Government. At an exchange rate of 20 pesos/dollar, the figures translate to approximately US\$80 million (first amount) and US\$35 million (second amount).

¹² Due to the project development process used for infrastructure projects in Mexico, cost estimates are not available before feasibility studies are completed.



Table 2: Immediate Border Infrastructure Needs, New Mexico, U.S.A.

Category	Projects	Amount (USD)
Rail	Juarez Rail Bypass connections	\$500,000,000
Ports	Santa Teresa Port modernization, streamlined funding for POEs, pre-clearance program expansion	\$173,000,000
Regional Connectivity	Pete Domenici Highway grade separations	\$99,614,000
Air	Doña Ana Jetport improvements	\$68,500,000
Water	Water infrastructure upgrades in Santa Teresa	\$48,500,000
Economic Development	Binational infrastructure planning, expansion of marketing and recruitment efforts, Santa Teresa Master Plan, supplier development programs, workforce training initiatives	\$8,986,000
Total		\$898,600,000

Table 3: Immediate Border Infrastructure Needs, Texas, U.S.A.

Category	Projects	Amount (USD)
Regional Connectivity	Borderland Expressway, Downtown I-10	\$1,046,689,000
Ports	POE and Pedestrian Facility Improvements at Ysleta, Paso del Norte, Stanton Street, and Bridge of the Americas, including intelligent transportation systems, toll collection improvements, interoperability of electric toll collection, improved CBP facilities and additional primary inspection booths, safety improvements, covered walkways, dedicated bicycle lanes, improved pickup and drop-off locations, and improved access to POE.	\$868,251,000
Air/Rail	Presidio Rail Port of Entry improvements	\$33,000,000
Economic Development	Binational infrastructure planning, expansion of marketing and recruitment efforts, supplier development programs, workforce training initiatives	\$19,676,000
Total		\$1,967,616,000



Resumen Ejecutivo

La región Paso del Norte es verdaderamente única: un área binacional tri-estatal que abarca 33,670 kilómetros cuadrados, donde la frontera se desdibuja por personas con necesidades y objetivos comunes. Las comunidades del sur de Nuevo México, el oeste de Texas y el norte de Chihuahua, México, enfrentan desafíos y oportunidades similares y pueden trabajar juntas para crear una región con más y mejores empleos y una mejor calidad de vida para sus residentes.

Las tendencias económicas y los factores políticos se han alineado favorablemente para la región, lo que lleva a muchas partes interesadas a creer que *“este es el momento”* para la plena realización del potencial de la región. Existen importantes posibilidades sin explotar que incluyen el comercio, el turismo y el desarrollo económico.

Las mejoras en la infraestructura fronteriza son necesarias para satisfacer las necesidades actuales y facilitar un nuevo crecimiento.

Para abordar la oportunidad de la región, la Representante Federal de EUA Verónica Escobar (TX-16), la gobernadora María Eugenia Campos Galván del estado de Chihuahua, México, y la gobernadora Michelle Lujan Grisham del estado de Nuevo México, EUA, formaron el Grupo de Trabajo Binacional de Infraestructura para identificar oportunidades y proponer soluciones a los desafíos de infraestructura fronteriza que han caracterizado a la región Paso del Norte. La idea de un esfuerzo fronterizo binacional para el área surgió en una reunión con las partes interesadas convocada por el embajador de los Estados Unidos, Ken Salazar. En esta reunión se determinó que la Representante Verónica Escobar presidiría el grupo de trabajo y copresidirían la gobernadora Lujan Grisham y la gobernadora Campos Galván. El Grupo de Trabajo Binacional de Infraestructura incluye a partes interesadas de organismos gubernamentales, de empresas

Visión Paso del Norte

Unir a México y a los Estados Unidos para crear un centro de clase mundial para el comercio internacional que celebre a la gente, la cultura y el medio ambiente de la región fronteriza a través de cruces fronterizos dignos y eficientes, infraestructura de vanguardia y espacios compartidos para la colaboración binacional.



Resultados Clave

- Existe una necesidad inmediata de inversión en proyectos de infraestructura.
- Todas las partes interesadas están unánimemente enfocadas en construir cruces fronterizos dignos y eficientes.
- “Este es el momento” de actuar en liberar el potencial de la región para que se convierta en una “región del futuro”.
- Los gobiernos de Estados Unidos y México están comprometidos, cada uno con planes de inversiones multimillonarias en ambos lados de la frontera.

que celebre a la gente, la cultura y el medio ambiente de la región fronteriza a través de cruces fronterizos dignos y eficientes, infraestructura de vanguardia y espacios compartidos para la colaboración binacional.

privadas, de organismos no-gubernamentales y del público en general con el objetivo de abarcar los puntos de vista de los tres estados y las dos naciones.

El Departamento de Desarrollo Económico de Nuevo México, en nombre del Grupo de Trabajo Binacional de Infraestructura, contrató al Centro Arrowhead (Arrowhead) y al Centro para el Desarrollo Económico de la Frontera (C-BED) de la Universidad Estatal de Nuevo México (NMSU) para elaborar este informe con el propósito de identificar lo más crítico en infraestructura y las prioridades en materia de políticas para la región. Estas prioridades incluyen inversiones transfronterizas para puertos de entrada terrestres, carreteras, electricidad, desarrollo económico, vivienda, seguridad, transporte comercial y peatonal, agua y otras infraestructuras.

El propósito de este informe es presentar iniciativas estratégicas desde la región Paso del Norte para conformar una estrategia alineada hacia el desarrollo de capacidades regionales y ventajas competitivas. La visión identificada para esta región es unir a Estados Unidos y a México para crear un centro de clase mundial para el comercio internacional



Durante el desarrollo de este informe, se recopilaron aportes a través de reuniones individuales y de grupo con partes interesadas de la región Paso del Norte.¹³ Además, Arrowhead y C-BED revisaron los planes y estudios existentes sobre infraestructura fronteriza. Estos proporcionaron un entendimiento más amplio de la historia de la región, de la situación y los desafíos actuales, y de las visiones prometedoras para el futuro. Las necesidades inmediatas de la región se mencionan al final del resumen ejecutivo.

La región ofrece opciones de transporte intermodal para acceder a los principales mercados de Estados Unidos al mismo tiempo que se beneficia de una cadena de suministro geográficamente confinada y costos laborales más atractivos.

“Este es el momento”

Desde avances en los cruces fronterizos que mejoren la comunidad binacional y reduzcan los tiempos de espera, hasta la reubicación de cadenas de suministro a través del “reshoring” y “nearshoring”, la región Paso del Norte tiene un enorme potencial. Las diversas fortalezas que ofrece la región se pueden aprovechar en la atracción de nuevas empresas e inversiones estratégicas en la cadena de suministro.

El tema “*Este es el momento*” surgió de las reuniones con las partes interesadas y refleja los factores económicos y políticos que se han alineado para liberar el potencial de la región. Estos factores son una combinación de tendencias de corto y largo plazo y de un mayor interés y compromiso de los gobiernos de Estados Unidos y México, cada uno con planes de inversiones multimillonarias en ambos lados de la frontera.¹⁴ Esta combinación de interés, financiamiento y tendencias económicas presenta una oportunidad verdaderamente única que se da una sola vez en una generación para desarrollar esta región binacional.

La pandemia de COVID-19 demostró los riesgos inherentes a las largas cadenas de suministro y a las dependencias internacionales frente a las crecientes tensiones globales. Esto ha reenfocado a la industria de una mentalidad de bajo costo a una de resiliencia. En muchas industrias¹⁵ se ha buscado un cambio de “justo a tiempo” a “por si acaso”. La visión política de los Estados Unidos ve la reubicación de las cadenas de suministro como un asunto de seguridad nacional para

¹³ La lista de las partes interesadas que se consultaron se encuentra en el Apéndice 2.

¹⁴ (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022); (Averbach & Nacha, 2022); (Fact Sheet: Competitive Infrastructure Funding Opportunities for Local Governments, 2022)

¹⁵ (Balancing just-in-time with just-in-case: Profitable redundancy in supply chains, 2022)



industrias cruciales como la electrónica y la farmacéutica.¹⁶ “Nearshoring” y “reshoring” presentan oportunidades para mantener las ventajas de “justo a tiempo” y a la vez limitan el riesgo al consolidar las cadenas de suministro en América del Norte. Los nuevos acuerdos comerciales y las tendencias a largo plazo también respaldan este cambio.¹⁷

Es necesario financiar y ejecutar proyectos de alta prioridad para catalizar el crecimiento regional.

Los costos laborales en China han superado los costos laborales en México durante más de una década.¹⁸ En la industria manufacturera, la tendencia es aún más pronunciada.¹⁹ Esta tendencia puede explicarse en parte por movimientos en el tipo de cambio del dólar en relación al yuan chino y al peso mexicano, pues ha resultado en un beneficio para la manufactura en México más allá de los costos laborales. Para las empresas estadounidenses con presupuestos denominados en dólares, hace que todo lo comprado en pesos sea relativamente menos costoso, incluidas las materias primas obtenidas en México.

La región ofrece opciones de transporte intermodal para acceder a los mercados principales de Estados Unidos al mismo tiempo que se beneficia de una cadena de suministro geográficamente confinada. La región Paso del Norte también posee ventajas únicas sobre sus competidores--Phoenix, AZ; Dallas, TX; Guadalajara, MX; y Monterrey, MX--para la ubicación de empresas en industrias similares porque la región es binacional y ofrece, en un solo lugar con amplio margen de desarrollo, los beneficios que aporta cada lado de la frontera. La zona binacional de San Jerónimo/Santa Teresa, denominada Los Santos, abarca el territorio más grande de propiedad privada (más de 28,328 hectáreas) en América del Norte, ubicado enseguida de una importante zona metropolitana²⁰.

Combinados, estos factores hacen de la región Paso del Norte una excelente opción para muchos aspectos de la cadena de suministro. La región está especialmente bien posicionada en industrias con riesgos en la cadena de suministro internacional: productos farmacéuticos (117 mil millones de dólares en importaciones de EUA en 2019 y una industria objetivo para El Paso), instrumentos médicos (46 mil millones de dólares en importaciones de EUA en 2019, 20 por ciento proveniente de México), automotriz (300 mil millones de dólares en importaciones de EUA en 2019, 30 por

¹⁶ (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022)

¹⁷ (Gantz, 2020)

¹⁸ (Advantages of Manufacturing in Mexico vs China, 2019)

¹⁹ (PwC, 2020)

²⁰ (Why Los Santos, 2022)



ciento proveniente de México) y electrónica (314 mil millones de dólares en importaciones de EUA en 2019, 23 por ciento proveniente de México).²¹ El volumen sustancial de estas industrias demuestra la magnitud de la oportunidad para la región Paso del Norte. A medida que las inversiones en infraestructura regional aumenten la competitividad de la región, se podrá captar una mayor participación de mercado de estas industrias. Además, el facilitar el turismo transfronterizo y el reinventar los espacios binacionales compartidos, uniría a las comunidades de Paso del Norte, liberaría un enorme valor económico y alentaría la colaboración, la innovación, el comercio y la consolidación de la región.

Para abordar problemas clave de capacidad y mejorar la competitividad regional, las partes interesadas del Grupo de Trabajo Binacional de Infraestructura identificaron varias necesidades inmediatas en ambos lados de la frontera que se muestran en las Tablas 1 al 3. Estas son iniciativas y proyectos que requieren ejecución inmediata y que necesitan financiamiento adicional. Las partes interesadas también mencionaron varias recomendaciones de reformas como permitir cruces a través de puentes más anchos y planos y extender las exclusiones bajo el arancel de la Sección 301 que son importantes para la competitividad regional y las nuevas instalaciones de energía solar.

²¹ (The Atlas of Economic Complexity, 2022)



Necesidades Inmediatas de la Región

Las partes interesadas de la región Paso del Norte identificaron una serie de proyectos e iniciativas como necesidades regionales inmediatas. Esta designación se basó en dos criterios:

(1) El proyecto/iniciativa se considera de máxima prioridad por el conjunto de las partes interesadas y (2) el proyecto/iniciativa no cuenta con la totalidad del financiamiento requerido a través de los canales existentes. Los costos que se presentan se derivan de las reuniones que se llevaron a cabo con las partes interesadas, del Plan Maestro Fronterizo Texas-México 2021 y del Plan Maestro Fronterizo Nuevo México-Chihuahua 2021.²² Debido a cambios en los precios de los materiales requeridos y las actividades de construcción, los costos estimados pueden variar. Los costos de los programas de desarrollo económico en Nuevo México y Texas se calcularon al 1 por ciento de los costos totales. Los proyectos en Chihuahua están agrupados por puerto de entrada, y los proyectos para Nuevo México y Texas están agrupados por categoría debido a las preferencias regionales. Como los proyectos identificados en estas tablas no cuentan con financiamiento (a excepción de dos de los proyectos en la Tabla 1), la fuente específica o la responsabilidad de financiar estos proyectos no está determinada.

Tabla 1: Necesidades Inmediatas de Infraestructura Fronteriza, Chihuahua, México

Puerto de Entrada	Principales propuestas de proyectos	Cantidad (Millones de Pesos) ²³
Zaragoza/Ysleta	Modernización del puerto de entrada; vías de acceso al puerto de entrada	Por determinar ²⁴
San Jerónimo/ Santa Teresa	Modernización del puerto de entrada y libramiento ferroviario de Juárez a Santa Teresa	\$1,600
	Carretera federal San Jerónimo 2	\$700
Córdova - Américas/ Bridge of the Americas	Modernización del puerto de entrada; vías de acceso al puerto de entrada	Por determinar

²² (Reuniones de partes interesadas de El Paso, TX, 2022); (Reuniones de partes interesadas de México, 2022); (Reuniones de partes interesadas de NM, 2022); (Plan Maestro de Transporte Fronterizo Texas-México, 2021); (Departamento de Transporte de Nuevo México, 2021).

²³ Las cifras muestran el financiamiento por parte del Gobierno Federal. En dólares, equivalen aproximadamente a 80 millones de dólares (primera cantidad) y 35 millones de dólares (segunda cantidad) considerando un tipo de cambio de 20 pesos por dólar.

²⁴ Debido al proceso de desarrollo de proyectos que se aplica para proyectos de infraestructura en México, las estimaciones de costos no están disponibles antes de que se completen los estudios de factibilidad.



Tabla 2: Necesidades Inmediatas de Infraestructura Fronteriza, Nuevo México, Estados Unidos

Categoría	Proyectos	Cantidad (Dólares)
Ferrocarril	Conexiones del libramiento ferroviario de Juárez	\$500,000,000
Puertos de Entrada	Modernización del Puerto de Santa Teresa, financiamiento simplificado para puertos de entrada, ampliación del programa de autorización previa	\$173,000,000
Conectividad Regional	Desniveles en la autopista Pete Domenici	\$99,614,000
Aire	Mejoras en el Jetport de Doña Ana	\$68,500,000
Agua	Mejoras a la infraestructura de agua en Santa Teresa	\$48,500,000
Desarrollo Económico	Planificación de infraestructura binacional, ampliación de los esfuerzos de mercadotecnia y reclutamiento, Plan Maestro de Santa Teresa, programas de desarrollo de proveedores, iniciativas de capacitación de la fuerza laboral	\$8,986,000
Total		\$898,600,000

Tabla 3: Necesidades Inmediatas de Infraestructura Fronteriza, Texas, Estados Unidos

Categoría	Proyectos	Cantidad (Dólares)
Conectividad Regional	Borderland Expressway, Downtown I-10	\$1,046,689,000
Puertos de Entrada	Mejoras en los puertos de entrada y en las instalaciones peatonales en Ysleta, Paso del Norte, Stanton Street y Bridge of the Americas, incluyendo sistemas de transporte inteligente, mejoras en el cobro de peaje, interoperabilidad del cobro electrónico de peaje, mejoras en las instalaciones del CBP (Aduana y Protección Fronteriza) y cabinas de inspección primaria adicionales, mejoras de seguridad, vías peatonales techadas, carriles exclusivos para bicicletas, mejores lugares para recoger y dejar a peatones, mejor acceso a los puertos de entrada.	\$868,251,000
Aire/Ferrocarril	Mejoras en el puerto de entrada ferroviario de Presidio	\$33,000,000
Desarrollo Económico	Planificación de infraestructura binacional, ampliación de los esfuerzos de mercadotecnia y reclutamiento, programas de desarrollo de proveedores, iniciativas de capacitación de la fuerza laboral	\$19,676,000
Total		\$1,967,616,000



1. Introduction

Economic trends and political factors have aligned favorably for the Paso del Norte region, leading many stakeholders to believe “*the time is now*” for full realization of the region’s potential. The region has significant untapped possibilities for trade, travel, and economic development. Border infrastructure improvements are necessary to meet current needs and facilitate new growth.

Figure 1: Initial Border Task Force Meeting



To address the region’s opportunity, U.S. Rep. Veronica Escobar (TX-16), Gov. María Eugenia Campos Galván of the State of Chihuahua, Mexico, and Gov. Michelle Lujan Grisham of the State of New Mexico formed the Border Task Force to identify opportunities and propose solutions to longstanding border infrastructure challenges in the Paso del Norte region. The idea of a binational border effort for the area was discussed at a meeting with stakeholders convened by United States Ambassador Ken Salazar.²⁵ At this meeting, it was determined that the task force would be led by Representative Escobar with co-chairs Governor Lujan Grisham and Governor María Eugenia Campos Galván. The Border Task Force includes stakeholders drawn from government agencies, private businesses, NGOs, and the general public. The goal was to ensure that points of view from all three states and the two nations were included. The New Mexico Economic Development Department, on behalf of the Border Task Force, contracted with Arrowhead Center (Arrowhead) and the Center for Border Economic Development (C-BED) at New Mexico State University (NMSU) to develop this comprehensive report to identify critical infrastructure and policy priorities for the region. These priorities include cross-border investments for land ports of entry, roads, electricity, economic development, housing, security, commercial and pedestrian transportation, water, and other infrastructure.

The purpose of this report is to present strategic initiatives from the Paso del Norte region to form an aligned strategy for developing regional capacities and competitive advantages. The vision identified for this region is to unite the U.S. and Mexico to create a world-class hub for global trade that celebrates the people, culture, and environment of the border region through dignified and efficient border crossings, cutting-edge infrastructure, and shared spaces for binational collaboration.

²⁵ (Goytia, 2022)



2. Methodology

Stakeholder input was gathered through individual and group meetings in the Paso del Norte region. Additionally, Arrowhead and C-BED reviewed existing plans and studies on border infrastructure. Using a lens particularly focused on how equity, dignity, and inclusion are represented, the review provided an understanding of history in the Paso del Norte region, the current situation and challenges, and the promising visions for the future. During our research, we found that extensive work has been completed in the region; this report collates and builds upon the work presented in these reports.

This report is the culmination and collation of binational stakeholder meetings and input, regional assessments and reports, and first-hand research.

Further research was conducted to understand the broader context of how the ideas and initiatives provided by stakeholders can fit together into a cohesive and aligned strategy. The aim was also to quantify and articulate the opportunity for the Paso del Norte region by analyzing trade flows, supply chains, and economic trends.

Strategic initiatives identified in this report came from stakeholders in our meetings and interviews. All projects identified are listed in Table 7 of Appendix 1, including their respective priorities and geographic locations. In some cases, stakeholders held varying opinions on projects regarding importance, priority, and available funding. This is to be expected, as each stakeholder has different priorities and objectives. We attempted to reconcile this by providing priority rankings and timelines aligned with general stakeholder consensus. The projects with the most pressing immediate needs are listed in the Executive Summary. The two criteria for designation as an immediate regional need are those (1) being considered a top priority by stakeholders, and (2) not being fully funded through existing channels. Projects meeting these two criteria should be considered the key projects to allocate new support and funding.



3. Strategic Initiatives

Based on input from stakeholders, strategic initiatives were identified for eight areas: Physical Infrastructure, Supply Chain, Operations, Workforce, Marketing & Recruitment, Technology, Environmental Sustainability, and Policy (Figure 2).

Overlap between these categories is noted when appropriate in the subsequent sections. Overall, these initiatives represent key areas of the growing border infrastructure ecosystem. Each of the strategic initiatives is outlined in the following sections. All projects identified are listed in Table 7 of Appendix 1, along with their respective categories and geographic locations. The projects with the most pressing immediate needs are listed in the Executive Summary.

The Physical Infrastructure section is the most robust section, as this is the primary component of border infrastructure. Subsections on Physical Infrastructure for Chihuahua, Texas, and New Mexico are provided. The Supply Chain section details key factors supporting the competitiveness of the region and target industries and opportunities for Chihuahua, Texas, and New Mexico, with each of the three states having unique features that allow them to complement each other. Indeed, it is this complementarity that is the source of regional competitiveness. The remaining sections detail stakeholder recommendations for operations, technology, environmental sustainability, policy, and strategies for marketing the region and recruiting businesses and talent. All of these strategic initiatives should be seen as important areas for economic development in the Paso del Norte region.

Figure 2: Strategic Initiatives



3.1. Physical Infrastructure

Key physical infrastructure in the region includes border crossings, intermodal transportation options, and infrastructure to support industrial and binational community development on both sides of the international border, including the numerous colonias.²⁶ Tables 4 & 5 denote the current POE between Chihuahua, Mexico, and New Mexico and Texas. Projects often require multiple funding sources due to the size of the projects and various overlapping jurisdictions, even when the projects are exclusively on the U.S. or Mexico side of the border. Complexity is added if projects are cross-border initiatives. Subsections are divided into Chihuahua, Texas, and New Mexico, with cross-border initiatives denoted when applicable.

Table 4: Ports of Entry (POE) between Chihuahua, Mexico and Texas, U.S.A.

Region	Location	Port	Type
Texas/ Chihuahua	El Paso, TX Cd. Juárez, Chih.	Paso del Norte Bridge	Non-commercial traffic
	El Paso, TX Cd. Juárez, Chih.	Stanton Street Bridge/ Buen Vecino	Non-commercial traffic. Southbound: Passenger vehicles and pedestrian; Northbound: only one dedicated vehicle lane for SENTRI ²⁷ crossers
	El Paso, TX Cd. Juárez, Chih.	Bridge of the Americas/ Córdova-Américas	Commercial, passenger vehicle, and pedestrian
	El Paso, TX Cd. Juárez, Chih.	Ysleta/Zaragoza	Commercial, passenger vehicle, and pedestrian. Additional northbound dedicated vehicle lane for SENTRI crossers
	Fort Hancock, TX El Porvenir, Chih	Fort Hancock/El Porvenir	Non-commercial traffic
	Tornillo, TX Guadalupe, Chih.	Marcelino Serna/ Guadalupe	Passenger vehicle and pedestrian; commercial traffic pending
	Presidio, TX Ojinaga, Chih.	Presidio/Ojinaga	Commercial, passenger vehicle, and pedestrian

²⁶ Colonias are defined by HUD and USDA Rural Development as rural communities within the U.S.-Mexico border region that lack adequate water, sewer, or decent housing, or a combination of all three. (Colonias History, 2022).

²⁷ Secure Electronic Network for Travelers Rapid Inspection (SENTRI)—a U.S. Trusted Traveler Program that allows SENTRI pass holders the use of a dedicated northbound lane for more expeditious crossing given the pre-clearance status of SENTRI pass holders. More detail on this program is provided later in the report.



Table 5: Ports of Entry (POE) between Chihuahua, Mexico and New Mexico, U.S.A.

Region	Location	Port	Type
New Mexico/ Chihuahua	Antelope Wells, NM El Berrendo, Chih.	Antelope Wells/ El Berrendo	Non-commercial traffic; passenger vehicle and pedestrian
	Columbus, NM Puerto Palomas, Chih.	Columbus/ Palomas	Commercial, livestock, passenger vehicle, and pedestrian
	Santa Teresa, NM San Jerónimo, Chih.	Santa Teresa/ San Jerónimo	Commercial, livestock, passenger vehicle, and pedestrian

3.1.1. Chihuahua

In Chihuahua, Mexico, key projects include modernization of the San Jerónimo (POE), opposite to the Santa Teresa POE, which was recently announced as a presidential priority by President Lopez Obrador, and improvements to road and rail infrastructure leading to the border.²⁸ The San Jerónimo Federal Highway 2 was identified as needing expansion, redesign, and lighting over an 18 km section (see Figure 3). The new 5.24 km Anapra Bypass would connect Juárez and San Jerónimo (see Figure 4). The

Figure 3: San Jerónimo Federal Highway 2



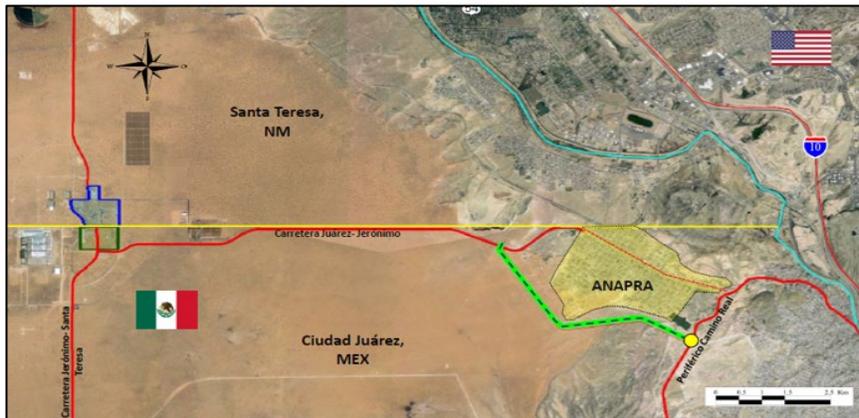
new 32.2 km Highway Bypass to the Guadalupe/Tornillo POE is currently in progress, to be completed in 2023. The Municipio of Juárez also plans to organize and improve access to the Zaragoza POE. Stakeholders also mentioned the importance of improving the Bridge of the Americas on both sides of the border.²⁹ Modernization of the rail station and tracks at the Ojinaga/Presidio crossing is currently in progress by Ferromex and is expected to be completed in 2022. There is new southbound bridge construction at the Ojinaga/Presidio POE, but the U.S.

²⁸ (Mexico Stakeholder Meetings, 2022)

²⁹ (Mexico Stakeholder Meetings, 2022)



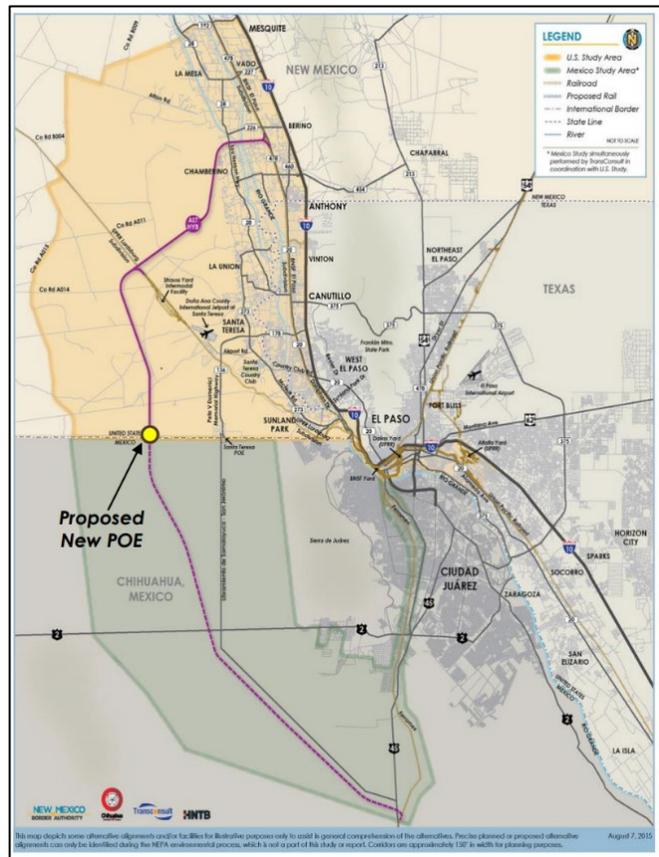
Figure 4: Anapra Bypass Improvement Proposal



side of the POE is currently unfinished. Stakeholders identified another new 3.5 km highway bypass project providing access to the Palomas-Columbus POE.³⁰ There is also a 1.8 km unfinished section of Mexican Federal Highway No. 2, leading to the El Berrendo/Antelope Wells POE.

Connectivity improvements to this area are important for shortening commute times, providing workforce access to the growing industrial base in San Jerónimo/Santa Teresa, and bringing the communities throughout the Paso del Norte region.

Figure 5: Rail Bypass Map



Another important initiative in Mexico is a rail bypass starting south of Juárez and heading northwest to Santa Teresa. This project has been discussed for more than a century but recently has become a long-term presidential priority for the Mexican federal government. The key benefits of this rail bypass would be reducing congestion in Juárez and El Paso by diverting rail traffic to Santa Teresa and providing safety advantages for transporting hazardous materials that should be transported outside of densely populated areas. On this front, however, while the Santa Teresa POE does meet the requirements for the crossing of hazardous materials, the San Jerónimo port on the Mexican side has yet to invest in

³⁰ (Mexico Stakeholder Meetings, 2022)



accommodating hazardous materials. Stakeholders indicate there have been discussions to add hazardous materials capabilities and wood and pallet inspection capabilities to the San Jerónimo port.³¹ This would allow for additional traffic that currently cannot pass through this port and will support the rail bypass project. It is anticipated additional inspection officers will be necessary at the San Jerónimo port to accommodate higher traffic flows. The rail bypass would require some rail infrastructure and processing to move from El Paso to Santa Teresa but may allow for some of the space currently housing rail infrastructure to be repurposed in a way that could support downtown El Paso (see Figure 5).³²

3.1.2. Texas

In the city of El Paso, TX, four existing bridges facilitate international border crossings. Improvements on at least two of these (Stanton Street Bridge and Ysleta-Zaragoza) are current priority projects. Rehabilitation and improvements at other bridges are also considered important, especially for improving amenities for all border crossing modalities (particularly pedestrians).

A key challenge at the El Paso-Juárez border crossings is reducing congestion. El Paso's ports of entry have the second-highest volume of personal vehicles and trucks along the U.S.-Mexico border, with 6.5 million crossings in 2021.³³ Given the high volume of traffic, improving efficiency at these crossings, as well as dignifying the crossing experience, is crucial to minimize wait times and address environmental impacts (e.g., emissions from idling

Figure 6: Traffic at the Bridge of the Americas



vehicles). The Texas-Mexico Border Transportation Master Plan estimates border delays to the movement of goods and people currently cost the regional economy \$1.3 billion in lost GDP (\$750 million in the U.S. and \$550 million in Mexico) and 35,000 jobs (7,000 jobs in the U.S. and 28,000 jobs in Mexico).³⁴ The impact of border delays is expected to skyrocket by 2050 unless significant

³¹ (Mexico Stakeholder Meetings, 2022)

³² (Santa Teresa International Rail Study, 2016)

³³ (U.S. Department of Transportation, 2021)

³⁴ (Texas-Mexico Border Master Transportation Plan, 2021)



infrastructure improvements are made. The study projects that without improvement by 2050, negative GDP impacts will be \$43.1 billion (\$29.1 million in the U.S. and \$14.0 billion in Mexico) and 1.2 million jobs lost (249,000 jobs in the U.S. and 904,000 jobs in Mexico).

Ideas for improvement of the border crossings include building wider, flatter crossings to accommodate greater traffic flows, transitioning from physical barriers to technology solutions, and implementing binational mass transit options (e.g., buses, trolleys, monorail). The Bridge of the Americas POE in south-central El Paso was recently allocated over \$600 million in funding from the Bipartisan Infrastructure Law (BIL) for port modernization and expansion.³⁵

In addition to port modernization improvement efforts for all POEs in El Paso, stakeholders mentioned the importance of improved roadways and access to POEs. For example, as a bypass is added to the Guadalupe/Tornillo POE in Mexico, corresponding access will need to be added in the U.S. through a new roadway connecting the Guadalupe-Tornillo POE to I-10.³⁶ Stakeholders also mentioned projects that reduce traffic congestion throughout the region, such as the Downtown 10 project and the Borderland Expressway. The Downtown 10 project proposes improvements to I-10 through downtown El Paso from Executive Center Boulevard to Loop 478 (Copia Street).³⁷ The purpose of the project is to provide long-term transportation solutions for the El Paso region, which will improve mobility and long-term congestion management, reduce and improve incident management, and bring the facility up to current design standards.³⁸ The Borderland Expressway provides an alternate route to I-10 around the northeast side of El Paso, which would be suitable for truck traffic and would divert through traffic from the city center.³⁹

Pedestrian crossers, as all border crossers, deserve to be treated with respect and dignity by having appropriate infrastructure facilities in place.⁴⁰ Stakeholders point towards the need for a more dignified

Figure 7: Pedestrians at Paso del Norte International Bridge



³⁵ (Ortiz, 2022)

³⁶ (El Paso Stakeholder Meetings, 2022)

³⁷ (El Paso Stakeholder Meetings, 2022); (Texas Department of Transportation, 2021)

³⁸ (Texas Department of Transportation, 2021)

³⁹ (Texas Department of Transportation, 2022)

⁴⁰ (El Paso Stakeholder Meetings, 2022)



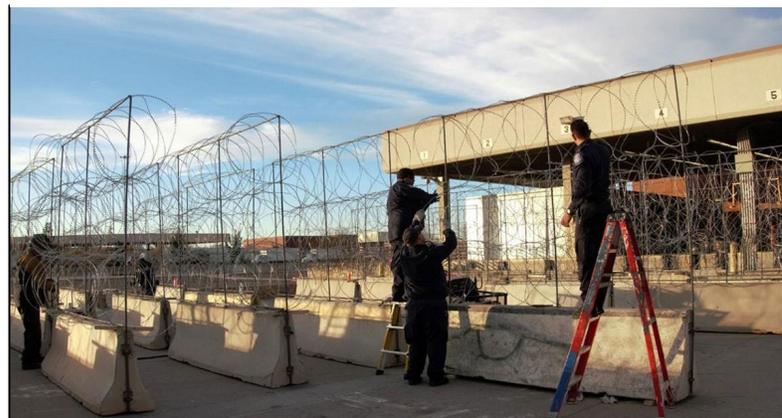
pedestrian crossing experience by hosting modern airport-style terminals on both sides of the border. Currently, northbound pedestrian crossers, who may face a long time standing in line waiting to cross into the U.S., have to do so while exposed to what can be harsh weather conditions and to pollution from cars nearby that are also waiting in line to cross (see Figure 7).⁴¹ Pick-up and drop-off locations need to be added and pedestrian crosswalks should be improved at intersections. These improvements would provide safer pedestrian facilities and dedicated areas for pedestrians to be picked up by friends and family and utilize ridesharing services and other transportation options. Stakeholders also mentioned pedestrian-level light fixtures, raised pedestrian crossings, marked crosswalks, median islands, pedestrian warning signs and signals, and traffic calming techniques.

Stakeholders agree that efficient two-way traffic and welcoming architecture on bridges are critical for both vehicles and pedestrians. Improved international bridge infrastructure could be a way to help two countries truly come together and connect via a bridge instead of serving as a symbol of what separates and divides one side from the other.⁴²

In line with this visionary view of U.S.-Mexico connectivity and unity at the border, stakeholders have proposed a type of multi-purpose “binational park/complex” to be built in a neutral zone between the two countries where families from both sides of the border can meet, binational business meetings and conferences can be held, and international sports competitions can take place.⁴³

Additionally, many stakeholders suggested removing concrete barriers, razor wire, bright spotlights, and other “barriers” from the top of the bridges. Stakeholders noted, “These have been in place since 2018, and they send a terrible message of disengagement and disrespect to local border crossers. On top of that, the barriers eliminate one or two lanes from the bridges, further impacting wait times in both directions.” Stakeholders believe “the reasons why these barriers were put in place no longer apply, and the longer we keep them,

Figure 8: Barriers at POE in El Paso



⁴¹ (El Paso Stakeholder Meetings, 2022)

⁴² (El Paso Stakeholder Meetings, 2022)

⁴³ (El Paso Stakeholder Meetings, 2022)



the bigger risk we run of leaving them permanently.”⁴⁴ Initially, the barriers were placed in preparation for migrant surges and caravans.⁴⁵ Stakeholders believe there are better options that use technology solutions to provide border security without aggressive means that limit available traffic lanes. This may require a policy or operational procedure change, but stakeholders believe it could be implemented immediately.

On southbound crossings, mechanical speed bumps were installed on the U.S. side that reduced the lanes' width. Since the size/width of these lanes were not designed with mechanical speed bumps (or barriers) in mind, this results in a significant traffic bottleneck. Given the volume of privately-owned vehicles on both sides of the border continues to grow, more vehicles and less lane space translate into increased waits, pollution, and time wasted.

Implementing some ideas presents more challenges than others, and some may require policy changes and binational support. For example, the U.S. height standard for bridges is based on the requirements for navigable waterways, as the Rio Grande is considered a navigable river. However, the Rio Grande is empty most of the year and does not have boat traffic; waiving the bridge height requirement appears reasonable and would allow for a wider, flatter border crossing that could accommodate more traffic.

Other ideas for mass transit have been around for the better part of the century (e.g., a monorail originally proposed in 1964) and, in some cases, have been widely used in the past before being phased out (e.g., binational trolleys).⁴⁶ Prior to 1881, ferries were the only way to cross the Rio Grande between El Paso and Juárez. In 1881, mule-drawn trolleys crossed the Stanton Street bridge, and in 1902 electric trolleys were introduced. Trolleys were used until 1973 when a labor dispute among bridge toll operators ended trolley operations.⁴⁷ Ideas for restarting trolley operations were considered but were ultimately abandoned in 1977 because a new border inspection station built in 1975 on the Stanton Street Bridge resulted in the loss of a portion of the tracks and the El Corredor revitalization project in downtown El Paso called for the removal of more track.⁴⁸ Given the binational requirements of border mass transit, implementation is challenging. Current inspection requirements do present challenges for mass transit options. However, the idea of mass transit retains its appeal because of the significant volume of cross-border traffic and nostalgia for the history and speed of these crossings.

⁴⁴ (El Paso Stakeholder Meetings, 2022)

⁴⁵ (Owens, 2022)

⁴⁶ (Taylor, 2020)

⁴⁷ (Long, 2018)

⁴⁸ (Taylor, 2020)



Stakeholders mentioned several ideas in the area of binational mass transit, including the Texas Freight Shuttle System and binational light rail. The Texas Freight Shuttle system would rapidly transport freight containers across the border through a system that could be integrated in existing bridge infrastructure.⁴⁹ The proposed system would be propelled by linear induction motors. Stakeholders also mentioned a binational light rail concept⁵⁰ for passenger travel – a binational monorail route – which builds on historical monorail concepts and would run alongside the existing Paso del Norte Bridge and include airport-style terminals in El Paso and Juárez.⁵¹

The Marcelino Serna POE (formerly the Tornillo POE) is a newly constructed 117-acre port that was completed in 2016 and replaced the legacy Fabens POE, connecting Tornillo, TX and Guadalupe, Chihuahua.⁵² The \$136 million investment between the federal government and El Paso County resulted in the largest inland POE in the United States, which included a significant investment in modern security and screening technologies for federal and state agencies.⁵³ The facility has not accepted commercial traffic since late 2017 due to limited staffing resources and low demand at the facility.⁵⁴ As a result, the port remains a highly underutilized component of the regional POE network. As the regional partners have continued to evaluate options on increasing demand of the facility, construction of the Juarez Relief Route Bypass began in late 2021 and would provide a highway spur from Southern Juarez directly to Guadalupe.⁵⁵ Stakeholders mentioned that while construction of the highway infrastructure is underway, an economic and logistics analysis should be conducted to identify which industries or local companies might be better served at this facility, thereby enhancing the efficiency of the overall network.

3.1.3. New Mexico

Santa Teresa is the fastest growing border area in New Mexico. Trade facilitated by the Santa Teresa/San Jerónimo POE grew at a compound annual rate of 5.8% per year over the 2010-2020

⁴⁹ (El Paso Stakeholder Meetings, 2022)

⁵⁰ This project is known as the “Svarzbein-Aburto Bi-National Monorail Route for Symbiotic Economic Prosperity & Cross-Cultural Harmonious Friendship”

⁵¹ (El Paso Stakeholder Meetings, 2022)

⁵² (U.S. Customs and Border Protection, 2017)

⁵³ (El Paso Stakeholder Meetings, 2022)

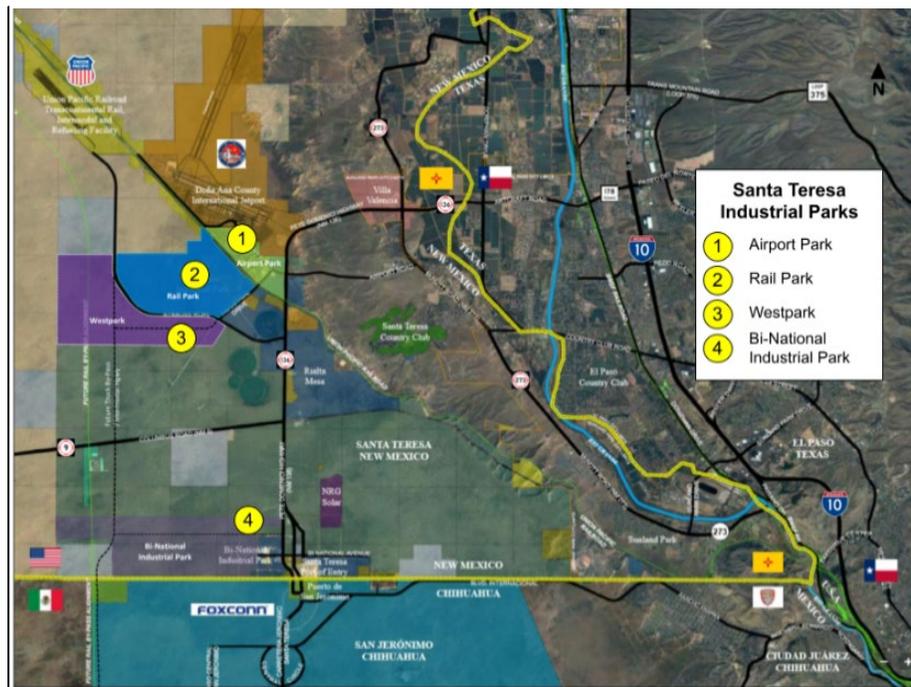
⁵⁴ (Flores, 2017)

⁵⁵ (Mexico Stakeholder Meetings, 2022)



period.⁵⁶ The port currently ranks as the sixth largest U.S.-Mexico border land port in terms of international merchandise trade flows.⁵⁷ The Santa Teresa/San Jerónimo POE offers faster crossing times than El Paso, reduced congestion on both sides of the border, and ample space for new development. It is also the largest cattle crossing on the

Figure 9: Map of Santa Teresa Industrial Parks



southern border, with the capacity to process 5,000 head of cattle per day.⁵⁸ As a result, Santa Teresa is a key area to add value to freight passing through the region. Several industrial parks have been established in the area to support this opportunity (see Figure 9).

An important area of opportunity for the Santa Teresa area is in the crossing of hazardous materials (hazmat). Yet, while the Santa Teresa POE is hazmat capable, the San Jerónimo POE is not. This translates into a missed opportunity for the crossing of hazardous materials. Stakeholders pointed to Mexican authorities' recent interest in making San Jerónimo hazmat capable.⁵⁹ Yet another area requiring Mexican support is in the crossing of products such as wood and pallets. These products require inspections from Mexican agencies such as Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (SAGARPA) and Procuraduría Federal de Protección al Ambiente (PROFEPA). Inspectors from these agencies are not permanently stationed at the San Jerónimo port and are present only by appointment. This

⁵⁶ (Winingham, Vargas, & Erickson, 2021)

⁵⁷ (Robinson-Avila, 2021)

⁵⁸ (NMBA, 2021)

⁵⁹ (NM Stakeholder Meetings, 2022)



The Smartest Port

The modernization of the Santa Teresa Port of Entry is a priority for New Mexico. Stakeholders have a shared vision of creating “the smartest port on the border” through harmonizing policy, protocol, and technology.

discourages some companies from crossing through the Santa Teresa/San Jerónimo POE that otherwise would.⁶⁰

Important short-term challenges in Santa Teresa include addressing capacity bottlenecks that can potentially constrain growth. Santa Teresa’s water infrastructure must be addressed immediately to ensure continued growth and development. Stakeholders provided estimates for the necessary water infrastructure upgrades, including water lines (\$20 million), water tanks (\$28 million), treatment plants (\$5 million), and water meters (\$750,000), totaling \$53.75 million. The New Mexico Border

Authority (NMBA) and Camino Real Regional Utility Authority have secured \$4.5 million to construct a 1,000,000-gallon elevated water storage tank in the Santa Teresa Industrial Park, and additional upgrades are being planned.⁶¹

In a development subsequent to our Stakeholder Meetings, it was announced that New Mexico will receive and administer over \$80 million in water infrastructure funding related to the BIL.⁶² This includes approximately \$35 million in water infrastructure below-market-rate loans and subsidies (grants) administered by the New Mexico Environmental Department for projects related to a water nexus (e.g., green energy, stormwater management, wastewater reuse, sanitary water piping and treatment, and other uses). The funding may be able to address Santa Teresa’s water infrastructure needs and incorporate sustainable design practices.

Connectivity in Santa Teresa is key to leveraging the regional strengths and workforces in El Paso, Las Cruces, and Chihuahua. This connectivity could be a solution to many of Santa Teresa’s workforce needs by reducing commute times. Several intersections need grade-separated interchanges to speed traffic flow: Strauss Road, Airport Road, and McNutt Road in New Mexico, and Westside Drive, and Upper Valley Road in Texas (see Figure 10). Upgrades are needed to connect Santa Teresa to I-10 (St. Francis Extension/Border Connector, see Figure 11).

⁶⁰ According to Jerry Pacheco of the Border Industrial Association, this has been a “chicken and the egg” situation where Mexican authorities claim there is not enough traffic to justify the expense of permanent inspectors at the port, yet more inspectors at the port would likely increase traffic.

⁶¹ (NMBA, 2021)

⁶² (The White House, 2022); (H.R.3684 - Infrastructure Investment and Jobs Act, 2021); (D’Ammassa, 2022)



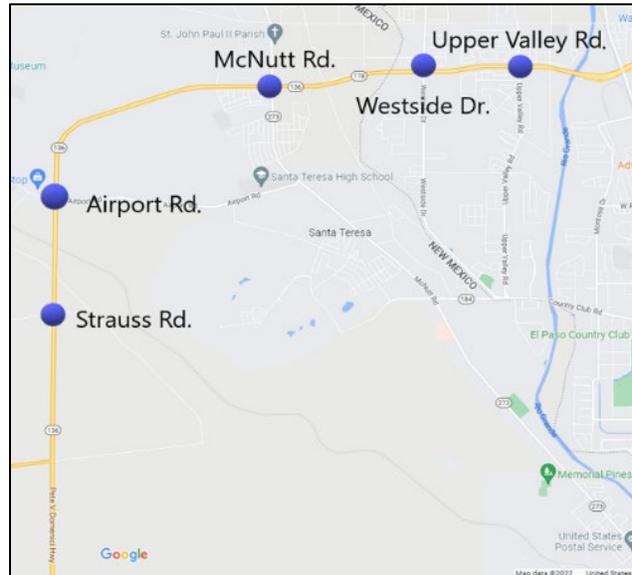
The Santa Teresa Port is due for modernization. Little change has been made since it opened in 1993, and traffic growth now requires improvements to port infrastructure. An amount of \$500,000 has been secured by the NMBA for a feasibility study, and the total modernization effort is expected to cost \$170 million.⁶³ The port will operate based on this modernization for many decades, so a clear vision of what the region will become over the long term is necessary to maximize the port's effectiveness. Stakeholders agreed building "the smartest port on the border" was an appropriate vision. Harmonizing policy, protocol, and technology to allow for progress and improvement appears to be a key task regarding border infrastructure.

This is discussed in further detail in later sections, but these factors need to be specifically considered during the modernization of the Santa Teresa POE because it will give the port flexibility to improve operations as needs and technological capabilities evolve. Before modernization, it is important to make the fast-track lane operational again with a pre-clearance program, but this will require more staffing. A few options exist for pre-clearance, pre-inspection, and faster processing and are discussed further in the Operations section.

In general, more regular updates of workload staffing models, which are reviewed only on an annual basis, need to be adopted. More frequent updates would capture the need for more staffing, given the continuous increase in overall traffic. Assigning specific mission support staff was also suggested as a way to separate office work and field work task roles and simplify job scopes.⁶⁴

The Doña Ana Jetport provides unique capabilities to the region and offers an option for freight that avoids the congestion in El Paso while providing immediate access to industry and intermodal transportation options in Santa Teresa. Stakeholders outlined proposed improvements that will allow heavy cargo freight to directly access the region and provide additional logistics capabilities for the area. Short-term upgrades propose improvements to enhance the main runway to allow for 737 traffic (175,000 lbs.) and are expected to cost \$11 million

Figure 10: Intersections in Santa Teresa Needing Grade Separations



⁶³ (NMBA, 2021)

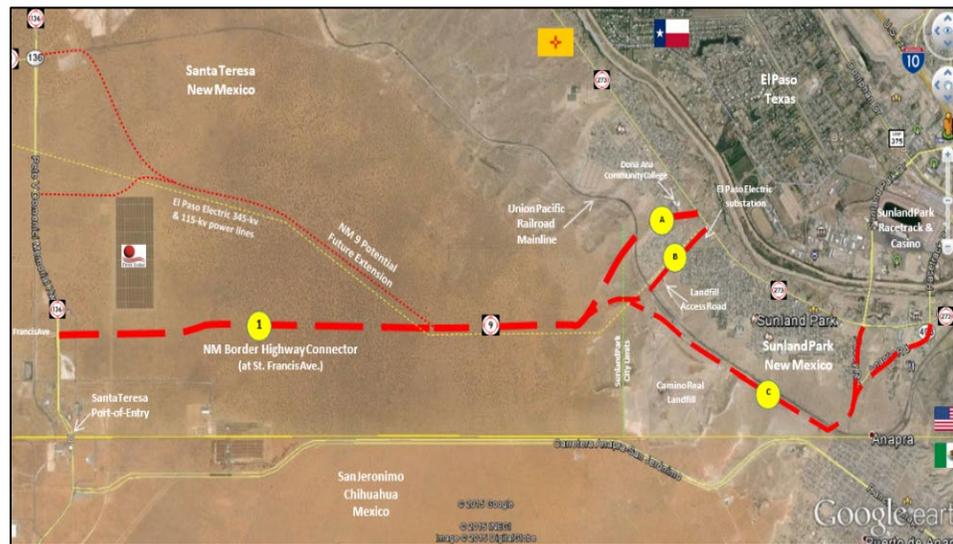
⁶⁴ (NM Stakeholder Meetings, 2022)



over a 1 to 2-year time frame. This upgrade will allow for a future \$72.2 million private investment to support cargo handling facilities and additional infrastructure.⁶⁵

Longer-term Jetport plans propose major upgrades to the crosswind

Figure 11: Proposed Options for St. Francis Extension/Border Connector Highway



(secondary) runway to allow for 747 traffic (880,000 lbs.) and are expected to cost \$75 million with development lasting 3.5 to 4 years. Currently, \$20 million has been secured for the project, likely supporting Phase I efforts and some other upgrades. Phase II will provide a truly unique capability but will require demonstration of the need and additional non-federal funds. It is anticipated that Phase I upgrades will attract operations and activity that can be used to demonstrate the need for Phase II. A request for funding through the Federal Aviation Administration is likely and can provide up to 90% of project costs; however, non-federal funds are required to meet the 10% matching requirement.

The rail bypass project mentioned for Chihuahua also has significant implications for New Mexico. The project would require an estimated \$500 million investment to provide rail connections for Union Pacific and BNSF. Additionally, a presidential permit would be required for the rail crossing at the U.S.-Mexico border. Given the level of interest in the project and the logistical advantages and new intermodal capabilities it would provide, stakeholders believe this should be pursued as it would further strengthen the economic and industrial opportunities in Santa Teresa and San Jerónimo.⁶⁶

Over the long term, it is important for Santa Teresa to plan for future opportunities. The current pace of growth in the area is rapid. To maximize the region's potential, stakeholders believe master planning should be undertaken to envision future infrastructure needs, consider greenspace development, and coordinate existing planning efforts. The master planning effort

⁶⁵ (NM Stakeholder Meetings, 2022)

⁶⁶ (NM Stakeholder Meetings, 2022)



should begin in the short term but should be used to guide long-term strategy. Since Santa Teresa is unincorporated, many tasks and planning activities typically managed by a municipal entity fall on the shoulders of other groups and stakeholders in the area. Master planning was undertaken many years ago in the early stages of Santa Teresa’s development; however, much has changed since. Master planning was discussed specifically for Santa Teresa or in conjunction with the binational Los Santos Master Planning effort, or even as part of Master Planning for the Paso del Norte region as a whole.⁶⁷ Given Santa Teresa’s dynamic growth, a robust master planning effort would help foresee upcoming capacity challenges and provide a coherent, forward-looking development approach. Master Planning would help avoid future issues that may constrain development. The Master Plan should envision making the best use of the area’s land assets, proposing solutions such as land swaps or land sales that would be amenable to the parties involved.⁶⁸

Columbus/Palomas is a growing POE west of Santa Teresa/San Jerónimo. An \$85.6 million port improvement was completed in 2019: the number of pedestrian lanes was increased from one to three, a third lane is now available for vehicles and trucks, and a new lane was added dedicated to commercial traffic.⁶⁹ In 2022, a diversion berm and stormwater mitigation project led by the NMBA and Luna County was fully funded and will protect 1,355 acres currently in a flood zone near the Columbus POE.⁷⁰ Work is currently underway to develop logistical infrastructure and an industrial park to accommodate future growth alongside Santa Teresa.

The primary commercial use for the Columbus/Palomas POE is seasonal agricultural trade, but given the community’s vision, future growth is definitely possible. Current projects and plans in Columbus include the Highway 11 bypass; industrial park development; water, sewer, fiber, and natural gas infrastructure; the Route 9 scenic bypass; airport; heliport; additional staffing for data gathering and industrial park development; and more Customs and Border Patrol (CBP) and personnel and U.S. Department of Agriculture (USDA) inspectors. The shortage of inspectors has, in some cases, caused multi-day wait times at the POE. Addressing USDA inspector shortages to process agricultural trade is considered an immediate priority⁷¹ together with securing more CBP personnel for pedestrian and vehicle crossings. For example, while the number of lanes for vehicle traffic at the POE was expanded in 2019, it is often staffed for only one open lane.⁷² A unique project the leadership in Columbus is pursuing in collaboration with counterparts in Mexico is

⁶⁷ (NM Stakeholder Meetings, 2022)

⁶⁸ (NM Stakeholder Meetings, 2022)

⁶⁹ (Villagran, 2019); (Kocherga, 2019)

⁷⁰ (NM Stakeholder Meetings, 2022)

⁷¹ (NM Stakeholder Meetings, 2022)

⁷² (Kocherga, 2019)



tourism development related to the community's cultural and historical heritage. On this front, necessary tourist-related infrastructure such as hotels, restaurants, and recreational areas would be required.⁷³

New Mexico's third POE, at Antelope Wells across from El Berrendo, Chihuahua, is a very small port with sparse vehicle and pedestrian traffic that the U.S. does not report it in official border crossing data. On the Mexican side in El Berrendo, a 1.8 km dirt road connecting Mexico's Federal Highway No. 2 up to the port requires paving. Finally, in what may become the fourth port of entry in New Mexico, the city of Sunland Park, adjacent to Santa Teresa, has requested a presidential permit to open the Camino Real de Tierra Adentro port to connect with the community of Anapra in Cd. Juárez, Chihuahua. While the project is being pursued by city authorities, it is not yet fully endorsed by the state.⁷⁴

3.1.4. Additional Border Infrastructure Priorities

Stakeholders mentioned the need to support long-term investment in colonia infrastructure, from water infrastructure to transportation. There are currently 179 colonias in El Paso County in desperate need of services that will cost hundreds of millions of dollars. Similar challenges exist in colonias in southern New Mexico; there are an estimated 138 colonias in the State of New Mexico. These communities have infrastructure needs, including transportation; enhanced utilities including natural gas, broadband, and wastewater collection and treatment; community facilities; and flood control structures.⁷⁵ Stakeholders also mentioned the need for additional funding for the International Boundary and Water Commission (IBWC) to modernize equipment, complete critical border infrastructure initiatives for flood prevention, and invest in beautification.

3.2. Supply Chain

Economic and international conditions have sparked a significant push for reshoring and nearshoring supply chains for goods in North America. Many economic and political factors have lined up favorably for the Paso del Norte region, leading many stakeholders to believe "the time is now" for a full realization of the region's potential. Favorable factors for the region are a combination of long- and short-term trends, as well as increased interest and engagement from

⁷³ (NM Stakeholder Meetings, 2022)

⁷⁴ (NM Stakeholder Meetings, 2022)

⁷⁵ (Colonia (Community) Master Plan, 2022)



The Paso del Norte region offers an attractive solution to many supply chain challenges.

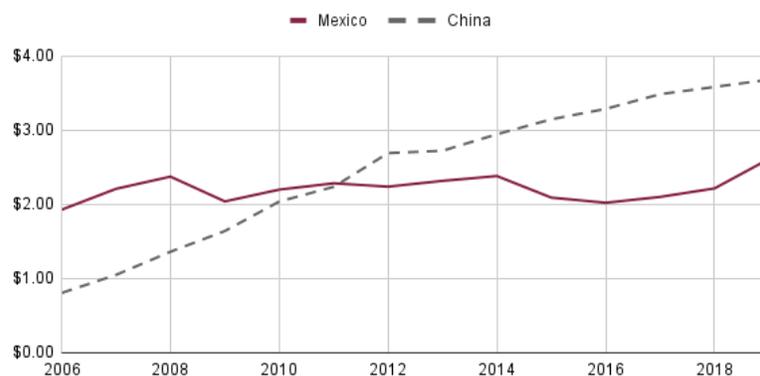
the U.S. and Mexican governments, each with plans for multibillion-dollar investments into the region.⁷⁶ The combined interest, funding, and economic trends present a truly once-in-a-generation opportunity to develop the binational region. The region needs to expand capacity and develop competitive factors to attract reshoring and nearshoring operations to the area to capitalize on this opportunity.

The COVID-19 pandemic has exposed the risks inherent to long supply chains and international dependencies in the face of rising global tensions. As a result, industry has refocused from a lowest-cost mindset to one of resiliency; a shift from “just-in-time” to “just-in-case” has been pursued in many industries.⁷⁷ Nearshoring and reshoring present opportunities to maintain “just-in-time” advantages while limiting the risk by consolidating supply chains in North America. New trade agreements and long-term trends support this shift, as well.⁷⁸

Labor costs in China have been outpacing labor costs in Mexico for more than a decade (see Figures 12 and 13).⁷⁹ Specifically, in manufacturing labor costs, the trend is even more pronounced.⁸⁰ This trend can partially be explained by currency movements relative to the dollar in the Chinese Yuan and Mexican Peso (see Figure 14).⁸¹

This relative movement in currency exchange rates benefits manufacturing in Mexico beyond labor costs because it makes purchases in pesos relatively less expensive for U.S. companies with dollar-denominated budgets, including raw materials sourced in Mexico.

Figure 12: Average Starting Hourly Wage (USD), Mexico vs. China (2006-2019)



⁷⁶ (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022); (Averbach & Nacha, 2022)

⁷⁷ (Balancing just-in-time with just-in-case: Profitable redundancy in supply chains, 2022)

⁷⁸ (Gantz, 2020)

⁷⁹ (Advantages of Manufacturing in Mexico vs China, 2019)

⁸⁰ (PwC, 2020)

⁸¹ (Chinese Yuan Renminbi to U.S. Dollar Spot Exchange Rate, 2022)



Combined, these factors make the Paso del Norte region more attractive for many aspects of the supply chain. The Paso del Norte region offers intermodal transportation options to access major markets in the U.S. while benefiting from a more geographically confined supply chain, lower

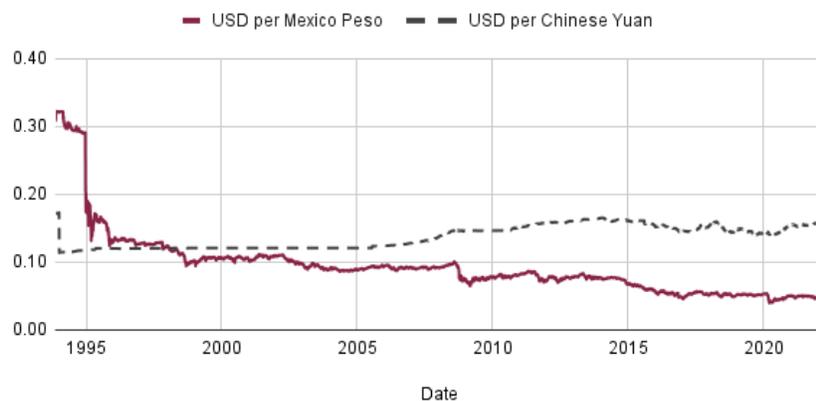
labor costs, and currency advantages. The region also possesses unique advantages over competitors for similar industries and business locations—Phoenix, AZ; Dallas, TX; Guadalajara, MX; and Monterrey, MX—in that it is binational, sharing the benefits of each side of the border in a single region with substantial room for development. The San Jerónimo/Santa Teresa area, termed Los Santos, has the largest privately-owned landmass (70,000+ acres) in North America, located adjacent to a major metropolitan area.⁸²

Given the significant capital investments many companies already have in China, a full transition to the region is a significant hurdle to overcome, but many companies are considering a “China + 1” supply chain strategy that would diversify aspects of the supply chain to some extent.⁸³ A PWC Survey in June 2020 found that 47% of CFOs agreed that “developing additional, alternate sourcing options” was a pressing issue in light of the COVID-19 pandemic.⁸⁴ A more recent PWC survey in

Figure 13: Manufacturing Labor Costs Per Hour for China and Mexico (2016-2020)



Figure 14: U.S. Dollar Exchange Rates for Mexican Peso and Chinese Yuan (1993-2022)



⁸² (Why Los Santos, 2022)

⁸³ (PwC, 2020)

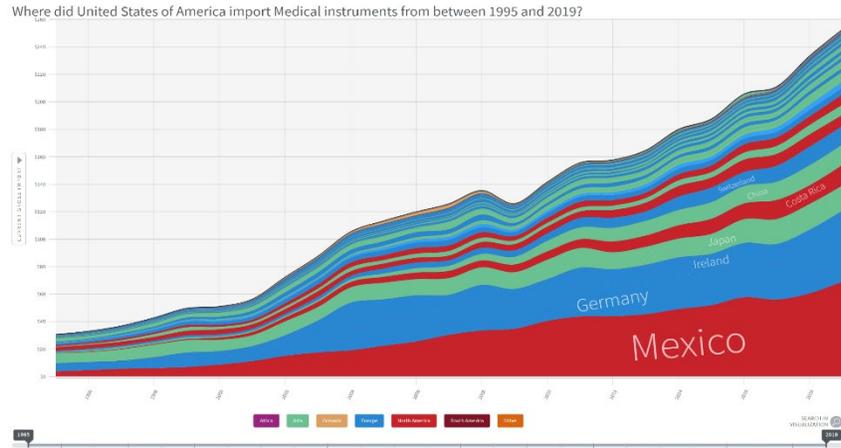
⁸⁴ (PwC, 2020)



2022 found that 50% of business leaders believe improving supply chain resilience is “very important,” and 41% mentioned they were “investing a lot” in improving supply chain resilience.⁸⁵

The Paso del Norte region is well-positioned to attract industries with international supply chain risks: pharmaceuticals (\$117 billion in U.S. imports in 2019, and a target industry for El Paso), medical devices (\$46 billion in U.S. imports in 2019, 20% from Mexico, see Figure 15), automotive (\$300 billion in U.S. imports in 2019, 30% from Mexico, see Figure 16)

Figure 15: U.S. Medical Imports (1995-2019)



and electronics (\$314 billion in U.S. imports in 2019, 23% from Mexico, see Figure 17).⁸⁶ The substantial size of these industries demonstrates the magnitude of the opportunity in the Paso del Norte region. As regional infrastructure investments continue to make the area more competitive, more of the market share of these industries can be captured.

The Municipio of Cd. Juárez, Chihuahua, encompassing the city of Juárez across from El Paso, TX, and the community of San Jerónimo, across from Santa Teresa, NM, is at the center of the region’s opportunity in building complete supply chain networks. Juárez is one of Mexico’s top locations for the maquiladora export manufacturing industry, with more than 300 plants and 40 industrial parks. Juárez maquiladora exports reached \$69.5 billion in 2021, a record high, with investment in Juárez plants boosted by near-shoring trends as companies seek to circumvent Asia-related supply chain bottlenecks.⁸⁷ Maquiladora employment in Juárez, at over 300,000 workers, is concentrated in the electronics, automotive, and medical device sectors.⁸⁸ An important Paso del Norte regional collaboration in this last sector is BIO El Paso-Juárez, an initiative catalyzed by El Paso’s Medical Center of the Americas Foundation.

⁸⁵ (PwC Pulse Survey: Executive views on business in 2022, 2022)

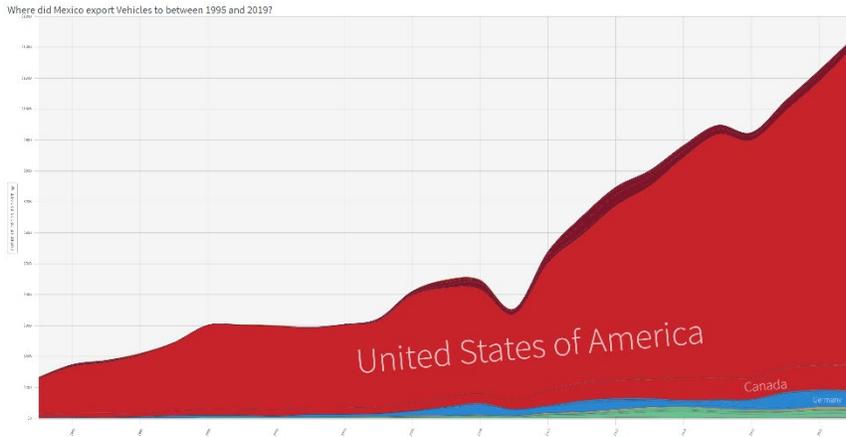
⁸⁶ (The Atlas of Economic Complexity, 2022)

⁸⁷ (Index Juarez, 2021); (INEGI, 2022); (Desarrollo Económico de Cd. Juárez, A.C., 2020)

⁸⁸ (Index Juarez, 2021); (INEGI, 2022); (Desarrollo Económico de Cd. Juárez, A.C., 2020)



Figure 16: Vehicle Exports from Mexico, by country (1995-2019)



According to the Foundation, BIO El Paso-Juárez “drives innovation, collaboration, growth, and resilience in the regional medical device sector by bringing together medical, industrial, academic, governmental, and entrepreneurial leadership.”⁸⁹ BIO El Paso-Juárez is looking to

capitalize on the regional presence of some 30 factories with over 40,000 workers producing Class I, II, and III medical devices.⁹⁰ In a related biomedical area, pharmaceutical manufacturing is not heavily established in the region. However, Texas’s leadership position in the U.S. biopharmaceutical industry and a U.S. push to reduce foreign supply chain dependencies in pharmaceuticals present an opportunity for growth.⁹¹

Mexico is a significant player in the automotive sector: with a production of some three million passenger vehicles annually, the country ranks sixth in world vehicle production. Around 89% of this production is for export, and 84% of such exports are destined for the U.S. market.⁹² Companies represented in Mexico’s automotive production landscape include General Motors, Ford, Nissan, Honda, BMW, Toyota, and Volkswagen.⁹³

Mexico’s automotive production dipped by 20% in 2020 in the midst of the pandemic and the world shortage of semiconductors, but it is expected that by mid-year 2022, production levels will start to gain momentum and return to pre-pandemic levels by late 2023.⁹⁴ Over the last decade, vehicle exports from Mexico have grown rapidly, as shown in Figure 16.⁹⁵ In 2019, Mexico

⁸⁹ (Medical Center of the Americas Foundation, 2021)

⁹⁰ (Medical Center of the Americas Foundation, 2021)

⁹¹ (Biopharmaceutical Sector Impact on Texas’ Economy, 2022); (U.S. HHS Public Health Supply Chain and Industrial Base One-Year Report, 2022)

⁹² (International Trade Administration, U.S. Department of Commerce, 2022) (The Atlas of Economic Complexity, 2022)

⁹³ (International Trade Administration, U.S. Department of Commerce, 2022)

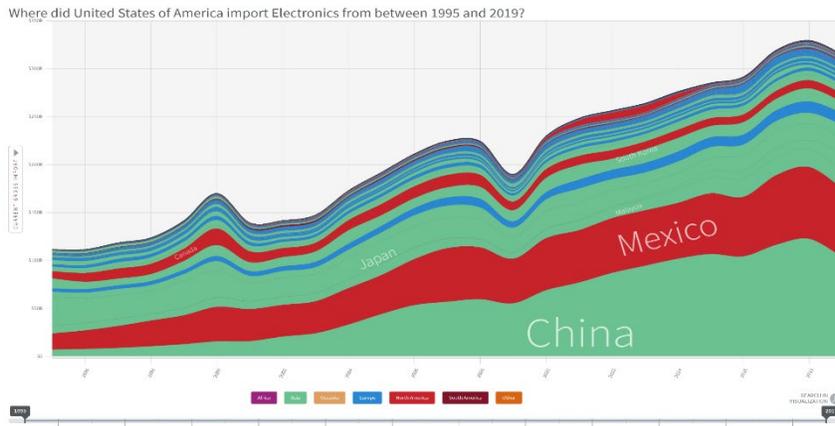
⁹⁴ (Esposito, 2021)

⁹⁵ (The Atlas of Economic Complexity, 2022)



exported \$123 billion in vehicles, \$103 billion of which was destined for the U.S., comprising 30% of U.S. vehicle imports.⁹⁶

Figure 17: U.S. Electronics Imports (1995-2019)



Automotive manufacturers in Mexico are mostly concentrated in the northern states, where Chihuahua holds an important place. In 2021, there were 420 automotive production plants⁹⁷ with over 34,000 workers⁹⁸ in the state of Chihuahua. Most of this employment base is found in Juárez, with some 20,000

workers.⁹⁹ Automotive companies in Juárez produce items such as brakes and brake pads, electrical systems and wire harnesses, batteries, speakers, seat covers, light systems, and alarms.¹⁰⁰ Beyond manufacturing, the automotive sector in Juárez is also engaged in research and development. For example, the Mexico Technical Center (MTC) of APTIV, an automotive technology supplier, has nearly 1,900 employees, including 720 engineering professionals.¹⁰¹ MTC engineers have filed over 180 patents and 290 records of invention.¹⁰²

Electronics represents another major sector in Juárez, with significant growth potential. Among top Juárez exports in this sector are computers, flat-screen TVs, smartphones, and electrical wires and cables. The Juárez electronics industry's top import is electronic integrated circuit boards. In 2020, these imports reached close to \$10 billion and were sourced almost exclusively from Asia.¹⁰³ It is precisely in these Asia-sourced electronic components where a strategic opportunity exists

⁹⁶ (The Atlas of Economic Complexity, 2022)

⁹⁷ (The Herald of Chihuahua, 2021)

⁹⁸ (Gonzalez, 2021)

⁹⁹ (Gonzalez, 2021)

¹⁰⁰ (Diario.mx, 2021)

¹⁰¹ (Aptiv, 2022)

¹⁰² (Aptiv, 2022)

¹⁰³ In 2020, almost half of electronic integrated circuit boards imported by Juárez were from Malaysia (\$4.98 billion). The rest of the imports came from countries like Vietnam (\$1.32 billion), China (\$1.02 billion); South Korea (\$744 million); Philippines (\$423 million); Taiwan (\$347 million). Mexico's Ministry of the Economy; (Juarez: Economy, quality of life, employment, education, 2022)



for the Paso del Norte region. China and Mexico currently rank #1 and #2 in electronics exports to the U.S., with 2019 exports of \$103 billion from China and \$71.6 billion from Mexico.¹⁰⁴ The size of Chinese electronics exports to the U.S. demonstrates the scale of the opportunity to attract a greater portion of the electronics supply chain to Mexico and, specifically, the Paso del Norte region. Developing a supplier base in both El Paso and Santa Teresa on the U.S. side, as well as in Juárez on the Mexican side, to service the extensive Juárez electronics industry would entrench a binational supply chain network and eliminate the industry’s vulnerability derived from an overreliance on supply sources from Asia. The spillover benefits of this would be significant as goods produced in Mexico for export to the U.S. typically contain about 40% U.S. content, while goods sourced from China only contain about 4% U.S. content.¹⁰⁵

There is yet another regional opportunity in the aerospace industry that can be more fully realized. Aerospace is a target industry in the economic development strategies of each of the communities in the Paso del Norte region. With the important manufacturing base located on the Mexican side supporting this industry—some in Juárez, but primarily in Chihuahua City and surrounding municipalities—there is high potential for supply chain development. In 2022, Mexico’s aerospace industry exports are expected to reach nearly \$9 billion. Moreover, the industry’s imports of components, for which a regional supplier base can be developed, are estimated to reach \$7.5 billion this year.¹⁰⁶ The state of Chihuahua has positioned itself as a strategic player in Mexico’s aerospace industry. In the past decade, it has attracted some 40 manufacturing operations and two research and development centers in the aerospace sector. The state now accounts for about a third of Mexico’s aerospace industry employment.¹⁰⁷ There are synergies with aerospace activities in New Mexico that could be leveraged to strengthen regional capabilities by extending partnerships with White Sands Missile Range,¹⁰⁸ White Sand Test Facility,¹⁰⁹ Spaceport America,¹¹⁰ Air Force Research Laboratory,¹¹¹ NMSU’s Physical Science Laboratory,¹¹² and NMSU UAS Flight Test Site.¹¹³ Marketing and connecting these existing assets could expand regional strengths and linkages in aerospace and defense. For example, the presence of White Sands Missile Range, Fort Bliss Army Base, and significant aerospace

¹⁰⁴ (The Atlas of Economic Complexity, 2022)

¹⁰⁵ (Gantz, 2020)

¹⁰⁶ (Pineda, 2021)

¹⁰⁷ (American Industries, 2020)

¹⁰⁸ (White Sands Missile Range, 2021)

¹⁰⁹ (White Sands Test Facility | NASA, 2019)

¹¹⁰ (Spaceport America, 2022)

¹¹¹ (HOME | AFRL New Mexico, 2022)

¹¹² (Physical Science Laboratory | NMSU, 2021)

¹¹³ (NMSU, 2022)



manufacturing capabilities should be highlighted in promoting the region to businesses in the aerospace and defense target industry cluster.

Expanding regional technology clusters in electronics, automotive manufacturing, and aerospace also presents an opportunity to build an R&D cluster around autonomous vehicles and electric vehicles (AV/EV). The 2020 New Mexico Mobility Strategy outlined a compelling rationale for why the region is a good fit for AV/EV technology development and deployment.¹¹⁴ The region's existing workforce in aerospace, defense, and specifically, in unmanned aerial systems testing, has overlapping skill requirements with AV. The region has proximity via air travel from Silicon Valley, which is the current hub of U.S. AV/EV R&D. The region also has existing testing facilities and many roads with varied and consistent conditions that would be ideal for AV testing. The electronics and automotive industries in the region provide additional advantages, especially if a greater portion of the electronic component manufacturing supply chain is brought to the region. This would also help diversify the existing automotive industry in Mexico, which is currently concentrated in combustion vehicles. AV/EV presents an opportunity for the region to become a leader in AV/EV border and logistics infrastructure while laying the groundwork for R&D activities that can be supported by regional industries, research institutions, and the existing workforce. This work could support the deployment and use of modern and sustainable transportation options and should be considered as a long-term opportunity.

The Paso del Norte region also has an opportunity in the development of value-added agriculture via the important agricultural base in southern New Mexico. The area's production of dairy goods, beef, onions, pecans, and chile peppers would greatly benefit from industries that add value through processing and packaging.¹¹⁵

The supply chains for identified target industries should be studied and analyzed to provide supply chain data for recruiting new businesses and identifying important infrastructure upgrades. Several regional academic units can assist in this work, including the Supply Chain Entrepreneurship Center at NMSU, the Borderplex Alliance, and the Hunt Institute for Global Competitiveness at the University of Texas at El Paso (UTEP).

As the region continues to grow, the development and localization of the regional supply chain present a strategic opportunity to expand existing businesses and attract new ones. A key project that is addressing this potential is The Bridge Accelerator, a binational supplier development program aimed at connecting local companies in the Paso del Norte region with maquiladora manufacturers and providing training and seed capital toward generating a binational supplier

¹¹⁴ (GLDPartners, 2021)

¹¹⁵ (Mesilla Valley Economic Development Alliance, 2022)



base.¹¹⁶ New industries in the area have needs for suppliers, and proximity provides an advantage to those in the region. It has been observed that these opportunities must be cultivated, and matching entrepreneurs to supplier opportunities requires a mechanism for effectively marketing supplier opportunities within the region. This could be accomplished through an online business-to-business matching platform, annual supplier showcases, a supply chain committee to facilitate matching, supplier certification, and potentially incentive programs that could encourage local sourcing. BIO El Paso Juárez has established some models for certification that may be able to be replicated.¹¹⁷

From a regional perspective, there may also be opportunities to redirect traffic by mode to increase efficiency; for example, separating passenger vehicle traffic (El Paso-Juárez) from freight and potentially rail traffic (Santa Teresa) or separating by mode at the port of entry in a more discrete manner. This could help reduce congestion and streamline some supply chain activity.

3.3. Operations

The primary objective of elevating operations at the border is to expedite crossing times northbound and southbound.¹¹⁸ Additionally, improving interactions between the border crossers and officials from the U.S. and Mexico was mentioned by stakeholders.¹¹⁹ Stakeholders would like to find ways to build a better, more resilient, and more solid binational community by heavily investing in and maintaining world-class POE infrastructure and improving surroundings. Stakeholders believe it is important to improve the relationship/collaboration among the cities of the Paso del Norte region beyond trade and commerce.¹²⁰

In general, crossing the U.S.-Mexico border may require multiple inspection processes to meet various rules and regulations concerning the specific border crossing. These inspections include mechanical inspections of vehicles, screens for contraband, and reviews of identification documents and visas. This is not a simple process, and wait times can be significant, in some cases lasting many hours. Table 6 shows the 2021 Northbound Crossings for the main crossing points in the region.

Stakeholders almost universally agreed that pre-clearance, pre-inspection, and faster processing programs were crucial to speed border crossings, especially for commerce. The key caveat for this

¹¹⁶ (The Bridge, 2022)

¹¹⁷ (Borderplex 2025 Ascend Plan, 2020)

¹¹⁸ (El Paso Stakeholder Meetings, 2022)

¹¹⁹ (El Paso Stakeholder Meetings, 2022)

¹²⁰ (El Paso Stakeholder Meetings, 2022)



recommendation is that more staff is required for these programs to function properly and grow. Currently, these programs include Secure Electronic Network for Travelers Rapid Inspection (SENTRI), Free and Secure Trade (FAST), and pre-inspection, which is arranged for specific companies transporting high volumes through specific ports.

SENTRI is a U.S. CBP Trusted Traveler Program that allows expedited clearance for pre-approved, low-risk travelers upon arrival in the U.S.¹²¹ Participants may enter the U.S. using dedicated commuter lanes (DCLs) at the southern land border ports. All SENTRI applicants undergo a rigorous background check and in-person interview before enrollment. Additionally, outside of the DCLs for SENTRI pass crossers, Ready Lanes can speed travel times by using Radio Frequency Identification (RFID) tags to reduce processing times for crossers that provide documentation and pay tolls electronically.¹²² This is a huge advantage for border crossers, however, stakeholders mentioned that SENTRI passes could be revoked without warning and little-to-no transparency. Stakeholders mentioned transparency should be added to this process, and SENTRI pass holders should be provided options to regain or retain their pass in the event of revocation.

For freight, the FAST program is a commercial clearance program for known low-risk shipments entering the United States from Canada and Mexico.¹²³ Initiated after 9/11, this innovative, trusted traveler/trusted shipper program allows expedited processing for commercial carriers who have completed background checks and fulfill certain eligibility requirements. FAST enrollment is open to truck drivers from the U.S., Canada, and Mexico.

A unique feature for truck traffic at Santa Teresa is a pre-inspection lane that can substantially save time for cross-border truck shipments. One of the first pre-inspection lanes was opened in 2018 in Santa Teresa to support the Foxconn facility in San Jerónimo.¹²⁴ In 2020, however, the lane was suspended due to the pandemic, and it has yet to reopen. Pre-clearance is an important asset for industries located in the immediate area, and pre-clearance and pre-inspection options should

Border Delay Causes

- Down time of the trade processing system
- Staffing shortages
- Multiple border inspections
- Inadequate infrastructure

¹²¹ (U.S. CBP Secure Electronic Network for Travelers Rapid Inspection, 2022)

¹²² (U.S. CBP Ready Lanes, 2022)

¹²³ (U.S. CBP FAST: Free and Secure Trade for Commercial Vehicles, 2022)

¹²⁴ (Truck lane in Santa Teresa speeds up border shipments, 2018)



also be incorporated into port modernization efforts, as they provide substantial time-saving advantages for northbound shipments.

There are also ongoing discussions about strategies for standardizing operations and infrastructure at bridges to expedite crossings. For example, exploring options for interoperability between programs such as SENTRI, Ready Lane, and FAST may be explored. The International Bridges Steering Committee, based in El Paso, is an ideal vehicle to consider these possibilities.

Mexico also plays a very important role in improving operations through MX aduanas (customs) and Instituto de Administración y Avalúos de Bienes Nacionales (INDAABIN). Operations managed by these entities that impact southbound crossers require significant improvement. For example, in 2022, only half of the lanes entering Mexico have been opened, and, at times, there is only one open lane. Thus, a “double bottleneck” is created for southbound crossers with reduced lanes entering Mexico and the mechanical speed bumps on the U.S. side before entering Mexico.

Stakeholders agree there is a general need to improve the infrastructure connecting the U.S. and Mexico for more fluid northbound and southbound traffic flows.¹²⁵ Stakeholders mentioned that updating operational strategies is also important, such as redesigning/rethinking the inspection process and traffic flow logistics. Still, while expanding the number of lanes in both directions and increased staffing can potentially help, delays will remain for northbound crossings if U.S. officials unduly prolong the inspection process on a per-vehicle basis. The duration of the inspection is at the discretion of each official, so, depending on the inspector, the inspection time (and wait time for everyone else) can either be quick or as long as the official determines is necessary. Stakeholders indicate that U.S. and Mexican officers need to be more informed of the crucial role of efficient crossings in the connectivity and overall functioning of the binational community and economy. Stakeholders also mentioned the importance of a more dignified and welcoming attitude toward the border crosser since contact with these officers is the first interaction of visitors entering either country.¹²⁶

A 2017 Texas A&M Transportation Institute study found the main causes of border crossing delays to be: the trade processing system being down, staffing shortages, multiple border inspections, and inadequate infrastructure.¹²⁷ The primary solutions recommended were operational improvements, infrastructure investments, and administrative initiatives, including more personnel, inspection bays, open lanes, and a unified holiday schedule.

¹²⁵ (El Paso Stakeholder Meetings, 2022)

¹²⁶ (El Paso Stakeholder Meetings, 2022)

¹²⁷ (How Long Is Too Long to Cross the Border? Final Report, 2017)



Table 6: Northbound Border Crossings in 2021¹²⁸

Ports of Entry TX/CHIH	Mode	2021 Total
El Paso/Cd. Juárez (Paso del Norte Bridge, Stanton Street Dedicated Commuter Lanes, and Bridge of the Americas)	Pedestrians	2,981,773
	Personal vehicle passengers	10,150,111
	Personal vehicles	6,329,740
	Trucks	179,983
Ysleta/Zaragoza	Pedestrians	1,036,446
	Personal vehicle passengers	4,007,684
	Personal vehicles	2,527,917
	Trucks	668,950
Ports of Entry NM/CHIH	Mode	2021 Total
Santa Teresa/San Jerónimo	Pedestrians	55,400
	Personal vehicle passengers	883,811
	Personal vehicles	460,881
	Trucks	154,147
Columbus/Puerto Palomas	Pedestrians	177,821
	Personal vehicle passengers	587,413
	Personal vehicles	305,038
	Trucks	22,039

3.4. Workforce

A thriving and resilient skilled workforce is critical to robust, sustainable regional development plans. For a new business to locate in the area, particularly a major employer, the workforce is a key component. Based on the industries within the region, a workforce is required that is equipped with skills in life sciences (healthcare services, biomedical research, medical device manufacturing); business services (finance and insurance, information technology); advanced manufacturing; aerospace and defense; advanced logistics; electronics; research, development, and entrepreneurship; tourism; and energy.¹²⁹ A workforce of the appropriate skill level must be

¹²⁸ (Bureau of Transportation Statistics, 2020)

¹²⁹ (Borderplex 2025 Ascend Plan, 2020); (Rio Grande COG, 2022)



available or become available through training for a company to launch a new business location. These workforce needs can be addressed by improving educational attainment, increasing access to high-demand programs and certifications, and connecting the labor force to local and remote-friendly employers.¹³⁰

The workforce in Mexico is competitive with China and East Asian countries. Mexico has a long history in manufacturing that has created a skilled and well-trained workforce with experience in diverse industries.¹³¹ Much of the workforce is fluent in Spanish and English. Favorable exchange rate dynamics and economic changes have produced increasingly favorable labor costs for manufacturing in Mexico to serve the U.S. market. This is a world-class advantage for Mexico and the Paso del Norte region, as demonstrated by Mexico's position as a Top 10 manufacturing country.¹³²

Santa Teresa is a key focus area for workforce needs because of the limited residential population in the area. One possible solution mentioned by stakeholders is the construction of affordable housing developments in or near Santa Teresa that could house more workers in the area. The economics of affordable housing, with rising building costs, presents some challenges to this idea. Additionally, residential developments may infringe on one of Santa Teresa's major strengths, which is developable land for industry. Enhanced connectivity through road improvements that shorten commute times to Santa Teresa could expand the region Santa Teresa can draw on for the workforce to tap the large populations in El Paso and Las Cruces. Mass transit is another option but has challenges due to low population density, long distances, low interest from potential riders, and limited development outside of industrial activities directly in the industrial parks to support regular routes. Mass transit to Santa Teresa may become a better option as the density in the area increases.

Another overarching theme in effective workforce development is close collaboration between institutions and organizations educating and training the workforce and those employing the workers. Ideally, students will graduate with the skills and credentials needed to move immediately into available jobs. Otherwise, the region risks losing talented workers to other areas with higher-paying job opportunities.¹³³ Concurrently, companies want to hire workers who can easily transition into their organizations with minimal on-the-job training. Facilitating such

¹³⁰ (Rio Grande COG, 2022)

¹³¹ (Mexico vs. China Manufacturing: How the Two Countries Compare, 2019)

¹³² (Richter, 2020)

¹³³ There is an ongoing "brain drain" challenge faced by the region. For example, as of 2010, around 85% of engineering graduates from UTEP were leaving the region primarily due to low wages (Resilient El Paso, 2018) & (Moore, 2020)



circumstances requires consistent open dialogue between educators/trainers and employers to match skills and training to workforce needs. The 2016 Santa Teresa Border Area Transportation Needs Assessment and Strategic Plan identified that employers are making limited use of community colleges and universities to meet their training needs.¹³⁴ This appears to be a missed opportunity since the area has close proximity and good access to El Paso Community College (EPCC), Doña Ana Community College (DACC), NMSU, and UTEP on the U.S. side, and to institutions on the Mexican side, such as Centro de Entrenamiento en Alta Tecnología (CENALTEC), Instituto Tecnológico de Cd. Juárez (ITCJ), and Universidad Autónoma de Cd. Juárez (UACJ)

UTEP provides workforce development and paid training through their military and Workforce and Innovation Opportunity Act (WIOA) career assistance program and customized corporate training through their Professional and Public Programs.¹³⁵ EPCC's Center for Corporate and Workforce Training (CCWT) provides workforce training that meets employers' needs and promotes self-sufficiency.¹³⁶ The Texas Workforce Commission's Skill Development Fund offers grants to support customized training opportunities for Texas businesses and their employees.¹³⁷

In New Mexico, DACC's Workforce Development & Career Readiness program offers short-term, non-credit training programs for professional skill development, in addition to customized training and degree programs at DACC.¹³⁸ NMSU Online provides numerous degree and training options in an online format, including customized and on-demand options.¹³⁹ A new and one-of-a-kind initiative is the Opportunity Scholarship program, which means most New Mexico residents can attend state-funded colleges and universities tuition-free. The Opportunity Scholarship can be used for degree programs and training certificates.¹⁴⁰

A statewide economic development plan for New Mexico published recently by the New Mexico Economic Development Department highlights some of southern New Mexico's current assets and future opportunities via an analysis of the South Central Council of Government's region.¹⁴¹ Ongoing work in sectors such as aerospace, healthcare, tourism, and film and TV is creating jobs now, and these fields are poised for more substantial development. The region's educational

¹³⁴ (Santa Teresa Border Area Transportation Needs Assessment and Strategic Plan, 2016)

¹³⁵ (Military and WIOA Career Assistance | UTEP, 2022) and (Customized Corporate Training | UTEP, 2022)

¹³⁶ (El Paso Community College, 2022)

¹³⁷ (Skills Development Fund — Texas Workforce Commission, 2022)

¹³⁸ (Workforce Development & Career Readiness | DACC, 2022)

¹³⁹ (NMSU Online, 2022), (NMSU On-Demand, 2022)

¹⁴⁰ (New Mexico Opportunity Scholarship, 2022)

¹⁴¹ (Center for Innovation Strategy & Policy @ SRI International, 2021)



institutions are paving the way for the 21st-century workforce with strong programs in STEM and creative disciplines. In partnership with other organizations working in innovation and entrepreneurship, these institutions are growing a forward-thinking, resilient, and risk-taking subset of business owners and workers ready to solve local and global challenges. Further, southern New Mexico's unique arts and culture landscape set a stage that not only favors tourism but also provides unparalleled opportunities for residents' quality of life.

On the Mexican side, both in Juárez and Chihuahua City, there is a solid platform of institutions supporting the linkage between education and industry needs. ITCJ is a pioneer in developing specific training and education programs to suit the needs of the maquiladora industry and continues to be a proactive institution in addressing the actual workforce needs of local companies, such as adding a degree in Electronics Engineering to its curricula.¹⁴² CENALTEC in Juárez and CIMAV (Centro de Investigación en Materiales Avanzados) in Chihuahua have ongoing training curricula aimed at ensuring the supply of a highly skilled workforce for industry.¹⁴³ UACJ,¹⁴⁴ UTCJ,¹⁴⁵ and Tec de Monterrey-Campus Juárez have also developed programs and even degrees that address what is in demand. For example, in 2019, Tec de Monterrey-Campus Juárez launched two new engineering degrees – in Electronics and Data Science – in direct response to what local companies had been requesting.¹⁴⁶ Additional examples demonstrate Chihuahua's commitment to workforce development in highly skilled areas, including the AI (Artificial Intelligence) Center and CIITA (Centro de Innovación e Integración de Tecnología Avanzada) in Juárez and the SPARK Science Campus in Chihuahua.¹⁴⁷

Several nonprofits in the region also offer workforce development and training. Project ARRIBA (Advanced Retraining & Redevelopment Initiative in Border Areas) assists economically disadvantaged individuals in gaining the education and job skills needed for occupations that pay a family-sustaining, living wage in El Paso.¹⁴⁸ The Bridge of Southern New Mexico's Workforce Talent Collaborative brings together cross-sector partners to support numerous pathways for career development in healthcare; aerospace, space, and defense; transportation and logistics; energy; manufacturing; digital media; and value-added agriculture.¹⁴⁹

¹⁴² (TecNM, 2022)

¹⁴³ (CENALTEC abre sus puertas al público para ofrecer entrenamiento y capacitación de alta tecnología, 2022), (Centro de Investigación en Materiales Avanzados, S.C., 2022)

¹⁴⁴ (Universidad Autónoma de Ciudad Juárez, 2022)

¹⁴⁵ (Vinculación, 2021)

¹⁴⁶ (Generan mayor vinculación con industria y nuevos planes de estudio, 2018)

¹⁴⁷ (Construye Estado 5 centros de alta tecnología con inversión de casi 500 mdp, 2020)

¹⁴⁸ (Letter from the CEO - Project ARRIBA, 2022)

¹⁴⁹ (Workforce Development - The Bridge of Southern New Mexico, 2017)



Regional educational institutions should collaborate with employers so they can adapt quickly to changing technology and market needs with adaptive programs that prepare students for jobs available at any point in time. This can also involve programming directed at retraining/upskilling existing members of the workforce. For example, micro-credentialing (“mini”-degrees or certifications in specific skill areas that require less time than traditional training programs) can be used to address emerging skill needs in experienced workers.

An example of regional collaboration is a degree of reciprocity agreement in discussion between New Mexico and Chihuahua to allow credentials between the two states to be recognized and honored.¹⁵⁰ This would allow degree and certificate recipients in New Mexico and Chihuahua to recognize each other’s education programs on either side of the border. This strategy is expected to build a binational community, strengthen the regional workforce, and expand opportunities on both sides of the border. The initiative aligns with the regional goal of enhancing dignity and livability in the Paso del Norte region.

Workforce development initiatives must also consider the needs of students, ensuring programming is available and attainable to potential learners. While the points mentioned above are critical (e.g., ensuring graduates are ready to move seamlessly into available jobs), education and training must also be accessible and flexible. While some points are long-standing and well-understood (e.g., the need for affordable tuition), other considerations are emerging along the lines of facilitating retraining and upskilling for those already in the workforce. For example, the availability of paid internships and apprenticeships should be explored carefully, as many workers who need to or are interested in transitioning to new fields cannot leave their current positions to seek retraining without supplemental income.

The region needs to draw skilled workers ready to fill workforce gaps in the area to enhance the existing regional workforce, particularly in target industries. This includes promoting regional quality-of-life amenities (access to natural resources/outdoor recreation activities, binational-bicultural environment) and the region’s relatively low cost of living. However, the region’s workforce promotion strategy should also contemplate the retention of the region’s new job market entrants who are graduating with degrees in high demand by the target industries. Historically, some graduates have been quick to leave the region, presumably believing better opportunities are elsewhere.¹⁵¹ Recruiting these graduates through job fairs and active recruitment efforts are important activities to retain recent graduates in the region.

¹⁵⁰ (NM Stakeholder Meetings, 2022)

¹⁵¹ (*Resilient El Paso*, 2018) & (Moore, 2020)



3.5. Marketing & Recruitment

A comprehensive, coherent marketing and recruitment strategy is important for communicating the strengths of the Paso del Norte region as a whole and attracting new businesses to the region. This is a significant undertaking, as the strategy has to balance the need to promote the unique assets of the three primary components of the region – southern New Mexico, west Texas, and northern Mexico – while presenting a holistic view of the advantages of the entire area.

Key to marketing and recruitment activities is supporting regional economic development organizations that are already performing such work, such as Borderplex Alliance, the Mesilla Valley Economic Development Alliance, the Border Industrial Association, Arrowhead Center at NMSU, New Mexico Partnership, New Mexico Economic Development Department, Desarrollo Económico de Cd. Juárez, and Desarrollo Económico de Chihuahua. For maximum efficiency and efficacy, the region needs to coordinate efforts by these organizations and local government economic development agencies into a cohesive whole.

Two primary target audiences for marketing and recruitment are extra-regional businesses and highly skilled workers. Marketing to highly skilled workers is discussed in the Workforce section.

With regards to target industries for marketing and recruitment, the key industry for Chihuahua is manufacturing, specifically medical devices, electronics, automotive and aerospace, and potentially pharmaceuticals. On the U.S. side, logistical infrastructure is key, and specific industry areas where the U.S. has advantages. The region also needs to attract companies to fill existing supply chain gaps in an array of manufacturing services such as machining, metal fabrication, smelting, and plastic injection molding that are in demand by the advanced manufacturing and aerospace target industry clusters.¹⁵² Adding suppliers in the region to support new industries will help retain additional economic benefits. Key industries are discussed further in the Supply Chain section.

Stakeholders also discussed the need for additional promotion of new flights to and from the region at the El Paso International Airport, Doña Ana Jetport, Las Cruces International Airport, and Abraham González International Airport in Cd. Juárez. These activities are important for growing regional connectivity and should be targeted to specific regions that serve as hubs for the Paso del Norte region's key industries.

¹⁵² (Borderplex 2025 Ascend Plan, 2020)



3.6. Technology

Incorporating cutting-edge technology into regional border infrastructure is a key opportunity to enhance the region's competitiveness, sustainability, and attractiveness. Numerous stakeholders discussed the importance of transitioning from physical barriers at the border to technology solutions that can augment personnel and speed crossing times while maintaining and enhancing security and making border crossing experiences feel less discriminatory and more equitable.

Current objectives of the Department of Homeland Security's (DHS) Non-Intrusive Inspection (NII) Systems

Program include supporting inspections while minimizing the impact on border travel times and individual privacy.¹⁵³ NII Systems are used in two primary ways: (1) x-ray or gamma-ray imaging systems, and (2) Pedestrian Detection-at-Range. X-ray or gamma-ray imaging systems are primarily used to inspect and screen vehicles, containers, packages, luggage, and mail.¹⁵⁴ Drivers and passengers are given the option to exit the vehicle before this imaging technology is used. Pedestrian Detection-at-Range uses a combination of video and thermal imaging to identify anomalies in pedestrian border crossers.¹⁵⁵ Opting out of this screen is also an option. Results from these screenings are used to support physical inspection.

Given the complex requirements of these systems (e.g., speed, non-intrusion, safety, and respect for privacy), strategies and programs for supporting innovation may help to further advance technology solutions for NII technology, as well as additional support for all processes involved in crossing the border.¹⁵⁶ Because staffing limits the number of lanes available for crossing, a priority should be given to technology that can augment staff, automate redundant and repetitive tasks, and expand pre-clearance options that can reduce delays for regular border crossers. Remote inspections also allow for experts to serve multiple ports, for example, pest inspections that may be needed intermittently and for a wide variety of expertise areas. This is currently used

Technology serves a dual purpose for border development via a) technology advancement opportunities for border efficiencies and b) the attraction of startups to the region for technology development and validation.

¹⁵³ (DHS/CBP/PIA-017 Non-Intrusive Inspection Systems Program, 2021)

¹⁵⁴ (DHS Privacy Impact Assessment for the Non-Intrusive Inspection Systems Program, 2014)

¹⁵⁵ (DHS Privacy Impact Assessment Update for the Non-Intrusive Inspection Systems Program: Pedestrian Detection-at-Range, 2021); (EPA's SBIR and Homeland Security Programs: A Decade of Success, 2021)

¹⁵⁶ (El Paso Stakeholder Meetings, 2022)



at many ports, and opportunities for expansion of similar operational models should be considered to reduce the redundancy of expertise required at each port and to further relieve staffing challenges. Machine learning may have applications in some areas to provide decision support or assist with image analysis and pattern recognition. Partnership with the national laboratories in New Mexico may provide an additional source for technology solutions, especially regarding sensors and detection technology and testing/validation of emerging technologies.

In 2022, new NII technology is slated to be piloted at the Santa Teresa POE and will increase the inspection rate to 96% of commercial vehicles while reducing wait times.¹⁵⁷ Currently, scanning technology is administered randomly and only inspects about 15% of commercial vehicles. This new technology will allow for pre-primary scanning on nearly all vehicles and can be completed simultaneously with other inspections or upon passing through the crossing.¹⁵⁸ Following the pre-primary scanning, vehicles can be flagged for further inspection. Stakeholders believe this type of technology should be added at all ports in the region.

Stakeholders also mentioned that policy and protocol are, in some cases, inhibitors of technology development and deployment.¹⁵⁹ Policy and protocols must be adaptable and flexible enough to allow new technology deployment to leverage the maximum advantage of new technology.

Existing mechanisms and programs for innovation and technology development, such as the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, and innovation challenges, should be leveraged to encourage innovations that can meet specific border infrastructure needs. The SBIR/STTR programs – which provide non-dilutive funding to fund early-stage technology development – are offered by eleven government agencies (12 separate SBIR/STTR programs) that identify relevant topic areas for innovation important to the agency. There are several current topic areas in border security under the Environmental Protection Agency (EPA) and DHS SBIR/STTR programs¹⁶⁰ and potential to develop innovative technologies under several other agencies as well. An additional opportunity lies with engaging SBIR/STTR agencies that use a contracting mechanism (e.g., DHS, EPA, Department of Transportation [DOT], Department of Defense [DOD]) – agencies can create topics based on the needs and challenges they identify within their agency; this provides an opportunity for topics specific to technology needs at border crossings. These funding mechanisms should be considered as a way to provide additional resources for innovations that can address specific border challenges, reduce delays, and ease border travel.

¹⁵⁷ (NM Stakeholder Meetings, 2022)

¹⁵⁸ (McDevitt, 2020)

¹⁵⁹ (NM Stakeholder Meetings, 2022)

¹⁶⁰ (U.S. DHS Air, Land and Port of Entry Security, 2021)



While SBIR/STTR funds early-stage technology development – which includes funds for testing and validation during a Phase II award – an additional opportunity is available through New Mexico’s two DOE-funded laboratories: Los Alamos National Laboratory (LANL) and Sandia National Laboratories (SNL). Engaging one or both of these labs could lead to expedited testing and validation, as well as access to the unique capabilities (e.g., expertise, facilities, etc.) that each provides. Existing strong partnerships with both laboratories by New Mexico stakeholders provide a solid foundation for testing and validating border security technologies.

3.7. Environmental Sustainability

In tandem with the strategic initiatives undertaken, environmental sustainability must be incorporated. This includes consideration of factors such as air quality, monitoring, and abatement of toxins and contaminants, and water conservation and stewardship,¹⁶¹ along with cognizance of the importance of preservation of natural resources, incorporation of open space/greenspace in development and redevelopment initiatives, and equitable access to such resources and amenities for all groups.

Border efficiencies will result in an additional benefit: increased environmental sustainability, which all stakeholders support.

El Paso County and parts of southern Dona Ana County near Sunland Park are designated by the U.S. EPA as nonattainment areas for ozone.¹⁶² Ground-level ozone is a gas that is formed by the reaction of volatile organic compounds (VOCs) and oxides of nitrogen (NOX) in the atmosphere in the presence of sunlight. VOCs and NOX are emitted by many types of pollution sources, including power plants and industrial emissions sources, on-road and off-road motor vehicles, and internal combustion engines, as well as a variety of smaller sources, collectively referred to as area sources. Ozone impacts children, older adults, and people with asthma or other lung diseases and can reduce lung function, and increase respiratory symptoms and pulmonary inflammation. These issues contribute to increased emergency department visits, hospital admissions, and mortality. Of course, air pollution is not confined to borders, and the air quality issues in El Paso and southern Dona Ana County are shared with Cd. Juárez.¹⁶³

¹⁶¹ (Environmental Health Topic Center, 2022)

¹⁶² (Environmental Protection Agency (EPA), 2021)

¹⁶³ (Erickson, Ghosh, & Molina, 2004)



El Paso County and parts of southern Dona Ana County near Sunland Park are also designated by the U.S. EPA as moderate nonattainment areas for particulate matter (PM10).¹⁶⁴ PM10 is comprised of inhalable particles with diameters generally 10 micrometers and smaller, and overexposure can lead to serious health problems, especially for populations with conditions that put them at risk to these types of particles.¹⁶⁵ Given the shared air shed, PM10 is also an issue for Cd. Juárez.¹⁶⁶

Significant emission reductions are possible through reduced wait times at ports of entry.¹⁶⁷ Multiple studies have been completed in the Paso del Norte region and throughout the broader U.S.-Mexico border region, measuring economic and environmental costs of crossing delays.¹⁶⁸ These costs are substantial, and addressing these should be considered a possible solution to the region's nonattainment issues for ozone and PM10. Benefit-cost analysis should be used to weigh the costs of congestion (value of border crosser's time, emissions, air quality nonattainment status, and regional accessibility) versus new port infrastructure, NII technology, and additional staffing that may speed inspection and crossing times. Incorporating a holistic benefit-cost analysis that factors in the true cost of emissions to inform policy, protocol, and budgeting can guide more sustainable decision-making while also addressing air quality nonattainment designations.

Stakeholders suggested creating a binational sustainability master plan to help the region plan for sustainability as the region grows.¹⁶⁹ Given the substantial undeveloped areas, especially in Los Santos, there is a tremendous opportunity to reimagine what an industrial park should look like before it becomes fully developed. Stakeholders noted several resources and strategies to support these efforts: international agreements between federal and state governments to work towards a common vision, establishing or utilizing an existing enabling framework (i.e., U.S. EPA Border 2025) to focus collaboration efforts to support this outcome,¹⁷⁰ leveraging existing regional task forces,¹⁷¹ community-port collaboration toolkits,¹⁷² and securing federal, state, and private

¹⁶⁴ (Texas Commission on Environmental Quality, 2022)

¹⁶⁵ (U.S. Environmental Protection Agency, 2021)

¹⁶⁶ (Erickson, Ghosh, & Molina, 2004)

¹⁶⁷ (Shelton, et al., 2016)

¹⁶⁸ (SANDAG, 2021); (United States-Mexico Land Ports of Entry Emissions and Border Wait-Time White Paper and Analysis Template, 2012); (CEC, 2016); (Time Savings Benefits Assessment for Secure Border Trade Program--Phase I, 2013); (Time Savings Benefits Assessment for Secure Border Trade Program--Phase II, 2014)

¹⁶⁹ (NM Stakeholder Meetings, 2022)

¹⁷⁰ (U.S. EPA Border 2025 Framework, 2021)

¹⁷¹ (U.S. EPA U.S.-Mexico Border Program, 2022)

¹⁷² (U.S. EPA Community-Port Collaboration Toolkit, 2021)



funding for a redevelopment master planning document. Stakeholders believe sustainability offers a point of differentiation for the region, allowing for world-class manufacturing and logistics capabilities to be positioned alongside strategic sustainability investments that provide a pathway to carbon neutrality and the execution of environmental, social, and corporate governance priorities.

3.8. Policy

The tri-state, binational nature of the Paso del Norte region requires a unique policy-making approach. Specifically, policy needs to be viewed from a unique regional lens to avoid inhibiting the shared cultures and dynamics required of a hub for global trade. Stakeholders mentioned that policy and protocol, while necessary for the functioning of large-scale operations, have presented roadblocks to new solutions, particularly regarding technology.

Governance in Paso del Norte is complex in that it involves multiple jurisdictions on both sides of an international boundary. Added to this that the Paso del Norte Region is geographically distant from both national and state seats of government. Sitting at the crossroads of national and international borders makes maintaining diplomatic relationships a necessary, but challenging, task. For example, each of the three components of Paso del Norte has distinctive views of international border regulations that affect the flow of people, vehicles, and goods throughout the region.

Many stakeholders identified a major policy concern was long wait times at the border. While some challenges can be solved with increased staffing, technology will also be an important tool to provide an acceptable level of inspection while speeding up cross-border traffic and commerce. As infrastructure is planned and designed, care should be taken to incorporate the most current technology while also providing mechanisms for future upgrades as they develop. Given the opportunity for significant modernization projects at ports of entry in the region, policy and protocol should be considered alongside technology as key tools to advance border infrastructure during modernization as the ports will continue to operate for many decades, over which significant technology advances can be expected. In this regard, the suggestion that the proposed upgrade of the Santa Teresa POE be used as an opportunity to construct a port of entry that showcases modern technology is on point.

Policies also need to be created to facilitate support of and progress in industries identified as key sectors for growth in the region. For example, policies should be adopted that encourage and attract new businesses, particularly international ones, that can benefit from the advantages of the Paso del Norte region. Policies that bolster the entrepreneurial ecosystem, such as



streamlining regulations for business creation and establishing “startup visas” to allow international entrepreneurs to launch and grow target industry businesses in the U.S., would be extremely beneficial and leverage the talent throughout the region.¹⁷³

Common-sense policy modifications, such as the modification of navigable waterway requirements for the Rio Grande, should be addressed. Given the nature of the Rio Grande, it makes sense to eliminate this requirement to allow for a wider, flatter bridge at the El Paso-Juárez crossing that could ease bottlenecks.

Stakeholders also identified extending the 301 Tariff Exclusions as an important initiative for the region.¹⁷⁴ The China Section 301 Tariff Action is a set of tariffs imposed on China by the Trump administration and extended by the Biden administration. The tariffs are in response to alleged unfair trade practices by the Chinese government, particularly regarding intellectual property. Stakeholders identified the status of these tariffs as an important initiative for the region.¹⁷⁵ Some stakeholders argued that extending the 301 Tariffs is important for the region as it would encourage onshoring and nearshoring of manufacturing to North America. This would facilitate the recruitment of manufacturing to the Paso del Norte region.

Other stakeholders argued that the extension of the China 301 Tariff Action is not in the region's best interest as the Paso del Norte region is heavily involved in re-exporting products imported from China. Specifically, goods imported into the United States for immediate export (so-called foreign exports) accounted for more than half (60%) of all El Paso Customs District exports. This is by far the largest proportion of foreign export trade of any customs district. Foreign export is an important step in the supply chain for many Paso del Norte manufacturers. Much of the Santa Teresa POE volume is made up of electronic components destined for the Foxconn plant. Historically, these electronic components were often sourced from China, hence, subject to 301 tariffs.

The disruption of foreign exports is a problem for the Paso del Norte region as there is considerable infrastructure on both sides of the border supporting the re-export trade associated with the maquiladora industry. This infrastructure takes the form of logistic capabilities, manufacturing capacity, and an existing workforce already employed in the processing of foreign exports. This specialization in foreign export is an existing competitive advantage of the region.

¹⁷³ (Borderplex 2025 Ascend Plan, 2020)

¹⁷⁴ (NM Stakeholder Meetings, 2022)

¹⁷⁵ (NM Stakeholder Meetings, 2022)



Continuation of the 301 tariffs, the argument goes, inhibits the expansion of foreign exports, therefore, is counterproductive for the region.

Another issue regarding the China 301 Tariffs mentioned by stakeholders is their lack of permanence. The Biden administration originally extended exceptions to more than 2,000 products previously covered by Chinese Section 301 tariffs but allowed most of these exceptions to expire, with only 549 to continue. Recently, this list was whittled down even further to 352 exceptions. These few remaining exceptions are expected to expire on December 31, 2022. This on/off trade policy makes planning difficult, some stakeholders complained. More permanent tariff policies would allow long-term investments to facilitate onshoring and reshoring to North America.

A particular example given by stakeholders is a dispute involving crystalline silicon photovoltaic cells (CSPs), which are used to manufacture solar panels. Imports of CSPs from China have been subject to 301 Tariffs. Recently, Auxin Solar Inc. filed a petition requesting that the US Department of Commerce initiated a circumvention investigation into whether imports of CSPs from Cambodia, Malaysia, Thailand, or Vietnam are an attempt by China to avoid antidumping and countervailing duty orders.¹⁷⁶ The amount of tariff asked for in the petition varies from 19% to 525% and potentially could be applied retroactively. The action could affect 80% of CSP imports if action is taken against all the countries cited. With its potential for retroactive application of tariffs, the dispute has introduced uncertainty into the solar energy supply chain sufficient to cause several projects to be delayed or canceled. The circumvention investigation has disrupted potential projects in New Mexico, stakeholders report. This disruption has implications for global warming.

Effective policies will require extensive coordination across state and international borders and collaboration across multiple agencies, including departments of transportation, and metropolitan planning organizations, among others.¹⁷⁷ An example cited by stakeholders is the San Diego Association of Governments (SANDAG), which has organized binational committees to gather input on multiple issues and includes Mexican representatives as advisory members to their Board of Directors.¹⁷⁸ The Paso del Norte region has many existing avenues of collaboration: Border Task Force, Binational Bridges and Border Crossings Group (BBXG), Joint Working Committee on Transportation Planning (JWC), New Mexico-Chihuahua Commission, New Mexico Border Transportation Master Plan Steering Committee (BTMP), New Mexico Border

¹⁷⁶ (Fleming, Levine, & Kimberly, 2022)

¹⁷⁷ (Santa Teresa Border Area Transportation Needs Assessment and Strategic Plan, 2016)

¹⁷⁸ (SANDAG Committees: San Diego's Regional Planning Agency, n.d.)



Trade Advisory Committee (BTAC), Texas-Mexico Border Transportation Master Plan (BTMP), Texas Border Trade Advisory Committee (BTAC), Binational Regional Steering Committee (BNRSC), City of El Paso Bridges Steering Committee (BSC), Borderplex Alliance, El Paso POE Stakeholders Committee, Santa Teresa POE Stakeholders Committee, and more. Despite this substantial existing collaboration, it would be a good practice to identify any gaps that could improve collaboration and speed policy decisions, especially binational policy decisions. Stakeholders suggested adding a representative from Mexico, in a non-voting capacity, to the El Paso Metropolitan Planning Organization. Additionally, relaxing some requirements for participation in this organization, such as being able to designate a representative, may also ensure broader regional input.

Stakeholders also mentioned that, ideally, land POEs should have a single authority for oversight (as opposed to ports functioning under multiple authorities for individual components).¹⁷⁹ This would help minimize confusion, streamline processes, and ensure that port maintenance and improvements be addressed under a unified vision. It would also simplify the sourcing of funding for such initiatives. Placing all POEs under the jurisdiction of, for instance, the U.S. DOT would be a significant step forward. Many stakeholders noted consistent funding streams for POEs as an important issue. Regular and predictable funding streams would help POEs adapt to changing conditions and maintain high levels of POE functionality between major upgrades, which currently take place every few decades.

Above all, any planning and decision-making regarding the Paso del Norte region must include input from stakeholders representing each of the three primary sub-regions. Stakeholders also mentioned the need for protocols for pursuing joint funding opportunities, specifically mechanisms for identifying lead coordinators for each opportunity.¹⁸⁰

¹⁷⁹ (NM Stakeholder Meetings, 2022)

¹⁸⁰ (Santa Teresa Border Area Transportation Needs Assessment and Strategic Plan, 2016)



4. Conclusion & Next Steps

The Paso del Norte region has significant opportunities to improve border infrastructure, accommodate existing activity, and facilitate new growth. The Texas-Mexico Border Transportation Master Plan estimates a multibillion-dollar opportunity in reducing wait times for goods and people crossing the border in the Paso del Norte region.¹⁸¹ Enhancing ease of travel across borders and reimagining shared binational spaces would bring the binational communities of the Paso del Norte region closer together, unlock significant economic value, and encourage collaboration, innovation, commerce, tourism, and community-building. Stakeholders identified numerous ideas for border infrastructure improvements that would make this possible. These ideas are included throughout the sections in this report and listed as individual projects in Appendix 1. The recommended next steps to act on these ideas is to move forward with the projects identified as immediate regional needs outlined in Tables 1 through 3 in the Executive Summary.

In addition to opportunities to support the extensive activity already in the Paso del Norte region, the area is currently positioned for massive growth with additional multibillion-dollar opportunities in the reshoring and nearshoring of industry from Asia. Many economic and political factors have lined up favorably for the region, leading many stakeholders to believe “*the time is now*” to fully realize the region’s potential. The favorable factors for the region include a combination of long- and short-term trends and increased interest and engagement from the U.S. and Mexican governments, each with plans for multibillion-dollar investments into the region on both sides of the border.¹⁸² This combined interest, funding, and economic trends present a truly once-in-a-generation opportunity to develop the binational region.

To capitalize on this opportunity, regional stakeholders must work together strategically to address any capacity issues inhibiting growth and enhance the region’s competitiveness by leveraging strengths to create a total package for new business locations and strategic supply chain investments. A comprehensive, coherent marketing and recruitment strategy is important for communicating the Paso del Norte region’s strengths and attracting new businesses to the area. This is a significant undertaking, as the strategy needs to balance the need to promote the

¹⁸¹ (Texas-Mexico Border Master Transportation Plan, 2021)

¹⁸² (The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022, 2022); (Averbach & Nacha, 2022)



unique assets of the three primary components of the region – southern New Mexico, west Texas, and northern Chihuahua– while presenting a holistic view of the advantages of the entire area.

Stakeholders acknowledge that they often compete with one another for limited resources. While the advantages of a unified approach are numerous, there is also a finite pool from which residents, taxpayers, students, and workers are drawn. There is competition among the communities of the Paso del Norte region for funding to improve their respective infrastructure, employment landscape, and educational opportunities. Thus, while the Paso del Norte is a single region, the composing elements of this region have their own individual interests that they pursue independently. This is an inherent conflict of interest among stakeholders.

The temporary, discrete gains achieved by constituent parts of the Paso del Norte region must be tempered with cooperation to achieve the benefits of acting as a unified whole. The region will be best positioned for success when the communities in the Paso del Norte region work together to leverage shared resources and assets rather than competing with one another. The Paso del Norte’s shared population will be served best when all think first about what will benefit the region as a whole in the years ahead, regardless of what may look like success for any one component of the region at a moment in time. Collaboration over competition is what is best for the people of the Paso del Norte region, and the people are the ultimate focus of any strategic planning.

For this reason, it is important to think of Paso del Norte as a single region competing globally with other regions for industry. Chihuahua, Texas, and New Mexico each have unique assets and workforces, and these should be considered strategically to present the most competitive region to attract key industries. The specific location of each asset or industry should be determined by the most productive use, and the region should celebrate the regional synergy these assets provide. The opportunity is truly massive, and spillover benefits between Chihuahua, Texas, and New Mexico are substantial and will continue to grow as economic and community linkages expand.



5. Appendix 1 – Regional Projects

Strategic initiatives identified in this report came from one or more stakeholders in our meetings and interviews. Table 7 lists these projects and initiatives with their respective categories and geographic locations. The projects with the most pressing immediate needs are listed in the Executive Summary section.

Table 7: Paso del Norte Projects

Category	Project Name	Chihuahua, Mexico	New Mexico, U.S.A.	Texas, U.S.A.
Air/Rail	Doña Ana Jetport improvements		X	
	Juárez Rail Bypass to Santa Teresa	X	X	
	Presidio Rail POE improvements			X
Economic Development	Binational infrastructure planning	X	X	X
	Binational Park/Complex	X		X
	Binational sustainability master planning	X	X	X
	Expansion of marketing and recruitment efforts	X	X	X
	Luna County port infrastructure development		X	
	Columbus/Palomas historical and cultural tourism development	X	X	
	Santa Teresa Master Plan		X	
	Supplier development programs	X	X	X
	Workforce training initiatives	X	X	X
Ports	Additional staffing at Columbus POE		X	
	Binational mass transit	X		X
	Bridge to Ojinaga/Presidio POE			X
	Highway bypass to Palomas/Columbus POE	X		
	New facilities for asylum seekers at POEs	X		X
	Pre-clearance program expansion	X	X	X
	Presidio Foreign Trade Zone improvements			X
	Reform U.S. port staffing models		X	X
	San Jerónimo POE modernization	X		
	Santa Teresa POE modernization		X	
	Stanton Street Bridge modernization			X
	Streamline regulation, update operational policies and unify land POE U.S. jurisdiction under USDOT			X
Streamline funding for land POE			X	X



	Sunland Park POE		X	
	Village of Columbus port infrastructure development		X	
	Zaragoza-Yselta POE and pedestrian facility improvements	X		X
Regional Connectivity	Access to El Berrendo/Antelope Wells POE	X		
	Anapra Bypass	X		
	Borderland Expressway			X
	Downtown 10			X
	High Mesa Road		X	
	Pete Domenici Highway grade separations		X	X
	San Jerónimo Highway No. 2	X		
Water	Colonia infrastructure investment		X	X
	IBWC funding expansion			X
	Water infrastructure upgrades in Santa Teresa		X	



6. Appendix 2 - Stakeholder List

- New Mexico Economic Development Department
- Alicia Keyes, Cabinet Secretary, New Mexico Economic Development
- Maria Granados, Cabinet Secretary, Secretaría de Innovación y Desarrollo Económico del Estado de Chihuahua
- Congresswoman Veronica Escobar, US House of Representatives (TX-16)
- Border Bridges Trust
- Borderplex Alliance
- Border Industrial Association, Santa Teresa
- Camino Real Regional Mobility Authority
- City of El Paso
- City of Juárez
- City of Sunland Park
- Desarrollo Económico (DESEC) de Ciudad Juárez, A. C.
- Diputada Maite Vargas
- Doña Ana County
- Doña Ana County Jetport
- Economic Development of Juárez
- El Paso Community Foundation
- El Paso County
- El Paso Metropolitan Planning Organization
- Foxconn
- Franklin Mountain Investments
- GLD Partners
- Instituto Municipal de Investigación y Planeación (IMIP) Juárez
- Ironhorse Resources, Inc.
- Luna County
- Mesilla Valley Economic Development Alliance (MVEDA)
- Mexican Consulate in El Paso
- NM Border Authority
- NM Department of Transportation
- Office of Congresswoman Escobar
- Office of the Governor of Chihuahua (Juárez)
- Office of the Mayor, Juárez
- Santa Teresa Land, LLC



- Secretaría de Innovación y Desarrollo Económico del Estado de Chihuahua
- Southern NM Energy Consultants
- State of Chihuahua
- Texas Department of Transportation
- U.S. Customs and Border Protection Office of Asset and Facility Management, Field Office Facilities
- U.S. Customs and Border Protection Office of Field Operations, El Paso Field Office
- Union Pacific
- Village of Columbus, NM



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