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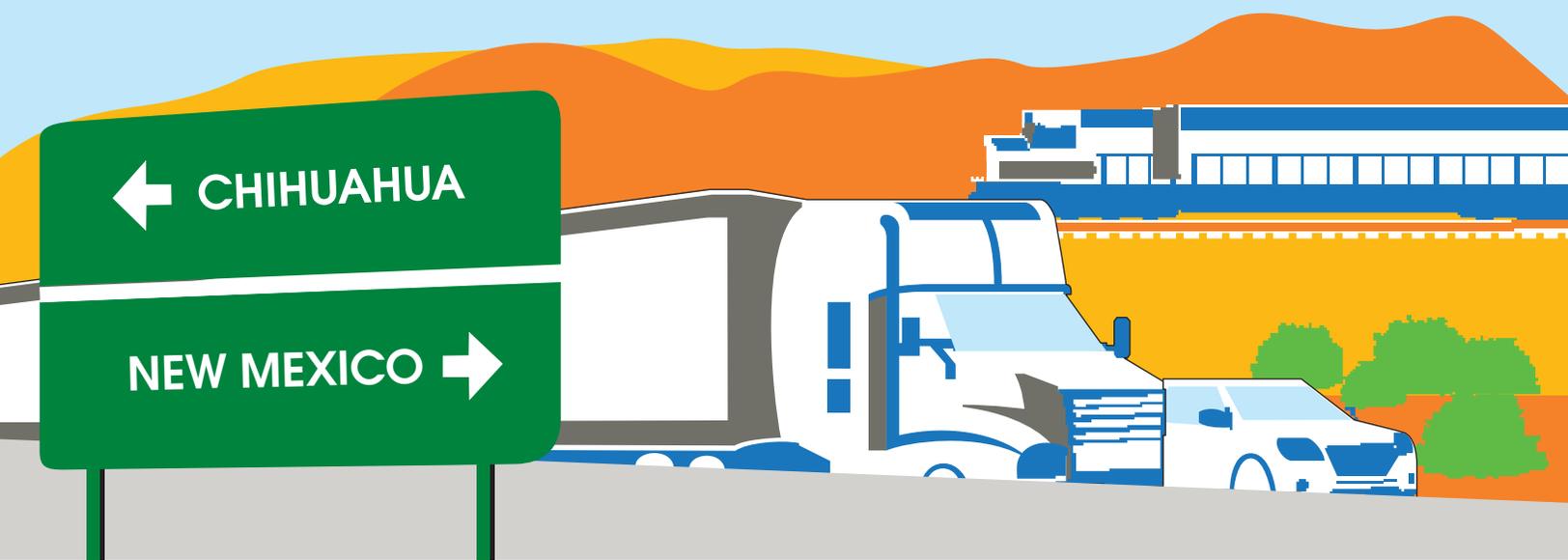
# New Mexico - Chihuahua Border Master Plan

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## Nuevo México – Chihuahua Plan Maestro Fronterizo

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## Introduction

Currently Mexico is the United States' 3rd largest trading partner (in terms of two way trade). Total trade between the two countries has shown an increase of approximately 80 percent in the last five years, increasing from \$306 billion in 2009 to more than \$550 billion in 2013. The State of New Mexico in the United States and the State of Chihuahua in Mexico share approximately 180 miles or 290 kilometers (km) of international border with three formal border crossings, referred to as Land Ports of Entry (LPOEs), located along this border. They are listed in the table below.

New Mexico – Chihuahua Land Ports of Entry	
New Mexico, U.S.	Chihuahua, Mexico
Antelope Wells	El Berrendo
Columbus	Puerto Palomas
Santa Teresa	San Jerónimo

Improving the operational efficiency of the LPOEs and supporting transportation infrastructure is essential to promote international trade, and enhance safety and security, in addition to relieving traffic congestion, reducing delays and improving the quality of life for residents in the border region. The New Mexico – Chihuahua Border Master Plan (BMP) is a comprehensive binational approach to coordinate the planning, inventory, and delivery of projects at LPOEs and related transportation infrastructure serving the international ports of entry in the border region. The New Mexico Department of Transportation (NMDOT) prepared this BMP in collaboration with the Federal Highway Administration (FHWA), Secretaría de Comunicaciones y Transportes (SCT), and the government of the State of Chihuahua, Mexico.

## Study Purpose and Objectives

The purpose of the New Mexico - Chihuahua BMP is to develop an integrated transportation infrastructure plan to guide future improvements and to enhance the efficiency and effectiveness of cross-border transportation facilities. The primary objectives of the New Mexico - Chihuahua BMP are:

- Provide an understanding of LPOE and transportation planning issues on both sides of the border.



- Develop a rational land use, environmental, population, socio-economic database as a component for transportation and LPOE planning.
- Evaluate growth and future capacity needs, and formulate forecasts of future conditions within the border corridor.
- Evaluate the existing binational LPOE and transportation system with respect to current and future demand and identify appropriate infrastructure improvement projects necessary to handle expected future growth.
- Develop a comprehensive and prioritized assessment of transportation needs along the border corridor, including access to/from LPOEs.
- Develop and implement a framework for ranking and prioritizing projects and services (e.g., roads, public transit, and railways).
- Design a stakeholder/public involvement process that is inclusive and ensures the participation of all agencies, interested parties, and others affected by LPOE projects and transportation infrastructure improvement projects associated with facilities serving LPOEs.
- Foster consistency between the planning processes of different agencies in order to facilitate implementation of Plan recommendations and create a mechanism for updating the plan on a regular basis, making it a living document.
- Ensure the BMP process is accepted and embraced by stakeholders throughout the border region.
- Ensure the Plan both reflects and is incorporated as a component of Federal, State, and local plans (including NMDOT's Statewide Long Range Multimodal Transportation Plan).
- Establish a process to ensure dialogue among federal, state, regional, and local stakeholders in the United States and Mexico to (1) identify future LPOE and connecting transportation infrastructure needs and (2) coordinate projects and update the Plan on a regular cycle (e.g., every 3 to 5 years).

An inclusive stakeholder involvement program, implemented on both sides of the border, was developed to support the achievement of the aforementioned objectives.



## Background

Border Master Plans are defined and promoted by the US - Mexico Joint Working Committee on Transportation Planning (JWC or Committee). The JWC is a binational group with the primary focus of engaging in cooperative land transportation planning and the facilitation of efficient, safe, and economical cross-border transportation movements. It is comprised of transportation professionals from FHWA and their Mexican counterpart SCT. In addition, the Committee includes representatives from the US Department of State (DOS), the Mexican Secretariat of Foreign Relations (SRE), the four US border state Departments of Transportation (DOTs), and the transportation agencies of the six Mexican border States. The General Services Administration (GSA) and Customs and Border Protection (CBP) of the Department of Homeland Security (DHS) also participate in JWC meetings.

BMPs are comprehensive long range plans that address existing and anticipated future demand for cross-border travel and trade generated by current and future stakeholders, a growing population, and increased binational economic activity. The Plans are intended to identify transportation infrastructure improvement projects that will expedite the movement of people and goods within a defined study area. BMPs document regional needs and priorities, identify and prioritize LPOE and LPOE supportive transportation projects, guide the allocation of future limited funding, and foster communication and coordination among border stakeholders. To date, five BMPs have been published to guide border area transportation improvement policies and actions: California Baja – California BMP (September, 2008, Updated July, 2014); Arizona – Sonora BMP (February, 2013); El Paso – Santa Teresa – Chihuahua BMP (October, 2013); Laredo Coahuila – Nuevo León – Tamaulipas BMP (June, 2012); and Lower Rio Grande Valley – Tamaulipas BMP (October, 2013).

## The Study Area

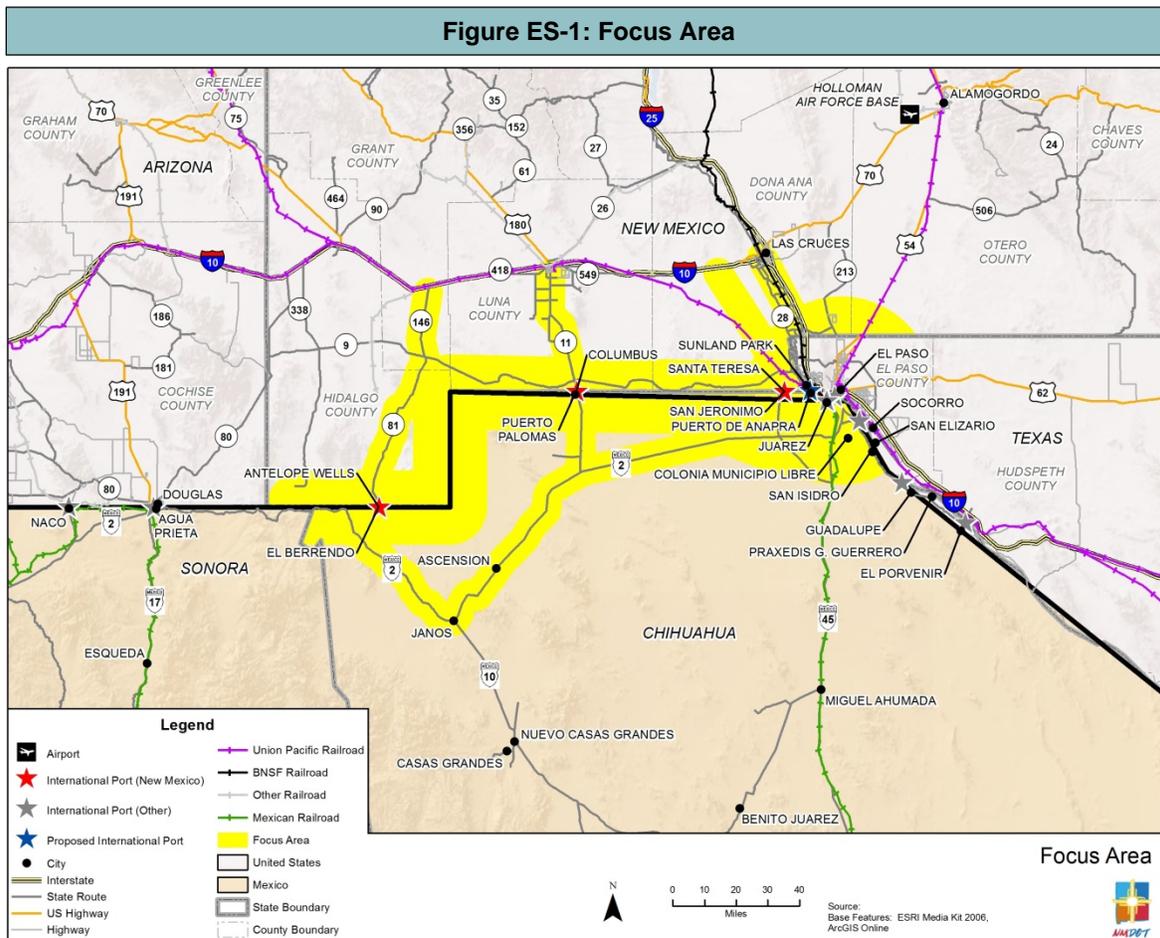
The New Mexico - Chihuahua BMP included two areas for studying and evaluating transportation infrastructure needs along the international border. These two areas – Focus Area and Area of Influence – have been defined, because there are distinct issues, concerns, and needs associated with the movement of people and goods throughout the greater border region.

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The Focus Area for the New Mexico Chihuahua Border Master Plan (BMP) is the immediate area north and south of the border, generally defined as approximately 10 miles in width (Figure ES-1). This ribbon of focus is expanded to encompass three principal metropolitan areas: the southern portion of Las Cruces, New Mexico; Deming, New Mexico; and Juárez, Chihuahua and the roadways that connect to the border.

The Area of Influence identified for the BMP extends approximately 60 miles (96.6 km) north and south of the international border encompassing Interstate 10 in the US, a major transcontinental highway stretching from coast to coast, and the southern terminus of Interstate 25. In Mexico, the Area of Influence extends to encompass Mexico Highway 2, which is the major east - west route between northwestern Sonora, Mexico, and Ciudad Juárez, Chihuahua. It also includes Mexico Highways 10 and 45, which provide direct access to northern Chihuahua and both coasts. In addition, in the US, there are numerous state highways which support travel to/from the international border areas.





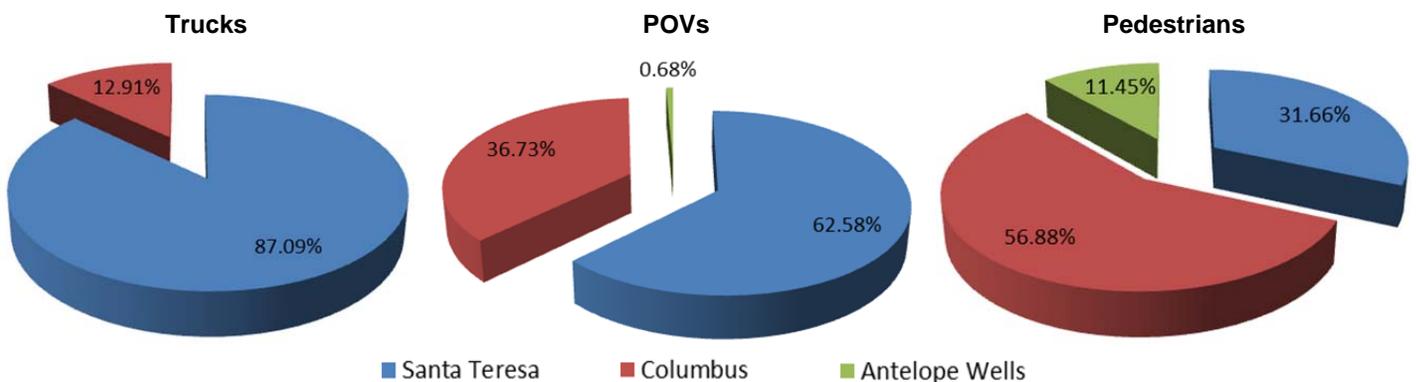
## Overview of the New Mexico-Chihuahua Land Ports of Entry (LPOEs)

The State of New Mexico in the United States and the State of Chihuahua in Mexico share approximately 180 miles of international border. The three border crossings (depicted by red stars in Figure ES-1) located along this border are as follows, from west to east:

Antelope Wells / El Berrendo	Columbus / Puerto Palomas	Santa Teresa / San Jerónimo
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These crossings not only serve as passageways for travel and tourism between New Mexico and Chihuahua, but also as fundamental gateways for both U.S. - Mexico and U.S. - Mexico-Canada trade. The majority of all border crossings from Chihuahua into New Mexico occur through the Santa Teresa - San Jerónimo LPOE. At this LPOE in 2013, over 81,000 trucks crossed the border with a variety of goods, accounting for approximately 87 percent of the total number of truck crossings at the New Mexico – Chihuahua Border. Travel by privately owned vehicles (POVs) at this port represents a smaller volume as only 63 percent of the POVs crossed at the Santa Teresa - San Jerónimo LPOE in 2013. By far the largest volume of pedestrians (57 percent) crossed through the Columbus - Puerto Palomas LPOE in 2013. The relatively high number of pedestrian crossings at Columbus is due to the large number of students crossing, who travel to New Mexico for their education. Antelope Wells LPOE is the least utilized crossing along the southern border. This port accounts for less than one percent of the total POV crossings between New Mexico and Chihuahua, at approximately 0.7 percent. This port accommodates a large number of shuttle buses, accounting for approximately 86 percent of the total bus crossings at the New Mexico – Chihuahua border. Antelope Wells counts bus passengers as pedestrian crossings in the data provided.

**Figure ES-2: Distribution of Chihuahua to New Mexico Crossings by Mode (2013)**





## The Planning Process

The purpose of this BMP is to develop an integrated transportation infrastructure plan to guide future improvements and to enhance the efficiency and effectiveness of cross-border transportation facilities. The BMP study area covers a wide range of jurisdictions, including federal, state, county, and city governments, planning organizations, and railroad companies. The process is supported by a comprehensive Stakeholder Outreach Plan, which is developed to ensure an effective stakeholder involvement process; and founded on the following principles:

- Providing continuous stakeholder access to study information and opportunities for stakeholder input using a variety of outreach tools, including a newsletter, comment cards, presentations, focus groups and a study website.
- Providing comprehensive stakeholder outreach, including briefing key stakeholders, government officials and business leaders throughout the study process.
- Linking stakeholder involvement activities to study milestones, technical activities and decision making.
- Documenting and maintaining, in a central accessible location, a record of all communication received throughout the duration of the study.
- Reviewing the effectiveness of the Stakeholder Outreach Plan periodically to ensure information is being disseminated in an efficient and effective manner.
- Conducting regular coordination meetings with the lead agency, cooperating agencies and other stakeholder groups throughout the study.

The Stakeholder Outreach Plan included development of a Policy Advisory Committee (PAC) and Technical Working Group (TWG). The PAC and TWG were fully engaged throughout the planning process, reviewing study materials and providing input relevant to identification and evaluation of projects incorporated in the New Mexico - Chihuahua BMP. In addition to public meetings, implementing the Stakeholder Outreach Plan included development and distribution of a series of newsletters and creation of a project website: [www.nm-chihbmp.org](http://www.nm-chihbmp.org).



## Transportation Project Evaluation Criteria

Projects were divided into three “types” to reflect differences in funding sources:

1. LPOEs
2. Multimodal Infrastructure (MMI), including roadways, bridges, highway interchanges, pedestrians, bicyclists and transit
3. Rail

In order to prioritize projects, categories of evaluation criteria were developed to rank prospective projects. These categories were based upon similar criterion developed for border master plans prepared in California, Texas and Arizona. The Categories of Evaluation Criteria recommended by the TWG and approved by the PAC were as follows:

1. Cost Effectiveness
2. Project Readiness
3. Capacity/Congestion
4. LPOE Connectivity (not applicable to LPOE projects)
5. Regional Benefit
6. Binational Coordination (applies only to LPOE projects)

Within each of these major categories, criterion specific to the three project types were developed. In the final prioritization process, LPOEs and Multimodal Infrastructure projects were evaluated using 17 specific criteria. The evaluation of Rail projects utilized 16 specific criteria. All criteria are defined, in detail, in Appendix D.

A list of 50 transportation-related projects in New Mexico and Chihuahua was developed from the findings and recommendation of previous studies and stakeholder input. Each project was assigned a unique project identification (ID) number, then described with respect to project location, objectives/actions, and other pertinent data and information relevant to applicable evaluation criteria.



## Project Rankings

Using the data collected for each project, the study team independently completed the draft scoring of all projects (50 total projects) in each of the three project types. Several PAC/TWG meetings focused on analyzing the scoring. The study team typically reviewed a few example projects' scores and then each committee member was given the opportunity to request more detail on a specific project or series of project scores. Projects were compared in whole, versus other projects, and often specific criteria was used to contrast similar projects. The process was labor intensive, but resulted in a more consensus supported document. A portion of the results of these efforts are summarized in Tables ES-1 through ES-5. The comprehensive list of project rankings is confirmed in Chapter 7.

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**Table ES-1: Evaluation of New Mexico Land Port of Entry Projects**

Evaluation of New Mexico Land Port of Entry Projects				Capacity/Congestion Total Points	Project Cost (in US\$1,000s)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	Binational Coordination Total Points	Weighted Combined Score	New Mexico LPOE Overall Rank
<b>Max Point Value</b>				47	-	5	7	7	7	100	out of 4
ID	State	Linked Projects	LPOE Project Description								
1003	NM	4003	Columbus Port of Entry: Expand and reconstruct a new LPOE to the north of the existing facility; Separate truck and passenger vehicle traffic	30	60,000	2	6	7	7	73	1
1001	NM	2003	International Gateway Courtesy Plaza	6	200	3	4	6	4	45	2
1004	NM	3003 4001 4002 6001	Santa Teresa Port of Entry (Freight/Rail): Construct a new US LPOE in Santa Teresa capable of inspection of rail and truck freight crossing the border from San Jerónimo, Chihuahua	20	150,000	1	3	2	5	41	3
1002	NM	2009 4004	Construct a new US LPOE in Sunland Park, New Mexico with a connection to Anapra, Chihuahua.	0	25,000	0	5	4	2	26	4

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**Table ES-2: Evaluation of New Mexico Multimodal Infrastructure Projects**

Evaluation of New Mexico Multimodal Infrastructure Projects							Capacity/Congestion Total Points	Project Cost (in US\$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	New Mexico MMI Overall Rank	
							<b>Max Point Value</b>	<b>12</b>	<b>-</b>	<b>3</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>100</b>	<b>out of 22</b>
ID	State	Linked Projects	Facility	Sponsor	Project Description/ Extent	Proposed Improvement									
2003	NM	1001 2005	NM 136	NMDOT	POE to Intersection with TX State Line	Reconstruction	7	40,000	3	5	3	7	69	1	
2008	NM		NM 9 Columbus Road	NMDOT	McNutt (NM 273) to Pete Domenici (NM 136)	Extend as a 4-Lane Divided Principal Arterial	9	14,977	3	4	3	5	67	2	
2010	NM	2011 2016	Industrial Drive	Doña Ana County	Divisadero Intersection	Widen Industrial Drive to 4 lanes with center-turn lane through intersection and construct 150' SB right-turn lane	7	500	3	4	3	4	61	3	
2014	NM	2015	Strauss Road & Road 2A	NMDOT, Doña Ana County	Verde Logistics Industrial Park	Construct 600' WB right-turn lane	7	100	3	4	3	4	61	4	
2018	NM		Interstate 10, Hachita Bridge	NMDOT	Mile 49	Bridge Replacement	7	2,500	2	5	3	5	61	5	
2001	NM		Gold Avenue	City of Deming	Gold Street to Spruce Road	Geometrics & Drainage Improvements	6	800	2	6	3	4	60	6	

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**Table ES-3: Evaluation of New Mexico Rail Projects**

Evaluation of New Mexico Rail Projects				Capacity/Congestion Total Points	Estimated Project Cost (US \$Millions per mile)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	New Mexico Rail Overall Rank
<b>Max Point Value</b>				<b>11</b>	<b>-</b>	<b>3</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>100</b>	<b>out of 4</b>
<b>ID</b>	<b>State</b>	<b>Linked Project</b>	<b>Project Description</b>								
3003	NM	1004 4002 6001	Rail Line; Santa Teresa POE to UPPR and BNSF mainlines	9	\$5m/mi +	2	5	1	5	71	1
3002	NM		Commuter Rail; Las Cruces, New Mexico, to El Paso, Texas	4	\$10m/mi +	2	5	2	0	42	2
3001	NM		Denver to El Paso High-Speed Rail	6	\$60m/mi +	1	4	1	0	36	3



**Table ES-4: Evaluation of Chihuahua Land Port of Entry Projects**

Evaluation of Chihuahua Land Port of Entry Projects					Capacity/Congestion Total Points	Project Cost (in \$1,000s MXN Pesos)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	Binational Coordination Total Points	Weighted Combined Score	Chihuahua LPOE Overall Rank
<b>Max Point Value</b>					47	-	5	7	7	7	100	out of 4
ID	State	Linked Project	Sponsor	LPOE Project Description								
4003	CHIH	1003	SAT	Expansion and rearrangement for Puerto Palomas POE - Expand and rearrange LPOE over 7.2 hectares, completely reorganizing import/export inspection facility areas including INM facility	27		0	5	6	7	59	1
4002	CHIH	1004 4001	SAT	Rearrangement of San Jerónimo - Expansion of cargo lanes and privately owned vehicles, including facilities for temporarily import vehicles (CITEV), relocation of inspection equipment and INM facilities	21		0	5	5	7	53	2
4001	CHIH	1004 3003 4002 6001	SCT-Chihuahua	New Rail POE at San Jerónimo POE Area (PROY. LF-2)	21		0	3	2	5	38	3
4004	CHIH	1002	IMIP	POE Camino Real Tierra Adentro (PROY. CRTA-1) in Sunland-Anapra area.	4		0	5	4	2	29	4

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**Table ES-5: Evaluation of Chihuahua Multimodal Infrastructure Projects**

Evaluation of Chihuahua Multimodal Infrastructure Projects							Capacity/Congestion Total Points	Project Cost (in \$1,000s MXN Pesos)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Chihuahua MMI Overall Rank	
							<b>Max Point Value</b>	<b>12</b>	<b>-</b>	<b>3</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>100</b>	<b>out of 14</b>
ID	State	Linked Project	Facility	Sponsor	Project Description/Extent	Proposed Improvement									
5024	CHIH		Access road to El Berrendo POE	SCT	Construct 8.3 km of 2-lane highway per SCT specs to complete access to El Berrendo POE. There are 3 km already paved from intersection of MEX-2 to El Berrendo. This new 8.3 km will provide a full paved road.	Construct 8.3 km of 2-lane highway per SCT specs to complete access to El Berrendo POE. There are 3 km already paved from intersection of MEX-2 to El Berrendo. This new 8.3 km will provide a full paved road.	7	75,000	2	6	5	8	73	1	
5009	CHIH	5007	MEX-45D at MEX-2	SCT	MEX-45D at MEX-2 (Jerónimo Loop)	Modernize the intersection of MEX-2 with MEX-45D	7	7,500	2	5	3	4	67	2	

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Table ES-6 Evaluation of Chihuahua Rail Projects												
Evaluation of Chihuahua Rail Projects					Capacity/Congestion Total Points	Estimated Project Cost (in \$1,000s MXN pesos)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Chihuahua Rail Overall Rank
Max Point Value					11	-	3	8	5	5	100	
ID	State	Linked Project	Project Description	Sponsor								
6001	CHIH	1004 3003 4002	City of Juárez Rail Bypass (PROY. LF-1)	SCT-Chihuahua	10	1,600,000	3	8	3	4	90	1
6003	CHIH	6002	Rail Spur to South Loading Terminal	IMIP-Ascension	6	288,000	2	4	3	2	53	2
6002	CHIH	6003	South Loading Terminal (PROY. LF-3)	SCT	8	500,000	1	4	2	2	51	3



## Next Steps

The following recommendations are presented for consideration and implementation as appropriate and as funding permits:

- Contingent on the availability of binational funding, it is suggested that an Implementation Monitoring Committee (IMC) should be formed that includes persons representing the highest levels of affected governments and appropriate stakeholders with a direct and vested interest in project implementation.
- NMDOT should take a leadership position regarding border LPOE-related transportation infrastructure improvements to (1) ensure support for the formation of the IMC and (2) to define the functional role of the committee in context with on-going binational coordination efforts in the New Mexico-Chihuahua Border Region.
- The IMC should meet on a regular basis, perhaps semi-annually, to review the status of recommended projects and assess progress toward improvement goals.
- A Performance Assessment should be prepared to enable not only the tracking of progress on implementing high priority projects but, also, to facilitate an understanding of overall improvement of transportation systems and services in the New Mexico-Chihuahua Border Region.
- The IMC should formulate a Report Card to be used to identify where successes have occurred and where obstacles have arisen. This Report Card would serve as guidance for future activities and actions by the IMC and its members.
- The IMC should maintain close coordination with other important entities vital to the future vitality of international relationships pertaining to the New Mexico - Chihuahua border and border communities. Two critical organizations important to the planning and programming of improvements are the FHWA supported U.S. - Mexico Joint Working Committee on Transportation Planning (JWC) and the U.S. - Mexico Bridges and Border Crossings Group (BBBXG).
- The IMC should recognize and keep abreast of Federal and State – U.S. and Mexico, New Mexico and Chihuahua – transportation and border facility coordination and programming initiatives to assure projects on the prioritized list are integrated fully in the funding and permitting processes.



- NMDOT should continue to work with the Secretaría de Comunicaciones y Transportes (SCT) to obtain a fully developed Travel Demand Model (TDM) for the Area of Influence within the State of Chihuahua. The TDM from SCT should be integrated with the next generation of NMDOT's TDM to develop a comprehensive Focused Area TDM for the New Mexico-Chihuahua Border Region.
- NMDOT should work with the General Services Administration, Customs and Border Protection, Federal Highway Administration (FHWA), and their counterparts in Mexico to obtain comprehensive wait time statistics, by travel mode, for each of the three Land Port of Entry crossings.
- For future BMPs, the New Mexico - Chihuahua stakeholders may consider projects in their conceptual stages (with little to no data in any of the weighted evaluation criteria categories) be documented in an inventory list in the appendix and not be ranked with other projects that do have data to support them. The inventory list then can be used in subsequent updates of the BMP in which presumably the project would be advanced enough and supported with appropriate data.