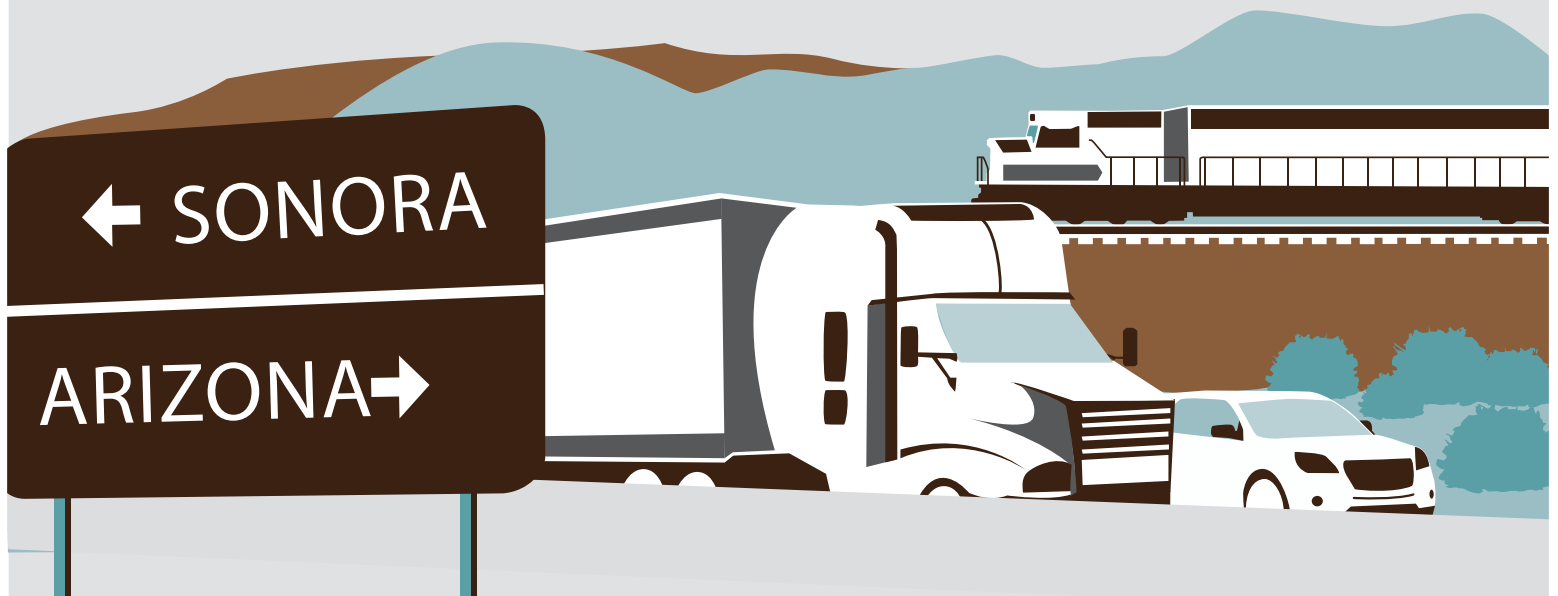


Arizona-Sonora Border Master Plan Plan Maestro Para la Frontera Arizona-Sonora

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Final

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Introduction

Travel between the State of Arizona in the United States and the State of Sonora in Mexico at the international border has increased over the last ten years. There are nine specific land ports of entry (LPOE) facilitating movements between the two states. The majority of LPOEs have experienced an increase in the movement of people and goods, and the increases are expected to continue to grow in future years as population and economic growth occurs in the border region. In 2010, more than 23 million people crossed through LPOEs at the Arizona-Sonora border on foot or in various personal or commercial (e.g., bus, freight) vehicles. The Arizona-Mexico Commission reports nearly \$55 million in bi-national trade and \$7.3 million in tourism expenditures are conducted daily through the LPOEs.¹

Nine Arizona – Sonora Land Ports of Entry	
Arizona, U.S.	Sonora, Mexico
San Luis <ul style="list-style-type: none"> ○ San Luis I ○ San Luis II 	San Luis Rio Colorado <ul style="list-style-type: none"> ○ San Luis I ○ San Luis II
Lukeville	Sonoyta
Sasabe	El Sasabe
Nogales <ul style="list-style-type: none"> ○ DeConcini ○ Morley Gate ○ Mariposa 	Nogales <ul style="list-style-type: none"> ○ Nogales I ○ Nogales II ○ Nogales III
Naco	Centro Naco
Douglas	Agua Prieta

Note: Detailed descriptions/data of each individual port is contained in Chapters 5 and 6

Improving the capacity and operational efficiency of the LPOEs and supporting transportation infrastructure is essential to relieving traffic congestion, reducing delays, enhancing safety and security, promoting international trade, and improving the quality of life for residents in the border region. The Arizona-Sonora Border Master Plan (BMP) presents a comprehensive bi-national approach to coordinating the planning and delivery of projects to improve traffic operations at each LPOE and enhance the efficiency of the multimodal transportation infrastructure providing access to the LPOEs. The Arizona Department of Transportation

¹ According to the Commission’s Website, its mission is “...to improve the economic well-being and quality of life for the residents of Arizona through a strong cooperative relationship with Mexico and Latin America through advocacy, trade, networking and information.”

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(ADOT) prepared this BMP in collaboration with the Federal Highway Administration (FHWA), Secretaría de Comunicaciones y Transportes (SCT), and the government of the State of Sonora, Mexico.

Study Purpose and Objectives

The purpose of the Arizona-Sonora BMP is to provide a roadmap for improving the efficiency and effectiveness of Arizona-Sonora transportation facilities supporting critical social and economic interactions across the international border. The primary objectives of the Arizona-Sonora BMP are:

- Develop and implement a plan for identifying, prioritizing, and promoting LPOE and related transportation projects and services;
- Design a process to ensure relevant international stakeholders participate in the planning of LPOE projects and related transportation infrastructure improvements in the border region;
- Increase understanding of the LPOE and transportation planning processes on both sides of the border; and
- Establish a process for continued dialogue among relevant international stakeholders that will promote coordination on current and future projects, especially through coordination of planning and programming processes adopted and pursued by study participants/partners.

Background

In cooperation with other stakeholders, ADOT defined the long-range transportation infrastructure needs throughout Arizona through a process known as Building a Quality Arizona (BQAZ). The result was the *2010 Statewide Transportation Framework*, which included recommendations contained in the *Statewide Rail Framework Study*. Based on this past work, ADOT released a new Long-Range Transportation Plan (LRTP) in November 2012, known as *What Moves You Arizona*. The LRTP incorporates fiscally-constrained recommendations for transportation infrastructure improvements through the Year 2035, including those that directly affect access to Arizona-Sonora LPOEs and movement throughout the border region.

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The *2010 Statewide Transportation Framework* and the LRTP did not specifically consider the implications of transportation infrastructure improvements in the border region and at the various LPOEs. ADOT proceeded with development of the Arizona-Sonora BMP as an action item of the US/Mexico Joint Working Committee on Transportation Planning. This BMP has been prepared with the active involvement of the FHWA and was funded by the Coordinated Border Infrastructure (CBI) Program. FHWA has also been involved with the other BMP initiatives through its Surface Transportation Environment and Planning Cooperative Research Program (STEP) which has sponsored and is sponsoring development of border master plans for the regions of California, New Mexico, and Texas.

The Study Area

The Arizona-Sonora BMP included three hierarchical areas for studying and evaluating the specific transportation system needs along the international border. These three areas – Focus Area, Area of Influence, and Regional Area of Influence – have been defined, because there are distinct issues, concerns, and needs associated with the cross-border movement of people and goods as well as throughout the greater border region.

The Focus Area (Figure ES.1) is the zone generally 10 miles north and south of the 389-mile Arizona-Sonora international border. This narrow ribbon of focus was expanded slightly to encompass the three principal metropolitan areas: Yuma/San Luis, Nogales/Nogales, and Douglas/Agua Prieta. The nine distinct international LPOEs are located within the Focus Area.

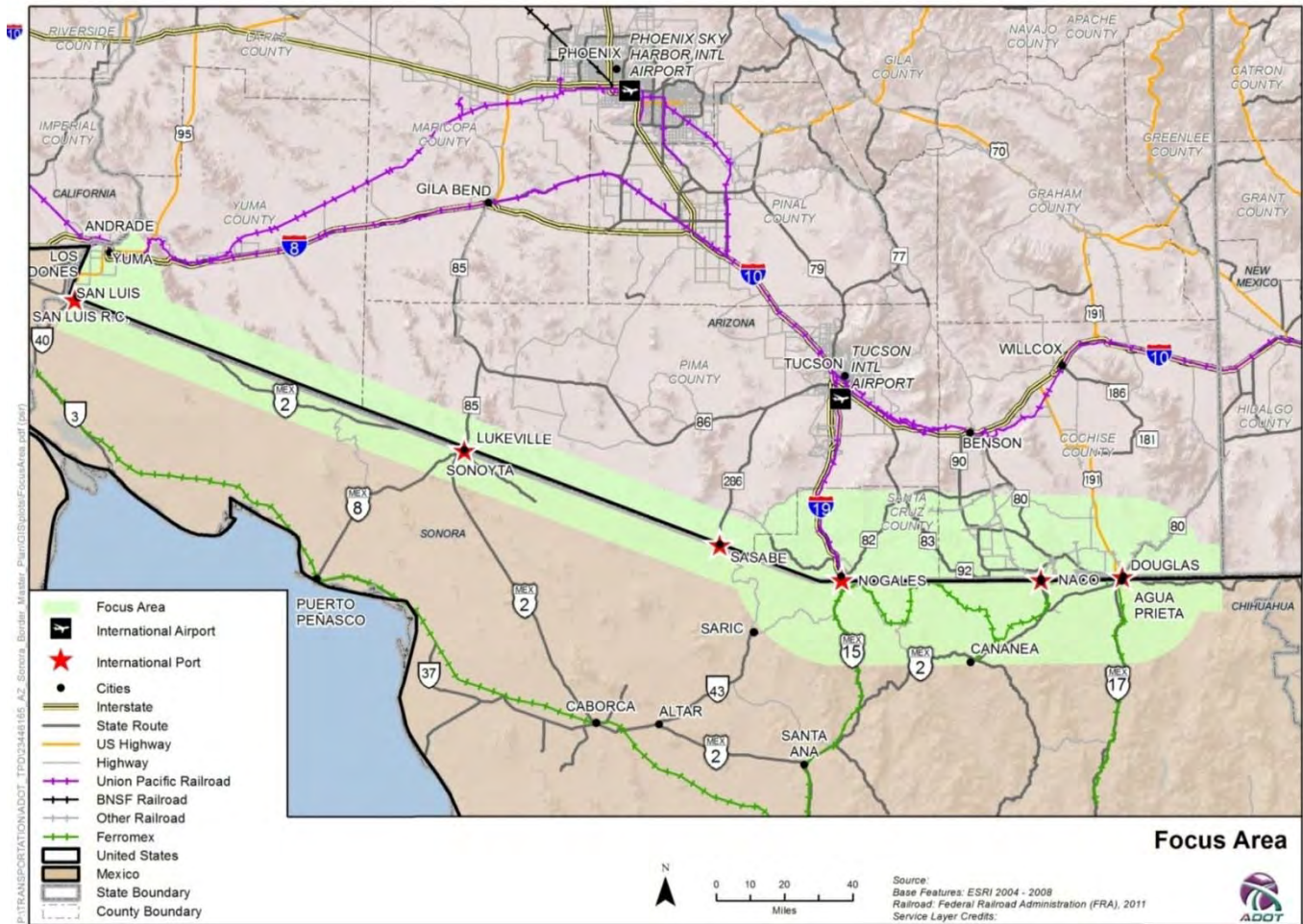
The Area of Influence considers the extent to which social and economic mobility north and south of the border affects transportation facilities in the various travel corridors. The Key Corridors are the north-south corridors linking the two countries. However, the east-west travel corridors are also important. As a result, the Area of Influence encompasses that portion of Arizona and Sonora within 80 miles of the border and includes all significant transportation facilities that support social and commercial interaction through the LPOEs.

The need to coordinate the findings and recommendations of the Arizona-Sonora BMP with those of the California-Baja California BMP (2008) to the west and the future New Mexico/Chihuahua BMP to the east defined the much larger Regional Area of Influence.

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Figure ES.1 Focus Area



Overview of the Arizona-Sonora Land Ports of Entry (LPOEs)

The State of Arizona in the United States and the State of Sonora in Mexico share approximately 389 miles of international border. The six crossing locations (depicted by red stars in Figure ES.1) along this border are as follows, from west to east:²

San Luis (San Luis I & II)	Sasabe	Naco
Lukeville / Sonoyta	Nogales (Mariposa, DeConcini and Morley Gates)	Douglas / Agua Prieta

These crossings not only serve as passageways for travel and tourism between Arizona and Sonora, but also as fundamental gateways for both U.S.-Mexico and U.S.-Mexico-Canada trade.

² There are a total of nine specific LPOEs. However, grouping of data from the two San Luis LPOEs and the three Nogales LPOEs results in most references listing only six LPOEs.

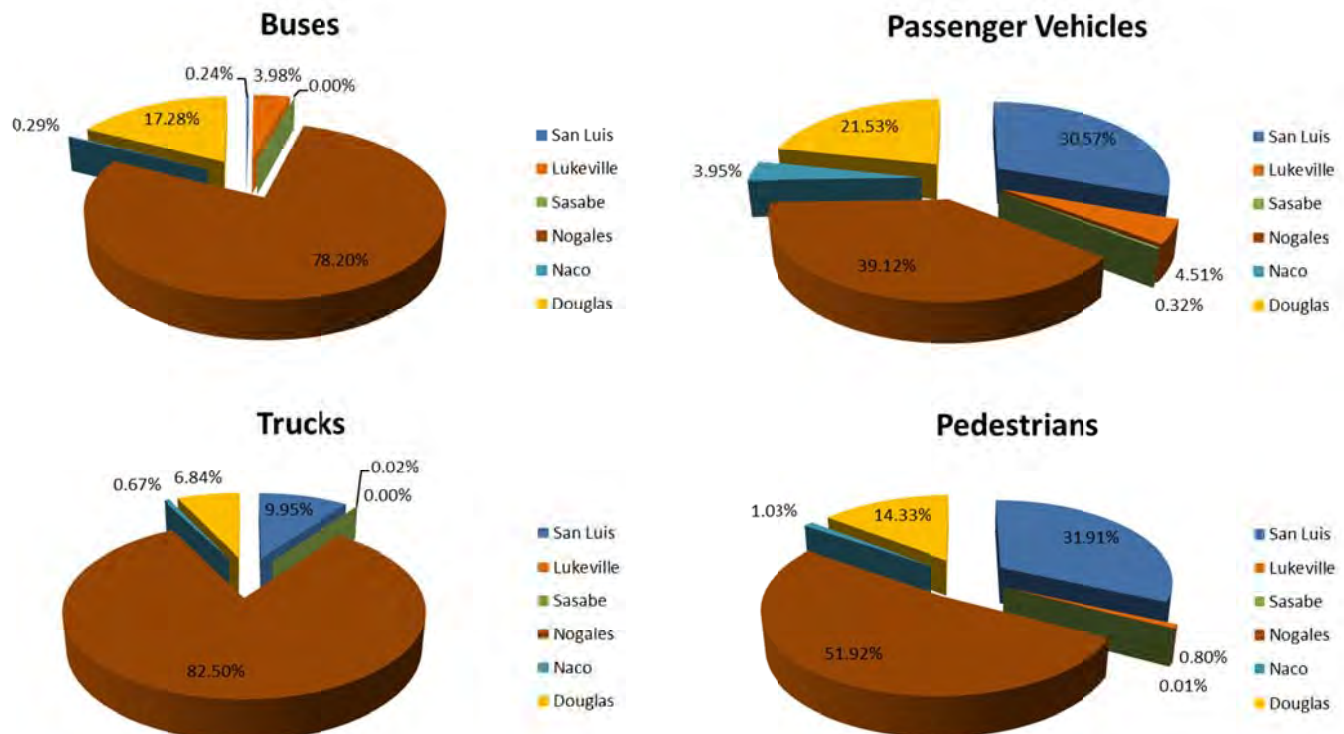
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In 2009, over 25.4 million people crossed into the United States through the Arizona LPOEs, which equates to approximately 15% of all persons entering the United States from Mexico. Nearly 70% of these persons were foreign nationals entering the U.S. to visit, work, conduct business or shop. The remaining 30% is composed largely of U.S. citizens returning home from Mexico. The majority of persons crossing the border (70%) did so in vehicles (cars, buses, or as drivers of commercial trucks). The remaining 30% or approximately eight million people crossed through the Arizona LPOEs as pedestrians in 2009.

The majority of all border crossings from Sonora into Arizona occur through the three LPOEs in Nogales (Figure ES.2). Using averages from 2006-2010, approximately 60% of all pedestrian crossings, 40% of privately owned vehicles (POVs) and 75% of all truck crossings occur through the Nogales LPOEs. The San Luis LPOEs near Yuma experience the second highest number of border crossings in all three categories with approximately 30% of pedestrian crossings, 11% of commercial vehicles, and 30% of POV crossings. The Sasabe LPOE processes the fewest crossings.

Figure ES.2 Distribution of Sonora-to-Arizona Crossings by Mode (Average 2006-2010)





The Planning Process

The Arizona-Sonora BMP encompasses a wide range of administrative and geographic jurisdictions in the United States and Mexico, including federal, state, county, and municipal governments and tribal nations, along with operating entities including port authorities, planning organizations, and railroad companies. Therefore, an open and objective process involving data collection, planning, engineering, and stakeholder feedback was essential to development of the Arizona-Sonora BMP. The planning process assured a logical and transparent approach to identification, evaluation, and selection of an appropriate transportation infrastructure improvement framework.

The process was initiated with a Work Plan supported by a comprehensive Stakeholder Outreach Plan. The Stakeholder Outreach Plan included development of a Policy Advisory Committee (PAC) and Technical Working Group (TWG). The agencies involved in the BMP process are listed in Appendix H.

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 Arizona-Sonora BMP. Two focus groups were established, commerce and government, where stakeholders were asked to reflect and comment on their border crossing experiences, including needed border improvements and associated concerns, and perceptions of the constraints and obstacles to economic development in their areas. 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.azdot.gov/azborderplan





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, transit, pedestrians, and bicyclists
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 and Texas. Five Major Categories of Evaluation Criteria were developed:

1. Cost Effectiveness
2. Project Readiness
3. Capacity/Congestion
4. Regional Benefit
5. LPOE Connectivity (MMI and Rail projects) / Bi-National Coordination (LPOE projects)

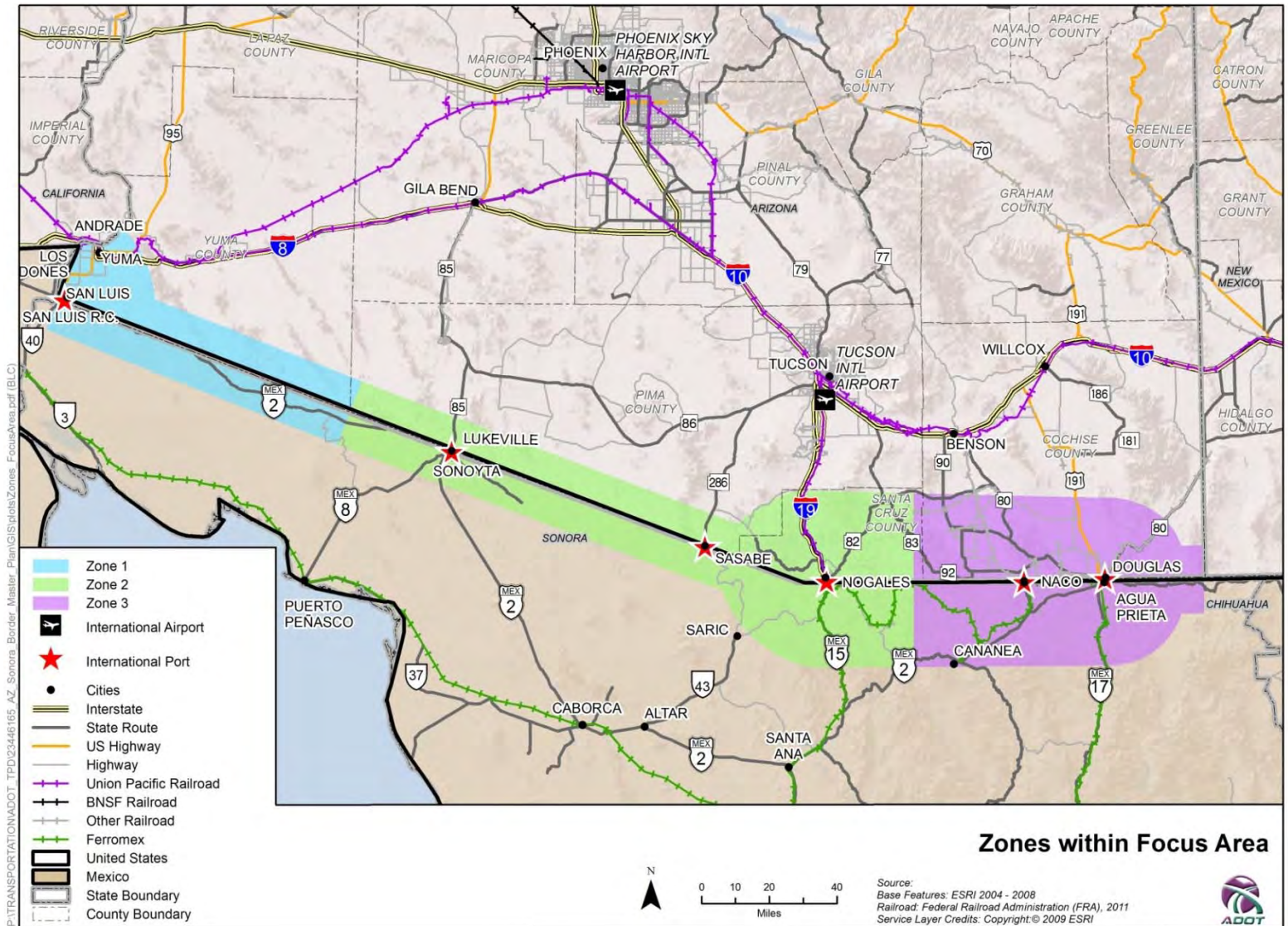
Within each of these major categories, criterion specific to the three project types were developed. In the final prioritization process, LPOEs and Multimodal Infrastructure projects were evaluated using 17 specific criteria. The evaluation of Rail projects utilized 16 specific criteria. All criteria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

A list of over 160 transportation-related projects in Arizona and Sonora 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. Projects were also classified into three Zones, as depicted in Figure ES.3 – projects in Zone 1 (blue) generally are located in Yuma County, projects in Zone 2 (green) in Pima /Santa Cruz Counties, and projects in Zone 3 (purple) in Cochise County.

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Figure ES.3 Project Zones





Project Rankings

Using the data collected for each project, the study team independently completed the draft scoring of all projects (more than 160) 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.

Resulting scores were also integrated into the interactive GIS tool to enable interested stakeholders to access pertinent project data, project scoring, and project rankings. The interactive GIS tool is anticipated to be available in March, 2013 at www.azdot.gov/azborderplan. Directions for access and use of the GIS tool are provided in Appendix E.

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Table ES.1 Evaluation of Arizona Land Port of Entry Projects

					Capacity/Congestion Total Points	Estimated Project Cost (in \$1,000s)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	Binational Coord. Total Points weighted	Combined Score	Arizona LPOE Overall Rank
Max Point Value					47	-	5	7	7	7	100	Out of 17
ID	Zone	State	Linked Projects	LPOE Project Description								
1001	1	AZ		San Luis I - SENTRI Primary Booth Project	13	150	5	6	6	7	66	1
1002	1	AZ		San Luis I - Pedestrian Pop-Out Project #1 (Reconfiguration in place)	13	250	5	7	5	6	3	2
1003	1	AZ		San Luis I - Pedestrian Pop-Out Project #2 (Expansion)	15	1,000	4	7	4	6	63	3
1004	1	AZ	5, 3012, 4001	San Luis II - POV / Pedestrian Processing Facility	24	5000	3	6	4	5	63	4
1015	3	AZ	102, 3010	Douglas - Expansion and Modernization	23	90,000	2	7	4	4	60	5
1005	1	AZ		San Luis I - Outbound Technology Project	12	50	5	4	5	6	56	6
1016	3	AZ	3009	Douglas - Non-Commerical Port Reconfiguration	17	80,000	2	7	4	4	55	7
1006	1	AZ		San Luis I - SENTRI Secondary Inspection Area	12	350	4	4	6	6	55	8
1007	1	AZ	3003	San Luis I - Expansion and Modernization	21	80,000	2	5	4	5	54	9
1008	1	AZ	3003	San Luis I - Outbound Inspection Infrastructure	13	750	3	5	5	6	54	10
1009	1	AZ		San Luis I - Primary Booth Replacement Project	12	450	4	4	4	6	52	11
1011	2	AZ	108, 2005, 3006	Nogales Area (east) - New LPOE	31	100,000	2	5	1	1	51	12
1012	2	AZ		DeConcini - Repatriation Consolidation	9	1,000	0	5	4	3	35	13
1017	3	AZ	102, 1016, 3008	Douglas - New Commercial Port Facility	10	35,000	1	3	3	3	31	14
1013	2	AZ	2006, 3007	Nogales Area (west) - New Rail LPOE	8	5,000	2	4	1	1	28	15
1010	1	AZ	2001, 3002	San Luis II - New Rail LPOE	5	5,000	2	4	1	1	26	16
1014	3	AZ	2008, 3011	Naco - New Rail LPOE	5	5,000	2	4	1	1	26	17

Note: There are no projects at this time for Lukeville, Sasabe, Mariposa or Morley Gate. Projects 1001 (San Luis I – SENTRI Primary Booth) and 1006 (San Luis I – SENTRI Secondary Inspection Area), though defined separately, must be completed together to maximize the efficiency of SENTRI operations.

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Table ES.2 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement								
1	1	AZ		Archibald Street and First Avenue	C Street to Urtuzuastegui Street	Convert to One-Way Couplet & construct bus pullouts	8	5000	2	8	5	8	81	1
2	1	AZ		Main Street Project	Hwy 95 from A St to Juan Sanchez Blvd	Design & Construction	6	1040	3	7	5	8	77	2
60	2	AZ		I-19 Interchanges	At SR 289/Ruby Road	Interchange Upgrades: Round-a-bout	11	3000	2	6	2	6	75	3
61	2	AZ	66,67,69, 73,76	SR 189/Mariposa Road	Nogales Mariposa LPOE to I-19	Roadway widening to 6 lanes and improve intersections	9	46500	2	6	3	8	74	4
3	1	AZ	4	Juan Sanchez Blvd	10 th Avenue to Avenue E.	Widen to 5 lanes, Unspecified Improvements	8	15000	3	5	4	7	74	5
62	2	AZ		Pedestrian Staging Area	On Arizona Side of international border near Mariposa LPOE (SR 189 just north of border)	Construct new facility	10	1000	1	5	5	8	74	6
4	1	AZ	3	Juan Sanchez Boulevard	10 th Avenue to US-95	Widening, Unspecified Improvements	8	12000	2	6	4	8	73	7
63	2	AZ	64,68,84	Crawford Street	At UPRR - Nogales	Pedestrian Overpass	9	5000	1	7	3	8	72	8
101	3	AZ		Chino Road Realignment	Douglas	Realign at intersection of SR 80 and US-191 and update to ADOT standards	7	1000	3	4	5	7	70	9
64	2	AZ	63,68,84	New Pedestrian Bridge	South of Court Street	Construct new pedestrian bridge across the railroad	8	1000	1	7	3	8	69	10
65	2	AZ		Ruby Road	At UPRR	Vehicular Overpass	9	7800	2	6	3	4	67	11
66	2	AZ	61,67,69, 73,76	SR 189 / Mariposa Road	Grand Avenue to I-19	Design and Reconstruct to 6-lane roadway	6	3500	3	6	3	6	67	12
102	3	AZ	1017, 3008	Chino Road Extension Project	Extension Project in City of Douglas	Extension Project in City of Douglas	9	2000	1	5	4	7	67	13
5	1	AZ	1004, 3012, 4001	Avenue E.	San Luis II LPOE at Arizona-Sonora border to SR 195/ASH	Widening to 4 lanes	9	13125	2	3	4	7	66	14

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Table ES.3 Evaluation of Arizona Rail Projects

					Capacity/Congestion Total Points	Estimated Project Cost	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona Rail Overall Ranking
Max Point Value					11	-	3	8	5	5	100	Out of 8
ID	Zone	State	Linked Project	Rail Project Description								
2003	2	AZ		Build second line (track)/Nogales Branch (MP 65 to border)	9	\$3-7m/mi +/-	3	4	5	5	82	1
2004	2	AZ		Upgrade Nogales Branch (to accommodate heavier vehicles)	6	\$3-7m/mi +/-	3	5	5	5	75	2
2005	2	AZ	1011, 3006	New rail corridor/Puerta de Anza (east side of Nogales)	8	\$15m/mi +/-	2	4	2	5	68	3
2006	2	AZ	1013, 3007	New rail corridor/west side of Nogales	8	\$15m/mi +/-	2	4	1	5	66	4
2001	1	AZ	1010, 3002	New rail corridor/through San Luis II LPOE	9	\$15m/mi +/-	1	2	1	4	55	5
2008	3	AZ	1014, 3011	Rehab and new rail/Benson or Curtiss to Naco LPOE	7	\$15m/mi +/-	2	3	3	2	54	6
2007	2	AZ		Passenger rail service/Nogales to Tucson	7	\$15m/mi +/-	1	6	1	2	54	7
2002	1	AZ		Rehab and new rail/Gila Bend to Lukeville LPOE	7	\$15m/mi +/-	1	2	1	2	42	8

Notes:
 Rail corridors are conceptual. Projects 2005 and 2006 (Nogales bypasses) are assumed to be additional corridors, not a replacement for the existing rail line.
 Projects 2003 & 2004 are planned UPRR (Private Investment) Projects.

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Table ES.4 Evaluation of Sonoran Land Port of Entry Projects

						Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of project vs. projected demand for improvement	Regional Benefit Total Points	Project Readiness Total Points	Binational Coord. Total Points	Weighted Combined Score	Sonoran LPOE Overall Rank
Max Point Value						47	-	5	7	7	7	100	Out of 12
ID	Zone	State	Linked Project	LPOE Project Description	Proposed Improvement								
3003	1	SON	1007, 1008, 4003, 4004, 4005	San Luis Rio Colorado I - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of passenger vehicles and pedestrians.	18	4,000	5	7	6	6	72	1
3012	1	SON	5, 1004, 4001	San Luis II - POV/Ped Processing	Expansion of the existing San Luis Rio Colorado II commercial LPOE to accommodate passenger vehicles and pedestrians.	22	500	5	6	4	5	67	2
3004	2	SON		Nogales III (adjacent to Mariposa LPOE)- Expansion and Modernization	Reconfiguration of the existing LPOE facility immediately adjacent to the border to improve southbound processing of passenger vehicles and pedestrians.	16	4,000	4	6	5	7	64	3
3010	3	SON	1015	Agua Prieta - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Would negate the need for projects 3008 and 3009.	21	3,000	4	6	4	5	63	4
3001	2	SON	4006	Sonoyta - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Also includes additional queuing capacity for northbound traffic to coincide with improvements at Lukeville, AZ.	16	5,500	3	6	5	7	61	5
3009	3	SON	1016, 1017, 3008	Agua Prieta - Non-Commercial Port Reconfiguration	Reconfiguration of the existing LPOE. Assumes relocation of commercial vehicle processing to a new commercial port (Project ID 3008).	15	2,500	4	7	4	5	61	6

Notes: Rail corridors are conceptual. Projects 2005 and 2006 (Nogales bypasses) are assumed to be additional corridors, not a replacement for the existing rail line.

Projects 2003 & 2004 are planned UPRR (Private Investment) Projects

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Table ES.5 Evaluation of Sonoran Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Estimated Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Sonora MMI Overall Ranking
Max Point Value							12	-	3	8	5	9	100	Out of 19
ID	Zone	State	Linked Projects	Facility	Project Description/Extent	Proposed Improvement								
4001	1	SON	5, 1004, 3012, 4002	San Luis Rio Colorado Loop Phase I	Bypass closely spaced signals in urbanized area of Mexico Federal Highway 2 to accommodate a more efficient movement of trucks	Upgrade, shoulder & safety improvements to 7 miles of existing two lane roadway to Type A2 per SCT standards	6	1,200	3	5	5	7	70	1
4006	1	SON	3001	Mexico Federal Route 8	Sonoyta LPOE to Mexico Federal Route 2	Upgrade 2 miles of existing roadway and construct four reversible through lanes and two lanes for local access	7	3,000	1	7	4	8	68	2
4017	3	SON		Saric Sasabe Highway	Construct improved connection between Saric and Sasabe, Sonora	Construct 31 miles of two lane roadway to Type C per SCT standards, including 12 bridges	5	12,000	3	4	4	7	62	3
4018	3	SON		Altar-Sasabe Highway	Construct improved connection between Altar and Sasabe, Sonora	Construct 50 miles of two lane roadway to Type C per SCT standards	5	14,000	3	4	4	7	62	4
4016	3	SON		Mexico Federal Route 2	Mexico Federal Route 2 Juarez-Cananea between Cananea-Agua Prieta	Upgrade 47 miles of existing two lane roadway and construct two additional lanes to Type A2 per SCT standards	5	58,000	2	5	5	7	62	5
4012	2	SON	4014	Nogales-Santa Cruz Highway	Construct improved connection between Nogales and Santa Cruz, Sonora	Construct 35 miles of two lane roadway to Type C per SCT standards	5	12,500	3	5	5	4	61	6
4004	1	SON	3003, 4003, 4005	San Luis Rio Colorado - First Street	LPOE to Madero Street	Conversion to pedestrian/bicycle facility only and construction of alternative mode overpass crossing Obregon Avenue (Mexico Federal Route 2)	6	500	1	6	3	8	60	7



Project Linkages

Acknowledging recent changes in legislation and the associated uncertainty in funding streams, it was the consensus of the PAC to limit the implementation assessment process and focus on project linkages. During the implementation stage, it is important to recognize that certain projects may need to be linked to each other in some fashion in order to produce more effective transportation network results.

LPOE projects could be linked to other LPOE, MMI or Rail projects in many ways, including where a relationship exists between an Arizona LPOE project and a Sonoran LPOE project. Additionally, implementation of an LPOE project could necessitate improvements to the multimodal infrastructure or rail infrastructure connecting to a particular LPOE. For example, the addition of pedestrian and privately-owned vehicle (POV) processing at San Luis II in Arizona would likely require coordination with the addition of similar processing capabilities at San Luis Rio Colorado II in Sonora. Both facilities today only process commercial vehicles. If these projects were to be implemented, it also may be necessary to improve the multimodal infrastructure serving the project area.

Transportation linkages may occur between multiple multimodal infrastructure projects, e.g., where adjacent segments of a roadway may be listed as separate projects or where a roadway project is integral to an intersection or interchange improvement. Any new cross border rail corridor projects would need to link with new rail LPOEs in both Arizona and Sonora.

Coordinated LPOE Project Scoring

The Arizona-Sonora BMP focuses heavily on LPOE project priorities, where LPOE projects in Arizona and Sonora would require coordinated implementation timelines. To express the relative importance of these projects, an additional combined project score was developed. Some projects, particularly in Arizona, were considered “low-cost, high-impact” projects that could be implemented without a corresponding project in Sonora. Other Arizona projects have been completed or will soon be completed ahead of their Sonoran counterpart. The combined score for these related projects helped indicate priorities for LPOE improvements. The evaluations of 24 individual projects were combined into twelve coordinated LPOE projects from opposite sides of the border. These projects are identified in ranked order in Table ES.6.

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Table ES.6 Evaluation of Combined LPOE Projects

Zone	Arizona LPOE Projects			Sonoran LPOE Projects			Combined Project Score
	ID	LPOE Project Description	Project Score*	ID	LPOE Project Description	Project Score*	
2	n/a	Completed Project - Expansion and Modernization of Mariposa LPOE	100	3004	Nogales III (adjacent to Mariposa LPOE)- Expansion and Modernization	64	164
2	n/a	Completed Project - Expansion and Modernization of Lukeville LPOE	100	3001	Sonoyta - Expansion and Modernization	61	161
2	n/a	Completed Project - Expansion and Modernization of Mariposa LPOE	100	3005	Nogales III - New Customs Processing Facility for Commercial Vehicles	55	155
1	1004	San Luis II - POV / Pedestrian Processing Facility	63	3012	San Luis II - POV/Pedestrian Processing	67	130
1	1007	San Luis I - Expansion and Modernization	54	3003	San Luis Rio Colorado I - Expansion and Modernization	72	126
3	1015	Douglas - Expansion and Modernization	60	3010	Agua Prieta - Expansion and Modernization	63	124
3	1016	Douglas - Non-Commercial Port Reconfiguration	55	3009	Agua Prieta - Non-Commercial Port Reconfiguration	61	117
2	1011	Nogales Area (east) - New LPOE	51	3006	Nogales Area (east) - New LPOE	54	105
3	1017	Douglas - New Commercial Port Facility	31	3008	Agua Prieta - New Commercial Port Facility(*)	36	66
2	1013	Nogales Area (west) - New Rail LPOE	28	3007	Nogales Area (west) - New Rail LPOE	34	62
1	1010	San Luis II - New Rail LPOE	26	3002	San Luis Rio Colorado II - New Rail LPOE	26	51
3	1014	Naco - New Rail LPOE	26	3011	Naco - New Rail LPOE	26	51

Note:

* Projects already completed that are linked to a proposed project are included in the table for reference and assigned a maximum project score of 100 points.

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As noted above and cited in Table ES.6, some of the proposed Sonoran LPOE projects coincide with projects already completed at the corresponding Arizona LPOE, specifically Mariposa and Lukeville. Because the Arizona projects have been completed or will soon be completed, they were awarded the maximum available project score of 100 points. The results of the combined LPOE project scoring process indicate the highest priority LPOE projects are those Sonoran projects to be constructed in response to recent improvements at the Mariposa and Lukeville LPOEs (Zone 2 – Nogales Area).

The next group of priority projects is in Zone 1 – San Luis Area, with the modification of the San Luis II LPOEs (IDs 1004 and 3012) in Arizona and Sonora receiving the highest score. Modifications at these LPOEs would consist of constructing additional facilities to process POVs and pedestrians. The expansion and modernization of San Luis I (ID 1007) and San Luis Rio Colorado I (ID 3003) scored slightly lower. It is worth noting that, should the proposed improvements to San Luis II occur in both Arizona and Sonora, it would likely alter the current POV and pedestrian demand at the San Luis I and San Luis Rio Colorado I LPOEs. This change in demand may impact the overall scope and composition, prevailing need, relative scoring, and/or timing for improvements at San Luis I and San Luis Rio Colorado I.

In Zone 3 – Douglas/Agua Prieta area, the highest scoring project consists of the complete expansion and modernization of the existing LPOEs (IDs 1015 and 3010), which serve all travel modes. Based on the combined project scores, full modernization of the two LPOEs more effectively meets the scoring criteria identified by the PAC and TWG. Should the full expansion and modernization project be implemented (IDs 1015 and 3010), the separate commercial and POV/pedestrian improvement projects would no longer be required.

Of all the projects examined and ranked, the potential new LPOE facilities generally received the lowest scores. These projects primarily are proposed to serve future demand that potentially could result from conceptual land development or conceptual rail projects. Therefore, they are considered lowest priority.



Next Steps

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

- An Implementation Monitoring Committee 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.
- ADOT should take a leadership position regarding border LPOE-related transportation infrastructure improvements to (1) ensure support for the formation of the Implementation Monitoring Committee and (2) define the functional role of the committee in context with on-going bi-national coordination efforts in the Arizona-Sonora Border Region.
- The Implementation Monitoring Committee should meet on a regular basis 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 Arizona-Sonora Border Region.
- The Implementation Monitoring Committee 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 Implementation Monitoring Committee and its members.
- The Implementation Monitoring Committee should maintain close coordination with two important entities vital to the future vitality of international relationships pertaining to the Arizona Sonora border and border communities: the Arizona-Mexico Commission and the FHWA-supported U.S./Mexico Joint Working Committee on Transportation Planning (JWC).
- The Implementation Monitoring Committee should recognize and keep abreast of Federal and State – U.S. and Mexico, Arizona and Sonora – transportation and border facility coordination and programming initiatives to assure projects on the prioritized list are integrated fully in the funding processes.

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- ADOT 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 Sonora. The TDM from SCT should be integrated with the next generation of ADOT's TDM (AZTDM) to develop a comprehensive Focused Area TDM for the Arizona-Sonora Border Region.
- ADOT 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 nine Land Port of Entry crossings.

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- Appendix D Point Spreads for Evaluation Criteria
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- Appendix I Planned Improvement Projects

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List of Acronyms

AADT	Annual Average Daily Traffic
ADOT	Arizona Department of Transportation
AMC	Arizona Mexico Commission
ARRA	Asphalt Recycling and Reclaiming
AZTDM	Arizona Statewide Travel Demand Model
BECC	Border Environment Cooperation Commission
BNSF	Burlington Northern Santa Fe
BQAZ	Building Quality Arizona
BTEP	Border Technology Exchange Program
CAAG	Central Arizona Governments
CBI	Coordinated Border Infrastructure
CBP	Customs and Border Protection
CILA	Comisión Internacional de Límites y Aguas
CIP	Capital Improvement Plan (Program)
CV	Commercial Vehicle
DCR	Design Concept Report
DOS	Department of State
EA	Environment Agency
EIS	Environmental Impact Statement
ESA	Ecological Society of America
FAST	Free and Secure Trade
FHWA	Federal Highway Administration
GIS	Geographic information system
GSA	General Services Administration
IBWC	International Boundary & Water Commission
ICE	Immigration and Customs Enforcements
ID	Identification
INDAABIN	Instituto de Administración y Avalúos de Bienes Nacionales
ITS	Intelligent Transportation System
JWC	Joint Working Committee

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List of Acronyms (continued)

LOS	Level of Service
LPOE	Land Port of Entry
L RTP	Long Range Transportation Program
MAG	Maricopa Association of Governments'
MAP-21	Moving Ahead for Progress (in the 21st Century Act)
MMI	Multimodal Infrastructure
MVM	Million Vehicle Miles
NAD Bank	North American Development
NAFTA	North American Free Trade Agreement
NCPD	National Council for Population and Development
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
PAC	Policy Advisory Committee
PAG	Pima Association of Governments
PARA	Planning Assistance for Rural Areas
POVs	Privately Owned Vehicles
RFID	Radio Frequency Identification
SAFE TEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act – a Legacy for Users
SCT	Secretaría de Comunicaciones y Transportes
SEAGO	SouthEastern Arizona Governments Organization
SENTRI	Secure Electronic Network for Travelers Rapid Inspection
SETIF	Safety Enforcement Transportation Infrastructure Fund
SIDUR	Secretaría de Infraestructura y Desarrollo Urbano
SRE	Secretaría de Relaciones Exteriores
SSHE	Safety, Security, Health and Environment
STEP	Surface Transportation Environment and Planning Cooperative Research Program
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program

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List of Acronyms (continued)

TDM	Travel Demand Model
TEA-21	Transportation Equity Act (for the 21st Century)
TEU	Twenty-foot Equivalent Units
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TWG	Technical Working Group
UPRR	Union Pacific Railroad
USDOT	United States Department of Transportation
VACIS	Vehicle and Cargo Inspection System
VPD	Vehicles Per Day
WHTI	Western Hemisphere Travel Initiative
YMPO	Yuma Metropolitan Planning Organization



1.0 INTRODUCTION

This section identifies the purpose of the Arizona-Sonora Border Master Plan (BMP) and provides background information regarding the need for and objectives of the plan. It also explains the process followed in preparing the BMP and introduces the subject matter of its various chapters.

1.1 PURPOSE OF THE PLAN

Travel between the State of Arizona in the United States and State of Sonora in Mexico at the international border has increased significantly over the last ten years. Each individual land port of entry (LPOE) has experienced an increase in the movement of people and goods, and the increases are expected to continue to grow in future years as population and economic growth occurs in the border region. Improving the capacity and operational efficiency of LPOEs and supporting transportation infrastructure is essential to relieving traffic congestion, reducing delays, enhancing safety and security, promoting international trade, and improving the quality of life for residents in the border region.

The Arizona Department of Transportation (ADOT) has prepared the Arizona-Sonora BMP in collaboration with the Federal Highway Administration (FHWA), Secretaría de Comunicaciones y Transportes (SCT), and the government of the State of Sonora, Mexico. The intent of this plan is to provide a roadmap for improving the efficiency and effectiveness of Arizona-Mexico transportation facilities supporting critical social and economic interactions across the international border. The Arizona-Sonora BMP presents a comprehensive bi-national approach to coordinating the planning and delivery of projects to improve traffic operations at each LPOE and the transportation infrastructure providing access to these LPOEs serving the Arizona-Sonora border region.

The Arizona-Sonora BMP anticipates and embraces the need to create a comprehensive border-wide, integrated planning framework for identifying all LPOE and networked multimodal infrastructure needs. It addresses flexible infrastructure improvements in an integrated manner, incorporating the LPOEs, as well as their associated transportation networks on both sides of the border.



1.2 BACKGROUND

ADOT has been working with Metropolitan Planning Organizations (MPOs), Councils of Governments (COGs), Arizona State Legislature, Governor's Office, and the business community to define long-range transportation infrastructure needs throughout Arizona through a process known as Building a Quality Arizona (BQAZ). BQAZ evolved through replication of the successful extra-regional planning efforts designed to establish a rational framework for accommodating substantial growth forecast for the state. With the focus provided by BQAZ, ADOT completed additional planning efforts that culminated in the *2010 Statewide Transportation Framework*, which included recommendations contained in the *Statewide Rail Framework Study*.

Although the Statewide Recommended Scenario presented in the *2010 Statewide Transportation Framework* was achieved through coordination with the Arizona-Mexico Commission, it did not specifically consider the implications of transportation improvements in the border region and at the various LPOEs. ADOT proceeded with development of the Arizona-Sonora BMP as an action item of the U.S./Mexico Joint Working Committee on Transportation Planning and as a follow up to the *2010 Statewide Transportation Framework*. The Arizona-Sonora BMP seeks to integrate local and regional planning processes and open innovative and valuable new paths toward a fully coordinated transportation plan for the border region.

Because this planning effort involves the international border between the United States and Mexico, preparation of the Arizona-Sonora BMP is part of an overall effort by the FHWA to identify and implement innovative methods to relieve congestion at the LPOEs, which is reflected in frequent and long wait times at border crossings. Several BMPs are in various stages of being completed or updated:

- California - Baja California Norte BMP
- El Paso District - Chihuahua BMP
- Pharr District/Lower Rio Grande Valley - Tamaulipas BMP
- Laredo District - Coahuila/Nuevo Leon/Tamaulipas BMP



The FHWA-sponsored Surface Transportation Environment and Planning Cooperative Research Program (STEP) supports research and planning efforts that can improve border region planning. STEP provides information that can be employed to accelerate the flow of goods and improve economic performance and quality of life for those who live and travel at the nation’s borders. In addition to aiding development of BMPs, STEP research initiatives include the Border Travel Wait Time Studies, Bottleneck Studies, and Border Data Needs Workshop. These supplementary activities have been reviewed to determine how available data and information can support development of a responsive BMP for the Arizona-Sonora border region.

ADOT released a new Long-Range Transportation Plan (LRTP) in November 2011, based on the guidance provided by the *2010 Statewide Transportation Framework*. Known as *What Moves You Arizona*, the LRTP incorporates fiscally-constrained recommendations for transportation infrastructure improvements through the Year 2035. The Statewide Recommended Scenario and recommendations resulting from *What Moves You Arizona* provide the foundation for identifying and implementing future transportation improvement projects in the state, including those that directly affect access to Arizona-Sonora LPOEs and movement throughout the border region.

1.3 UNDERSTANDING OF BORDER REGION ISSUES

There are a number of concerns, considerations, and opportunities associated with the examination of potential transportation improvements in the Arizona-Sonora border region. Although certainly not exhaustive in nature or scope, the following items summarize several matters relevant to planning efforts to improve border accessibility and through movements.

ECONOMIC SIGNIFICANCE OF CROSS-BORDER TRAVEL/INTERACTION

- In 2010, more than 23 million people crossed through LPOEs at the Arizona-Sonora border on foot or in various personal or commercial (e.g. bus, freight, train) vehicles. According to the Arizona-Mexico Commission, nearly \$55 million in bi-national trade and \$7.3 million in

Trucks	POVs	Pedestrians	Buses	Trains
375,400	6,816,200	7,767,900	12,986	602

Source: U.S. Customs and Border Protection

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tourism expenditures is conducted daily through the LPOEs, principally those at Nogales, San Luis, and Douglas. These statistics demonstrate the success of ongoing efforts to promote economic collaboration, including the North American Free Trade Agreement (NAFTA) implemented in 1994 and the Canada to Mexico free trade route (CANAMEX).

- The Promotion of Manufacturing, Maquiladora and Export Services Industry (IMMEX, Spanish acronym) decree, published in the Official Government Gazette on November 1st, 2006, combined the Mexican Maquiladora program and the Temporary Import Program to Produce Export Articles (PITEX, Spanish acronym).

The Maquiladora program was initiated in 1965, with the purpose of creating opportunities for enhanced economic growth on both sides of the border. The Maquiladora program (sometimes referred to as the “twin plants” concept), promoted manufacture-for-export operations in Mexico by foreign-investors and domestic companies. Essentially, companies process (assemble and/or transform in some way) components imported into Mexico which are, in turn, exported – usually to a United States manufacturing partner. The Maquiladora program was adopted to encourage foreign investment in Mexico. PITEX was a program enacted by the President of Mexico on May 3, 1990 expanding many of the benefits enjoyed by Maquiladora operations, to domestic investors, in order to promote exports. This program permitted Mexican companies to import machinery, raw material and packing into Mexico for assembly or production, with the subsequent re-export of these items and the resulting product, without paying import duties (but rather putting up a returnable bond).

The IMMEX decree continues to support the twin plant concept and the promotion of Mexican exports. Thus, export activity will continue to be a factor in the strong economic ties between Mexico and the U.S. manufacturing sectors. IMMEX firms accounted for 33 percent of manufacturing jobs in Mexico in 2009. The 2,800 manufacturing plants throughout Mexico (of which 60% are along the border) have developed relationships with U.S. industry for materials, equipment, and services. Therefore, safe and efficient transportation facilities are a vital supportive element of this relationship.



- The Arizona-Sonora Manufacturing Initiative (a private sector endeavor) is another effort advocating improved collaboration between the Arizona and Mexico manufacturing sectors. The success of these and other cooperative economic efforts will continue to require effective and efficient cross border transportation networks.

TECHNOLOGY COORDINATION

- The FHWA also supports the Border Technology Exchange Program (BTEP), which shares information and technology relating to border crossing activity among the U.S., Mexican, and Canadian border states. The BTEP mission, a direct outcome of NAFTA, is to enhance the knowledge and skills of transportation personnel through technology exchange efforts. Through this effort, the states of Arizona and Sonora have established a joint program to monitor motor carrier registration and move towards uniformity and consistency of motor carrier access and movements.
- FHWA, in conjunction with the General Services Administration (GSA), Customs and Border Protection (CBP), and Immigration and Customs Enforcement (ICE), has developed a tool called “Border Wizard.” This computer-based modeling tool is used to coordinate improvements to border crossings that increase security, traffic throughput, and trade efficiency. Border Wizard can be used to simulate cross-border movements of automobiles, buses, trucks, and pedestrians. Although initially developed to support planning for improvements at the LPOEs, Border Wizard also can work with traffic modeling and planning tools used by states and MPOs.

CONGESTION MANAGEMENT AT LPOEs

- The Nogales Mariposa LPOE accounts for more than 75% of all commercial traffic entering Arizona from Sonora. It is one of the country's largest ports of entry for fruits and vegetables - products with limited shelf lives. The Bottleneck Study conducted for Nogales in 2008 reviewed the efficiency of the LPOE's feeder highway systems in Arizona and Sonora and the LPOE transportation/processing infrastructure. This study shed first light on the potential for improvements at this LPOE, where long wait times can negatively affect product quality.



- Economic growth and competitiveness are enhanced by efficient and flexible transportation facilities that enable cross-border trade through LPOEs. Most goods crossing the border are shipped by truck or rail and mobility of goods movement is affected by the processing capacity of the LPOEs. Processing capacity for truck traffic, in particular, is affected by evolving security protocols and policies, which regulate driver hours of service, truck size, and truck weight. Efficient goods movement also is a function of the efficiency of adjacent transportation infrastructure, the roads and highways leading to and from the LPOE. Therefore, congestion management may be addressed through coordination of transportation infrastructure projects that increase capacity and efficiency at border crossings. These projects need to be focused on enhancing the ability to coordinate improvements on both sides of the border to maximize effectiveness of transportation infrastructure improvement projects.

1.4 THE PLANNING PROCESS

The Arizona-Sonora BMP encompasses a wide range of administrative and geographic jurisdictions in the United States and Mexico, including federal, state, county, and city governments and tribal nations, along with other operating entities, including port authorities, planning organizations, and railroad companies. Therefore, an open and objective process involving data collection, planning, engineering, and stakeholder feedback was essential to development of the BMP. In light of this need, a process was formulated and implemented to assure a reasonable and transparent approach to identification, evaluation, and selection of an appropriate transportation infrastructure improvement framework.

The process was initiated with formulation of a Work Plan supported by a comprehensive Stakeholder Outreach Plan. The Stakeholder Outreach Plan included formation of a Policy Advisory Committee (PAC) and Technical Working Group (TWG). Both bodies were fully engaged throughout the planning process, reviewing study materials and providing input to the identification and evaluation of projects incorporated in the BMP. The PAC, in particular, was instrumental in identifying goals and objectives for the Arizona-Sonora BMP, stakeholders and agencies that should be involved, special issues and concerns that needed to be addressed, and protocols for communicating project findings and conclusions.



The primary objective of the adopted planning process was to develop an integrated BMP to improve the efficiency and effectiveness of Arizona-Sonora cross-border traffic. Supporting this objective were the following critical tasks:

- Develop and implement a plan for identifying, prioritizing, and promoting LPOE and related transportation projects and services;
- Design a process to ensure relevant international stakeholders (e.g., federal, state, regional, and local levels of governmental bodies in both Arizona and Sonora and key non-governmental entities) participate in the planning of LPOE projects and related transportation infrastructure improvements in the border region;
- Increase understanding of the LPOE and transportation planning processes on both sides of the border; and
- Establish a process for continued dialogue among the relevant international stakeholders that will promote coordination on current and future projects, especially through coordination of planning and programming processes adopted and pursued by study participants/partners.

1.5 ORGANIZATION OF THE REPORT

Information in this report is presented in twelve chapters, providing focused discussion regarding specific aspects of the study and findings:

Chapter 2.0, Study Area – identifies three unique areas defined to assure comprehensive understanding of border area issues and features.

Chapter 3.0, Relevant Studies – provides a synopsis of the various studies, reports, and plans reviewed during the course of formulating the BMP.

Chapter 4.0, Study Area Characteristics – presents generalized information about the Study Area.

Chapter 5.0, Overview of the Arizona-Sonora Land Ports of Entry – provides information on border crossings and the role they play in the border economy.



Chapter 6.0, Summaries of Individual Land Ports of Entry – presents detailed information regarding the status of each LPOE, operational characteristics, and access.

Chapter 7.0, Future Conditions and Deficiencies – presents findings and conclusions pertaining to deficiencies in the transportation infrastructure, including cross-border accessibility afforded by the LPOEs.

Chapter 8.0, Project Evaluation – presents the methodology and criteria used to evaluate LPOE transportation issues, multimodal infrastructure needs, and rail projects, as well as evaluation results (i.e., project scores and ranking).

Chapter 9.0, Funding – provides an overview of historical and current funding mechanisms for implementing improvements.

Chapter 10.0, Implementation – describes the processes that may be considered as the evaluated projects move forward toward implementation.

Chapter 11.0, Long-Term Planning Considerations – discusses ongoing studies that may be relevant to the planning and programming of future border-related improvements projects.

Chapter 12.0, Stakeholder Involvement – summarizes the various outreach activities conducted to secure critical input to the Arizona-Sonora BMP.



2.0 STUDY AREA

The Study Area for the Arizona-Sonora BMP is defined by three areas identified for studying and evaluating the specific transportation system needs along the 389-mile Arizona-Sonora international border. These three areas – Focus Area, Area of Influence, and Regional 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.

2.1 FOCUS AREA

The Focus Area for the Arizona-Sonora BMP covers the immediate area along the international border, generally defined as 20 miles north and south of the border (Figure 2.1). The generally narrow ribbon of focus was expanded to encompass the three principal metropolitan areas: Yuma/San Luis, Nogales/Nogales, and Douglas/Agua Prieta. There are nine distinct international LPOEs located within the Focus Area:

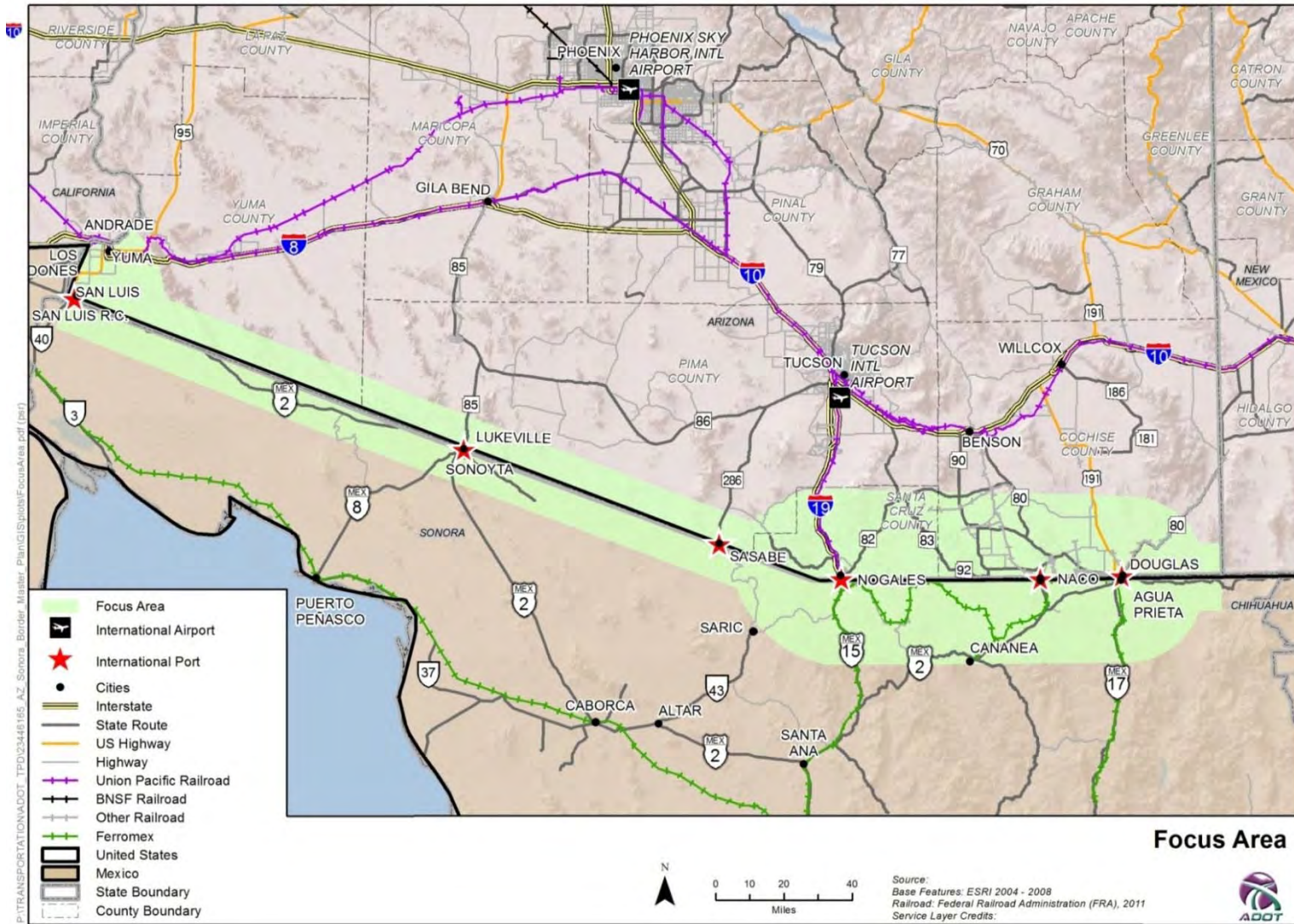
Arizona, U.S.	Sonora, Mexico
<ul style="list-style-type: none"> • San Luis <ul style="list-style-type: none"> ○ San Luis I ○ San Luis II 	<ul style="list-style-type: none"> • San Luis Rio Colorado <ul style="list-style-type: none"> ○ San Luis I ○ San Luis II
<ul style="list-style-type: none"> • Lukeville 	<ul style="list-style-type: none"> • Sonoyta
<ul style="list-style-type: none"> • Sasabe 	<ul style="list-style-type: none"> • El Sasabe
<ul style="list-style-type: none"> • Nogales <ul style="list-style-type: none"> ○ DeConcini ○ Morley Gate ○ Mariposa 	<ul style="list-style-type: none"> • Nogales <ul style="list-style-type: none"> ○ Nogales I ○ Nogales II ○ Nogales III
<ul style="list-style-type: none"> • Naco 	<ul style="list-style-type: none"> • Centro Naco
<ul style="list-style-type: none"> • Douglas 	<ul style="list-style-type: none"> • Agua Prieta

2.2 AREA OF INFLUENCE

The Area of Influence takes into consideration the extent to which social and economic mobility north and south of the border affects transportation facilities in the various travel corridors (Figure 2.2). Key corridors – those of primary interest – are the north-south corridors directly linking the two countries. However, the east-west travel corridors also are important for the general movement of goods and people and for creating access to various markets (e.g., West Coast). Therefore, the Area of Influence generally encompasses that portion of Arizona and



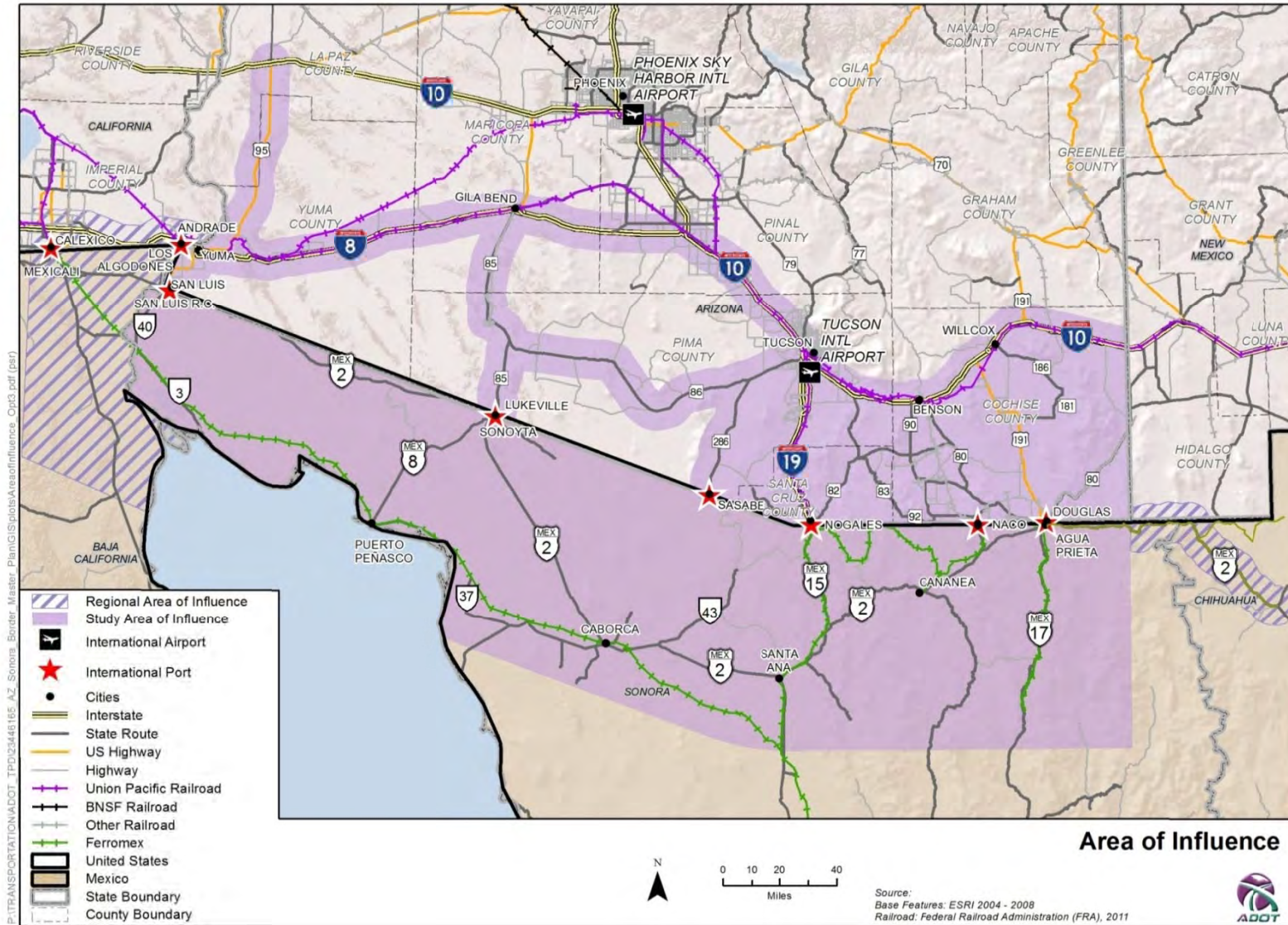
Figure 2.1 Focus Area



ARIZONA-SONORA BORDER MASTER PLAN



Figure 2.2 Area of Influence





Sonora within 80 miles of the border and includes all significant east-west and north-south transportation facilities that support social and commercial interaction through the LPOEs.

2.3 REGIONAL AREA OF INFLUENCE

The numerous available transportation facilities in one corridor of travel in the Area of Influence support varying levels of mobility and travel that can impact travel in another corridor(s). Although north-south travel corridors are critical to cross-border interaction, as noted above, the availability and level of travel opportunities associated with east-west transportation facilities have an important role in providing access to major East and West Coast markets in both the United States and Mexico. Assuring connectivity and continuity of the east-west travel corridors required coordination with transportation improvements identified, studied, and/or planned east and west of the Area of Influence. Thus, the Regional Area of Influence recognizes the need to integrate the findings and recommendations associated with the California-Baja California Border Master Plan (2008) to the west and the future New Mexico/Chihuahua Border Master Plan to the east (refer to Figure 2.2). Integration of transportation planning along the length of the United States/Mexico international border will help maintain connectivity and continuity of the transportation infrastructure from the Pacific Ocean to the Gulf of Mexico.



3.0 RELEVANT STUDIES

A wide variety of studies and plans were reviewed at the onset of the planning process. These documents contain information relevant to the evaluation and understanding of transportation systems and services within the Study Area and provide recommendations for improvement projects proposed for implementation. Proposed improvements were incorporated and considered within the planning process, as appropriate. Information regarding conceptual or recommended improvements was specifically applicable to and provided the bases for defining improvements considered for implementation in the Focus Area and evaluated for inclusion in the Arizona-Sonora BMP. A summary listing of relevant studies and plans reviewed is provided in Table 3.1 (see Appendix A for additional details).

Table 3.1 Relevant Studies and Plans

Document/Name	Date
Framework Studies	
Statewide Transportation Framework Study	March 2010
AZTDM Travel Demand Model (First Generation Forecasts)	September 2008
Eastern AZ Framework Study	June 2009
Central AZ Framework Study	June 2008
Western AZ Framework Study	May 2009
MAG Freight Framework study	2012
ADOT Climbing Lane Study	May 2004
Arizona State Rail Plan	March 2011
Statewide Rail Framework Study	2011
Planning Assistance for Rural Areas (PARA) Studies	
City of Nogales PARA – Pedestrian Circulation at Port of Entries (2010)	January 2012
Sahuarita PARA	August 2010
Yuma Foothills PARA	December 2012
Yuma County Transit PARA	2012
Bisbee PARA	2012
NW Cochise County PARA	2010
Sierra Vista PARA	2010
Unified Nogales/Santa Cruz County Transportation Plan 2010	April 2010
City of San Luis Traffic Circulation Study	April 2011



Table 3.1 Relevant Studies and Plans

Document/Name	Date
Small Area of Transportation Studies (SATS)	
City of San Luis SATS	2009
City of Somerton SATS	2006
City of Douglas SATS	2007
Nogales Railroad SATS	2007
City of Benson SATS	September 2007
Regional Planning Studies	
Yuma Metropolitan Planning Organization (YMPO) Transportation Improvement Program (TIP)	August 2011
Yuma Metropolitan Planning Organization (YMPO) Regional Transportation Plan (RTP)	April 2010
Pima Association of Governments (PAG) TIP	July 2011
SouthEastern Arizona Governments Organization (SEAGO) TIP	May 2011
County/City Planning Studies	
Yuma County Capital Improvement Program (CIP) FY 2011-15	October 2009
Pima County CIP	2009
Santa Cruz County Comprehensive Plan	June 2004
Cochise County 2040 Long-Range Transportation Infrastructure Plan	Pending early 2013
City of Willcox CIP FY 2011-12	2011
SR 189: International Border to Grand Avenue DCR & Environmental Studies	Ongoing
Mariposa - I-19 Connector Route Study	2008
Municipal Planning Studies (Various)	Varies
City of Yuma 2012 Draft General Plan	2011
City of San Luis General Plan 2020	2011
City of Somerton General Plan Update 2010	2010
City of Nogales 2010 General Plan	2010
City of Douglas Economic Outlook 2010	2010
City of Sierra Vista 2020 General Plan	December 2002
City of Bisbee 2003 General Plan	January 2004



Table 3.1 Relevant Studies and Plans

Document/Name	Date
Other Studies and Border Master Plans	
California-Baja California Border Master Plan	September 2008
Laredo District/Coahuila/Nuevo León/Tamaulipas Border Master Plan	June 2012
Lower Rio Grande Valley/Tamaulipas Border Master Plan	2012
El Paso/New Mexico/Chihuahua Border Master Plan	2012
Development of a Border Transportation Master Plan for five Border Cities and four Zones of Intermodal Integration in Seaports	2010
Guaymas-Tucson Corridor Logistics Capacity Study	2006
Multimodal Freight Analysis Study	2008



4.0 STUDY AREA CHARACTERISTICS

This chapter provides generalized information regarding the physical, social, economic, and environmental characteristics of the Study Area, with emphasis on the Focus Area and Area of Influence, as defined in Chapter 2.

4.1 ENVIRONMENTAL AND SOCIOECONOMIC CHARACTERISTICS

Existing land ownership on the U.S. side of the border is illustrated in Figure 4.1. The figure shows existing transportation corridors generally are constrained by federal lands, Arizona State Trust land, military withdrawals, and the Tohono O’odam reservation. Key environmental characteristics in the study area include protected areas that are managed by U.S. federal agencies that are clustered near Nogales and Lukeville, Arizona (Figure 4.2).

Figures 4.3 and 4.4 show the current density (Year 2010) of population and employment in the Study Area. Concentrations of both population and employment are centralized along Mexico Federal Highway 15 and United States Interstate Highways 19 and 10. Smaller concentrations are located in the San Luis Rio Colorado/Yuma and Agua Prieta/Douglas urbanized areas. Expected future growth in the study area has also been documented for Years 2035 and 2050 (Figures 4.5 - 4.8).



Figure 4.1 Principal Land Ownership Pattern in the Study Area

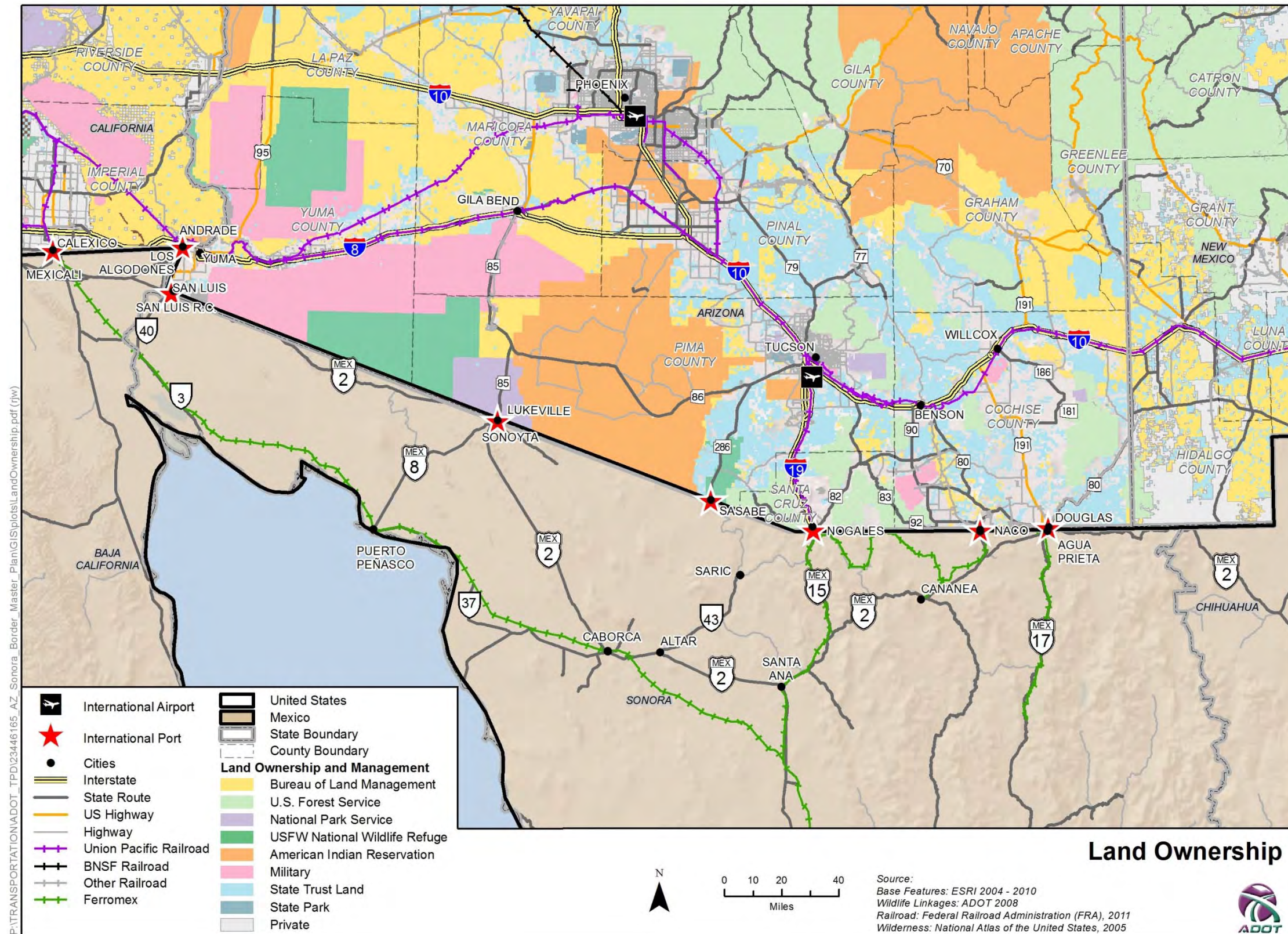




Figure 4.2 Environmental Characteristics of the Study Area

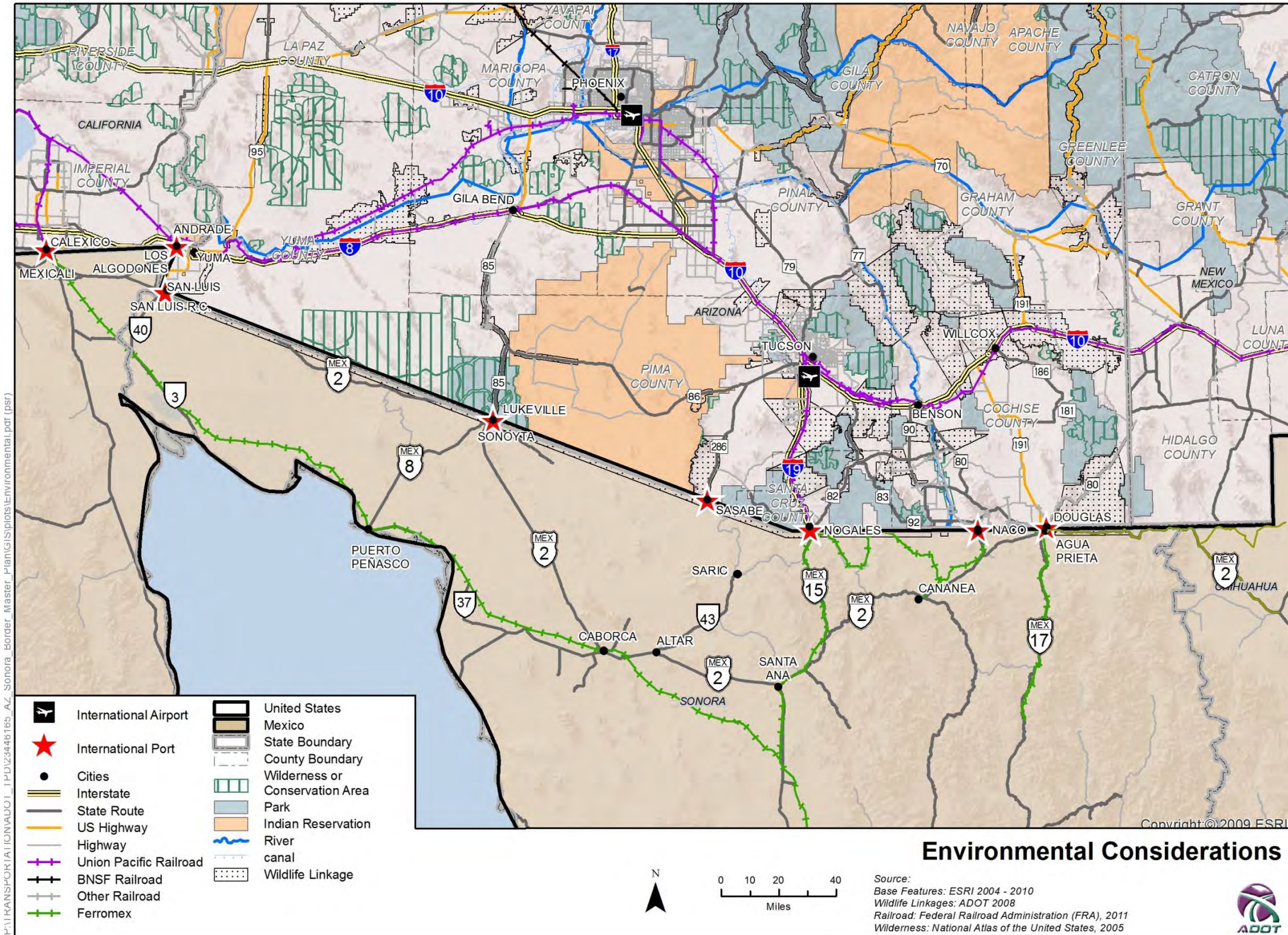




Figure 4.3 Current Population Density

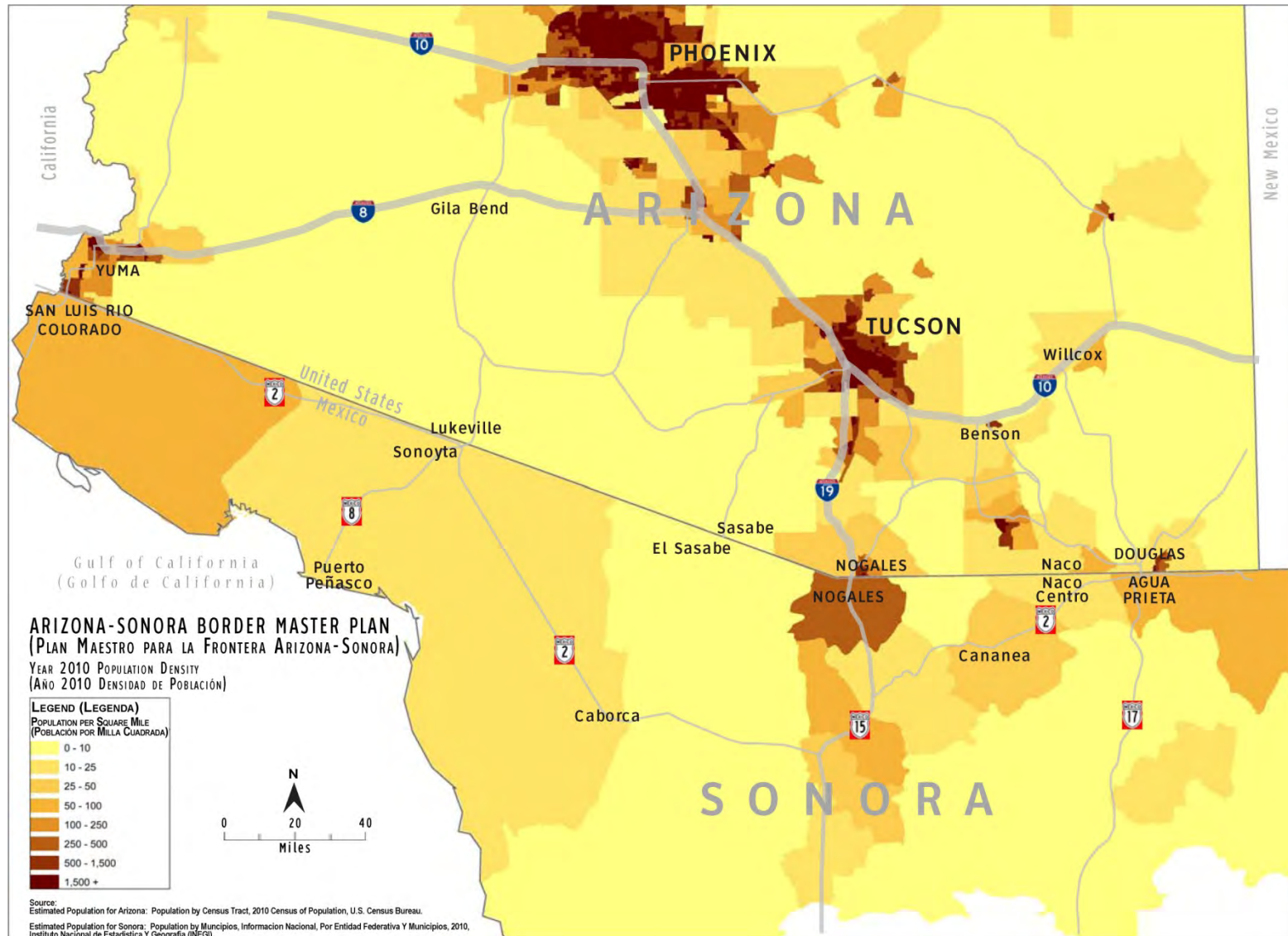
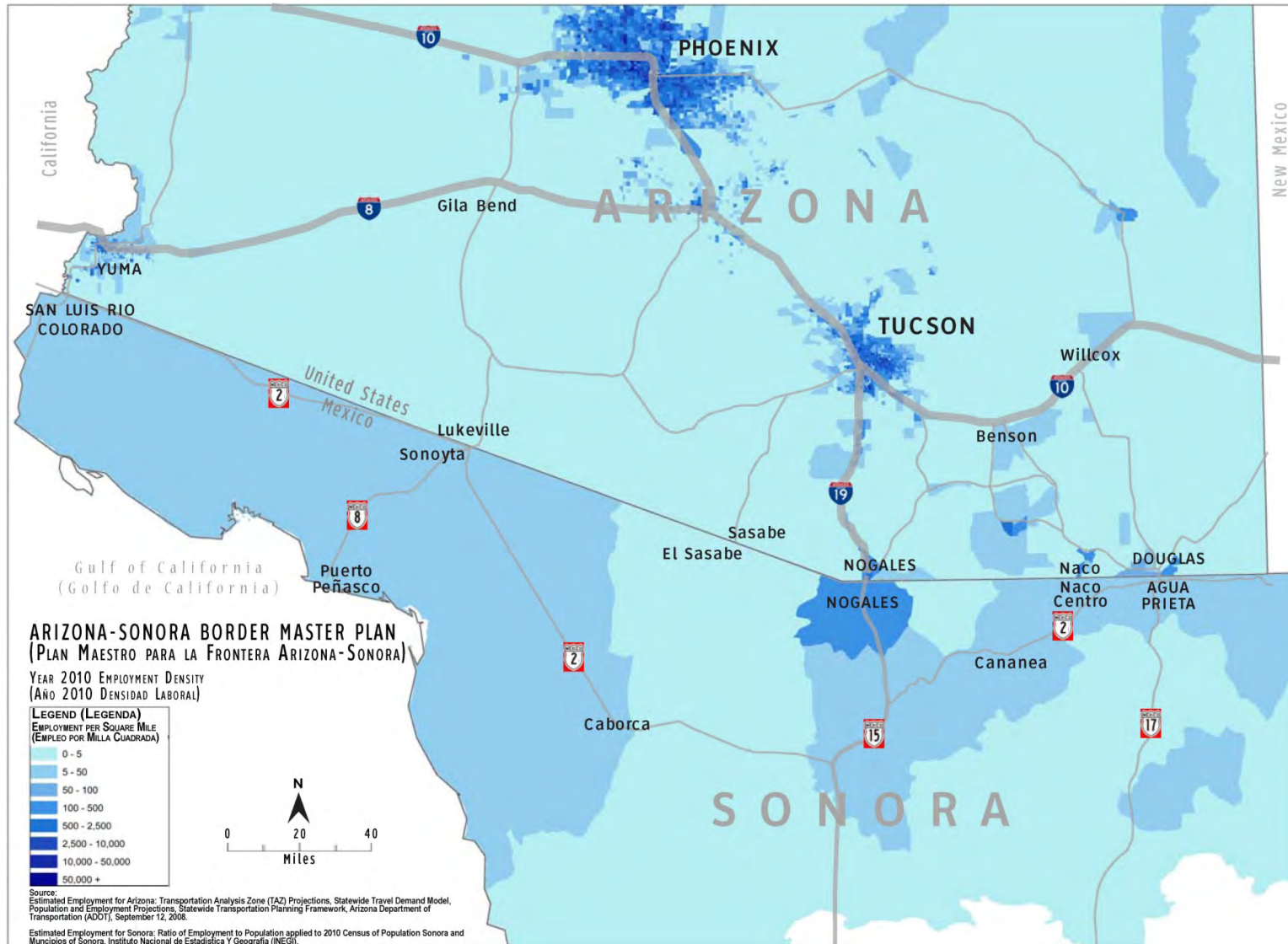




Figure 4.4 Current Employment Density



ARIZONA-SONORA BORDER MASTER PLAN



Figure 4.5 Year 2035 Population Density

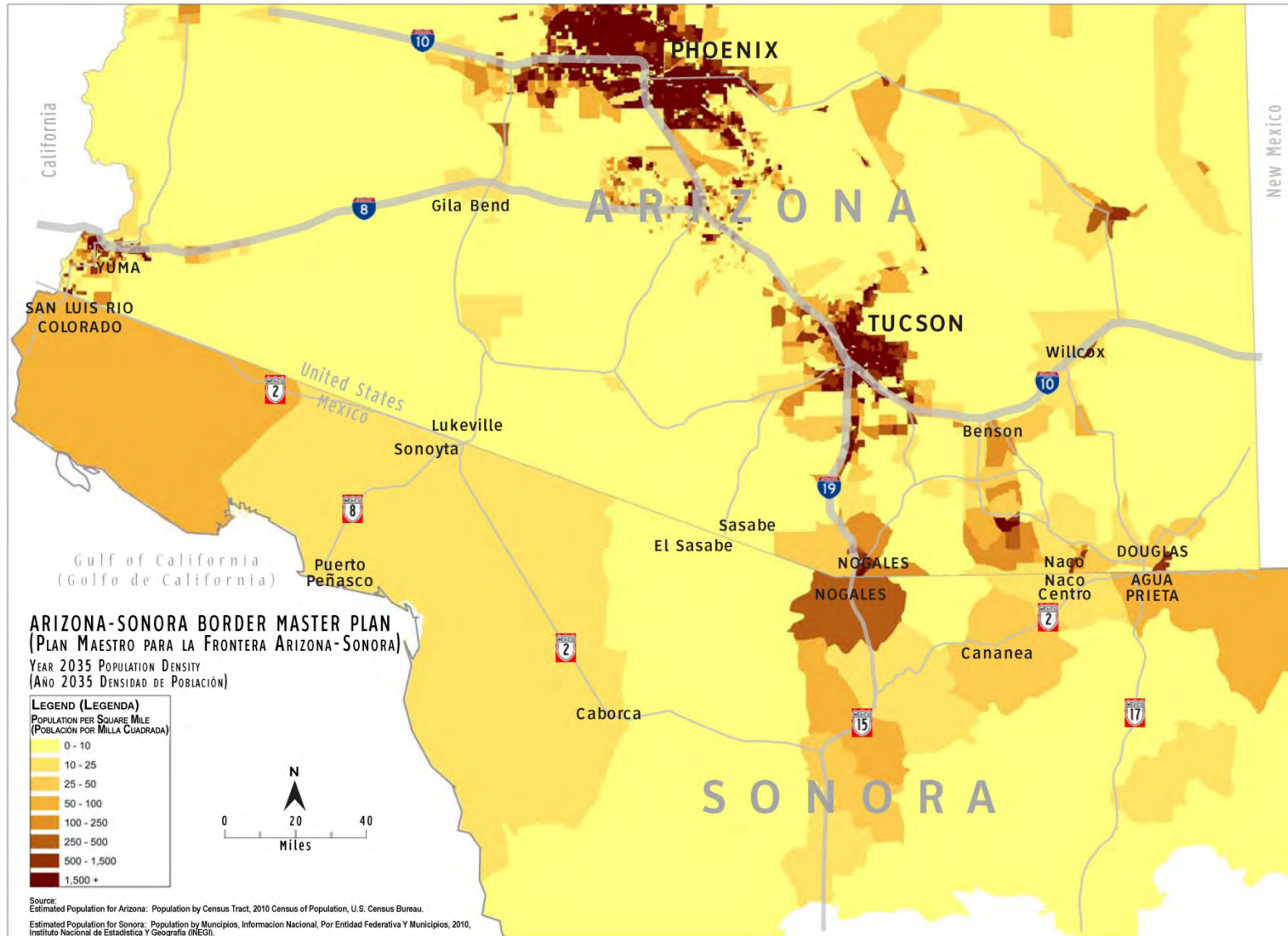




Figure 4.6 Year 2035 Employment Density

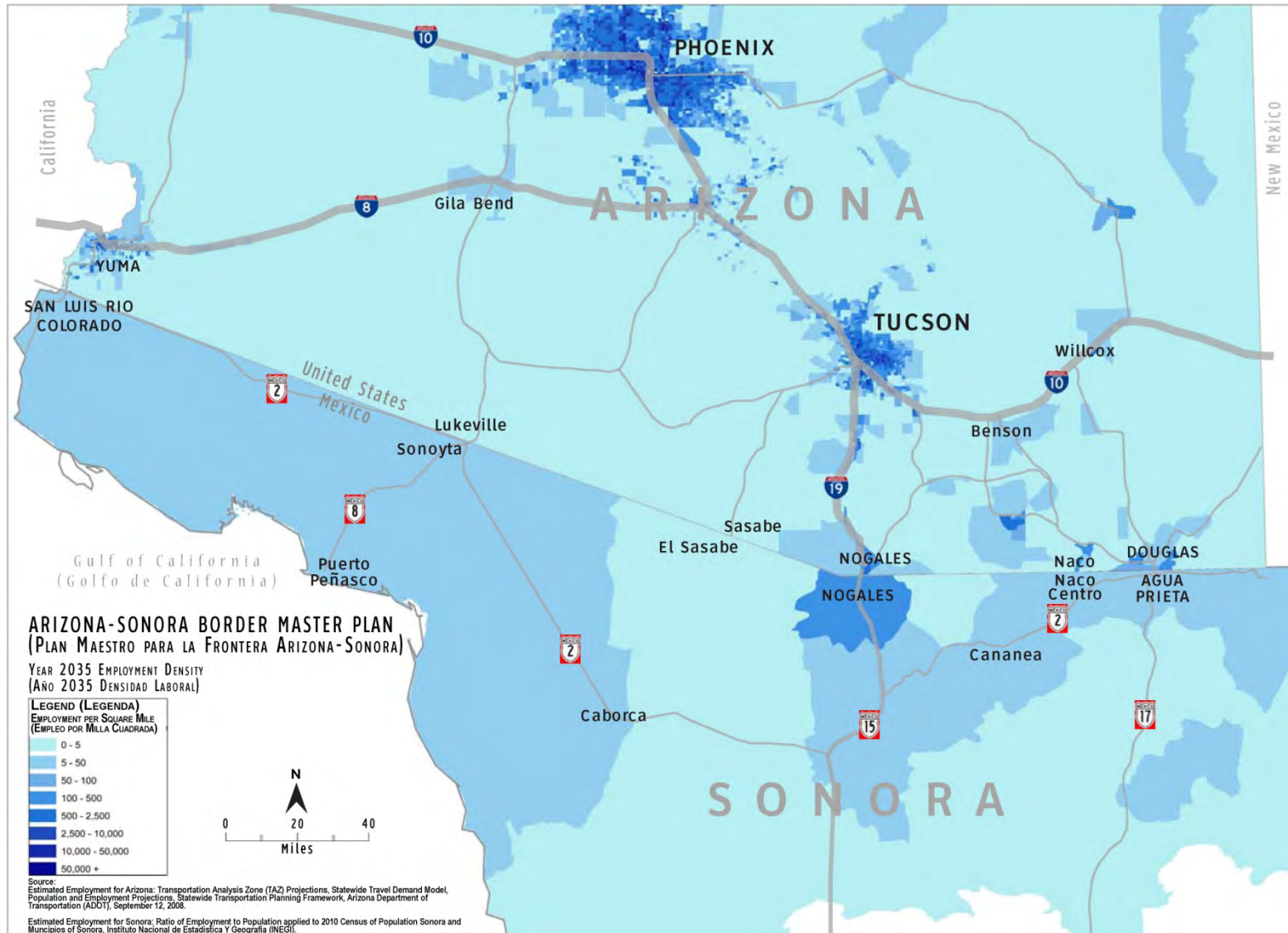




Figure 4.7 Year 2050 Population Density

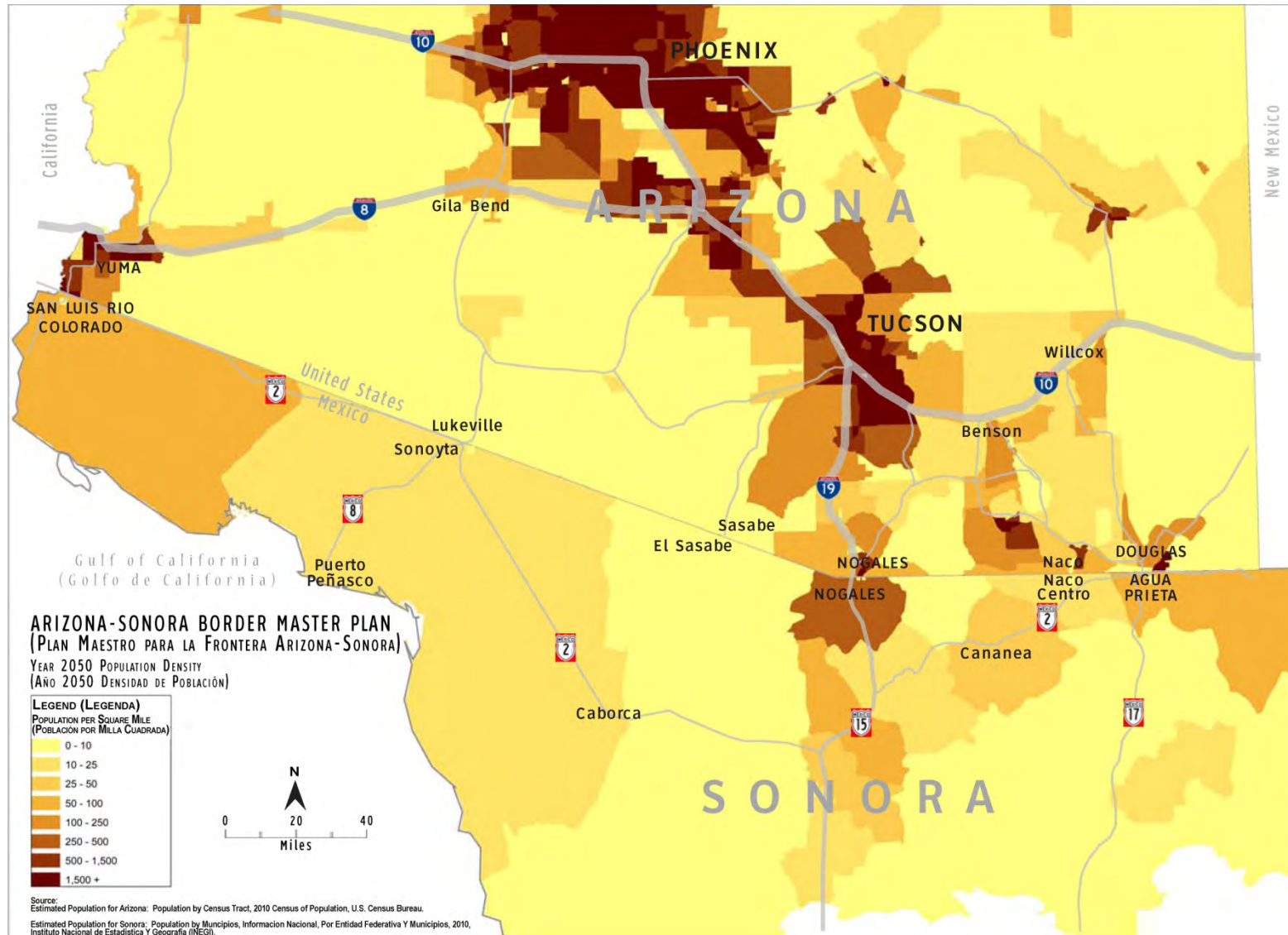
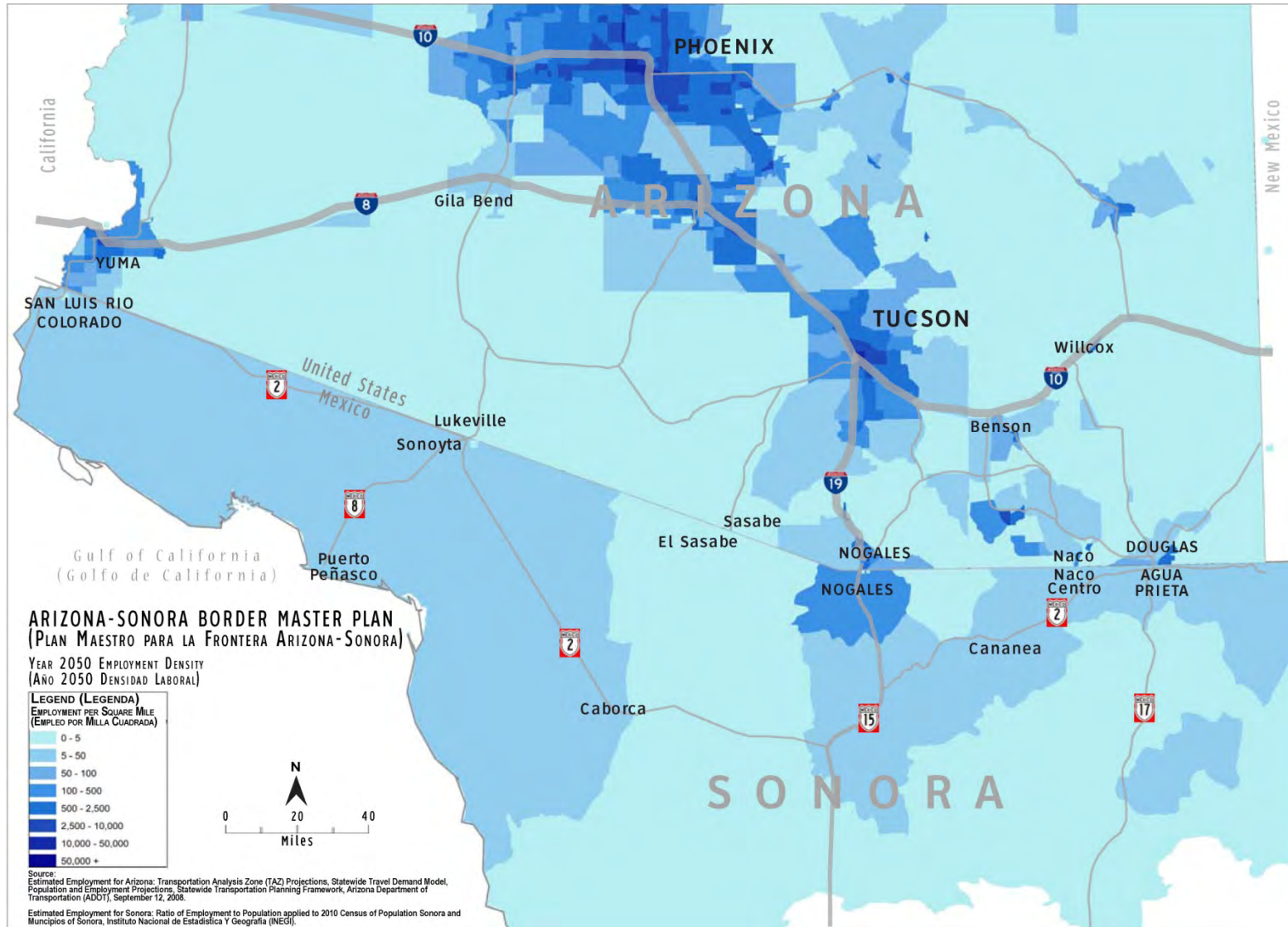




Figure 4.8 Year 2050 Employment Density





4.2 ROADWAY NETWORK CHARACTERISTICS

Table 4.1 lists the principal characteristics of key routes within the Focus Area of the Arizona-Sonora BMP, including functional classification, number of lanes, annual average daily traffic (AADT), and current level of service (LOS) provided. AADTs were extracted from various sources as denoted in the footnotes of Table 4.2. LOS, simply stated, describes traffic conditions in terms of speed, travel time, freedom to maneuver, comfort, convenience, traffic flow interruptions, and safety. Six levels of service are designated by the letters ‘A’ through ‘F’: ‘A’ represents the best operating conditions; and ‘F’ represents heavily congested flow with traffic demand exceeding highway capacity. Table 4.1 is followed by Table 4.2, which provides information regarding the same characteristics for roadways in the larger Area of Influence.

4.3 CRASH DATA ON KEY STUDY AREA ROUTES

Crash data on key Study Area roadways were obtained from ADOT for a five-year period from January, 2006, to December, 2010. The crash data presented in this study is intended to provide a foundation for future corridor studies. Crash rates were calculated utilizing these data, based on the following equation:

$$R = (a \times 1,000,000) \div (ADT \times L \times 365)$$

Where:

R = Crash Rate per Million Vehicle Miles (MVM) Traveled

a = Number of Crashes per Year

L = Length of the Roadway Segment

ADT = Average Daily Traffic

Crash rates were calculated independently for each of the five analysis years. Then an average of the yearly crash rates was calculated to create an annual average rate. It was noticed that the crash data consisted of a significant number of “no injury” crashes. Therefore, crash rates were also calculated based on the following levels of severity:

- ‘Fatal’ Crashes;
- ‘Incapacitating’ Crashes; and
- ‘Non-incapacitating’ Crashes



The resulting crash rates are summarized in Table 4.3 for Focus Area roadways and Table 4.4 for roadways in the Area of Influence.

Table 4.5 summarizes the Focus Area roadway segments identified to have the highest number of crashes per every million vehicle miles traveled on the roadway segment. A summary of roadway segments in the Area of Influence identified to have the highest number of crashes per every million vehicle miles traveled on the roadway segment is provided in Table 4.6.

4.4 RAIL

The only existing rail border crossing between Sonora and Arizona is located at the DeConcini LPOE. The Nogales Subdivision rail line is owned and operated by Union Pacific Railroad (UPRR) and extends north along the Nogales Branch to Tucson to interconnect with the mainline Sunset Route. The line extends south to connect to Ferrocarril Mexicano (Ferromex) and serves numerous auto assembly plants and industries in Hermosillo.

Due to spatial constraints at DeConcini, secondary inspections of northbound trains occur at facilities in Rio Rico, Arizona, approximately seven miles north of the DeConcini LPOE. Only a passing review by a VACIS machine is accomplished at the border.

Based on conversations with CBP and UPRR there are typically eight trains daily (both northbound and southbound) on the Nogales Branch between Nogales and Tucson and considers the branch to be operating at about 50% capacity.

4.5 LAND USE

A review of existing and planned land uses surrounding each LPOE was conducted to identify pertinent available land use information for the area surrounding each LPOE and future land use planning efforts, if any, that relate to planned improvements to border crossing infrastructure. Generally, land uses in the vicinity of LPOEs are identified as growth areas and/or designated for business or industrial uses. Land use maps for Arizona cities where LPOEs are located are provided in Appendix B.



Table 4.1 Existing Route Characteristics: Focus Area Roadway Network

Transportation Routes in the Focus Area								
USA Port / Mexico Port	Route	Functional Classification	Lane Configuration/Location			AADT Average	LOS	
			No. of Thru Lanes	Begin Mile Post	End Mile Post			
San Luis/ San Luis Rio Colorado	Main Street (Urtuzuastegui St.)	Minor Arterial	2	Near San Luis POE		1,974	A	
	G Street (Juan Sanchez Blvd- Co 23 rd St.)	Major Collector	2	East of US 95		8,860	B	
	County Road 22	Major Collector	2	East of US 95		7,089	B	
	County Road 19	Minor Collector	2	West of Avenue B		2,178	B	
	Avenue 3E	Major Collector	2	South of US 95		6,341	B	
	Avenue 3E	Minor Arterial	4	South of Co Road 12		11,165	B	
	Avenue 3E	Major Arterial	4	South of B-8		18,428	C	
	Avenue B	Minor Collector	2	South of Co Road 19		6,142	B	
	County Road 16	Minor Collector	2	East of Avenue B		3,371	B	
	US 95	Major Arterial	2	0	0.46	15,000	C	
	US 95	Major Arterial	4	0.46	4.72	14,500	B	
	US 95	Major Arterial	4	4.72	11.54	9,266	B	
	US 95	Major Arterial	4	11.54	19.9	13,000	C	
	US 95	Major Arterial	4	19.9	25.87	32,000	B	
	US 95	Major Arterial	4	25.87	29.85	15,333	B	
	US 95		4	29.85	31.98	8,400	B	
	US 95		2	31.98	33.71	7,167	B	
	US 95 T	Major Arterial	4	0.36	0.46	6,800	C	
	SR 195		2	2.95	24.45	9,500	C	
	Mexico Federal Route 2	Major Arterial	2	Int'l Border to East of San Luis		NA	B	
Mexico State Route 40	Major Arterial	4	Int'l Border to South of San Luis		NA	NA		
Mexico State Route 40	Major Arterial	2	South of San Luis to study limit		NA	NA		
Lukeville/Sonoyta	SR 85	Minor Arterial	2	53.06	80.69	1,433	A	
	Mexico Federal Route 2	Major Arterial	2	San Luis to Mexico Federal 8		NA	C	
	Mexico Federal Route 8	Major Arterial	2	Int'l Border to Mexico Federal 2		NA	NA	
Sasabe/Sasabe	SR 286	Major Collector	2	0	11	550	A	
	Margarito-Sasabe Road	NA	NA	NA		NA	NA	
Nogales (Mariposa, DeConcini and Morley Gate) /Nogales (3 POE)	SR 189	Major Arterial	4	0	2.64	12,166	B	
	SR 189	Major Arterial	4	2.64	3.75	26,666	B	
	Target Range Drive	Minor Arterial	2	Between SR 189 and I-19		4,700	A	
	Industrial Drive	Major Collector	2	East of SR 189		4,700	A	
	Mexico Federal Route 15D	Major Arterial	4	Between Mexico 15 and Int'l Border		NA	NA	
	I-19	Freeway	4	0	2.95	11,833	A	
	I-19	Freeway	4	2.95	5.31	23,833	A	
	I-19	Freeway	4	5.31	7.72	36,333	B	
	I-19	Freeway	4	7.72	10.88	28,166	A	
	I-19	Freeway	4	10.88	48	23,000	A	
	I-19 B (Grand Road)	Major Arterial	4	Int'l Border to I-19		28,000	C	
	Morley Avenue	Minor Arterial	2	Int'l Border to I-19B		4,100	A	
	Mexico Federal Route 15	Major Arterial	4	Within Nogales City		NA	NA	
	Mexico Federal Route 15	Major Arterial	6	Near Int'l Border		NA	NA	
Between Nogales and Naco	SR 82	Major Collector	2	1.19	5.87	3,166	B	
	SR 82	Major Collector	2	5.87	51.6	2,900	B	
	SR 82	Major Collector	2	51.6	67.48	8,00	B	
	SR 83	Major Collector	2	3.19	36.818	1,400	B	
	SR 92	Major Collector	4	321.21	339.9	31,000	D	
	SR 92	Minor Arterial	4	325.22	329.44	19,000	C	
	SR 92	Minor Arterial	2	329.44	339.9	10,500	C	
	SR 92	Minor Arterial	2	339.9	351.788	5,500	A	
	SR 90	Major Arterial	4	308.39	311.96	16,333	B	
	SR 90	Major Arterial	4	311.96	323.607	18,666	B	
	SR 90	Major Arterial	2	323.607	325.51	9,066	B	
	SR 90	Major Arterial	2	325.51	336.4	3,866	A	
	SR 80	Major Arterial	2	317.09	332.89	5,467	B	
	SR 80	Major Arterial	2	332.89	341.49	5,166	C	
	Mexico Federal Route 2	Major Arterial	2	Imuris to Naco Connector Road		NA	NA	
	Naco/Naco	SR 80	Major Arterial	2	341.49	343.3	8,966	C
		SR 92	Major Arterial	4	350.18	352.49	5,466	B
		SR 92	Minor Arterial	4	352.49	354.56	7,366	B
SR 92		Major Collector	2	354.56	355.11	7,366	B	
Naco Highway		Major Collector	2	Near Naco Int'l Border		7,300	B	
Towner Avenue		Minor Collector	2	Near Naco Int'l Border		NA	NA	
Naco Route		Minor Collector	2	Int'l Border to Mexico Federal 2		NA	NA	
Douglas/Agua Prieta	US 191	Major Arterial	4	0	7.4	2,933	A	
	US 191	Major Arterial	4	7.4	18.33	2,066	A	
	US 191B	Major Arterial	4	0	1.15	14,833	B	
	SR 80	Major Arterial	2	343	365.458	4,566	B	
	SR 80	Major Arterial	4	365.458	366.122	2,500	A	
	Davis Road	Major Arterial	2	SR 191	SR 80	1,200	A	
	Mexico Federal Route 2	Major Arterial	2	Focus area limit to Mexico Federal 17		NA	NA	
	Mexico Federal Route 17	Major Arterial	2	Int'l Border to Mexico Federal 2		NA	NA	



Table 4.2 Existing Route Characteristics: Area of Influence Roadway Network

Transportation Routes in the Area of Influence							
Study Area	Route	Functional Classification	Lane Configuration/Location			AADT Average	LOS
			No. of Thru Lanes	Begin Mile Post	End Mile Post		
Yuma to Casa Grande (I-10)	I-8	Freeway	4	0	0.5	18,333	A
	I-8	Freeway	4	0.5	2.24	20,833	A
	I-8	Freeway	4	2.24	3.98	28,500	B
	I-8	Freeway	4	3.98	12.22	31,333	B
	I-8	Freeway	4	12.22	14.24	20,167	B
	I-8	Freeway	4	14.24	115.15	12,667	A
	I-8	Freeway	4	115.15	115.63	4,033	A
	I-8	Freeway	4	115.63	169.54	6,800	A
	I-8	Freeway	4	169.54	178.33	8,867	A
	US 95	Major Arterial	4	29.85	33.71	8,400	B
	US 95	Major Arterial	2	33.71	46.72	5,300	A
	US 95	Major Arterial	2	46.72	98.57	2,433	A
Casa Grande (I-8) to Tucson Area	I-10	Freeway	6	198.12	240.46	41,667	B
	I-10	Freeway	6	240.46	250.06	84,667	C
	I-10	Freeway	6	250.06	260.7	167,000	F
	I-10	Freeway	4	260.7	262.72	89,000	F
	I-10	Freeway	4	262.72	279.42	61,833	B
	I-19	Freeway	4	61.85	63.09	95,500	F
	I-19	Freeway	4	60.85	61.85	74,833	E
	I-19	Freeway	4	58.82	60.85	57,333	D
	SR 86	Minor Arterial	2	166.28	169.69	30,833	F
	SR 86	Minor Arterial	4	169.69	170.35	29,167	B
	SR 86	Minor Arterial	4	170.35	171.114	36,500	C
	SR 86	Minor Arterial	4	171.114	171.62	36,500	C
East of Tucson to State Border	I-10	Freeway	4	279.42	303.9	32,833	B
	I-10	Freeway	4	303.9	391.23	17,000	A
	Mexico Federal Route 2	Major Arterial	2	Mexico Federal Route 15 to Douglas		NA	NA
Between Lukeville, Sasabee, and Nogales / Between East of San Luis to Nogales, via Puerto Peñasco, Caborca, and Santa Ana	SR 85	Minor Arterial	2	0	40.59	1,733	A
	SR 85		2	40.59	42.5	4,567	B
	SR 85	Minor Arterial	2	42.5	70.15	1,333	A
	SR 85	Minor Arterial	2	70.15	80.69	1,433	A
	SR 86	Minor Arterial	2	56	159.83	7,633	B
	SR 86	Minor Arterial	2	159.83	166.28	13,700	C
	Mexico Federal Route 8	Major Arterial	2	Mexico Federal 2 to east of Puerto Peñasco		NA	NA
	Mexico Federal Route 3	Major Arterial	2	Mexico State 40 to east of Puerto Peñasco		NA	NA
	Mexico Federal Route 2	Major Arterial	2	Sonoyta to Nogales, via Caborca and Santa Ana		NA	B
	Mexico Federal Route 15	Major Arterial	2	Santa Anna to Nogales		NA	A
	Mexico State 43	Major Arterial	2	Caborca to Mexico Federal Route 15		NA	NA
	Mexico State 37	Major Arterial	2	Caborca to Puerto Peñasco		NA	NA
Between Nogales and Douglas / Nogales and Agua Prieta	SR 80	Major Arterial	4	293.35	317.09	10,333	B
	SR 80	Major Arterial	2	366.122	370	1,900	A
	SR 80	Major Arterial	2	370	415.39	417	A
	SR 82	Minor Arterial	4	1.73	2.919	4,367	A
	SR 83	Minor Arterial	2	36.82	58.76	1,933	A
	SR 90	Major Arterial	4	289.54	298.5	9,733	B
	SR 90	Major Arterial	4	298.5	308.39	9,867	B
	SR 186	Minor Arterial	4	326.19	328.2	6,000	B
	SR 186	Minor Arterial	2	328.2	359.42	1,500	A
	SR 181	Minor Arterial	2	38.25	64.02	883	A
	SR 286	Major Collector	2	11	45.48	1,333	A
	US 191	Minor Arterial	2	18.33	66.26	1,200	A
	Mexico Federal 17	Major Arterial	2	North of Moctezuma to Douglas		NA	A

Notes:

Functional Classification based on the ADOT Framework Study TransCAD Model.

LOS for US Routes - obtained from Florida Department of Transportation's - 2009 Florida Quality/Level of Service Handbook, <http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm>.

LOS for Mexico Routes - obtained from "Development of Transportation Border Master Plan for 5 Border Cities and 4 Zones of Intermodal Integration in Seaports" by Grupo ADMA, S.A. de C.V. - November 2010

Traffic Volumes for Interstate, State Routes and US Routes obtained from ADOT Average Annual Daily Traffic Counts (2007 - 2009): <http://mpd.azdot.gov/mpd/data/aadt.asp>

Traffic Volumes for roads in YMPO region obtained from YMPO - 2010 Verified Counts with Factors working copy finalized: <http://ympo.org/maps-more/traffic-counts/>

NA: Volumes and LOS not available.



Table 4.3 Crash Rates on Focus Area Roadways

Transportation Routes in the Focus Area							
USA Port/ Mexico Port	Route	Roadway Limits		Average Crash Rate per Million Vehicles Miles ⁽¹⁾			
		Begin Mile Post	End Mile Post	All Crashes	Fatal Crashes	Incapacitating Crash	Non Incapacitating Crash
San Luis/ San Luis Rio Colorado	Main Street (Urtuzuastegui Street)	Near San Luis POE		1.657	0.000	0.000	0.000
	G St.(Juan Sanchez Blvd- Co 23 rd st)	East of US 95		1.154	0.041	0.000	0.247
	County Road 22	East of US 95		0.324	0.000	0.000	0.000
	County Road 19	West of Ave B		2.421	0.031	0.126	0.472
	Avenue 3E	South of US 95		4.844	0.000	0.393	0.786
	Avenue 3E	South of Co Rd 12		0.638	0.021	0.070	0.070
	Avenue 3E	South of B-8		2.670	0.000	0.215	0.304
	Avenue B	South of Co Rd 19		0.248	0.023	0.045	0.000
	County Road 16	East of Ave B		1.300	0.041	0.041	0.284
	US 95	0.00	0.46	1.680	0.000	0.037	0.000
	US 95	0.46	4.72	0.718	0.009	0.019	0.104
	US 95	4.72	11.54	0.303	0.017	0.000	0.130
	US 95	11.54	19.90	1.855	0.005	0.030	0.227
	US 95	19.90	25.87	0.628	0.006	0.032	0.198
	US 95	25.87	29.85	0.943	0.027	0.081	0.180
	US 95	29.85	31.98	0.521	0.000	0.031	0.031
	US 95	31.98	33.71	0.795	0.088	0.000	0.442
	US 95 T	0.36	0.46	NA	NA	NA	NA
	Mexico Federal Route 2	Int'l Border to east of San Luis		NA	NA	NA	NA
	Mexico State Route 40	Int'l Border to south of San Luis		NA	NA	NA	NA
Mexico State Route 40	South of San Luis to study limit		NA	NA	NA	NA	
Lukeville/Sonoyta	SR 85	70.15	80.69	1.197	0.109	0.036	0.472
	Mexico Federal Route 2	San Luis to Mexico Federal 8		NA	NA	NA	NA
	Mexico Federal Route 8	Int'l Border to Mexico Federal 2		NA	NA	NA	NA
Sasabe/Sasabe	SR 286	0.00	11.00	1.268	0.000	0.091	0.181
	Margarito-Sasabe Route	NA		NA	NA	NA	NA
Nogales (Mariposa, DeConcini and Morley Gate) /Nogales (3 POE)	SR 189	0.00	2.64	0.461	0.000	0.017	0.034
	SR 189	2.64	3.75	2.647	0.000	0.019	0.130
	Target Range Drive	Between SR 189 and I-19		NA	NA	NA	NA
	Industrial Drive	East of SR 189		NA	NA	NA	NA
	Mexico Federal Route 15D	between Mexico 15 and Int'l Border		NA	NA	NA	NA
	I-19	0.00	2.95	2.285	0.000	0.075	0.352
	I-19	2.95	5.31	0.966	0.031	0.031	0.156
	I-19	5.31	7.72	0.871	0.010	0.030	0.150
	I-19	7.72	10.88	0.788	0.039	0.030	0.187
	I-19	10.88	48.00	0.543	0.010	0.023	0.072
	1-19 B (Grand Road)	Int'l Border to I-19		NA	NA	NA	NA
	Morley Avenue	Int'l Border to I-19B		NA	NA	NA	NA
	Mexico Federal Route 15	Within Nogales City		NA	NA	NA	NA
	Mexico Federal Route 15	Near Int'l Border		NA	NA	NA	NA
Between Nogales and Naco	SR 82	1.19	5.87	1.442	0.000	0.037	0.185
	SR 82	5.87	51.60	0.665	0.029	0.050	0.149
	SR 82	51.60	67.48	2.545	0.043	0.086	0.216
	SR 83	3.19	36.82	0.710	0.000	0.259	0.388
	SR 92	329.44	339.90	1.088	0.022	0.216	0.474
	SR 92	339.90	351.79	0.809	0.012	0.129	0.302
	SR 92	351.79	352.87	0.651	0.372	0.043	0.086
	SR 92	352.87	355.00	0.209	0.000	0.043	0.129
	SR 92	355.00	355.08	0.209	0.000	0.043	0.129
	SR 92	355.08	355.11	0.209	0.000	0.043	0.129
	SR 90	308.39	311.96	0.263	0.019	0.129	0.690
	SR 90	311.96	323.61	1.469	0.023	0.992	2.200
	SR 90	323.61	325.51	1.715	0.000	0.259	0.561
	SR 90	325.51	336.40	0.807	0.026	0.043	0.518
	SR 80	317.09	332.89	0.495	0.006	0.043	0.431
	SR 80	332.89	341.49	1.098	0.037	0.086	0.431
	Mexico Federal Route 2	Imuris to Naco Connector Road		0.000	0.000	0.000	0.000
	Naco/Naco	SR 80	341.49	343.30	0.270	0.068	0.000
SR 92		321.21	324.50	2.548	0.006	0.776	0.377
SR 92		324.50	327.23	2.774	0.030	0.604	0.249
SR 92		327.23	329.44	1.213	0.000	0.173	0.160
Naco Highway		Near Naco Int'l Border		NA	NA	NA	NA
Towner Ave		Near Naco Int'l Border		NA	NA	NA	NA
Naco Route		Int'l Border to Mexico Federal 2		0.000	0.000	0.000	0.000



Transportation Routes in the Focus Area							
USA Port/ Mexico Port	Route	Roadway Limits		Average Crash Rate per Million Vehicles Miles ⁽¹⁾			
		Begin Mile Post	End Mile Post	All Crashes	Fatal Crashes	Incapacitating Crash	Non Incapacitating Crash
Douglas/Agua Prieta	US 191	0.00	7.40	0.833	0.025	0.025	0.177
	US 191	7.40	18.33	0.703	0.024	0.097	0.194
	US 191B	0.00	1.15	1.574	0.000	0.032	0.128
	SR 80	343.30	365.46	1.040	0.022	0.043	0.070
	SR 80	365.46	366.12	1.040	0.022	0.043	0.070
	SR 80	366.12	370.00	0.818	0.000	0.149	0.149
	Mexico Federal Route 2	Focus area limit to Mexico Federal 17		NA	NA	NA	NA
	Mexico Federal Route 17	Int'l Border to Mexico Federal 2		NA	NA	NA	NA

Note:
 (1) Determined from ADOT data for 5-year period January 2006-December 2010.
 (2) NA = Not Available.

Table 4.4 Crash Rates on Area of Influence Roadways

Transportation Routes in the Area of Influence							
Study Area	Route	Roadway Limits		Average Crash Rate per Million Vehicles Miles ⁽¹⁾			
		Begin Mile Post	End Mile Post	All Crashes	Fatal Crashes	Incapacitating Crash	Non Incapacitating Crash
Yuma to Casa Grande (I-10)	I-8	0.00	0.50	1.196	0.060	0.060	0.000
	I-8	0.50	2.24	1.134	0.030	0.015	0.166
	I-8	2.24	3.98	0.398	0.000	0.000	0.066
	I-8	3.98	12.22	0.601	0.008	0.038	0.108
	I-8	12.22	14.24	0.457	0.013	0.040	0.054
	I-8	14.24	115.15	0.346	0.005	0.013	0.040
	US 95	29.85	33.71	0.507	0.034	0.034	0.152
	US 95	33.71	46.72	0.509	0.024	0.016	0.103
	US 95	46.72	98.57	0.304	0.013	0.035	0.061
Casa Grande (I-8) to Tucson Area	I-10	250.06	260.70	0.776	0.003	0.010	0.085
	I-10	260.70	262.72	1.493	0.009	0.024	0.183
	I-10	262.72	279.42	0.619	0.008	0.010	0.081
	I-19	61.85	63.09	1.510	0.022	0.022	0.200
	I-19	60.85	61.85	1.535	0.012	0.035	0.176
	I-19	58.82	60.85	1.258	0.015	0.045	0.158
East of Tucson to State Border	I-10	279.42	303.90	0.680	0.018	0.024	0.112
	I-10	303.90	391.23	0.366	0.012	0.011	0.065
	Mexico Federal Route 2	Mexico Federal 15 to Douglas		NA	NA	NA	NA
Between Lukeville, Sasabe, and Nogales / Between East of San Luis to Nogales, via Puerto Peñasco, Caborca, and Santa Ana	SR 85	40.59	42.50	1.194	0.000	0.063	0.063
	SR 85	42.50	70.15	1.085	0.074	0.074	0.208
	SR 86	56.00	159.83	0.413	0.021	0.031	0.061
	SR 86	159.83	166.28	1.042	0.019	0.068	0.167
	SR 86	166.28	169.69	0.448	0.000	0.021	0.057
	SR 86	169.69	170.35	0.232	0.006	0.000	0.056
	SR 86	170.35	171.11	0.232	0.006	0.000	0.056
	SR 86	171.11	171.62	0.232	0.006	0.000	0.056
	Mexico Federal Route 8	Mexico Federal Route 2 to East of Puerto Peñasco		NA	NA	NA	NA
	Mexico Federal Route 3	Mexico State Route 40 to East of Puerto Peñasco		NA	NA	NA	NA
	Mexico Federal Route 2	Sonoyta to Nogales, via Caborca and Santa Ana		NA	NA	NA	NA
	Mexico Federal Route 15	Santa Anna to Nogales		NA	NA	NA	NA
	Mexico State Route 43	Caborca to Mexico Federal Route 15		NA	NA	NA	NA
	Mexico State Route 37	Caborca to Puerto Peñasco		NA	NA	NA	NA
Between Nogales and Douglas / Nogales and Agua Prieta	SR 80	293.35	317.09	0.322	0.007	0.020	0.042
	SR 80	370.00	415.39	1.941	0.116	0.145	0.550
	SR 83	36.82	58.76	1.886	0.052	0.168	0.478
	SR 90	289.54	298.50	0.496	0.019	0.019	0.038
	SR 90	298.50	308.39	0.455	0.006	0.006	0.000
	SR 186	326.19	328.20	0.503	0.012	0.047	0.035
	SR 186	328.20	359.42	0.503	0.012	0.047	0.035
	SR 181	38.25	64.02	0.385	0.000	0.024	0.072
	SR 286	11.00	45.48	0.632	0.000	0.000	0.000
	US 191	18.33	66.26	1.162	0.038	0.086	0.200
	Mexico Federal Route 17	North of Moctezuma to Douglas		NA	NA	NA	NA

Note:
 (1) Determined from ADOT data for 5-year period January 2006-December 2010.
 (2) NA = Not Available.

Source:
 Average Crash Rates – Arizona Department of Transportation (ADOT) for the 5-year period January 2006 - December 2010.
 Traffic Volumes – Average Daily Traffic (ADT) for these roadways as reported at the ADOT website.



Table 4.5 Summary of Highest Ranking Crash Rates on Focus Area Roadways

Region	Roadway Segment	Crashes per Million Vehicle Miles (MVM) Traveled
San Luis/San Luis Rio Colorado	Avenue 3E (South of US 95)	4.844
Lukeville/Sonoyta	SR 85 (MP 70.15 – MP 80.69)	1.197
Sasabe/Sasabe	SR 286(MP 0.00 – MP 11.00)	1.268
Nogales (Mariposa, DeConcini, & Morley Gate)	SR 189 (MP 2.64 – MP 3.75)	2.647
Between Nogales/Nogales and Naco/Cento Naco	SR 82 (MP 51.60 – MP 67.48)	2.545
Naco/Centro Naco	SR 92 (MP 324.50 – MP 327.23)	2.774
Douglas/Agua Prieta	US-191B (MP 0.00 – MP 1.15)	1.574

Source:

Crash Rates - Arizona Department of Transportation (ADOT) for the 5-year period January 2006-December 2010.

Traffic Volumes - Average Daily Traffic (ADT) for these roadways as reported at the ADOT Website.

Table 4.6 Summary of Highest Ranking Crash Rates on Area of Influence Roadways

Region	Roadway Segment	Crashes per Million Vehicle Miles (MVM) Traveled
San Luis/Yuma to Casa Grande (I-10)	I-8 (MP 0.00 – MP 0.50)	1.196
Casa Grande (I-8) to Tucson Area	I-19 (MP 60.85 – MP 61.85)	1.535
East of Tucson to AZ/NM State Border	I-10 (MP 279.42 – MP 303.90)	0.680
Between Lukeville, Sasabe, and Nogales and Between East of San Luis to Nogales, via Puerto Peñasco, Caborca, and Santa Ana	SR 85(MP 40.59 – MP 42.50)	1.194
Between Nogales/Nogales and Douglas/Agua Prieta	SR 80 (MP 370.00 – MP 415.39)	1.941

Source:

Crash Rates - Arizona Department of Transportation (ADOT) for the 5-year period January 2006-December 2010.

Traffic Volumes - Average Daily Traffic (ADT) for these roadways as reported at the ADOT Website.

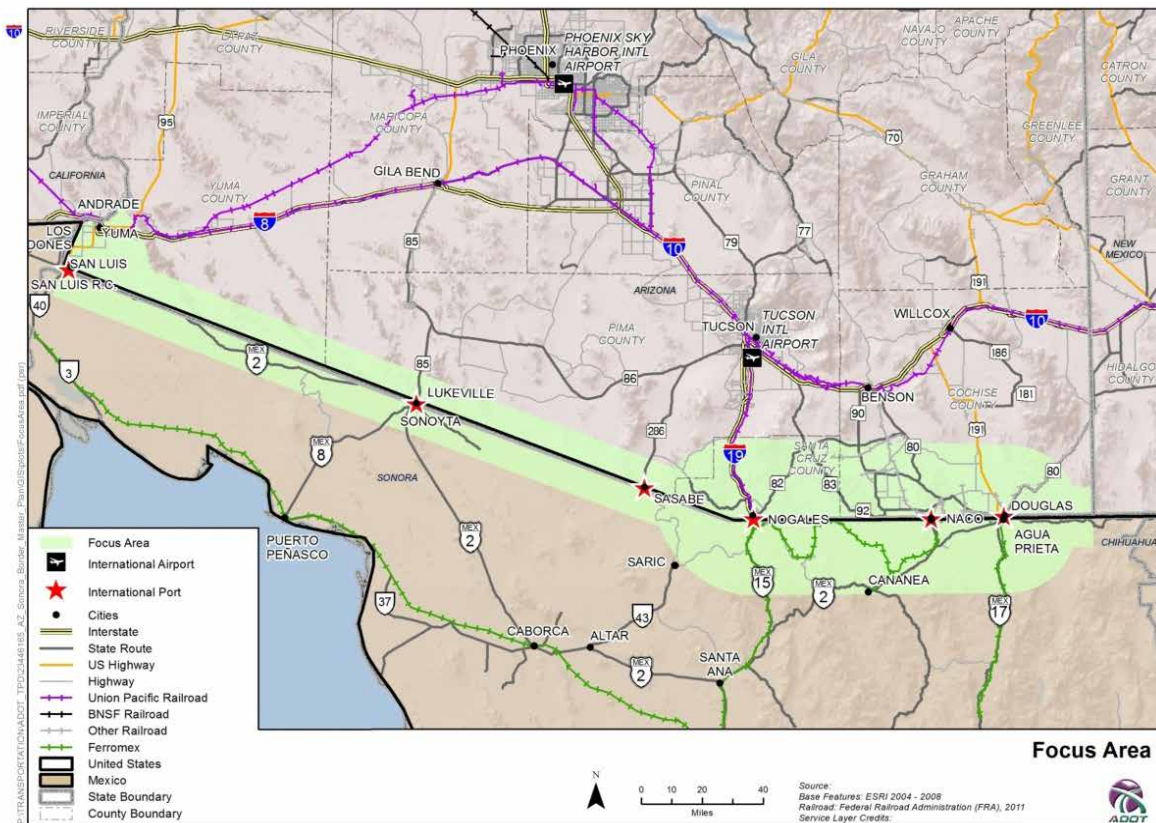


5.0 OVERVIEW OF THE ARIZONA-MEXICO LAND PORTS OF ENTRY (LPOEs)

The State of Arizona in the United States and the State of Sonora in Mexico share approximately 389 miles of international border. The six border crossing locations (Figure 5.1) along this border are as follows, from west to east:¹

- San Luis (San Luis I & II)
- Lukeville / Sonoyta
- Sasabe
- Nogales (Mariposa, DeConcini and Morley Gates)
- Naco
- Douglas / Agua Prieta

Figure 5.1 Locations of Arizona-Sonora Land Ports of Entry



These crossings not only serve as passageways for travel and tourism between Arizona and Sonora, but also as fundamental gateways for both U.S.-Mexico and U.S.-Mexico-Canada trade.

¹ There are a total of nine specific LPOEs. However, grouping of data from the two San Luis LPOEs and the three Nogales LPOEs results in most references listing only six LPOEs.

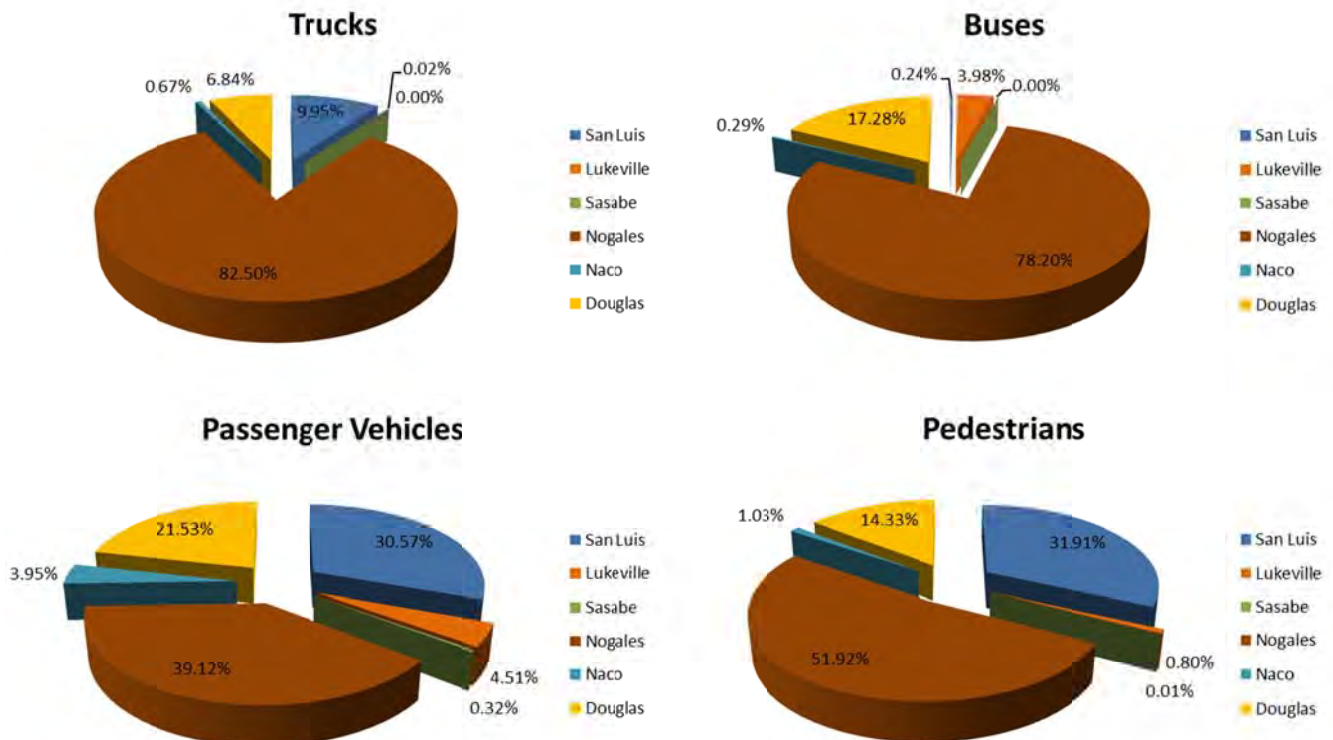
ARIZONA–SONORA BORDER MASTER PLAN



In 2009, over 25.4 million people crossed into the United States through the Arizona LPOEs, which equates to approximately 15% of all persons entering the United States from Mexico. Nearly 70% of these persons were foreign nationals entering the U.S. to visit, work, conduct business or shop. The remaining 30% is composed largely of U.S. citizens returning home from Mexico. The majority of persons crossing the border (70%) did so in vehicles (cars, buses, or as drivers of commercial trucks). The remaining 30% or approximately eight million people crossed through the Arizona LPOEs as pedestrians in 2009.

The majority of all border crossings from Sonora into Arizona occur through the three LPOEs in Nogales (Figure 5.2). Using averages from 2006-2010, approximately 60% of all pedestrian crossings, 40% of privately owned vehicles (POVs) and 75% of all truck crossings occur through the Nogales LPOEs. The San Luis LPOEs near Yuma experience the second highest number of border crossings in all three categories with approximately 30% of pedestrian crossings, 11% of commercial vehicles, and 30% of POV crossings. The Sasabe LPOE processes the fewest crossings.

Figure 5.2 Distribution of Sonora-to-Arizona Crossings by Mode (Average 2006-2010)



ARIZONA–SONORA BORDER MASTER PLAN



Over \$22 billion worth of goods (imports and exports) moved through the six Arizona-Sonora border crossing locations in 2010. The majority of trade is flowing northbound from Mexico, and the Nogales LPOEs comprise about 89% of the trade value crossing the Arizona-Sonora border. Among all LPOEs on the U.S./Mexico international border, Nogales experienced the fifth largest volume of truck crossings as well as the fourth largest volume of pedestrian crossings in 2010.

A large portion of the imported goods originate at the IMMEX (i.e., *Maquiladora*) factories in Sonora and are destined for Arizona, other U.S. states, and/or Canada. However, a special characteristic of the Arizona-Sonora LPOEs is that they are also a major gateway for fresh produce grown in Mexico. Fresh produce worth more than \$2.3 billion was processed through Arizona's LPOEs in 2008, which constitutes more than 40 percent of the fresh produce imported through all LPOEs on the U.S./Mexico international border in 2008.

The value of cross-border shipments at eight of the nine LPOEs on the Arizona-Sonora Border is shown in Table 5.1 (Morley Gate, the 9th LPOE, is pedestrian only). In 2007, the value of cross-border goods was approximately \$20 billion. Despite a global recession, the value of goods moving through the LPOEs increased 7.5% to over \$22 billion in 2010. Most of this increase (approximately \$2 billion) occurred in rail traffic through the Nogales DeConcini LPOE. Data on directional trade patterns indicate that value of northbound Mexico-to-America trade is twice that of southbound trade. Just less than 90% of the value of cross-border goods pass through the two ports at Nogales. Douglas and San Luis comprise the majority of the remaining 10%.

Volumes of Arizona-Sonora border crossings, by mode, for the Years 2006-2010 are presented in Table 5.2 with their primary destinations tabulated in Table 5.3. The vast majority of all border crossings occurred through the three largest LPOEs: Nogales, San Luis, and Douglas. Over 370,000 truck containers were transported through the eight LPOEs: approximately 80% of those containers contained goods, the remainder were empty. The two Nogales LPOEs experienced approximately 80% of the total truck border crossings, while San Luis processed approximately 10%. All rail freight shipments move through the Nogales DeConcini LPOE, where the primary providers are the Union Pacific Railroad (UPRR) and

ARIZONA–SONORA BORDER MASTER PLAN



**Table 5.1 Total Goods Value and Mode of Movement at the Arizona-Sonora Border
(Thousands of U.S. Dollars)**

Land Port of Entry (LPOE)								
Year & Mode	San Luis I & II ⁽¹⁾	Lukeville	Sasabe ⁽²⁾	Nogales (Mariposa & DeConcini)		Naco	Douglas	Total All LPOEs
Total Value (1,000s)								
2007	\$1,131,742	\$11,513	\$592	\$13,345,904	\$4,829,038	\$121,740	\$1,286,416	\$20,726,945
2010	\$1,051,000	\$7,000	\$1,000	\$13,090,000	\$6,738,000	\$50,000	\$1,352,000	\$22,289,000
% Change	-7.13%	-39.20%	68.92%	-1.92%	39.53%	-58.93%	5.10%	7.54%
Value by Mode								
2007								
Truck	\$1,131,518	\$11,012	\$592	\$13,252,698	\$0	\$121,555	\$1,285,226	\$15,802,601
Rail	\$13	\$0	\$0	\$0	\$4,829,038	\$0	\$5	\$4,829,056
Other Mode⁽⁴⁾	\$212	\$501	\$0	\$93,206	\$0	\$185	\$1,186	\$95,290
% of Total Value	5.46%	0.06%	-- ³	\$64.39%	23.30%	0.59%	6.21%	100.00%
2010								
Truck	\$1,049,000	\$6,000	\$1,000	\$13,090,000	\$0	\$49,000	\$1,302,000	\$15,497,000
Rail	\$0	\$0	\$0	\$0	\$6,733,000	\$0	\$5,000	\$6,738,000
Other Mode⁽⁴⁾	\$2,000	\$1,000	\$0	\$0	\$0	\$1,000	\$50,000	\$54,000
% of Total Value	4.72%	0.03%	-- ³	58.73%	30.23%	0.22%	6.07%	100.00%

Notes:

- (1) San Luis II, completed in September 2009, specifically was created to remove commercial traffic from the existing San Luis I. Data regarding goods movement is not yet available. Initially, approximately 150 trucks per day are expected to be processed through this port.
- (2) The Port of Sasabe gets a small number of commercial shipments from Mexico that are not captured by the automated system.
- (3) Negligible.
- (4) Air, pipeline, or other means, or could possibly reflect erroneous data inputs.

Source:

Public-Private Partnerships Potential for Arizona-Mexico Border Infrastructure Projects. Arizona Department of Transportation (ADOT) September, 2009 at <http://www.borderplanning.fhwa.dot.gov/studies.asp>

Analysis is based on 2007 data from Bureau of Transportation Statistics.

Technical Memorandum #1, Analysis of Arizona's Freight Dependent Industries. Arizona Multimodal Freight Analysis Study. ADOT, November, 2007.

Ferromex. Slightly more than 50% of the approximate 50,000 containers on over 600 trains crossing through the DeConcini LPOE in 2010 were empty. Ninety percent of the 6.7 million personal vehicle border crossings occur through the three largest LPOEs: San Luis (30%), Douglas (20%), and Nogales (40%). Approximately 85% of Sonora-Arizona pedestrian border crossings occurred through the three Nogales LPOEs (52%) and the two San Luis LPOEs (32%).

It is noted that while freight volumes (trucks/trains) remained reasonably constant, the movement of people (bus, pedestrians, POV) declined over the years represented.



Table 5.2 Volume of Arizona-Sonora Border Crossings by Mode (2006 - 2010)

Year	Port Name	Trucks	Loaded Truck Containers	Empty Truck Containers	Trains	Loaded Rail Containers	Empty Rail Containers	Train Passengers	Buses	Bus Passengers	Personal Vehicles	Personal Vehicle Passengers	Pedestrians
2006	Douglas	27,951	15,090	9,285	0	0	0	0	3,084	21,893	1,952,583	4,507,435	760,211
	Lukeville	654	29	183	0	0	0	0	3,646	133,527	437,744	1,269,459	81,873
	Naco	4,052	2,349	1,549	0	0	0	0	189	4,478	335,916	906,971	90,020
	Nogales	289,590	229,442	60,334	653	41,821	17,994	2,612	11,521	217,093	3,282,781	8,401,467	7,726,045
	San Luis	45,851	23,967	20,218	0	0	0	0	96	1,838	2,703,263	5,206,664	2,669,311
	Sasabe	392	395	127	0	0	0	0	0	0	34,558	90,107	1,339
	Total:		368,490	271,272	91,696	653	41,821	17,994	2,612	18,536	378,829	8,746,845	20,382,103
2007	Douglas	26,718	15,921	9,528	0	0	0	0	2,728	21,839	1,747,010	4,032,292	952,491
	Lukeville	481	0	0	0	0	0	0	1,622	63,258	447,107	1,296,599	94,455
	Naco	4,628	2,452	2,184	0	0	0	0	135	1,266	318,885	860,990	95,508
	Nogales	295,267	237,008	59,296	588	34,060	18,309	2,352	12,375	221,410	3,180,548	8,587,479	7,722,877
	San Luis	42,716	21,081	20,910	0	0	0	0	53	1,758	2,481,013	4,712,950	2,939,684
	Sasabe	296	298	180	0	0	0	0	0	0	33,461	103,065	1,191
	Total:		370,106	276,760	92,098	588	34,060	18,309	2,352	16,913	309,531	8,208,024	19,593,375
2008	Douglas	25,062	15,741	8,431	0	0	0	0	2,536	14,805	1,690,545	3,565,718	1,172,023
	Lukeville	432	0	0	0	0	0	0	1,426	46,106	409,766	1,188,331	122,264
	Naco	2,446	1,083	1,362	0	0	0	0	47	1,337	264,220	704,678	89,175
	Nogales	303,757	249,180	55,305	640	31,975	23,582	2,560	11,585	195,741	3,026,767	8,472,273	6,568,207
	San Luis	43,791	19,630	22,807	0	0	0	0	64	1,725	2,313,661	4,417,449	2,564,499
	Sasabe	362	320	384	0	0	0	0	0	0	30,305	78,791	1,314
	Total:		375,850	285,954	88,289	640	31,975	23,582	2,560	15,658	259,714	7,735,264	18,427,240
2009	Douglas	25,162	15,860	8,718	0	0	0	0	1,979	13,572	1,514,446	3,893,330	1,314,745
	Lukeville	297	0	0	0	0	0	0	873	11,896	322,717	1,087,799	93,815
	Naco	1,661	1,066	619	0	0	0	0	28	730	278,960	660,822	81,815
	Nogales	276,877	227,766	51,316	563	26,735	18,097	2,252	11,096	166,567	2,990,497	7,636,384	4,038,356
	San Luis	39,644	19,722	19,688	0	0	0	0	59	1,394	2,253,331	4,234,176	2,537,177
	Sasabe	120	165	391	0	0	0	0	0	0	28,002	66,760	1,013
	Total:		343,761	264,579	80,732	563	26,735	18,097	2,252	14,035	194,159	7,387,953	17,579,271
2010	Douglas	25,504	15,004	9,337	0	0	0	0	2,182	13,785	1,431,813	2,892,520	1,096,084
	Lukeville	90	0	0	0	0	0	0	503	2,567	300,073	695,156	60,950
	Naco	2,512	1,423	1,266	0	0	0	0	37	950	262,809	511,573	78,748
	Nogales	307,510	254,450	56,918	602	35,862	18,141	2,408	9,872	167,047	2,601,473	6,729,330	3,971,040
	San Luis	37,103	19,639	16,951	0	0	0	0	30	722	2,033,185	3,860,476	2,440,158
	Sasabe	0	257	354	0	0	0	0	0	0	21,338	37,201	1,127
	Total:		372,719	290,773	84,826	602	35,862	18,141	2,408	12,624	185,071	6,650,691	14,726,256

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations.



Table 5.3 Primary Destinations of Goods Imported to U.S. through AZ-Sonora LPOEs

Destination*	% of Total Value of Imports Received
Arizona	23%
Michigan	17%
California	6%
Illinois	4%
Pennsylvania	3%
Texas	3%
New York	2%
Massachusetts	2%

*States with % of value less than 2% not shown

Source: *Public-Private Partnerships Potential for Arizona-Mexico Border Infrastructure Projects*. Arizona Department of Transportation (ADOT), September, 2009 at <http://www.borderplanning.fhwa.dot.gov/studies.asp>. Analysis is based on 2007 data from Bureau of Transportation Statistics.

ARIZONA-SONORA BORDER MASTER PLAN

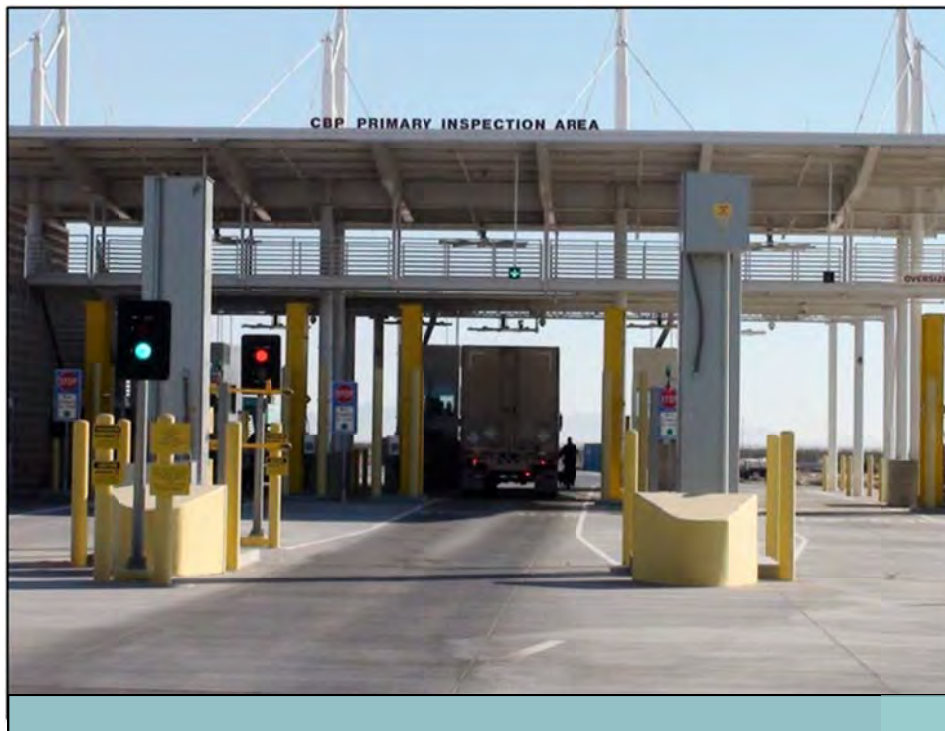


With the exception of the Nogales LPOEs, original construction of most Arizona LPOEs occurred in the 1930s. Modernization occurred in the 1990s. The San Luis I, Nogales Mariposa, and Lukeville LPOEs recently have been or currently are being reconfigured and/or expanded to improve traffic flow and to decrease wait times. San Luis I focuses on the inspection of POVs, pedestrians, and bicyclists. The recently completed San Luis II



a LPOE in 2014.

LPOE (shown below) is a commercial vehicle processing port that has addressed some of the congestion and logistical concerns from San Luis I. All commercial vehicles are processed at San Luis II, and these vehicles typically use the Western (CANAMEX) Passage. The passage route consists of SR 195, 95, I-40 and 93.





6.0 SUMMARIES OF INDIVIDUAL LAND PORTS OF ENTRY

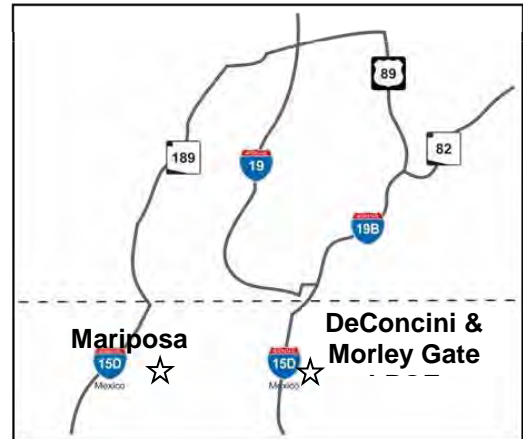
A summary of the LPOE facilities on the Arizona side of the Arizona-Sonora border is provided in this chapter, beginning with the largest, Nogales, and ending with the smallest, Sasabe.

6.1 NOGALES LAND PORTS OF ENTRY

Within the city of Nogales, Arizona, are the most active Arizona-Sonora border crossings (Figure 6.1). Each day an average of 40,000 people, 9,000 vehicles, and 150 railcars enter Arizona through the three Nogales LPOEs (Commercial Vehicles (CV), Privately-Owned Vehicles (POVs), and Pedestrians):

- Mariposa (POVs, Pedestrians, CV)
- DeConcini LPOE (POVs, Pedestrians and Railcar) – located 1.4 miles east of the Mariposa LPOE in the heart of downtown
- Morley Gate LPOE (Pedestrians Only) – located adjacent to the DeConcini LPOE, aligning with Morley Avenue (a major shopping corridor)

Figure 6.1 Nogales Border Area Map



In 2009, 49% of all pedestrians, 46% of all passengers, and 42% of all vehicles crossing from Sonora into Arizona passed through the Nogales LPOEs.

6.1.1 MARIPOSA LPOE

The 43-acre Mariposa LPOE was opened for commercial traffic in 1976 and expanded to handle POVs in 1978. This LPOE also serves as the principal gateway of the CANAMEX Corridor, which is being established to accommodate the efficient flow of goods, services, and people between Canada, the U.S., and Mexico (Figure 6.2). It has been designated a “high priority” corridor within the U.S. National Highway System as a means of creating

Figure 6.2 CANAMEX Corridor





preferential trade relationships between the three countries, as envisioned in the NAFTA. Originally designed to handle 400 trucks daily, the Mariposa LPOE now processes up to 1,500 trucks each day during the winter peak produce season. The number of northbound commercial truck crossings exceeded 300,000 in 2010.



Primary Commercial Inspection Facility, Nogales Mariposa LPOE: Eight Lanes

HOURS OF OPERATION

POV/Pedestrian Processing: 6 am–10 pm
(7 days/week)

Commercial Processing: 8 am–9 pm (Monday–Saturday)

ROADWAYS SERVING LPOE

SR 189 (Mariposa Road) – pavement rehabilitation recently completed from Mile Post 1.0 to I-19; widening ongoing from Mile Post 0.5 to 1.0

Interstate 19

Mexico Federal Highway 15

Northbound commercial vehicle wait times are seasonal, ranging from two to four hours during the summer and up to eight hours on weekdays during the



Primary POV Inspection Lane: Nogales Mariposa LPOE



peak produce season (October-May). As noted earlier, lengthy wait times can negatively affect the quality of the produce and delivery schedules for manufactured goods.

Mariposa LPOE is currently being expanded to relieve congestion and reduce commercial vehicle and POV wait times. The phased improvement project will result in demolition and new construction of all Mariposa LPOE facilities. This includes primary and secondary inspection areas for both commercial and non-commercial vehicles, a pedestrian-processing facility, and other support structures. In addition, new export processing docks and inspection areas will be constructed to allow Customs and Border Protection to meet their relatively new mandate to inspect southbound traffic. Approximately 14 acres adjacent to the port were acquired to accommodate the expansion, which will include eight primary commercial vehicle and twelve primary POV inspection lanes. Full implementation of the improvements is scheduled for 2014.

6.1.2 DECONCINI LPOE

Created more than 100 years ago, this multimodal port of entry was modernized in 1994 and renovated again in 2010. It has been described by port users as very congested due to the high volumes of pedestrians and POVs.

HOURS OF OPERATION

POV/Pedestrian Processing: 24 hours/day
(7 days/week)

Rail Processing (UPRR & Ferromex):
9 am–5 pm (7 days/week)

ROADWAYS SERVING LPOE

Interstate 19 Business (Grand Avenue)

The DeConcini LPOE includes state-of-the-art intelligent transportation systems (ITS),



Early 1900s photo showing the border crossing facility in downtown Nogales



Intelligent Transportation Systems: Overhead Variable Message Signs

ARIZONA-SONORA BORDER MASTER PLAN



including overhead variable message signs to expedite movements through the port. The DeConcini LPOE processes POVs through eight lanes. All lanes are Secure Electronic Network for Travelers Rapid Inspection (SENTRI) compatible, but typically only one is required to handle the traffic queue with the appropriate credentials (SENTRI provides expedited CBP processing for pre-approved, low-risk travelers). One of these lanes (Lane 8) is used for buses and recreational vehicles after the nearby Mariposa LPOE closes for the evening.



Existing POV Lanes at DeConcini LPOE

In addition, one of the POV lanes is a READY Lane for travelers possessing Radio-Frequency Identification (RFID) capable documents. The READY Lane is opened from 7 am-10 pm every day. Ready Lane is a dedicated primary vehicle lane for travelers entering the U.S. at LPOEs. Travelers, who obtain and travel with a Western Hemisphere Travel Initiative (WHTI) compliant



RFID-enabled travel document, may receive the benefits of utilizing a Ready Lane to expedite the inspection process when crossing the border.

Pedestrians are processed at the six Grand Avenue pedestrian gates, which are located inside the DeConcini Building. All six lanes are SENTRI compatible, but only one lane typically is required to handle those pedestrians with the appropriate credentials.

The one rail line crossing the Arizona-Sonora border goes through the DeConcini LPOE. The rail line intersects multiple city streets on both sides of the border, and trains are limited to five miles per hour when passing through the port. Therefore, train



Border Rail Gates at DeConcini LPOE



movements contribute to traffic congestion on streets in the vicinity of the port and, potentially, emergency response times in the downtown areas of Nogales, Arizona, and Nogales, Sonora. Furthermore, due to spatial constraints, processing trains occurs approximately 7.5 miles north of DeConcini in Rio Rico, Arizona, where inspections require a minimum of two hours.



Rail Inspection Yard at Rio Rico



Rail Dock at Rio Rico

6.1.3 MORLEY GATE LPOE

Morley Gate is a single-lane, four-station pedestrian border crossing located at the end of Morley Avenue in Nogales, Arizona. It is considered an extension of the DeConcini LPOE. A Pedestrian Re-Engineering Study and associated construction drawings for modifying Morley Gate were completed in 2012. Plans include expanded processing lanes and a more effective canopy system to provide pedestrians and officers with better protection from the elements. Plans also include improved directional and wayfinding signage. Project implementation is underway and should be complete in the spring of 2013.



Morley Gate Pedestrian Border Crossing

HOURS OF OPERATION

Pedestrian Processing: 10 am-6 pm (Monday-Saturday); 10 am-4 pm (Sunday)

ROADWAYS SERVING LPOE

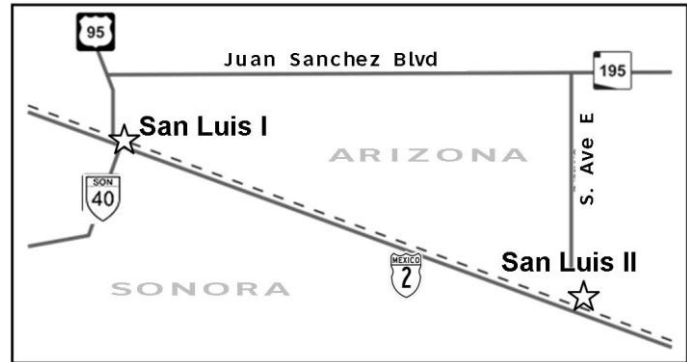
Morley Avenue (city street)



6.2 SAN LUIS LAND PORTS OF ENTRY

The original 13-acre port now referenced as San Luis I, was constructed in 1930 to facilitate trade between the U.S. and Mexico. It has been expanded with new construction occurring in 1984, and in 1991. Most recently, a second site – San Luis II – was constructed approximately five miles to the east at S. Avenue E (Figure 6.3). All

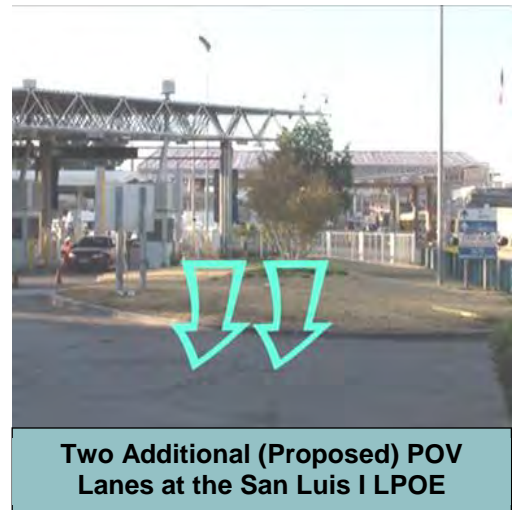
Figure 6.3 San Luis Area Map



processing of commercial vehicles has been consolidated there with direct access provided on the Sonora side by Mexico Federal Route 2. As noted previously above, the CANAMEX Corridor extends from Mexico City, through Nogales, to Tucson, Phoenix, ultimately extending as far north as Edmonton, Alberta, Canada. A Western Passage of the CANAMEX Corridor has been proposed along the western edge of Arizona. It extends through the San Luis LPOEs to SR 195 to US-95, where it continues to Las Vegas.

6.2.1 SAN LUIS I LPOE

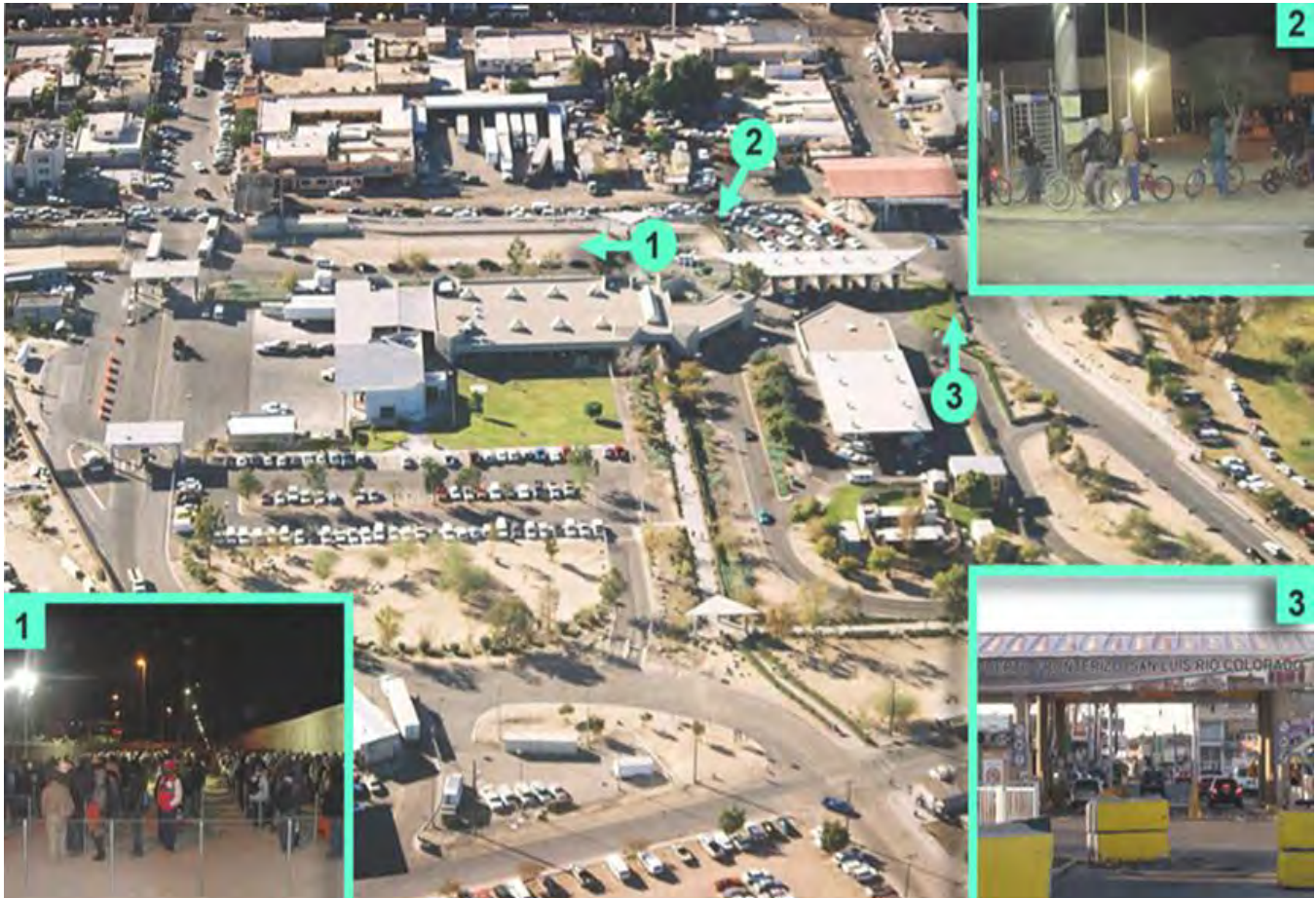
The San Luis I LPOE is located at the commercial center and business community of the City of San Luis on the U.S. side of the international border, and the City of San Luis Rio Colorado on the Mexican side. The port provides daily access for POVs via six general lanes and two SENTRI lanes (6 am-10 pm only). Following relocation of the cargo facility to San Luis II, the old cargo lanes at San Luis I have been converted to two SENTRI only POV processing lanes (6 am-10 pm). A project to



add two additional POV lanes between lane six and the southbound inspection operation recently was completed. A much larger reconstruction project, involving transformation to a 12-lane facility and potential expansion into the adjacent Friendship Park, is on hold until funding becomes available.



Congestion experienced by southbound traffic because of inspection processing usually results in long traffic queues. In an effort to accommodate the queuing of vehicles off the main thoroughfare, a detour has been suggested. A recent study recommended converting Archibald and Main Streets into one-way couplets.



View of San Luis I LPOE and Night-Time Processing Queues



The port also processes pedestrians and bicyclists adjacent to the general POV lanes, via one processing booth with SENTRI capability (4 am-10 pm only). The remainder of the pedestrian processing occurs inside, via two lanes with three stations (in tandem) each. While the average wait time (over the course of a 24-hour period) for pedestrians and bicyclists is relatively short, wait times experienced by agricultural laborers in the early morning hours can be over two hours long.



Bicycle/Pedestrian Processing at the San Luis I LPOE

HOURS OF OPERATION

POV/Pedestrian Processing: 24 hours/day (7 days/week)

ROADWAYS SERVING LPOE

US 95, Interstate 8, Juan Sanchez Boulevard (local street), and Mexico Federal Highway 2

6.2.2 SAN LUIS II LPOE

The San Luis II LPOE is a new 80-acre processing facility located approximately five miles east of the original San Luis I LPOE. Commercial vehicles are processed through three primary inspection lanes. One of these three lanes is dedicated as a Free and Secure Trade (FAST) lane. This new port was designed to initially process 150 trucks per day with the potential to expand to 650 trucks per day by 2030.



Primary Commercial Inspection Facility at the San Luis II LPOE



San Luis II includes an indoor temperature controlled (60°F) 5-dock space for inspection of temperature sensitive items or private interdiction activities (refer to photos below).

HOURS OF OPERATION

Commercial Processing: 9 am–8 pm (Monday–Saturday, peak produce season)

Commercial Processing: 9 am–6 pm (Monday–Saturday, off-peak produce season)

ROADWAYS SERVING LPOE

South Avenue E (Local Street)

Juan Sanchez Boulevard (Local Street)

SR 195

Mexico Federal Highway 2



**Secondary Commercial Inspection Facilities –
Docks at the San Luis II LPOE**



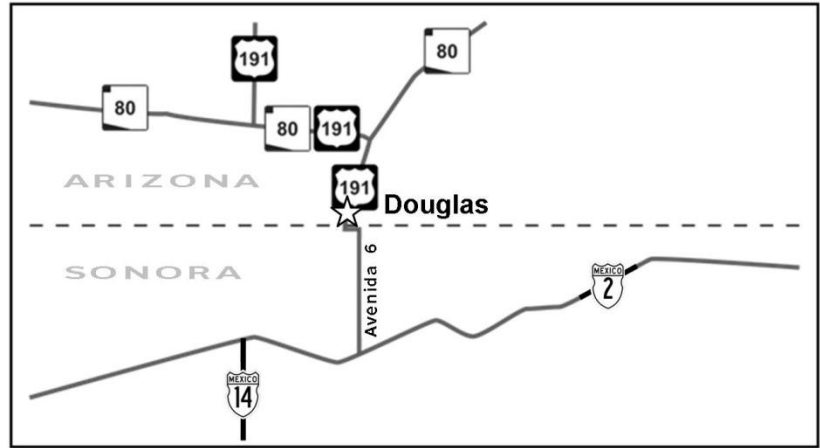
**Non-Intrusive Inspection (NII) Facility at the San
Luis II LPOE**



6.3 DOUGLAS LPOE

The Douglas LPOE occupies a small (4.8 acre) site (Figure 6.4). The facility was built in 1933 and renovated in 1993. It provides processing for POVs (7 lanes) and pedestrians (2 lanes). Commercial vehicle processing facilities include three primary inspection lanes and twenty designated docks. Only one of these primary cargo inspection lanes is used because of the extremely tight turning radius entering the port from the adjacent roadway in Mexico. In addition, due to the lack of parking, only eight of the dock spaces can accommodate trucks for secondary inspection, and only two of the trucks can be off-loaded at one time due to the limited dock area.

Figure 6.4 Douglas Area Map



Historic Original Douglas LPOE

Several safety issues have been identified with the traffic flow and congestion at the Douglas LPOE. A study to address these and other safety concerns has been completed. The preferred alternative, when funded, will result in the creation of a new commercial inspection compound on approximately 28 acres to be acquired west of the existing LPOE or at a location even further to the west. The new facility will provide for separate circulation and inspection of inbound and outbound trucks. There will be twenty import inspection bays and two export bays.

When the new commercial inspection compound is funded and complete, the existing facility will be expanded and reconfigured to provide new POV and bus inspection facilities. There will be eight primary



POV inspection lanes and one bus lane. The historic port building will be modernized, and the pedestrian facility will be expanded from two inspection stations to three.

Expansion of the existing Mexican inspection facility and associated transportation infrastructure in neighboring Agua Prieta is necessary in order for the planned design of the expanded LPOE to function as intended. A unique challenge of the LPOE layout relates to the southbound inspection operation. The inspection facility in Agua Prieta allows for four lanes of inspection; the U.S. approach is a narrow two lanes, often condensed into one lane.



The limiting factor for expansion of processing capacity at this LPOE is the concrete-lined drainage channel and concrete box culvert running parallel with the southbound roadway next to the LPOE that facilitates travel into Mexico (refer to aerial photo above). Covering the channel may be warranted to permit widening the southbound roadway to improve capacity, although a security assessment likely would be necessary prior to this action as well as consultations with the International Boundary and Water Commission (IBWC). Because of



southbound delays and subsequent vehicular queuing, the City of Douglas has detoured southbound traffic from Pan American Avenue to westbound on 5th Street, around the Wal-Mart, then eastbound on 3rd Street and then back onto Pan American Avenue, southbound just prior to the Customs and Border Protection inspection operation. This solution removes a stagnant queue from the main thoroughfare and provides additional queuing distances for southbound vehicles.



Concrete-Lined Drainage Channel on the West Side of Pan American Highways directly north of the Border

Another alternative may be considered – the establishment of a new, completely separate LPOE (potentially for commercial vehicles only) at a location further to the west. A location has been discussed at an extension of Chino Road and further west near King’s Highway. Presidential permitting and bi-national coordination would be required for any such major endeavor.

HOURS OF OPERATION

POV / Pedestrian Processing: 24 hours/day (7 days/week)

Commercial Processing: 9 am–5 pm (Monday–Thursday, extended hours to 6 pm Fridays and Noon–2 pm Saturdays)

ROADWAYS SERVING LPOE

U.S. 191 and U.S. 191 Business (Pan American Ave.)

SR 80

Chino Road

Mexico Federal Highway 2

Mexico Federal Highway 17



6.4 NACO LPOE

The Naco LPOE is located approximately 22 miles west of Douglas and 7.5 miles southwest of Bisbee, Arizona (Figure 6.5). The original Naco LPOE, designed and constructed in the Pueblo Revival style of architecture in 1936, is listed on the National Register of Historic Places (NRHP). It was modernized in 1994.

The port provides daily access for POVs via two general lanes. There is one lane for processing all southbound traffic.

Figure 6.5 Naco Area Map



HOURS OF OPERATION

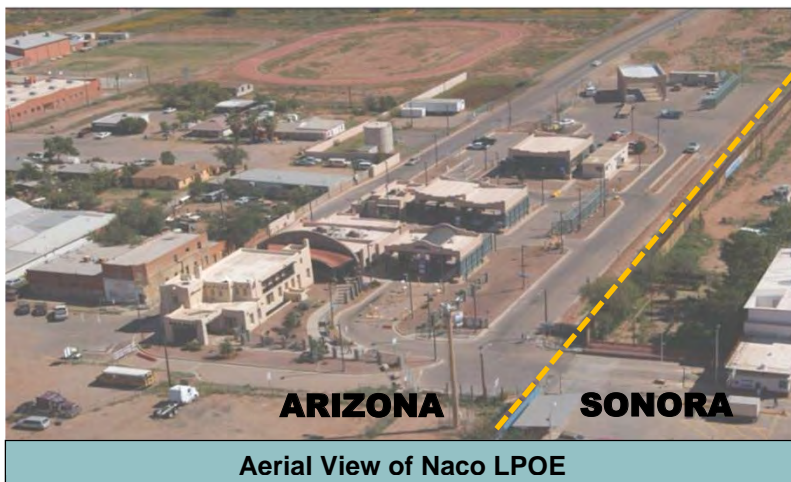
POV / Pedestrian Processing:

24 hours/day (7 days/week)

Commercial Processing: 9 am–5 pm (Monday–Friday)



Naco LPOE shortly after construction in 1936



Aerial View of Naco LPOE

ROADWAYS SERVING LPOE

SR 80

SR 92

Naco Highway (extends from the LPOE to SR 92)

Mexico Federal Highway 2

Mexico Federal Highway 17



6.5 LUKEVILLE LPOE

The Lukeville LPOE was constructed more than 30 years ago to process tourism traffic between Arizona and Puerto Peñasco (Rocky Point), Mexico (Figure 6.6). In response to long wait times (in excess of eight hours on holiday weekends), this LPOE recently was expanded using Public/Private U.S./Mexico funding generated through a unique partnership between federal/state agencies and the private sector.

During the week, the Lukeville LPOE processes approximately 800 vehicles per day (VPD). With increased traffic on Holiday weekends, this number soars to over 6,000 VPD.

The port's primary inspection facilities include five POV lanes, including one READY Lane for travelers possessing radio-frequency identification capable documents, one pedestrian gate, and one commercial lane.

HOURS OF OPERATION

POV / Pedestrian Processing: 6 am–midnight (7 days/week)

Commercial Processing: 8 am–4 pm (Monday–Saturday)

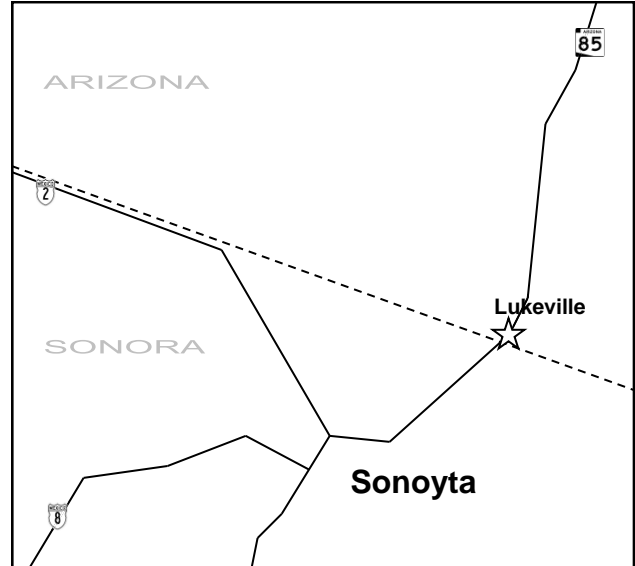
ROADWAYS SERVING LPOE

SR 85

Mexico Federal Highway 2

Mexico Federal Highway 8

Figure 6.6 Lukeville Area Map



Vacationers returning to the U.S. through the Lukeville LPOE



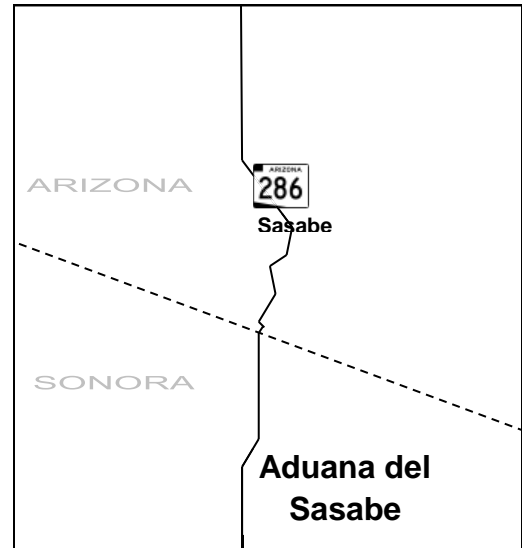
6.6 SASABE LPOE

The smallest Arizona LPOE is located in Sasabe (Figure 6.7). It opened in 1916 and was modernized in the 1990s. Located approximately 36 miles west of the Nogales LPOE, the Sasabe LPOE connects two very small towns: Aduana del Sasabe (population 2,500) on the Sonora side, and Sasabe (population 11) on the Arizona side.

One lane is available to process all northbound traffic at Sasabe. According to the Bureau of Transportation Statistics, an average of fewer than 150 cars, trucks or pedestrians pass through the Sasabe LPOE each day.

The 1990 modernization occurred following an agreement with Mexican authorities that would result in a paved road leading to Aduana del Sasabe. The planned improvements were intended to bring more traffic, commerce and tourism to both sides of the border. The roadway project has yet to be completed.

Figure 6.7 Sasabe Area Map



Sasabe LPOE

ROADWAYS SERVING LPOE

SR 286

Unpaved road on the Mexican side

HOURS OF OPERATION

POV / Pedestrian / Commercial Processing: 8 am–8 pm (7 days/week)



Aerial View of Sasabe LPOE



7.0 FUTURE CONDITIONS, DEFICIENCIES AND POTENTIAL PROJECTS

7.1 MULTIMODAL INFRASTRUCTURE

The ability of the transportation network to accommodate future travel demand in the Focus Area was assessed by comparing forecast travel demands to roadway network capacity. Year 2035 traffic volume forecasts from the Arizona Travel Demand Model (AZTDM) were used to supplement forecast data from local travel demand models and numerous studies and plans to derive a database of Year 2035 forecast travel demand. As the local models and studies allow for a greater level of detail in travel forecasting parameters than the AZTDM, when available, the local forecast data was used to develop the database.

Table 7.1 lists the principal characteristics of key routes within the study's Focus Area projected for 2035, including current functional classification and number of lanes, forecast daily traffic volumes, and corresponding level of service (LOS). Table 7.1 is followed by Table 7.2, which provides information regarding the same characteristics for roadways in the larger Area of Influence.

Numerous studies and plans were reviewed and combined with stakeholder input to identify relevant project actions, proposed actions, and recommended actions associated with the multimodal transportation network within the Focus Area. Many of these previous recommendations would address those deficiencies documented in Table 7.1. Tables 7.3 (Arizona) and Table 7.4 (Sonora) provide a summary of those previous recommendations that would address identified Focus Area deficiencies in Arizona and Sonora, respectively.

While the projects noted in Tables 7.3 and 7.4 have been identified as those mitigating forecast Year 2035 deficiencies in the Focus Area, previous studies also identified other multimodal improvement projects that should be considered to improve travel in the Focus Area. A comprehensive list of these multimodal projects, totaling over 160 projects in Arizona and Sonora combined, is provided in Appendix I.



Table 7.1 Year 2035 Route Characteristics: Focus Area Roadway Network

Transportation Routes in the Focus Area							
USA Port/ Mexico Port	Route	Functional Classification	Lane Configuration/Location			Forecast Volumes	LOS
			No. of Thru Lanes	Begin Mile Post	End Mile Post		
San Luis/ San Luis Rio Colorado	Main Street (Urtuzuastegui Street)	Minor Arterial	2	Near San Luis POE		7,100	B
	G Street (Juan Sanchez Blvd- Co 23 rd St.)	Minor Arterial	2	East of US 95		21,000	F
	G Street (Juan Sanchez Blvd- Co 23 rd St.)	Minor Arterial	4	West of Avenue B		31,000	F
	G Street (Juan Sanchez Blvd- Co 23 rd St.)	Expressway	4	West of S 195		19,000	C
	County Road 22	Minor Arterial	2	East of US 95		10,000	D
	Avenue B	Major Arterial	4	at Juan Sanchez Blvd		12,000	C
	County Road 19	Major Arterial	2	West of Ave B		7,000	B
	Avenue 3E	Major Collector	2	South of US 95		18,200	F
	Avenue 3E	Minor Arterial	4	South of Co Rd 12		12,000	D
	Avenue 3E	Major Arterial	4	South of B-8		17,000	D
	Avenue B	Major Collector	4	South of Co Rd 19		12,000	D
	County Road 16	Minor Collector	2	East of Ave B		6,000	B
	US 95	Major Arterial	2	0.00	0.46	26,000	F
	US 95	Major Arterial	4	0.46	4.72	34,000	F
	US 95	Major Arterial	4	4.72	11.54	30,000	F
	US 95	Major Arterial	4	11.54	19.90	27,000	F
	US 95	Major Arterial	4	19.90	25.87	52,000	F
	US 95	Major Arterial	4	25.87	29.85	22,000	E
	S 195	Expressway	4	0.00	county 14th St.	19,600	B
	S195	Minor Arterial	4	County 14th St.	I-8	16,200	C
Mexico Federal Route 2	Major Arterial	2	Int'l Border to east of San Luis		NA	NA	
Mexico State Route 40	Major Arterial	4	Int'l Border to south of San Luis		NA	NA	
Mexico State Route 40	Major Arterial	2	South of San Luis to study limit		NA	NA	
Lukeville/Sonoyta	SR 85	Minor Arterial	2	53.06	80.69	1,300	A
	Mexico Federal Route 2	Major Arterial	2	San Luis to Mexico Federal Route 8		1,200	A
	Mexico Federal Route 8	Major Arterial	2	Int'l Border to Mexico Federal Route 2		800	A
Sasabe/Sasabe	SR 286	Major Collector	2	0.00	11.00	1,100	A
	Margarito-Sasabe Road	NA	NA	NA		1,000	A
Nogales (Mariposa, DeConcini and Morley Gate) /Nogales (3 POE)	SR 189	Major Arterial	4	0.00	2.64	38,400	F
	SR 189	Major Arterial	4	2.64	3.75	38,400	F
	Target Range Drive	Minor Arterial	2	Between SR 189 and I-19		6,000	B
	Industrial Drive	Major Collector	2	East of SR 189		5,500	B
	Mexico Federal Route 15D	Major Arterial	4	between Mexico Federal Route 15 and Int'l Border		17,300	D
	I-19	Freeway	4	0.00	2.95	23,250	A
	I-19	Freeway	4	2.95	5.31	49,000	B
	I-19	Freeway	4	5.31	7.72	77,200	E
	I-19	Freeway	4	7.72	10.88	59,400	C
	I-19	Freeway	4	10.88	48.00	58,200	C
	1-19 B (Grand Road)	Major Arterial	4	Int'l Border to I-19		34,000	F
	Morley Avenue	Minor Arterial	2	Int'l Border to I-19B		9,000	C
	Mexico Federal Route 15	Major Arterial	2	Within Nogales City		1,100	A
	Mexico Federal Route 15	Major Arterial	2	Near Int'l Border		1,100	A
Between Nogales and Naco	SR 82	Minor Arterial	2	1.19	5.87	7,500	C
	SR 82	Major Collector	2	5.87	51.60	9,100	C
	SR 82	Major Collector	2	51.60	67.48	5,500	C
	SR 83	Major Collector	2	3.19	36.82	5,400	C
	SR 92	Minor Arterial	2	330.00	339.90	6,100	C
	SR 92	Major Collector	2	339.90	351.79	4,400	B
	SR 92	Minor Arterial	4	351.79	352.87	5,700	B
	SR 92	Major collector	2	352.87	355.00	9,200	C
	SR 92	Major Arterial	4	355.00	360.00	8,200	B
	SR 90	Major Arterial	4	308.39	311.96	20,400	F
	SR 90	Major Arterial	4	311.96	323.61	27,300	F
	SR 90	Major Arterial	2	323.61	325.51	13,100	E
	SR 90	Major Arterial	2	325.51	336.40	6,500	C
	SR 80	Major Arterial	2	317.09	332.89	7,500	C
	SR 80	Major Arterial	2	332.89	341.49	8,700	C
	Mexico Federal Route 2	Major Arterial	2	Imuris to Naco Connector Road		NA	NA
	Naco/Naco	SR 80	Major Arterial	4	341.49	343.30	12,300
SR 92		Major Arterial	4	351.21	352.88	3,900	A
SR 92		Minor Arterial	4	352.88	355.00	9,200	C
SR 92		Major Collector	2	355.00	355.90	9,200	C
Naco Highway		Major Collector	2	Near Naco Int'l Border		7,300	B
Towner Ave		Minor Collector	2	Near Naco Int'l Border		3,300	A
Mexico - Roadway (Name not available)		Minor Collector	2	Int'l Border to Mexico Federal 2		NA	NA
Douglas/Agua Prieta	US 191	Major Arterial	4	0.00	7.40	14,000	C
	US 191	Major Arterial	4	7.40	18.33	9,000	C
	US 191B (Chino Rd)	Major Arterial	4	0.00	1.15	12,900	C
	SR 80	Major Arterial	2	343.00	365.46	11,600	D
	SR 80	Major Arterial	4	365.46	366.12	10,900	C
	Mexico Federal Route 2	Major Arterial	2	Focus area limit to Mexico Federal 17		NA	NA
Mexico Federal Route 17	Major Arterial	2	Int'l Border to Mexico Federal 2		NA	NA	

Notes:

- Functional Classification based on the ADOT Framework Study TransCAD Model.
- LOS for US Routes - obtained from Florida Department of Transportation's - 2009 Florida Quality/Level of Service Handbook, <http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm>.



- LOS for Mexico Routes - LOS obtained from “Development of Transportation Border Master Plan for 5 Border Cities and 4 Zones of Intermodal Integration in Seaports” by Grupo ADMA, S.A. de C.V. – November 2010
- Traffic Volumes for Interstate, State Routes and US Routes obtained from ADOT Average Annual Daily Traffic Counts (2007 - 2009): <http://mpd.azdot.gov/mpd/data/aadt.asp>
- Traffic Volumes for roads in YMPO region obtained from YMPO - 2010 Verified Counts with Factors working copy finalized: <http://ympo.org/maps-more/traffic-counts/>
- NA: Volumes and LOS not available

Table 7.2 Year 2035 Route Characteristics: Area of Influence Roadway Network

Transportation Routes in the Area of Influence							
Study Area	Route	Functional Classification	Lane Configuration/Location			Forecast Volumes	LOS
			No. of Thru Lanes	Begin Mile Post	End Mile Post		
Yuma to Casa Grande (I-10)	I-8	Freeway	4	0.00	0.50	48,000	C
	I-8	Freeway	4	0.50	2.24	48,000	C
	I-8	Freeway	4	2.24	3.98	48,000	C
	I-8	Freeway	4	3.98	12.22	44,000	C
	I-8	Freeway	4	12.22	14.24	42,000	B
	I-8	Freeway	4	14.24	115.63	30,000	A
	I-8	Freeway	4	115.63	116.63	17,900	A
	I-8	Freeway	4	116.63	169.54	5,900	A
	I-8	Freeway	4	169.54	178.33	8,100	A
	US 95	Major Arterial	4	29.85	31.98	22,000	C
	US 95	Major Arterial	2	31.98	33.71	16,000	E
	US 95	Major Arterial	2	33.71	98.57	19,000	F
Casa Grande (I-8) to Tucson Area	I-10	Freeway	6	198.12	240.46	122,300	E
	I-10	Freeway	6	240.46	250.06	149,000	F
	I-10	Freeway	6	250.06	260.70	176,100	F
	I-10	Freeway	6	260.70	262.72	98,100	D
	I-10	Freeway	4	262.72	279.42	73,900	D
	I-19	Freeway	4	61.85	63.09	43,200	A
	I-19	Freeway	4	60.85	61.85	23,600	A
	SR 86	Minor Arterial	4	166.28	169.69	60,200	F
	SR 86	Minor Arterial	4	169.69	170.35	43,200	F
	SR 86	Minor Arterial	4	170.35	171.11	25,200	D
East of Tucson to State Border	I-10	Freeway	4	279.42	303.90	53,600	D
	I-10	Freeway	4	303.90	391.23	55,500	D
Between Lukeville, Sasabee, and Nogales / Between East of San Luis to Nogales, via Puerto Peñasco, Caborca, and Santa Ana	Mexico Federal Route 2	Major Arterial	2	Mexico Federal Route 15 to Douglas			
	SR 85	Major Arterial	2	0.00	40.59	2,500	A
	SR 85	Minor Arterial	2	40.59	42.50	2,000	A
	SR 85	Minor Arterial	2	42.50	70.15	1,300	A
	SR 85	Minor Arterial	2	70.15	80.69	1,300	A
	SR 86	Minor Arterial	2	56.00	159.83	2,000	A
	SR 86	Minor Arterial	4	159.83	166.28	7,500	A
	Mexico Federal Route 8	Major Arterial	2	Mexico Federal Route 2 to east of Puerto Peñasco		NA	NA
	Mexico Federal Route 3	Major Arterial	2	Mexico State 40 to east of Puerto Peñasco		NA	NA
	Mexico Federal Route 2	Major Arterial	2	Sonoyta to Nogales, via Caborca and Santa Ana		NA	NA
	Mexico Federal Route 15	Major Arterial	2	Santa Anna to Nogales		NA	NA
	Mexico State Route 43	Major Arterial	2	Caborca to Mexico Federal Route 15		NA	NA
	Mexico State Route 37	Major Arterial	2	Caborca to Puerto Peñasco		NA	NA
Between Nogales and Douglas / Nogales and Agua Prieta	SR 80	Minor Arterial	4	293.35	317.09	16,800	C
	SR 80	Major Collector	2	366.12	370.00	11,700	D
	SR 80	Major Collector	2	370.00	415.39	2,700	A
	SR 90	Major Arterial	4	289.54	298.50	49,300	F
	SR 90	Major Arterial	4	298.50	308.39	17,500	D
	SR 186	Major Collector	4	326.19	328.20	1,700	A
	SR 186	Major Collector	2	328.20	359.42	1,500	A
	SR 181	Major Collector	2	38.25	64.02	1,100	A
	US 191	Major Collector	2	18.33	66.26	13,000	E
	Mexico Federal Route 17	Major Arterial	2	North of Moctezuma to Douglas			

Notes:

- Functional Classification based on the ADOT Framework Study TransCAD Model.
- LOS for US Routes - obtained from Florida Department of Transportation's - 2009 Florida Quality/Level of Service Handbook, <http://www.dot.state.fl.us/planning/systems/sm/los/default.shtm>.
- LOS for Mexico Routes - LOS obtained from “Development of Transportation Border Master Plan for 5 Border Cities and 4 Zones of Intermodal Integration in Seaports” by Grupo ADMA, S.A. de C.V. – November 2010
- Traffic Volumes for Interstate, State Routes and US Routes obtained from ADOT Average Annual Daily Traffic Counts (2007 - 2009): <http://mpd.azdot.gov/mpd/data/aadt.asp>.
- Traffic Volumes for roads in YMPO region obtained from YMPO - 2010 Verified Counts with Factors working copy finalized: <http://ympo.org/maps-more/traffic-counts/>.
- NA: Volumes and LOS not available.



Table 7.3 Summary of Network Deficiencies and Recommended Actions from Previous Studies

Deficient Facility	2035 LOS	Recommended Action from Previous Study	Anticipated LOS
Juan Sanchez Boulevard	E	Widen to five lanes.	D or Better
Avenue 3E	E	Widen to four lanes.	D or Better
US-95 (Main Street), adjacent to LPOE	F	Modify circulation by creating one-way pair using Archibald Street and 1 st Avenue to accommodate LPOE related traffic.	D or Better
US-95, north of LPOE	E/F	Improve alternate route connectivity, such as enhancing SR-195 or the proposed Yuma expressway. Widening recommended for some sections.	D or Better
SR-189	F	A current Design Concept Report and Environmental Assessment is underway to identify potential strategies to enhance this route. Strategies include intersection improvements, widening or providing a direct connector to I-19.	D or Better
I-19	E	Capacity, interchange, and frontage road improvements.	D or Better
Grand Avenue	F	Capacity and intersection improvements, coupled with vehicular and pedestrian overpasses.	D or Better
SR-90	F	No recommendation is currently provided through previous studies to improve this deficiency, though widening to six lanes is recommended, north of the Focus Area.	D or Better

Note:

- LOS = Level of Service



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
"Sonora Construye" Program	San Luis Rio Colorado Loop	New Loop for San Luis Rio Colorado	The proposed roadway improvements bypass the closely spaced signals along the urbanized section of Mexico Federal Route 2 through downtown San Luis Rio Colorado. The proposed facility will accommodate a more efficient movement of trucks around the city proper. It is anticipated that the improvements will allow for moderate speeds and faster overall travel times.	
"Sonora Construye" Program	East bypass of the municipality of Nogales	New bypass east of the city of Nogales	Construction of new 2-lane bypass connecting Mexico Federal Route 15 with Blvd. Madre Sierra Occidental east of the city. The 10-mile roadway is anticipated to more directly serve the new Puerta de Anza development near the border while avoiding the abundant number of traffic signals downtown.	



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
"Sonora Construye" Program	Vehicular Overpass Los Nogales	New overpass at the railroad Nogales-Guadalajara	Construction of new vehicular overpass at Los Nogales at the railroad crossing at station Km 7+752 in Nogales, Sonora	
"Sonora Construye" Program	Vehicular Overpass Jesús García	New overpass at the railroad Nogales-Guadalajara	Construction of new vehicular overpass at Plutarco Elias Calles Avenue railroad crossing at station Km 3+387 and confinement of right of way at 7+000 al 4+000 Nogales, Sonora	



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
“Sonora Construye” Program	San Luis Rio Colorado	Traffic study for a vehicle overpass and street couplet in San Luis Rio Colorado.	<p>This proposed project addresses the congestion in the city of San Luis Rio Colorado stemming from the high volume of traffic headed south out of the LPOE and crossing Mexico Federal Route 2. The improvements include:</p> <ul style="list-style-type: none"> Maintain the routing for southbound vehicles via First Street Construct a one-way, one-lane bridge over Obregon Avenue (Mexico Federal Route 2) Traffic will have the option to continue along First Street or turn onto Madero Street 	
“Sonora Construye” Program	Mexico Federal Route 8	Mexico Federal Route 8 between Sonoyta LPOE and Mexico Federal Route 2	Upgrade and construction of 4 reversible lanes and 2 local lanes.	TBD

ARIZONA-SONORA BORDER MASTER PLAN



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
Highway Program 2013-2015	Mexico Federal Route 2	Mexico Federal Route 2 Cananea-Magdalena de Kino between Imuris - Cananea	Upgrade to the existing 2 lane highway and construction of 2 additional lanes for a total of 4 lanes.	Sections in blue are scheduled for 2012 Sections in magenta are scheduled for 2013 Sections in green are scheduled for 2014 Sections in yellow are scheduled for 2015
Highway Program 2013-2015	Mexico Federal Route 2	Mexico Federal Route 2 Juarez-Cananea between Cananea - Agua Prieta.	Upgrade to the existing 2 lane highway and construction of 2 additional lanes for a total of 4 lanes.	Sections in blue are scheduled for 2012 Sections in magenta are scheduled for 2013 Sections in green are scheduled for 2014 Sections in yellow are scheduled for 2015



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
Highway Program 2013-2015	Mexico Federal Route 15 Guaymas-Hermosillo	Mexico Federal Route 15 Guaymas-Hermosillo	Upgrades to the existing 4 lane highway including shoulder and other safety improvements. The entirety of the proposed improvements are illustrated in the Exhibit, however, only the portion within the project Focus Area will be evaluated in the Project Rankings.	

ARIZONA-SONORA BORDER MASTER PLAN



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
Highway Program 2013-2015	Nogales-Santa Cruz Highway	Construction of Type "C" Highway connecting Nogales, Sonora with Santa Cruz	Upgrade 35 miles of dirt road to a 2 lane paved highway.	
Highway Program 2013-2015	Saric-Sasabe Highway	Construction of Type "C" Highway connecting Saric and Sasabe, Sonora	Upgrade 31 miles of dirt road to a 2 lane paved highway, including 12 bridges.	

ARIZONA-SONORA BORDER MASTER PLAN



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
Highway Program 2013-2015	Altar-Sasabe Highway	Construction of Type "C" Highway connecting Altar and Sasabe, Sonora	Upgrade 50 miles of dirt road to a 2 lane paved highway.	
Highway Program 2013-2015	Agua Prieta - Ejido Morelos Highway, Bavispe Highway	Construction of Type "C" Highway connecting Agua Prieta and Ejido Morelos, Sonora.	Upgrade 71 miles of dirt road to a 2 lane paved highway.	



Table 7.4 Multimodal Infrastructure Projects in Sonora, Mexico

Source	Facility	Improvement	Description	Exhibit
Highway Program 2013-2015	Nogales-Saric Highway	Construction of Type "C" Highway connecting Nogales and Saric, Sonora.	Upgrade 16 miles of dirt road to a 2 lane paved highway.	



7.2 RAIL

Long-term rail deficiencies could result if capacities are exceeded at contributing ports, depending on fluctuations in global freight flows and commercial demand for shipping at different locations. Currently, there is one existing rail crossing located at the DeConcini LPOE, however, potential future rail projects have been identified for Yuma and Cochise Counties, Arizona.

7.2.1 DECONCINI

A review of previous studies, supplemented by input from various project stakeholders, identified several deficiencies related to rail infrastructure at the only current rail crossing at DeConcini.

This line is typically used to transport light freight such as auto parts and produce. In order to carry heavier cargo such as mining products, the northern portion (U.S.) of the track would require improvements. The Ferromex section of the track in northern Sonora would not require improvements for heavy freight.

To increase capacity and improve operations, the UPRR has proposed building a second track within existing right-of-way of the Nogales Subdivision between the LPOE and milepost 65 as well as upgrading the existing track to accommodate heavier rail cars. Travel speeds south of Rio Rico are expected to remain slow around the LPOE.

While grade-separated structures have been constructed in Nogales, Sonora; they have yet to be implemented in Nogales, Arizona. The lack of grade separations (allowing cars, trucks, pedestrians, bicyclists, etc. to pass unimpeded over the railroad tracks) in Nogales creates potential conflict areas with other at-grade traffic, particularly emergency services. Though associated with rail, proposed grade-separation projects are considered multimodal infrastructure projects for purposes of the Border Master Plan.

Restrictions on timing and Customs & Border Protection staffing for southbound rail inspections was also identified as an area of concern. Staffing issues for rail inspections at DeConcini would also require resolution – inspections are currently available only between 8 AM and 5 PM on weekdays, and staffing is inconsistent as rail traffic is not continuous. While



documented here, it is not the intent of this Border Master Plan to deal with issues related to LPOE staffing.

7.2.2 SAN LUIS

The Yuma Valley Railway in this area is currently out of service. The Yuma Metropolitan Planning Organization (YMPO) has evaluated potential rail corridors to assess the feasibility of new corridors to accommodate potential increases in freight flows in the event that a new deep water port at Punta Colonet is constructed or other events affect capacity needs through the LPOE in San Luis. At this time, it is unclear what the likelihood or timing of Punta Colonet might be. If such developments were to occur, UPRR would also explore the Algodones, California area west of San Luis.

Other inland rail improvements may affect the feasibility of increased freight shipments via rail in Yuma County. The UPRR Wellton Branch that runs between Wellton and Arlington, Arizona is currently out of service but has carried freight and passenger rail in the past. The State Rail Plan identifies potential rehabilitation of the Wellton Branch to improve east-west freight movements within the state and provide a more direct connection to the Phoenix metropolitan area.

7.2.3 NACO

Local governments and SEAGO support the development of a new rail crossing at Naco that would connect to Ferromex in Mexico via an abandoned rail corridor between Benson and Naco. The development of a new rail crossing at this location is a possible long-term investment if capacity is exceeded at DeConcini.

UPRR is in the process of purchasing the right-of-way in Cochise County that had been operated by a short line south of Benson. The right-of-way has not been abandoned but the ballast, tracks, and other items have been removed and sold for scrap. It is currently used informally as a trail. This purchase is pending Surface Transportation Board approval and does not have a specific project associated with it. UPRR views this as a generational project to accommodate increased rail traffic if it exceeds the available capacity in Nogales. If this right-of-way were acquired, UPRR would still need to construct additional track from Naco to Curtis.



Based on discussions with UPRR in 2012 the typical costs for new rail are \$3-7 million per mile installed, not including right-of-way. It is also important to note that Arizona state law would require any new rail line be subject to a public hearing process conducted through ADOT.

7.2.4 POTENTIAL NEW CROSSINGS

Several concepts have been set forth in previous plans and studies to plan rail investments for long-term needs, including an additional rail corridor and border crossing in the vicinity of Nogales; and new rail corridors and border crossings in Naco, San Luis, and Lukeville.

7.3 LAND PORTS OF ENTRY

The existing Land Ports of Entry north of the border are owned and maintained by GSA. Customs and Border Protection (CBP), as tenants, operate the LPOEs. Identified deficiencies and possible alternative improvements for the upgrade of the facilities are described in the following subsections.

7.3.1 SAN LUIS / SAN LUIS RIO COLORADO I

SAN LUIS I - ARIZONA

San Luis I is located within the commercial center of San Luis, AZ. In addition to processing Privately Owned Vehicles (POVs), pedestrians and bicyclists for entry into the United States, San Luis I also inspects southbound pedestrians and vehicles prior to entry into Mexico.

As shown in Figure 7.1, deficiencies were identified in both, the northbound POV (refer to Keynote 1) and pedestrian processing facilities (Keynote 2) as well as the southbound facilities (Keynote 3).

Three recently completed projects were implemented as interim measures for relieving congestion and processing wait times.

1. The opening of the new San Luis II LPOE eliminated the need for northbound commercial vehicle processing at San Luis I. The previous commercial processing area has been converted to the SENTRI processing of POVs. This SENTRI compound consists of two lanes leading to a single primary inspection booth and a canopy-covered secondary inspection area (refer to Figure 7.2, Keynotes 1A and 3).



2. Two additional POV inspection lanes and booths (Keynote 1B) were added just west of the six existing POV processing stations.
3. A pedestrian queuing area was established immediately north of the border (Keynote 2A).

The six proposed projects listed below were identified as part of the San Luis Feasibility Study Programming Session conducted by GSA, in concert with CBP.

- **SENTRI Primary Booth Project:** A second SENTRI primary inspection booth within the SENTRI compound (previous commercial area) would improve efficiency of the two lane processing area (Keynote 1A). Included in this project would also be the installation of a new data conduit to the booths with a spare conduit to accommodate future technologies.

FIGURE 7.1: SAN LUIS I DEFICIENCIES




**SAN LUIS I
 PORT OF ENTRY**

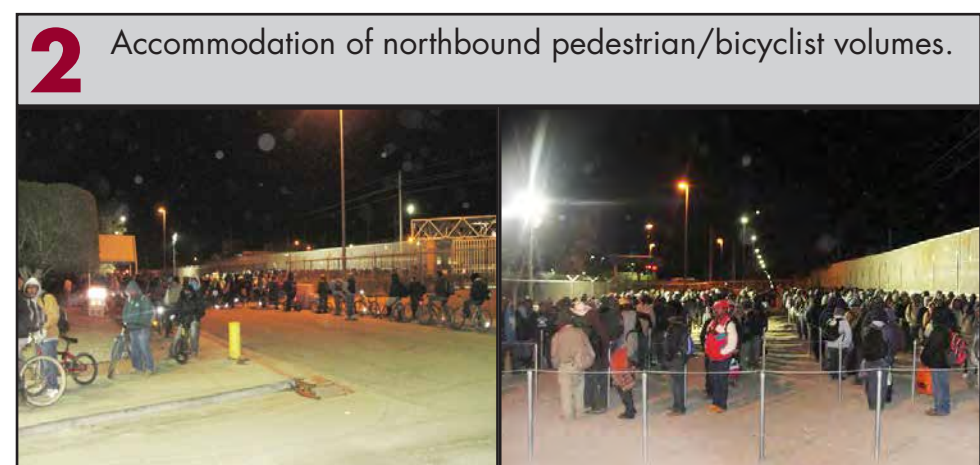
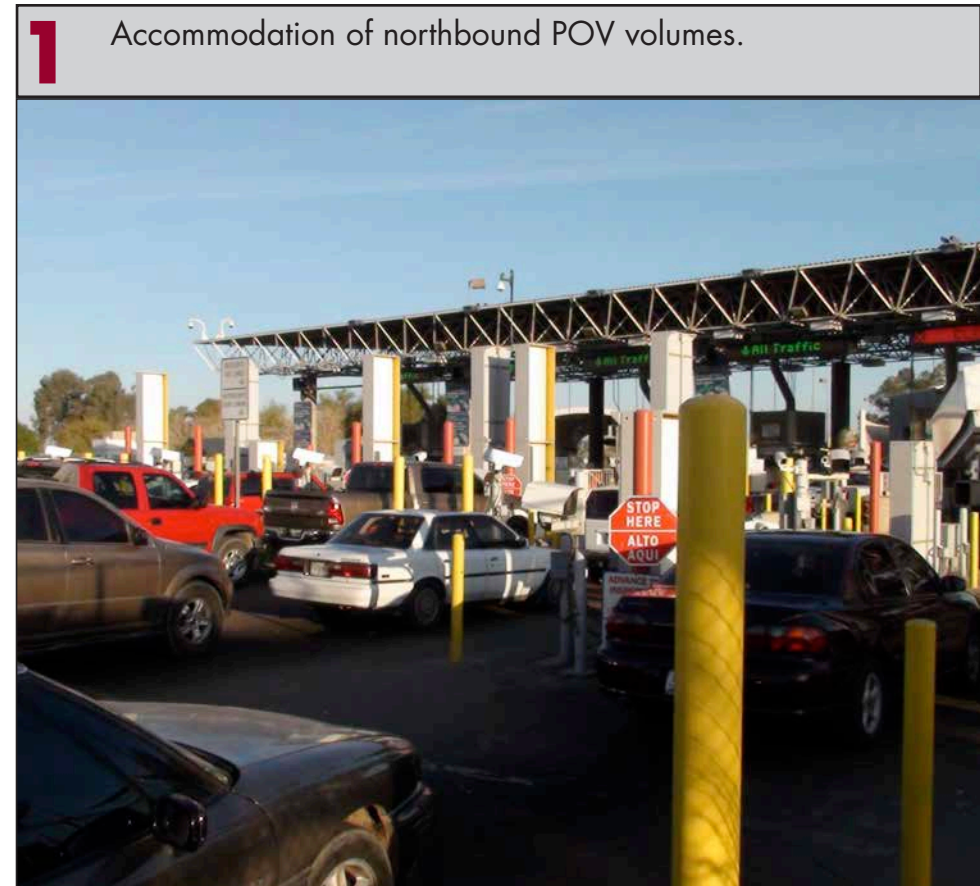
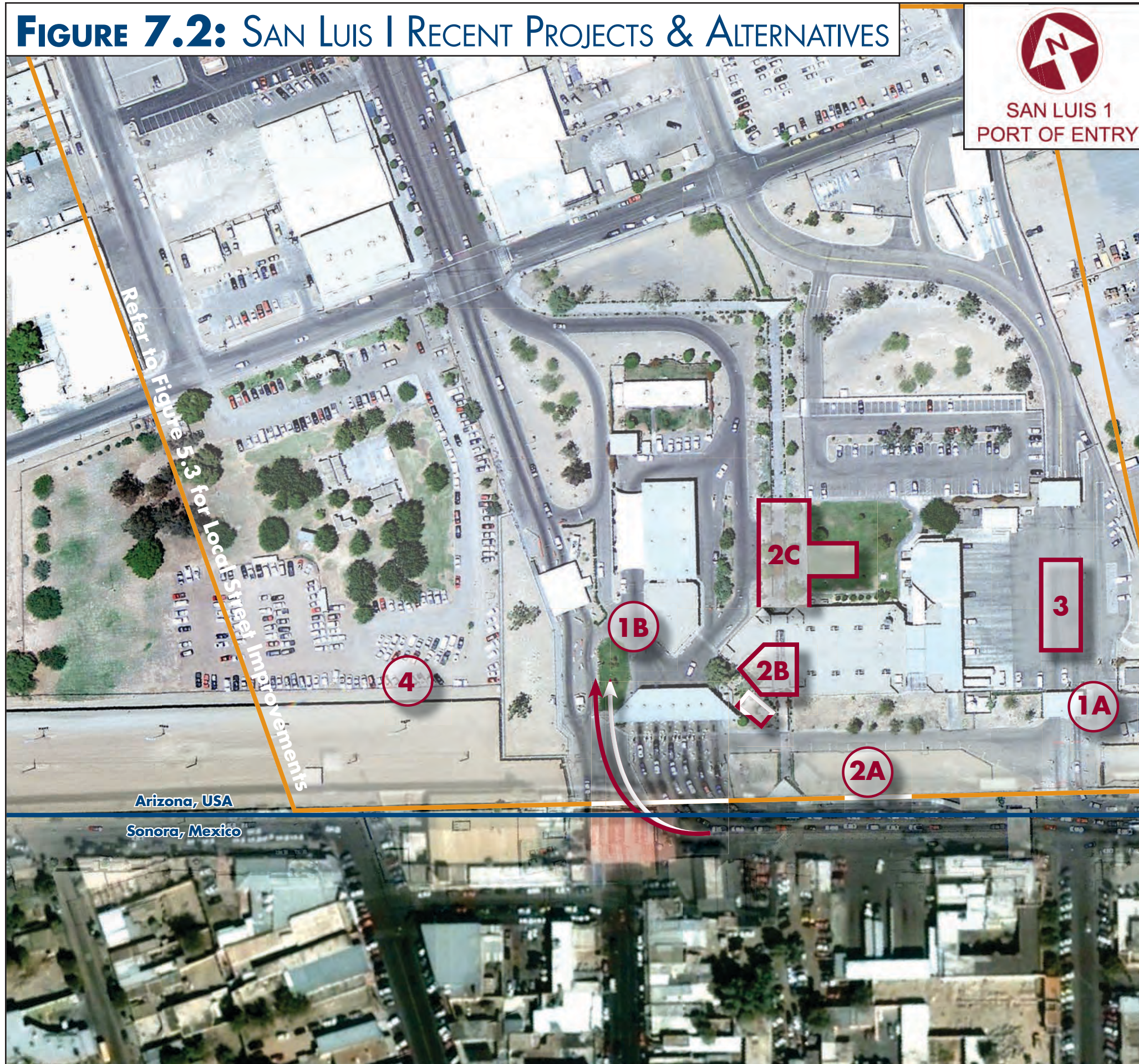


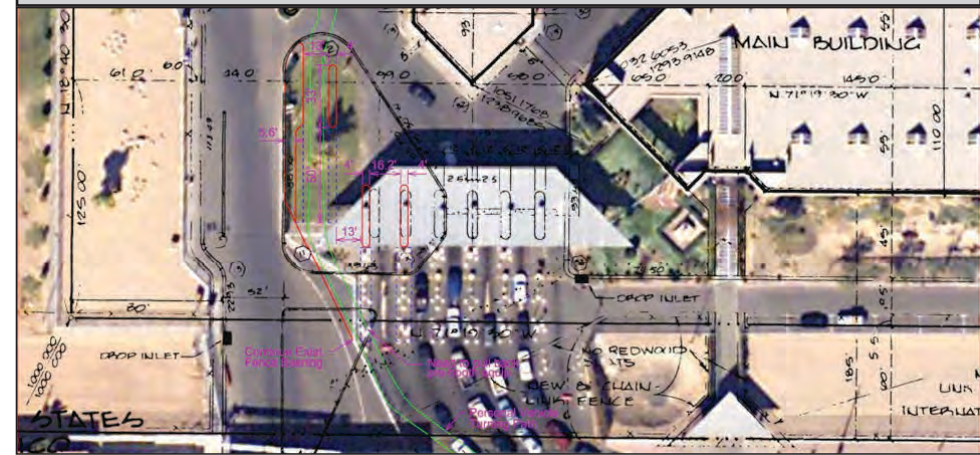
FIGURE 7.2: SAN LUIS I RECENT PROJECTS & ALTERNATIVES



**SAN LUIS 1
PORT OF ENTRY**

1A The conversion of the commercial primary inspection booths to POV processing - SENTRI - has improved POV wait times. The existing booth needs upgrading and a second booth is required.

1B Expansion for the two new POV processing lanes.



2A A pedestrian queuing area has been established immediately adjacent to the border. During the peak hours, significant wait times are normal.



2B Potential building expansion (optional locations shown) could allow a large portion of the pedestrian queue to be located in-doors. Pedestrian processing layout could be converted from two lanes to six lanes (in parallel) for greater efficiency. The addition of anti-absconder turnstiles would free staff to focus on processing.

2C

3 A recently installed canopy needs to be upgraded to include a processing booth, power, water, data, and chilled air in the secondary inspection area.

4 Outbound inspection canopy.



- **SENTRI Secondary Project:** The need for improvements to the SENTRI secondary inspection area (Keynote 3) was identified to facilitate improved processing through the SENTRI compound. This project includes supplying water, electrical and data lines to the secondary inspection area. Lighting, equipment and equipment storage, restrooms and chilled air for the canopy-covered secondary inspection area are also included in this project.
- **Pedestrian Pop-Out Project:** The inefficient triple-stacked station configuration of the two lane pedestrian processing area (Keynote 2B) prompted a proposal to reconfigure that portion of the building. Recommendations for this project involve six lanes with flexible spatial reconfigurations to accommodate anticipated future technologies including a raised floor environment (Keynote 2B or potentially 2C). A modular building may be used to provide swing space during project renovations.
- **Primary Booth Replacement Project:** In addition to replacing the six 30 year old primary inspection booths (Keynote 3 on Figure 7.1), this project also includes sun shading, canopy repainting, lighting, and sidewalk improvements.
- **Outbound Inspection Infrastructure Project:** The canopy servicing the two lane southbound inspection area (Keynote 4) requires data and water. The proposed ADOT Local Street Improvement Project (refer to Figure 7.3) involves converting 1st Street and Archibald Street into a one-way couplet (Archibald southbound and 1st Street northbound). This project also includes the addition of a third southbound lane and construction of a formal secondary inspection station within this area. These additions to the southbound inspection area will require construction of a second canopy with needs for water, data, and electrical service.

FIGURE 7.3: SAN LUIS I ALTERNATIVES

Local Street Improvements Near San Luis I Port of Entry



Improvements are planned to the local street network in downtown San Luis to address congestion issues. The ADOT project along US 95, adjacent to the LPOE, includes converting 1st Street and Archibald Street (the streets parallel to and on either side of Main Street) to a one-way couplet (Archibald southbound, 1st northbound). The permanent detour of southbound border traffic from Main Street onto Archibald (1), in concert with the three lane width on Archibald (2), should provide sufficient capacity and queue space to address the current and future traffic volumes. An area is also designated for outbound (southbound) secondary inspection (3).

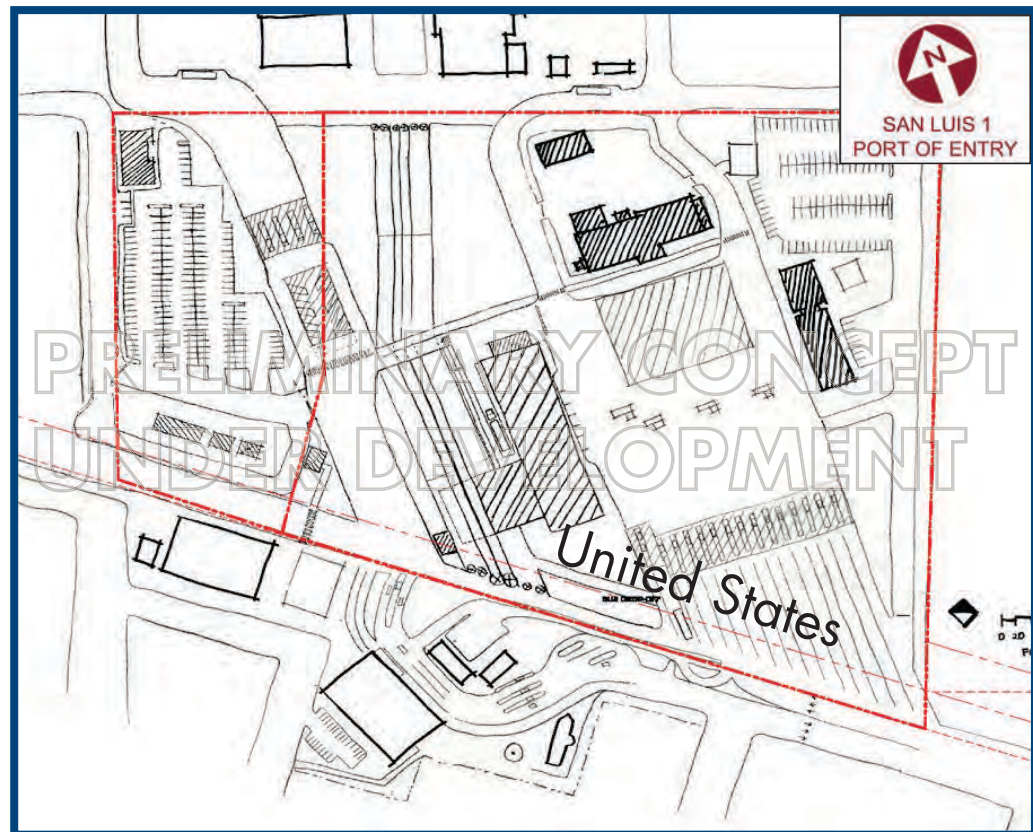


Figure B: San Luis I, Full Buildout – Preliminary Concept

Because the port originally handled commercial traffic the port was configured appropriately to meet its multiple objectives. Now there is an opportunity to reconfigure the port to better handle the remaining traffic modes. Several concepts have been considered over the last few years to optimize the port layout. A hand drawn sketch of just one idea is shown herein (left). Fundamentally, there is a desire to consolidate the POV operations in one place instead of having SENTRI POV in the old Commercial Processing area, add parking and develop a more efficient layout of the pedestrian (and bicyclist) processing facility.





- **Outbound Technology Project:** A number of technology projects within the southbound inspection area were identified. One involved the need for dynamic signage similar to that implemented at the inbound primary POV operation. In addition, data conduits will be required to service the new third lane constructed as part of the ADOT project (refer to Figure 7.3) and to provide flexibility to accommodate future technologies.
- **Complete LPOE Reconfiguration:** Relocation of all commercial vehicle processing to San Luis II provides the opportunity to reconfigure the San Luis I LPOE to provide optimal processing of POVs and pedestrians in both directions. The reconfiguration (refer to Figure 7.3) would consolidate all POV inspections, facilitate efficient and secure pedestrian and bicycle processing and add parking. This would also update and modernize the infrastructure of the port to improve efficiency and operation costs.

SAN LUIS RIO COLORADO I – SONORA

All truck inspection operations were relocated to the new port of entry, San Luis Rio Colorado II, resulting in the original San Luis Rio Colorado I port being used exclusively for POV's, pedestrians and bicyclists.

A proposed reconfiguration can be implemented to more efficiently utilize the space previously required for the freight inspection process. The Secretaria De Comunicaciones Y Transportes (SCT) will perform this work at a cost of 20 million pesos, through the company, *Concesionaria y Operadora del Puente Internacional Cucapá, S.A. de C.V.* SCT will improve access to the port of entry by separating the regular traffic from READY and SENTRI compliant traffic. The two right lanes, previously used for freight traffic, will be converted to accommodate one additional general purpose lane and one READY/SENTRI lane.

The existing mobile offices of the National Health Service and Food Safety (SENASICA) and the Tax Administration Service/Customs (SAT) will be relocated to the former loading dock area. The offices will be repurposed, providing office space for the National Defense Department (SEDENA) and SENASICA.



Safety for pedestrians has been identified as a priority. Adjustments to the north crosswalk are planned and traffic calming devices will be utilized to safe guard pedestrians.

There are also medium/long term plans to construct a building to receive the U.S. pedestrians from offices of the National Migration Institute (INM), Customs and SENASICA.

7.3.2 SAN LUIS / SAN LUIS RIO COLORADO II

SAN LUIS II – ARIZONA

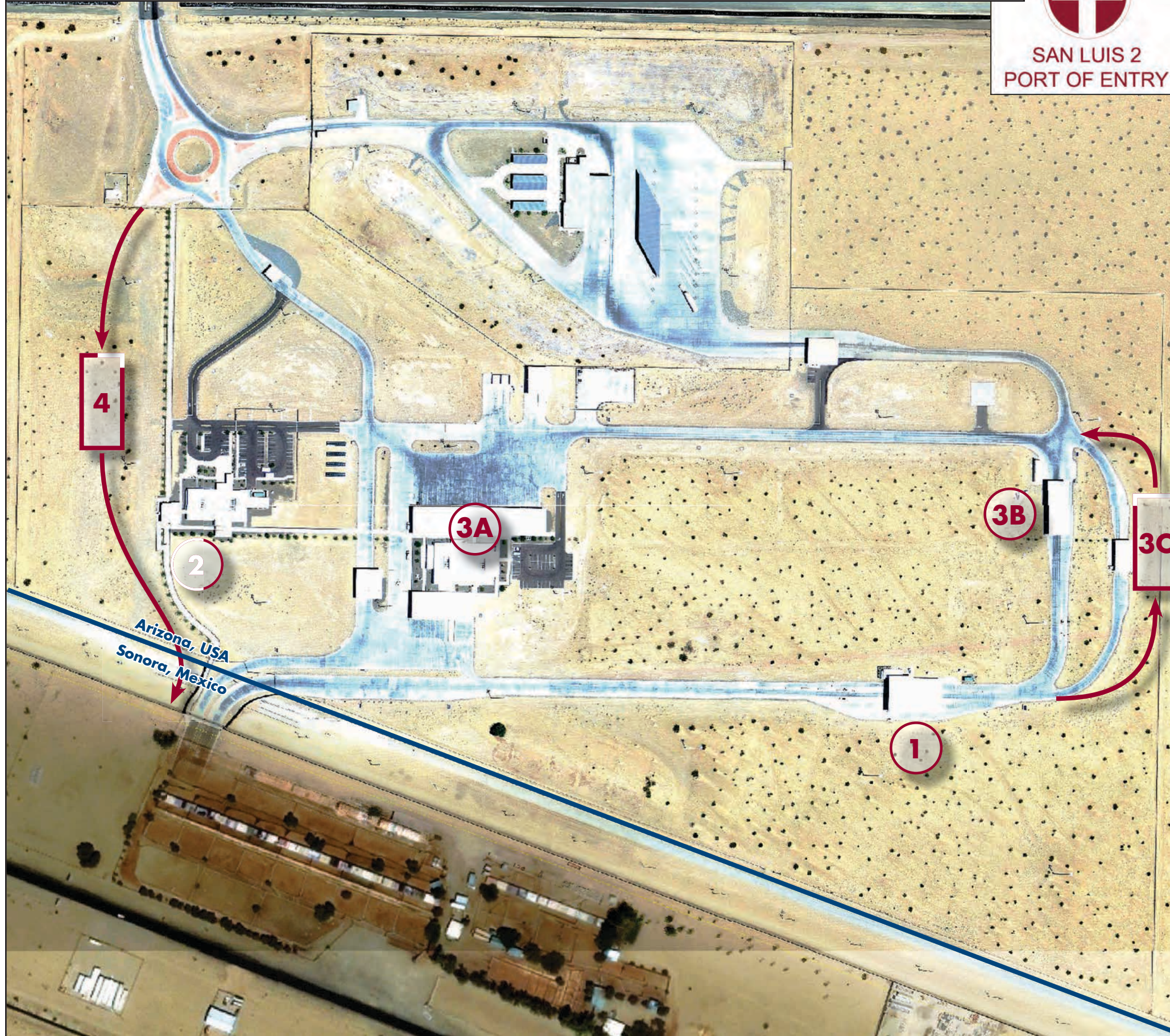
The San Luis II LPOE opened in 2010. The facility has excellent access for commercial vehicles via Juan Sanchez Blvd, SR195 and ultimately Interstate Route 8. Commercial vehicles are processed through three primary inspection lanes (Keynote 1 on Figure 7.4). The LPOE also includes an indoor temperature controlled 5-dock space for inspection of temperature sensitive items or private interdiction activities. A permanent gantry building is currently being constructed to accommodate improved inspection technology (Keynote 3C).

San Luis II also includes a facility for processing pedestrian traffic; however, flow is currently limited to truck passengers. To alleviate a portion of the congestion at San Luis I, additional facilities for POV, pedestrian and bicycle traffic could be constructed at San Luis II (Keynote 2 and 4). A complimentary upgrade to Avenue E and reciprocal port construction on the Mexican side of the border would be required for this improvement to be effective.

FIGURE 7.4: SAN LUIS II DEFICIENCIES, RECENT PROJECTS, & ALTERNATIVES



**SAN LUIS 2
PORT OF ENTRY**



1 Located 5 miles east of San Luis I, the new, state-of-the-art San Luis II facility is successfully processing commercial traffic.



2 While the facility is capable of processing pedestrian traffic, the flow is limited to truck passengers.



3 The truck facility for secondary inspections appears to be adequate. An upgrade, beyond the mobile VACIS, to include a permanent gantry building (3C) is underway.



4 Considering the large volume of POV, pedestrian, and bicycle traffic at San Luis I, it may be prudent to include provisions for future inspection facilities at San Luis II. A complementary upgrade to Avenue E would be required for this improvement to be effective.

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SAN LUIS RIO COLORADO II – SONORA

The Port of Entry between San Luis Rio Colorado, Sonora and San Luis, Arizona, opened in November 2010. Freight operations previously processed at San Luis I were relocated to this port and resulted in reducing traffic congestion and facilitating freight flow. San Luis II was constructed as a private investment project through a grant issued by the SCT to the Concessionaire *Concesionaria y Operadora del Puente Internacional Cucapá, S.A. de C.V.* (Cucapá.) Cucapá hired Federal Roads and Bridges (CAPUFE) to manage, operate and maintain port facilities to fulfill its 30 year obligation to do so.

The Project was certified by the Border Environmental Cooperation Commission (BECC) and funded through the North American Development Bank (NADBank), agencies responsible for implementing policies and programs that promote bi-national sustainable development of environmental infrastructure in the border region.

FUNDING

- Mexico - Total cost \$9.5 million. \$8.8 million granted by the NADBank.
- United States - In March 2007, congress appropriated \$42 million dollars for the design and construction of San Luis II. GSA completed the project in 2010 at a cost of \$35 million dollars.

BACKGROUND

The opening of this port of entry was held on November 4, 2010 with the participation of President Felipe Calderon. On December 9, 2010, the port began regular operations.

CURRENT STATUS

The number of vehicles crossing at this LPOE has been lower than projected. SCT is looking to include a POV crossing at this border port and is currently working on the master plan (currently in phase 2B) for that purpose. An amendment to the United States Presidential Permit will be required to accommodate POVs.

SCT also proposes, as a long term project, the inclusion of a railroad crossing, should the conceptual marine port project at Punta Colonet in Baja California come to fruition. However, the previous administration (Calderon) put this project on hold (Summer 2012).



7.3.3 LUKEVILLE / SONOYTA

LUKEVILLE - ARIZONA

In 2011, two additional POV lanes were funded through a public/private U.S./Mexico partnership. The resulting total of five primary inspection lanes, including one READY lane, one pedestrian gate, and one commercial vehicle inspection lane have reduced overall congestion (refer to Figure 7.5). No further improvements are anticipated at this time.

SONOYTA – SONORA

An expansion and modernization project is proposed for the Sonoyta, Sonora LPOE to compliment to the recent improvements to the Lukeville, Arizona LPOE.



Improvements include a full build-out to:

- 4 northbound and 3 southbound passenger vehicle lanes
- 2 local lanes for on-site activities and general parking lot upgrades
- Cargo inspection facility upgrades (import and export)
- Miscellaneous building upgrades

FIGURE 7.5: LUKEVILLE DEFICIENCIES & ALTERNATIVES



1 The addition of two POV processing lanes in 2011 has improved the border wait times. No further improvements are anticipated at this time.





7.3.4 SASABE

No major deficiencies in the facilities and infrastructure at the Sasabe LPOE have been identified (refer to Figure 7.6). The primary obstacle to the accommodation of additional traffic at this port is the condition of the south connecting roadway. The connecting roadway includes eight miles of dirt road on a challenging vertical alignment.

7.3.5 MARIPOSA / NOGALES III

MARIPOSA – ARIZONA

The Mariposa LPOE is currently being expanded to relieve congestion and reduce commercial vehicle, POV and pedestrian wait times. The phased improvement project will result in demolition and new construction of all Mariposa LPOE facilities. This includes primary and secondary inspection areas for both commercial vehicles and POVs, a pedestrian-processing facility, and other support structures. In addition, new southbound export processing docks and inspection areas will be constructed. Construction completion is scheduled for the summer of 2014 (refer to Figure 7.7).

Figure 7.8 details improvement projects occurring adjacent to the LPOE designed to facilitate the increased capacity at the port as a result of the LPOE reconstruction.

FIGURE 7.6: SASABE DEFICIENCIES & ALTERNATIVES



The Sasabe Port of Entry does not currently require upgrades to the facility. The primary obstacle to the accommodation of additional traffic at the Port is the condition of the adjacent roadway infrastructure to the south in Sonora (8 miles of dirt road on challenging vertical alignment).



FIGURE 7.7: MARIPOSA DEFICIENCIES

Details for Keynotes 1-5 included on Figure 7.8.

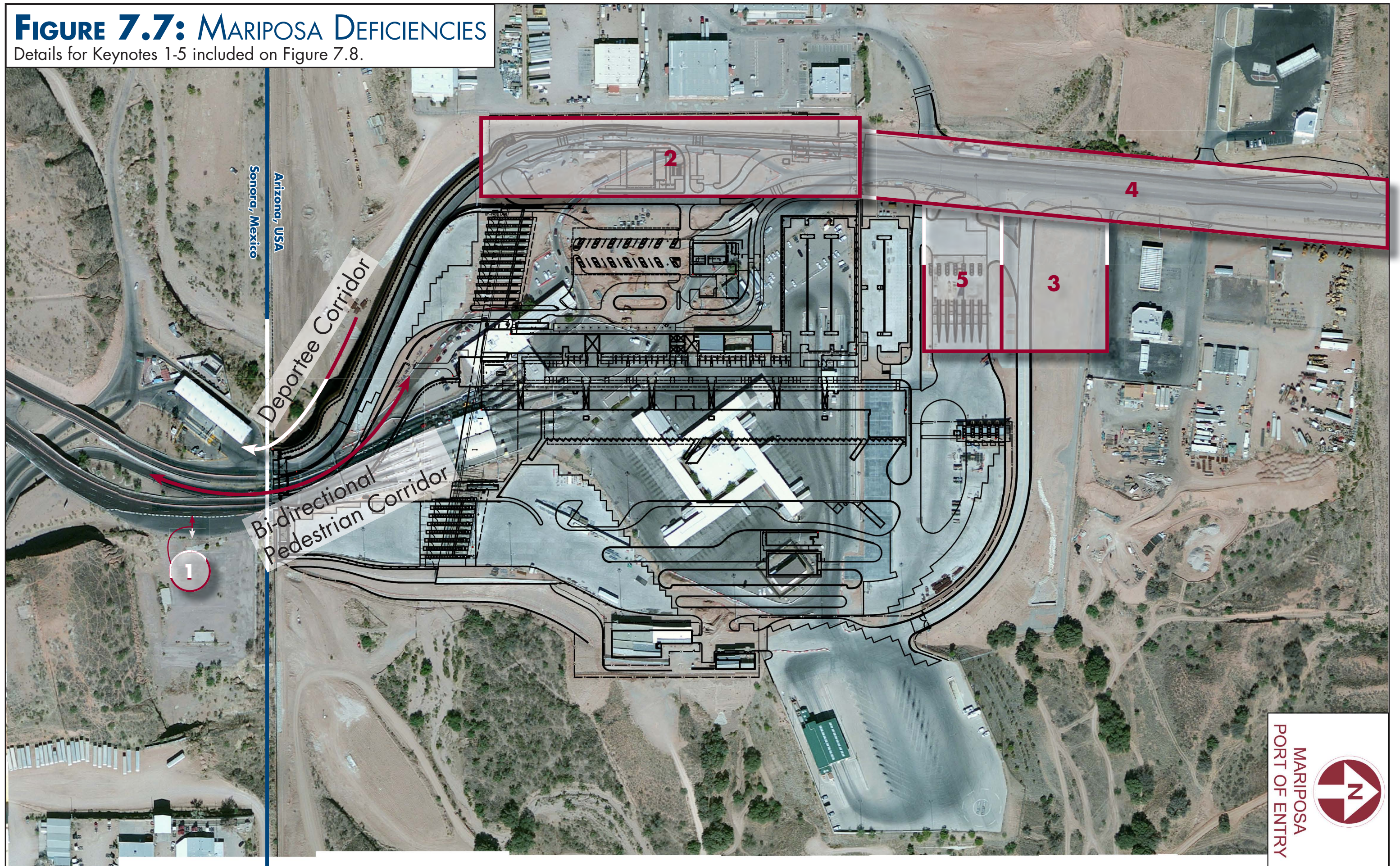
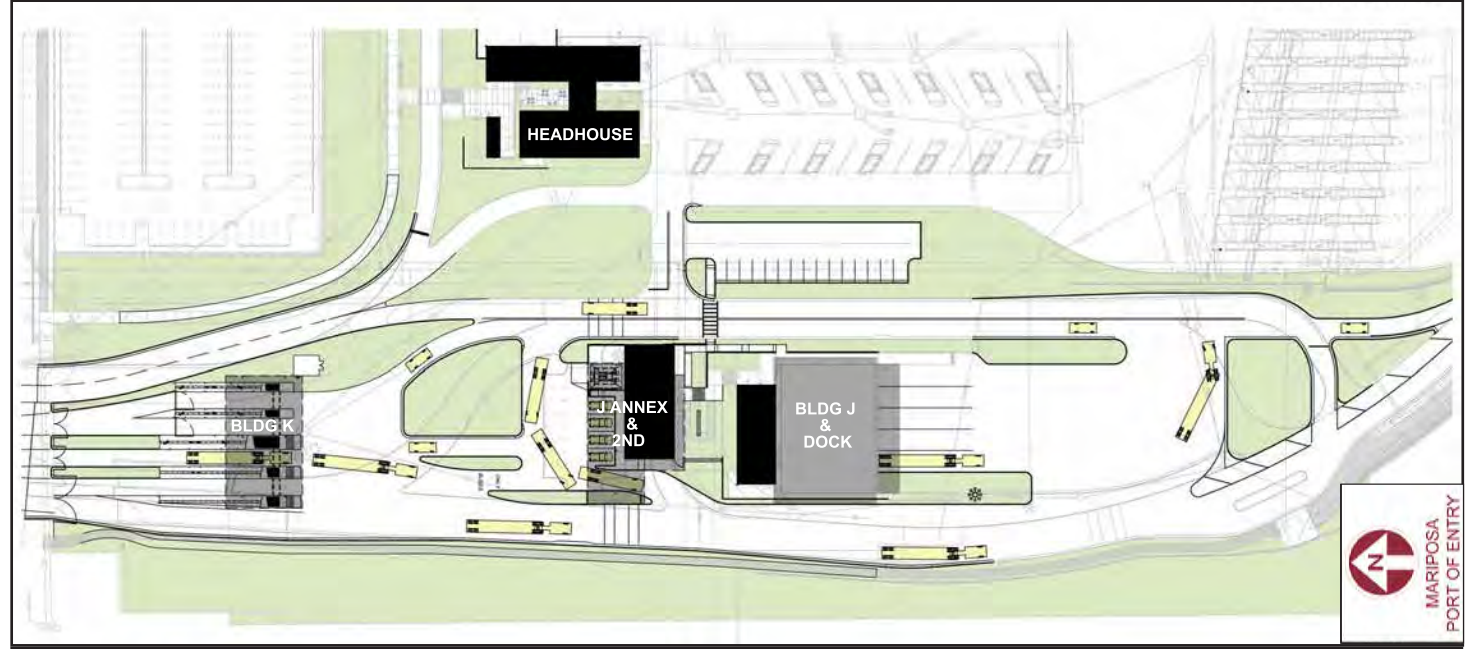
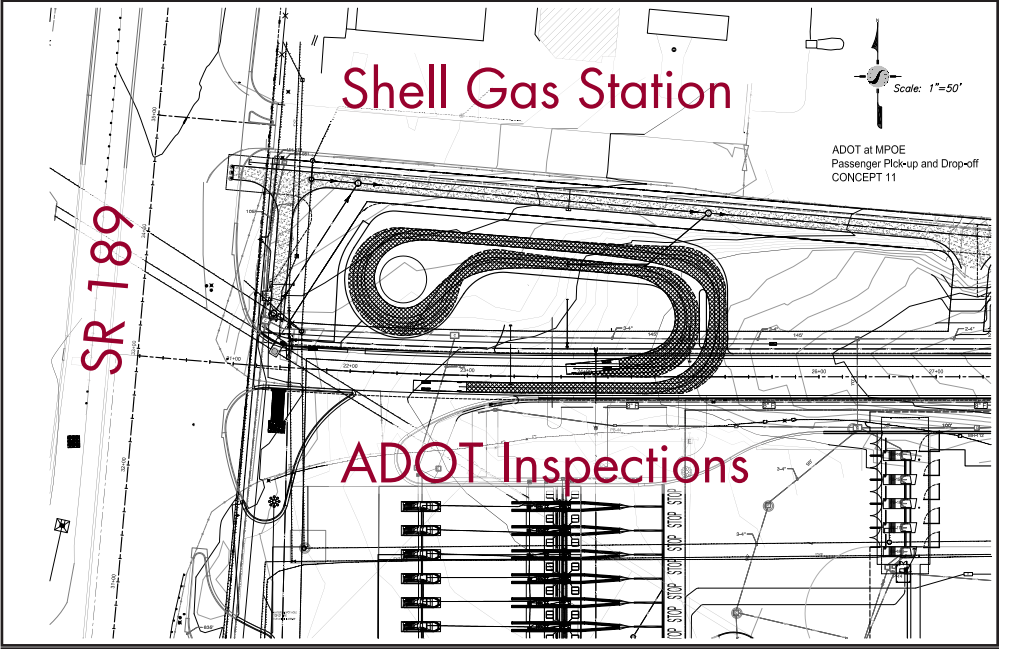


FIGURE 7.8: MARIPOSA RECENT PROJECTS & ALTERNATIVES

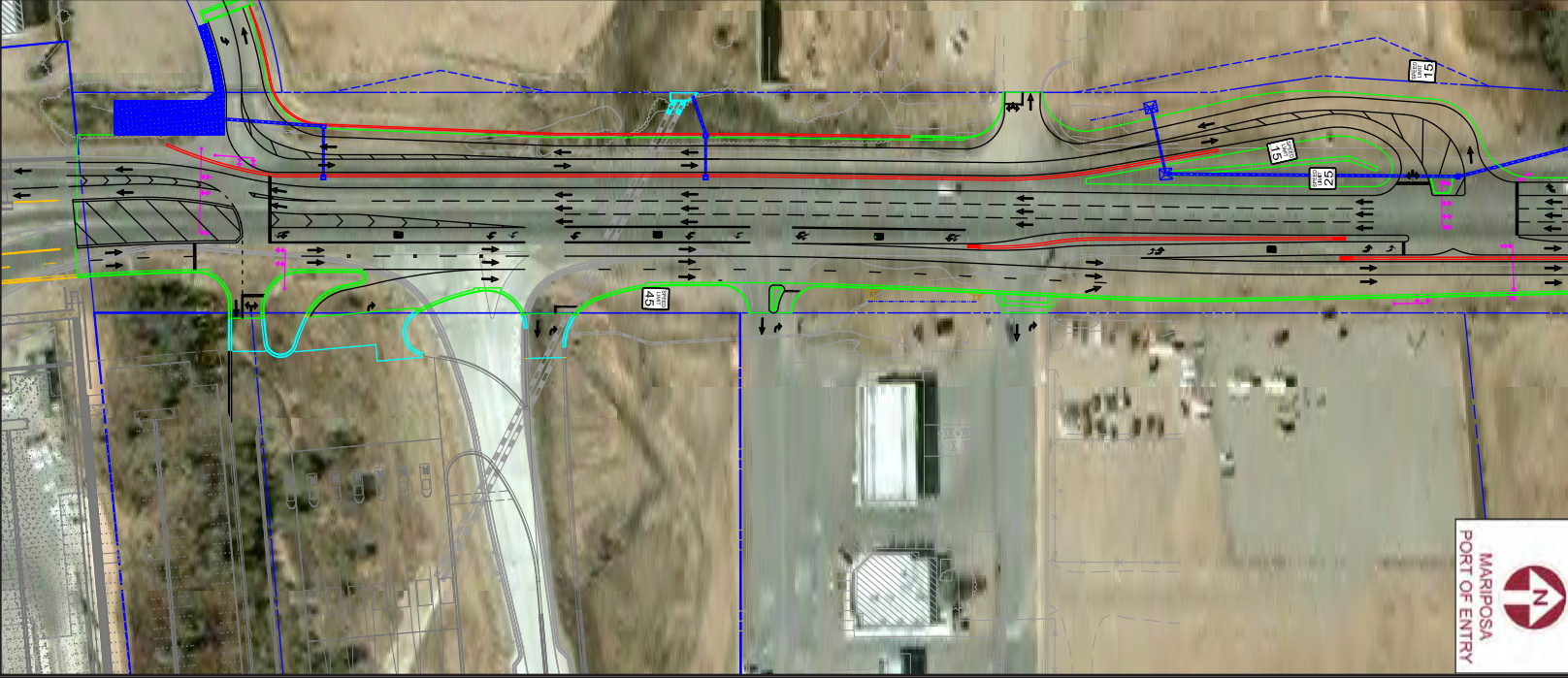
1 The commercial primary inspection facility expansion has necessitated the widening of Mexico's Federal Route 15, immediately adjacent to the border. This project was completed in 2011 as shown in Figure 7.7.



2 New CBP protocols for the inspection of traffic heading into Mexico has necessitated an upgrade to outbound processing facilities. See Figure 7.7 for location within LPOE.



3 A collaborative effort involving FHWA, CBP, GSA, and ADOT, has identified an area for a potential pedestrian pick-up/drop-off facility.



4 ADOT is progressing improvements to the inspection facility **(5)** and SR-189.



5 The ADOT inspection compound immediately adjacent to the LPOE began operation in spring 2012.



These projects include:

- Upgrade of outbound processing facilities to meet current CBP inspection protocols. This is a \$7M design/build project (Keynote 2). Construction is anticipated to match the timeframe of the main port project.
- Addition of a pedestrian pick-up/drop-off area (Keynote 3). Design is nearing completion.
- Roadway widening of SR 189 to coincide with the capacity improvements at the Port (Keynote 4). Construction was completed in the Fall 2012.
- Development of an ADOT Inspection Compound immediately adjacent to the LPOE (Keynote 5). Construction was completed spring 2012.

NOGALES III – SONORA

A comprehensive multimodal, phased project is underway to expand the capacity of the port. The improvements also include upgrades to the approach roadway, a new commercial inspection facility and renovation of the existing buildings. It will streamline the movement of POV's, pedestrians and commercial vehicles across the border and will be complimentary to the planned improvements currently under construction in the United States.

The two projects in association with the Nogales III, Sonora LPOE are currently in preliminary design. The majority of the expansion and modernization improvements are proposed immediately adjacent to the international border (refer to exhibit, Location A). Improvements include a full build-out to:

- 8 northbound commercial vehicle lanes – COMPLETE
- 3 northbound passenger vehicle lanes
- 2 southbound vehicle lanes
- Upgrades to pedestrian and repatriation facilities
- Inclusion of a pick-up/drop-off facility



70% of Maquila activity is concentrated within the identified area (orange circle).

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**Proposed Improvements at Nogales III
(Adjacent to Mariposa LPOE)**

SCT serves as the construction project manager, concessionaire and operator of the port of entry, *Vias Concecionadas*. Upon project completion, the port will have two southbound and eleven northbound traffic lanes (3 for POVs and 8 for commercial vehicles), a bi-directional pedestrian corridor and a corridor especially for deportees.

The second project referred to in the exhibit on the previous page, location B1 or B2 (to be determined), involves the construction of a new commercial inspection facility (see below), and located approximately 1.5 miles south of the border.



New Customs Facility. This facility will save up to 40 minutes of travel time for commercial vehicles traveling into the city of Nogales.



7.3.6 DECONCINI / NOGALES I

DECONCINI – ARIZONA

The DeConcini and adjacent Morley Gate LPOEs are located in downtown Nogales. Because of the geographic constraints and the built environment there is little opportunity for expansion. However, there are four on-going projects as depicted on Figure 7.9.

There has been discussion regarding the consolidation of repatriation busing activities between the Mariposa and DeConcini LPOEs. The acquisition of an adjacent parking lot (Keynote 5 on Figure 7.9) and the re-tasking of an existing parking lot (Keynote 6) could allow for a more direct and efficient drop-off point immediately adjacent to pedestrian outbound facilities at DeConcini. There is also a desire to utilize a portion of the acquired parking lot (Keynote 5) for seized vehicles, which are currently stored adjacent to the port (Keynote 7).

The sister inspection facility in Rio Rico (rail only) is anticipated to receive security upgrading including cameras, improved lighting, a new CBP building (for processing) and the widening of the roadways adjacent to the railroad tracks (for safety).

7.3.7 NACO

No major deficiencies in the facilities and infrastructure at the Naco LPOE have been identified (refer to Figure 7.10). Future consideration should be given to better definition of pedestrian infrastructure and way finding on both sides of the border adjacent to the LPOE. Potential renovations for building interior upgrades and improved lighting in the Arizona facilities are not listed in the Arizona-Sonora Border Master Plan Project List at this time.

FIGURE 7.9: DeCONCINI DEFICIENCIES, RECENT PROJECTS, & ALTERNATIVES



DECONCINI / MORLEY GATE PORT OF ENTRY



At the DeConcini and adjacent Morley Gate LPOEs there are little opportunity for expansion. However, there are several on-going projects:

1. Outbound turnstile replacement
2. Tunnel (storm drain) access improvements
3. Railway gate replacement
4. Morley Gate pedestrian re-engineering

There is an opportunity to consolidate the repatriation busing activities between the Mariposa and DeConcini LPOE's. The acquisition of an adjacent parking lot (5) and the retasking of an existing parking lot (6) could allow for a more direct and efficient drop-off point immediately adjacent to pedestrian out-bound facilities at DeConcini. It would also provide an area to store seized vehicles, currently stored at (7).

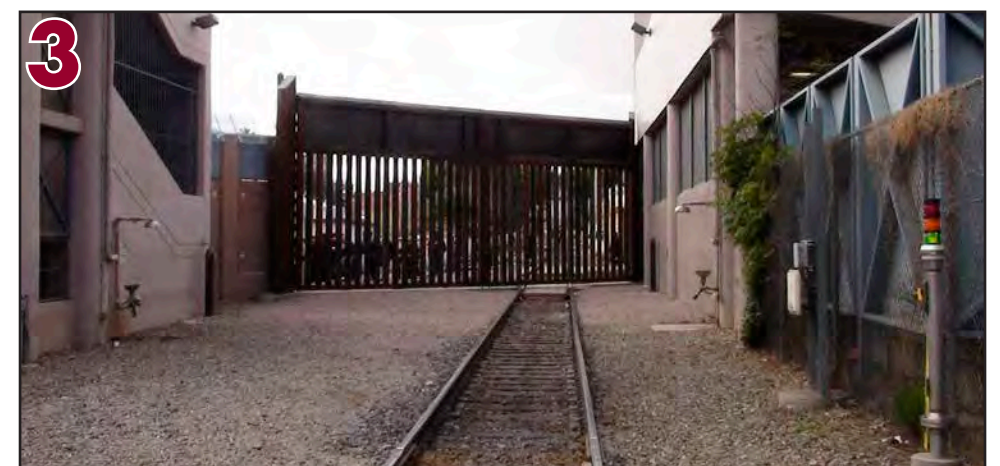
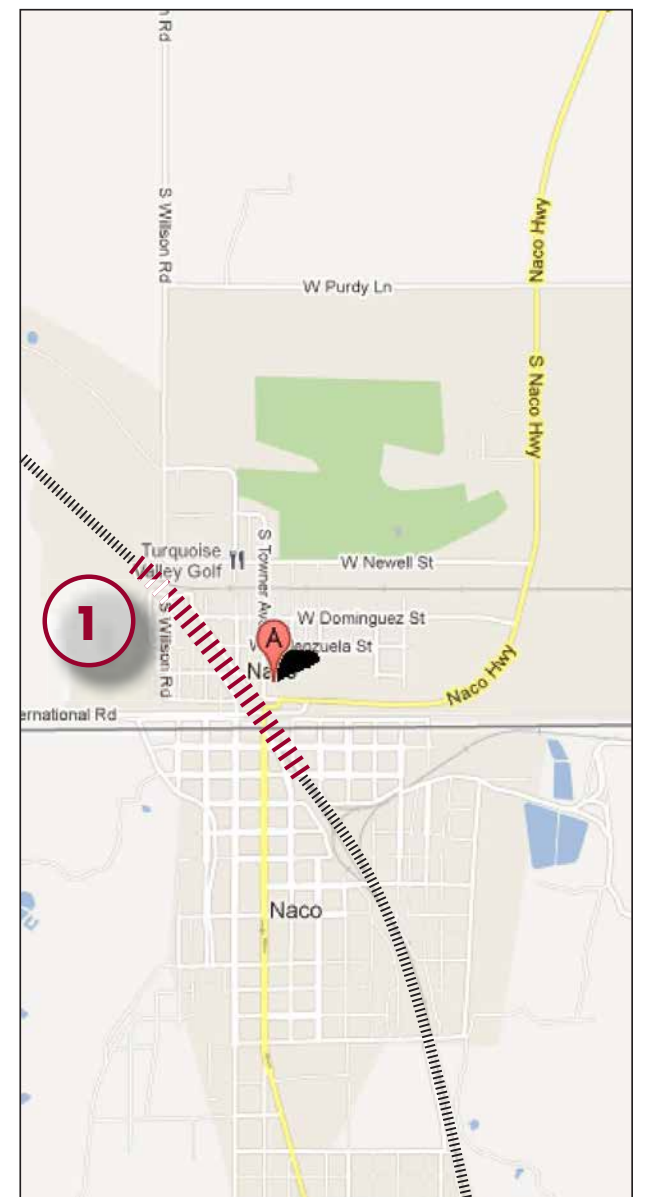


FIGURE 7.10: NACO DEFICIENCIES & ALTERNATIVES



At the Naco Port of Entry, no major deficiencies have been identified. Future needs associated with building interior upgrades and improved lighting are not listed in the Arizona-Sonora Border Master Plan Project List.

1 There has been intermittent discussion regarding a rail Port of Entry in Naco, connecting the Ferromex line (immediately south of the border) to the rail bed that extends through Naco, north to Curtiss, Arizona. There are currently no plans for the project, however, a placeholder will be established on the Project List.





7.3.8 DOUGLAS / AGUA PRIETA

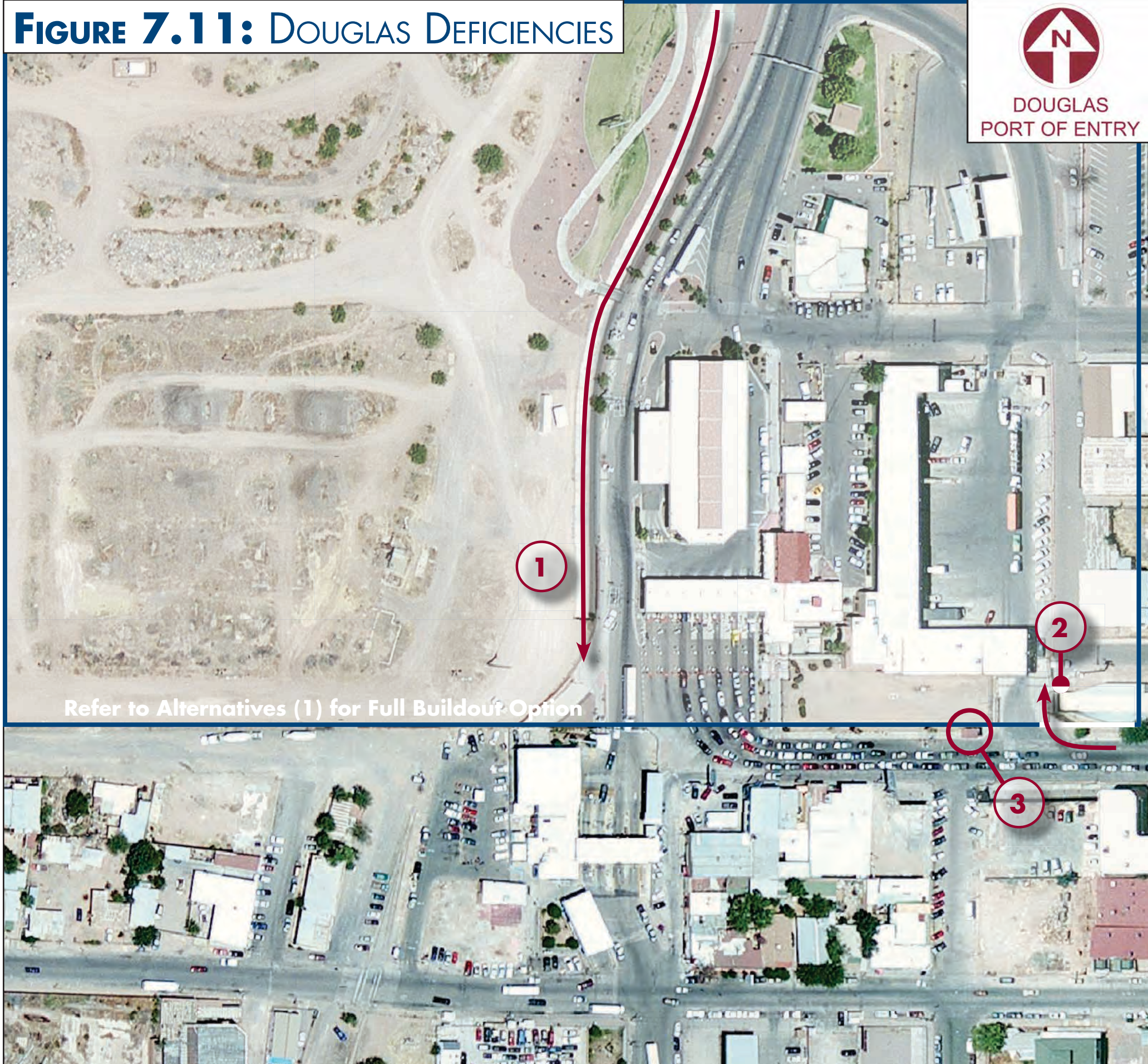
DOUGLAS – ARIZONA

At the Douglas, Arizona LPOE, northbound inspections are conducted for POVs (7 lanes), pedestrians (2 lanes) and commercial vehicles (essentially 1 effective lane). A joint effort is ongoing between the U.S. and Mexico to segregate traffic and designate one of the 7 POV lanes exclusively for SENTRI traffic. There are also two lanes for southbound inspections (Keynote 1, Figure 7.11). A separate ADOT Truck Inspection Facility was constructed approximately 2 miles northwest of the LPOE located on SR 80.

Although the LPOE includes 3 commercial traffic lanes, only 2 lanes are equipped with primary inspection booths for northbound commercial traffic. The third lane is for oversize trucks and has no booth. Further, the tight turning radius required to access the driveway leading to the booths restricts use to a single lane and booth (Keynote 2). GSA is working with CBP to implement an "Outbound Tier 3" program that will permit inspection in two southbound lanes, using temporary facilities. The Tier 3 program will be followed by a Tier 2 program involving more permanent facilities.

Secondary commercial inspection and off-loading docks are also limited by spatial constraints. Traffic congestion, tied to CBP's southbound inspection operations, backs up traffic through Douglas along Pan American Avenue. Recent implementation of a southbound detour (Keynote 3, Fig. 7.12) from Pan American, to 5th, to Chino, to 3rd and back to Pan American has provided some relief and queue space for southbound traffic destined to cross the border.

FIGURE 7.11: DOUGLAS DEFICIENCIES



Refer to Alternatives (1) for Full Buildout Option

1 Need additional SB capacity – could span existing concrete channel and provide one additional lane (minimum).



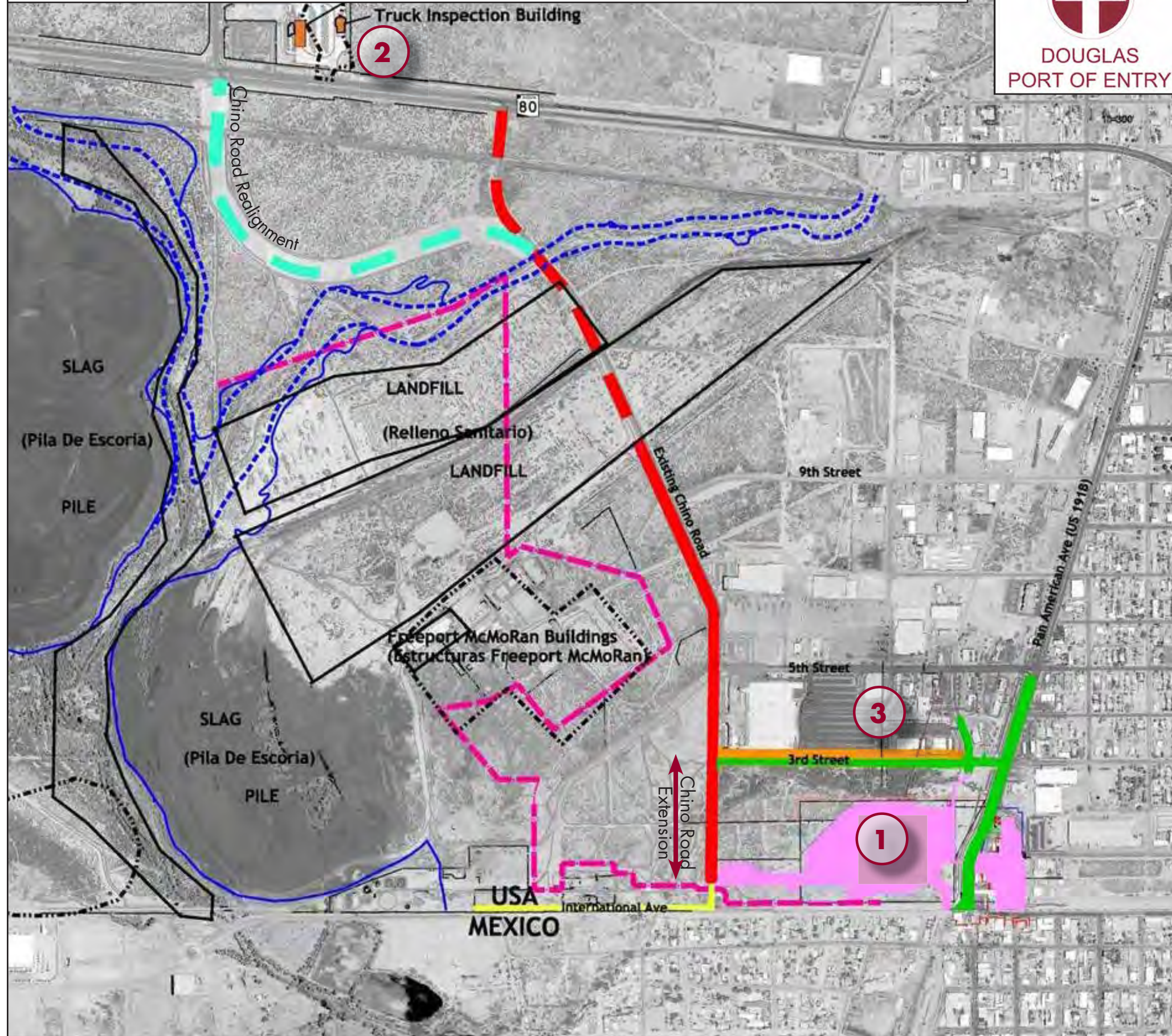
2 Commercial booth access is limited by the turning radius into the driveway – could improve radius or move processing booths north. Only one of three booths is currently accessible to drivers.



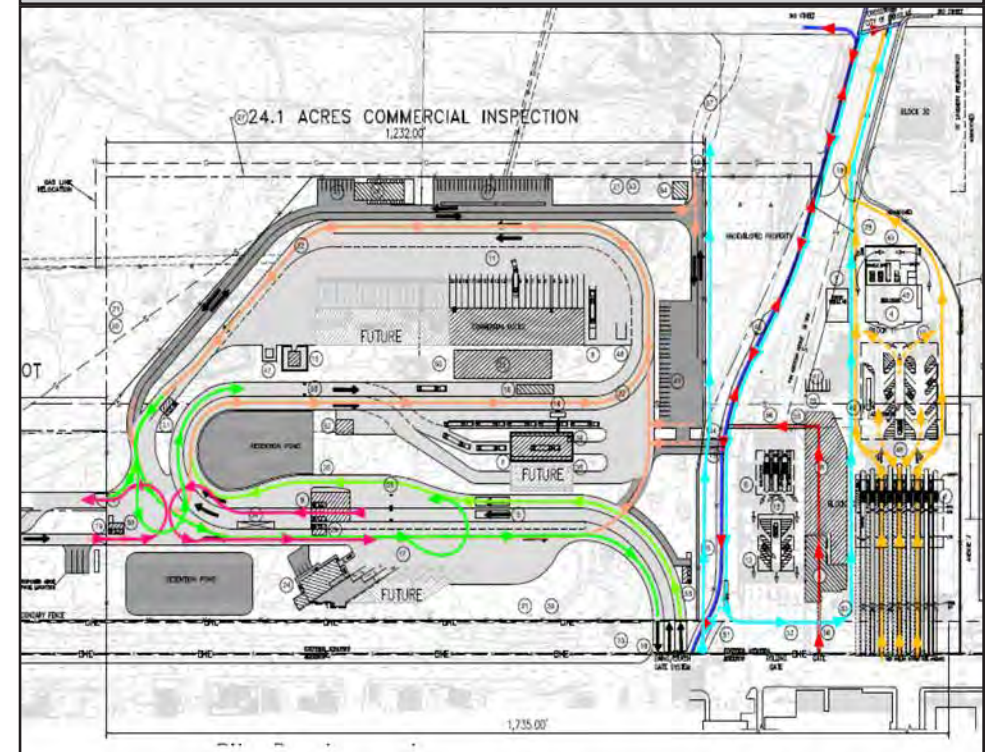
3 Building removal could provide additional queue space for POV traffic. Advance, overhead variable message signs could assist in defining lane availability (READY, SENTRI, CLOSED, etc.).



FIGURE 7.12: DOUGLAS RECENT PROJECTS & ALTERNATIVES



1 Location of new, full buildout, master planned port (shown in pink).



2 ADOT Truck Inspection Facility has been constructed along SR80, not immediately adjacent to the proposed Port.

3 Stakeholders have instituted a detour due to excessive traffic along Pan American Avenue, created by delays crossing into Mexico.





Alternatives to address these deficiencies include:

- Add one additional southbound inspection lane by spanning existing concrete channel (refer to existing channel location, Keynote 1, Figure 7.11).
- Improve radius to allow access to all three commercial inspection booths (refer to existing conditions, Keynote 2, Figure 7.11)
- Remove small building to create additional queue space for POV traffic (refer to existing conditions, Keynote 3, Figure 7.11)
- Add overhead variable message signs to define lane assignments for POV's – general purpose, READY or SENTRI lanes
- LPOE Expansion and Reconfiguration: A new commercial inspection facility would be constructed on a larger site, west of the existing port facility. The existing LPOE would be reconfigured exclusively for POV and pedestrian traffic (refer to Figure 7.12 – Douglas Alternatives and Keynote 1).

The specific site of such a new facility could be adjacent to the west side of the existing port, west of Chino Road or further west to King's Highway. Coordination between the cities of Douglas and Agua Prieta is fundamental to an adequate solution.

AGUA PRIETA - SONORA

In 2010, Mexico and the United States exchanged diplomatic notes to express the interest of both governments in proceeding with studies concerning a bi-national project to improve the functioning of this port of entry. SIDUR is considering, in concert with the city of Agua Prieta, an expansion of the port facilities to separate the commercial processing of cargo vehicles. The project requires significant land acquisition (refer to Exhibit) and agencies are negotiating with various land owners including Ferromex.

The agency responsible for administering the port, the Institute of Management and Valuation of National Property (INDAABIN), has ownership of the land where the port is located. INDAABIN and the City of Agua Prieta have reviewed available tracts of land, however, a suitable site has not yet been identified. The Mexican Tax Administration Service/Customs



(SAT) is negotiating the acquisition of land formerly used for a railroad crossing (FERROMEX) to provide additional space for the proposed port expansion. Any bi-national agreement between Mexico and United States required prior to start of the expansion, relocation or reconfiguration of this port will be delayed until the land acquisition is finalized.



The proposed plan is anticipated to cost approximately \$120 million pesos. It includes expansion to 4 commercial lanes for export and import and the separation of commercial traffic from POV and pedestrian flows (including returnees). To date, a funding source has not yet been identified.



7.4 FREIGHT TRANSPORTATION INFRASTRUCTURE AND OVERALL STRATEGIC CONSIDERATIONS

Freight flows are influenced by broad global factors. For example, the price of fuel may affect the logistics chain. Freight flows through AZ-Sonora LPOEs also may be affected by decisions on port infrastructure investment that would generate additional movements to the U.S. from Mexico. The ports at Los Angeles and Long Beach (LA/LB) are currently among the busiest ports in the United States. However, potential capacity issues at those ports have led to consideration of infrastructure investments elsewhere that would capture a share of the freight traffic between Asia and the U.S. One such consideration is the development of a new deep water port at Punta Colonet, on the west coast of Baja California.

A new port at Punta Colonet would require a major investment and significant interest in advancing the concept is not clear at this time. With infrastructure improvements, the existing Port of Guaymas on the Gulf of California also has the potential to become a deep water port capable of handling additional container service. Northbound commodities from Guaymas would likely cross at Nogales. Overall improvements of multimodal facilities along this corridor would increase efficiencies in freight movements.

Conversely, developments elsewhere may reduce the need for and feasibility of Mexican port development - and thus not result in an increased volume of trade flows across the AZ-Sonora border. For instance, improvements within the Panama Canal allowing it to accommodate larger container ships would enable freight to efficiently move to the east coast via ship as opposed to overland. In addition, new or expanded port facilities under consideration in the Pacific Northwest and British Columbia may serve to divert traffic from LA/LB.

Freight shippers are likely to be mode neutral and will pursue the most efficient and economical means to shipping goods. Improved conditions for rail (generally considered more cost-effective for longer distance shipments) and trucking that promote efficient travel and intermodal connections will be attractive for economic development. The advancement of the CANAMEX corridor would enhance overall freight movement to the north and south through the state of Arizona and may present economic development opportunities for freight handling and processing. In addition, several concepts have been set forth in previous plans and

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studies to plan rail investments for long-term needs. These concepts include an additional rail corridor and border crossing in the vicinity of Nogales; and new rail corridors and border crossings in Naco, San Luis, and Lukeville.



8.0 PROJECT EVALUATIONS

The initial stages of the Arizona-Sonora Border Master Plan focused on stakeholder and committee member outreach, data collection and reviews of existing studies. The study team analyzed the data and reports and then in concert with the PAC and TWG committee representatives developed a list of proposed projects. The study team then focused on the approach to evaluating projects with the goal of creating a logical prioritization. The team's overall direction was derived, in principle, from the California/Baja California Border Master Plan, dated September, 2008 and involved the development of weighted criteria against which the prospective projects would be scored.

8.1 DEVELOPMENT OF EVALUATION CATEGORIES

The study team initiated the process by using example criteria from the master plans previously initiated in California and Texas. Subsequently, the TWG, through workshops and a series of on-line surveys, fine-tuned a series of options for Categories of Evaluation Criteria that would ultimately be used in the evaluation of perspective projects.

The TWG recommended the following Categories of Evaluation Criteria:

- Cost Effectiveness
- Project Readiness
- Capacity/Congestion
- LPOE Connectivity
- Regional Benefit

As the process to arrive at the final evaluation criteria evolved, it became evident that projects have different funding streams and the competition of specific projects for funding needed to be considered. The TWG recommended that projects be broken out into three "types":

- LPOE's
- Multi-Modal Infrastructure (MMI) – including:
Roadway/Bridge/Interchange/Pedestrian/Bicyclist/Transit
- Rail



The committees then needed to consider whether the proposed Categories of Evaluation Criteria applied uniformly for each of the project types. The result was a modification of the Categories to the following:

- Cost Effectiveness
- Project Readiness
- Capacity/Congestion
- LPOE Connectivity (not applicable to LPOE projects)
- Regional Benefit
- Bi-national Coordination (applies only to LPOE’s)

Agreement was obtained to add a sixth category, specific to the land port of entry projects, considering the heavy bi-national component required to progress these complex projects. The PAC approved the Categories of Evaluation Criteria as modified above.

8.2 CATEGORY WEIGHTING

The study team led the TWG through a series of exercises targeting the development of a weighting structure for the Categories of Evaluation Criteria. Initial efforts focused on the member’s priority amongst the Categories, ranking them 1-5. Subsequent steps resulted in individual rankings on a scale of 1 to 100 (in percent).

As the Categories of Evaluation Criteria varied (slightly) by Project Type it was necessary to rank each project type individually. There was extensive debate on the weighting by both committees resulting in several iterations. The PAC approved the weighting as presented in Table 8.1 below:

Table 8.1 Category Weighting Values

Categories	Land Ports of Entry (LPOE)	Multimodal Infrastructure (MMI)	Rail
Cost Effectiveness	15%	15%	16%
Project Readiness	11%	10%	13%
Capacity/Congestion	40%	36%	35%
LPOE Connectivity	N/A	16%	15%
Regional Benefit	21%	23%	21%
Bi-national Coordination	13%	N/A	N/A
TOTAL	100%	100%	100%



8.3 DEVELOPMENT OF CRITERIA

By far the most laborious effort and intense deliberations were in regard to the development of the specific Criteria by which the projects were evaluated. Each of the Categories of Evaluation Criteria was broken down into component elements. Again, each project type required the development of slightly differing Criteria. The complete description of the Criteria and their associated point allocations are detailed in Appendix D. A brief description of each Criteria, by Project Type, is listed below:

LPOE EVALUATION (17 CRITERIA)

CATEGORY: CAPACITY/CONGESTION

1. **Change in projected demand**. Change in volume of Commercial Vehicle (CV), Privately Owned Vehicle (POV), pedestrian & rail traffic; increased tonnage and value of freight.
2. **Change in number/type/efficiency of booths/docks**. Change in number of CV, POV, pedestrian, & rail processing booths; change in number of booths dedicated to SENTRI, FAST, READY, tandem processing, etc.
3. **Wait times**. Existing documented wait times by travel mode.
4. **Change in modes served**. Are new travel modes able to be processed?
5. **Percent of total AZ-Sonora border crossing demand**. Ratio of existing or projected LPOE annual crossings to total crossings between Arizona and Sonora.

CATEGORY: COST EFFECTIVENESS

6. **Cost of project versus projected demand**. Project cost vs. number of users and/or amount or value of goods that would benefit from the investment.

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects**. Qualitative effects on air quality, parks/open space, wildlife areas or linkages. (*Assumes all projects will have some environmental benefit to air quality. Measure intended to account for potential disruption to natural environment.*)



8. **Socioeconomic/community effects.** Qualitative effects on neighborhoods, community services (i.e. schools, churches, medical, etc.), effects on minority populations.
9. **Economic effects.** Qualitative effects on businesses, job creation, transport of freight.
10. **Modal effects.** Does the project affect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit).

CATEGORY: PROJECT READINESS

11. **Project Phase.** What stage of planning, design, land acquisition; and has dedicated funding been identified?
12. **Land Availability.** Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?
13. **Local Infrastructure Compatibility.** Is local infrastructure in place to support the proposed LPOE improvement project?
14. **Change in efficiency of staff.** Will the project increase the efficiency of existing staff?

CATEGORY: BI-NATIONAL COORDINATION/COMMITMENT/CONSENSUS

15. **Federal Support.** What level of discussion/commitment has been made by the U.S. and Mexican Federal Governments? Are both parties in agreement with the proposed improvement?
16. **State/Local Support.** What level of support/commitment has been observed by state or local agencies?
17. **Level of Bi-national Consensus.** Marked by federal milestones including exchange of official documents and coordination via Bi-national Bridges & Border Crossings Group (BBBXG).

MULTI-MODAL INFRASTRUCTURE EVALUATION (17 CRITERIA)

CATEGORY: CAPACITY/CONGESTION

1. **Increase in daily volume forecast.** Change in volume of CV, POV and pedestrians on the subject facility (as applicable).



2. **Percent trucks.** Of the total travel volume on the subject facility, what percentage is truck traffic? (*Points to both economic and safety aspects of the improvement.*)
3. **Change in number and efficiency of lanes.** How many lanes are added/removed by the improvement? Does the improvement enhance the efficiency of the facility (i.e., one-way street conversions)?
4. **Level of Service improvement.** What is the relative improvement to LOS? Improvements to address LOS E or F conditions would score higher than those addressing LOS A-D.
5. **Increase in modes served.** The more travel modes the improvement enhances, the higher the score.

CATEGORY: COST EFFECTIVENESS

6. **Cost of project versus projected demand.** Project cost vs. number of users that would benefit from the investment, or projected Vehicle Miles of Travel (VMT) on the improved facility.

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects.** Qualitative effects on air quality, parks/open space, wildlife areas or linkages. (*Assumes all projects will have some environmental benefit to air quality. Measure intended to account for potential disruption to natural environment.*)
8. **Socioeconomic/community effects.** Qualitative effects on neighborhoods, community services (i.e. schools, churches, medical, etc.), effects on minority populations.
9. **Economic effects.** Qualitative effects on businesses, job creation, transport of freight.
10. **Modal effects.** Does the project affect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit)?

CATEGORY: PROJECT READINESS

11. **Project phase.** What stage of planning, design, land acquisition; and has dedicated funding been identified?



12. **Land Availability.** Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?
13. **Community and stakeholder acceptance.** What is the likelihood that the community would support the project?

CATEGORY: LPOE CONNECTIVITY

14. **Number of LPOEs served.** How many LPOEs does the route serve?
15. **Distance to LPOE.** What is the travel distance to the nearest LPOE?
16. **Percent of daily volume related to LPOE.** Of the total projected volume on the subject facility, what percentage of the volume is attributable to cross-border travel?
17. **Alternate Mode Connectivity.**

RAIL EVALUATION (16 CRITERIA)

CATEGORY: CAPACITY/CONGESTION

1. **Increase in projected number of rail cars.** How many new rail cars will utilize the subject improvement?
2. **Cross-border tonnage/value.** What is the total weight and/or value of the goods that will utilize the improvement?
3. **Change in number/miles of tracks.** How many additional miles of track?
4. **Change in travel speed.** Will speed decrease, stay the same, or increase?
5. **Change in modes served.** Will the improvement accommodate a new mode or additional types of rail (i.e. heavy rail, commuter, high-speed, etc.)?

CATEGORY: COST EFFECTIVENESS

6. **Cost of Project versus projected demand.** Planning level project cost versus benefit from the investment.

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects.** Qualitative effects on air quality, parks/open space, wildlife areas / linkages, or other sensitive land uses.
8. **Socioeconomic/community effects.** Qualitatively determined effects on neighborhoods, community services (i.e. schools, churches, medical, etc.), and



minority populations. Effects may include noise / traffic issues, or community bifurcation due to a new linear corridor.

9. **Economic effects.** Qualitative effects on businesses, job creation, transport of freight; degree to which project reduces infrastructure construction & maintenance costs as a result of decreased heavy vehicle travel.
10. **Modal effects.** Does the project affect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit).

CATEGORY: PROJECT READINESS

11. **Project Phase.** What stage of planning, design, land acquisition; and has dedicated funding been identified?
12. **Land Availability.** Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?
13. **Conformity to private initiatives.** Is this project already being planned by private initiatives?

CATEGORY: LPOE CONNECTIVITY

14. **Number of LPOEs served.** How many LPOEs in the study area would be served directly by the facility?
15. **Distance to LPOE.** What is the travel distance to the nearest LPOE?
16. **Percent of total border-freight served.** Of the total projected volume, what percentage is attributable to cross-border travel?

8.4 INVENTORY OF EVALUATED PROJECTS

For each of the three project categories (LPOE, Multimodal Infrastructure, and Rail), a list of improvement projects were separately identified for Arizona and Sonora. The list of projects was derived from previous studies and stakeholder input, as described in Chapter 7.0. Projects (more than 160 total) were then coded into an interactive GIS tool. Each of the projects was assigned a unique project identification number (ID); project location and description information; and pertinent data applicable to evaluation criteria for each evaluation category. Projects were also classified into three zones, as depicted in Figure 8.1 – projects in Zone 1



(blue) are generally located in Yuma County, projects in Zone 2 (designated in green) in Pima County, and projects in Zone 3 (purple) Cochise County. Tables 8.2-8.6 provide a summary of the identified projects. Additional detailed project data is provided in Appendix E.

8.5 PROJECT SCORING

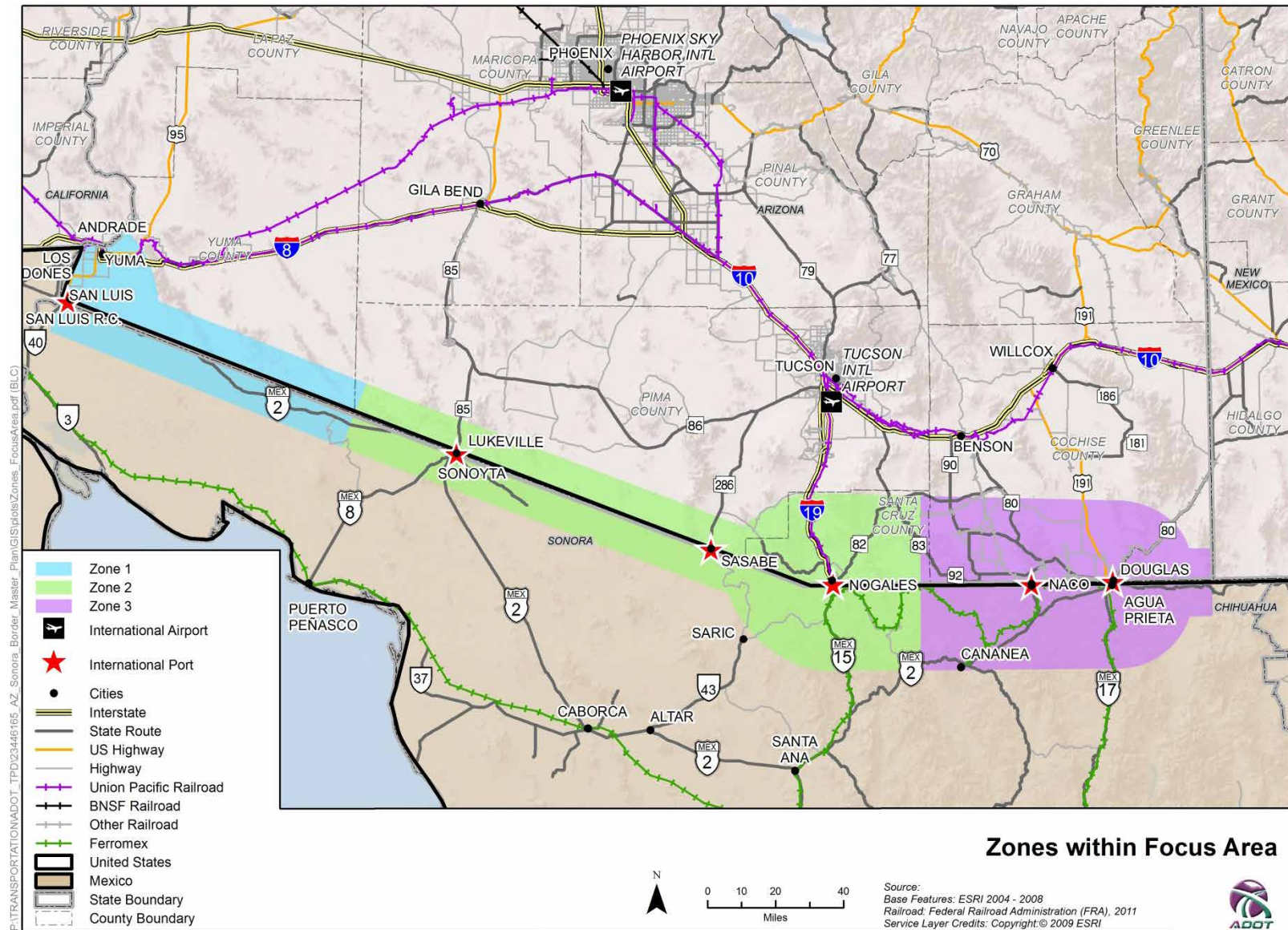
Using the data collected for each project, the study team independently completed the draft scoring of all projects (more than 160) in each of the three project types. Several PAC/TWG meetings focused on analyzing the scoring. The study team typically reviewed a few example projects' scores and then 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. The results of these efforts are summarized in Tables 8.2-8.6.

Resulting scores were also integrated into the interactive GIS tool to enable interested stakeholders to access pertinent project data, project scoring, and project rankings. The interactive GIS tool is anticipated to be available in February, 2013 at www.azdot.gov/azborderplan. Directions for access and use of the GIS tool are provided in Appendix E.

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Figure 8.1 Project Zones



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Table 8.2 Evaluation of Arizona Land Port of Entry Projects

					Capacity/Congestion Total Points	Estimated Project Cost (in \$1,000s)	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	Binational Coord. Total Points	Weighted Combined Score	Arizona LPOE Overall Rank
Max Point Value					47	-	5	7	7	7	100	Out of 17
ID	Zone	State	Linked Projects	LPOE Project Description								
1001	1	AZ		San Luis I - SENTRI Primary Booth Project	13	150	5	6	6	7	66	1
1002	1	AZ		San Luis I - Pedestrian Pop-Out Project #1 (Reconfiguration in place)	13	250	5	7	5	6	3	2
1003	1	AZ		San Luis I - Pedestrian Pop-Out Project #2 (Expansion)	15	1,000	4	7	4	6	63	3
1004	1	AZ	5, 3012, 4001	San Luis II - POV / Pedestrian Processing Facility	24	5000	3	6	4	5	63	4
1015	3	AZ	102, 3010	Douglas - Expansion and Modernization	23	90,000	2	7	4	4	60	5
1005	1	AZ		San Luis I - Outbound Technology Project	12	50	5	4	5	6	56	6
1016	3	AZ	3009	Douglas - Non-Commerical Port Reconfiguration	17	80,000	2	7	4	4	55	7
1006	1	AZ		San Luis I - SENTRI Secondary Inspection Area	12	350	4	4	6	6	55	8
1007	1	AZ	3003	San Luis I - Expansion and Modernization	21	80,000	2	5	4	5	54	9
1008	1	AZ	3003	San Luis I - Outbound Inspection Infrastructure	13	750	3	5	5	6	54	10
1009	1	AZ		San Luis I - Primary Booth Replacement Project	12	450	4	4	4	6	52	11
1011	2	AZ	108, 2005, 3006	Nogales Area (east) - New LPOE	31	100,000	2	5	1	1	51	12
1012	2	AZ		DeConcini - Repatriation Consolidation	9	1,000	0	5	4	3	35	13
1017	3	AZ	102, 1016, 3008	Douglas - New Commercial Port Facility	10	35,000	1	3	3	3	31	14
1013	2	AZ	2006, 3007	Nogales Area (west) - New Rail LPOE	8	5,000	2	4	1	1	28	15
1010	1	AZ	2001, 3002	San Luis II - New Rail LPOE	5	5,000	2	4	1	1	26	16
1014	3	AZ	2008, 3011	Naco - New Rail LPOE	5	5,000	2	4	1	1	26	17

Note: There are no projects at this time for Lukeville, Sasabe, Mariposa or Morley Gate. Projects 1001 (San Luis I – SENTRI Primary Booth) and 1006 (San Luis I – SENTRI Secondary Inspection Area), though defined separately, must be completed together to maximize the efficiency of SENTRI operations.

ARIZONA-SONORA BORDER MASTER PLAN



Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement								
1	1	AZ		Archibald Street and First Avenue	C Street to Urtuzuastegui Street	Convert to One-Way Couplet & construct bus pullouts	8	5000	2	8	5	8	81	1
2	1	AZ		Main Street Project	Hwy 95 from A St to Juan Sanchez Blvd	Design & Construction	6	1040	3	7	5	8	77	2
60	2	AZ		I-19 Interchanges	At SR 289/Ruby Road	Interchange Upgrades: Round-a-bout	11	3000	2	6	2	6	75	3
61	2	AZ	66,67,69, 73,76	SR 189/Mariposa Road	Nogales Mariposa LPOE to I-19	Roadway widening to 6 lanes and improve intersections	9	46500	2	6	3	8	74	4
3	1	AZ	4	Juan Sanchez Blvd	10 th Avenue to Avenue E.	Widen to 5 lanes, Unspecified Improvements	8	15000	3	5	4	7	74	5
62	2	AZ		Pedestrian Staging Area	On Arizona Side of international border near Mariposa LPOE (SR 189 just north of border)	Construct new facility	10	1000	1	5	5	8	74	6
4	1	AZ	3	Juan Sanchez Boulevard	10 th Avenue to US-95	Widening, Unspecified Improvements	8	12000	2	6	4	8	73	7
63	2	AZ	64,68,84	Crawford Street	At UPRR - Nogales	Pedestrian Overpass	9	5000	1	7	3	8	72	8
101	3	AZ		Chino Road Realignment	Douglas	Realign at intersection of SR 80 and US-191 and update to ADOT standards	7	1000	3	4	5	7	70	9
64	2	AZ	63,68,84	New Pedestrian Bridge	South of Court Street	Construct new pedestrian bridge across the railroad	8	1000	1	7	3	8	69	10
65	2	AZ		Ruby Road	At UPRR	Vehicular Overpass	9	7800	2	6	3	4	67	11
66	2	AZ	61,67,69, 73,76	SR 189 / Mariposa Road	Grand Avenue to I-19	Design and Reconstruct to 6-lane roadway	6	3500	3	6	3	6	67	12
102	3	AZ	1017, 3008	Chino Road Extension Project	Extension Project in City of Douglas	Extension Project in City of Douglas	9	2000	1	5	4	7	67	13
5	1	AZ	1004, 3012, 4001	Avenue E.	San Luis II LPOE at Arizona-Sonora border to SR 195/ASH	Widening to 4 lanes	9	13125	2	3	4	7	66	14

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement								
67	2	AZ	61,66,69, 73,76	SR 189/Mariposa Road	Grand Avenue Intersection	Capacity improvements	9	4200	1	6	3	6	66	15
68	2	AZ	63,64,84	New Pedestrian Bridge	Between Pimeria Alta Historical Society and Gazebo/Karam Park	Construct new pedestrian bridge across the railroad	8	1200	1	7	3	6	66	16
103	3	AZ		Naco Highway	Local road from LPOE not connected to State Highway System; including intersection improvements	Update to ADOT standards	6	20000	2	6	3	8	65	17
69	2	AZ	61,66,67, 73,76	SR 189/Mariposa Road	I-19 interchange: dual eastbound left turn lanes and associated mainline improvements	Capacity improvements	8	5000	2	5	4	5	65	18
6	1	AZ	18	56 th Street	SR 195 / ASH to Avenue 13E	Widening	8	37300	3	5	3	3	65	19
70	2	AZ		I-19	I-19 Bus Terminus to West Street	Capacity improvements	6	1170	3	5	2	7	64	20
71	2	AZ		New Bridge	Near Nogales Public Library	Construct new roadway bridge across the railroad	7	7000	1	6	3	8	63	21
72	2	AZ		W. Frontage Road	Calle Calabasas to Yavapai Drive	Extension of Frontage Road	8	4900	2	5	3	5	63	22
73	2	AZ	61,66,67, 69,76	SR 189/Mariposa Road	Frank Reed Road intersection	Capacity improvements	8	10450	1	6	3	6	63	23
74	2	AZ		New Bridge	Near future extension of Roper Road	Construct new roadway bridge across the railroad	8	12000	1	6	3	6	63	24
104	3	AZ		US-191	Between Douglas and I-10 (portion within focus area)	Widening and access management to accommodate truck volumes	7	67500	3	4	3	5	62	25
7	1	AZ		US-95	Avenue 9 E. to Aberdeen Road	Widening, Construct Bridge of Fortuna Wash	8	83600	3	4	5	1	62	26
8	1	AZ		Avenue 3 E.	US-95 to I-8	Widening	6	1000	3	6	4	2	62	27
75	2	AZ		I-19	Tumacacori TI to SR 189/Mariposa Road	Capacity improvements	9	529000	2	4	2	5	61	28
76	2	AZ	61,66,67, 69,73	SR 189/Mariposa Road	I-19 interchange: flyover	Capacity improvements	9	25100	1	5	3	5	61	29

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
59	1	AZ		SR 85	Lukeville LPOE	Widen port of entry approach to 5 lanes	8	1000	2	3	3	7	61	30
77	2	AZ	67	Grand Avenue/Arroyo Boulevard	I-19 to DeConcini LPOE	Capacity improvements	5	15850	3	5	2	7	61	31
9	1	AZ		Bridge Replacement	South Gila Canal at Avenue 7E	Construction	5	150	3	6	5	2	61	32
78	2	AZ		Transit Center in the Downtown Area	To serve the DeConcini and Morley Gate LPOEs with bus route connecting to Mariposa LPOE	Construct new facility	7	2500	1	5	2	9	60	33
10	1	AZ		Fortuna Rd	40th to 48th	New Construction 4 lane Arterial	9	5000	3	3	3	2	60	34
11	1	AZ		40th Street	Fortuna Wash to Avenue 15 E.	New Construction 4 lane Arterial	8	8000	3	4	3	2	60	35
12	1	AZ	13	I-8	Giss Parkway to Avenue 9 E. (Yuma) – 10 Mi.	Widen roadway to 6 lanes	8	75000	3	4	3	2	60	36
13	1	AZ	12	I-8	Avenue 9 E. to Foothills Blvd (Yuma) – 4 Mi.	Widen roadway to 6 lanes	8	30000	3	4	3	2	60	37
14	1	AZ		56th Street	S. Avenue 10 E. to Foothills	New Construction 4 lane Arterial	9	15000	2	4	3	3	60	38
106	3	AZ		Davis Road	Reconstruction	Reconstruction	6	3000	3	5	4	2	59	39
79	2	AZ		Ruby Road	New Roadway to I-19	Design and Construct to 4 lane Section	8	2000	3	3	2	4	59	40
15	1	AZ		Yuma Expressway	Avenue D: I-8 to W. County 14 th Street and W. 14 th Street: Avenue D to Avenue 15E – 18 mi.	New roadway	8	111000	3	3	3	2	57	41
16	1	AZ		Avenue E.	SR 195/ASH to County 19 th Street	Construct 2 lanes	7	9000	3	2	3	5	57	42
80	2	AZ		I-19 Interchanges	At Rio Rico Drive	Interchange Upgrades	8	3000	2	4	2	4	57	43
81	2	AZ		I-19 Frontage Roads	Grand Avenue TI to Rio Rico Drive TI	Capacity improvements	6	29375	2	6	2	4	56	44
17	1	AZ		16th Street (US-95)	Arizona Avenue to 6th Avenue	Widening	8	7236	2	5	2	2	56	45
18	1	AZ	6	56th Street	Foothills to S. Avenue 15	Widening 2-4 lanes	7	9000	3	4	3	1	55	46
19	1	AZ		32 nd Street	Avenue 5 E. to Avenue 8 ½ E.	Widening	6	10500	3	5	2	2	55	47

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
20	1	AZ		County 22 nd Street	10 th Avenue to Avenue E.½	Construct 2 lanes	7	7000	3	2	3	4	55	48
82	2	AZ		Western Avenue	Grand Avenue to I-19	Capacity improvements	5	3800	3	4	2	5	54	49
83	2	AZ		Grand Avenue	Old Tucson Road intersection	Capacity improvements	5	525	3	4	2	5	54	50
21	1	AZ		Avenue 12 E.	North of 40th Street	Widening 2-4 lanes	7	2250	3	3	3	2	54	51
84	2	AZ	63,64,68	Public Library Vicinity	At UPRR - Nogales	Pedestrian Overpass	8	12100	1	3	2	7	54	52
22	1	AZ		Bridge Replacement	Co. 19th Street (F1/2) Main Drain	Design and Construction	6	940	1	6	5	2	54	53
85	2	AZ		Yavapai Drive	Rio Rico Drive to W. Frontage Road	Capacity improvements	7	5300	3	4	2	1	53	54
86	2	AZ		I-19 Frontage Road	Western Avenue to Rio Rico Drive	Corridor Study, Design and Construct	6	21000	1	6	2	5	53	55
87	2	AZ		I-19 Interchanges	At Western Avenue	Interchange Upgrades	7	3000	1	3	3	7	53	56
23	1	AZ		S. Avenue 14	Wash to wash	New Construction 2 Lane collector	7	2200	3	3	3	1	52	57
24	1	AZ		Avenue 15 E.	South Frontage Road to 56th Street	Widening 2-4 lanes	7	10350	3	3	3	1	52	58
25	1	AZ		Foothills Boulevard	North of 28th Street	New Construction 2 Lane collector	7	500	3	3	2	2	52	59
26	1	AZ		48th Street	Fortuna to S. Avenue 15 E.	New 2 lane, Widening 2-4 lanes	9	19880	2	3	2	1	51	60
27	1	AZ		4th Avenue Widening & Improvements	4th Avenue; 32nd Street to 40th Street	Widening: Construction	5	742	3	4	4	1	51	61
108	2	AZ	1011, 3006, 4008	New Roadway	Connecting SR-82 to the proposed LPOE east of Nogales (Puerta de Anza)	Construct 2 lanes	7	6000	2	2	1	7	51	62
28	1	AZ		Araby Road (SR 195)	I-8 to US-95	Widening	6	4650	3	3	3	2	51	63
29	1	AZ		40th Street	Over Fortuna Wash	New Bridge	9	6000	1	4	2	2	51	64
30	1	AZ		I-8 North and South Frontage Road	Avenue 9 E. to Avenue 13 E.	Widening	5	11722	3	3	5	1	50	65
31	1	AZ		Fortuna	48th to 56th	New Construction 4 lane Arterial	8	5000	2	3	3	1	50	66
32	1	AZ		28th	Foothills to S. Avenue 15	New Construction 4 lane Arterial	8	6250	2	3	3	1	50	67

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
33	1	AZ		48th Street	S. Avenue 10 E. to Fortuna	New Construction 4 lane Arterial	8	5000	2	3	3	1	50	68
88	2	AZ		I-19	At Grand Avenue interchange	Capacity improvements	7	22550	1	4	2	5	50	69
34	1	AZ		New Roadway - County 24th Street	10 th Avenue to Avenue F	Construct 2 lanes	6	5600	1	3	3	7	50	70
35	1	AZ		I-8	I-8 and Araby Road (Yuma)	Reconstruct Interchange	8	14000	1	4	3	2	50	71
107	3	AZ		E. 3rd Street Extension Project	E. 3rd Street from Pan American Avenue to Chino Rd		6	848	1	2	5	6	49	72
36	1	AZ		US-95	FORTUNA WASH BRIDGE	Construct New Bridge	8	13500	1	3	5	1	49	73
89	2	AZ		Grand Avenue	Country Club Drive intersection	Capacity improvements	5	1050	2	4	2	5	49	74
37	1	AZ		S. Avenue 10 E.	Frontage to 40th	New 2 lane, Widening 2-4 lanes	7	5000	2	3	3	2	49	75
90	2	AZ		SR 82	Grand Avenue to Thelma Street	Capacity improvements	5	12150	1	5	2	6	49	76
38	1	AZ		I-8 and S. Avenue 15 E.	EB and WB	New TI	9	25000	1	3	3	1	48	77
39	1	AZ		40th Street	S. Avenue 10 E. to Fortuna	Widening 2-4 lanes	6	4500	2	5	2	1	48	78
91	2	AZ		E.-W. interconnector	SR 189 to SR 82	Corridor Study, Design and Construct	7	1000	1	3	2	5	48	79
40	1	AZ		24th Street	Fortuna to Camino Del Sol	New 2 lane, Widening 2-4 lanes	7	5000	2	3	3	1	47	80
41	1	AZ		S. Avenue 10 E.	40th to 56th	New Construction 4 lane Arterial	7	10000	2	3	3	1	47	81
42	1	AZ		S. East Avenue 12	48th to 56th	New Construction 4 lane Arterial	7	5000	2	3	3	1	47	82
43	1	AZ		S. Avenue 15 E.	North of I-8	New Construction 4 lane Arterial	7	7000	2	3	3	1	47	83
44	1	AZ		24th Street	Camino Del Sol to 28th	New Construction 4 lane Arterial	7	6250	2	3	3	1	47	84
45	1	AZ		S. Avenue 15E (3 Bridge Locations)	North of I-8	New Bridge	7	12000	1	4	3	2	47	85
46	1	AZ		6 th Avenue	Union Street to County 22 nd Street	Construct 2 lanes	6	1050	2	2	3	4	47	86
47	1	AZ		North Frontage Road	Avenue 10 E. to Avenue 15 E.	Widen 2-3 lanes	5	21750	3	3	3	1	46	87
48	1	AZ		South Frontage Road	Avenue 10 E. to Avenue 15 E.	Widen 2-3 lanes	5	21750	3	3	3	1	46	88

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
92	2	AZ		Morely Avenue	Banks Bridge to Park Street, Nogales	Capacity improvements	4	3570	2	4	2	5	46	89
49	1	AZ		Interchange	SR 195 and City 32 nd Street	SPUI	7	25000	1	4	2	2	45	90
50	1	AZ		10 th Avenue	County 19 th Street to County 22 nd Street	Construct 2 lanes	6	13200	1	3	3	4	45	91
93	2	AZ		Bankerd Avenue	Doe Street to Morley Avenue	Capacity improvements	5	1800	2	3	2	4	45	92
51	1	AZ		S. East Avenue 12E	40th to 48th	New 2 lane widening 2-4 lanes	7	6500	2	2	3	1	45	93
52	1	AZ		Fortuna Road	28th Street to 24th Street	Widening 3-4 lanes	5	1200	3	3	2	1	44	94
94	2	AZ		Doe Street	Grand Avenue to Bankerd Avenue	Capacity improvements	5	1130	1	4	2	5	44	95
95	2	AZ		Industrial Drive Loop	Nogales	Capacity improvements	5	7000	1	4	2	5	44	96
53	1	AZ		Foothills	S. of 48th	Widening 2-4 lanes	5	1130	2	4	3	1	44	97
54	1	AZ		Avenue 5 E. & Interchange	16th Street to 56th Street	Widening and Grade Separation at I-8, New Single-Point Urban Interchange (SPUI)	8	51500	1	3	2	1	43	98
96	2	AZ		Old Tucson Road	Grand Avenue to Frontage Road	Design and Reconstruct to 5 Lanes	5	17250	2	3	3	2	43	99
97	2	AZ		E.-W. Route	SR 189 / Mariposa Road to Grande Avenue (east of I-19 interchange)	New roadway	7	6200	1	2	2	4	43	100
55	1	AZ		28th	Foothills to S. Avenue 15	Widening 2-4 lanes	5	3380	2	4	2	1	42	101
98	2	AZ		SR 289 Interconnector (Ruby Road)	New N.-S. Interconnector to SR 82	Corridor Study to preserve roadway alignment, Design and Construct	7	56000	1	3	2	2	42	102
105	3	AZ		SR 80	Bridge Rehabilitations: Structures 54-57 and 64-70 located between mile markers 371.98 and 395.26	Bridge Rehabilitations	5	1980	1	3	3	4	42	103
56	1	AZ		Foothills Boulevard	50th Street to 56th Street	Widening 2-4 lanes	5	3380	2	3	3	1	41	104
57	1	AZ		S. Avenue 14E (1 Bridge Location)	Over Fortuna Wash	New Bridge	6	4000	1	3	3	1	39	105

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Table 8.3 Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank
Max Point Value							12	-	3	8	5	9	100	Out of 108
58	1	AZ		E. 28 Street (3 Bridge Locations)	West of S. Avenue 15E	New Bridge	6	12000	1	3	3	1	39	106
99	2	AZ		Calle Sonora	At N. Hohokam Drive - Nogales	Widen roadway & bridge; improve intersection	4	5300	1	3	2	4	37	107
100	2	AZ		Pendleton Drive	Rio Rico Drive to Palo Parado Drive	Roadway reconstruction	4	42500	1	4	3	1	36	108

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Table 8.4 Evaluation of Arizona Rail Projects

					Capacity/Congestion Total Points	Estimated Project Cost	Cost Effectiveness Total Points	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Arizona Rail Overall Ranking
Max Point Value					11	-	3	8	5	5	100	Out of 8
ID	Zone	State	Linked Project	Rail Project Description								
2003	2	AZ		Build second line (track)/Nogales Branch (MP 65 to border)	9	\$3-7m/mi +/-	3	4	5	5	82	1
2004	2	AZ		Upgrade Nogales Branch (to accommodate heavier vehicles)	6	\$3-7m/mi +/-	3	5	5	5	75	2
2005	2	AZ	1011, 3006	New rail corridor/Puerta de Anza (east side of Nogales)	8	\$15m/mi +/-	2	4	2	5	68	3
2006	2	AZ	1013, 3007	New rail corridor/west side of Nogales	8	\$15m/mi +/-	2	4	1	5	66	4
2001	1	AZ	1010, 3002	New rail corridor/through San Luis II LPOE	9	\$15m/mi +/-	1	2	1	4	55	5
2008	3	AZ	1014, 3011	Rehab and new rail/Benson or Curtiss to Naco LPOE	7	\$15m/mi +/-	2	3	3	2	54	6
2007	2	AZ		Passenger rail service/Nogales to Tucson	7	\$15m/mi +/-	1	6	1	2	54	7
2002	1	AZ		Rehab and new rail/Gila Bend to Lukeville LPOE	7	\$15m/mi +/-	1	2	1	2	42	8

Notes:

Rail corridors are conceptual. Projects 2005 and 2006 (Nogales bypasses) are assumed to be additional corridors, not a replacement for the existing rail line.
 Projects 2003 & 2004 are planned UPRR (Private Investment) Projects.

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Table 8.5 Evaluation of Sonoran Port of Entry Projects

						Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of project vs. projected demand for improvement	Regional Benefit Total Points	Project Readiness Total Points	Binational Coord. Total Points	Weighted Combined Score	Sonoran LPOE Overall Rank
Max Point Value						47	-	5	7	7	7	100	Out of 12
ID	Zone	State	Linked Project	LPOE Project Description	Proposed Improvement								
3003	1	SON	1007, 1008, 4003, 4004, 4005	San Luis Rio Colorado I - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of passenger vehicles and pedestrians.	18	4,000	5	7	6	6	72	1
3012	1	SON	5, 1004, 4001	San Luis II - POV/Ped Processing	Expansion of the existing San Luis Rio Colorado II commercial LPOE to accommodate passenger vehicles and pedestrians.	22	500	5	6	4	5	67	2
3004	2	SON		Nogales III (adjacent to Mariposa LPOE)- Expansion and Modernization	Reconfiguration of the existing LPOE facility immediately adjacent to the border to improve southbound processing of passenger vehicles and pedestrians.	16	4,000	4	6	5	7	64	3
3010	3	SON	1015	Agua Prieta - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Would negate the need for projects 3008 and 3009.	21	3,000	4	6	4	5	63	4
3001	2	SON	4006	Sonoyta - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Also includes additional queuing capacity for northbound traffic to coincide with improvements at Lukeville, AZ.	16	5,500	3	6	5	7	61	5
3009	3	SON	1016, 1017, 3008	Agua Prieta - Non-Commercial Port Reconfiguration	Reconfiguration of the existing LPOE. Assumes relocation of commercial vehicle processing to a new commercial port (Project ID 3008).	15	2,500	4	7	4	5	61	6

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Table 8.5 Evaluation of Sonoran Port of Entry Projects

						Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of project vs. projected demand for improvement	Regional Benefit Total Points	Project Readiness Total Points	Binational Coord. Total Points	Weighted Combined Score	Sonoran LPOE Overall Rank
Max Point Value						47	-	5	7	7	7	100	Out of 12
ID	Zone	State	Linked Project	LPOE Project Description	Proposed Improvement								
3005	2	SON		Nogales III - New Customs Processing Facility for Commercial Vehicles	Construction of a new LPOE facility 1.25 miles south of the border to improve northbound and southbound processing of primarily Maquiladora industry commercial vehicles.	12	6,000	3	5	5	7	55	7
3006	2	SON	108, 1011, 2005, 4008	Nogales Area (east) - New LPOE	Construction of a potential LPOE to coincide with the development at Puerta de Anza. Assumes accomodation of commercial vehicles, passenger vehicles, pedestrians, and rail.	31	7,000	3	5	1	1	54	8
3008	3	SON	102, 1017	Agua Prieta - New Commercial Port Facility(*)	Construction of a new commercial LPOE to compliment the proposed new commercial LPOE in Douglas, AZ. Assumes relocation of current commercial vehicle inspections in Agua Prieta.	6	2,000	1	4	4	5	36	9
3007	2	SON	1013, 2006	Nogales Area (west) - New Rail LPOE	Construction of a potential Rail LPOE to accommodate potential future rail line in the greater Nogales, AZ area connecting to the UPRR.	8	2,000	4	4	1	1	34	10
3002	1	SON	1010, 2001	San Luis Rio Colorado II - New Rail LPOE	Construction of a potential Rail LPOE to accommodate a potential future rail line in the greater Yuma, AZ area connecting to the UPRR.	5	2,000	2	4	1	1	26	11
3011	3	SON	1014, 2008	Naco - New Rail LPOE	Construction of a potential Rail LPOE to accommodate a potential future rail line in Naco, AZ area connecting to the UPRR.	5	2,000	2	4	1	1	26	12

Note: (*) This facility can be constructed at the current LPOE location west of its current location.

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Table 8.6 Evaluation of Sonoran Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Estimated Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Sonora MIMI Overall Ranking
Max Point Value							12	-	3	8	5	9	100	Out of 19
ID	Zone	State	Linked Projects	Facility	Project Description/Extent	Proposed Improvement								
4001	1	SON	5, 1004, 3012, 4002	San Luis Rio Colorado Loop Phase I	Bypass closely spaced signals in urbanized area of Mexico Federal Highway 2 to accommodate a more efficient movement of trucks	Upgrade, shoulder & safety improvements to 7 miles of existing two lane roadway to Type A2 per SCT standards	6	1,200	3	5	5	7	70	1
4006	1	SON	3001	Mexico Federal Route 8	Sonoyta LPOE to Mexico Federal Route 2	Upgrade 2 miles of existing roadway and construct four reversible through lanes and two lanes for local access	7	3,000	1	7	4	8	68	2
4017	3	SON		Saric Sasabe Highway	Construct improved connection between Saric and Sasabe, Sonora	Construct 31 miles of two lane roadway to Type C per SCT standards, including 12 bridges	5	12,000	3	4	4	7	62	3
4018	3	SON		Altar-Sasabe Highway	Construct improved connection between Altar and Sasabe, Sonora	Construct 50 miles of two lane roadway to Type C per SCT standards	5	14,000	3	4	4	7	62	4
4016	3	SON		Mexico Federal Route 2	Mexico Federal Route 2 Juarez-Cananea between Cananea-Agua Prieta	Upgrade 47 miles of existing two lane roadway and construct two additional lanes to Type A2 per SCT standards	5	58,000	2	5	5	7	62	5
4012	2	SON	4014	Nogales-Santa Cruz Highway	Construct improved connection between Nogales and Santa Cruz, Sonora	Construct 35 miles of two lane roadway to Type C per SCT standards	5	12,500	3	5	5	4	61	6
4004	1	SON	3003, 4003, 4005	San Luis Rio Colorado - First Street	LPOE to Madero Street	Conversion to pedestrian/bicycle facility only and construction of alternative mode overpass crossing Obregon Avenue (Mexico Federal Route 2)	6	500	1	6	3	8	60	7

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Table 8.6 Evaluation of Sonoran Multimodal Infrastructure Projects

							Capacity/ Congestion Total Points	Estimated Project Cost (In \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Sonora MMI Overall Ranking
Max Point Value							12	-	3	8	5	9	100	Out of 19
ID	Zone	State	Linked Projects	Facility	Project Description/Extent	Proposed Improvement								
4011	2	SON		Mexico Federal Route 15 Guaymas-Hermosillo	Mexico Federal Route 15 Guaymas- Hermosillo	Upgrade 25 miles of existing four lane roadway, shoulder & safety improvements to Type A2 per SCT standards	4	30,000	2	5	5	7	59	8
4010	2	SON		Traffic interchange and vehicular overpass Jesus Garcia	New traffic interchange and vehicular overpass at Plutarco Elias Calles Avenue, station Km 3+387 and confinement of ROW at 7+000 al 4+000	New traffic interchange and vehicular overpass at the Nogales-Guadalajara railroad facility	6	7,500	1	7	4	4	58	9
4002	1	SON	4001	San Luis Rio Colorado Loop Phase II	Bypass closely spaced signals in urbanized area of Mexico Federal Highway 2 to accommodate a more efficient movement of trucks	Construct 7 miles of new two lane roadway to Type A2 per SCT standards	7	9,100	2	4	4	4	58	10
4008	2	SON	108, 3006, 4014	East Bypass of the Municipality of Nogales, Sonora	New bypass east of Nogales, Sonora	New two lane bypass connecting Mexico Federal Highway 15 with Blvd. Madre Sierra Occidental east of the city	7	6,000	2	4	4	4	58	11
4019	3	SON		Agua Prieta-Ejido Morelos Highway, Bavispe Highway	Construct improved connection between Agua Prieta and Ejido Morelos, Sonora	Construct 71 miles of two lane roadway to Type C per SCT standards	5	15,000	3	4	3	5	56	12
4013	2	SON		Nogales-Saric Highway	Construct improved connection between Nogales and Saric, Sonora	Construct 16 miles of two lane roadway to Type C per SCT standards	5	8,000	3	5	4	2	56	13
4014	2	SON	4008, 4012	Nogales East Loop / Nogales- Santa Cruz Highway Traffic Interchange	Construct new traffic interchange	Convert at-grade intersection to provide new traffic interchange	6	7,500	1	5	5	4	54	14
4009	2	SON		Vehicular Overpass Los Nogales	Construction of new vehicular overpass at Los Nogales at the	New overpass at the Nogales- Guadalajara railroad facility	5	3,300	1	6	4	4	52	15

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Table 8.6 Evaluation of Sonoran Multimodal Infrastructure Projects

							Capacity/Congestion Total Points	Estimated Project Cost (In \$1,000s)	Cost of Project vs. Projected Demand	Regional Benefit Total Points	Project Readiness Total Points	LPOE Connectivity Total Points	Weighted Combined Score	Sonora MMI Overall Ranking
Max Point Value							12	-	3	8	5	9	100	Out of 19
ID	Zone	State	Linked Projects	Facility	Project Description/Extent	Proposed Improvement								
					railroad crossing, station Km 7+752									
4003	1	SON	3003, 4004, 4005	San Luis Rio Colorado - Morales Street	LPOE to Madero Street	Conversion to one-way operation and construction of bridge over Obregon Avenue (Mexico Federal Route 2)	5	3,300	1	4	3	8	52	16
4005	1	SON	3003, 4003, 4004	San Luis Rio Colorado - Second Street	LPOE to Madero Street	Conversion to one-way operation and construction of vehicular overpass crossing Obregon Avenue (Mexico Federal Route 2)	5	3,300	1	4	3	8	52	17
4015	3	SON		Mexico Federal Route 2	Mexico Federal Route 2 Cananea- Magdalena de Kino between Imuris- Cananea	Upgrade 45 miles of existing two lane roadway and construct two additional lanes to Type A2 per SCT standards	5	80,000	1	5	4	2	46	18
4007	1	SON		Mexico Federal Route 2	Mexico Federal Route 2 Magdalena de Kino-San Luis Rio Colorado between San Luis Rio Colorado- Sonoyta	Upgrade 26 miles of existing two lane roadway to Type A2 per SCT standards	5	95,000	1	5	4	2	46	19



8.6 COORDINATED LPOE PROJECT SCORING

At the final PAC/TWG meeting, attendees discussed the need to coordinate varying LPOE project priorities in Arizona and Sonora. A review of the proposed projects on both sides of the border indicated that several of the projects in Arizona and Sonora required coordinated implementation timeframes. Others, particularly in Arizona, were considered “low-cost, high-impact” projects that could be implemented without a corresponding project in Sonora.

For those projects requiring coordinated implementation timelines, a combined LPOE project score was developed. The results of this combined scoring are summarized in Table 8.7. The combined project score is derived as a sum of the individual project score for the corresponding Arizona and Sonora LPOE projects.

Table 8.7 Evaluation of Combined LPOE Projects

Zone	Arizona LPOE Projects			Sonoran LPOE Projects			Combined Project Score
	ID	LPOE Project Description	Project Score*	ID	LPOE Project Description	Project Score*	
2	n/a	Completed Project - Expansion and Modernization of Mariposa LPOE	100	3004	Nogales III (adjacent to Mariposa LPOE)- Expansion and Modernization	64	164
2	n/a	Completed Project - Expansion and Modernization of Lukeville LPOE	100	3001	Sonoyta - Expansion and Modernization	61	161
2	n/a	Completed Project - Expansion and Modernization of Mariposa LPOE	100	3005	Nogales III - New Customs Processing Facility for Commercial Vehicles	55	155
1	1004	San Luis II - POV / Pedestrian Processing Facility	63	3012	San Luis II - POV/Pedestrian Processing	67	130
1	1007	San Luis I - Expansion and Modernization	54	3003	San Luis Rio Colorado I - Expansion and Modernization	72	126
3	1015	Douglas - Expansion and Modernization	60	3010	Agua Prieta - Expansion and Modernization	63	124
3	1016	Douglas - Non-Commercial Port Reconfiguration	55	3009	Agua Prieta - Non-Commercial Port Reconfiguration	61	117
2	1011	Nogales Area (east) - New LPOE	51	3006	Nogales Area (east) - New LPOE	54	105
3	1017	Douglas - New Commercial Port Facility	31	3008	Agua Prieta - New Commercial Port Facility(*)	36	66
2	1013	Nogales Area (west) - New Rail LPOE	28	3007	Nogales Area (west) - New Rail LPOE	34	62
1	1010	San Luis II - New Rail LPOE	26	3002	San Luis Rio Colorado II - New Rail LPOE	26	51
3	1014	Naco - New Rail LPOE	26	3011	Naco - New Rail LPOE	26	51

Note:

* Projects already completed that are linked to a proposed project are included in the table for reference and assigned a maximum project score of 100 points.

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As noted in Table 8.7, some of the proposed Sonoran LPOE projects coincide with projects already completed at their corresponding Arizona LPOE, specifically Mariposa and Lukeville. Since the Arizona projects are complete, they were awarded the maximum available project score of 100 points.

The results of this combined LPOE project scoring process indicate that the highest priority LPOE projects are those Sonoran projects to be constructed in response to recent improvements at the Mariposa and Lukeville LPOEs (Zone 2).

The next group of priority projects is in Zone 1, the San Luis Area, with the modification of the San Luis II ports (IDs 1004 and 3012) in Arizona and Sonora receiving the highest score. The modification would consist of construction of additional facilities to process POVs and pedestrians. The expansion and modernization of San Luis I (ID 1007) and San Luis Rio Colorado I (ID 3003) scored slightly lower. It is worth noting that should the proposed improvements to San Luis II occur in both Arizona and Sonora, it would likely alter the current POV and pedestrian demand at San Luis I/San Luis Rio Colorado I LPOE. This change in demand may impact the overall scope and composition, prevailing need, relative scoring, and/or timing for improvements at San Luis I/San Luis Rio Colorado I.

In Zone 3, the Douglas/Agua Prieta area, the highest scoring project consists of the complete expansion and modernization of the existing LPOE (IDs 1015 and 3010) which serves all travel modes. Based on the combined project scores, this project more effectively meets the scoring criteria identified by the PAC and TWG than the separate projects to construct a new commercial vehicle LPOE and subsequently reconfigure the existing LPOE for POVs and pedestrians. Should this expansion and modernization project be constructed, the separate commercial LPOE and POV/pedestrian improvement projects would no longer be required.

Of all the projects, the potential new LPOEs generally received the lowest scores. These projects are primarily intended to serve a future demand that could result from conceptual land development or conceptual rail projects and, therefore, are considered the lowest priority.

In summary, the study team is confident that the collaborative effort involved in the scoring process has yielded logical rating results. It is important to note however, that the actual execution of projects may follow a slightly different order due to political, budgeting or other reasons.



9.0 ASSESSMENT OF HISTORIC AND CURRENT U.S./MEXICO BORDER TRANSPORTATION INFRASTRUCTURE FUNDING

Transportation infrastructure along the U.S./Mexico border is crucial to the economy of both nations and the vitality of Border States. Public and private investment in the construction, maintenance, and operation of roads, rail lines, and LPOEs are key factors in enhancing international trade and regional economies. This chapter provides a historical review of border infrastructure funding and a description of current funding sources (refer also to Appendix F) used to build and maintain transportation infrastructure within the Arizona-Sonora border region. There is sparse information on project maintenance, but limited federal (both U.S. and Mexico) sources have been identified that provide a brief perspective on the availability and application of post-construction project funds. Public, private, and public-private partnerships (P3) funding sources currently available (both utilized and not utilized) have been identified.

9.1 FUNDING SOURCES – UNITED STATES

This is a period of transition for funding, due to an uncertain global economy. Recently, the ability of stakeholders along the Arizona-Sonora border to sponsor and market infrastructure improvements has been diminished by the negative effects of a global recession and associated economic downturn. Federal funding for border infrastructure projects that mitigate congestion and improve freight circulation is less available, in part due to recent political realities that influence resource allocation.

9.1.1 HISTORICAL U.S. BORDER INFRASTRUCTURE FUNDING SOURCES

Prior to passage of Moving Ahead for Progress in the 21st Century (MAP-21) in 2012, targeted funding was available for infrastructure projects in the border region. CORBOR was established under the Transportation Equity Act for the 21st Century (TEA-21) in 1998, and included two programs: the Coordinated Border Infrastructure (CBI) Program and the National Corridor Planning and Development Program (NCPD).

As described in a TEA-21 fact sheet, “The purpose of the National Corridor Planning and Development Program is to provide allocations to States and metropolitan planning organizations for coordinated planning, design, and construction of corridors of national



significance, economic growth, and international or interregional trade [1118(a)]. The purpose of the Coordinated Border Infrastructure Program is to improve the safe movement of people and goods at or across the border between the United States and Canada and the border between the United States and Mexico [1119(a)].¹ According to an article describing the CORBOR program, “The NCPD program provided funds for the planning, design, construction and related activities of projects for 43 corridors identified by Congress in legislation passed in 1991, 1993, 1995, and 1998 (TEA-21) and of projects related to some additional corridors. Some of these corridors were interstate freeways that require limited improvements. Others were undivided two- or four-lane highways that require coordinated upgrading. Others were proposed highways that are in various stages of development.”²

The CBI program was continued after August 2005 under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); the NCPD program was not. Under SAFETEA-LU and the 2010 extension act, CBI funds were apportioned annually to Border States, by statutory formula. CBI program funding was an important prototype of targeted funding for the border region. Local MPOs were allowed to apply CBI funding for border area projects. For example, the YMPO includes six projects in its FY 2011-2016 Transportation Improvement Program (TIP). SEAGO has identified two projects to be funded by CBI in their current (2012-2016) TIP. For the period October 1, 2011 through March 31, 2012, about \$97,270,000 was apportioned to the CBI program. Approximately \$4,700,000 (or 4.8%) was distributed to the State of Arizona.³

The loss of this dedicated funding source (it was not continued as a separate program under MAP-21) will require Border States to compete for funding allocated to non-border projects for the project funding that previously was funded through this source. In Arizona, CBI funding was the major funding source for several projects associated with the Arizona-Sonora border. Over the past several years examples of funded projects include: construction of the San Luis

¹ <http://www.fhwa.dot.gov/tea21/factsheets/border.htm>

² Martin Weiss and David Smith, “CORBOR improves safety ,mobility, and productivity – Corridors and Borders Program of the Federal Highway Administration” in Public Roads, Sept-Oct 1999, Vol 63, No. 2.

³ USDOT/FHWA Notice: Apportionment of Funds for the Period beginning on October 1, 2011 and ending on March 31, 2012 pursuant to the Surface Transportation Extension Act of 2011, Part II, October 5, 2011.



ADOT Safety Inspection Facility, several roadway projects associated with LPOEs, U.S. 195, SR 189 spot improvements, and development of this Arizona-Sonora BMP.

Appendix F provides an annual breakdown of CBI appropriations nationally and in the State of Arizona. It also provides an itemization of funding allocations for each Arizona LPOE.

Another program that was relevant to improvements to transportation facilities serving the Arizona-Sonora border was the National Corridor Infrastructure Improvements (NCII) Program. This program provided funding from the Highway Trust Fund for highway construction projects in corridors of national significance.

Only one Arizona project was recently funded through this program: State Route 85 Upgrade with \$3 million in funding (FY 2005-2009). This program was ended as a result of MAP-21 and is no longer a stand-alone funding source.

9.1.2 CURRENT PUBLIC FUNDING SOURCES

There are three types of funding for border infrastructure activities: 1) federal money for LPOEs, primarily from the GSA building fund; 2) federal programs for transportation infrastructure, and 3) state funds. General descriptions of these funding sources are provided below.

LPOE FUNDING

The GSA Federal Building Fund comes from rental fee revenue on government-owned properties and facilities. These funds are available for necessary expenses of real property management and related activities, such as: new construction; repairs and alterations; installment acquisition payments, including payments on purchase contracts; office space rental; and building operations. LPOEs are partially funded by this source. In addition, the current expansion and modernization project at the Mariposa LPOE in Nogales was the beneficiary of a significant amount of funds obtained through provisions of the American Recovery and Reinvestment Act (ARRA).



FEDERAL PROGRAMS FOR TRANSPORTATION INFRASTRUCTURE

MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY (MAP-21)

As discussed previously, the CBI program was maintained for several years in the SAFETEA-LU legislation, but not continued as a separate program under the new transportation bill, MAP-21, signed by President Obama in July 2012. MAP-21 is a two-year, \$105-billion-dollar package to fund transportation projects.

The CBI program was consolidated with other programs under the Surface Transportation Program (Section 1108) in MAP-21. The specific referral in MAP-21 under 1108 is:

“(a) Eligible Projects- Section 133(b) of title 23, United States Code, is amended...(22) Border infrastructure projects eligible for funding under section 1303 of the SAFETEA-LU (23 U.S.C. 101 note; Public Law 109-59).

Section 1303 in SAFETEA-LU was the section on the CBI Program. Under MAP-21, projects eligible for then-CBI funding remain eligible, but funding for new projects will continue to be distributed by formula under Federal Surface Transportation Program (STP). As indicated in FHWA’s summary of MAP-21 funding programs: “Fifty percent of a State’s STP funds are to be distributed to areas based on population (suballocated), with the remainder to be used in any area of the State.” Under MAP-21, \$10 billion is allocated to the STP each of the two years. Arizona expects approximately \$186 million from the STP fund in 2013.⁴

Because MAP-21 is only a two-year program, stakeholder groups, such as the Border Trade Alliance, are hopeful that the CBI program will be reinstated in the next bill and that states receiving CBI funding spend the money in the border region.⁵

Alternatively, the Arizona Legislature should consider establishing a set-aside funding source for current and future border infrastructure projects. This would ensure that Arizona continues to benefit through capacity and policy improvements associated with these projects. If dedicated border project funding is limited, or relegated to competition with non-border projects, the States’ economies would be impacted because of the limitations of a less efficient border region.

⁴ http://www.azdot.gov/inside_adot/CRO/PDF/MAP-21-Presentation.pdf

⁵ <http://www.thebta.org/btaneews/trade-makes-some-gains-in-new-transportation-bill-but-long-term-plan-still-needed.html>



MAP-21 includes a number of provisions to address the national freight network and support investment in freight-related surface transportation projects. The U.S. Department of Transportation (USDOT) is directed in MAP-21 to develop a National Freight Strategic Plan, regularly report on the performance of the national freight network, and prioritize projects to improve freight movement. On a state and local level, USDOT encourages development of State freight advisory committees and ongoing planning for immediate and long-range freight investments. The performance of the freight network in the border region is critical to the overall connectivity and economic development objectives associated with Arizona-Sonora LPOEs.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) PROGRAMS

Federal funds support major transportation infrastructure projects in the United States. This includes FHWA funding for federal routes and federal aid to Arizona for routes in the National Highway System. All FHWA funding goes through ADOT in accordance with the FHWA and ADOT Stewardship and Oversight Agreement for Arizona.⁶ The FHWA Website provides a database of infrastructure funding sources.⁷ The following funding sources are described:

National Highway System Program

“The National Highway System (NHS) includes the Interstate Highway System (IHS) as well as other roads important to the nation's economy, defense, and mobility, including international border crossings. The NHS was developed by the U.S. Department of Transportation (USDOT) in cooperation with the states, local officials, and metropolitan planning organizations (MPOs).” The NHS “...is approximately 160,000 miles (256,000 kilometers) of roadway important to the nation's economy, defense, and mobility.” It was authorized in Congress through the National Highway System Designation Act of 1995.⁸ In Arizona, Interstate, U.S. Highways, and State Routes in the Area of Influence include (west-to-east): I-8, I-10, I-19, U.S. 191, SR 286, SR 295, SR 95, SR 92, SR 90, SR 85, SR 83, SR 82, SR 80, and SR 77. The description of the National Highway System Program on the FHWA Website also states:

⁶ <http://www.fhwa.dot.gov/federalaid/stewardship/agreements/az.cfm>

⁷ http://www.fhwa.dot.gov/federalaid/guide/guide_current.cfm

⁸ National Highway System Designation Act of 1995, [Pub.L. 104-59](#), 109 Stat. 568. The legislation designated about 160,955 miles (259,032 km) of roads throughout the U.S., including the Interstate Highway System (IHS), as the National Highway System (NHS).



“The program provides funding for improvements to rural and urban roads that are part of the NHS, including the Interstate System and designated connections to major intermodal terminals. Under certain circumstances, NHS funds may also be used to fund transit improvements in NHS corridors.

“NHS projects are funded by contract authority, to remain available for 4 years. Funds are subject to the overall Federal-aid obligation limitation.

“A State may transfer up to 50% of its NHS apportionment to its Interstate Maintenance, Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement, Highway Bridge Replacement and Rehabilitation, or Recreational Trails apportionment. Up to 100% may be transferred to the STP if approved by the Secretary and if sufficient notice and opportunity for public comment is given.

“The Federal share is generally 80 percent, subject to the sliding scale adjustment. When the funds are used for Interstate projects to add high occupancy vehicle or auxiliary lanes, but not other lanes, the Federal share may be 90 percent, also subject to the sliding scale adjustment. Certain safety improvements listed in 23 USC 120(c) have a Federal share of 100 percent.”⁹

Interstate Maintenance Program

The FHWA lists awards for Interstate Maintenance (IM) Program projects back to 1998. The Website identifies no IM-awarded projects to Arizona for Interstate projects within 100 miles of the Arizona-Sonora border since 1998.¹⁰ A list of other Federal funding sources is found in Appendix F of this report.

ARRA PROGRAM AND TIGER GRANTS

The American Recovery and Reinvestment Act of 2009, or ARRA, is an economic stimulus package that included direct spending on infrastructure and other projects. This legislation has resulted in funding for some projects in Arizona, but may not be continued or repeated; so, it is not necessarily a long-term funding source.

⁹ http://www.fhwa.dot.gov/federalaid/guide/guide_current.cfm

¹⁰ Interstate Maintenance Program, Federal Highway Administration (FHWA) at <http://www.fhwa.dot.gov/discretionary/immemos.cfm>.



Transportation Investment Generating Economic Recovery (TIGER) grants are a component of the ARRA disbursements. TIGER grants were awarded in fiscal years 2009, 2010, and 2011, pursuant to appropriations under ARRA. On June 22, the USDOT awarded nearly \$500 million from the TIGER 2012 program to 47 transportation projects in 34 states and the District of Columbia. In the FY 2009 to 2012 TIGER phases, only two grants were awarded in Arizona: \$63 million for Tucson’s modern streetcar project; and \$21.6 million for the I-10 Virgin River Gorge Bridge in Northwest Arizona. No TIGER grants have been awarded within either the project Focus Area or Area of Influence.

For a more detailed analysis of ARRA funding in the State of Arizona, see Appendix F.

STATE FUNDING SOURCES

SAFETY ENFORCEMENT AND TRANSPORTATION INFRASTRUCTURE FUND (SETIF)

In 1996, the Arizona Legislature codified the Joint Legislative Review Committee on Transportation between Sonora, Mexico, and Arizona. This action established the Safety Enforcement and Transportation Infrastructure Fund (SETIF) to ensure the safety of commercial vehicles entering Arizona in response to goals, objectives, and guidelines embodied in NAFTA. SETIF consists of motor carrier and permit fees collected at ports of entry on the border between Arizona and Sonora. Subject to legislative appropriation, SETIF monies may only be used for:

- Enforcement of vehicle safety requirements within 25 miles of the border between Arizona and Sonora.
- Maintenance of transportation facilities and upgrades of transportation facilities, including roads, streets, and highways within 25 miles of the Arizona-Sonora border.
- Maintenance and construction of transportation facilities in the CANAMEX high priority corridor as defined in §332 of the National Highway System Designation Act of 1995.

A review of Arizona State Transportation Improvement Programs (STIPs) show that SETIF funds were allocated for two border-related activities: construction of a portion of the new infrastructure improvements at the San Luis II LPOE in 2007; and the study that recommended the designation of CANAMEX.



ARIZONA INTERNATIONAL DEVELOPMENT AUTHORITY (AIDA)

The Arizona International Development Authority (AIDA) was established in 1994 by the Arizona Legislature. This authority was created to oversee project development and funding along the Arizona border. It is a corporate body and political subdivision of the State of Arizona and acts as a liaison between the State and border region port authorities.

The AIDA recently was restructured, and relevant legislation is found in Arizona Revised Statutes (ARS), Article 1, Chapter 45, Title 1. The Authority has seven board members. The types of projects that AIDA oversees include:

- International ports of entry and border facilities
- Transportation and shipping facilities, including: railroad; dock; airport; highway; and roadway facilities (except those under ADOT jurisdiction), as well as public transportation, urban mass transit, and intermodal transportation facilities
- Facilities for the transmission or transportation of electricity in the border area or across the border.

AIDA is empowered to:

- enter into contracts and agreements, including partnerships and joint ventures, with U.S. and Mexican public and private sector entities
- acquire, operate, sell, lease, or otherwise dispose of projects
- issue revenue bonds in order to finance its acquisition and/or operation of projects
- solicit and accept grants of money, materials or property of any kind.

Other powers and duties are provided in the revised statute.¹¹

SINGLE TRIP OVERWEIGHT BORDER PERMIT

ADOT began a new pilot program in 2010 to create the Single Trip Overweight Border Permit in response to concerns from professionals in the industry that time-sensitive produce was not moving across the border in a timely fashion. The permit increased the weight limits for trucks

¹¹ <http://www.azleg.state.az.us/FormatDocument.asp?inDoc=/ars/41/04504.htm&Title=41&DocType=ARS>



from 80,000 lbs. to 90,800 lbs. This allowed transporting heavier produce without dividing truck loads from Mexico through the Mariposa Commercial LPOE to be off-loaded into warehouses located in the commercial zone of Nogales, Arizona, and requiring enhanced security by sealing the trucks at the point of loading the produce. Commercial drivers carrying overweight loads (up to 90,800 lbs.) are charged a \$75 permit fee per trip, or have the option of obtaining an annual permit for \$600. The money is allocated to the State Highway Fund (50%), the county (25%), and cities (25%) within the 25-mile commercial border zone identified on the permit.

9.1.3 PUBLIC-PRIVATE PARTNERSHIPS (ARIZONA)

Tables 7.3, 7.4, and Appendix I of the Arizona-Sonora BMP include several projects that could be funded through P3 provisions available to ADOT through Chapter 22 of ARS Title 28 (§28-7701 through §28-7710). These provisions address private sector participation in enhanced, upgraded, or new facilities used or useful for the safe transport of people or goods via various modes of transport. Private sector collaboration with public entities has the potential to result in creative financing opportunities.

ADOT's 2009 report, *Public-Private Partnerships Potential for Arizona-Mexico Border Infrastructure Projects*,¹² includes a section on funding mechanisms, both traditional and "public-private." The Executive Summary of this document¹³ describes three mechanisms as follows:

TRADITIONAL FUNDING MECHANISMS

"Most of today's infrastructure has been built utilizing a design, bid, build delivery mechanism. With this delivery approach the public sector remains responsible for design and construction risks in the form of cost overruns, funding and finance risks, and operational and maintenance risk. Toward the end of last century, there was an increasing acceptance and utilization of a design-build approach for project delivery, thus increasingly transferring design and construction risk to the private sector.

¹² *Public-Private Partnerships Potential for Arizona-Mexico Border Infrastructure Projects*, Arizona Department of Transportation (ADOT) Task Assignment MPD 31-09, (2009). Retrieved from http://www.borderplanning.fhwa.dot.gov/ADOT_PPPrpt/pdfs/finalReport.pdf.

¹³ http://www.borderplanning.fhwa.dot.gov/ADOT_PPPrpt/pdfs/executiveSummary.pdf



“Under both of these delivery models, the public sector retained the responsibility for raising the necessary funding to pay for the capital costs necessary to delivery an infrastructure facility or support a financing to pay for these projects. A number of sources are utilized to provide the required funding for infrastructure projects. These traditional funding mechanisms include federal, state, or local appropriations and funds; general obligation bonding; revenue bonding; special local taxation districts or taxes; and federal, state, local, or private sector donations and matches.

NON-TAX REVENUE SOURCES

“One of the advantages of public-private partnership projects is their perceived ability to expand the revenue streams which can be used to fund infrastructure projects. While public-private partnerships are often considered to be synonymous with toll projects, there are several public-private partnership models which shift substantial design, construction and operational risk to the private sector without relying upon tolls as a revenue source.

“Potential non-tax revenue sources include fees, which are based upon the benefit associated with the specific facility. These revenue sources can consist of user fees (including tolls), advertising revenue, lease payments, and port of entry access payments. Due to various factors, including projected non-tax revenues, perceived revenue risks, and startup risk, public-private partnership projects often require some public contribution or support in order to be feasible. When evaluating the potential of an infrastructure project as a public-private partnership the specific project’s ability to leverage public funds is a significant criteria [sic] which needs to be taken into account.

PUBLIC-PRIVATE PARTNERSHIP FINANCIAL TOOLS

“There are several public-private partnership financing tools that can be used for border crossing improvements in Arizona. These include the Transportation Infrastructure Finance and Innovation Act (TIFIA), private activity bonds, federal section 129(a) lending, and the state infrastructure bank (HELP).”¹⁴

¹⁴ *Ibid.* Public-Private Partnerships at http://www.borderplanning.fhwa.dot.gov/ADOT_PPPrpt/pdfs/executiveSummary.pdf.
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The Transportation Infrastructure Finance and Innovation Act (TIFIA) provides federal assistance for surface transportation projects in the form of secured loans, loan guarantees, or lines of credit. The credit program may be utilized by states, local jurisdictions, or public authorities as well as private entities undertaking projects sponsored by public authorities.

9.2 FUNDING SOURCES - MEXICO

This section provides a brief glimpse of the current status of national infrastructure planning and funding support in Mexico.

9.2.1 MEXICAN NATIONAL INFRASTRUCTURE PROGRAM

A 2008 presentation at the Border to Border Transportation Conference, “Transportation Financing in Mexico: Realizing the Calderon Infrastructure Program,” provides insight into available federal, state, and municipal funding sources, opportunities, and other topics.¹⁵

FEDERAL REVENUE SOURCES- MEXICO

- Federal taxes include income, value added, and excise taxes as well as import duties.
- States and local governments have little revenue raising power.
- Fees from oil production account for approximately 40% of total revenue.
- Most oil production fees go to a General Fund - not directed to any one source.
- Government revenue as a percentage of Gross Domestic Product (GDP) is around 19 percent, compared to around 25 percent for the United States.
- Until 2007, there were no dedicated funds for infrastructure building or maintenance, subject to yearly requests.
- Most transportation funding is related to *Secretaría de Comunicaciones y Transportes* (SCT) requests. In recent years, state driven supplements have grown.

STATE AND MUNICIPAL INFRASTRUCTURE FINANCING

- Credit agreements for states and municipalities must be in pesos and cannot be with any foreign government.

¹⁵ Hutson, Nathan (2008). *Transportation Financing in Mexico: Realizing the Calderon Infrastructure Program*, PowerPoint presentation. Retrieved from <http://www.hcmpt.org/conference/files/presentations/Nathan%20Hutson%20Transportation%20Funding%20in%20Mexico%20%5BCompati%20bilii.pdf>.



- Following the 1994-1995 crisis, the Federal government bailed out many local governments and tightened restrictions on lending afterwards.
- States like Aguascalientes, Tamaulipas, Durango, the State of Mexico, and Oaxaca have passed amendments to the regulatory framework in order to give legal certainty to P3s funding activities (Standard & Poor's, 2008).

In the Winter 2011 edition of *ProLogis Research Insights*, an article entitled “Mexico’s Evolving Network of Modern Interstate Roadways,” discusses Mexico’s National Infrastructure Program (NIP). It states: “The projects in this program will include modernization and construction of new highways and rural roads along with a wide scope of projects across other sectors of the economy. The \$230B program includes transportation infrastructure which is planned to be 18% of the total or \$41B.”¹⁶

The article does not identify the costs of projects in the State of Sonora. However, the article highlights a proposed major highway project – the Pacific Coastline Corridor – through Sonora: “Going from north to south, it runs from Nogales, in northwest Mexico, to Hermosillo, then along the Pacific coastline as it passes through Guaymas, Topolobampo, and Mazatlán; and then cuts inland and passes through Tepic, Guadalajara, Morelia, and Mexico City. This project also includes the construction of an extension highway that now connects the cities of Tijuana and Mexicali in the far northwest corner of Mexico to the existing highway that links the cities of Nogales and Hermosillo.”¹⁷ See the accompanying graphic, which shows an interpretation of long-term route planning in the U.S. and Mexico that ultimately may impact transportation in the Study Area adopted for this Arizona-Sonora BMP.

¹⁶ Whitfield, B., and Hulse, L., *Mexico’s Evolving Network of Modern Interstate Roadways*, *ProLogis Research Insights*, Winter 2011, page 1.

¹⁷ *Ibid.* Pages 3-4.



Source: ProLogis Research Insights, Winter 2011, page 3

With the completion of the Tijuana-Nogales highway extension (Federal Route 2), a more efficient linkage for car and truck traffic has been established between Tijuana and Mexico City, as well as to all the other key cities. According to the article, the key north-south corridor from Nogales to Mexico City is almost complete, with various sections having been completed during the past few years.

9.2.2 EVALUATION OF MEXICAN PLANNING AND INFRASTRUCTURE FINANCE

An Evaluation of Mexican Transportation Planning, Finance, Implementation, and Construction Processes published by the Center for Transportation Research at the University of Texas (2009) includes a comparison of U.S. and Mexican policies for planning and funding major transportation infrastructure projects. It states in part:

“This research examined the legal, financial, institutional and policy processes that Mexico uses to plan, finance, construct, and implement its transportation network. It



documents through twelve case studies the state of the practice in planning, financing, conducting traffic and revenue studies, cost benefit analysis, and environmental assessments and reviews how right-of-way purchase occurs for multimodal transportation infrastructure projects. It was found that Mexico is aggressively targeting infrastructure development as a mechanism to improve countrywide network and modal connectivity and to redress social and economic inequality that had occurred because of the poor transportation network. The 2007 National Infrastructure Plan covers 5 years and multiple modes and will finance approximately 58% of the projects using innovative finance methods and public private partnerships.”¹⁸

A key finding from the 2009 Center for Transportation Research report, regarding recent project funding and implementation under President Calderon’s administration, is that the administration is:

“...moving in the direction of joint action and responsibility. The Mexican government has increased private sector participation in the provision, operation, and maintenance of transportation facilities. The National Infrastructure Plan goes much further in solidifying and quantifying the role of private and non-federal participants in advancing broad development goals and providing attempts to develop different transportation modes within the greater concept of a transportation system, integrating port development, highway connectivity, and rail projects into one multimodal plan. This public and private sector cooperation has led to growth and investment acceptable to the private sector and in line with their business models.”¹⁹

The report further states:

“The concept of national planning has always been a popular political concept, but in practice, was not consistently applied until 1983. In 1983, a new Planning Law (Ley de Planeación) was enacted which created a structure called the National Democratic Planning System, with four components: creation, execution, control, and evaluation

¹⁸ *An Evaluation of Mexican Transportation Planning, Finance, Implementation, and Construction Processes*, published by The Center for Transportation Research at the University of Texas, 2009, Technical Documentation Page Retrieved at http://www.utexas.edu/research/ctr/pdf_reports/0_5985_1.pdf.

¹⁹ *Ibid.* Pg. 52.



(Ordaz, et al, 2006). Each National Development Plan (Plan Nacional de Desarrollo, NDPs) is required to cover a six-year period corresponding to the presidential administration. Notwithstanding this cap, they can include certain long-term projects and policies. NDPs are drafted during the first year of office and usually consist of a five-year plan issued in the second year of office (Pereznieto, et al., 2004). NDPs are binding for all state entities and require coordinated implementation between the federal government, states, and municipalities, as well as, involvement of non-profit entities....”²⁰

It should be noted that 2012 was an election year in Mexico, marking the end of the current six year NDP. A new NDP cycle will begin in 2013 as the new administration takes office.

²⁰ *Ibid.* Pg 9.



10.0 IMPLEMENTATION

The planned focus for this chapter was identification of a program of projects to be implemented in the short-, mid-, and long-term timeframes. However, as described in the previous chapter, funding for implementation of transportation improvements is, at this time, uncertain. This chapter provides background information regarding the funding climate affecting project implementation.

10.1 TRANSPORTATION INFRASTRUCTURE FUNDING PERSPECTIVE

The *2010 Statewide Transportation Planning Framework* (Arizona) specifically acknowledged the challenges related to the funding and implementation of transportation improvements:

“We have reached a point where available transportation funding – federal, state, regional and local – is only a small fraction of the amount needed. New federal surface transportation authorization legislation will eventually pass Congress, but it is unlikely that the federal transportation program will grow enough to close the gap. Arizona is currently dependent on fuel taxes (which may be spent only on roads) to fund much of its state transportation program. This will not be an appropriate funding mechanism in the future, as the state will increasingly be working to reduce, not increase, petroleum use. New public-private partnership techniques may help to manage project costs and in some cases to provide new funding sources for major projects – freeways, rail lines, and bridges. But the potential for such strategies, while important, is limited.

If Arizona wishes to continue its past practice of using strategic transportation investments to bring economic growth and prosperity, it must establish funding sources appropriate to the new millennium. The updated transportation funding system must be inherently multimodal, strengthen local and regional self-determination, reinforce efficient land development patterns, and establish an intergovernmental process for planning regional networks.

The following are some possible strategies for raising revenue to meet the needs of a growing population:

- *Use improvement districts, revenue bonds, innovative financing, and construction sales taxes. No new legislation is needed.*

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- *To accommodate new growth, establish a regional development impact fee program for major corridors. No new legislation is needed if joint powers agreements are used. New legislation would be needed, however, to enable the state to collect impact fees for improvements to the ADOT highway system.*
- *Consider the use of community facilities districts to fund off-site improvements serving new development.*
- *Vigorously pursue toll roads and other innovative financing strategies along one or more new or existing corridors. Landmark public-private partnership legislation (House Bill 2396) was recently enacted in Arizona¹. The law is very flexible and allows innovative financing for many types of infrastructure, including roads, transit and rail. The law also authorizes ADOT to issue traditional revenue bonds to build public projects.*
- *Implement a life cycle cost program, similar to MAG's Regional Area Road Fund, to address capital and maintenance needs. No new legislation is required.*
- *Implement a concurrency program, in which new development cannot proceed into construction until needed roadways are funded, permitted, and fully programmed for implementation. No new legislation is needed. This can be incorporated into municipal general plans and county comprehensive plans.*
- *Seek legislative approval for local revenue options, such as a local gasoline tax, a local sales tax on fuel, and local vehicle registration fees. This requires a simple majority vote of the Legislature, followed by local adoption.*
- *Seek an increase in the state gasoline tax. A tax increase requires a supermajority vote of the Legislature.*
- *Seek an increase in the federal gasoline tax. This requires action by the U.S. Congress.*
- *Strive for a balanced transportation system that incorporates transit and alternative modes of travel. This will require investigation of additional sources of funding for public transportation, such as a sales tax, a property tax, or a new transit district with taxation authority. These options may require new legislation.*
- *Recognize that fuel tax revenue will decline as vehicles become more efficient and manufacturers shift away from internal combustion engines. Prepare for new revenue strategies, such as vehicle mileage charges."*

¹ House Bill 2396: An act repealing Title 28, Chapter 22, Arizona revised statutes; amending Title 28, Arizona revised statutes, by adding a new Chapter 22; relating to Public-Private Partnerships.



10.2 LPOE FUNDING PERSPECTIVE

The Office of GSA Properties develops and maintains processes and procedures relating to facility improvements at LPOEs. The Office performs program oversight to ensure LPOEs are developed to acceptable standards and consistently with established guidelines. The LPOE Group, which operates within the Expert Resources Division of the Office of Design and Construction, is responsible for the administration of the national LPOE program. The Arizona-Sonora border facilities are managed as part of the U.S. Southern Border Program at the GSA's Central Office in Washington. The Arizona-Sonora border LPOEs fall under the authority of the Pacific Rim Region (Region 9).

Project funding starts with the region submitting a project design prospectus to GSA's National Office, where it is reviewed and integrated into the annual capital program, in accordance with the GSA's budget limitations. The annual capital program is submitted to the Office of Management and Budget (OMB) in the spring of the given fiscal year specified in the annual capital program. The LPOE projects compete against other capital projects within the overall GSA capital program submittal as a budget is formulated based on available funding of the national funding target. If the project is approved by the OMB, it is included in the President's Budget that is presented to Congress the following February. Congress reviews, authorizes, and funds the budget or portions thereof, depending on negotiations with the President and conferences between the two houses.

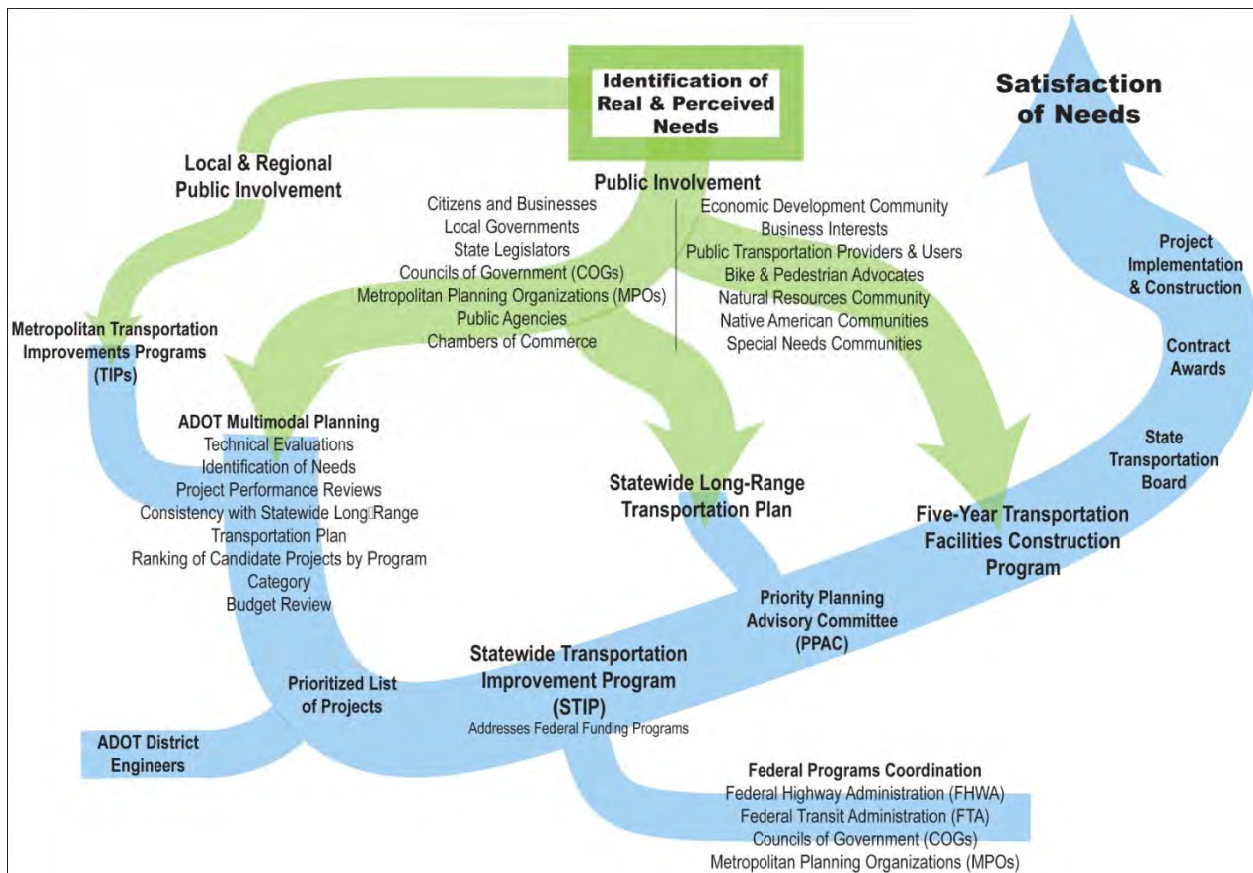
10.3 PROJECT DELIVERY PROCESS

Funding allocations generally are accomplished through a request from the project sponsor, preparation of budgets by the funding agency and administrator, and passage of authorization bills by a legislative body. Summary explanations of this process for transportation infrastructure projects and LPOE improvement projects are presented on the ensuing pages.



10.3.1 TRANSPORTATION INFRASTRUCTURE PROJECTS

In Arizona, ADOT is identified as the responsible agency for constructing and maintaining all interstate and state highways. Fulfilling this responsibility involves sophisticated technical evaluation of potential projects within the framework of the Priority Programming Process. It also includes extensive public participation and outreach throughout the state. The process culminates in a listing of highway projects published in the Five-Year Transportation Facilities Construction Program. This publication identifies programs and projects for the State during the specified five-year period and expresses how ADOT intends to use available transportation funds in improvement projects. The Program translates vision and desires into priorities and funding based on economic and political constraints. The Program is updated monthly, as the State Transportation Board acts on specific projects. The accompanying graphic characterizes this process.





Development and delivery of the Five-Year Transportation Facilities Construction Program may be impacted by economic conditions, which affects available funding for various programs, and/or new legislation, which affects the decision-making process that evaluates and prioritizes program initiatives and projects. Projects listed under the first two years of the Five-Year Transportation Facilities Construction Program are identified for full funding. Projects listed for the last three years of the Program are illustrative in nature, i.e., representative of projects envisioned or expected to be adopted. Thus, the Program establishes an implementation plan for the construction of near-term projects and offers information regarding projects moving through the various development phases leading to implementation and construction of a project.

10.3.2 LAND PORT OF ENTRY PROJECTS

The LPOE Planning Process is specified at the GSA Web site and is reproduced here to ensure information regarding this important activity is accurate:

For any given fiscal year, the Department of Homeland Security, Customs and Border Protection (CBP) submits a list of prioritized LPOE capital projects to GSA for consideration and inclusion in GSA's fiscal year capital program submission to the Office of Management and Budget (OMB). Based on the list submitted by CBP, GSA regional offices begin to develop the project by contracting with a private sector A/E firm to develop a project feasibility study. The feasibility study will define the project's scope, budgets and schedules, as well as supporting the project design prospectus submitted in a fiscal year's capital program.

It is important to note that LPOE modernization projects undertaken by CBP comply with the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act (ESA), and related statutes. These and other requirements direct CBP to fully understand and consider the environmental consequences of proposed actions during the decision-making process. While CBP anticipates Categorical Exclusions (CatEx) may be appropriate for repair and alterations of LPOE facilities, the agency prepares Environmental Assessments (EAs) for new construction activities. The EAs are used to evaluate potential impacts to the human and natural environments and determine whether more detailed Environmental Impact Statements (EISs) are necessary.



All LPOE projects are bi-national in nature. Therefore, in addition to the CBP/GSA planning process, all LPOE projects that pierce the border or make substantial modifications of existing crossings of the international border require a Presidential permit that determines the LPOE (or modification thereof) is in the national interest. Per Executive Order (E.O. 11423, as amended by E.O. 13337), the President has delegated this authority to the U.S. Department of State. The Presidential permitting process requires strong U.S. Government inter-agency coordination and public input via the Federal Register.

The CBP recognizes that modernization improvements and new capital construction projects may be affected by time and circumstances. Examples of potential barriers to effective implementation are: environmental compliance issues, finalizing design and related technical requirements, real estate/land acquisition, access to state highway rights of way, stakeholder coordination and communication, and budget constraints.

As a result of the continuing need for improvements/operational efficiency at LPOEs and in consideration of the on-going funding uncertainties, both GSA and CBP have delivered, for consideration, several low cost/high impact projects for the San Luis I LPOE. A similar offering is anticipated for the Douglas LPOE in early 2013.

10.4 PROJECT LINKAGES

Acknowledging recent changes in legislation and the associated uncertainty in funding streams, it was the consensus of the PAC to limit the implementation assessment process and focus on project linkages. During the implementation stage, it is important to recognize that certain projects may be linked to each other in some fashion. An attempt has been made to identify which of the evaluated projects may be linked to other projects based on the rationale described below.

10.4.1 LPOE PROJECT LINKAGES

LPOE projects could be linked to other LPOE, multimodal, or rail projects in a variety of ways. Project linkages were identified where a relationship existed between an Arizona LPOE project and a Sonoran LPOE project. Additionally, implementation of an LPOE project could



necessitate improvements to the multimodal infrastructure or rail infrastructure connecting to that LPOE.

For example, the addition of pedestrian and POV processing at San Luis II in Arizona (Project ID 1004) would likely require coordination with the addition of similar processing capabilities in San Luis II in Sonora (Project ID 3012). If these projects were to be implemented, it may also be necessary to improve the multimodal infrastructure serving the project. In Arizona, this would correspond to the widening of Avenue E between the LPOE and SR-195 (Project ID 5). Similarly, in Sonora it may be necessary to construct Phase I of the San Luis Rio Colorado Loop (Project ID 4001). Similar linkages were identified for many of the LPOE projects, as indicated on the Tables contained in Chapter 8.

10.4.2 MULTIMODAL INFRASTRUCTURE PROJECT LINKAGES

In addition to the relationship of multimodal infrastructure and LPOE projects discussed above, linkages between multiple multimodal infrastructure projects were also identified. These projects can be linked in many ways. For example, adjacent segments of a roadway may be listed as separate projects, but could be considered linked, as is the case on Juan Sanchez Boulevard in Arizona (Project IDs 3 and 4) and San Luis Rio Colorado Loop Road in Sonora (Project IDs 4001 and 4002).

Roadway projects could also be linked to intersection or interchange improvement projects, such as on SR-189 in Arizona (Project IDs 61, 66, 67, 69, 73, and 76) and Nogales-Santa Cruz Highway in Sonora (Project IDs 4012 and 4014).

Another example of linked multimodal infrastructure projects would be those that are required to facilitate new directional traffic flow, such as the multiple projects proposed in San Luis Rio Colorado to provide one-way circulation and enhanced alternate mode connectivity (Project IDs 4003, 4004, and 4005).

Finally, there could be certain multimodal projects that provide different recommended treatments to mitigate the same or similar deficiency, and may make sense to just select one of the proposed projects. For example, multiple locations have been identified for pedestrian overcrossings of the railroad in Nogales, Arizona (Project IDs 63, 64, 68, and 84). If one of the



selected locations were implemented, it may negate the need for another location in close proximity.

10.4.3 RAIL PROJECT LINKAGES

For any proposed new rail corridor, linked projects would exist for new rail LPOEs in both Arizona and Sonora. For example, rehabilitation and extension of the rail corridor from Benson or Curtiss to Naco, Arizona (Project ID 2008) would necessitate new rail LPOEs in both Arizona and Sonora (Project IDs 1014 and 3011).

10.5 IMPLEMENTATION MONITORING OF PRIORITIZED PROJECTS

The prioritization of projects provides structured guidance for implementing transportation improvement projects that can enhance accessibility, travel efficiency, and safety in the Arizona-Sonora border region. However, a listing of projects characterized by importance or need, in and of itself, will not accomplish the task at hand. Clearly, the international border has become a dynamic point of social and economic exchange. The prioritized projects provide a path for affecting the quality of this exchange and improving the ability of this region to move greater amounts of goods while enhancing personal travel opportunities.

Nevertheless, without a strong program in place to move the projects forward, the list has little value. Therefore, it is recommended that an Implementation Monitoring Committee be formed that includes persons representing the highest levels of affected governments and appropriate stakeholders with a direct and vested interest in project implementation. The Chairperson of the advocacy group should be one who can champion the cause, campaign for needed funding and political support, and defend the findings and conclusions of this study. The committee should consider and define a proper term of service for the chairperson, process for selection or appointment of this position and a succession plan.

For the purpose of forming this Implementation Monitoring Committee and developing its charter and by-laws, it is recommended that ADOT take a leadership position to ensure support for the formation of the committee and to define the functional role of the committee in context with on-going bi-national coordination efforts in the Arizona-Sonora Border Region.



The Implementation Monitoring Committee should meet on a regular basis, perhaps semi-annual, 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, facilitate an understanding of overall improvement of transportation systems and services in the border region. The Committee should formulate a Report Card that will identify where successes have occurred and where obstacles have arisen. This Report Card would serve as guidance for future activities and actions by the Committee and its members.

Finally, the Committee should maintain close coordination with other important entities vital to the future vitality of international relationships pertaining to the Arizona-Sonora border and border communities.

- **Arizona-Mexico Commission**, which has as its focus enhancing economic development along the border and within the two states, improving quality of life for citizens in towns and cities along the border, and establishing a reliable dynamic for effecting productive and healthy international exchange. The Transportation, Infrastructure, and Ports Committee, in particular, is actively involved in the implementation and advancement of cross-border projects
- **U.S./Mexico Joint Working Committee on Transportation Planning**, created October 12, 2000, operates with the direct support of the U.S. Department of Transportation with specific support responsibility resting with FHWA Office of Interstate and Border Planning. The JWC is a bi-national group with the primary focus of establishing and maintaining cooperative land transportation planning to facilitate efficient, safe, and economical cross-border transportation movements. The Committee is organized and operates around a biennial work plan. The most recent work plan, proposed for the period 2010-2012, has 12 focus areas and includes preparation of Regional Border Master Plans of which this plan is one.

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- **The U.S./Mexico Bridges and Border Crossings Group (BBXG)**, led by the Mexican Secretariat of Foreign Relations and the U.S. Department of State, reviews the status of all border crossings, including planned projects, along the 1,952 mile U.S. /Mexico border. All relevant federal and state agencies from both sides of the border participate in this technical discussion, which also includes a public session.

In addition, the Committee should recognize and keep abreast of Federal and State – U.S. and Mexico – transportation and border facility coordination and programming initiatives to ensure that the projects on the prioritized list are integrated fully in the funding and permitting processes. The Committee may at appropriate times determine a need for interaction and coordination with other agencies and organizations:

- **United States**
 - General Services Administration (GSA)
 - Department of State (DOS)
 - Customs and Border Protection (CBP)
 - Federal Highway Administration (FHWA)
 - Arizona Department of Transportation (ADOT)
 - Arizona Office of Tourism
 - Counties of Cochise, Maricopa, Pima, Santa Cruz, Yuma
 - Cities of Bisbee, Douglas, Nogales, San Luis, Sierra Vista, Somerton, and Yuma
 - Regional Planning Agencies – Pima Association of Governments (PAG), Southeastern Arizona Governments Organization (SEAGO), Yuma Metropolitan Planning Organization (YMPO)
 - Union Pacific Railroad (UPRR)
 - Transportation and Trade Corridor Alliance (TTCA)
- **Mexico**
 - Instituto de Administracion y Avaluos de Bienes Nacionales – Dirección General de Administración y Obras en Inmuebles Federales (INDAABIN)
 - Secretaría de Relaciones Exteriores (SRE)



- Administración General de Aduanas – Subadministración de Infraestructura (ADUANAS)
- Secretaría de Infraestructura y Desarrollo Urbano (SIDUR)
- Comisión Internacional de Límites y Aguas (CILA)
- Centro Secretaría de Comunicaciones y Transportes (SCT) Sonora
- Comisión de Fomento al Turismo del Estado de Sonora
- Cities of Agua Prieta, San Luís Rio Colorado, Sonoyta, Nogales
- Ferrocarril Mexicano (Ferromex)
- Secretaría de Comunicaciones y Transportes (SCT)



11.0 LONG-TERM PLANNING CONSIDERATIONS

This section discusses ongoing studies that may be relevant to the planning and programming of improvement projects within the Arizona/Sonora border region. Initially, key aspects of planning activities and studies associated with potential transportation improvements in the United States, particularly Arizona, are summarized. The second half of this section addresses relevant planning efforts in Mexico, particularly the State of Sonora.

11.1 RELEVANT PLANNING EFFORTS IN THE UNITED STATES

This section provides summaries of projects and studies in three categories:

- State and Regional Transportation System Studies
- Roadway Corridor Studies
- Rail Corridor Studies

STATE AND REGIONAL TRANSPORTATION SYSTEM STUDIES

Transportation system studies exam the network of components forming the transportation infrastructure with the intent of defining a broad strategy for identifying, prioritizing, and programming necessary improvements. This section summarizes eight studies designed to systematically evaluate the transportation infrastructure needs and formulate viable improvement options.

STATEWIDE TRANSPORTATION PLANNING FRAMEWORK

The Statewide Transportation Planning Framework establishes the foundation for creating multimodal transportation system improvements with an appropriate balance among modes of transportation, such as private vehicles on roadways, public transportation, and passenger and freight rail service. Developing the Framework was an ambitious and innovative endeavor completed by ADOT with the support of regional transportation planning entities, transit organizations, tribal governments, land management agencies, conservation groups, as well as business and community leaders. The focus went beyond personal travel to include emphases on freight movement in general and international trade relative to the five neighboring states and Sonora, Mexico. The result was a Recommended Statewide 2050

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Transportation Vision incorporating all major surface transportation facilities and services whether under the jurisdiction of state, local, federal or tribal government.

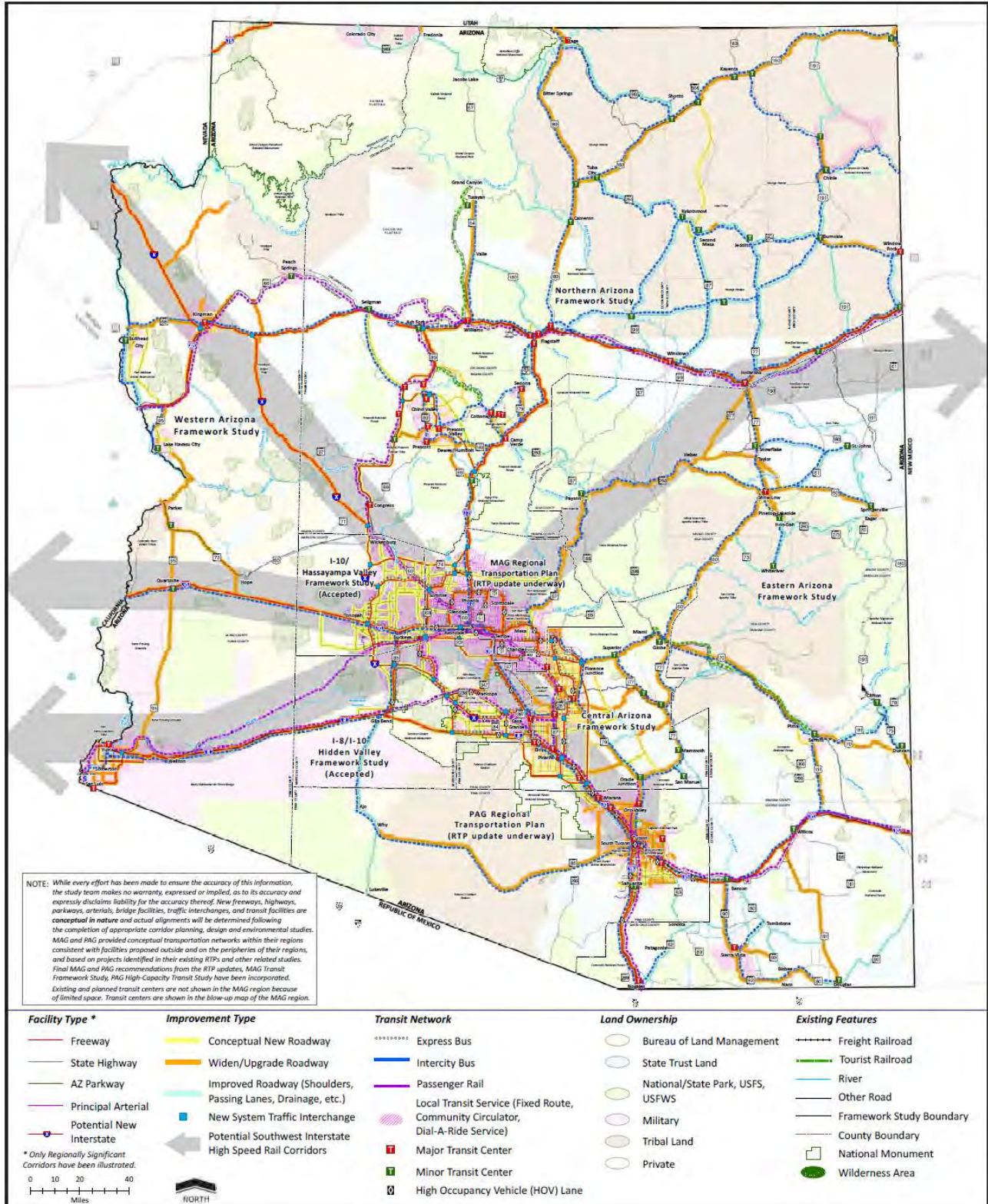
The Framework provides an assessment of improvement needs and cost for transportation facilities and services across the state. This was followed by definition of three long-range planning scenarios, looking ahead to 2050 and involving phased implementation over several decades. Within these three frameworks, teams created lists of multimodal projects and programs that would satisfy the needs identified by the scenarios. Important information available from this effort by ADOT is a summary of expected improvements at the eight crossings of the Arizona/Sonora border (see attached Figure 11.1 from Statewide Transportation Planning Framework). The following excerpt outlines the expectations for transportation improvement actions in Sonora, Mexico, that may have direct or indirect effects on Arizona's transportation system:

Improvements to the Mexico/Arizona border crossings are a priority for the Mexican state of Sonora. The state supports a new inland port and proposed improvements that would make Guaymas a deep-water port for container ships from around the Pacific Rim. Implementation of these projects would require significant improvements to the Ferromex rail line from Guaymas north to Nogales. Sonora plans to upgrade the principal north-south highway, MEX 15D, to a freeway, and build a new coastal highway from San Luis to Puerto Peñasco and eventually to Guaymas. The road just south of and parallel to the Arizona/Sonora border, extending west to San Luis, is also programmed for improvements. While not located in Sonora, the Mexican federal government is also moving forward on the development of a new deep-water port at Punta Colonet, on the west coast of Baja California. If successful, one logical transportation connection proposed to connect the port to the U.S. is through Yuma, requiring construction of a new railroad corridor, as well as a higher-capacity roadway connection.

ARIZONA-SONORA BORDER MASTER PLAN



Figure 11.1 Recommended Statewide 2050 Transportation Framework Scenario





In addition, the three scenarios provide guidance regarding potential improvements in southern Arizona, depending on the dynamics of growth and development through 2050 (see attached Figures 11.2, 11.3, and 11.4 from Statewide Transportation Planning Framework). The recommended scenario was evaluated to assess its effectiveness. The screenline analysis comparing forecast volumes to roadway capacity was performed to evaluate the adequacy of major roadways throughout the state and indicates there will still be capacity issues in southern Arizona that should be addressed or at least accounted for during future planning to improve the transportation network (see attached Figure 11.5 from Statewide Transportation Planning Framework).

An important consideration during development of the Statewide Transportation Planning Framework was “Wildlife Corridors, Green Connectivity, and Avoiding Habitat Fragmentation.” The following guidance has been provided regarding these concerns and the future transportation system of the state:

- Maximize the use of existing corridors
- Where maximizing use of existing transportation corridors is not sufficient, or where such corridors traverse sensitive wildlife corridors, mitigation measures will be required.
- Where mitigation efforts are not feasible, avoidance—removing corridor recommendations altogether—should be considered.

ARIZONA STATE TRANSPORTATION PLAN

This long-range plan defines visionary, yet pragmatic, investment choices expected to be made over the next 25 years to maintain and improve its multimodal transportation system. It is noted that “the Plan is not rigid or fixed. It is part of a continuous process of planning, implementation, operation, and preservation and will evolve over time to reflect and be responsive to future changes in needs, resources, and priorities.” The Plan is fiscally constrained and implementation focuses on the Recommended Investment Choice (RIC); however, “...it does not identify a specific list of projects for implementation.” It acknowledges that there may be a need for changes to mid- and long-range policies, planning and programming linkages, and interagency partnerships as the plan is implemented.



Figure 11.2 2050 Recommended Statewide Scenario – Roadway Features

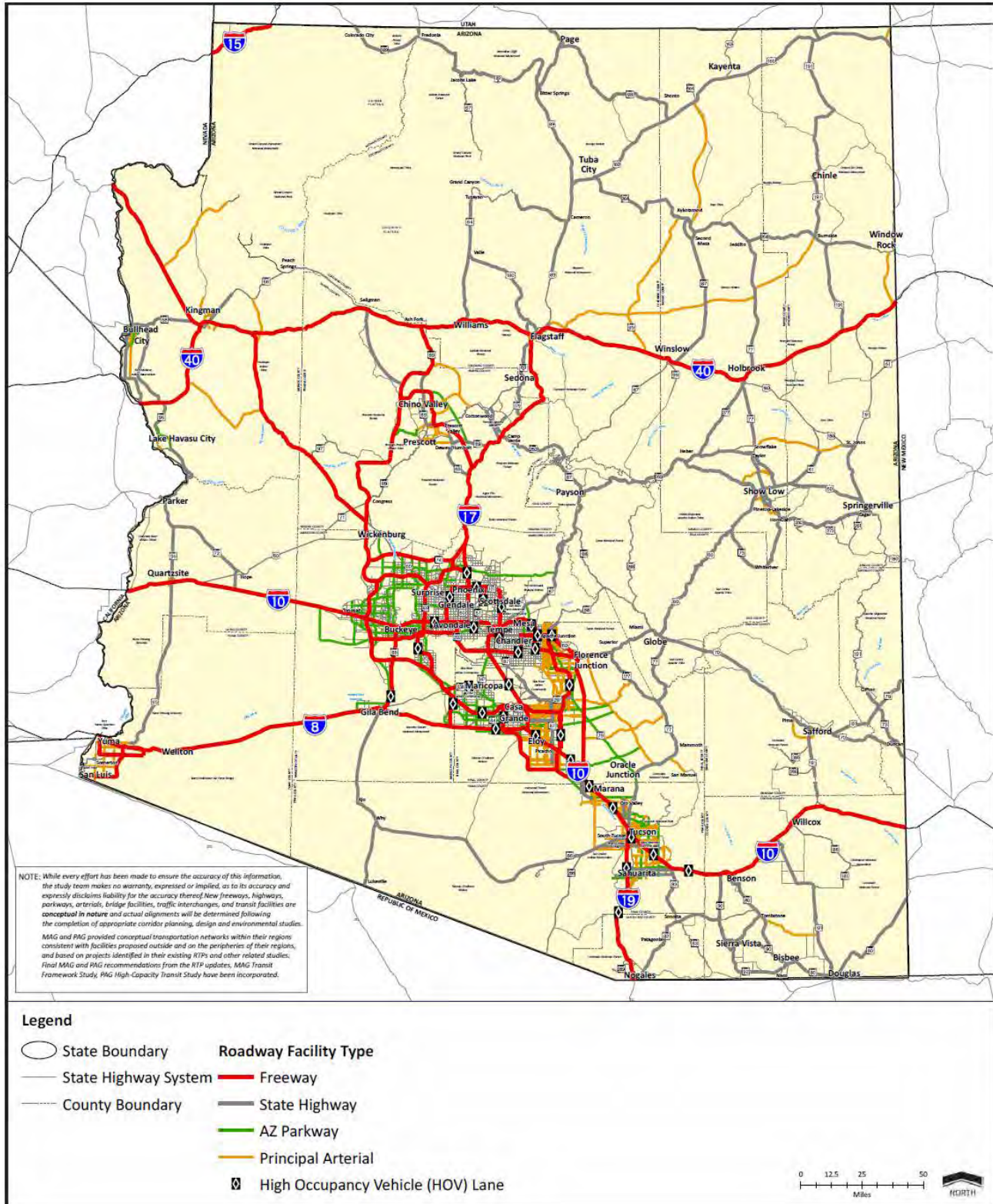
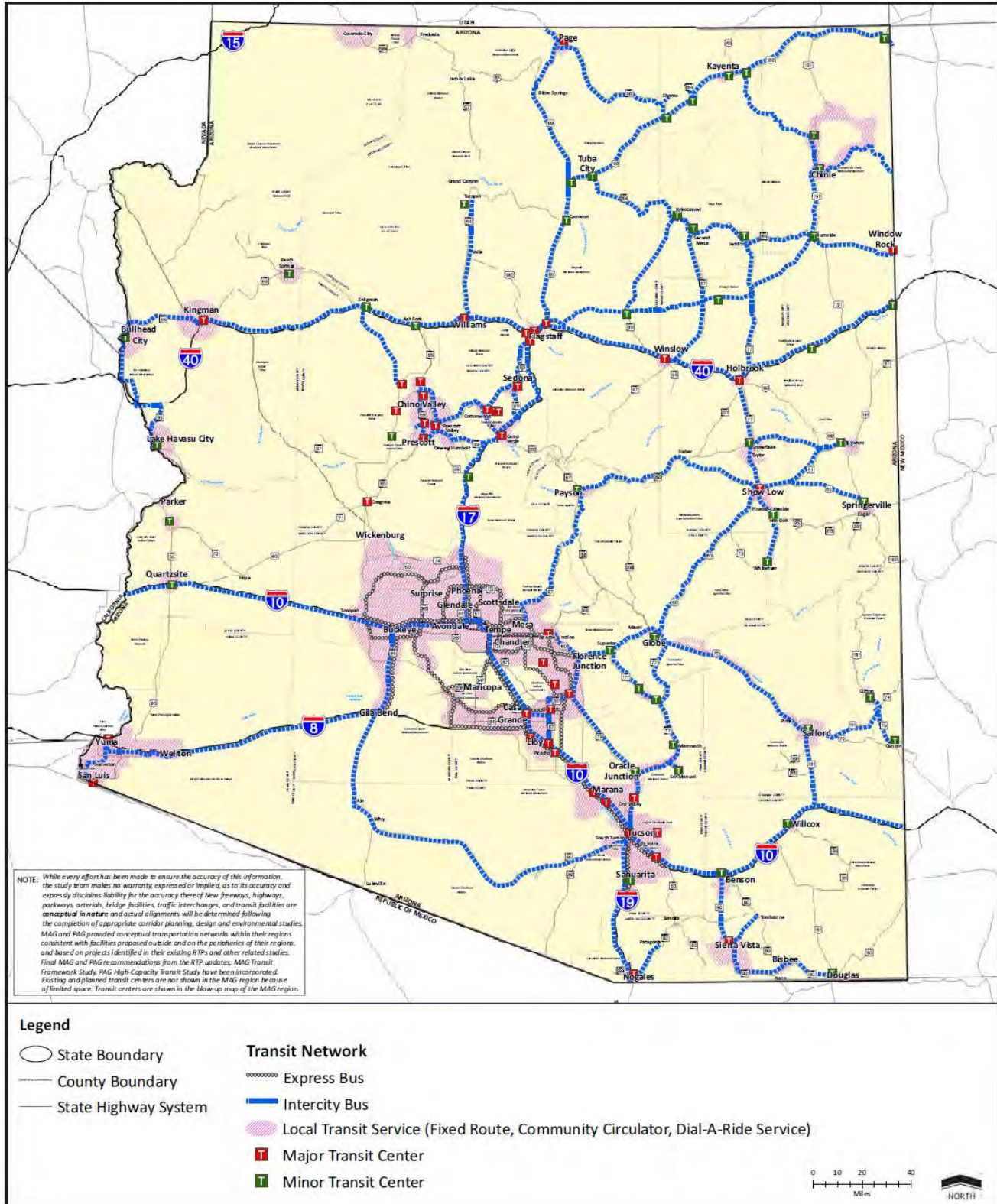




Figure 11.3 2050 Recommended Statewide Scenario – Transit Features



ARIZONA-SONORA BORDER MASTER PLAN



Figure 11.4 2050 Recommended Statewide Scenario – Rail Features

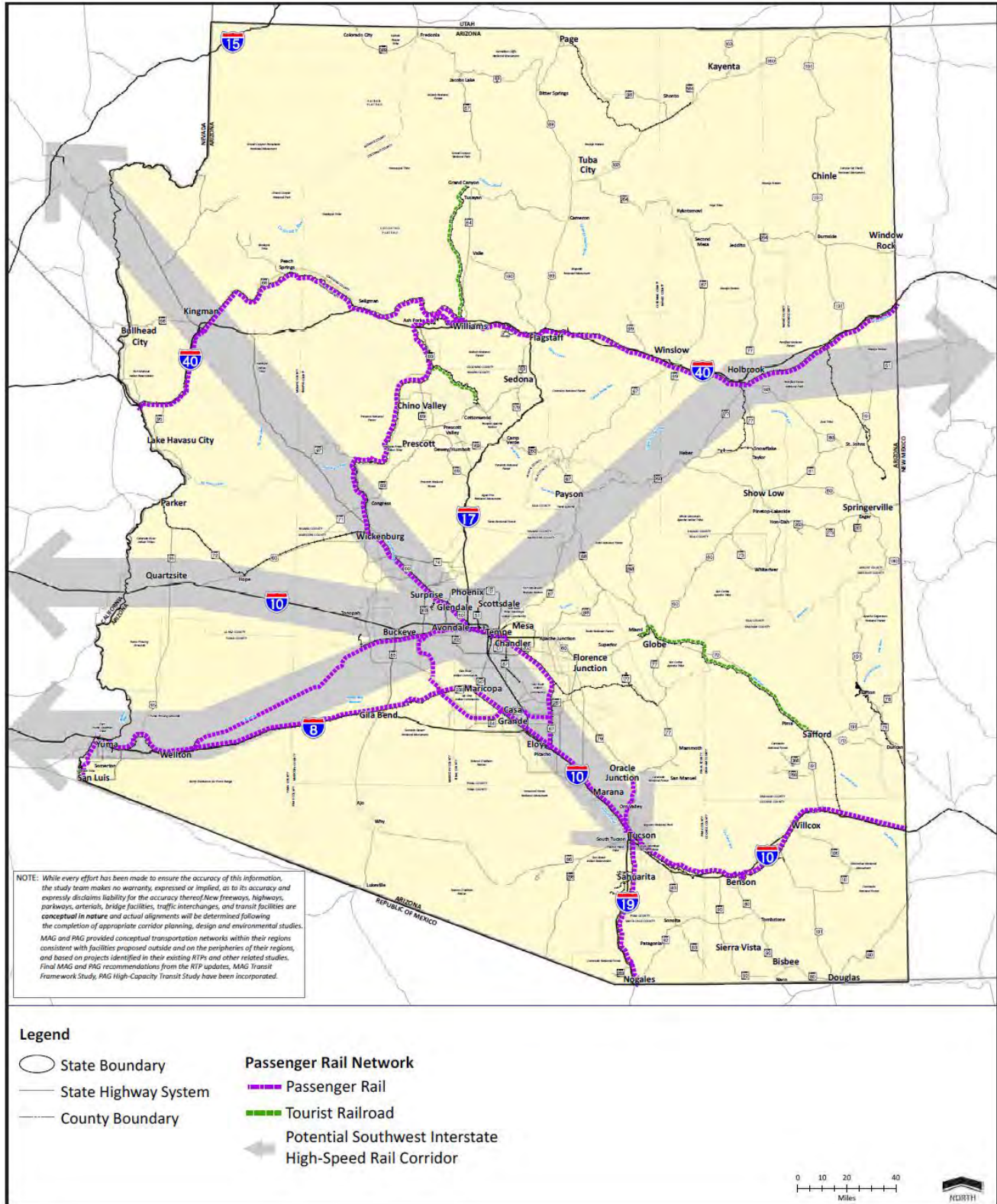
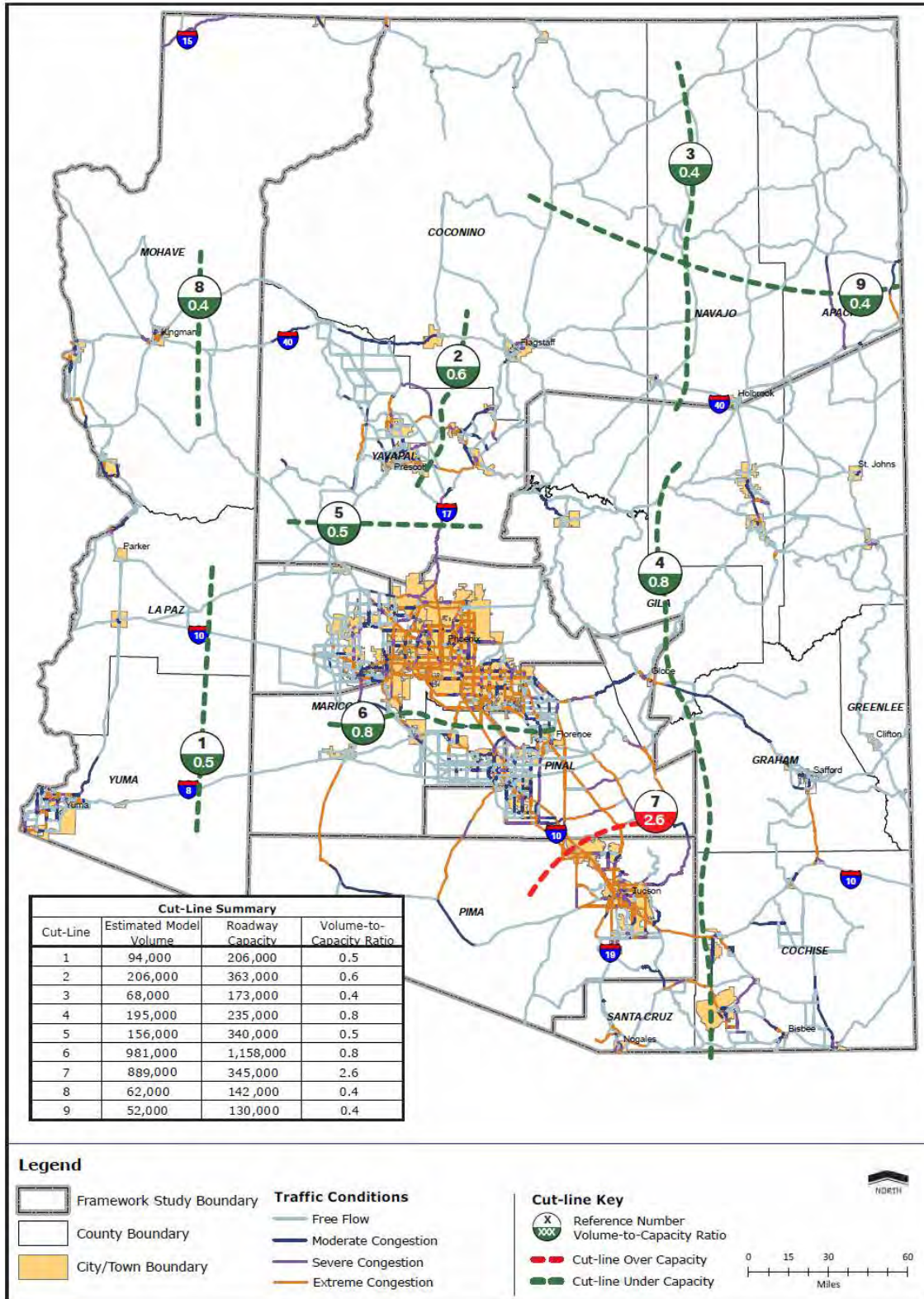




Figure 11.5 2050 Recommended Statewide Scenario Traffic Conditions





The Plan notes that the State's proximity to Mexico results in many jobs related to rail freight, freight movements, and foreign trade. The Plan also shows that the apportionment of Federal funding in FY 2009 for highways, highway safety, and public transportation included \$10.2 million for the Border Infrastructure Program (BIP). This Program is intended to improve the safety associated with motor vehicle movements at or across the international land border with both Canada and Mexico. Current actions are associated with improving SR 189 in the vicinity of the Mariposa LPOE. Ongoing studies are addressing the need for long-range improvement of SR 189 between the LPOE and I-19 and Grand Avenue.

ARIZONA STATE RAIL PLAN

This Plan recommends certain actions in four separate "Corridors of Opportunities," three of which are directly or indirectly associated with transportation to/from Arizona's international border with Sonora.

The "Arizona Spine" is defined as a north-south corridor through the central part of Arizona. Actions in this corridor focus on passenger rail opportunities to support the emerging Sun Corridor and the tourism industry. The key rail elements of the Arizona Spine are the Union Pacific Railroad (UPRR) "Sunset Route" and the Burlington Northern Santa Fe (BNSF) "Peavine." The UPRR Sunset Route links with the Nogales Subdivision and Phoenix Subdivision, which includes the Wellton Branch, an east-west line that provides a direct connection between Phoenix and the UPRR Sunset Route in western Arizona. The BNSF Peavine connects with the UPRR Phoenix Subdivision in downtown Phoenix and traverses the north central part of the state to Williams, where it joins with BNSF "Transcon Corridor." The passenger rail vision in this corridor includes intercity rail serving the emerging Sun Corridor megaregion, coupled with a regional high speed rail network. The overarching strategy in developing this service would be to initiate planning of an efficient passenger rail connection linking Northern Arizona rail service in the I-40 corridor with Sun Corridor communities and Mexico. The strategy includes expanding existing rail freight through capacity, classification yards, intermodal facilities, and other freight logistic centers. At the same time, efforts would be made to improve coordination between land use and multimodal transportation planning



with the intent of creating more focused growth along rail corridors in support of passenger rail service.

The “CANAMEX Corridor” reflects a vision for supporting the priorities of the CANAMEX Coalition while also establishing a Southwestern High Speed Rail Network. The goal of actions in this corridor is to improve mobility, promote sustainability, and preserve environmental resources. The Plan calls for strategic investments in intracontinental transportation infrastructure and technology to increase competitiveness in global trade, create jobs and maximize economic potential. It is formed by two separate travel routes connecting the international border with Sonora, Mexico, with Las Vegas, Nevada. One leg includes the route adopted in furtherance of the North American Free Trade Agreement (NAFTA). This route follows a western alignment from Nogales, Mexico, through Tucson, Arizona, around the Phoenix metropolitan area to Wickenburg, then US 93 to the Las Vegas metropolitan area. A key element of transportation enhancements in this corridor include the proposed Interstate 11 Multimodal Corridor, which has evolved to represent the ultimate high-capacity travel corridor between I-19 south of Tucson and Las Vegas and beyond.

The CANAMEX Corridor definition incorporates the concept of a Western Passage of the CANAMEX trade route with a focus on improving connections between western Arizona and Mexico. This connection would take the form of a new rail corridor linking Yuma, Arizona, with a proposed mega port at Punta Colonet, Mexico. The new rail corridor would have a linkage with UPRR Sunset Route while continuing north along the Colorado River to Las Vegas, Nevada. A resolution has been prepared in support of establishing this Western Passage, and recognition from the U.S. Congress has been requested. A second potential route for new rail service in Southern Arizona has been identified as the Hassayampa Rail Corridor, which would link the UPRR Sunset Route to the Burlington Northern Santa Fe (BNSF) Railway’s “Peavine” route in Wickenburg, Arizona with a potential connection to Sonora, Mexico, through Sonoita. Priorities within the State relating to the rail infrastructure improvements include:

- Capitalize on new marine port development plans at Punta Colonet, Mexico, and existing trade linkages with the Los Angeles/Long Beach area;



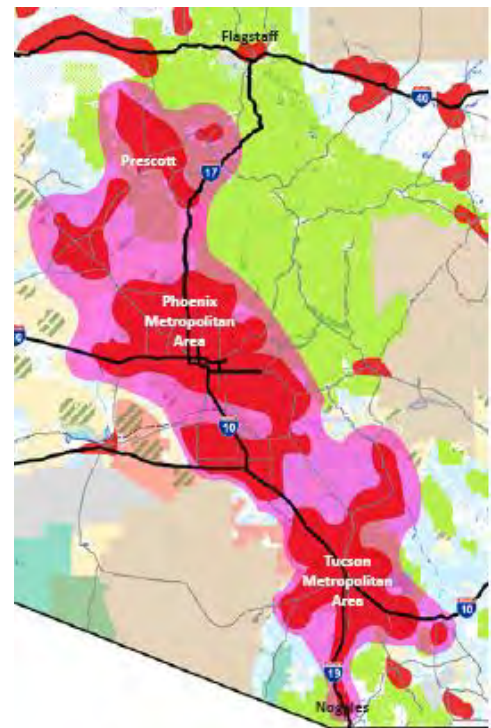
- Secure federal resources and higher priority for infrastructure enhancements at Arizona border ports of entry to facilitate more efficient and safer flow of goods; and
- Develop a statewide freight and logistics strategy.

The “Sunset Route” has an east-west orientation generally following the cross-country transportation corridor formed by UPRR Sunset Route and Interstates 8 and 10. Actions in this corridor focus on enhancements of the transportation network designed to move people and goods within Southern Arizona and across the country more efficiently. Freight opportunities in the corridor are focused on achieving necessary capacity to serve transcontinental traffic and expanding intermodal resources to link with emerging Sun Corridor and southern Arizona opportunities. The UPRR Sunset Route is in the process of double tracking from El Paso, Texas to California. Additional actions in this corridor include support for new intermodal and freight logistic centers, such as those proposed for the UPRR Sunset Route near Red Rock adjacent to I-10 in southern Pinal County. These facilities could support economic expansion in the corridor by stimulating additional rail-related industries.

FREIGHT TRANSPORTATION FRAMEWORK STUDY

Examining Freight and Multimodal Opportunities in the Sun Corridor

This study was conducted under the auspices of the Joint Planning Advisory Council, *A Planning Partnership for the Arizona Sun Corridor*, which is a cooperative entity comprised of the Maricopa Association of Governments (MAG), Pima Association of Governments (PAG), and Central Arizona Governments (CAG). Its focus is the Sun Corridor, which is a mega-region stretching from Nogales, Mexico, to Prescott, Arizona. The objective of the study has been to identify and develop freight-related economic development opportunities in the Sun Corridor and increase access and mobility associated with freight movements. Initial findings from this study indicate north-south commodity flows offer the greatest potential for capitalizing on



Arizona Sun Corridor Megapolitan Region



strategic location and regional economic resources. The Sun Corridor is considered to be a logical hub for staging and distribution of commodities out of Mexico to Western U.S. markets. Freight movement through Nogales would be processed through key facilities in four primary import distribution areas: Tucson International Airport; Phoenix-Gateway Airport; Eloy-Interstate 8/Interstate 10; and Buckeye-West Valley (Interstate 10/future Interstate 11). Five general recommendations have been formulated for advancing efforts to realize a rational freight transportation framework for the Sun Corridor:

- Coordinate regionally to position and market the Sun Corridor
- Establish a Sun Corridor Freight Development Zone
- Implement strategic transportation improvements
- Assist municipal governments with related public policy
- Prepare conceptual business plans.

The recommendation for strategic transportation improvements focuses on:

- Updating and expanding regional and statewide plans to enhance the freight movement infrastructure, including defining a truck route network to support importation, manufacturing activity, freight consolidation and classification, and transshipment.
- Prioritization of transportation infrastructure investments to accommodate freight movement, particularly in four primary import distribution areas.
- Continuing investments in border crossing facilities, technology, and staffing to maximize efficiency and safety.

ADOT PLANNING ASSISTANCE FOR RURAL AREAS (PARA)

There are several studies underway addressing transportation issues, needs, and improvements in small border communities of Southern Arizona. Formerly Small Area Transportation Studies (SATS), PARA studies are uniquely oriented to community needs and focus on identifying critical improvements. As may be applicable, the findings and recommendations of these studies should be recognized within the framework of the Border Master Plan. Ongoing PARA studies include:

- City of Sierra Vista Transportation Efficiency Study

ARIZONA-SONORA BORDER MASTER PLAN



- City of Somerton Comprehensive Transportation Plan Study
- City of Tombstone State Route 80 Alternate Route Study
- Cocopah Tribe: East Reservation Circulation Plan
- Town of Sahuarita El Toro Road Corridor Study
- Yuma Expressway Corridor Study (see previous section above)

Completed PARA studies and SATS projects include:

- City of Benson SATS
- City of Bisbee Comprehensive Transportation Plan Study
- City of Nogales PARA Pedestrian Circulation at Ports of Entry Study
- City of San Luis SATS
- Northwest Cochise County Transportation Plan
- Town of Sahuarita SATS
- Unified Nogales/Santa Cruz County Transportation 2010 Plan Study
- Wellton Transportation Long-Range Plan Study
- Yuma Foothills and Mesa Del Sol Areas Transportation Needs Study
- Yuma Regional Transit Study

BI-NATIONAL SAN LUIS TRANSPORTATION STUDY

This study is a collaborative effort involving ADOT, FHWA, City of San Luis, Arizona, Municipal de San Luis Rio Colorado and the state of Sonora, MX. This study is focused on preparation of a long-range multimodal transportation plan to address the most critical current and future transportation issues for the cities of San Luis, Arizona and San Luis Rio Colorado. The study will result in updating of the 2009 City of San Luis SATS to specifically address safety and mobility issues apparent in this continuously growing border region. Important aspects of this study effort include:



- Plan to enhance connectivity for vehicles, transit routes, and pedestrians processing through or serving the LPOEs.



- Develop a plan to enhance the mobility and connectivity of the transportation system at an international, regional and local level.
- Evaluate and identify needed infrastructure improvements at San Luis I Land Port of Entry
- Conduct an Origin and Destination (O/D) survey to understand the travel pattern between the cities.

DOUGLAS LAND PORT OF ENTRY TRAFFIC STUDY

ADOT currently is supporting development of a traffic forecast to evaluate traffic conditions at the Douglas-Agua Prieta LPOE. The project objectives are to: forecast the number of crossings at the LPOE for the years 2015, 2020 and 2030; determine whether current and planned infrastructure will be capable of accommodating forecast traffic growth for the different modes of transportation at satisfactory levels of service; and identify improvements needed to remedy conditions that may contribute to unacceptable performance. Significant drivers of traffic flow, demand projections for each mode of transportation, and capacity utilization of critical infrastructure will be evaluated. The study will result in identification of and improvement recommendations for the most critical current and future transportation needs of the LPOE, especially border connectivity between the City of Douglas and City of Agua Prieta and bottlenecks associated with border crossing traffic. Recommendations to improve border traffic conditions and develop an integrated infrastructure improvement system that can adapt to different traffic demands also will be developed. The Douglas Land Port of Entry Traffic Study is scheduled to be completed by Spring 2013.

ARE WE THERE YET?

The Role of Transportation in Driving Arizona's Global Economy

Arizona Forward, publishers of this document, developed this “transportation primer to provide unbiased facts, background information and viable alternatives to consider as the state moves forward with transportation planning.” This document reports the need for \$65 billion dollars to cover a short-fall over the next 25 years for a program to bring the State’s transportation system up to an “acceptable” level. It is the expressed intention of Arizona Forward that this primer will serve as a catalyst for discussion of “the most critical challenge facing Arizona's



future development and preservation of all modes of transportation, including city streets, roads, highways, commuter rail, mass transit, bike lanes, pedestrian trails, ...,” which is: How to address the drastic shortfall of funding needed to pay for necessary improvements? The primer has been compiled to contribute to the conversation in order to help find workable and affordable alternatives to meet our future transportation needs. Numerous funding options previously considered are identified. The conclusion exhorts the State’s citizens to adopt a cooperative and thoughtful stance to resolve future difficulties:

One thing is for certain: transportation in the future will be different from transportation in the past. The use of fossil fuels will undoubtedly change and technology is already altering how we operate our cars. Planners tell us that in the near future an aging population will require improvements in the mobility of a majority of baby boomers no longer able to drive.

Local, county, regional, state, tribal and federal governments have a responsibility to decide and plan for the common good of their constituents. But the common good for one group can compete with the common good of another. Improving the quality of our lives, finding better ways of getting around, funding and making fair decisions will require active involvement by all of us.

ROADWAY CORRIDOR STUDIES

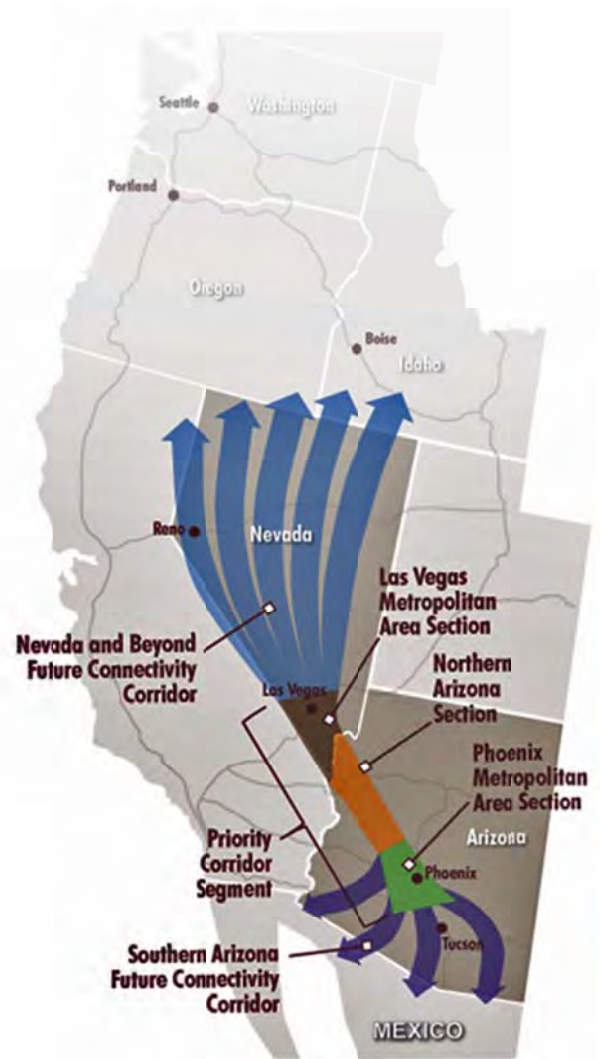
Roadway corridor studies focus on the transportation infrastructure of a specifically defined route of travel to identify, prioritize, and program necessary improvements. This section summarizes four studies designed to systematically evaluate the transportation infrastructure needs and formulate viable improvement options in particular corridors of travel in the border region.



I-11 AND INTERMOUNTAIN WEST CORRIDOR STUDY

The Interstate 11 (I-11) and Intermountain West Corridor Study is a collaborative effort of the Arizona and Nevada Departments of Transportation. I-11 is a high-capacity multimodal corridor proposed to connect the Arizona/Mexico border with the US/Canada border in furtherance of the goals and objectives of NAFTA. The US Congress, through passage of the Moving Ahead for Progress in the 21st Century Act (MAP-21) recognized the portion of this new travel corridor between Phoenix and Las Vegas, giving it the designation of a future I-11. The Study includes detailed corridor planning of a possible high priority interstate link between Phoenix and Las Vegas. It also will be investigating opportunities for inclusion of power, telecommunications, freight rail, and passenger rail.

The CANAMEX corridor, established under NAFTA, is composed of myriad existing Interstate corridors and state highways through the states of Arizona, Nevada, Utah, Idaho, and Montana. It is not a continuous route, due to the lack of direct major highway linkage through the Phoenix metropolitan area to US 93 in Wickenburg. The proposed



Source: Interstate 11 (I-11) and Intermountain West Corridor Study, Arizona and Nevada Departments of Transportation

Intermountain West Corridor will establish a direct connection between Phoenix and Las Vegas, two large metropolitan areas not currently connected by an Interstate highway. The vision for this corridor and its extension to the north and south encompasses intermodal concepts to support vital rail freight and trucking linkages between the new and expanding ports in Mexico and Canada. With the additional capacity through western states, the corridor



also is viewed as having the potential to support existing United States west coast ports, as well as future inland ports and commerce centers crucial to distributing goods across North America.

Whereas the corridor linkage between Phoenix and Las Vegas is relatively straight forward, albeit not well defined with respect to alignment, linkages north of Las Vegas and south of Phoenix are subject to considerably more speculation. As shown in the accompanying graphic, there apparently are several options available for achieving connectivity with southern Arizona and the international border with Sonora, Mexico.

YUMA EXPRESSWAY CORRIDOR STUDY

The purpose of this ADOT study is to do a feasibility evaluation of a proposed circumferential expressway facility along the general alignment of County 14 Street and Avenue D. The expressway will connect SR 195 to the east of Yuma with Interstate 8 at a location west of Yuma. A new crossing at the Colorado River is anticipated with this project. This project will directly impact regional mobility and the City of Yuma in particular. However, it also would provide substantially improved access for South Yuma County and cross border traffic heading west into California via US 95 to Interstate 8. This project is the first step as a high-level planning evaluation to be the basis for more detailed project development work in later years.

STATE ROUTE 189 CORRIDOR PROJECTS

State Route 189 (locally known as Mariposa Road) is a 3.75-mile long, ADOT-maintained highway in Nogales, Arizona. SR 189 runs from the US-Mexico Border at the Mariposa LPOE to Interstate Business 19 (Grand Avenue). ADOT currently is working on a series of capital improvement projects for the roadway:

SR 189 Interim Improvements:

This project consisted of reconstructing approximately one-half mile of SR 189 to accommodate the expected increased traffic associated with expansion at the Mariposa LPOE currently under way. The \$3.5 million project is funded by FHWA Coordinated Border Infrastructure Funds. Proposed improvements include:



- A portion of SR 189 immediately adjacent to the Mariposa LPOE will be realigned and widened to coincide with Port improvements;
- Southbound inspection booths will be located south of Freeport Drive;
- Passenger vehicles and buses will exit the Port using two lanes instead of the single lane which is currently available to motorists;
- An access road located on the east side of SR 189 will become the main entrance to the Port for visitors, employees and other non-commercial Port traffic;
- Commercial trucks will exit the Customs and Border Protection and ADOT inspection booths by making a right turn onto a dedicated (acceleration) lane that will make it easier and safer to merge into SR 189 traffic;
- State Port Drive will be realigned 40 feet north of its current location; and
- A traffic-signal-controlled access road will be added along the west side of SR 189, relocating access to Freeport Drive further north from its current location.

Interim improvements were initiated in October, 2011, and completed in the summer of 2012. These improvements are expected to alleviate traffic congestion at Freeport Drive and improve safety and traffic flow in the area.

SR 189 Long-Term Study: International Border to Grand Avenue Design Concept Report and Environmental Assessment

ADOT is working on a Design Concept Report (DCR) and Environmental Assessment (EA) for SR 189 between the U.S.-Mexico Border and its junction with Grand Avenue. This effort will result in a long-range plan for future improvements. The study is anticipated to take 18 to 24 months and will include three public meetings throughout the process. The DCR will document preliminary technical studies, alternatives considered, preferred alternative, and preliminary design plans. An EA is federally-required documentation that assesses potential environmental impacts of proposed alternatives defined and evaluated in the DCR.

SR 189 ADOT Port of Entry Improvements

In addition, ADOT and the City of Nogales are working to develop a pedestrian pick-up/drop-off facility in vicinity of the Mariposa LPOE. A Circulation Plan for connecting the LPOE and downtown Nogales should be considered.

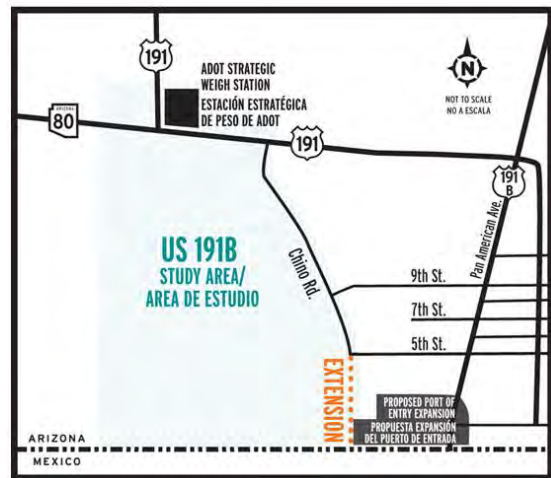
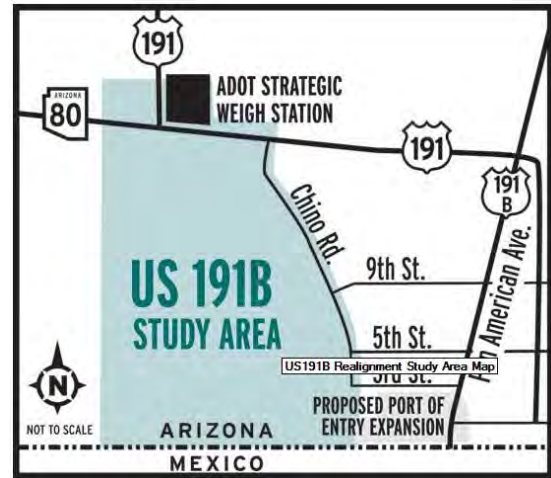


US 191B REALIGNMENT STUDY

ADOT was working on a study to identify a new route for US 191B in Douglas. The proposal is to create a new alignment linking an expanded Douglas LPOE with State Route 80. This action would take commercial international truck traffic off the existing US 191B – known locally as Pan American Avenue – which passes through a busy Douglas retail district. Although ADOT identified a number of potential new alignments, connectivity with the future LPOE must also be identified. Therefore, the study was put temporarily on hold pending further discussions between the United States and Mexico regarding proposed expansion of the international LPOE. The U.S. General Services Administration (GSA) was working with Mexican officials to establish the future operational needs of an expanded LPOE. The expectation was to resume the US 191B Realignment Study once various issues were resolved. In the midst of this activity, the Arizona-Sonora Border Master Plan Study was initiated.

NOTE: ADOT and the Federal Highway Administration (FHWA) agreed to suspend the US 191B Realignment Study pending completion of the Arizona-Sonora Border Master Plan study and subsequent future decisions regarding improvement projects at international LPOEs on the Arizona-Sonora border.

In the interim, Chino Road, which is maintained by the City of Douglas, may be extended a quarter mile south of where it currently ends at 5th Street to connect with the proposed expansion of the Douglas Port of Entry. This connection is an interim solution to move heavy trucks to the future expansion of the Port of Entry, which would be built to better accommodate commercial trucks crossing the border in both directions.





RAIL CORRIDOR STUDIES

Rail corridor studies have the same focus as roadway corridor studies, only the emphasis is on the railroad infrastructure and freight and passenger services operating in the corridor. This section summarizes three rail corridor studies designed to systematically evaluate the transportation infrastructure needs and formulate viable improvement options in particular corridors of travel in the border region.

TUCSON-PHOENIX PASSENGER RAIL CORRIDOR STUDY

This ongoing study is focused on developing passenger rail service between Tucson and Phoenix. Thus far, potential service type (i.e., mode and connections), route locations, and station locations have been investigated and screened. A southern extension, south of Tucson to the Tucson International Airport, is included in all alternatives conceptually defined at this time.

YUMA COUNTY RAIL CORRIDOR STUDY

This local study is focused on the evaluation of potential interest in and supporting economic benefit of a rail and commodity logistics center in the Yuma Region. The study has been stimulated by interest in discussions regarding the potential of a new deep sea port at Punta Colonet, Baja California. The study is designed to evaluate:

- Short term opportunities associated with economic drivers that could sustain short-rail options with expansion capabilities in the future, independent of the development of a port in Punta Colonet;
- Long term opportunities of a major rail line with an inland port option in the Yuma area that would be connected with the Punta Colonet port.

In addition, there are several objectives associated with this study relating to personal and commodity movements into and through Yuma County. Included among these objectives are:

- Identify a preferred multimodal corridor to support seamless freight movements and promote economic development;
- Identify the commodity flow through Yuma County associated with Southern California and Northern Sonora ports; and
- Evaluate alternative border crossings to accommodate anticipated commodity flows.

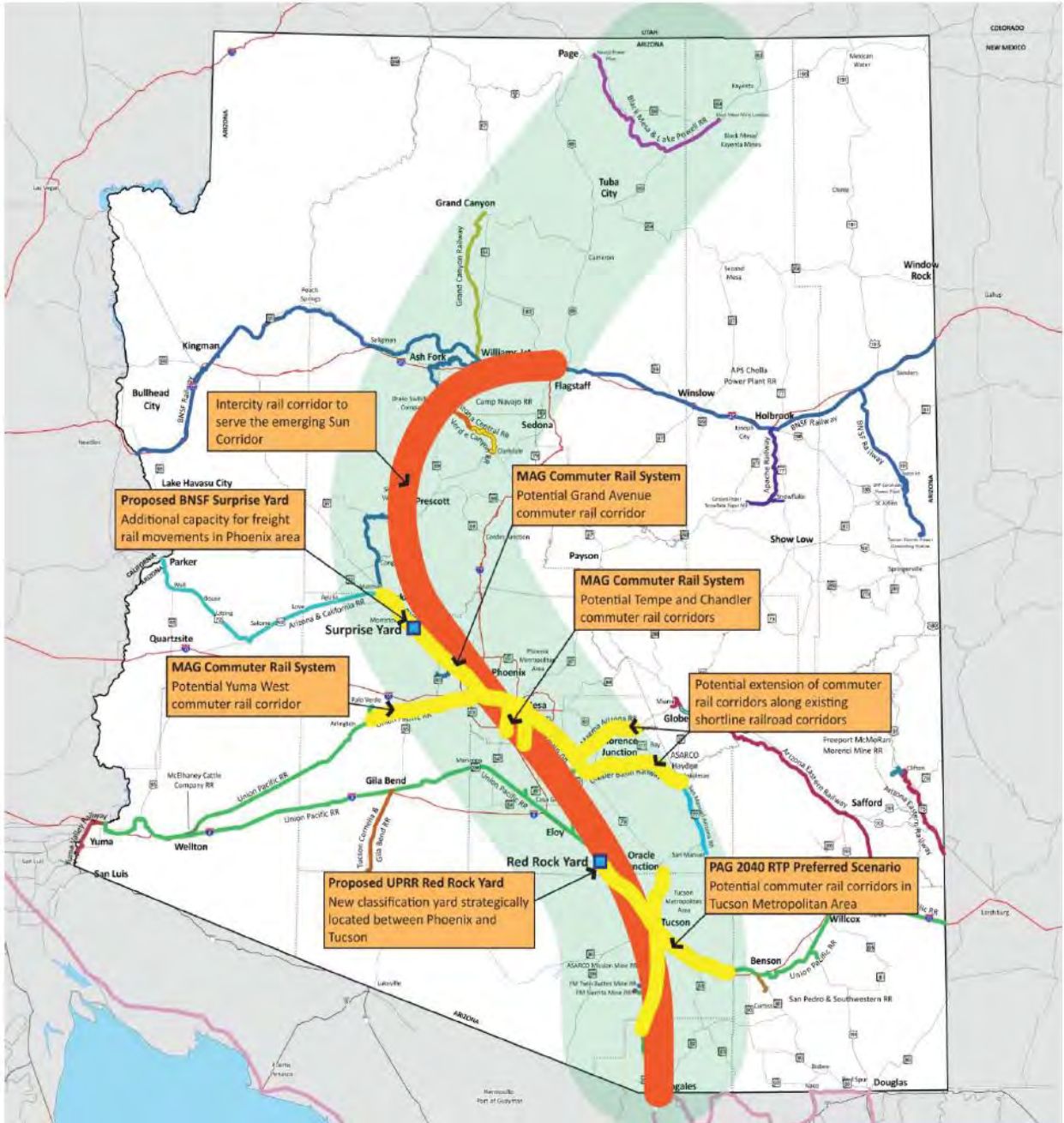


REHABILITATION OF THE UPRR WELLTON BRANCH

In coordination with UPRR, Amtrak, and other stakeholders, ADOT is investigating the costs and issues associated with the rehabilitation of the UPRR Wellton Branch to accommodate freight and/or passenger rail. UPRR currently serves customers on the portion of the Wellton Branch between the Sunset Route and Roll, Arizona in Yuma County but the line is out of service between Roll and the metropolitan Phoenix area. Being able to operate passenger service on the Welton Branch would allow Amtrak to increase ridership on its “Sunset Limited” service, provide service directly to the Phoenix metropolitan area, and establish a link with Amtrak’s “Texas Eagle” service, which also operates on the UPRR Sunset route. Figure 11.6 from the Arizona State Rail Plan (attached) shows how various transit and passenger rail service elements conceptually would fit together to establish this intercity service in the future.

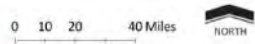


Figure 11.6 Arizona Spine Corridor of Opportunity



- Legend**
- Proposed Rail Support Yard
 - Proposed Commuter Rail
 - Proposed Intercity Rail
 - Arizona Spine Corridor

Disclaimer:
 Proposed rail alignments and support facilities are *conceptual in nature* and actual alignments will be determined following the completion of appropriate corridor planning, design and environmental studies.





11.2 RELEVANT PLANNING EFFORTS IN MEXICO

This section provides summaries of projects and studies specifically relating to focused transportation improvements associated with travel and freight corridors and facilities in Mexico that influence goods movement at the Arizona-Sonora international border. There are no known transportation system studies ongoing with Mexico or the State of Sonora that have immediate relevance to the BMP.

LOGISTICS CAPACITY STUDY OF THE GUAYMAS-TUCSON CORRIDOR (APRIL 2006)

This special report prepared for ADOT concluded that minor improvements and acquisition of container-moving equipment would put Guaymas on a comparable footing with ports in Mazatlán and Ensenada. It identifies the main bottlenecks of physical infrastructure in the corridor, in order of their impact, as: Mariposa Land Port of Entry (LPOE), the railroad inspection procedures at the U.S. side of the border, and the Port of Guaymas. The report indicates the multimodal freight capacity of the corridor is 175,000 TEU (twenty-foot equivalent units) per year, assuming container movement through both the Mariposa and DeConcini LPOEs. Capacity is estimated at 104,000 TEU with only the Mariposa LPOE and trucking activity and 120,000 TEU, if limited to rail operations at the DeConcini LPOE. The primary limiting factor on rail capacity is the inspection procedures performed at the DeConcini LPOE and/or Rio Rico facilities. The report concludes that “a major obstacle for the viable operation of the Guaymas-Arizona container service is the lack of a provider of an integrated service that includes shipping lines, railroads and freight forwarding services.” It also notes that regularly scheduled container service through the Port of Guaymas is an important deficit, but that the port is “...well positioned to serve as a regional port.”

COASTAL HIGHWAY AND IMPROVED GUAYMAS SEAPORT

The planned 310-mile Coastal Highway along Sonora’s coast line will connect San Luis Rio Colorado to San Carlos and Guaymas, Sonora. In Guaymas, the state government is conducting feasibility studies to improve and deepen the port from 36 feet to 42 feet enhancing the possibility of modern container service comparable to the ports in Mazatlán and Ensenada.

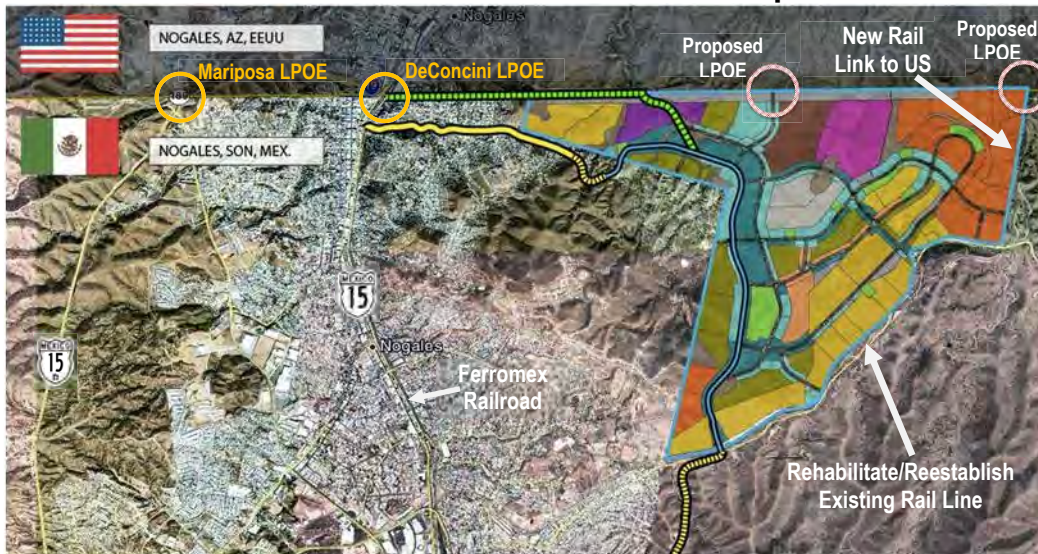
ARIZONA-SONORA BORDER MASTER PLAN



PUERTA DE ANZA

This is a master planned urban development project, being constructed on the old “Mascareñas Ranch,” which will occupy 2,500 acres along the international border directly east of Nogales, Sonora. It is certified as a Self Sustainable Housing Environmental (SSHE) by the Mexican government. At buildout, the development is planned to include 23,000 housing units supporting a population of 103,000 people. The plan anticipates a direct roadway connection with downtown Nogales and the DeConcini land port of entry (LPOE) via Sierra Madre Occidental/Buenos Aires streets and an extension of International Street to the east. It also includes (conceptually) two additional border crossings: one approximately 2.6 miles east of the DeConcini LPOE and the other 4.3 miles farther to the east. The easternmost potential border crossing is conceived to include a new rail line to the international border and beyond that is linked with a new rail line running along the southern edge of the development and associated with an intermodal container handling facility. This rail line has been included in the projects evaluated in conjunction with this Arizona-Sonora Border Master Plan.

Puerta de Anza Master Planned Development



Source: Puerta de Anza Project's Impact on the Arizona-Sonora Border Master Plan, Presentation dated May 2012.



MEXICO FEDERAL ROUTE 45 (MAZATLAN-DURANGO HIGHWAY)

The newly constructed Mexico Federal Route 45 (FR 45) became operational this year. FR 45 is routed due north from Ciudad Durango, through the State of Chihuahua to Ciudad Juárez at the Texas border. FR 45 potentially will have a positive impact on imports and exports of agricultural and agro-industrial freight in the State of Sinaloa. Previously, travel to the north from Sinaloa followed FR 15/15D to the Mariposa LPOE or Douglas LPOE by taking FR 2 to the east. FR 2 also provided access to Ciudad Juárez. Combined with the new Mazatlán-Durango Highway (see below), which will provide expedited access to the east coast of Mexico and southern Texas, FR 45 offers significant times savings to the U.S. border for Sinaloa and Mazatlán (Table 11-1). Table 11-1 also shows times savings for a series of improvements and a bypass Centro SCT Sonora currently is constructing in association with FR 15 in the area of Hermosillo, Mexico. These actions are expected to minimize the time of the freight traffic through Mexico’s CANAMEX corridor, allowing FR 15/15D to remain a viable alternative for access to the U.S. border.

Table 11.1 Estimated Changes in Travel Time: Mazatlán to U.S. Border

Route	Distance (Km)	Current Actual Travel Time	Proposed Travel Time with New Improvements
Mexico Federal Route 45: Mazatlán-Durango-Cd. Juárez	1,355	31 Hrs.	25 Hrs.
Mexico Federal Routes 15/15D and 2: Mazatlán-Hermosillo-Cd. Juárez(*)	1,650	35 Hrs.	32 Hrs.
Mexico Federal Route 15/15: Mazatlán-Nogales(*)	1,174	22 Hrs.	19 Hrs.

Source: Information from Centro SCT Sonora.

(*) Assumes the construction of the Hermosillo Bypass.



12.0 STAKEHOLDER INVOLVEMENT

Implementing an inclusive stakeholder involvement program was a critical part of building a foundation of cooperation among the Policy Advisory Committee (PAC), Technical Working Group (TWG) and other interested parties. The study team included firms with extensive international agency relationships, as well as southern Arizona public involvement expertise. The study team worked closely with ADOT leadership to identify and invite executive-level agency managers of federal, tribal, state, regional and local entities, from both the United States and Mexico, to participate. This resulted in the development of a PAC. The PAC then designated its senior agency technical staff to participate in the TWG.

The PAC and TWG worked together with the study team to develop and approve the stakeholder involvement plan. In addition to meetings, this plan also included the development and distribution of a series of newsletters (provided in Appendix G) and a project website.

12.1 COMMITTEE MEETINGS

During the course of the study, four PAC meetings and four TWG meetings were held, along with two joint PAC/TWG meetings. A final joint PAC/TWG meeting was held on Dec. 13, 2012, to review the full project list, associated scoring and final project rankings. This brought the total to 11 committee meetings as listed in Table 12.1. A record of these meetings is available in Appendix H.

The meetings were held at various locations throughout the study area. Meetings featured simultaneous translation provided by the University of Arizona's National Center for Interpretation. Regular stakeholder meetings and consistent communication throughout the study timeframe ensured that stakeholder input was considered. The focus on steady communication resulted in a consensus-based plan that meets the needs of those involved and fulfills BMP goals.



Table 12.1 Committee Meetings

PAC Meetings	TWG Meetings	Joint PAC/TWG Meetings
February 9, 2012 Puerto Peñasco, Sonora 35 attendees	January 17, 2012 San Luis, Arizona 28 attendees	December 13, 2011 Tucson, Arizona 45 attendees
March 8, 2012 Tucson, Arizona 25 attendees	February 16, 2012 Nogales, Arizona 29 attendees	October 16, 2012 Tucson, Arizona 36 attendees
June 7, 2012 Tucson, Arizona 42 attendees	May 15, 2012 Nogales, Arizona 33 attendees	December 13, 2012 Tucson, Arizona 32 attendees
September 18, 2012 Tucson, Arizona 26 attendees	August 15, 2012 Tucson, Arizona 29 attendees	

12.2 STAKEHOLDER/FOCUS GROUP MEETINGS

The focus group sessions held in Nogales, Douglas and San Luis, Arizona, as listed in Table 12.2, were an important part of the BMP stakeholder outreach. Sixty-five participants from both sides of the border represented the following interests:

- Commerce, border trade advocacy groups and workforce providers
- Produce growers, freight and railroad associations
- Developers and landowners
- Law enforcement and emergency service providers
- Tribal, local and federal entities

Each focus group session started (and concluded) with a 30-minute open house format allowing attendees to review project exhibits and ask questions of the study team. A 45-minute presentation was also conducted by the study team, where attendees learned about the study’s purpose, process, schedule and deliverables. Afterward, attendees were asked to self-select into one of two breakout groups – commerce or government. During the one- to two-hour focus group sessions, study team leaders asked participants about their border crossing



experiences, needed border improvements and associated concerns, including their perceptions of the constraints and obstacles to economic development in their areas.

Table 12.2 Stakeholder/Focus Group Meetings

Focus Group Sessions		
May 15, 2012 Nogales, Arizona 15 attendees	August 2, 2012 Douglas, Arizona 34 attendees	October 9, 2011 San Luis, Arizona 16 attendees

12.3 BI-NATIONAL COORDINATION

In an effort to ensure bi-national coordination and commitment the study team arranged for several meetings to be held at Mexican sites. As early as the first PAC meeting, the team met in Puerto Peñasco in conjunction with the Arizona-Mexico Commission (AMC) Plenary Session. Every effort was made to have meetings coincide with other transportation industry events including the AMC, U.S./Mexico Joint Working Committee and the Rural Transportation Summit.

The study team met with representatives from the Secretaría de Relaciones Exteriores (SRE) and the Secretaría de Comunicaciones y Transportes (SCT) on March 6, 2012 to glean information from applicable, relevant studies and to gather traffic information via a Travel Demand Model (TDM). It is the hope of the study team that the TDM will be available for integration in the BMP Update in three to five years.

In the latter stages of the BMP development two meeting were conducted in Hermosillo, Sonora to further develop the list of applicable Sonoran projects and to establish the scoring for those subject projects. These meetings were held August 30-31, 2012 and November 8, 2012.



12.4 IMPORTANT LINKS

- U.S./Mexico Joint Working Committee on Transportation Planning:
www.borderplanning.fhwa.dot.gov/masterplans.asp
- U.S. Bureau of Transportation Statistics, North American Border Crossing/Entry Data:
www.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BC_Index.html
- Secretaría de Comunicaciones y Transportes: www.sct.gob.mx
- Arizona-Mexico Commission: www.azmc.org
- Article: “Transportation Committee Highlights Arizona-Sonora Border Master Plan,” Arizona-Mexico Commission, Catalyst Magazine, Winter 2012 Edition:
www.azdot.gov/azborderplan/PDF/InTheNew_021712.pdf
- For additional Arizona-Sonora BMP background, including previous newsletters, see:
www.azdot.gov/azborderplan



APPENDIX A

List of Relevant Studies

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Framework Studies				
Statewide Transportation Framework Study	Formulated and evaluated multimodal transportation improvements through extensive statewide collaborative process.	ADOT	Mar-10	Final
AZTDM Travel Demand Model (First Generation Forecasts)	A detailed three-step travel demand model, the primary purpose of which is to assess regional transportation needs in Arizona. Next generation model will consist of a more detailed four-step model.	ADOT	Sep-08	Final
Eastern AZ Framework Study	A regional study focusing on not only transportation, but also sustainability, Smart Growth, the environment, economic development, and safety and security, including: Greenlee, Graham, Cochise, and Santa Cruz Counties, and portions of Navajo, Apache, and Gila Counties.	ADOT	Jun-09	Final
Central AZ Framework Study	A regional study focusing on not only transportation, but also sustainability, Smart Growth, the environment, economic development, and safety and security, including: Pinal County and portions of Gila County.	ADOT	Jun-08	Final
Western AZ Framework Study	A regional study focusing on not only transportation, but also sustainability, Smart Growth, the environment, economic development, and safety and security, including: Mohave, La Paz, and Yuma Counties.	ADOT	May-09	Final
MAG Freight Framework study	This study will assess potential improvements to the freight infrastructure within the MAG, PAG, and CAAG regions and develop an inland port market assessment.	MAG	N/A	Ongoing
ADOT Climbing Lane Study	Study identifies and prioritizes climbing lane projects to be considered for inclusion in the Five-Year Construction Program.	ADOT	May-04	Final
State Rail Plan	This plan provides a broad planning framework for passenger and freight rail network within Arizona.	ADOT	Mar-11	Final
Statewide Rail Framework Study	This study was part of a series of regional framework studies that provided a foundation for the State Rail Plan and Statewide transportation planning framework. Identified opportunities for passenger and freight rail throughout the state.	ADOT	2011	Final

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Planning Assistance for Rural Areas (PARA) Studies				
City of Nogales PARA – Pedestrian Circulation at Port of Entries (2010)	Purpose of this study is to prepare and complete a pedestrian circulation plan for the City of Nogales in the vicinity of, and considering, the three Nogales LPOEs.	ADOT	Jan 2012	Final
Sahuarita PARA	Identify mobility and access needs and deficiencies and recommend a program of improvements organized into short-term (5 years), mid-term (10 years), and long-term improvements (30 years) by develop a Major Streets and Routes Plan and also Identify funding opportunities.	ADOT	Aug 2010	Final
Yuma Foothills PARA	Study will identify roadway and potential multimodal improvements coupled with flood control requirements to meet the growing population and changing land uses to improve mobility and safety and to encourage sensible and sustainable development that supports the current and projected uses in the General Plan.	ADOT	2011/12	Ongoing
Yuma County Transit PARA	The Yuma Regional Transit Study is intended to identify transit needs within southwestern Yuma County and develop a recommended transit system with implementation plan based on three funding scenarios.	ADOT	N/A	Ongoing
Bisbee PARA	Study provides an assessment of the City’s existing transportation infrastructure and transportation-related drainage facilities. And, it includes an implementation plan to bring the transportation infrastructure up to current standards and to provide an acceptable level of service for current and forecast travel demands.	ADOT	N/A	Ongoing
NW Cochise County PARA	This study evaluated options to address transportation needs anticipated in 2020 and 2040. The study resulted in a recommended set of strategies and actions as outlined in the September 2010 Northwest Cochise County Long Range Transportation Plan.	ADOT	2010	Final
Sierra Vista PARA	Study is preparing a Sierra Vista Bicycle and Pedestrian Routes Map and identifying bicycle and pedestrian needs and deficiencies in the City of Sierra Vista. Recommendations will be developed for projects, programs, and studies to improve bicycle and pedestrian safety in the City of Sierra Vista.	ADOT	2010	Ongoing

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Unified Nogales/Santa Cruz County Transportation Plan 2010	Purpose of the Unified Nogales/Santa Cruz County Transportation 2010 Study is to develop a transportation plan to address short-term (5-year), mid-term (10-year), and long-term (20-year) transportation needs for the Nogales/Santa Cruz County planning region.	ADOT	4/2010	Final
City of San Luis Traffic Circulation Study	Primary objective is to identify roadway improvements necessary to accommodate Year 2030 travel demand associated with two roadway alternatives: (1) US-95 terminating before Urtuzuastegui Street and (2) US-95 allowing only left turns on Urtuzuastegui Street.	San Luis & ADOT	Apr 2011	Final
Transportation Needs Study for Yuma Foothills and Mesa del Sol Area	This study was performed by ADOT at the request of Yuma County. The study evaluated short, mid and long-term transportation system needs based on an updated version of the YMPO Regional Travel Demand Model. An implementation plan was included in the final report to define the timing for the construction of all prioritized multi-modal system improvements on local and state facilities.	ADOT, Yuma County and Wilson & Company	2012	Final
Small Area Transportation Studies (SATS)				
City of San Luis SATS	The principal focus of the proposed study is to update the 1998 San Luis Circulation Study. The major product of the study will be a final report incorporating both roadway and transit improvements over five and ten-year periods, and a long-range transportation plan elements. Attention has been given to transportation needs due to the opening of the new San Luis II Commercial LPOE and reconfiguration of the original San Luis I	San Luis & ADOT	2009	Final
City of Somerton SATS	Provides a transportation plan and implementation program to guide the City in meeting future long-range, multimodal transportation needs through 2025	Somerton	2006	Final
City of Douglas SATS	Study provides guidance on how to address existing and potential future transportation issues within the community, based on a comprehensive transportation plan for the future growth in Douglas that will support and enhance cross-border commercial traffic, as well as the increasing traffic demands resulting from new commercial and residential developments.	Douglas	2007	Final

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Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Nogales Railroad Small Area Transportation Study	Planning study to justify need and determine the feasibility of constructing grade separated pedestrian and vehicle crossings in the City of Nogales.	City of Nogales & Kimley-Horn	2007	Final
City of Benson SATS	The goal of the study was to develop a comprehensive transportation plan for the Benson area to guide multi-modal transportation planning and programming for the next 25 yrs.	United Civil Group Corp.	Sept 2007	Final
Regional Planning Studies				
YMPO – TIP	Yuma Metropolitan Planning Organization's Transportation Improvement Program (TIP)	YMPO	Aug 2011	Draft
YMPO – RTP	Yuma Metropolitan Planning Organization's Regional Transportation Plan (RTP)	Ayres/Jacobs	Apr 2010	Final
PAG – RTP	Pima Association of Governments' Regional Transportation Plan (RTP)	PAG	Jul 2011	Final
SEAGO TIP	SouthEastern Arizona Governments Organization Transportation Improvement Program (TIP)	SEAGO	May 2011	Final
ADOT STIP	Arizona Department of Transportation State Transportation Improvement Program	ADOT	2010	Final
County Planning Studies				
Yuma	Yuma County's Capital Improvement Program (CIP 2011-15)	City	2009/10	Final
Pima	Pima County's Capital Improvement Program (CIP)	Pima County	2009/10 and 2013/14	Final
Santa Cruz	Santa Cruz County Comprehensive Plan	Santa Cruz County	Jun 2004	Final
Cochise	NW Cochise Long-Range Transportation Plan	URS	Dec 2009	Final
Cochise County 2040 Long-Range Transportation Infrastructure Plan	This plan is a long-range strategic document describing Cochise County's existing and projected transportation needs. A set of potential multi-modal projects, policies and strategies are identified to address identified needs.	Cochise County	Pending 2013	Preliminary Draft
Naco	No CIP identified	TBD	TBD	TBD

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Wilcox	City of Willcox Capital Improvement FY 2011-12	City	2011	Final
Project Assessment and Design Concept Report for Davis Road	Project Assessment for the 24 mile Davis Road Corridor from SR 80 to Central Highway with a DCR from Central Highway to US 191.	Cochise County	N/A	Ongoing
SR 189: International Border to Grand Avenue DCR & Environmental Studies	Study involves preparation of an environmental assessment (EA) document and associated studies and reports. The proposed highway improvement project is being evaluated by ADOT to support identification of the preferred alternative(s) for improving SR-189/Mariposa Road, including the existing I-19/Mariposa Road TI, to provide an acceptable capacity and traffic operations through the Design-Year 2040.	ADOT	N/A	Ongoing
Mariposa - I-19 Connector Route Study	This study was prepared in response to large and growing truck volumes going through Mariposa POE, which SR 189 (Mariposa Road) does not have adequate capacity to serve. Study evaluated alternatives to connect POE to I-19.	ADOT	2008	Final
Multimodal Freight Analysis Study	This study assessed existing conditions for freight movements and infrastructure in AZ, and provided strategic direction, policy guidance, and priorities for integrating consideration of freight into long term transportation planning processes for AZ.	ADOT	2008	Final
Municipal Planning				
Yuma	City of Yuma 2012 Draft General Plan	City	2011	Draft
San Luis	City of San Luis General Plan 2020	City	2011	Final
Somerton	City of Somerton General Plan Update 2010	City	2010	Final
Nogales	City of Nogales 2010 General Plan	Planning Center Tucson	2010	Final
Douglas	City of Douglas Economic Outlook 2010	Cochise College, Center for Economic Research	2010	Final

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Sierra Vista	City of Sierra Vista 2020 General Plan	City	Dec 2002	Final
Bisbee	City of Bisbee 2003 General Plan	Planning Center Tucson	Jan 2004	Final
Lukeville	No CIP identified	TBD	TBD	TBD
Sasabe	No CIP identified	TBD	TBD	TBD
Other Studies and Border Master Plans				
California	California-Baja California Border Master Plan	SANDAG	Sep 2008	Final, Currently Being Updated
Texas	<ul style="list-style-type: none"> Laredo – Coahuila/Nuevo Leon Border Master Plan Lower Rio Grande Valley - Tamaulipas Border Master Plan El Paso – Chihuahua Border Master Plan 	TxDOT	2012	Pending Final Approval
Development of a Border Transportation Master Plan for five Border Cities and four Zones of Intermodal Integration in Seaports	Study evaluated the existing conditions of the border ports and development opportunities in the short, medium and long term based on four border regions.	SCT	2010	Final
Guaymas-Tucson Corridor Logistics Capacity Study	This study evaluated the constraints to developing regular container service within the corridor from Guaymas to Tucson. Concluded that key bottlenecks included Mariposa LPOE, railroad inspection services, and facilities at Guaymas.	ADOT	2006	Final
Sonora Construye Program	State of Sonora planning document which identifies transportation system improvements over a six-year planning horizon.	Govmt. of the State of Sonora	2010	Final
Sonora Highway Program 2013-15	State of Sonora transportation improvement program detailing and prioritizing project implementation over a two-year time frame.	SCT, Sonora & Junta de Caminos	2011	Final

ARIZONA-SONORA BORDER MASTER PLAN



Appendix A – List of Relevant Studies

Document/Name	Description	Author	Date	Status
Determining the capacity of ports in Northern Mexico Border	A study the analyzed the Land Port of Entries in the northern border of Mexico with the United States.	Mexican Institute of Transportation	2009	Final



APPENDIX B

Land Use Near Arizona LPOEs



LAND USE NEAR ARIZONA LPOES

As part of the ADOT Arizona-Sonora Border Master Plan Existing and Future Conditions evaluation, a review of the existing and planned land uses surrounding each port of entry was conducted. This technical memorandum identifies the pertinent available land use information for the area surrounding each LPOE and describes future land use planning efforts, if any, which relate to planned improvements to border crossing infrastructure.

SAN LUIS LAND PORTS OF ENTRY I AND II

The San Luis I LPOE is located on Main Street/U.S. 95 in downtown San Luis. The existing land uses throughout this corridor include mostly commercial uses south of Juan Sanchez Blvd, with some industrial east of the LPOE. Residential land uses begin east of 2nd Avenue and continue to County Avenue H. Residential land uses are also located west of the Main Canal. The land use surrounding San Luis LPOE II, located along Avenue E, is mostly undeveloped vacant land with agriculture to the port's immediate north.

Future land uses identified in the San Luis General Plan 2020 show the area in the immediate vicinity of the San Luis I LPOE as 'Activity Center' which includes the expansion of commercial services and supports mixed-use development throughout downtown and along major transportation corridors. One of the objectives in this area is to develop activity centers and encourage a pedestrian friendly environment. The focus for the Main Street corridor is growth in retail, service and office development and redevelopment. The 2020 plan also identifies Juan Sanchez Blvd as a future growth area that is a vital east-west corridor providing circulation throughout the city.

The San Luis II LPOE is a commercial port and has been identified as a high priority growth area within the city. The Avenue E corridor has been designated as 'Business' in the future land use plan which includes commercial, industrial and professional office land uses. This corridor has private land ownership and access limitations along Avenue E that create short term development opportunities near the intersection of County 24th Street and Avenue E, which has been identified as an activity node in the future.

The San Luis Future Land Use Plan and Growth Areas Plan from the 2020 General Plan are included below for reference.

ARIZONA-SONORA BORDER MASTER PLAN

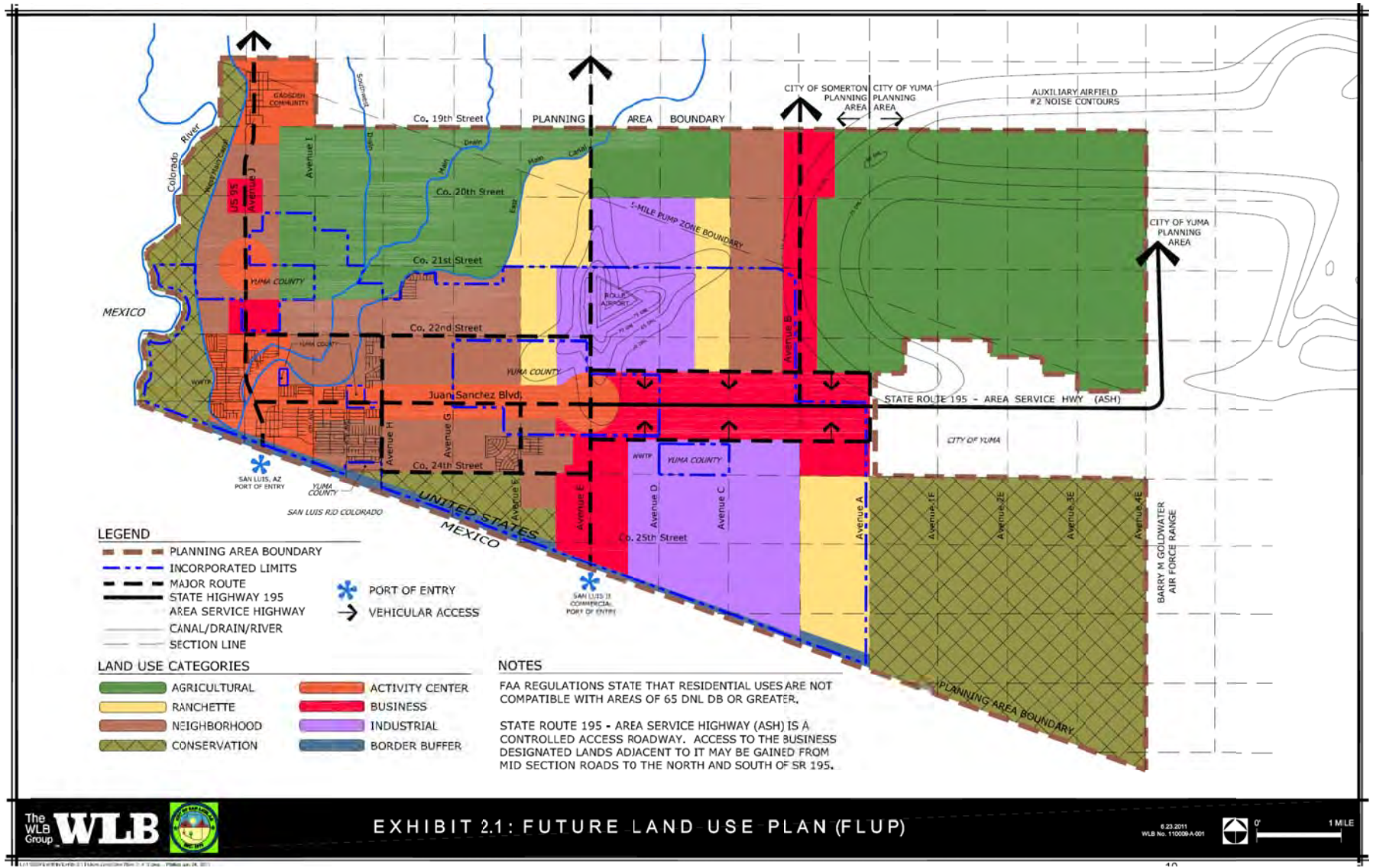


EXHIBIT 2.1: FUTURE LAND USE PLAN (FLUP)

6.23.2011
WLB No. 110009-A-001



ARIZONA-SONORA BORDER MASTER PLAN

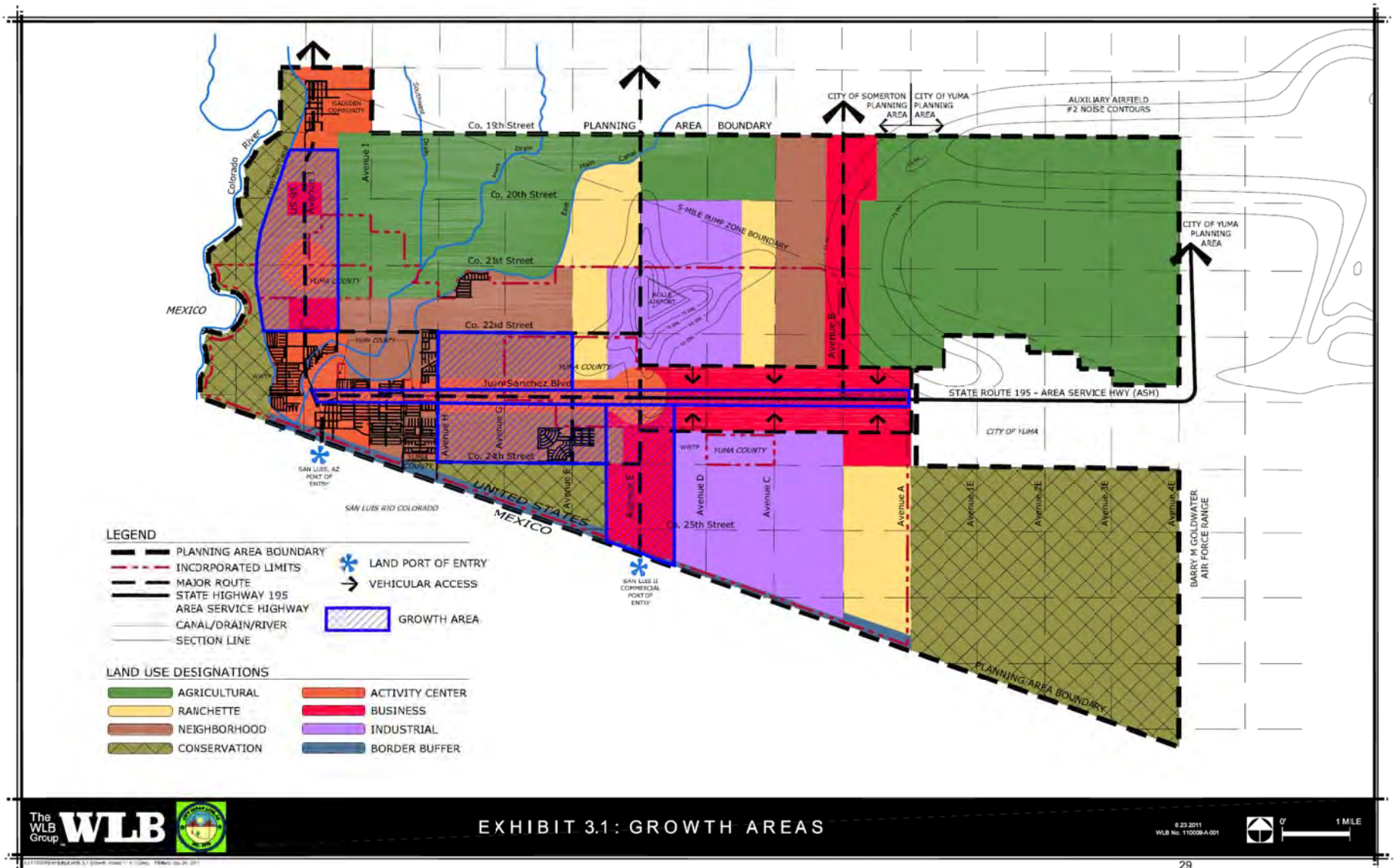


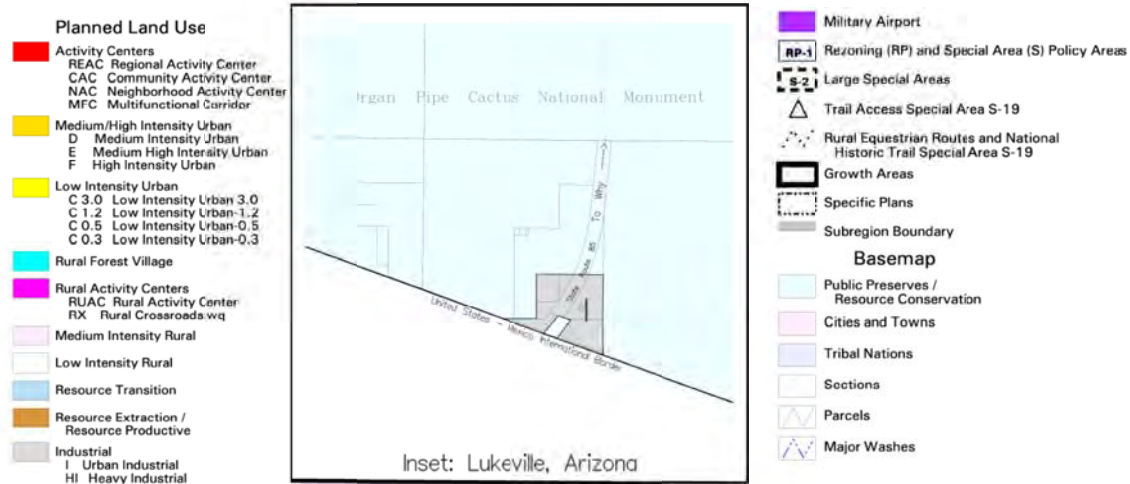
EXHIBIT 3.1: GROWTH AREAS

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LUKEVILLE LAND PORT OF ENTRY

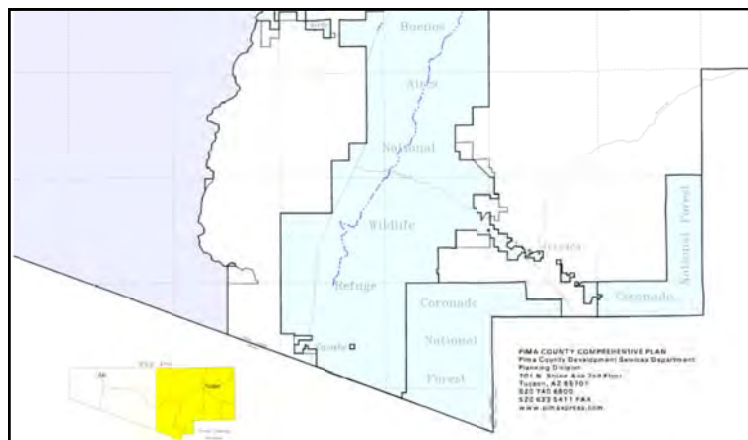
The Lukeville LPOE is located on SR 85 within the Organ Pipe Cactus National Monument. The LPOE is largely surrounded by open space managed by the National Park Service with a small amount of commercial development located directly adjacent to the border crossing. The Pima County Comprehensive Plan identifies future land use within this area as 'Urban Industrial' in the immediate vicinity of the LPOE and 'Public Preserves/Resource Conservation' in the surrounding areas within the Monument.





SASABE LAND PORT OF ENTRY

The Sasabe LPOE is located along Sasabe Road/SR 286 in southern Pima County, south of the Buenos Aires National Wildlife Refuge. The existing land uses surrounding this LPOE are mostly open space with a small amount of commercial development associated with the infrastructure of the border crossing along SR 286. The Pima County Comprehensive Plan identifies the area to the northwest of the LPOE as ‘Low Intensity Rural’ and the area to the immediate north and east as ‘Public Preserves/Resource Conservation’ associated with the National Wildlife Refuge.



NOGALES DECONCINI AND MARIPOSA LAND PORTS OF ENTRY

The Nogales DeConcini LPOE is located at Grand Avenue and East International Street in a commercial corridor of the City of Nogales. Existing lands uses in the immediate vicinity of the LPOE are mostly commercial with some residential uses located to the east and northwest. There is little vacant or undeveloped land in the area surrounding the DeConcini LPOE. The Mariposa LPOE is located along SR 189 west of downtown Nogales. Existing land uses in the vicinity of the Mariposa LPOE include mostly commercial and industrial uses with open space and vacant land to the east and west/northwest.

Future land uses identified as part of the Nogales General Plan for the area surrounding the DeConcini LPOE includes mixed-use developments to promote revitalization of the downtown as a compact, historic, mixed-use central business core. Stated goals of the plan include addressing the infrastructure, mobility and multimodal access requirements that will improve overall circulation surrounding the LPOE. The Nogales Zoning Map identifies the approved zoning in this area as a mix of General Commercial, Multi-Family and Single Family Residential, and Light Industrial.

ARIZONA-SONORA BORDER MASTER PLAN



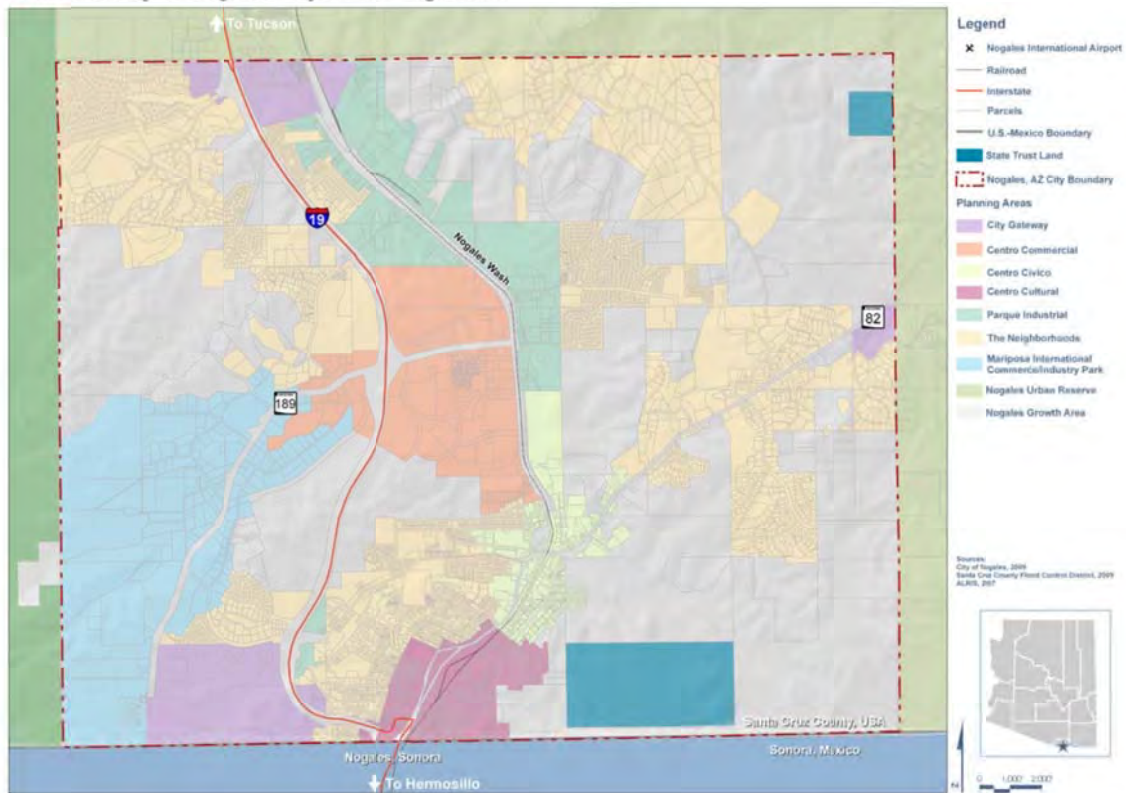
The Mariposa LPOE is considered a modern, high-tech commerce/industry park planning area in the Nogales General Plan. Future plans recommend that the area in the vicinity of the LPOE include opportunities of additional industry, state-of-the-art packing and distribution centers, assembly/manufacture, technology/innovation, business incubators, corporate campuses, alternative energy generation, and other major employment centers that would benefit from proximity to an international border. This area is considered a high growth area for the region and plans to be developed in a manner that supports the long-range viability and sustainability of the City.

The City of Nogales Major Planning Areas Map is shown for reference.



City of Nogales General Plan

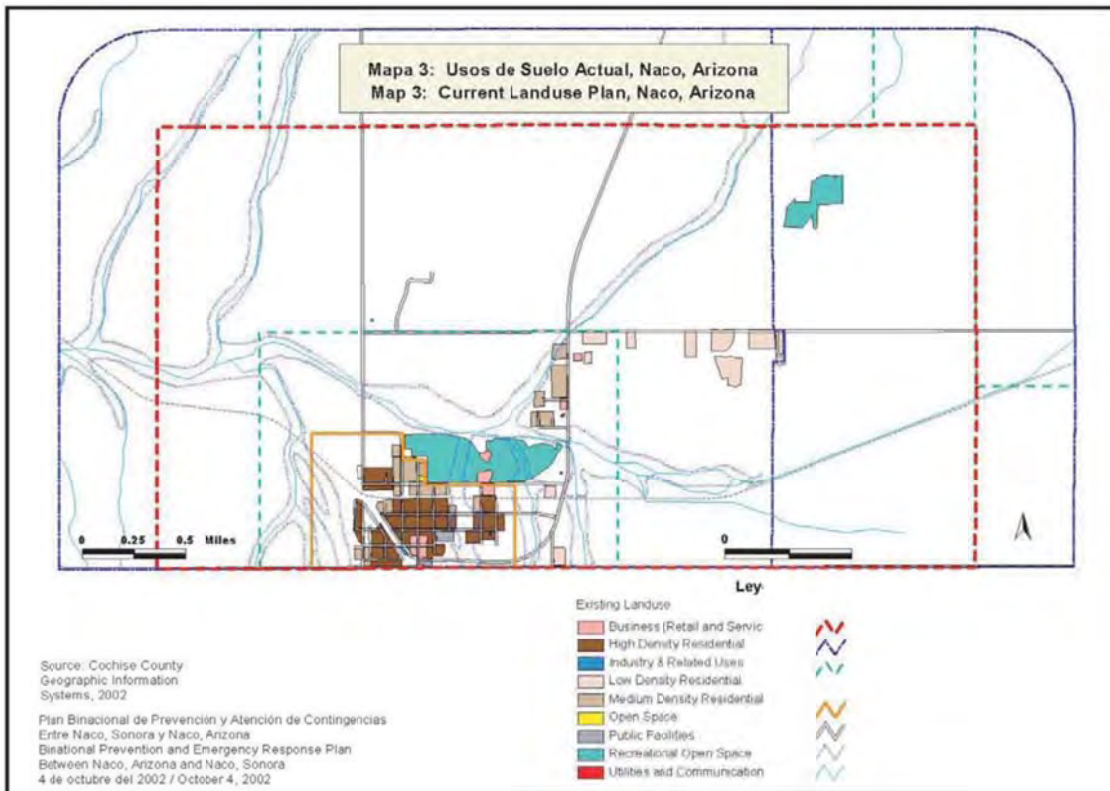
Exhibit 3: City of Nogales Major Planning Areas





NACO LAND PORT OF ENTRY

The Naco LPOE is located near the intersection of South Towner Avenue and South Naco Highway in southern Cochise County. Existing land uses in the area surrounding the border crossing include industrial and some commercial to the north and northwest. Beyond the immediate vicinity of the LPOE, land uses transition into residential development. The Naco Land Use Plan and Specific Area Plan identify the area in the immediate vicinity of the border crossing as ‘Public Facilities’ and ‘Business’ uses. Beyond this industrial core, the majority of the community is identified as high and medium density residential developments. The Naco Area Plan also supports the development of a new border crossing for trucks and rail east of Naco, in a safe appropriate location with the planned industrial area. The Naco Land Use Plan is shown below for reference.





DOUGLAS LAND PORT OF ENTRY

The Douglas LPOE is located on U.S. 191/Pan American Avenue, southwest of downtown Douglas. Existing land uses in the surrounding area include mostly industrial and commercial uses to the north and northwest with residential developments and downtown Douglas to the northeast. The land to the immediate west of the border crossing is vacant. The Douglas International Port Authority identifies the area surrounding the border crossing as an area that will be redeveloped with infrastructure improvements by 2014. There are plans to extend Chino Road to the south to improve connectivity to and around the LPOE.



APPENDIX C

Aerial Photos of LPOEs with Tabulated Traffic Data

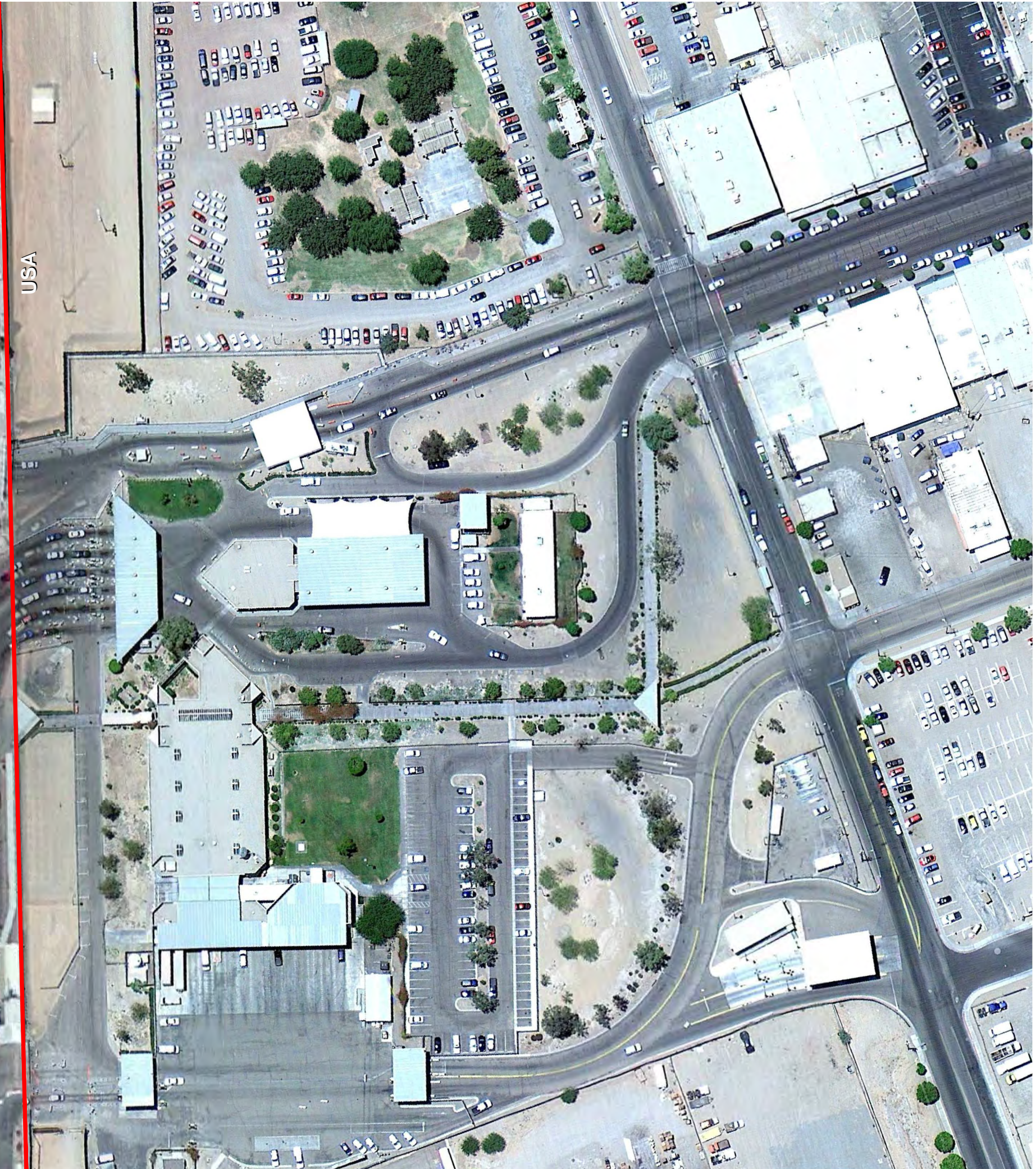


**SAN LUIS I /
SAN LUIS RIO
COLORADO I
PORT OF ENTRY**



MEXICO

USA



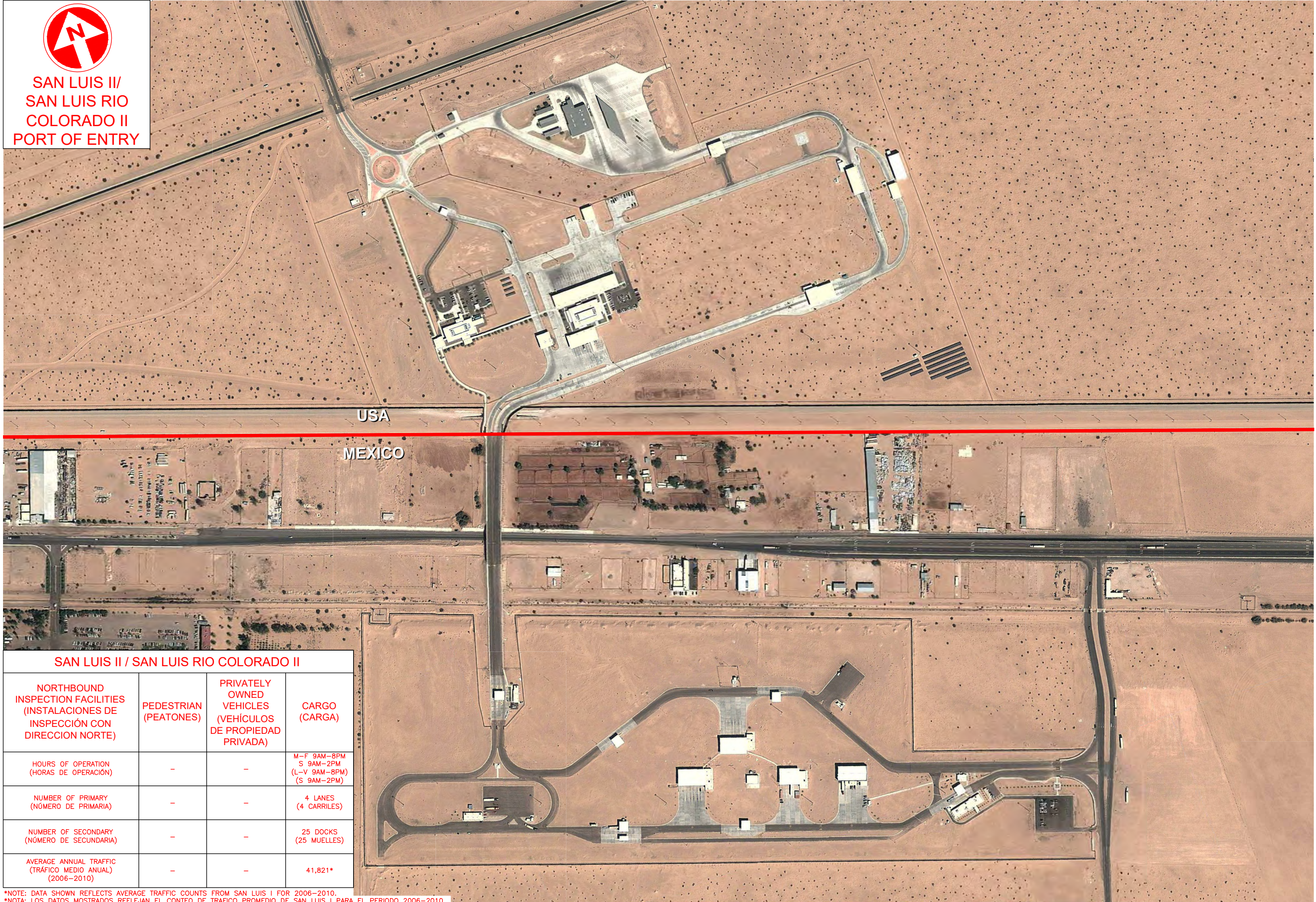
SAN LUIS I / SAN LUIS RIO COLORADO I

NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHICULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	24/7 (SENTRI 4AM-10PM)	24/7 (SENTRI 6AM-10PM)	-
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	7 LANES (6+1 SENTRI) (7 LINEAS) (6+1 SENTRI)	8 LANES (6+2 SENTRI) (8 CARRILES) (6+2 SENTRI)	-
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	12 STALLS (12 PUESTOS)	-
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	2,630,166 (1,487 FROM BUSES) (1,487 DE AUTOBUSES)	2,356,951 (60 BUSES) (60 AUTOBUSES)	41,821*

*NOTE: ALL COMMERCIAL CARGO TRAFFIC HAS BEEN REROUTED TO THE SAN LUIS II LPOE
*NOTA: TODO EL TRÁFICO COMERCIAL HA SIDO DESVIADO A TRAVÉS DE SAN LUIS II



**SAN LUIS II/
SAN LUIS RIO
COLORADO II
PORT OF ENTRY**



USA

MEXICO

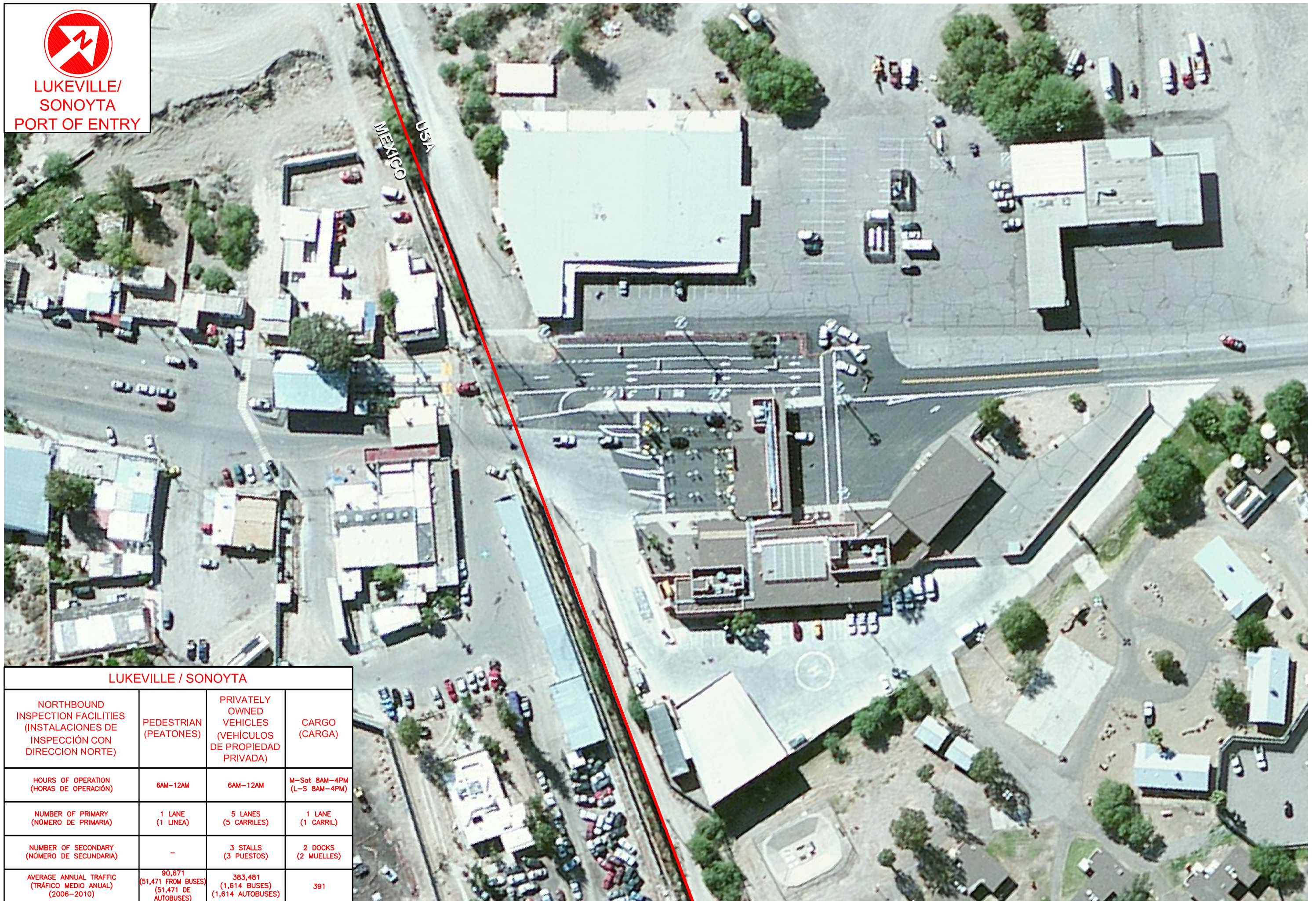
SAN LUIS II / SAN LUIS RIO COLORADO II

NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHÍCULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	-	-	M-F 9AM-8PM S 9AM-2PM (L-V 9AM-8PM) (S 9AM-2PM)
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	-	-	4 LANES (4 CARRILES)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	-	25 DOCKS (25 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	-	-	41,821*

*NOTE: DATA SHOWN REFLECTS AVERAGE TRAFFIC COUNTS FROM SAN LUIS I FOR 2006-2010.
*NOTA: LOS DATOS MOSTRADOS REFLEJAN EL CONTEO DE TRÁFICO PROMEDIO DE SAN LUIS I PARA EL PERIODO 2006-2010.



LUKEVILLE/
SONOYTA
PORT OF ENTRY

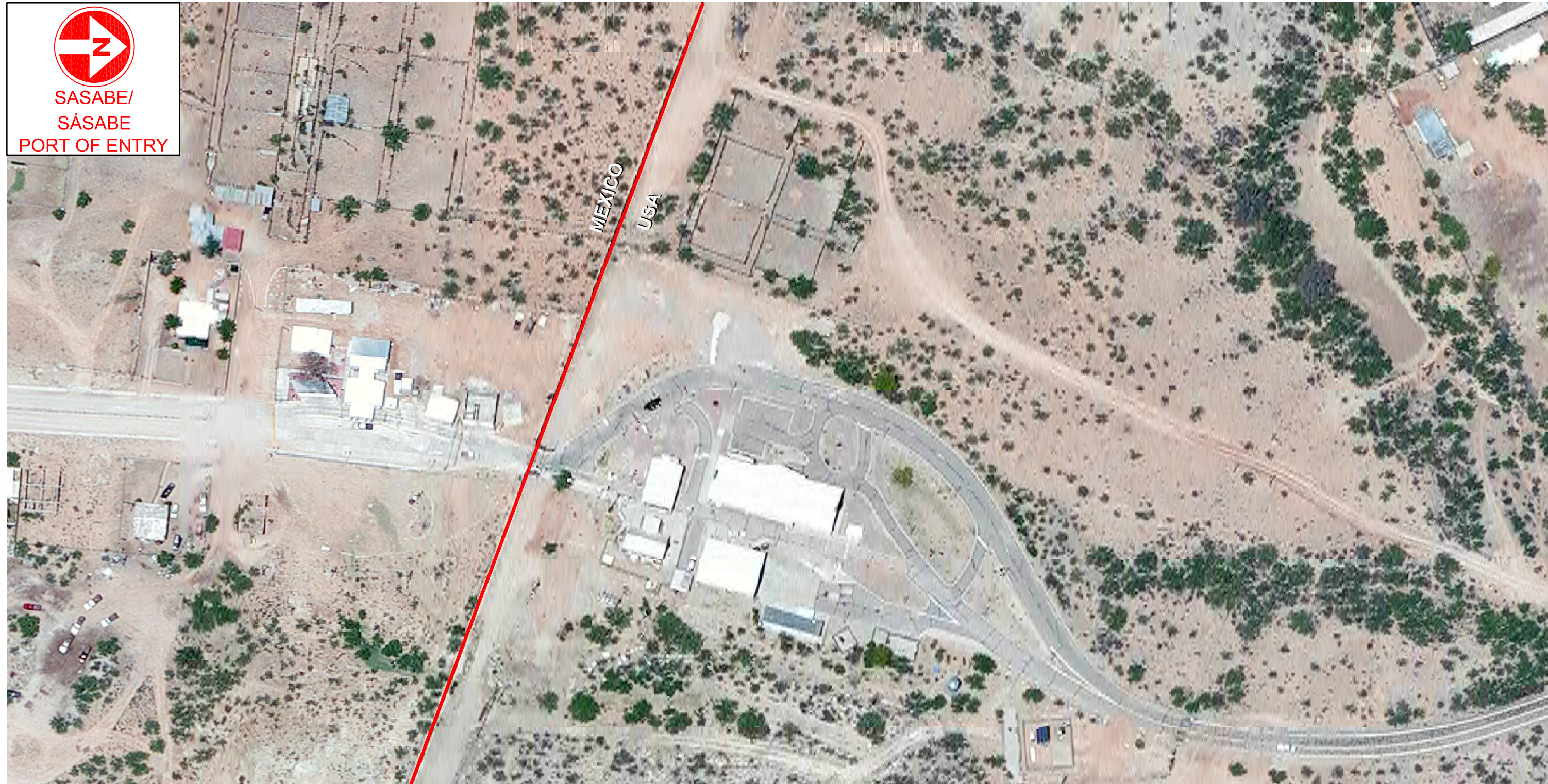


LUKEVILLE / SONOYTA

NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHICULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	6AM-12AM	6AM-12AM	M-Sat 8AM-4PM (L-S 8AM-4PM)
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	1 LANE (1 LINEA)	5 LANES (5 CARRILES)	1 LANE (1 CARRIL)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	3 STALLS (3 PUESTOS)	2 DOCKS (2 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	90,671 (51,471 FROM BUSES) (51,471 DE AUTOBUSES)	383,481 (1,614 BUSES) (1,614 AUTOBUSES)	391



SASABE/
SÁSABE
PORT OF ENTRY



SASABE / SÁSABE			
NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHÍCULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	8AM-8PM	8AM-8PM	8AM-8PM
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	1 LANE (1 LINEA)	1 LANE (1 CARRIL)	1 LANE (1 CARRIL)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	2 STALLS (2 PUESTOS)	2 DOCKS (2 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	1,197	29,533	234



**MARIPOSA/
NOGALES II
PORT OF ENTRY**



MARIPOSA / NOGALES II

NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCIÓN NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHÍCULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	6AM-10PM	6AM-10PM	M-Sat 8AM-9PM 6PM OFF SEASON (L-S 8AM-9PM) 6PM TEMPORADA BAJA
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	1 LANE (1 CARRIL)	4 LANES (4 CARRILES)	4 LANES (4 CARRILES)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	6 STALLS (6 PUESTOS)	76 DOCKS (76 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	6,005,305* (193,527 FROM BUSES) (193,527 DE AUTOBUSES) (2,437 FROM TRAINS) (2,437 DE TRENES)	3,016,413* (11,290 BUSES) (11,290 AUTOBUSES)	294,600* (609 TRAINS; 34,091 LOADED CARS) (609 TRENES, 34,091 VAGONES CARGADOS)

*NOTE: REPRESENTS COMBINED TRAFFIC VOLUMES FOR ALL BORDER CROSSINGS THROUGH NOGALES.
*NOTA: REPRESENTA VOLÚMENES COMBINADOS DE TRÁFICO PARA TODOS CRUCES FRONTERIZOS A TRAVÉS DE NOGALES.

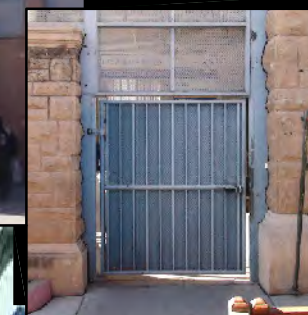


**DeCONCINI/
NOGALES I &
MORLEY GATE
PORTS OF ENTRY**

NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHÍCULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
DeCONCINI / NOGALES I			
HOURS OF OPERATION (HORAS DE OPERACIÓN)	24/7	24/7	-
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	5 LANE (5 LINEAS)	8 LANES (8 CARRILES)	-
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	14 STALLS (14 PUESTOS)	-
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	*	*	*
MORLEY GATE			
HOURS OF OPERATION (HORAS DE OPERACIÓN)	M-F 10AM-6PM Sat 10AM-5PM (L-V 10AM-6PM) (S 10AM-5PM)	-	-
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	4 LANES (4 LINEAS)	-	-
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	-	-
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	*	*	*

MEXICO

USA

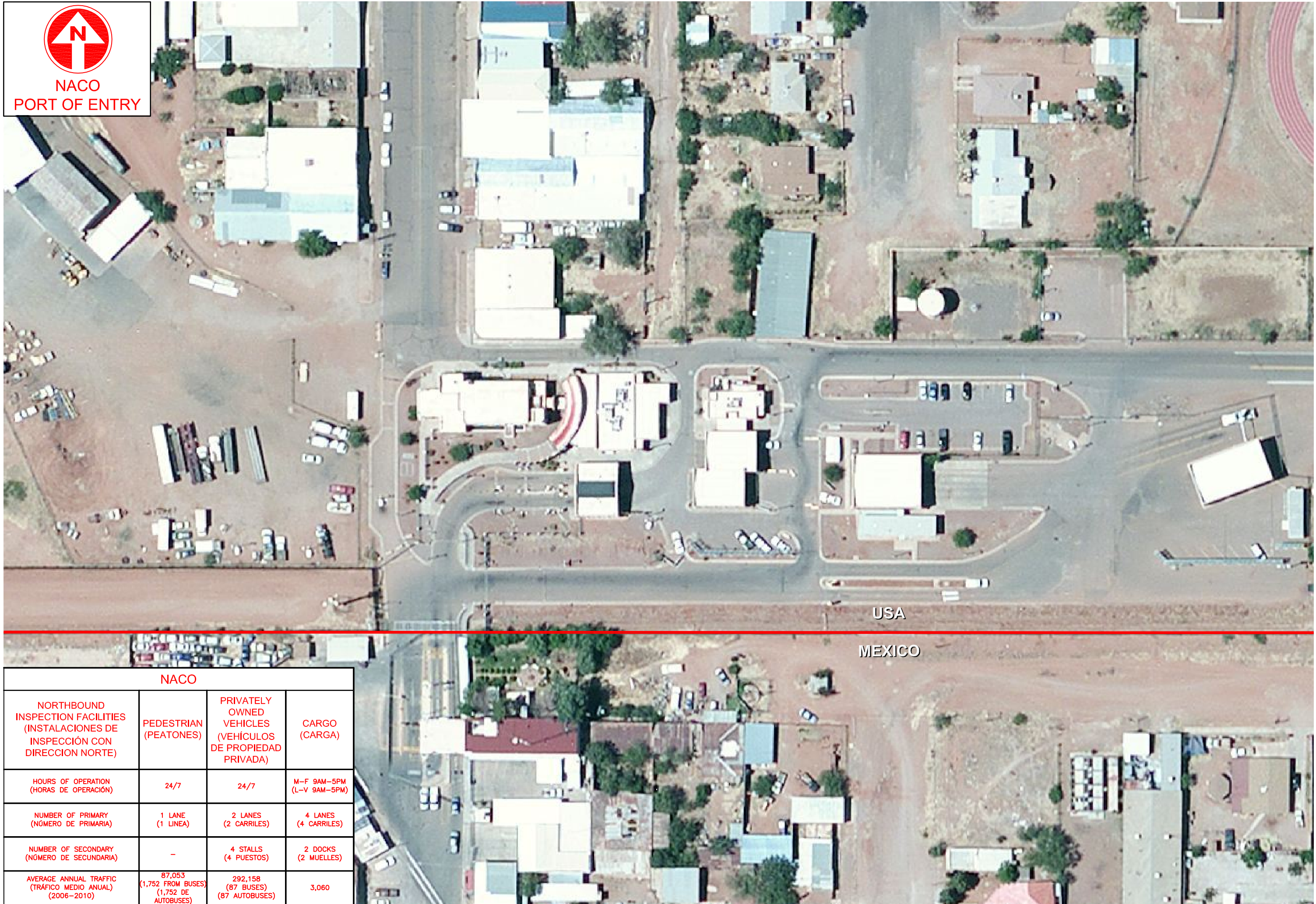


MORLEY GATE

*NOTE: REFER TO MARIPOSA LPOE FOR TOTAL TRAFFIC VOLUMES THROUGH NOGALES.
*NOTA: CONSULTE MARIPOSA LPOE PARA VOLÚMENES DE TRÁFICO TOTAL A TRAVÉS DE NOGALES.



NACO
PORT OF ENTRY



USA

MEXICO

NACO			
NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCION NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHICULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	24/7	24/7	M-F 9AM-5PM (L-V 9AM-5PM)
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	1 LANE (1 LINEA)	2 LANES (2 CARRILES)	4 LANES (4 CARRILES)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	4 STALLS (4 PUESTOS)	2 DOCKS (2 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	87,053 (1,752 FROM BUSES) (1,752 DE AUTOBUSES)	292,158 (87 BUSES) (87 AUTOBUSES)	3,060



**DOUGLAS/
AGUA PRIETA
PORT OF ENTRY**



DOUGLAS / AGUA PRIETA			
NORTHBOUND INSPECTION FACILITIES (INSTALACIONES DE INSPECCIÓN CON DIRECCIÓN NORTE)	PEDESTRIAN (PEATONES)	PRIVATELY OWNED VEHICLES (VEHÍCULOS DE PROPIEDAD PRIVADA)	CARGO (CARGA)
HOURS OF OPERATION (HORAS DE OPERACIÓN)	24/7	24/7	M-Th 9AM-5PM F 9AM-6PM (L-J 9AM-5PM) (V 9AM-6PM)
NUMBER OF PRIMARY (NÚMERO DE PRIMARIA)	2 LANES (2 LINEAS)	7 LANES (7 CARRILES)	2 LANES (2 CARRILES)
NUMBER OF SECONDARY (NÚMERO DE SECUNDARIA)	-	9 STALLS (9 PUESTOS)	12 DOCKS (12 MUELLES)
AVERAGE ANNUAL TRAFFIC (TRÁFICO MEDIO ANUAL) (2006-2010)	1,059,111 (17,179 FROM BUSES) (17,179 DE AUTOBUSES)	1,667,279 (2,502 BUSES) (2,502 AUTOBUSES)	26,079



USA

MEXICO



APPENDIX D

Point Spreads for Evaluation Criteria



POINT SPREADS FOR EVALUATION CRITERIA

LPOE PROJECT CRITERIA

CATEGORY: CAPACITY/CONGESTION

1. **Change in projected demand**. Change in volume of Commercial Vehicle (CV), Privately Owned Vehicles (POV), Pedestrian, & rail traffic; increased tonnage and value of freight.
12 points possible, 3 in each mode (CV, POV, Pedestrian, Rail).
 - a. 3 points - Projects with the highest increase
 - b. 2 points - Projects with medium increase
 - c. 1 point - Projects with the lowest increase
 - d. 0 points - Projects with a specific mode that is not offered
2. **Change in number/type/efficiency of booths/docks**. Change in number of CV, POV, Pedestrian, & rail processing booths; change in number of booths dedicated to SENTRI, FAST, tandem processing, etc.
12 points possible, 3 in each mode (CV, POV, Pedestrian, Rail).
 - a. 3 points - Projects with the highest increase
 - b. 2 points - Projects with medium increase
 - c. 1 point - Projects with the lowest increase
 - d. 0 points - Projects with a specific mode that is not offered
3. **Wait times**. Existing documented wait times by travel mode.
9 points possible, 3 in each mode (CV, POV, Pedestrian).
 - a. 3 points - Projects with the longest wait
 - b. 2 points - Projects with medium wait
 - c. 1 point - Projects with the lowest wait
 - d. 0 points - Projects with a specific mode that is not offered



4. **Change in modes served.** Are new travel modes able to be processed?
2 points possible.
 - a. 2 points – More than one mode added
 - b. 1 point – One mode added
 - c. 0 points – No additional modes
5. **Percent of total AZ-Sonora border crossing demand.** Ratio of existing or projected LPOE annual crossings to total crossings between Arizona and Sonora.
12 points possible, 3 in each mode (CV, POV, Pedestrian, Rail).
 - a. 3 points - Projects with the highest percent
 - b. 2 points - Projects with medium percent
 - c. 1 point - Projects with the lowest percent
 - d. 0 points - Projects with a specific mode that is not offered

CATEGORY: COST EFFECTIVENESS

6. **Cost of project versus projected demand.** Project cost vs. number of users and/or amount or value of goods that would benefit from the investment.
5 points possible.

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects.** Qualitative effects on air quality, parks/open space, wildlife areas or linkages. (*Assumes all projects will have some environmental benefit to air quality. Measure intended to account for potential disruption to the natural environment*).
2 points possible.
 - a. 2 points - Projects with least impact
 - b. 1 point - Projects with negligible benefit
 - c. 0 points - Projects with highest impact
8. **Socioeconomic/community effects.** Qualitative effects on neighborhoods, community services (i.e. schools, churches, medical, etc.), effects on minority populations.
2 points possible.



- a. 2 points - Projects with positive benefit
 - b. 1 point - Projects with negligible impact
 - c. 0 points - Projects with negative impact
9. **Economic effects**. Qualitative effects on businesses, job creation, transport of freight.
- 2 points possible.
- a. 2 points - Projects with positive benefit
 - b. 1 point - Projects with negligible impact
 - c. 0 points - Projects with negative impact
10. **Modal effects**. Does the project effect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit).
- 1 point possible.
- a. 1 point - Projects with positive impact
 - b. 0 points - Projects with negligible or negative impact

CATEGORY: PROJECT READINESS

11. **Project Phase**. What stage of planning, design, land acquisition; and has dedicated funding been identified?
- 3 points possible.
- a. 3 points - Permitted Projects
 - b. 2 points - Projects in advanced planning phase
 - c. 1 point - Projects in conceptual planning phase
12. **Land Availability**. Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?
- 1 point possible
- a. 1 point - yes
 - b. 0 points – no
13. **Local Infrastructure Compatibility**. Is local infrastructure in place to support the proposed LPOE improvement project?
- 2 points possible.

ARIZONA-SONORA BORDER MASTER PLAN



- a. 2 Points – **Both** Roadway and Utility Infrastructure in place
 - b. 1 point – **Only** Roadway **OR** Utility Infrastructure in place
 - c. 0 points – Neither Roadway **OR** Utility Infrastructure in place
14. **Change in efficiency of staff.** Will the project increase the efficiency of the staff.
- 1 point possible.
- a. 1 point – Project improves existing staff efficiency
 - b. 0 points – Project does not improve staff efficiency

CATEGORY: BINATIONAL COORDINATION/COMMITMENT/CONSENSUS

15. **Federal Support.** What level of discussion/commitment has been made by the U.S. and Mexican Federal Governments? Are both parties in agreement with the proposed improvement?
- 2 points possible.
- a. 2 points – Strong support by all parties
 - b. 1 point – Passive support by all parties
 - c. 0 points – No support
16. **State/Local Support.** What level of support/commitment has been observed by state or local agencies?
- 2 points possible.
- a. 2 points – Strong support by all parties
 - b. 1 point – Passive support by all parties
 - c. 0 points – No support
17. **Level of Bi-national Consensus.** Marked by federal milestones including exchange of official documents and coordination via Binational Bridges & Border Crossings Group (BBBXG).
- 3 points possible.
- a. 3 points – Strong level of agreement
 - b. 2 point – Medium level of agreement
 - c. 1 points – Little consensus



MULTIMODAL INFRASTRUCTURE EVALUATION CRITERIA

CATEGORY: CAPACITY/CONGESTION

1. **Increase in daily volume forecast.** Change in volume of CV, POV, Pedestrian on the subject facility (as applicable).
(Projects with an increase in volume greater than the average increase across all projects received 2 points. Projects with an increase in volume less than the average increase received 1 point.) 2 points possible.
 - a. 2 points - Projects with higher increase
 - b. 1 point - Projects with lower increase
2. **Percent trucks.** Of the total travel volume on the subject facility, what percentage is truck traffic? (Points to both *economic* and *safety* aspects of the improvement).
3 points possible.
 - a. 3 points - Projects with the higher percentage of trucks (7% or more)
 - b. 2 points - Projects with medium percentage of trucks (3%-7%)
 - c. 1 point - Projects with the lower percentage of trucks (less than 3%)
3. **Change in number and efficiency of lanes.** How many lanes are added/removed by the improvement? Does the improvement enhance the efficiency of the facility (ie. one-way conversions)? 3 points possible.
 - a. 3 points - Projects with the highest number of additional/modified lanes (3 or more lanes)
 - b. 2 points - Projects with medium number of additional/modified lanes (2 lanes)
 - c. 1 point - Projects with the lowest number of additional/modified lanes (1 or fewer lanes)
4. **Level of Service improvement.** What is the relative improvement to LOS? Improvements to address LOS E or F conditions would score higher than those addressing LOS A-D.
2 points possible.
 - a. 2 points – Project results in improvement from a congested level (E or F) to an acceptable level (D or better)



- b. 1 point – Project results in LOS improvement within the acceptable range of LOS A to LOS D.
5. **Increase in modes served.** The more travel modes the improvement enhances, the higher the score.
- 2 points possible.
- a. 2 points – More than one mode added
 - b. 1 point – One mode added
 - c. 0 points – No additional modes

CATEGORY: COST EFFECTIVENESS

6. **Cost of project versus projected demand.** Project cost vs. number of users that would benefit from the investment, or projected Vehicle Miles of Travel (VMT) on the improved facility.
- 3 points possible.
- a. 3 points - Projects with the highest cost effectiveness scores
 - b. 2 points - Projects with medium cost effectiveness scores
 - c. 1 point - Projects with the lowest cost effectiveness scores

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects.** Qualitative effects on air quality, parks/open space, wildlife areas or linkages. *(Assumes all projects will have some environmental benefit to air quality. Measure intended to account for potential disruption to natural environment). New road construction received 0 points, widening received 1 point, other projects not requiring substantial additional ROW (such as pedestrian bridges, one-way street conversions) received 2 points.*
- 2 points possible.
- a. 2 points - Projects with least impact
 - b. 1 point - Projects with negligible benefit
 - c. 0 points – Projects with highest impact



8. **Socioeconomic/community effects.** Qualitative effects on neighborhoods, community services (i.e. schools, churches, medical, etc.), effects on minority populations.

(Projects in proximity to populated neighborhoods that would improve access to communities were awarded 2 points, others were awarded 1 point unless a negative impact had been identified).

2 points possible.

- a. 2 points - Projects with positive benefit
 - b. 1 point - Projects with negligible impact
 - c. 0 points – Projects with negative impact
9. **Economic effects.** Qualitative effects on businesses, job creation, transport of freight.

(Projects on roadways with higher functional classification (such as freeways, state highways, expressways) or facilities with high percentage of trucks were awarded 2 points, most others awarded 1 point unless there was specific rationale indicating otherwise).

2 points possible.

- a. 2 points - Projects with positive benefit
 - b. 1 point - Projects with negligible impact
 - c. 0 points – Projects with negative impact
10. **Modal effects.** Does the project affect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit)?

(Projects specifically targeted to alternate modes-such as pedestrian overpasses-were awarded 2 points, projects on roadways identified as part of a regional transit route or bicycle plan were awarded 1 point, other projects were awarded 0 points).

2 points possible.

- a. 2 points – Positive effect on multiple modes
- b. 1 point – Positive effect on limited modes
- c. 0 points – No additional modes impacted



CATEGORY: PROJECT READINESS

11. **Project phase**. What stage of planning, design, land acquisition; and has dedicated funding been identified? 3 points possible.
- 3 points – Final design phase
 - 2 points - Advanced planning/preliminary engineering/environmental phase
 - 1 point - Conceptual planning phase
12. **Land Availability**. Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?
(Projects located in densely developed areas were awarded 0 points as it was assumed land acquisition or adaptability would be more difficult than for projects in less developed areas).
- 1 point possible.
- 1 point - yes
 - 0 points – no
13. **Community and stakeholder acceptance**. What is the likelihood that the community would support the project? *(All projects extracted from final, approved documents were awarded 1 point. New projects not yet vetted with the public were awarded 0 points).*
- 1 point possible.
- 1 point - support
 - 0 points – no support

CATEGORY: LPOE CONNECTIVITY

14. **Number of LPOEs served**. How many LPOEs does the route serve?
- 3 points possible.
- 3 points - Project connects to 2 or more LPOEs
 - 2 points – Project occurs on a roadway that has a terminus at a LPOE
 - 1 point - Project occurs on a roadway that connects to a terminus at a LPOE
 - 0 points - Project occurs on a roadway that does not connect to a terminus at a LPOE



15. **Distance to LPOE.** What is the travel distance to the nearest LPOE?

2 points possible.

- a. 2 points – Project is within **2** miles of a LPOE
- b. 1 point - Project is between **2** and **10** miles of a LPOE
- c. 0 points - Project is beyond **10** miles of a LPOE

16. **Percent of daily volume related to LPOE.** Of the total projected volume on the subject facility, what percentage of the volume is attributable to cross-border travel? *(In future updates of the Border Master Plan, as the AZTDM is modified to incorporate additional detail in the border region, a select zone analysis can be completed to predict percentage traffic related to LPOEs. In the interim, prior to the availability of the refined AZTDM, points were awarded based on proximity to the LPOE and number of LPOEs served. Those is closest proximity, serving multiple LPOEs were awarded 3 points, those furthest from the LPOEs received 1 point.).*

3 points possible.

- a. 3 points - Projects with the highest percentage of LPOE-related traffic (>50%)
- b. 2 points - Projects with medium percentage of LPOE-related traffic (25-50%)
- c. 1 point - Projects with the lowest percentage of LPOE-related traffic (<25%)

17. **Alternate Mode Connectivity.**

1 point possible.

- a. 1 points - Projects located on routes from which a continuous path to an LPOE is available for alternate modes (i.e. sidewalks or bicycles)
- b. 0 point - Projects located on routes from which there is no continuous path to an LPOE available for alternate modes (i.e. sidewalks or bicycles)



RAIL EVALUATION CRITERIA

CATEGORY: CAPACITY/CONGESTION

1. **Increase in projected number of rail cars.** How many new rail cars will utilize the subject improvement?

(Nogales freight rail projects generally awarded 2 points since Nogales has much higher demand and might see increase if rail connection is improved. San Luis scored 2 based on the potential for changes in demand if Punta Colonet is realized. All other projects awarded 1 point.)

2 points possible.

- a. 2 points - Projects with higher expected increase/demand based on higher current trade volumes that would be served or potential for increased trade volumes.
 - b. 1 point - Projects with lower increase/demand based on current trade volume.
2. **Cross-border tonnage/value.** What is the total weight and/or value of the goods that will utilize the improvement?

(Nogales projects awarded 3 points as they have the greatest potential for increase in rail shipping because the vast majority of trade occurs here now. San Luis location awarded 2 points due to higher volumes of containers processed. All others awarded 1 point).

3 points possible.

- a. 3 points - Projects with the highest tonnage/value
 - b. 2 points - Projects with medium tonnage/value
 - c. 1 point - Projects with the lowest tonnage/value
3. **Change in number/miles of tracks.** How many additional miles of track?

(Assumed passenger rail would require double tracking, so awarded 2 points).

2 points possible.

- a. 2 points - Projects with higher number of tracks or miles added
- b. 1 point - Projects with lower number of tracks or miles added



4. **Change in travel speed.** Will speed decrease, stay the same, or increase?
2 points possible.
 - a. 2 points – Projects that improve travel speed
 - b. 1 points - Projects have little effect on travel speed
 - c. 0 point - Projects decrease travel speed
5. **Change in modes served.** Will the improvement accommodate a new mode or additional types of rail (i.e. heavy rail, commuter, high-speed, etc.)?
2 points possible.
 - a. 2 points – Two types of rail service added
 - b. 1 point – One additional rail service added
 - c. 0 points – No additional service types

CATEGORY: COST EFFECTIVENESS

6. **Cost of Project versus projected demand.** Planning level project cost versus benefit from the investment.
3 points possible.
 - a. 3 points - Projects with the highest cost effectiveness scores
 - b. 2 points - Projects with medium cost effectiveness scores
 - c. 1 point - Projects with the lowest cost effectiveness scores

CATEGORY: REGIONAL BENEFIT

7. **Environmental effects.** Qualitative effects on air quality, parks/open space, wildlife areas / linkages, or other sensitive land uses.
2 points possible.
 - a. 2 points - Projects with anticipated net positive benefit
 - b. 1 point - Projects with anticipated negligible impact
 - c. 0 points – Projects with potential for substantial adverse impact
8. **Socioeconomic/community effects.** Qualitatively determined effects on neighborhoods, community services (i.e. schools, churches, medical, etc), effects on minority populations. Effects may include noise / traffic issues, or community bifurcation due to a new linear corridor.



2 points possible.

- a. 2 points - Projects with positive benefit
- b. 1 point - Projects with negligible impact
- c. 0 points – Projects with negative impact

9. **Economic effects.** Qualitative effects on businesses, job creation, transport of freight; degree to which project reduces infrastructure construction & maintenance costs as a result of decreased heavy vehicle travel.

2 points possible

- a. 2 points - Projects with positive benefit
- b. 1 point - Projects with negligible impact
- c. 0 points – Projects with negative impact

10. **Modal effects.** Does the project effect (positively or negatively) alternate travel modes (i.e. pedestrian, bike, transit).

2 points possible.

- a. 2 points – Projects with a positive impact on multiple alternative modes (pedestrian, bike, transit)
- b. 1 point - Projects with positive impact through addition or expansion of one travel mode
- c. 0 points – Projects with negligible or negative impact

CATEGORY: PROJECT READINESS

11. **Project Phase.** What stage of planning, design, land acquisition; and has dedicated funding been identified?

3 points possible.

- a. 3 points – Final design phase
- b. 2 points - Advanced planning/preliminary engineering/environmental phase
- c. 1 point - Conceptual planning phase



12. **Land Availability**. Is land available at a reasonable cost and easily adapted or will acquisition be difficult/costly?

1 point possible.

- a. 1 point - yes
- b. 0 points – no

13. **Conformity to private initiatives**. Is this project already being planned by private initiatives?

1 point possible.

- a. 1 point - support
- b. 0 points – no support

CATEGORY: LPOE CONNECTIVITY

14. **Number of LPOEs served**. How many LPOEs in the study area would be served directly by the facility?

(i.e. could be a new facility that originates in CA but runs through the study area – would not receive any points. *Nogales and San Luis projects were awarded 2 points as they are planned to cross the border at a new port facility. Others were awarded 1 point as they would terminate before LPOE unless companion projects are pursued.*)

2 points possible.

- a. 2 points – Project occurs on a rail line that crosses the border or has a terminus at a LPOE
- b. 1 point - Project occurs on a rail line that connects to a rail line that has a terminus at a LPOE
- c. 0 points - Project occurs on a rail line that does not cross or have a terminus at the international border

15. **Distance to LPOE**. What is the travel distance to the nearest LPOE?

1 point possible.

- a. 1 point - Project is within **10** miles of a LPOE
- b. 0 points - Project is beyond **10** miles of a LPOE



16. **Percent of total border-freight served.** Of the total projected volume, what percentage is attributable to cross-border travel?

2 points possible.

- a. 2 points - Projects with the highest percentage of LPOE-related traffic
- b. 1 points - Projects with medium percentage of LPOE-related traffic
- c. 0 point - Projects with the lowest percentage of LPOE-related traffic



APPENDIX E

Project Scoring Data / GIS Tool User Guide

Evaluation of Arizona Multimodal Infrastructure Projects																																									
Max Point Value								-	-	-	-	-	-	-	-	-	-	Capacity/Congestion							Cost Effectiveness		Regional Benefit				Project Readiness				LPOE Connectivity						
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement	Document (Implementation Timeline)	Existing Daily Volume	Forecast Daily Volume	Percent Trucks	Project Length (miles)	Forecast E+C LOS	Number of New/Increased Efficiency Lanes	Distance to LPOE (miles)	Increase in Daily Volume Forecast	Percent Trucks	Change in Number and/or Efficiency of Lanes	Level of Service Improvement	Increase in Modes Served	Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Environmental Effects	Socioeconomic/Community Effects	Economic Effects	Modal Effects	Regional Benefit Total Points	Project Phase	Land Availability	Community and Stakeholder Acceptance	Project Readiness Total Points	Number of LPOEs Served	Distance to LPOEs	Percent of Daily Volume Related to LPOE	Alternate Mode Connectivity	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MIM Overall Rank			
1	1	AZ		Archibald Street and First Avenue	C Street to Urtuzuastegui Street	Convert to One-Way Couplet & construct bus pullouts	City of San Luis SATS (Long Term)	14000	23300	0.02	0.6	E	3	1	2	1	3	2	0	8	5000	2	2	2	2	2	8	3	1	1	5	2	2	3	1	8	81	1			
2	1	AZ		Main Street Project	Hwy 95 from A St to Juan Sanchez Blvd	Design & Construction	YMPO TIP	6800	26000	0.044	0.6	A-D		0.1	2	2	1	1	0	6	1040	3	2	2	2	1	7	3	1	1	5	2	2	3	1	8	77	2			
3	1	AZ	4	Juan Sanchez Blvd	10 th Avenue to Avenue E	Widen to 5 lanes, Unspecified Improvements	City of San Luis SATS (Long Term), City of San Luis General Plan	0	31000	0.019	3	F	3	2	2	1	3	2	0	8	15000	3	1	2	2	0	5	2	1	1	4	2	2	3	0	7	74	5			
4	1	AZ	4	Juan Sanchez Boulevard	10 th Avenue to US-95	Widening, Unspecified Improvements	YMPO RTP (2020-2024), City of San Luis General Plan, City of San Luis SATS	11180	21000	0.019	1.75	F	3	1	2	1	3	2	0	8	12000	2	1	2	2	1	6	2	1	1	4	2	2	3	1	8	73	7			
5	1	AZ	1004, 3012, 4001	Avenue E	San Luis II LPOE at Arizona-Sonora border to SR 195/ASH	Widening to 4 lanes	YMPO RTP (2010-2014), YMPO TIP (2013), City of San Luis SATS	400	16000	0.5	2.5	F	2	1	2	3	2	2	0	9	13125	2	1	1	1	0	3	2	1	1	4	2	2	3	0	7	66	14			
6	1	AZ	18	56 th Street	SR 195 / ASH to Avenue 13E	Widening	YMPO RTP (2015-2019)	3800	22000	0.065	6.5	D or better	4	20	2	2	3	1	0	8	37300	3	1	2	1	1	5	1	1	1	3	1	0	1	1	3	65	19			
7	1	AZ		US-95	Avenue 9 E to Aberdeen Road	Widening, Construct Bridge of Fortuna Wash	YMPO RTP (Phase I: 2010-2014), YMPO RTP (Phase II: 2015-2019), YMPO RTP (Phase II: 2020-2024), YMPO TIP (2012, 2013), YMPO TIP (MP 34.66-38.81, 2014), YMPO TIP (MP 38.81-40.61, 2015), YMPO TIP (MP 40.61-47.46, 2016)	9400	19000	0.055	16	F	2	30	2	2	2	2	0	8	83600	3	1	2	1	0	4	3	1	1	5	0	0	1	0	1	62	26			
8	1	AZ		Avenue 3 E	US-95 to I-8	Widening	YMPO RTP (2010-2014)	7900	13000	0.055	0.4	D or better	2	25	1	2	2	1	0	6	1000	3	1	2	2	1	6	2	1	1	4	0	0	1	1	2	62	27			
9	1	AZ		Bridge Replacement	South Gila Canal at Avenue 7E	Construction	YMPO TIP	6000	6000	0.055	0.1	A-D	0	31	1	2	1	1	0	5	150	3	2	2	1	1	6	3	1	1	5	0	0	1	1	2	61	32			
10	1	AZ		Fortuna Rd	40th to 48th	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	20400	0.05	1	A-C	4	29	2	2	3	1	1	9	5000	3	0	2	1	0	3	1	1	1	3	0	0	1	1	2	60	34			
11	1	AZ		40th st	Fortuna Wash to Ave 15 E	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	18100	0.02	1.6	D or Better	4	35	2	1	3	1	1	8	8000	3	0	2	1	1	4	1	1	1	3	0	0	1	1	2	60	35			
12	1	AZ	13	I-8	Giss Parkway to Avenue 9 E (Yuma) – 10 Mi.	Widen roadway to 6 lanes	Western AZ Framework Study (2020-2030)YMPO RTP (2030-2033)	31333	48000	0.129	10	B	2	24	2	3	2	1	0	8	75000	3	1	1	2	0	4	1	1	1	3	1	0	1	0	2	60	36			
13	1	AZ	12	I-8	Avenue 9 E to Foothills Blvd (Yuma) – 4 Mi.	Widen roadway to 6 lanes	Western AZ Framework Study (2020-2030)	26900	42000	0.129	4	B	2	27	2	3	2	1	0	8	30000	3	1	1	2	0	4	1	1	1	3	1	0	1	0	2	60	37			
14	1	AZ		56th st	S Ave 10 E to Foothills	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	16500	0.019	3	E	4	27	2	1	3	2	1	9	15000	2	0	2	1	1	4	1	1	1	3	1	0	1	1	3	60	38			
15	1	AZ		Yuma Expressway	Avenue D: I-8 to W. County 14 th Street and W. 14 th Street: Avenue D to Avenue 15E – 18 mi.	New roadway, Designated Hazardous Cargo Route	Western AZ Framework Study (2020-2030),YMPO RTP (2010-2014), City of Yuma GP (2012+)	5500	22000	0.02	18	A	4	15	2	1	3	1	1	8	111000	3	0	1	2	0	3	2	0	1	3	1	0	1	0	2	57	41			
16	1	AZ		Avenue E	SR 195/ASH to County 19 th Street	Construct 2 lanes	City of San Luis SATS (Long Term)	0	10000	0.02	4	A	2	3	2	1	2	1	1	7	9000	3	0	1	1	0	2	1	1	1	3	2	1	2	0	5	57	42			
17	1	AZ		16th Street (US-95)	Arizona Avenue to 6th Avenue	Widening	YMPO RTP (2010-2014)	36100	52000	0.055	0.3	F	2	23	2	2	2	2	0	8	7236	2	1	2	1	1	5	1	0	1	2	0	0	1	1	2	56	45			
18	1	AZ	6	56th St	Foothills to S Ave 15	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area		16200	0.02	2	E	2	39	2	1	2	2	0	7	9000	3	1	2	1	0	4	1	1	1	3	0	0	1	0	1	55	46			
19	1	AZ		32 nd Street	Avenue 5 E to Avenue 8 ½ E	Widening	YMPO RTP (2025-2029)		27000	0.019	3.5	D or better	2	25	2	1	2	1	0	6	10500	3	1	2	1	1	5	1	0	1	2	0	0	1	1	2	55	47			
20	1	AZ		County 22 nd Street	10 th Avenue to Avenue E½	Construct 2 lanes	City of San Luis SATS (Long Term)	0	8300	0.047	3.5	A	2	3	1	2	2	1	1	7	7000	3	0	1	1	0	2	1	1	1	3	1	1	2	0	4	55	48			
21	1	AZ		Ave 12 E	North of 40th St	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area		15100	0.02	0.5	F	2	35	2	1	2	2	0	7	2250	3	1	1	1	0	3	1	1	1	3	0	0	1	1	2	54	51			
22	1	AZ		Bridge Replacement	Co. 19th St. (F1/2) Main Drain	Design and Construction	YMPO TIP	4700	7000	0.097	0.1	A-D	0	8	1	3	1	1	0	6	940	1	2	2	1	1	6	3	1	1	5	0	1	1	0	2	54	53			
23	1	AZ		S Ave 14	Wash to wash	New Construction 2 Lane collector	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	10400	0.02	1.1	D	2	35	2	1	2	1	1	7	2200	3	0	2	1	0	3	1	1	1	3	0	0	1	0	1	52	57			
24	1	AZ		Ave 15 E	South Frontage Road to 56th St	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area		17700	0.02	2.3	E	2	38	2	1	2	2	0	7	10350	3	1	1	1	0	3	1	1	1	3	0	0	1	0	1	52	58			
25	1	AZ		Foothills Boulevard	North of 28th St	New Construction 2 Lane collector	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	9400	0.02	0.25	A-C	2	37	2	1	2	1	1	7	500	3	0	2	1	0	3	1	0	1	2	0	0	1	1	2	52	59			
26	1	AZ		48th St	Fortuna to S Ave 15 E	New 2 lane, Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	2100	16600	0.02	3.75	E	4	33	2	1	3	2	1	9	19880	2	0	2	1	0	3	1	0	1	2	0	0	1	0	1	51	60			
27	1	AZ		4th Ave. Widening & Improvements	4th Avenue; 32nd St to 40th St	Widening: Construction	YMPO TIP	8200	8000	0.037	1	A-D	1	20	1	2	1	1	0	5	742	3	1	2	1	0	4	3	0	1	4	0	0	1	0	1	51	61			
28	1	AZ		Araby Road (SR 195)	I-8 to US-95	Widening	YMPO RTP (2015-2019)	3900	11000	0.044	1.5	D or better	2	24	1	2	2	1	0	6	4650	3	1	1	1	0	3	2	0	1	3	1	0	1	0	2	51	63			
29	1	AZ		40th st	Over Fortuna Wash	New Bridge	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	18100	0.029	0.1	F	4	35	2	1	3	2	1	9	6000	1	0	2	1	1	4	1	0	1	2	0	0	1	1	2	51	64			
30	1	AZ		I-8 North and South Frontage Road	Avenue 9 E to Avenue 13 E	Widening	YMPO RTP (2010-2014), YMPO TIP (2012)	16900	21000	0.046	4	D or better	1	24	1	2	1	1	0	5	11722	3	1	1	1	0	3	3	1	1	5	0	0	1	0	1	50	65			
31	1	AZ		Fortuna	48th to 56th	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	7800	0.05	1	A-C	4	28	1	2	3	1	1	8	5000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	50	66			
32	1	AZ		28th	Foothills to S Ave 15	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	2500	13000	0.02	1.25	na	4	34	2	1	3	1	1	8	6250	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	50	67			
33	1	AZ		48th St	S Ave 10 E to Fortuna	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	11000	0.02	1	na	4	28	2	1	3	1	1	8	5000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	50	68			

Evaluation of Arizona Multimodal Infrastructure Projects																																						
Max Point Value								Existing Daily Volume	Forecast Daily Volume	Percent Trucks	Project Length (miles)	Forecast E+C LOS	Number of New/Increased Efficiency Lanes	Distance to LPOE (miles)	Capacity/Congestion						Cost Effectiveness		Regional Benefit				Project Readiness				LPOE Connectivity				Weighted Combined Score	Arizona MMI Overall Rank		
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement	Document (Implementation Timeline)	0	1500	0.02	1.5	A	2	2	1	1	2	1	1	6	5600	1	0	1	2	0	3	1	1	1	3	2	2	3	0	7	50	70
34	1	AZ		New Roadway - County 24th Street	10 th Avenue to Avenue F	Construct 2 lanes	City of San Luis SATS (Mid Term)	0	1500	0.02	1.5	A	2	2	1	1	2	1	1	6	5600	1	0	1	2	0	3	1	1	1	3	2	2	3	0	7	50	70
35	1	AZ		I-8	I-8 and Araby Road (Yuma)	Reconstruct Interchange	Western AZ Framework Study (2020-2030)	26600	44000	0.129	0.1	B	0	23	2	3	1	1	1	8	14000	1	1	1	2	0	4	1	1	1	3	1	0	1	0	2	50	71
36	1	AZ		US-95	FORTUNA WASH BRIDGE	Construct New Bridge	STIP	23300	36000	0.055	0.1	A-D	2	34.2	2	2	2	1	1	8	13500	1	0	2	1	0	3	3	1	1	5	0	0	1	0	1	49	73
37	1	AZ		S Ave 10 E	Frontage to 40th	New 2 lane, Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	800	5900	0.019	1	D	4	33	1	1	3	1	1	7	5000	2	0	1	1	1	3	1	1	1	3	0	0	1	1	2	49	75
38	1	AZ		I-8 and S ave 15 E	EB and WB	New TI	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	23300	34000	0.129	0.1	A-D	2	36	2	3	2	1	1	9	25000	1	0	2	1	0	3	1	1	1	3	0	0	1	0	1	48	77
39	1	AZ		40th st	S Ave 10 E to Fortuna	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	6400	13000	0.019	1	E	2	31	1	1	2	2	0	6	4500	2	1	2	1	1	5	1	0	1	2	0	0	1	0	1	48	78
40	1	AZ		24th st	Fortuna to Camino Del Sol	New 2 lane, Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	2500	10800	0.02	1	D	4	32	1	1	3	1	1	7	5000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	47	80
41	1	AZ		S Ave 10 E	40th to 56th	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	7000	0.02	2	na	4	31	1	1	3	1	1	7	10000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	47	81
42	1	AZ		S East Ave 12	48th to 56th	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	4600	0.02	1	A-C	4	36	1	1	3	1	1	7	5000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	47	82
43	1	AZ		S Ave15 E	North of I-8	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	8000	0.02	1.4	na	4	36	1	1	3	1	1	7	7000	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	47	83
44	1	AZ		24th st	Camino Del Sol to 28th	New Construction 4 lane Arterial	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	2500	8500	0.013	1.25	A-C	4	33	1	1	3	1	1	7	6250	2	0	2	1	0	3	1	1	1	3	0	0	1	0	1	47	84
45	1	AZ		S. Avenue 15E (3 Bridge Locations)	North of I-8	New Bridge	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	11000	0.02	0.1	A-D	2	36	2	1	2	1	1	7	12000	1	0	2	1	1	4	1	1	1	3	0	0	1	1	2	47	85
46	1	AZ		6 th Avenue	Union Street to County 22 nd Street	Construct 2 lanes	City of San Luis SATS (Mid Term)	0	1500	0.02	0.75	A	2	2	1	1	2	1	1	6	1050	2	0	1	1	0	2	1	1	1	3	0	2	2	0	4	47	86
47	1	AZ		North Frontage Road	Ave 10 E to Ave 15 E	Widen 2-3 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	12700	16400	0.029	7.25	E	1	34	1	1	1	2	0	5	21750	3	1	1	1	0	3	1	1	1	3	0	0	1	0	1	46	87
48	1	AZ		South Frontage Road	Ave 10 E to Ave 15 E	Widen 2-3 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	12700	15200	0.029	7.25	F	1	34	1	1	1	2	0	5	21750	3	1	1	1	0	3	1	1	1	3	0	0	1	0	1	46	88
49	1	AZ		Interchange	SR 195 and City 32 nd Street	SPUI	Yuma General Plan (2012+)	17300	27000	0.019	0.1	D or better	6	25	2	1	3	1	0	7	25000	1	1	2	1	0	4	1	0	1	2	1	0	1	0	2	45	90
50	1	AZ		10 th Avenue	County 19 th Street to County 22nd Street	Construct 2 lanes	City of San Luis SATS (Long Term)	0	800	0.02	1.3	A	2	3	1	1	2	1	1	6	13200	1	0	2	1	0	3	1	1	1	3	1	1	2	0	4	45	91
51	1	AZ		S East Ave 12E	40th to 48th	New 2 laneWidening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area		7900	0.02	1	A-C	4	35	1	1	3	1	1	7	6500	2	0	1	1	0	2	1	1	1	3	0	0	1	0	1	45	93
52	1	AZ		Fortuna Road	28th St to 24th St	Widening 3-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	5200	20900	0.013	0.2	A-C	1	35	2	1	1	1	0	5	1200	3	1	1	1	0	3	1	0	1	2	0	0	1	0	1	44	94
53	1	AZ		Foothills	S of 48th	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	13100	13200	0.021	0.25	A-C	2	38	1	1	2	1	0	5	1130	2	1	2	1	0	4	1	1	1	3	0	0	1	0	1	44	97
54	1	AZ		Ave 5 E & Interchange	16th Street to 56th Street	Widening and Grade Separation at I-8, New Single-Point Urban Interchange (SPUI)	YMPO RTP (2020-2024), Yuma General Plan (2012+)	2700	6000	0.044	0.1	D or better	4	25	1	2	3	1	1	8	51500	1	0	2	1	0	3	1	0	1	2	0	0	1	0	1	43	98
55	1	AZ		28th	Foothills to S Ave 15	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	2500	9000	0.02	0.75	na	2	34	1	1	2	1	0	5	3380	2	1	2	1	0	4	1	0	1	2	0	0	1	0	1	42	101
56	1	AZ		Foothills Boulevard	50th St to 56th St	Widening 2-4 lanes	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	9000	13200	0.021	0.75	A-C	2	28	1	1	2	1	0	5	3380	2	1	1	1	0	3	1	1	1	3	0	0	1	0	1	41	104
57	1	AZ		S. Avenue 14E (1 Bridge Location)	Over Fortuna Wash	New Bridge	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0	3100	0.02	0.1	A-C	2	35	1	1	2	1	1	6	4000	1	0	2	1	0	3	1	1	1	3	0	0	1	0	1	39	105
58	1	AZ		E. 28 St. (3 Bridge Locations)	West of S. Avenue 15E	New Bridge	Trans. Needs Study for Yuma Foothills & Mesa Del Sol Area	0		0.02	0.1	na	2	36	1	1	2	1	1	6	12000	1	0	2	1	0	3	1	1	1	3	0	0	1	0	1	39	106
59	2	AZ		SR 85	Lukeville LPOE	Widen port of entry approach to 5 lanes	PAG 2040 Regional Transportation Plan (2010-2020)	1733	2500	0.228	0.58	D or Better	5	1	1	3	3	1	0	8	1000	2	0	1	2	0	3	1	1	1	3	2	2	3	0	7	61	30
60	2	AZ		I-19 Interchanges	At SR 289/Ruby Road	Interchange Upgrades: Round-about	Potential Nogales/Santa Cruz County Projects	38600	77200	0.087	0.1	E	2	8	2	3	3	2	1	11	3000	2	1	2	2	1	6	1	0	1	2	2	1	2	1	6	75	3
61	2	AZ	66,67,69,73,76	SR 189/Mariposa Road	Nogales Mariposa LPOE to I-19	Roadway widening to 6 lanes and improve intersections	Potential Nogales/Santa Cruz County Projects	18420	38090	0.16	2.8	F	2	1	2	3	2	2	0	9	46500	2	1	2	2	1	6	2	0	1	3	2	2	3	1	8	74	4
62	2	AZ		Pedestrian Staging Area	On Arizona Side of International border near Mariposa LPOE (SR 189 just north of border)	Construct new facility	2012 City of Nogales- Pedestrian Circulation at Ports of Entry (2012)			0.16	1	n/a	3	1	1	3	3	1	2	10	1000	1	0	2	1	2	5	3	1	1	5	2	2	3	1	8	74	6
63	2	AZ	64,68,84	Crawford Street	At UPRR - Nogales	Pedestrian Overpass	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2015)	11750	15000	0.04	0.1	F	2	1	1	2	2	2	2	9	5000	1	2	2	1	2	7	1	1	1	3	2	2	3	1	8	72	8
64	2	AZ	63,68,84	New Pedestrian Bridge	South of Court Street	Construct new pedestrian bridge across the railroad	2007 Nogales Railroad Small Area Transportation Study (Stage I)		275	0.02	0.1	F	2	1	1	1	2	2	2	8	1000	1	2	2	1	2	7	1	1	1	3	2	2	3	1	8	69	10
65	2	AZ		Ruby Road	At UPRR	Vehicular Overpass	2010 Unified Nogales/Santa Cruz County Transportation Plan (2021-2030)	7793	19000	0.02	0.5	F	2,4	8	2	1	3	2	1	9	7800	2	2	2	2	0	6	1	1	1	3	1	1	2	0	4	67	11
66	2	AZ	61,67,69,73,76	SR 189 / Mariposa Road	Grand Avenue to I-19	Design and Reconstruct to 6-lane roadway	Potential Nogales/Santa Cruz County Projects	18270	29000	0.02	1	D	2	3	2	1	2	1	0	6	3500	3	1	2	2	1	6	2	0	1	3	2	1	2	1	6	67	12
67	2	AZ	61,66,69,73,76	SR 189/Mariposa Road	Grand Avenue Intersection	Capacity improvements	Potential Nogales/Santa Cruz County Projects	19800	30020	0.09	0.1	F	2	3	2	3	2	2	0	9	4200	1	1	2	2	1	6	2	0	1	3	2	1	2	1	6	66	15

Evaluation of Arizona Multimodal Infrastructure Projects																																							
Max Point Value											-	-	-	-	-	-	-	-	-	Capacity/Congestion				Cost Effectiveness		Regional Benefit				Project Readiness			LPOE Connectivity				-	-	
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement	Document (Implementation Timeline)	Existing Daily Volume	Forecast Daily Volume	Percent Trucks	Project Length (miles)	Forecast E+C LOS	Number of New/Increased Efficiency Lanes	Distance to LPOE (miles)	Increase in Daily Volume Forecast	Percent Trucks	Change in Number and/or Efficiency of Lanes	Level of Service Improvement	Increase in Modes Served	Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Environmental Effects	Socioeconomic/Community Effects	Economic Effects	Modal Effects	Regional Benefit Total Points	Project Phase	Land Availability	Community and Stakeholder Acceptance	Project Readiness Total Points	Number of LPOEs Served	Distance to LPOEs	Percent of Daily Volume Related to LPOE	Alternate Mode Connectivity	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank	
68	2	AZ	63,64,84	New Pedestrian Bridge	Between Primeria Alta Historical Society and Gazebo/Karam Park	Construct new pedestrian bridge across the railroad	2007 Nogales Railroad Small Area Transportation Study (Stage I)	1500	0.02	0.1	F	2	6	1	1	2	2	2	8	1200	1	2	2	1	2	7	1	1	1	3	2	1	2	1	2	1	6	66	16
69	2	AZ	61,66,67, 73,76	SR 189/Mariposa Road	I-19 interchange: dual eastbound left turn lanes and associated mainline improvements	Capacity improvements	Mariposa/I-19 Connectr Route Study	18420	38090	0.16	0.25	F	1	3	2	3	1	2	0	8	5000	2	1	2	2	0	5	2	1	1	4	2	1	2	0	5	65	18	
70	2	AZ		I-19	I-19 Bus Terminus to West Street	Capacity improvements	Potential Nogales/Santa Cruz County Projects	14700	22050	0.087	0.3	A-C	1	1	1	3	1	1	0	6	1170	3	1	2	2	0	5	1	0	1	2	2	2	3	0	7	64	20	
71	2	AZ		New Bridge	Near Nogales Public Library	Construct new roadway bridge across the railroad	2007 Nogales Railroad Small Area Transportation Study (Stage II)			0.02	0.1	F	2	1	1	1	2	2	1	7	7000	1	1	2	1	2	6	1	1	1	3	2	2	3	1	8	63	21	
72	2	AZ		W. Frontage Road	Calle Calabastas to Yavapai Drive	Extension of Frontage Road	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2015)	7482	16000	0.02	0.8	F	2	10	1	1	2	2	2	8	4900	2	0	2	2	1	5	1	1	1	3	1	1	2	1	5	63	22	
73	2	AZ	61,66,67, 69,76	SR 189/Mariposa Road	Frank Reed Road intersection	Capacity improvements	Potential Nogales/Santa Cruz County Projects	18420	38090	0.16	0.1	F	0	3	2	3	1	2	0	8	10450	1	1	2	2	1	6	2	0	1	3	2	1	2	1	6	63	23	
74	2	AZ		New Bridge	Near future extension of Roper Road	Construct new roadway bridge across the railroad	2007 Nogales Railroad Small Area Transportation Study (Stage II)		10000	0.02	0.1	F	2	1	2	1	2	2	1	8	12000	1	1	2	1	2	6	1	1	1	3	1	2	2	1	6	63	24	
75	2	AZ		I-19	Tumacacori TI to SR 189/Mariposa Road	Capacity improvements	Potential Nogales/Santa Cruz County Projects	38600	77200	0.087	18.13	E	2	3	2	3	2	2	0	9	529000	2	1	1	2	0	4	1	0	1	2	2	1	2	0	5	61	28	
76	2	AZ	61,66,67, 69,73	SR 189/Mariposa Road	I-19 interchange: flyover	Capacity improvements	Potential Nogales/Santa Cruz County Projects	18420	38090	0.16	0.1	F	2	3	2	3	2	2	0	9	25100	1	1	2	2	0	5	2	0	1	3	2	1	2	0	5	61	29	
77	2	AZ	67	Grand Ave/Arroyo Boulevard	I-19 to DeConcini LPOE	Capacity improvements	Potential Nogales/Santa Cruz County Projects	10062	13000	0.02	5.5	D	2	1	1	1	2	1	0	5	15850	3	1	2	1	1	5	1	0	1	2	2	2	3	0	7	61	31	
78	2	AZ		Transit Center in the Downtown Area	To serve the DeConcini and Morley Gate LPOEs with bus route connecting to Mariposa LPOE	Construct new facility	2012 City of Nogales - Pedestrian Circulation at Ports of Entry (2017-2022)			0.02	1	n/a	3	1	1	1	3	1	1	7	2500	1	0	2	1	2	5	1	0	1	2	3	2	3	1	9	60	33	
79	2	AZ		Ruby Road	New Roadway to I-19	Design and Construct to 4 lane Section	Potential Nogales/Santa Cruz County Projects	7000	18000	0.02	1	F	2	8	2	1	2	2	1	8	2000	3	0	1	2	0	3	1	0	1	2	1	1	2	0	4	59	40	
80	2	AZ		I-19 Interchanges	At Rio Rico Drive	Interchange Upgrades	Potential Nogales/Santa Cruz County Projects	29700	59400	0.087	0.1	D	2	11	2	3	2	1	0	8	3000	2	1	1	2	0	4	1	0	1	2	2	0	2	0	4	57	43	
81	2	AZ		I-19 Frontage Roads	Grand Avenue TI to Rio Rico Drive TI	Capacity improvements	Potential Nogales/Santa Cruz County Projects	5845	16000	0.02	5.8	F	1	5	2	1	1	2	0	6	29375	2	1	2	2	1	6	1	0	1	2	1	1	2	0	4	56	44	
82	2	AZ		Western Avenue	Grand Avenue to I-19	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2016-2020)	7344	10000	0.02	1.6	D	1.5	1	1	1	2	1	0	5	3800	3	1	2	1	0	4	1	0	1	2	1	2	2	0	5	54	49	
83	2	AZ		Grand Avenue	Old Tucson Road intersection	Capacity improvements	Potential Nogales/Santa Cruz County Projects	23540	31000	0.02	0.1	E	1	5	1	1	1	2	0	5	525	3	1	2	1	0	4	1	0	1	2	2	1	2	0	5	54	50	
84	2	AZ	63,64,68	Public Library Vicinity	At UPRR - Nogales	Pedestrian Overpass	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2015)			0.04	0.1	F	2	1	1	2	2	2	1	8	12100	1	0	2	1	0	3	1	0	1	2	2	2	3	0	7	54	52	
85	2	AZ		Yavapai Drive	Rio Rico Drive to W. Frontage Road	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2015)	11784	33000	0.02	0.9	F	2	11	2	1	2	2	0	7	5300	3	1	2	1	0	4	1	0	1	2	0	0	1	0	1	53	54	
86	2	AZ		I-19 Frontage Road	Western Avenue to Rio Rico Drive	Corridor Study, Design and Construct	Potential Nogales/Santa Cruz County Projects			0.02	7	D or better	2	1	1	1	2	1	1	6	21000	1	1	2	2	1	6	1	0	1	2	1	2	2	0	5	53	55	
87	2	AZ		I-19 Interchanges	At Western Avenue	Interchange Upgrades	Potential Nogales/Santa Cruz County Projects	15500	23250	0.087	0.1	A-C	2	1	1	3	2	1	0	7	3000	1	1	1	1	0	3	2	0	1	3	2	2	3	0	7	53	56	
88	2	AZ		I-19	At Grand Avenue interchange	Capacity improvements	Potential Nogales/Santa Cruz County Projects	38600	59400	0.087	0.1	D	1	6	2	3	1	1	0	7	22550	1	1	2	1	0	4	1	0	1	2	2	1	2	0	5	50	69	
89	2	AZ		Grand Avenue	Country Club Drive intersection	Capacity improvements	Potential Nogales/Santa Cruz County Projects	22807	30000	0.02	0.1	D	2	5	1	1	2	1	0	5	1050	2	1	2	1	0	4	1	0	1	2	2	1	2	0	5	49	74	
90	2	AZ		SR 82	Grand Avenue to Thelma Street	Capacity improvements	Potential Nogales/Santa Cruz County Projects	9064	12000	0.02	0.5	D	2	2	1	1	2	1	0	5	12150	1	1	2	1	1	5	1	0	1	2	1	2	2	1	6	49	76	
91	2	AZ		E-W Interconnector	SR 189 to SR 82	Corridor Study, Design and Construct	Potential Nogales/Santa Cruz County Projects			0.02	2	D or better	4	1	1	1	3	1	1	7	1000	1	0	2	1	0	3	1	0	1	2	1	2	2	0	5	48	79	
92	2	AZ		Morely Avenue	Banks Bridge to Park Street, Nogales	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2016-2020)	7199	9000	0.02	0.9	D	0.5	1	1	1	1	1	0	4	3570	2	1	2	1	0	4	1	0	1	2	1	2	2	0	5	46	89	
93	2	AZ		Bankerd Avenue	Doe Street to Morley Avenue	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2016-2020)	7712	10000	0.02	0.2	D	2	2	1	1	2	1	0	5	1800	2	1	1	1	0	3	1	0	1	2	0	2	2	0	4	45	92	
94	2	AZ		Doe Street	Grand Avenue to Bankerd Avenue	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2016-2020)	5730	7000	0.02	0.1	C	2	2	1	1	2	1	0	5	1130	1	1	2	1	0	4	1	0	1	2	1	2	2	0	5	44	95	
95	2	AZ		Industrial Drive Loop	Nogales	Capacity improvements	2010 Unified Nogales/Santa Cruz County Transportation Plan (2021-2030)	5512	5512	0.02	1		2	2	1	1	2	1	0	5	7000	1	1	1	2	0	4	1	0	1	2	1	2	2	0	5	44	96	
96	2	AZ		Old Tucson Road	Grand Avenue to Frontage Road	Design and Reconstruct to 5 Lanes	2010 Unified Nogales/Santa Cruz County Transportation Plan (2021-2030)	5862	13000	0.02	2.9	D	2	5	1	1	2	1	0	5	17250	2	1	1	1	0	3	1	1	1	3	0	1	1	0	2	43	99	
97	2	AZ		E-W Route	SR 189 / Mariposa Road to Grande Avenue (east of I-19 interchange)	New roadway	Potential Nogales/Santa Cruz County Projects			0.02	0.7	D or Better	3	3	1	1	3	1	1	7	6200	1	0	1	1	0	2	1	0	1	2	1	1	2	0	4	43	100	
98	2	AZ		SR 289 Interconnector (Ruby Road)	New N-S Interconnector to SR 82	Corridor Study to preserve roadway alignment, Design and Construct	Potential Nogales/Santa Cruz County Projects			0.02	7	D or Better	5	9	1	1	3	1	1	7	56000	1	0	2	1	0	3	1	0	1	2	0	1	1	0	2	42	102	
99	2	AZ		Calle Sonora	At N. Hohokam Drive - Nogales	Widen roadway & bridge; improve intersection	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2015)	5519	7000	0.02	0.1	C	1	3	1	1	1	1	0	4	5300	1	1	1	1	0	3	1	0	1	2	1	1	2	0	4	37	107	
100	2	AZ		Pendleton Drive	Rio Rico Drive to Palo Parado Drive	Roadway reconstruction	2010 Unified Nogales/Santa Cruz County Transportation Plan (2011-2030)	3490	7000	0.02	4.7	A-C	0	12	1	1	1	1	0	4	42500	1	1	2	1	0	4	1	1	1	3	0	0	1	0	1	36	108	
108	2	AZ	1011, 3006, 4008	New Roadway	Connecting SR-82 to the proposed LPOE east of Nogales (Puerta de Anza)	Construct 2 lanes	None	0	2600	0.03	2	D or better	2	1	1	2	2	1	1	7	6000	2	0	1	1	0	2	1	0	0	1	2	2	3	0	7	51	62	
101	3	AZ		Chino Road Realignment	Douglas	Realign at intersection of SR 80 and US-191 and update to ADOT standards	In design stage	9800	24700	0.1	0.4	D	0	2	2	3	1	1	0	7	1000	3	1	2	1	0	4	3	1	1	5	2	2	3	0	7	70	9	
102	3	AZ	1017, 3008	Chino Road Extension Project	Extension Project in City of Douglas	Extension Project in City of Douglas	SEAGO 2011 TIP (2012)	0	5100	0.9	0.3	D or Better	3	1	1	3	3	1	1	9	2000	1	0	2	2	1	5	2	1	1	4	2	2	3	0	7	67	13	

Evaluation of Arizona Multimodal Infrastructure Projects

							Capacity/Congestion										Cost Effectiveness		Regional Benefit				Project Readiness			LPOE Connectivity													
Max Point Value							Existing Daily Volume	Forecast Daily Volume	Percent Trucks	Project Length (miles)	Forecast E+C LOS	Number of New/Increased Efficiency Lanes	Distance to LPOE (miles)	Increase in Daily Volume Forecast	Percent Trucks	Change in Number and/or Efficiency of Lanes	Level of Service Improvement	Increase in Modes Served	Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of Project vs. Projected Demand	Environmental Effects	Socioeconomic/Community Effects	Economic Effects	Modal Effects	Regional Benefit Total Points	Project Phase	Land Availability	Community and Stakeholder Acceptance	Project Readiness Total Points	Number of LPOEs Served	Distance to LPOEs	Percent of Daily Volume Related to LPOE	Alternate Mode Connectivity	LPOE Connectivity Total Points	Weighted Combined Score	Arizona MMI Overall Rank		
							-	-	-	-	-	-	2	3	3	2	2	12	-	3	2	2	2	2	8	3	1	1	5	3	2	3	1	9	100	Out of 108			
ID	Zone	State	Linked Project	Facility	Project Description/Extent	Proposed Improvement	Document (Implementation Timeline)																																
103	3	AZ		Naco Highway	Local road from LPOE not connected to State Highway System; including intersection improvements	Update to ADOT standards	TBD		2400	6020	0.022	5.5	D or better	2	1	1	1	2	1	1	6	20000	2	2	2	1	1	6	1	1	1	3	2	2	3	1	8	65	17
104	3	AZ		US-191	Between Douglas and I-10 (portion within focus area)	Widening and access management to accommodate truck volumes	Various AZ-Mexico Border Infrastructure Projects		2900	20000	0.04	15	D	2	1	2	2	2	1	0	7	67500	3	1	2	1	0	4	1	1	1	3	1	2	2	0	5	62	25
105	3	AZ		SR 80	Bridge Rehabilitations: Structures 54-57 and 64-70 located between mile markers 371.98 and 395.26	Bridge Rehabilitations	ADOT District Engineer File		350	450	0.04	0.1	A-C	0	10	1	2	1	1	0	5	1980	1	1	1	1	0	3	1	1	1	3	1	1	2	0	4	42	103
106	3	AZ		Davis Road	Reconstruction	Reconstruction	PA and DCR Scope of Work		1700	3400	0.12	24	na	0	25	1	3	1	1	0	6	3000	3	1	2	2	0	5	2	1	1	4	1	0	1	0	2	59	39
107	3	AZ		E 3rd St Extension Project	E 3rd St from Pan American Ave to Chino Rd		Seago TIP					1		2		1	1	2	1	1	6	848	1	0	2			2	3	1	1	5	1	2	2	1	6	49	72

Evaluation of Arizona Rail Projects

Evaluation of Arizona Rail Projects					Approximate project length (miles)*	Change in project number of railcars	Cross-border tonnage/value	Change in number/miles of tracks	Change in travel speed	Change in modes served	Capacity/Congestion Total Points	Estimated Project Cost	Cost Effectiveness Total Points	Environmental Effects	Socioeconomic/Community effects	Economic effects	Modal effects	Regional Benefit Total Points	Project phase	Land availability	Conformity to private initiatives	Project Readiness Total Points	Number of LPOEs served	Distance to LPOEs	Percent of cross-border freight served	LPOE Connectivity Total Points	Weighted Combined Score		
ID	Zone	State	Linked Project	Max Point Value	-	2	3	2	2	2	11	-	3	2	2	2	2	8	3	1	1	5	2	1	2	5	100		
Rail Project Description																													
2001	1	AZ	1010	New rail corridor/through San Luis II LPOE	40-45	2	2	2	2	1	9	\$15m/mi +	1	0	0	2	0	2	1	0	0	1	2	1	1	4	55		
2002	1	AZ		Rehab and new rail/Gila Bend to Lukeville LPOE	35-40	1	1	2	2	1	7	\$15m/mi +	1	0	0	2	0	2	1	0	0	1	1	1	0	2	42		
2003	2	AZ		Build second line (track)/Nogales Branch (MP 65 to border)	65	2	3	2	2	0	9	\$3-7m/mi	3	1	1	2	0	4	3	1	1	5	2	1	2	5	82		
2004	2	AZ		Upgrade Nogales Branch (to accommodate heavier vehicles)	65	1	3	0	2	0	6	\$3-7m/mi	3	2	1	2	0	5	3	1	1	5	2	1	2	5	75		
2005	2	AZ	1011	New rail corridor/Puerta de Anza (east side of Nogales)	Under 10	2	3	1	2	0	8	\$15m/mi +	2	0	2	2	0	4	1	0	1	2	2	1	2	5	68		
2006	2	AZ	1013	New rail corridor/west side of Nogales	Under 10	2	3	1	2	0	8	\$15m/mi +	2	0	2	2	0	4	1	0	0	1	2	1	2	5	66		
2007	2	AZ		Passenger rail service/Nogales to Tucson	60-65	1	1	2	2	1	7	\$15m/mi +	1	2	1	2	1	6	1	0	0	1	1	1	0	2	54		
2008	3	AZ	1014	Rehab and new rail/Benson or Curtiss to Naco LPOE	45-50	1	1	2	2	1	7	\$15m/mi +	2	1	0	2	0	3	1	1	1	3	1	1	0	2	54		

Comments:

Rail corridors are conceptual. Projects 1011 and 1013 (Nogales bypasses) are assumed to be additional corridors, not a replacement for the existing rail line.

Projects 2003 & 2004 are planned UPRR (Private Investment) Projects

Evaluation of Sonora Land Port of Entry Projects																																																											
ID	Zone	State	Linked Project	LPOE Project Description	Proposed Improvement	Existing Modes	Modes Enhanced by Improvement	Existing ADT (2007)				Forecast ADT (2035)				Southbound LPOE Wait Times				Capacity/Congestion										Cost Effectiveness		Regional Benefit					Project Readiness					Binational Coordination/Commitment/Consensus			Weighted Combined Score	Sonora LPOE Overall Rank													
								Commercial Vehicles	Passenger Vehicles	Pedestrians	Rail	Commercial Vehicles	Passenger Vehicles	Pedestrians	Rail	Commercial Vehicles	Passenger Vehicles	Pedestrians	Rail	Commercial Vehicles	Passenger Vehicles	Pedestrians	Rail	Commercial Vehicles	Passenger Vehicles	Pedestrians	Rail	Change in projected demand	Change in #/type/efficiency of booths/docks	Wait times	Change in modes served	Percent of total border crossing demand	Capacity/Congestion Total Points	Project Cost (in \$1,000s)	Cost of project vs. projected demand for improvement	Environmental effects	Socioeconomic effects/Community effects	Economic effects	Modal effects	Regional Benefit Total Points	Project phase	Land availability	Local infrastructure compatibility	Change in efficiency of staff			Project Readiness Total Points	Federal support	State/Local support	Level of bi-national consensus	Binational Coord. Total Points								
Max Point Value								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	47	-	5	2	2	2	1	7	3	1	2	1	7	2	2	3	7	100	Out of 12
3002	1	SON	1010, 2001	San Luis Rio Colorado II - New Rail LPOE	Construction of a potential Rail LPOE to accommodate a potential future rail line in the greater Yuma, AZ area connecting to the UPRR.	N/A	RAIL	0	0	0	0	0	0	0	2	N/A	N/A	N/A	Low	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	2	5	2,000	2	0	2	2	0	4	1	0	0	0	1	0	0	1	1	26	11					
3003	1	SON	1007, 1008, 4003, 4004, 4005	San Luis Rio Colorado I - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of passenger vehicles and pedestrians.	PV,PED	PV,PED	7,056	9,947			9,173	12,434			N/A	High	Low	N/A	0	3	3	0	0	1	1	0	0	3	1	0	0	3	3	0	18	4,000	5	2	2	2	1	7	2	1	2	1	6	2	2	2	6	72	1					
3012	1	SON	5, 1004, 4001	San Luis II - POV/Ped Processing	Expansion of the existing San Luis Rio Colorado II commercial LPOE to accommodate passenger vehicles and pedestrians.	CV	PV,PED	163	0	0	0	1046	5504	8289	0	Medium	High	Low	N/A	0	3	3	0	0	3	3	0	0	3	1	2	2	1	1	0	22	500	5	1	2	2	1	6	1	1	2	0	4	2	1	2	5	67	2					
3001	2	SON	4006	Sonoita - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Also includes additional queuing capacity for northbound traffic to coincide with improvements at Lukeville, AZ.	CV,PV,PED	CV,PV,PED	2	2,800	30	0	2	3,220	30	0	Low	High	Low	N/A	1	2	1	0	1	2	1	0	1	3	1	0	1	1	1	0	16	5,500	3	1	2	2	1	6	1	1	2	1	5	2	2	3	7	61	5					
3004	2	SON		Nogales III (adjacent to Mariposa LPOE)- Expansion and Modernization	Reconfiguration of the existing LPOE facility immediately adjacent to the border to improve southbound processing of passenger vehicles and pedestrians.	PV, PED	PV,PED	0	4,200	2,000	0	0	18,400	3,000	0	N/A	High	Low	N/A	0	3	2	0	0	1	2	0	0	3	1	0	0	2	2	0	16	4,000	4	1	2	2	1	6	1	1	2	1	5	2	2	3	7	64	3					
3005	2	SON		Nogales III - New Customs Processing Facility for Commercial Vehicles	Construction of a new LPOE facility 1.25 miles south of the border to improve northbound and southbound processing of primarily Maquiladora industry commercial vehicles.	N/A	CV	1,900	0	0	0	5,700	0	0	0	Medium	N/A	N/A	N/A	3	0	0	0	3	0	0	0	2	0	0	1	3	0	0	0	12	6,000	3	1	2	2	0	5	2	1	1	1	5	2	2	3	7	55	7					
3006	2	SON	108, 1011, 2005, 4008	Nogales Area (east) - New LPOE	Construction of a potential LPOE to coincide with the development at Puerta de Anza. Assumes accomodation of commercial vehicles, passenger vehicles, pedestrians, and rail.	N/A	RAIL, CV, PV, PED	0	0	0	0	80	2500	1500	12	Low	Low	Low	Low	1	3	3	3	2	3	2	1	1	1	1	2	2	1	2	3	31	7,000	3	0	2	2	1	5	1	0	0	0	1	0	0	1	1	54	8					
3007	2	SON	1013, 2006	Nogales Area (west) - New Rail LPOE	Construction of a potential Rail LPOE to accommodate potential future rail line in the greater Nogales, AZ area connecting to the UPRR.	N/A	RAIL	0	0	0	0	0	0	0	12	N/A	N/A	N/A	Low	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0	3	8	2,000	4	0	2	2	0	4	1	0	0	0	1	0	0	1	1	34	10					
3008	3	SON	102, 1017	Agua Prieta - New Commercial Port Facility(*)	Construction of a new commercial LPOE to compliment the proposed new commercial LPOE in Douglas, AZ. Assumes relocation of current commercial vehicle inspections in Agua Prieta.	N/A	CV	83		0	0	150	0	0	0	Low	N/A	N/A	N/A	1	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	6	2,000	1	0	2	2	0	4	1	1	2	0	4	2	2	1	5	36	9					
3009	3	SON	1016, 1017, 3008	Agua Prieta - Non-Commercial Port Reconfiguration	Reconfiguration of the existing LPOE. Assumes relocation of commercial vehicle processing to a new commercial port (Project ID 3008).	CV, PV, PED	PV, PED	83	5,271	3,383	0	150	6,200	8,600	0	N/A	High	Low	N/A	0	2	3	0	0	1	1	0	0	3	1	0	0	2	2	0	15	2,500	4	2	2	2	1	7	1	1	2	0	4	2	2	1	5	61	6					
3010	3	SON	1015	Agua Prieta - Expansion and Modernization	Reconstruction of the LPOE to improve southbound processing of commercial vehicles, passenger vehicles, and pedestrians. Would negate the need for projects 3008 and 3009.	CV, PV, PED	CV, PV, PED	83	5,271	3,383	0	150	6,200	8,600	0	Low	High	Low	N/A	1	2	3	0	2	1	1	0	1	3	1	0	2	2	2	0	21	3,000	4	1	2	2	1	6	1	1	2	0	4	2	2	1	5	63	4					
3011	3	SON	1014, 2008	Naco - New Rail LPOE	Construction of a potential Rail LPOE to accommodate a potential future rail line in Naco, AZ area connecting to the UPRR.	N/A	RAIL	0	0	0	0	0	0	0	2	N/A	N/A	N/A	Low	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	2	5	2,000	2	0	2	2	0	4	1	0	0	0	1	0	0	1	1	26	12					

Notes:
 (*) This facility can be constructed at the current LPOE location or at a new location to the west

General Directions on how to use the GIS Web tool

Website Address: [<Enter web address here>](#)

When you open the website, the Focus Area for the Border Master Plan is shown in **green**.

General Navigation: Click on the plus and minus to zoom in or out. The click wheel on a mouse also may be used to zoom in or out. To move to a different location on the map, pan by clicking and dragging in the direction you want to move.

Bookmarks: Click on the *Bookmarks* drop-down to move to specific locations along the border. Click on a location to zoom to that specific location on the map.

Layers: As you zoom in, more layers of data appear. Projects in the Border Master Plan will appear as points, lines, or areas. The data layers shown on the map will also be listed in the legend. The *Layers* drop-down allows you to change what is visible by turning layers on and off. You may also change the background image using the *Basemap* drop-down.

Project Descriptions: If you click on a project feature, a text box will appear to provide detailed information on the project description and its overall ranking.

AZ Sonora Border Master Plan Projects

General Navigation

Layers and Basemap

Bookmarks

Layer Descriptions

Project Descriptions

Area Project Description	
Number	205.00
Type	B
Facility	SR 289/ Ruby Road
Project Extent	1-19 to SR 82
Proposed Improvement	Extend SR 289 to the east; Interconnect I-19 to SR 82 at Nogales International Airport
Acres	2,321
Zoom to	



APPENDIX F

Federal, State and Local Funding



PART 1

Analysis of ARRA Funding in Arizona



AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA)

Due to the existence of multiple sources for tracking project level awards under the ARRA program, the historic funding levels associated with ARRA projects are the most complicated to analyze and present. In this section two issues are addressed: 1) choosing data sources and 2) defining the geographic scope of concern.

CHOOSING DATA SOURCES

ARRA data resides at the “Recovery.Gov Track the Money” website (see <http://www.recovery.gov/Pages/default.aspx>). At this website, specific information for Arizona can be found at two locations:

Source 1: State/Territory Summary – Arizona

(<http://www.recovery.gov/Transparency/RecipientReportedData/Pages/statesummary.aspx?StateCode=AZ>)

Source 2: State/Territory Totals By Agency

(<http://www.recovery.gov/pages/TextViewProjSummary.aspx?data=recipientAwardsList&State=AZ&Agency=69&AwardType=ALL&RenderData=ALL>)

Table F.1 compares some basic data on number of awards and total awards for Arizona. Source 1 says the site was last updated on January 30, 2012, while Source 2 claims to be data through December 31, 2011. Source 1 shows total awards for transportation projects of \$776 million, while Source 2 shows total awards of \$821 million. Information was not available to explain these differences in amounts.

Table F.1 Data Comparisons Between Two Data Sources at www.Recovery.Gov

	Source 1		Source 2	
	Number of Awards	Total Awards	Number of Awards	Total Awards
Statewide	6,664	\$7,761,883,887	6,664	\$7,736,189,395
Transportation	N/A	\$776,362,361	465	\$821,309,976



Source 2 was used, “State/Territory Totals by Agency” because the data most conveniently identifies each individual recipient of transportation funds under ARRA (465 awards), as well as the location and scope of each award.

Source 2 distinguishes between two types of awards: contracts and grants. Table F.2 shows that ARRA transportation awards went to one hundred and three (103) contracts (\$58.9 million) and three hundred and sixty-two (362) grants (\$762.4 million).

Of the grants, ADOT is listed as the recipient of two hundred and thirty (230) awards for a total of \$424.3 million.¹ Table F.2 shows one hundred and thirty-two (132) awards categorized as “Other Recipients,” who received total grant awards of \$338.1 million.²

Table F.2 ARRA Transportation Awards to Arizona, by Type of Award

Type of Award	Number of Awards	Amount Awarded
Contracts	103	\$58,924,899
Grants	362	\$762,385,077
ADOT	230	\$424,259,791
Other Recipients	132	\$338,125,286
Total	465	\$821,309,976

Table F.3 presents information on grant awards to “Other Recipients.” Fifty-one (51) of these awards went to jurisdictions in Maricopa County. Another twenty-two (22) awards went to jurisdictions in Pima County, including one each to the Tucson Airport Authority and to the Pima Association of Governments. Twenty-one (21) awards went to thirteen (13) Indian tribes. Eight grant awards went to jurisdictions in Cochise County and three in Yuma County (two to the City of Yuma and one to the Yuma MPO).

¹This data in Table F.2 on ADOT awards is derived from a list of “Arizona Top Recipients”, at <http://www.recovery.gov/Pages/TextView.aspx?data=stateSummaryTopRecipients&statecode=AZ>

²Data for “Other Recipients” in Table F.2 is derived from subtracting the number of awards and total awards listed for ADOT from the data on total grants.



Table F.3 Categories of “Other Recipients” and Number of Awards

Recipient Type/Location	Number of Grants
Maricopa County Jurisdictions	51
Pima County Jurisdictions/Airport Authority/MPO	22
Indian Tribes	21
Cochise County Jurisdictions	8
Yuma County Jurisdictions/MPO	3
Other Jurisdictions/Airport Authority	13
Transit Agencies	8
Other Recipients	3
Total	129

ADOT grant awards are awards for specific roadway projects, as well as awards that were passed through ADOT to other jurisdictions. Table F.4 shows that ADOT allocated eighty-one (81) awards to specific roadways and one hundred and forty-nine (149) awards to jurisdictions.

Table F.4 Number of ADOT Grant Awards to Roadways and Jurisdictions

Recipients	Number of Awards
Roadways	81
Jurisdictions	149
TOTAL	230

The three hundred and sixty-two grant awards include funding for roadway projects, airport improvements, and transit system improvements. This analysis only reports on awards for roadway and airport improvements.

ARIZONA-SONORA BORDER MASTER PLAN



DEFINING THE GEOGRAPHIC SCOPE OF CONCERN

The study includes a “Focus Area” and an “Area of Influence”, as documented in Chapter 2.

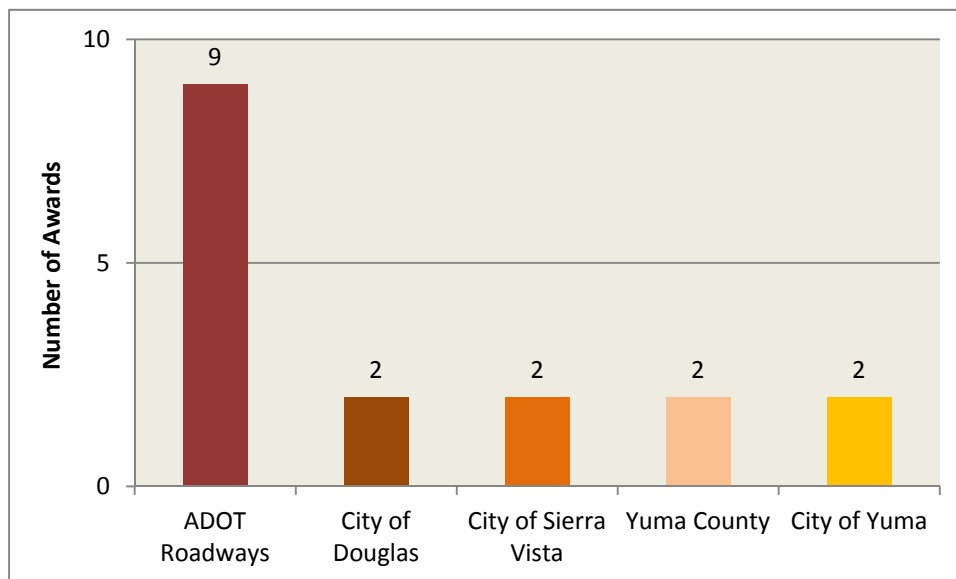
FOCUS AREA

The “Focus Area” can be described roughly as:

- Cochise County** Approximately 20 to 30 miles north of the Arizona-Sonora border, which would include the cities of Douglas and Sierra Vista.
- Santa Cruz County** The entire county, including Nogales and Patagonia.
- Pima County** Approximately 10 miles north of the border.
- Yuma County** Approximately 25 miles north of the border, up to the City of Yuma.

Within the Focus Area all roadway projects and jurisdictional projects are included. As shown on Table F.5, fifteen (15) ARRA transportation awards were identified in the Focus Area, with total awards of \$23.1 million. Table F.6 shows that nine of these awards were ADOT roadway projects and two each were awarded to the cities of Douglas, Sierra Vista, and Yuma and to Yuma County.

Table F.6 Recipients of ARRA Transportation Awards in the Focus Area



ARIZONA-SONORA BORDER MASTER PLAN



Table F.5 Focus Area ARRA Awards

Agency	Project ID	Project Title	Scope	Award Amount	Status
ADOT Roadway Projects	008A2004	I-8; US 95 TI - Araby Rd TI	The Arizona Department of Transportation proposes to construct a Chain Link Fence project in Yuma County along I-8; US-95 (16th St) to Araby Rd in YUMA.	\$293,253	C
	019A202	I-19; Rio Rico Rd TI - Chaves Siding Rd TI	Highway, Street, and Bridge Construction	\$427,181	NS
	019A202	I-19; Rio Rico Rd TI - Chaves Siding Rd TI	The Arizona Department of Transportation proposes to replace barbed wire fence in Santa Cruz County along I-19; from Rio Rico Rd to Chaves Siding Road north of NOGALES.	\$371,785	C
	080A201	SR-80 thru TOMBSTONE	The Arizona Department of Transportation proposes to conduct a pavement preservation project in Cochise County along SR-80 through TOMBSTONE.	\$772,286	C
	080A202	SR 80; Double Adobe to DOUGLAS	The Arizona Department of Transportation proposes to replace fence in Cochise County along SR-80; from Double Adobe Road to the Town of Douglas.	\$379,661	C
	083A201	SR-83; SR-82 @ SONOITA (MP 31.6) to MP 43.5	The Arizona Department of Transportation proposes to conduct a pavement preservation project in Santa Cruz County along SR-83, near Sonoyta from milepost 31.6 to milepost 43.5, a total of 11.9 miles.	\$2,277,275	C
	095A200	US 95 Somerton West Gateway MP 12.36 - MP 12.51	"The Arizona Department of Transportation proposes sidewalk, landscaping, irrigation, and pedestrian lighting work on Us 95 Somerton West Gateway MP 12.36 - MP 12.51."	\$185,744	C
Sub-Total ADOT				\$4,707,185	
Douglas	DGS003	EP & SW Railroad Fountain Restoration - Douglas	The City of Douglas will perform a transportation enhancement project at the EP&SW Railroad Depot in Douglas to include the rehabilitation of 2 existing fountains.	\$164,620	NS
	DGS005	Paseo de la Amistad - Douglas	The City of Douglas will perform a transportation enhancement project which will include a shared use pathway with ADA ramps over a railroad bridge along Paseo de la Amistad.	\$537,968	C
Sub-Total Douglas				\$702,588	
Sierra Vista	SVS0200	Snyder Blvd, Multi Use Path Avenida del Sol to SR 92 - Sierra Vista	The City of Sierra Vista will complete transportation enhancement along Snyder Boulevard multi-use path, Avenida del Sol to SR-92 in SIERRA VISTA to include pathways, landscaping, and irrigation.	\$454,000	C
	SVS0204	Charleston Rd. Widening - Sierra Vista	The City of Sierra Vista will perform widening, signal upgrades, drainage, improvements, curb, sidewalk, multi-use pathways on South side along Charleston Road.	\$2,208,506	C
Sub-Total Sierra Vista				\$2,662,506	

ARIZONA-SONORA BORDER MASTER PLAN



Table F.5 Focus Area ARRA Awards (continued)

Agency	Project ID	Project Title	Scope	Award Amount	Status
Yuma County	YYU0031	Yuma Red Top Wash Bridge	The Yuma County will perform a Bridge Replacement project for Red Top Wash Bridge in Yuma.	\$1,325,000	C
	YYU0200	County 14th Street Yuma County	The Yuma County will perform a round-about construction project along Avenue E @ Juan Sanchez Blvd within the New San Luis II POE in YUMA COUNTY.	\$932,000	C
Sub-Total Yuma County				\$2,257,000	
City of Yuma	YUM0200	All Trails Lead to the Swing Span Pivot - Yuma	The City of Yuma will perform a Transportation Enhancement project in YUMA to include Construction of an interpretative plaza, complete with retaining walls.	\$750,000	C
	YUM0201	Yuma Main Canal, E. Of 4Th Ave. At Yuma Siphon	The City of Yuma will construct a shared-use pathway/linear park at Yuma Main Canal, E. Of 4Th Ave. At Yuma Siphon	\$750,000	UC
Sub-Total City of Yuma				\$1,500,000	
TOTAL ARRA Funds				\$23,092,612	

Note: C = Completed, UC = Under Construction, NS = Not Started (as of the date of this publication)



Table F.7 shows the distribution of ARRA transportation awards in the Focus Area by project scope. The largest number of awards went to projects that can be described as transportation enhancements, while four were awarded to projects that added system capacity. Three awards each were made to pavement preservation projects and to projects for roadway fencing.

Table F.7 ARRA Transportation Awards in the Focus Area by Project Scope

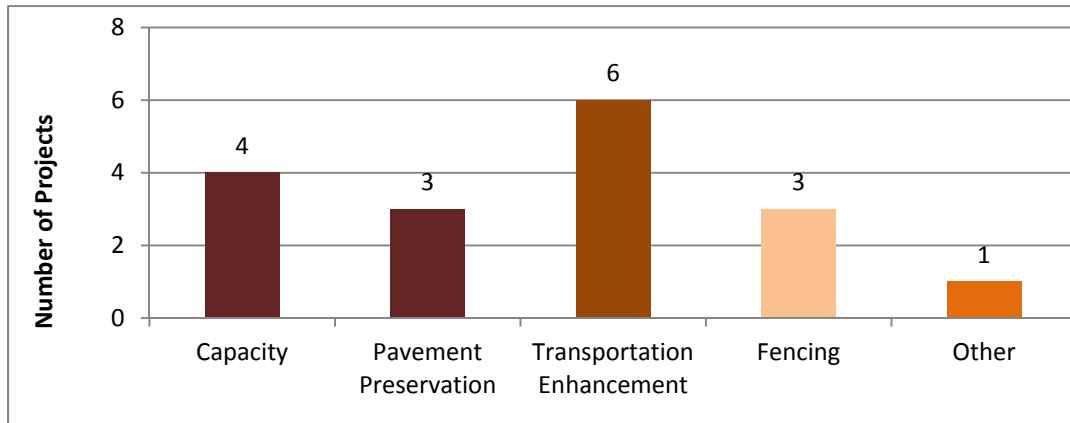
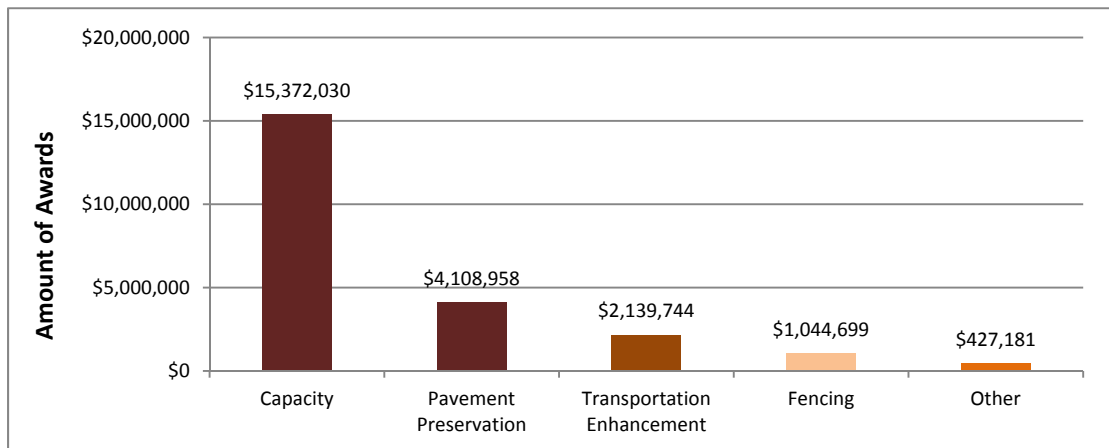


Table F.8 shows that \$15.4 million in these awards went to the four system capacity projects and \$4.1 million to the three pavement preservation projects. The six transportation enhancement projects received \$2.1 million and the three fencing projects received \$1 million.

Table F.8 Amounts of ARRA Transportation Awards in Focus Area, by Project Scope





AREA OF INFLUENCE

Defining the ARRA transportation awards within the “Area of Influence” is somewhat more complicated. At the most general level, the map of the Area of Influence limits the geography to everything south of I-8 to I-10, and everything west of I-10 from the I-10/I-8 interchange to the New Mexico state line. In our interpretation of this map, everything (roadways and jurisdictions) north and east of these two corridors are not in the Area of Influence. Therefore, for example, every jurisdiction in Pinal County has been excluded, with the possible exception of Eloy and every city in Maricopa County, with the possible exception of Gila Bend.

On a second level, a restrictive definition of the geographic areas actually included in the Area of Influence was used. Therefore, the analysis identified awards that were made to projects on I-8; I-10 from I-10 to the New Mexico border; I-19, and State Routes 80, 83, 85, 86, and 95; and to US 191. (In this analysis, projects that were already included in the Focus Area analysis were not included.) These are all projects managed by ADOT.

Twenty-four roadway projects implemented by ADOT within the Area of Influence were identified, with total awards of \$164.8 million. (The list of roadway awards and their scopes can be found in Attachment 2.) Table F.9 shows the number of these awards by roadway. Almost one-half of the awards went to I-10, with another five (5) awards to SR 86. The remaining roadways each received either one (1) or two (2) awards.

Table F.9 ARRA Transportation Awards in the “Area of Influence,” by Roadway

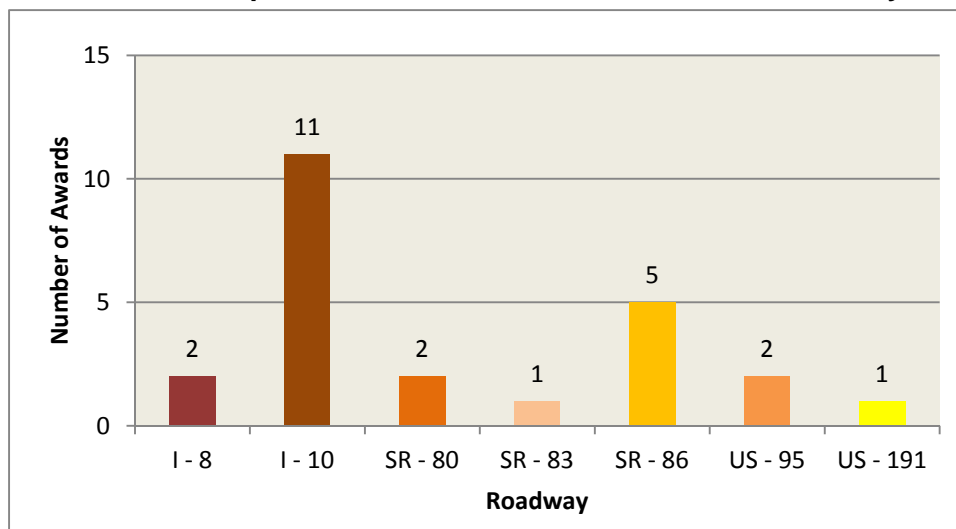
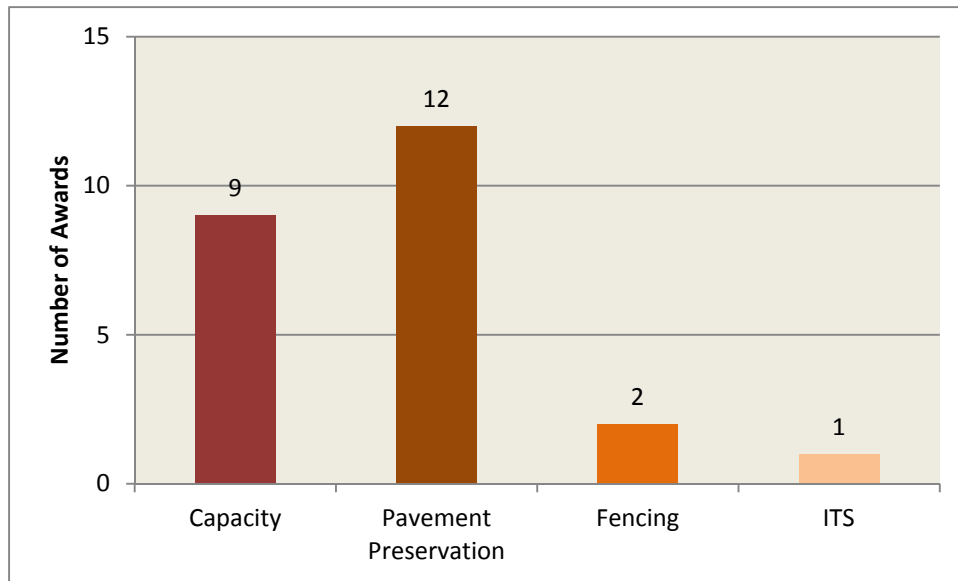




Table F.10 shows that one-half of these awards (12) were for pavement preservation, with another nine (9) awarded for capacity projects.

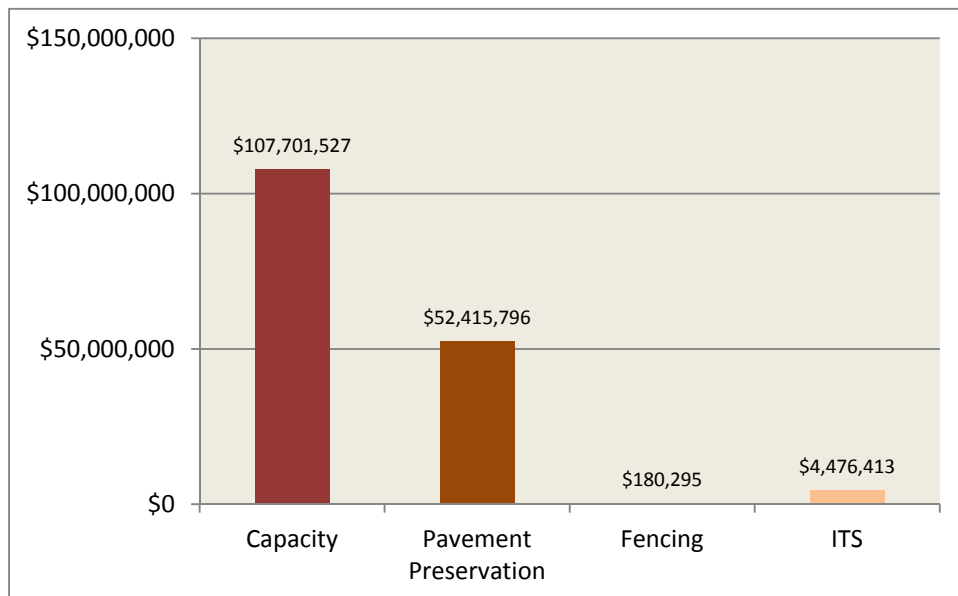
Table F.10 ARRA Transportation Awards in the “Area of Influence” by Project Scope



Note: ITS = Intelligent Transportation Systems

Table F.11 shows that \$107.7 million of the \$164.8 million awarded went to capacity projects, with another \$52.4 million allocated to pavement preservation projects.

Table F.11 Amounts of ARRA Transportation Awards in “Area of Influence” by Project Scope



Note: ITS = Intelligent Transportation Systems



PART 2

Analysis of CBI Funding in Arizona



COORDINATED BORDER INFRASTRUCTURE (CBI) FUNDING SUMMARY

Table F.12 charts annual appropriations under CBI and awards and apportionments to Arizona between FY 1999 and 2011. Appropriations and awards between FY 1999 and 2003 were made pursuant to TEA-21; from FY 2005 to 2011, appropriations and apportionments were made pursuant to SAFETEA-LU and the extension act of 2010.

The information in Exhibit 11 is derived from two sources:

- For FY 1999 to 2003, the information comes from a USDOT report titled “The National Corridor Planning and Development and Coordinated Border Infrastructure Program: History, Evaluation of Results.”³
- For FY 2005 to 2011, the information comes from annual notices of Apportionment of Fiscal Year (FY_... Coordinated Border Infrastructure Program Funds” published by USDOT.”⁴

Arizona received \$1.2 million from CBI awards between FY 1999 and 2001. Between FY 2005 and 2011, \$60.9 million was apportioned to Arizona under the CBI program.

³ See <http://www.fhwa.dot.gov/planning/corbor/ncorbor.htm>

⁴ These annual notices can be accessed at <http://www.fhwa.dot.gov/legsregs/directives/notices.htm>.” The notices are (FY 2005); N4510.596 (FY 2006); N4510.617 (FY 2007); N4510.658 (FY 2008); N4510.693 (FY 2009); N45210.744 (FY 2010); and N4510.746 (FY 2011).



Table F.12 Coordinated Border Infrastructure Program: Annual Appropriations and Awards or Apportionments Made to Arizona: FY 1999 to 2011

	Fiscal Year	Annual Authorizations	Arizona Awards
TEA-21	1999	\$140,000,000	\$5,500,000
	2000	\$140,000,000	\$4,175,000
	2001	\$140,000,000	\$1,550,000
	2002	\$140,000,000	\$0
	2003	\$140,000,000	\$0
	Sub-Total	\$700,000,000	\$11,225,000
SAFETEA-LU	2005	\$123,000,000	6,020,960
	2006	\$145,000,000	\$6,972,829
	2007	\$165,000,000	\$8,011,616
	2008	\$190,000,000	\$9,062,663
	2009	\$210,000,000	\$10,157,107
	2010	\$210,000,000	\$10,157,107
	2011	\$236,853,766	\$10,497,246
	Sub-Total	\$1,279,853,766	\$60,879,528
Total	\$1,979,853,766	\$72,104,528	

CBI funds awarded or apportioned, and which were programmed in ADOT State Transportation Improvement Programs (STIP) between FY 2005-07 and FY 2011-14 were evaluated. Based on available information, it cannot currently be determine whether these funds have been expended and projects completed.

FY 1999 To 2003

Between FY 1999 and 2003, under TEA-21, the CBI program was funded conjointly with the National Corridor Planning and Development Program. Table F.13 shows that in this period, Arizona received \$6.2 million in awards for border projects and \$5 million for Corridor projects.



Table F.13 Arizona awards under CBI and the National Corridor Program, FY 1992 – 2003

Arizona Projects			
Fiscal Year of Award	Border Projects	Corridor Projects	Total Arizona Awards
1999	\$2,500,000	\$3,000,000	\$5,500,000
2000	\$2,175,000	\$2,000,000	\$4,175,000
2001	\$1,550,000		\$1,550,000
Total by Project Type	\$6,225,000	\$5,000,000	\$11,225,000

There are nine ports of entry (POE) along the Arizona-Mexico border:

- San Luis, Arizona – San Luis Rio Colorado, Sonora (2 locations)
- Lukeville, Arizona – Sonoyta, Sonora
- Sasabe, Arizona – El Sasabe, Sonora
- Nogales, Arizona – Nogales, Sonora (3 locations)
- Naco, Arizona – Naco, Sonora
- Douglas, AZ – Agua Prieta, Sonora

Table F.14 identifies the ports of entry for which Arizona used its border project awards. Of the total awards, Arizona used \$5.2 million for improvements to the Nogales POE and \$1 million for the San Luis POE.

Table F.14 Border Project Awards to Arizona, by Port of Entry

Fiscal Year	CBI Project	Award Amount
1999	Site development work for commercial vehicle inspection and weighing in the vicinity of Nogales	\$2,500,000
2000	Improved access to and egress from San Luis POE	\$1,000,000
	Design, ROW acquisition and construction to expand Nogales Commercial Vehicle Inspection Station	\$1,175,000
2001	Infrastructure improvements to property purchased for Commercial Vehicle Inspections at the Nogales POE.	\$750,000
	ITS-CVO processing for international crossing system in Nogales POE	\$800,000
TOTAL		\$6,225,000

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FY 2005 TO 2011

Between FY 2005 and 2011, \$60.9 million was apportioned to Arizona for CBI projects. The information on how Arizona programmed its CBI funds during these years, as presented in Table F.15, is derived from the ADOT State Transportation Improvement Program (STIP) for each of these seven years.

Table F.15 is presented simply to show that the STIP reports are consistent with the annual notices of apportionment published by USDOT. In other words, USDOT and ADOT are reporting on the same funds.

Table F.15 Coordinated Border Infrastructure Revenues: FHWA reports and ADOT STIPs

	Fiscal Year						
	2005	2006	2007	2008	2009	2010	2011
FHWA Reports	\$6,020,960	\$6,972,829	\$8,011,616	\$9,062,663	\$10,157,107	\$10,157,107	\$10,497,246
ADOT STIPs							
2005							
2006		\$7,100,000	\$8,100,000	\$9,300,000			
2007			\$8,000,000	\$9,300,000	\$10,300,000	\$10,300,000	
2008				\$8,000,000	\$9,300,000	\$10,300,000	\$10,300,000
2009					\$9,000,000	\$9,000,000	\$9,000,000
2010							
2011							\$10,200,000

ADOT's State Transportation Improvement Programs (STIP) for Fiscal Year 2005-07 through Fiscal Year 2011-14 was reviewed to identify how CBI funds were programmed throughout this period. In developing this information, only funds were included for CBI projects that were included in the first year of the STIP. For example, if the FY 2005-07 STIP identified CBI funding for a project in FY 2006 that was different from the CBI funds programmed for that project in FY 2006 in the FY 2006-08 STIP, the funds from the latter STIP for that project were included.

Table F.16 summarizes the information developed from reviewing these STIPs. CBI funds were programmed for three ports of entry – Douglas, Nogales/Mariposa, and San Luis. Between FY 2005-11, \$12.5 million in CBI funds were programmed for the Douglas LPOE, \$4.1 million for the Nogales/Mariposa LPOE, and \$7.1 million for the San Luis LPOE.

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In addition, the Arizona-Sonora Border Master Plan is shown as getting \$943,000 in FY 2010 and an entry with the general title of Coordinated Border Infrastructure shows \$8.6 million for Fiscal Year 2011.

Table F.16 Summary of CBI Projects Programmed Since Fiscal Year 2005

Port of Entry	FY 2005-11	FY 2012	Future	Total
Douglas	\$12,475,000	\$1,862,200		\$14,337,200
Nogales/Mariposa Road	\$4,120,000			\$4,120,000
San Luis	\$7,140,000		\$59,710,234	\$66,850,234
Arizona-Sonora Border Master Plan	\$943,000			\$943,000
Coordinated Border Infrastructure	\$8,620,000	\$8,620,000	\$13,202,000	\$30,442,000
TOTAL	\$33,298,000	\$10,482,200	\$72,912,234	\$116,692,434

In the period of Fiscal Year 2005 to 2011, the STIPs also identify \$7.8 million in “Transportation Community & System Preservation Pilot Program (TCSP) funds for the San Luis POE. The attached worksheet for the San Luis POE identifies these TCSP funds.

For Fiscal Year 2012, the Douglas POE is shown as receiving \$1.8 million and the Coordinated Border Infrastructure \$8.6 million.

Under the “Future” column, the FY 2011-14 STIP includes \$59.7 million for projects under the Yuma Metropolitan Planning Organization that were treated as being contingent on the availability of CBI funds, with no identification of a fiscal year in which the funds might be expended. Under Coordinated Border Infrastructure, the STIP identifies \$6.6 million in both Fiscal Years 2013 and 2014, for a total of \$13.2 million.

Individual worksheets for CBI funds programmed for each port of entry and for projects not associated with a specific port of entry are summarized on Tables F.17 thru F.21.



Table F.17 Douglas Port of Entry

Fiscal Year	Port of Entry	Project	CBI Funds
Weight and Inspection Station			
2005	Douglas POE	Design/construct weight & inspection station	\$3,055,000
2007	Douglas POE	Design/construct weight & inspection station	\$4,805,000
Sub-Total			\$7,860,000
New Administration and Truck Inspection Buildings			
2010	Douglas POE	Design new administration & truck inspection buildings	\$283,000
2011	Douglas POE	Construct new administration & truck inspection buildings	\$2,300,000
Sub-Total			\$2,583,000
Install Voice and Data Lines			
2006	Douglas POE	Install voice & data lines	\$45,000
2007	Douglas POE	Install voice & data lines	\$45,000
2008	Douglas POE	Install voice & data lines	\$45,000
2010	Douglas POE	Install voice & data lines	\$42,000
Sub-Total			\$177,000
Right-of-Way Acquisition			
2006	Douglas POE	R/W acquisition	\$50,000
Sub-Total			\$50,000
Relocation of Oil Tanks			
2006	Douglas POE	Relocation of oil tanks	\$130,000
2007	Douglas POE	Relocation of oil tanks	\$130,000
Sub-Total			\$260,000
Provide Services For Electrical Service and Fire Suppression			
2008	Douglas POE	Provide services for electrical service & fire suppression	\$130,000
Sub-Total			\$130,000
Chino Road Extension			
2010	Chino Road, Douglas	Design concept report & environmental assessment	\$1,415,000
2012	Douglas/Chino Road Extension Project	Extend road 0.25 miles	\$1,862,200
Sub-Total			\$3,277,200
TOTAL			\$14,337,200

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Table F.18 Nogales Port of Entry/Mariposa Road

Fiscal Year	Port of Entry	Project	CBI Funds
Software Upgrade and Training			
2005	Mariposa Road POE	Software upgrade and training	\$69,000
2006	Mariposa Road POE	Software upgrade and training	\$69,000
Sub-Total			\$138,000
New Parking Area and Road Improvements			
2008	Mariposa Road POE	Construct new parking area & road improvements	\$1,079,000
2010	Mariposa Road POE	Design concept report & environmental assessment	\$1,886,000
2011	Mariposa Road POE	Construct new parking area & road improvements	\$1,017,000
Sub-Total			\$3,982,000
TOTAL			\$4,120,000

Table F.19 San Luis New Port of Entry

Fiscal Year	Port of Entry	Project	CBI Funds	TCSP Funds
Design New Port Facility				
2005	San Luis POE	Design Port Facility		\$500,000
2006	San Luis POE	Design Port Facility		\$500,000
2007	San Luis POE	Design Port Facility		\$500,000
Sub-Total				\$1,500,000
Right-of-Way Acquisition				
2006	San Luis POE	R/W acquisition	\$1,000,000	\$500,000
2007	San Luis POE	R/W acquisition	\$1,000,000	\$500,000
Sub-Total			\$2,000,000	\$1,000,000
Construct New Port Facility				
2006	San Luis POE	Construct new POE		\$2,650,000
2007	San Luis POE	Construct new POE		\$2,650,000
2008	San Luis POE	Construct new POE	\$4,140,000	
Sub-Total			\$4,140,000	\$5,300,000
Improvements to Adjoining Streets				
2005	San Luis POE	Improvements to adjoining streets	\$1,000,000	
Sub-Total			\$1,000,000	
TOTAL			\$7,140,000	\$7,800,000



Table F.20 San Luis Port of Entry

YMPO Wish List for CBI Funding		
STIP	Project	CBI Amount
FY 2010 - 2013	Avenue E: roadway widening from Juan Sanchez Blvd. to CO. 14th	\$12,500,000
Sub-Total		\$12,500,000
FY 2011 - 2014	Avenue E: Gila Ridge to 32nd St	\$6,724,234
	Juan Sanchez Blvd PA buildout: US 95 to Avenue E	\$1,212,000
	San Luis POE Staging Area: Avenue E and Co. 25th	\$1,886,000
	Avenue E: between SR 195 and Co. 25th	\$6,130,000
	Marketing Feasibility, Land Use, Short Rail Line Study	\$943,000
	Avenue E Extension Corridor Analysis	\$1,886,000
	Yuma Expressway Corridor	\$2,829,000
	Juan Sanchez Blvd PA buildout: US 95 to Avenue E	\$20,000,000
Co. 24 1/2 Extension from 6th Avenue to Avenue E	\$5,600,000	
Sub-Total		\$47,210,234
Total		\$59,710,234

Table F.21 No Specific Port of Entry

Fiscal Year	Project Title	Project	CBI Funds
Arizona-Sonora Border Master Plan			
2010	Arizona/Sonora Border	Master Plan	\$943,000
Sub-Total			\$943,000
Coordinated Border Infrastructure			
2011	Coordinated Border Infrastructure	Coordinated Border Infrastructure	\$8,620,000
2012	Coordinated Border Infrastructure	Coordinated Border Infrastructure	\$8,620,000
2013	Coordinated Border Infrastructure	Coordinated Border Infrastructure	\$6,601,000
2014	Coordinated Border Infrastructure	Coordinated Border Infrastructure	\$6,601,000
Sub-Total			\$30,442,000
TOTAL			\$31,385,000



APPENDIX G

Newsletters

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ARIZONA-SONORA BORDER MASTER PLAN NEWSLETTER SPRING 2012

PROJECT OVERVIEW

The Arizona Department of Transportation (ADOT) and Federal Highway Administration (FHWA) are working closely with the State of Sonora, Mexico, the Ministry of Foreign Affairs (Secretaria de Relaciones Exteriores), the Ministry of Communications and Transportation (Secretaria de Comunicaciones y Transportes), and several other local, state and federal agencies to develop an Arizona-Sonora Border Master Plan (BMP).

The need for an integrated transportation master plan to improve the efficiency and effectiveness of cross-border traffic prompted this collaborative effort. Arizona has a total of nine Land Ports of Entry (LPOE) along its border with Mexico. In 2010, more than 23 million people were processed through these border crossings. At each LPOE, heavy congestion and security issues affect daily pedestrian, commercial and vehicular traffic.

Upon completion, the BMP will include a prioritized list of recommended Arizona-Sonora border related infrastructure projects and document their readiness for funding and implementation. The BMP study area extends along the entire Arizona-Sonora border, which incorporates a wide range of international jurisdictions, including federal, tribal, state, county and city governments on both sides of the border.



Consultant project manager Bill Ferris speaks with a breakout group at a recent Technical Working Group meeting in Nogales, Ariz.

WHEN?

The study kicked off in fall 2011 and is scheduled for completion in late 2012. The workplan below shows the tasks and proposed schedule for the study process.

JAN 2012

- Technical Memo #1: *Existing Conditions*
- Technical Memo #2: *Land Port of Entry Focus Review*
- Technical Working Group (TWG) Meeting, San Luis, Ariz.

FEB 2012

- Working Paper #1: *Existing and Future Conditions*
- Policy Advisory Committee (PAC) Meeting, Puerto Peñasco, Sonora
- TWG Meeting, Nogales, Ariz.
- Study Website Launched

MARCH 2012

- Coordination Meeting, Mexico City (SRE/SCT)
- PAC Meeting, Tucson, Ariz.

APRIL 2012

- Travel Demand Model - Analyses
- Newsletter

MAY 2012

- Technical Memo #3: *Deficiencies and Alternatives*
- Technical Memo #4: *Interim Conditions*
- TWG Meeting, Nogales, Ariz.
- Focus Group, Nogales, Ariz.

JUNE 2012

- PAC Meeting, Tucson, Ariz.
- Newsletter

JULY 2012

- TWG Meeting, Location TBD
- Focus Group, Location TBD

AUG 2012

- Working Paper #2: *Phased Implementation Plan*
- PAC Meeting, Location TBD
- Focus Group, Location TBD

SEPT/OCT 2012

- Draft Master Plan
- PAC Meeting, Location TBD
- TWG Meeting, Location TBD

NOV 2012

- Final Master Plan
- Newsletter
- Study Concludes

TECHNICAL WORKING GROUP UPDATE

The Technical Working Group (TWG) for the Arizona-Sonora Border Master Plan (BMP) has the unenviable task of completing the BMP by the end of the year, elevating the Plan to the same level of completedness as comparable studies in California, New Mexico and Texas. The TWG met Feb. 16, 2012, in Nogales, Ariz., to finalize the categories of criteria to be used in assessing projects for consideration under the Plan.

This was the third meeting of the TWG, following a Dec. 13, 2011, kick-off meeting held jointly with the Arizona-Sonora BMP Policy Advisory Committee (PAC). Attendees came from Mexico City, Hermosillo, Nogales, San Luis Rio Colorado and Agua Prieta, Mexico, as well as Washington, D.C., San Francisco and Phoenix, Tucson, Yuma, Nogales and Douglas, Ariz.

The categories of criteria include:

- Capacity/Congestion
- Cost Effectiveness
- Regional Benefit
- Project Readiness
- LPOE Connectivity (non-LPOE projects only)
- Binational Coordination/Commitment (LPOE projects only)

PLANNING PROCESS OVERVIEW

The Arizona-Sonora BMP study began in Fall 2011 and is scheduled for completion in late 2012. The planning process involves the following five major phases:

- Project initiation – Includes the creation of a PAC and TWG to ensure stakeholder involvement
- Existing and future conditions – Data is collected from various sources and reviewed
- Identification of operational and infrastructure needs – The needs of all the LPOE's, rail and roadways/bridges are identified and analyzed
- Evaluation and prioritization of potential LPOE and transportation projects
- Draft and final report preparation



Agriculture workers line up at the San Luis I, Land Port of Entry for the early morning rush from 3 a.m. to 5 a.m.

DID YOU KNOW?

Nogales is the largest gateway for fresh produce from Mexico, accounting for 50 percent of all fruits and vegetables shipped into the United States. Each day, millions of dollars in cross-border trade and tourism pass through the following Arizona-Sonora Ports of Entry

- San Luis, Ariz. – San Luis Rio Colorado, Sonora
- Lukeville, Ariz. – Sonoyta, Sonora
- Sasabe, Ariz. – El Sasabe, Sonora
- Nogales, Ariz. – Nogales, Sonora
- Naco, Ariz., – Naco, Sonora
- Douglas, Ariz. – Agua Prieta, Sonora

FOCUS SESSIONS

Focus group feedback sessions are being scheduled for Nogales, San Luis and Douglas. For more information on focus group sessions, please contact any member of the study team.

STAY INFORMED!

Throughout the duration of the study, stakeholder information will be compiled and tracked through a database. The database will be used to track comments and the distribution of information, notifications and study updates. If you wish to be included in the stakeholder database and receive updates, please email alice@gordleygroup.com. Because the study encompasses stakeholders on both sides of the border, all meetings will be conducted in English and Spanish.

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PHASE I, PROJECT INITIATION (COMPLETED):

A workplan was developed that included an overview of the stakeholder process and a summary of activities for each task. The Policy Advisory Committee (PAC) and Technical Working Group (TWG) were established.

The PAC consists of 47 executive level managers from participating stakeholder agencies. The PAC is responsible for providing BMP project team direction and final approval of all project parameters and criteria.

The TWG also consists of 55 participating stakeholder agency senior staff. The TWG is tasked with providing requested technical data and infrastructure operations information. They are also involved in making recommendations to the PAC. Both the PAC and the TWG will meet regularly throughout the BMP development to contribute detailed information to this study.

PHASE 2, ASSESS EXISTING, FUTURE CONDITIONS (UNDER WAY):

Data collection and review began in late 2011 and continues through early 2012. Information on existing conditions in the study area was gathered and data related to future conditions is under development. An inventory of information for each LPOE regarding operations and infrastructure was completed.

PHASE 3, ANALYZE DATA (UNDER WAY):

The identification of potential challenges that may arise within the border-related transportation networks (roadways, rail and LPOE) and development of the BMP will lead to the identification of possible improvement strategies. The goal is to develop a list of planned and potential future transportation projects along the border, ultimately developing a prioritization plan.

PHASES 4 AND 5, EVALUATE LPOE, RELATED PROJECTS AND DRAFT AND FINALIZE BMP (PENDING)

Criteria for evaluation and ranking of future LPOE and related transportation projects will be developed for each travel mode. The prioritization criteria developed and approved by the PAC will be applied to project lists identified in Phase 3. The BMP will be compiled and drafted for review and comment by the TWG. When the TWG is ready to recommend approval to the PAC, the final BMP will be presented to the PAC in late 2012.

Binational Stakeholder Involvement

The involvement of stakeholders on both sides of the border is critical. The approach to stakeholder involvement will evolve throughout the study to ensure that stakeholders are being informed and their input is reaching the study team. This is the first of three newsletters that will be emailed to stakeholders. Stakeholders will be kept up-to-date through focus group meetings, a study website (www.azdot.gov/azborderplan) and fact sheets. Additional feedback will be solicited through comment forms and emails.

POINTS OF CONTACT**ADOT BMP PROJECT MANAGER**

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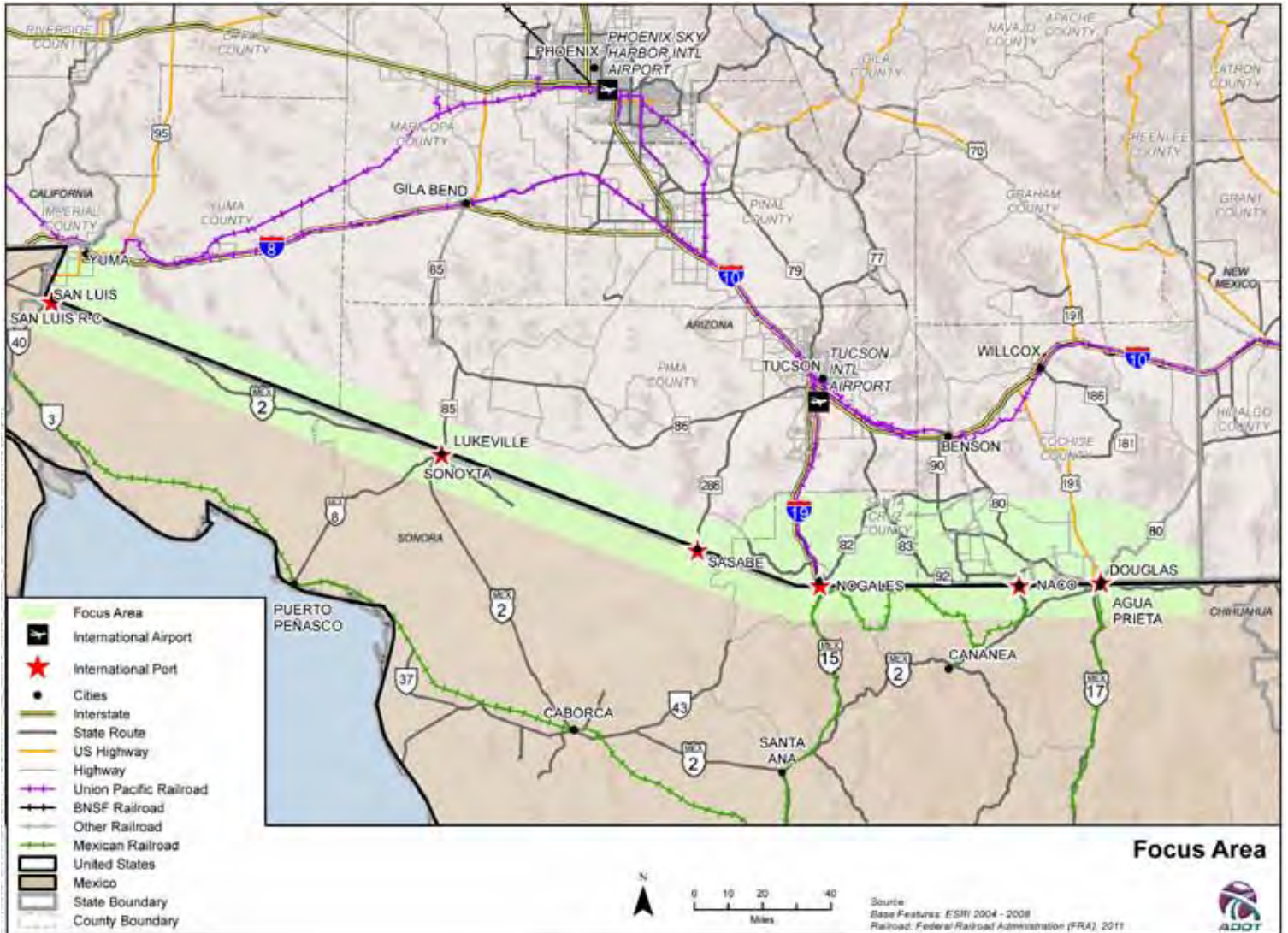
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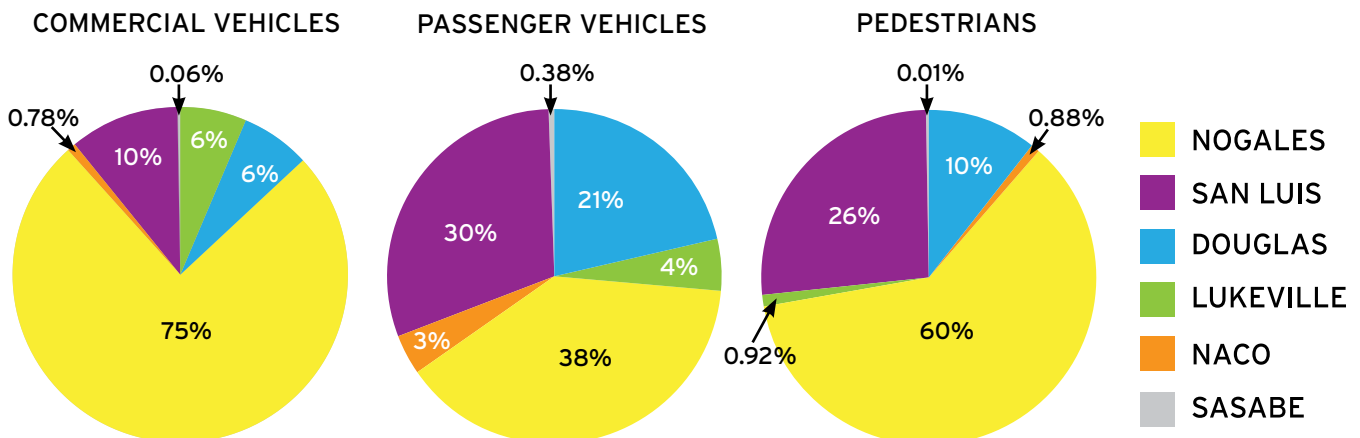


MASTER PLAN FOCUS AREA MAP

THE ARIZONA BORDER IS 389 MILES LONG AND THE STUDY EVALUATES SIX LAND PORTS OF ENTRY AND NINE TOTAL CROSSINGS BETWEEN ARIZONA AND SONORA.



DISTRIBUTIONS OF SONORA-TO-ARIZONA CROSSINGS BY MODE (AVERAGE 2006 - 2010)





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ARIZONA-SONORA BORDER MASTER PLAN SUMMER 2012 NEWSLETTER - UPDATE

STUDY UPDATE:

During the Arizona-Mexico Commission Summer Plenary Session the Policy Advisory Committee (PAC) met on June 7, 2012, in Tucson, Arizona, as part of the development of the Arizona-Sonora Border Master Plan (BMP).

The PAC gathered to review the evaluation criteria and weighting system developed by the Technical Working Group (TWG) to identify, prioritize and promote land port of entry (LPOE), multimodal and rail infrastructure projects along the Arizona-Sonora border to better serve the area's growing transportation needs.

Top-level evaluation criteria for projects that are included in the study are:

- Capacity/Congestion
- Cost Effectiveness
- Regional Benefit
- Project Readiness
- LPOE Connectivity (non-LPOE projects only)
- Binational Coordination/Commitment (LPOE projects only)

The PAC meeting began with a guest presentation by Sergio Pallares, International Border Studies Chief with the California Department of Transportation (Caltrans). He shared his experience as project manager for the development of the California-Baja California Border Master Plan.

Pallares advised the PAC to keep their focus, target projects only in the study area with data or sponsors to back them up, operate by consensus where possible, stay open-minded and respect differences in national planning processes.

The TWG gathered for its fourth meeting on May 15, 2012 in Nogales, Ariz. A major portion of the meeting involved a review of the deficiencies at the LPOEs and a project ranking exercise. The exercise involved using the evaluation criteria to rank sample projects so participants could get some experience with the process and refine it as needed.

Bill Ferris, a Project Manager with Stantec, noted the technical team had received the Arizona Department of Transportation (ADOT) Travel Demand Model and anticipated receipt of similar data from Mexico's Secretaría de Comunicaciones y Transportes (SCT) in order to be able to provide an initial analyses for the TWG's upcoming August meeting in Tucson.

UPCOMING MEETINGS AND STUDY MILESTONES:

The study started in fall 2011 and is scheduled for completion in late 2012.

AUGUST 2012

- Focus Group, Douglas, Ariz. - Aug. 2
- TWG Meeting, Tucson, Ariz. - Aug. 15

SEPTEMBER 2012

- PAC Meeting, Tucson, Ariz. - Sept. 18

OCTOBER 2012

- Draft Master Plan - *in progress*
- Focus Group, San Luis, Ariz. - Oct. 9
- PAC/TWG Meeting, Tucson, Ariz. - Oct. 16

NOVEMBER 2012

- Final Master Plan - *in progress*
- Fall Newsletter

DECEMBER 2012

- Final Presentation to PAC/TWG



PAC members participate in the June 7 meeting at Starr Pass Resort in Tucson.

PAC & TWG JURISDICTIONS:**FEDERAL - UNITED STATES**

- Customs and Border Protection
- Department of State
- Federal Highway Administration
- General Services Administration
- International Boundary and Water Commission

FEDERAL - MEXICO

- Secretaría de Relaciones Exteriores
- Secretaría de Comunicaciones y Transportes
- Administración General de Aduanas - Subadministración de Infraestructura
- Instituto de Administración y Avalúos de Bienes Nacionales - Dirección General de Administración y Obras en Inmuebles Federales
- Comisión Internacional de Límites y Aguas

ARIZONA TRIBAL

- Cocopah Indian Tribe
- Tohono O'odham Nation

CITIES - U.S.

- City of Bisbee, AZ
- City of Douglas, AZ
- City of Nogales, AZ
- City of San Luis, AZ
- City of Somerton, AZ
- City of Yuma, AZ

CITIES - MEXICO

- H. Ayuntamiento de Agua Prieta, Sonora
- H. Ayuntamiento de San Luís Río Colorado, Sonora
- H. Ayuntamiento de Sonoyta, Sonora
- H. Ayuntamiento de Nogales, Sonora

COUNTIES - U.S.

- Cochise County
- Pima County
- Santa Cruz County
- Yuma County

STATE OF ARIZONA, U.S.

- Arizona Department of Transportation
- Arizona-Mexico Commission
- Arizona Office of Tourism

STATE OF SONORA, MEXICO

- Comisión Sonora-Arizona
- Comisión de Fomento al Turismo
- Secretaría de Infraestructura y Desarrollo Urbano

OTHER AGENCIES - U.S.

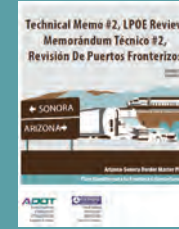
- Pima Association of Governments
- Southeastern Arizona Governments Organization
- Yuma Metropolitan Planning Organization
- Union Pacific Railroad

OTHER AGENCIES - MEXICO

- Ferrocarril Mexicano

PORT AUTHORITY

- Douglas International Port Authority, Inc.
- Greater Yuma Port Authority, Inc.
- Greater Nogales and Santa Cruz County Port Authority, Inc.

**PROGRESS TO DATE:****TECHNICAL MEMO #1:**Existing Conditions (*completed*)**TECHNICAL MEMO #2:**LPOE Review (*completed*)**WORKING PAPER #1:**Existing and Future Conditions (*completed*)**TECHNICAL MEMO #3:**LPOE Deficiencies and Alternatives (*in progress*)**LINKS:**

- U.S./Mexico Joint Working Committee on Transportation Planning: www.borderplanning.fhwa.dot.gov/masterplans.asp
- U.S. Bureau of Transportation Statistics, North American Border Crossing/Entry Data: www.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BC_Index.html
- Secretaría de Comunicaciones y Transportes: www.sct.gob.mx
- Arizona-Mexico Commission: www.azmc.org
- Article: "Transportation Committee Highlights Arizona-Sonora Border Master Plan," Arizona-Mexico Commission, Catalyst Magazine, Winter 2012 Edition: www.azdot.gov/azborderplan/PDF/InTheNew_021712.pdf
- For additional Arizona-Sonora BMP background, including previous newsletter, see www.azdot.gov/azborderplan

FOCUS GROUPS

Focus group meetings were held following the TWG meeting on May 15, 2012 in Nogales, Ariz. About 20 stakeholders representing businesses and government participated in the event.

ADOT BMP Project Manager Rudy Perez and Stantec Project Manager, Bill Ferris, gave short presentations before the group split into two groups for further discussion.

The business group had a number of displays to review regarding ongoing studies and upcoming area projects.

One of the main themes reported by participants of both groups was the need to ensure adequate staffing of LPOEs and effective training for current and future needs.



Focus Group participants review future improvements at various Arizona-Sonora land ports of entry.



PAC meeting in Puerto Peñasco (February 9, 2012)

STAY INFORMED!

Throughout the duration of the study, stakeholder information will be compiled and tracked through a database. The database will be used to track comments and the distribution of information, notifications and study updates. If you wish to be included in the stakeholder database and receive updates, please email alice@gordleygroup.com. Because the study encompasses stakeholders on both sides of the border, all meetings will be conducted in English and Spanish.

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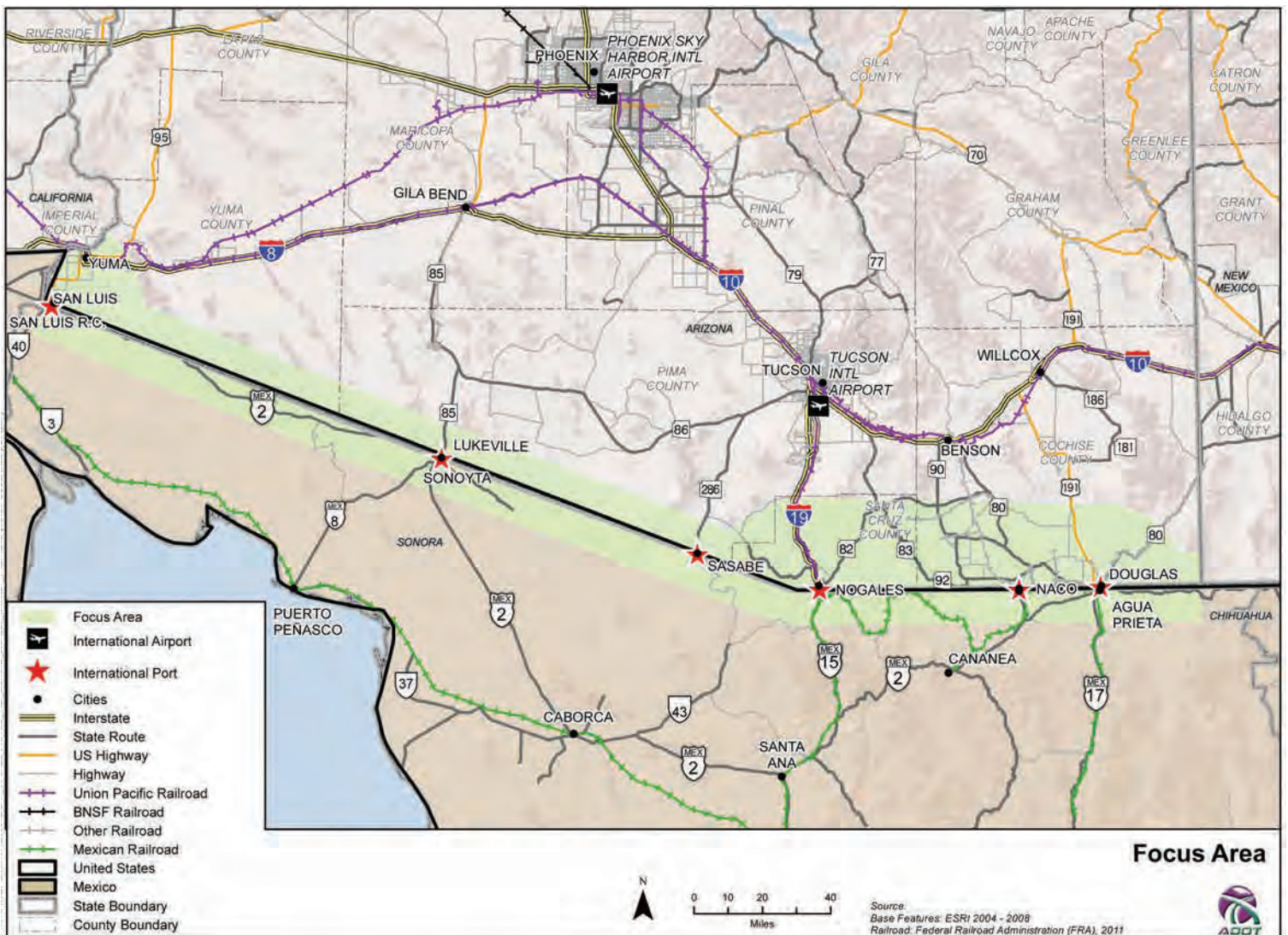
STUDY OVERVIEW:

The Arizona Department of Transportation and Federal Highway Administration continue to work closely with the State of Sonora, Mexico; the Ministry of Foreign Affairs (Secretaría de Relaciones Exteriores); the Ministry of Communications and Transportation (Secretaría de Comunicaciones y Transportes); and several other local, state and federal agencies to develop an Arizona-Sonora Border Master Plan (BMP). Begun in fall 2011, it is scheduled for completion in late 2012.

The BMP will be an integrated transportation master plan to improve the efficiency and effectiveness of cross-border traffic at Arizona's nine Land Ports of Entry (LPOE). Upon completion, the BMP will include a prioritized list of recommended border-related infrastructure projects and document their readiness for funding and implementation. The study area extends along the entire Arizona-Sonora border, which incorporates federal, tribal, state, county and city governments on both sides of the border.

MASTER PLAN FOCUS AREA MAP

THE ARIZONA BORDER IS 389 MILES LONG AND THE STUDY EVALUATES SIX LAND PORTS OF ENTRY AND NINE TOTAL CROSSINGS BETWEEN ARIZONA AND SONORA.



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ARIZONA-SONORA BORDER MASTER PLAN WINTER 2012 NEWSLETTER

BORDER MASTER PLAN (DRAFT PREPARED)

After 12 months of comprehensive study and extensive outreach, the Arizona-Sonora Border Master Plan (BMP) draft has been prepared. Included in the BMP is an impressive roster of recommended border-related infrastructure projects in order of priority. Projects included in the BMP range from purely conceptual to fully funded. The projects were submitted by local, state and federal border jurisdictions.

The study team ranked the projects according to criteria developed and approved by the BMP Policy Advisory Committee (PAC). The PAC is composed of executive-level agency managers from federal, tribal, state, regional and local entities from both the United States and Mexico.

PROJECT TYPES

LAND PORTS OF ENTRY (LPOE)

Seventeen Arizonan and 12 Sonoran LPOE projects are included in the BMP. Ten are located in San Luis, three in Nogales and three are in Douglas. Projects range from simple booth replacements to complex port reconfigurations.

MULTIMODAL INFRASTRUCTURE (MMI)

With 108 Arizonan and 19 Sonoran projects, the MMI type is the largest group of projects included in the BMP.

RAIL

Eight rail projects, including new rail corridors, rehabilitations, upgrades and additional lines or services, are included. The rail corridors are conceptual and new rail corridors are assumed to be additional, rather than replacements for existing rail lines.

SONORAN PROJECTS (RECENTLY ADDED)

Twenty-five projects located in the State of Sonora are included.

Highlights include:

- San Luis Rio Colorado Loop
- Sonoyta Land Port of Entry Expansion
- Federal Highway 2 Upgrades
- Puerta San Luis at Colorado River Bridge
- Highway Modernization, Cananea to Agua Prieta
- Highway Modernization, Altar to Sasabe
- Nogales III Expansion and Modernization (shown to the right)



VIEW THE GIS TOOL ON PAGE 4

INTERNATIONAL INVOLVEMENT AND COOPERATION

Implementing an inclusive stakeholder involvement program was a critical part of building a foundation of cooperation among the Policy Advisory Committee (PAC), Technical Working Group (TWG) and other interested parties. The study team included firms with extensive international agency relationships, as well as southern Arizona public involvement expertise. The study team worked closely with ADOT leadership to identify and invite executive-level agency managers of federal, tribal, state, regional and local entities from the United States and Mexico to participate. This resulted in the development of a PAC. The PAC then designated its senior agency technical staff to participate in the TWG.

The PAC and TWG worked together with the study team to develop and approve the stakeholder involvement plan. The team then developed the evaluation criteria and weighting system used to prioritize the submitted projects. The study team worked with the PAC and TWG members to review and confirm they were comfortable with the evaluation criteria.

During the course of the study, four PAC meetings and four TWG meetings were held, along with two joint PAC/TWG meetings. A final joint PAC/TWG meeting will be held on Dec. 13, 2012, bringing the total to 11 meetings during the course of the study. The meetings were held at various locations throughout the study area. Meetings featured simultaneous translation provided by the University of Arizona's National Center for Interpretation. Regular stakeholder meetings and consistent communication throughout the study timeframe ensured that stakeholder input was considered. The focus on steady communication resulted in a consensus-based plan that meets the needs of those involved and fulfills BMP goals.

PAC Meetings	TWG Meetings	Joint PAC/TWG Meetings
Feb. 9, 2012 Puerto Peñasco, Sonora 35 attendees	Jan. 17, 2012 San Luis, Arizona 28 attendees	Dec. 13, 2011 Tucson, Arizona 45 attendees
March 8, 2012 Tucson, Arizona 25 attendees	Feb. 16, 2012 Nogales, Arizona 29 attendees	Oct. 16, 2012 Tucson, Arizona 36 attendees
June 7, 2012 Tucson, Arizona 42 attendees	May 15, 2012 Nogales, Arizona 33 attendees	Dec. 13, 2012 Tucson, Arizona
Sept. 18, 2012 Tucson, Arizona 26 attendees	Aug. 15, 2012 Tucson, Arizona 29 attendees	



The BMP technical team in Mexico City with representatives from the Secretaría de Relaciones Exteriores and Secretaría de Comunicaciones y Transportes.

LINKS:

- U.S./Mexico Joint Working Committee on Transportation Planning: www.borderplanning.fhwa.dot.gov/masterplans.asp
- U.S. Bureau of Transportation Statistics, North American Border Crossing/Entry Data: www.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BC_Index.html
- Secretaría de Comunicaciones y Transportes: www.sct.gob.mx
- Arizona-Mexico Commission: www.azmc.org
- Article: "Transportation Committee Highlights Arizona-Sonora Border Master Plan," Arizona-Mexico Commission, Catalyst Magazine, Winter 2012 Edition: www.azdot.gov/azborderplan/PDF/InTheNew_021712.pdf
- For additional Arizona-Sonora BMP information, including previous newsletters, visit www.azdot.gov/azborderplan

FOCUS GROUPS HELD THROUGHOUT STUDY AREA

The focus group sessions held in Nogales, Douglas and San Luis, Arizona, were an important part of the BMP stakeholder outreach. Sixty-five participants from both sides of the border represented the following interests:

- Commerce, border trade advocacy groups and workforce providers
- Produce growers, freight and railroad associations
- Developers and landowners
- Law enforcement and emergency service providers
- Tribal, local and federal officials

Each focus group session started with a 45-minute presentation by the study team, where attendees learned about the study's purpose, process, schedule and deliverables. Afterward, attendees were asked to participate in their corresponding breakout group - commerce or government. During the one- to two-hour focus group sessions, study team leaders asked participants about their border crossing experiences, needed border improvements and associated concerns, including their perceptions of the constraints and obstacles to economic development in their areas.



Douglas, AZ Focus Group



San Luis, AZ Focus Group

Focus Group Sessions

May 15, 2012

Nogales, Arizona
15 attendees

Aug. 2, 2012

Douglas, Arizona
34 attendees

Oct. 9, 2012

San Luis, Arizona
16 attendees



Nogales, AZ Focus Group

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GEOGRAPHICAL INFORMATION SYSTEM (GIS) TOOL

A new online GIS database tool, that will allow users to follow the progression of projects included in the Arizona-Sonora Border Master Plan, was recently presented to the TWG and PAC. The information in the GIS tool comes from data that has been compiled during the study process.

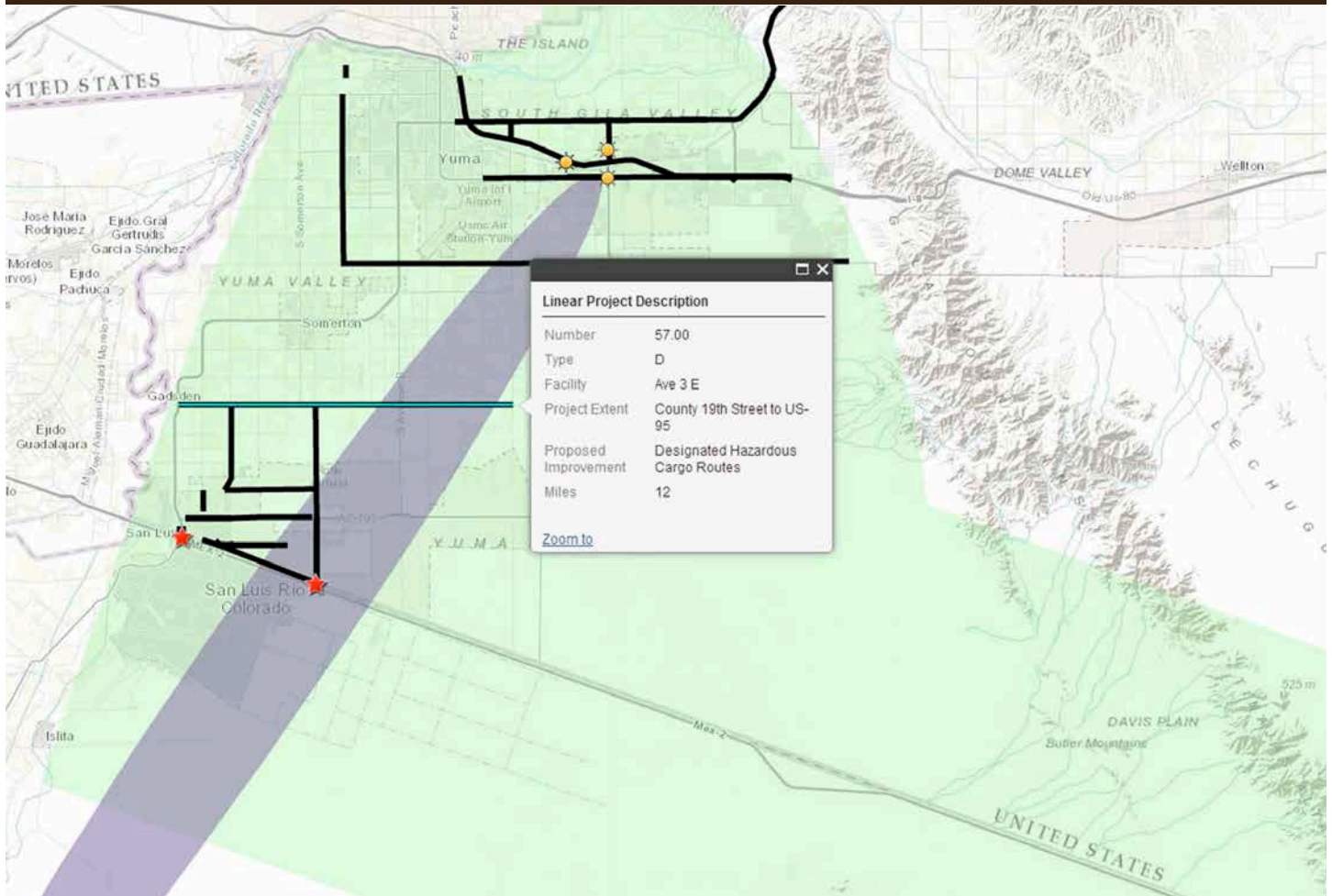
Users accessing the GIS tool will be able to zoom in on a map, click on a project and view its information including:

- Project name or title
- Type of facility

- Brief description of the proposed improvement
- Cost (conceptual or exact, depending upon the status or phase of the project)
- Project limits or boundaries
- Project photos, if available
- Current project ranking as defined by BMP
- Traffic and volume information, if applicable

With the GIS tool, users will be able to track projects and check current rankings. Specific project details will be updated as new information becomes available.

ARIZONA-SONORA BORDER MASTER PLAN PROJECTS



Screen shot of GIS tool with pop-up box displaying project information



APPENDIX H

Committee Meeting Record

ADOT: Arizona-Sonora Border Master Plan

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**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



United States – Federal

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
U.S. Department of State	Rachel Poynter U.S.-Mexico Coordinator Vice U.S.-Mexico Coordinator Office of Mexican Affairs WHA/MEX Room 4258 2201 C Street NW Washington, DC 20520 Ph: 202-647-6356 Email: poynterm@state.gov	Andrea Brouillette-Rodriguez Border Affairs Officer Office of Mexican Affairs 2201 C Street NW Washington, DC 20520 Ph: 202-647-6375 Email: rodriguez@state.gov	Angela Palazzolo Border Affairs Officer Office of Mexican Affairs WHA/MEX Room 3908 2201 C Street NW Washington, DC 20520 Email: palazzoloaj@state.gov Jeff Austin Nogales Consulate PO Box 1729 Nogales, AZ 85628 Ph: 52-631-311-8173 Email: austinjm@state.gov
U. S. Department of Homeland Security	James Tong Assistant Director, Field Operations Tucson Field Office Customs and Border Protection 4740 North Oracle Road Suite 116 Tucson, AZ 85705 Ph: 520-407-2325 Email: james.y.tong@cbp.dhs.gov		Thomas Yearout Assistant Director, Capital Improvements Tucson Field Office Customs and Border Protection 4740 North Oracle Road Suite 116 Tucson, AZ 85705 Ph: 520-407-2317 Email: thomas.yearout@dhs.gov
U.S. Department of Homeland Security	Mikhail Pavlov Facilities Management and Engineering Customs and Border Protection 1717 H Street NW Washington, DC 20006 Ph: 202-325-7015 Email: mikhail.a.pavlov@cbp.dhs.gov		Mikhail Pavlov Facilities Management and Engineering Customs and Border Protection 1717 H Street NW Washington, DC 20006 Ph: 202-325-7015 Email: mikhail.a.pavlov@cbp.dhs.gov



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
U.S. General Services Administration	Abdee Gharavi Program Director Land Ports of Entry GSA Public Building Service Pacific Rim Region 450 Golden Gate Avenue San Francisco, CA 94102 Ph: 415-522-3100 Email: abdee.gharavi@gsa.gov	Ramon Riesgo Land Ports of Entry 880 Front Street Suite 4236 San Diego, CA 92101 Ph: 619-557-5092 Email: ramon.riesgo@gsa.gov	Jon Ballard Senior Asset Manager 450 Golden Gate Avenue Suite 3E San Francisco, CA 94102 Ph: 415-522-3474 Email: jon.ballard@gsa.gov
U.S. Federal Highway Administration	Sylvia Grijalva U.S.-Mexico Border Planning Coordinator Office of Planning 4000 North Central Avenue Suite 1500 Phoenix, AZ 85012-3500 Ph: 602-510-7986 Email: sylvia.grijalva@dot.gov		Travis Black Community Planner Border and Corridor Planning 1200 New Jersey Ave SE HEPP-40 Room E74-437 Washington, DC 20590 Ph: 202-366-6798 Email: travis.black@dot.gov Romare Truely Tribal Coordinator Ph: 602-382-8978 Email: romare.truely@dot.gov
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**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Mexico – Federal

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Secretaría de Comunicaciones y Transportes INVITED	Lic. Adolfo Xavier Zagal Olivares Dirección General de Desarrollo Carretero Ph: 52-555-482-4343 Email: azagal@sct.gob.mx		Ing. Juan José Erazo García Caño Dirección General de Desarrollo Carretero Director de Proyectos Intermodales Insurgentes Sur #1089 Piso 10 Col Noche Buena Del Benito Juárez 03720 México, D.F., ME Ph: 52-555-482-4367 jerazog@sct.gob.mx
Secretaría de Infraestructura y Desarrollo Urbano	Ing. Jose Ines Palafox Nunez Secretario Blvd Hidalgo y Comonfort No 35 Piso Tercer Hermosillo, ME 83260 Ph: 52-662-213-2186 Email: ingfsp@prodigy.net.mx		



Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group



Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Instituto de Administración de Avalúos de Bienes Nacionales INVITED	Ing. Alejandro Zuniga Camacho Dirección General de Administración y Obras en Inmuebles Federales Ph: 52-555-574-2316 Email: azunigac@funcionpublica.gob.mx		Arq. Jose Fidel Castañeda Lugo Jefe de Departamento de Diseño Tuxpan 85 Piso 2 México DF, ME 06760 Ph: 52-555-564-4619
Instituto Nacional de Migración INVITED	Ángel Kuri Cervantes Director del Programa de Repatriación Humana Email: akuri@inami.gob.mx		
Comisión Internacional de Límites y Aguas	Dr. Roberto Fernando Salmón Castelo Director General Comisionado Mexicano Universidad #2180 Zona Chamizal C.P. 32310 Cd. Juárez, Chihuahua, México Ph: 52-656-613-9916 Email: rsalmon@cila.gob.mx		Jesús Quintana Blvd del Ensueño #550-3 Col Lomas de Fátima Nogales, ME 84050 Ph: 52-631-313-9630 Email: cila_nogales@cila.gob.mx



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Tribal

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
Cocopah Indian Tribe	Paul Soto Planning Director County 15 th & Avenue G Somerton, AZ 85350 Ph: 928-627-2102 Email: psoto@cocopah.com		Omar Heredia Planner County 15 & Avenue G Somerton, AZ 85350 Ph: 928-627-2102 Email: tcplan@cocopah.com
Tohono O'odham Nation	Ned Norris Jr. Chairman Po Box 837 Sells, AZ 85634 Ph: 520-383-2028 Email: ned.norrisjr@tonation-nsn.gov		Gerald Fayuant Pisemo District Legislative Council HC 01 Box 8300 Sells, AZ 85634 Ph: 520-362-2442 Email: gerald.fayuant@tonation-nsn.gov



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



United States – City

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
City of Bisbee	Stephen Pauken City Manager 118 Arizona Street Bisbee, AZ 85603 Ph: 520-432-6014 Email: spauken@cityofbisbee.com		
City of Douglas	Carlos de la Torre City Manager 425 10th Street Douglas, AZ 85607 Ph: 520-417-7302 Email: carlos.delatorre@douglasaz.gov		Lauren Ortega Public Works Director 425 10 th Street Douglas, AZ 85607 Ph: 520-417-7329 Email: lauren.ortega@douglasaz.gov
City of Nogales	Shane Dille City Manager 777 N Grand Avenue Nogales, AZ 85621 Ph: 520-287-6571 Email: sdille@nogalesaz.gov		John Kissinger Deputy City Manager 777 N Grand Avenue Nogales, AZ 85621 Ph: 520-285-5606 Email: jkissinger@nogalesaz.gov
City of San Luis	Ralph Velez City Manager 1090 E Union Street PO Box 1170 San Luis, AZ 85349 Ph: 928-341-8520 Email: rvelez@cityofsanluis.org		John Starkey Public Works Director 1090 E Union Street PO Box 1170 San Luis, AZ 85349 Ph: 928-341-8577 Email: jstarkey@cityofsanluis.org
City of Somerton	Bill Lee City Manager PO Box 638 110 N State Avenue Somerton, AZ 85350 Ph: 928-722-7400 Email: billlee@cityofsomerton.com		Samuel Palacios-Anzaluda City Engineer PO Box 638 110 North State Avenue Somerton, AZ 85350 Ph: 928-722-7371 Email: samp@cityofsomerton.com



Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group



Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
City of Yuma <i>INVITED</i>	Greg Wilkinson City Administrator One City Plaza PO Box 13014 Yuma, AZ 85366 Ph: 928-373-5011 Email: cityadministration@yumaaz.gov		



Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group



Mexico – City

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
Ciudad de Agua Prieta <i>INVITED</i>	Ing. Jesús Gálvez Enríquez Director de Desarrollo Urbano Calle 6 y 7 Avenida 16 y 17 Colonia Centro, CP 84200 Ph: 52-633-338-9480 ext. 220 Email: jesus.galvez@aguaprieta.gob.mx		
Gobierno Municipal de San Luis Río Colorado	Arq. Melissa Ramírez Reyna Dirección de Desarrollo Urbano y Ecología Ph: 52-653-536-6628 Email: due.slrc@gmail.com		Arq. Melissa Ramírez Reyna Dirección de Desarrollo Urbano y Ecología Ph: 52-653-536-6628 Email: Due.slrc@gmail.com
H. Ayuntamiento de Sonoyta <i>INVITED</i>	Ing. Joaquin Perez Ortiz Director de Obras y Servicios Públicos Municipales Av. Francisco Eusebio Kino No. 164 Col Ganadera Sonoyta, Sonora 83570 Ph: 52-651-512-0044 Email: dospm_sonoyta@hotmail.com		Mario Alberto Cervantes H. Ayuntamiento de Sonoyta Sonora Av. Francisco Eusebio Kino No. 164 Col Ganadera Sonoyta, Sonora 83570 Ph: 52-651-512-0044 Email: ing_mario_cervantes@hotmail.com
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**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



United States – County

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Pima County	John M. Bernal Deputy County Administrator 130 West Congress 10 th Floor Tucson, AZ 85701 Ph: 520-740-8480 Email: john.bernal@pw.pima.gov	Juanita Garcia-Seiger Assistant to Deputy County Administrator 130 West Congress 10 th Floor Tucson, AZ 85701 Ph: 520-740-8480 Email: juanita.seiger @pw.pima.gov	Ana Olivares Deputy Director Department of Transportation 130 West Congress 10 th Floor Tucson, AZ 85701 Ph: 520-740-6436 Email: ana.olivares@dot.pima.gov
Santa Cruz County	Carlos Rivera Interim County Manager 2150 North Congress Drive Nogales, AZ 85621 Ph: 520-375-7810 Email: crivera@co.santa-cruz.az.us		Jesus Valdez Deputy Public Works Director 2150 North Congress Drive Nogales, AZ 85621 Ph: 520-375-7830 Email: jjvaldez@co.santa-cruz.az.us
Yuma County	Robert L. Pickels County Administrator 198 S Main Street Yuma, AZ 85364 Ph: 928-373-1010 Email: robert.pickels@yumacountyaz.gov		Paul Melcher Planning & Zoning Director 2351 W 26th Street Yuma, AZ 85364 Ph: 928-817-5180 Email: paul.melcher@yumacountyaz.gov



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



United States – State of Arizona

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



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Arizona Office of Tourism	Sherry Henry Director 1110 West Washington Street, Suite 155 Phoenix, AZ 85007 Ph: 602-364-3724 Email: shenry@azdot.gov	Laura Franco French Director, Community Relations 1110 West Washington Street Suite 155 Phoenix, AZ 85007 Ph: 602-364-3720 Email: lfrench@azot.gov	



Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group



Mexico – State of Sonora

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Comisión de Fomento al Turismo del Estado de Sonora <i>INVITED</i>	Lic. Javier Tapia Camou Coordinador General Ph: 52-662-289-5800 Email: jtapia@sonoraturismo.gob.mx		
Gobierno del Estado de Sonora	José Inés Palafox Núñez Secretario Secretaria de Infraestructura y Desarrollo Urbano Ph: 52-662-213-2186 Email: ingfsp@prodigy.net.mx		Ing. Fernando Salazar Pompa Coordinator de Proyectos Especiales de la Secretaria de Infraestructura y Desarro Urbano Ph: 52-662-213-2186 ext. 156 Email: ingfsp@prodigy.net.mx
Centro SCT Sonora			Serrato Castell Director General Centro SCT Sonora Ph: 52-662-218-9457 lgerrato@sct.gob.mx



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



United States/Mexico – Other Agencies

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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<p>Pima Association of Governments</p>	<p>Gary G. Hayes Executive Director 177 North Church Avenue Suite 405 Tucson, AZ 85701 Ph: 520-792-1093 Email: ghayes@pagnet.org</p>		<p>Cheri Campbell Director of Transportation Planning 177 North Church Avenue Suite 405 Tucson, AZ 85701 Ph: 520-792-1093 Email: ccampbell@pagnet.org</p> <p>Jamison Brown Transportation Planner 177 North Church Avenue Suite 405 Tucson, AZ 85701 Ph: 520-792-1093 Email: jbrown@pagregion.com</p>
<p>Southeastern Arizona Governments Organization</p>	<p>Randy Heiss Executive Director 118 Arizona Street Bisbee, AZ 85603 Ph: 520-432-5301 ext. 202 Email: rheiss@seago.org</p>		



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Union Pacific Railroad	Zoe Gisele Richmond Director Public Affairs Corporate Relations 631 South 7 th Street Phoenix, AZ 85034 Ph: 602-322-2568 Email: zrichmond@up.com		
Ferrocarril Mexicano	Ing. Humberto Martinez Carretera Nogales S/N Col San Luis Hermosillo, ME 83160 Ph: 52-662-289-1510 Email: hmartinezz@ferromex.com.mx		Hugo Alejandro Rojas Lopez Carreterra Internacional Km 55 Estacion del Ferrocarril Nogales, ME 84040 Ph: 52-631-311-1800 Email: arojas@ferromex.com.mx



**Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group**



Port Authority

Agency	Policy Advisory Committee Member	Alternate PAC Member	Technical Working Group Member
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Greater Yuma Port Authority, Inc.	Gary Magrino Chairman 502 South Orange Avenue Yuma, AZ 85364 Ph: 928-726-9259 Email: gmagrino@beamspeed.net		Julie Engel President Greater Yuma Economic Development Corporation 899 East Plaza Circle Suite 2 Yuma, AZ 85365 Ph: 928-782-7774 Email: engel@greateryuma.org
Greater Nogales Santa Cruz County Port Authority, Inc.	James B. Manson Chairman PO Box 4518 Rio Rico, AZ 85648 Ph: 520-281-1722 Ext. 102 Email: jb@pacificbrokerageinc.com		James B. Manson Chairman PO Box 4518 Rio Rico, AZ 85648 Ph: 520-281-1722 Ext. 102 Email: jb@pacificbrokerageinc.com



Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group



Other – Advisors

Agency			Technical Working Group Member
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California Department of Transportation			Sergio Pallares International Border Studies Chief 4050 Taylor Street San Diego, CA 92110 Email: Sergio_pallares@dot.ca.gov
Imperial County Transportation Commission			Mark Baza Executive Director 1405 North Imperial Avenue Suite 1 El Centro, CA 92243 Ph: 760-592-4494 Email: markbaza@imperialctc.org
Imperial County Transportation Commission			Virginia Mendoza Regional Transportation Planner 1405 North Imperial Avenue Suite 1 El Centro, CA 92243 Ph: 760-592-4494 Email: virginiamendoza@imperialctc.org

Agenda
Arizona-Sonora Border Master Plan
Policy Advisory Committee and Technical Working Group Kick-off
Meeting
Tuesday, December 13, 2011
10:30 a.m. – 12:00 p.m.
Tucson, AZ

- 10:30 a.m. Welcome and Introductions
Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
Sean Carlos Cázares Ahearne, Ministry of Foreign Affairs, Republic of Mexico
- 10:45 a.m. Meeting Land Port of Entry Modernization Needs in a Constrained Budgetary Environment (Informational)
Mikhail Pavlov, U.S. Customs and Border Protection (CBP)
- 11:00 a.m. Goals and Objectives of the Study
Rudy Perez, ADOT
- 11:10 a.m. Role and Responsibilities of the PAC and TWG
Rudy Perez, ADOT
- 11:15 a.m. Review, Refine and Approve Project Work Plan, including:
- Study Area Boundary
 - Scope of Work
 - Project Schedule
 - Stakeholder Outreach Plan
- Bill Ferris, Project Manager, Stantec Consulting Services Inc.
- 11:55 a.m. Schedule Next Meeting
- 12:00 p.m. Adjourn

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM

File: 1817 10016 Date: December 19, 2011

**Reference: Arizona-Sonora Border Master Plan
PAC / TWG Kickoff Meeting Notes (12/13/2011)**

The kickoff meeting was held at the Tucson Chinese Cultural Center on Tuesday, December 13, 2011 at 10:30 am. The agenda(s) and presentation are now uploaded to the Buzzsaw FTP site. Each member of the PAC and TWG will receive an invitation to the FTP site allowing appropriate access to download project specific materials. A list of attendees is attached. Highlighted discussions of the meeting were as follows:

- Welcome and Introductions were given by Rudy Perez, ADOT PM (English) and Juan Manuel Calderon Jaimes (Spanish).
- Because of time constraints, the anticipated presentation “*Meeting Land Port of Entry Modernization Needs in a Constrained Budgetary Environment*” by Mikhail Pavlov, CBP – Washington, DC, was postponed until the next meeting.
- Goals and Objectives were described in detail by Rudy Perez.
- Roles and Responsibilities of the Policy Advisory Committee (PAC) and the Technical Working Group (TWG) were described in detail by Rudy Perez.
- The Work Plan was summarized by Bill Ferris, Consultant PM. Key components included:
 1. Identification of the recommended Focus Area. An area extending from the border to a point 10 miles both north and south of the border. A modification was further proposed by the consultant team to extend the limits to 25 miles on the US side of the border in the vicinity of San Luis, Nogales and Douglas. ***Following discussion, the members of the PAC approved a modified Focus Area, as described above, with the caveat of extending the area to a consistent 25 miles from Nogales all the way to Douglas.***
 2. Similarly, the proposed Area of Influence was summarized as a zone for data collection that would extend to a point approximately 80 miles from the border, primarily focused on the major transportation corridors. There was extensive discussion on the merits of further expanding the Area of Influence to the east and west. ***Ultimately, the PAC approved a modified Area of Influence to include the zone described above with the caveat that it should be extended to the west to include roadway networks in California/Baja California Norte that extend to the Calexico/Mexicali and Andrade/Los Algodones Land Port Of Entries (LPOE) and to the east to include***

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roadway networks in Chihuahua that may contribute to the Douglas/Agua Prieta LPOE.

3. Dan Marum, Consultant Deputy PM provided a brief overview of the five major tasks that comprises the Study Scope of Work. A synopsis (graphic) of the plan is contained on the last page of the Work Plan.
 4. Bill Ferris outlined the detailed schedule for the project months of December through March. Detailed discussions centered on location of the meetings. Sylvia Grijalva, FHWA noted that since this is a bi-national project some meetings will be held in Mexico. Bill noted that the team is making every attempt to schedule meetings in concert with other bi-national activities including the Arizona Mexico Commission and the US Mexico Joint Working Committee sessions. John Bernal, Pima County proposed adding another PAC meeting to be in better alignment with Working Paper #1 and the general work plan. ***As such, the schedule has been revised to reflect updated meeting dates and locations. The presentation (attached) has been amended to show the revisions – two new slides have been incorporated so the original dates/locations and the revised dates/locations are reflected.***
 5. Alice Templeton, Consultant Stakeholder Outreach Coordinator, discussed the highlights of the Stakeholder Outreach Plan (attached).
- The next meeting was scheduled with the TWG for January 17, 2012.
 - The meeting adjourned at approximately 12:40 pm.

STANTEC CONSULTING SERVICES INC.



William R. Ferris, Jr, PE
Principal, Transportation
(602) 707-4693
bill.ferrisjr@stantec.com

Attachments: Work Plan (revised and including: scope of work; focus area map; study area of influence map; regional area of influence map; and, schedule), Stakeholder Outreach Plan

- c. PAC members, TWG members, Consultant Team - Dan Marum, Amy Moran, Alice Templeton, Jessica Withers, Omar Cervantes, Jennifer Pyne, Anita Shanker

Arizona-Sonora Border Master Plan

PAC / TWG Kickoff Meeting Attendees (12/13/2011)

Jesus Valdez	Santa Cruz County
Steve Tipton	Tohono O'odham Nation
Gerald Fayuant	Tohono O'odham Nation
Nathan Barrett	Pima Association of Governments
Georgi Ann Jasenovec	FHWA-AZ Division
John Bernal	Pima County
Sally Stewart	Arizona Department of Transportation
Victor Gonzalez	Douglas International Port Authority
Juan Manuel Calderon Jaimes	Mexican Consulate
Ana Paula Martinez Garrigos	SRE
Mikhail Pavlov	CBP
Jeff Austin	US Consulate Nogales
Cherie Campbell	Pima Association of Governments
Carlos De La Torre	Cochise County
Shane Dille	City of Nogales
Todd Emery	Arizona Department of Transportation
Margie A. Emmermann	Office of the Governor
Charlene Fitzgerald	Yuma Metropolitan Planning Organization
Juanita Garcia-Seiger	Pima County Public Works
Abdee Gharavi	US General Services Administration
Sylvia Grijalva	Federal Highway Administration
Ing. Reynaldo Gutierrez	City of Nogales Sonora
Gary Hayes	Pima Association of Governments
Randy Heiss	SEAGO
John Kissinger	City of Nogales
Gail Lewis	Arizona Department of Transportation
Gary Magrino	Greater Yuma Port Authority, Inc.
Luis Ramirez	Arizona-Mexico Commission
Carlos Rivera	Santa Cruz County
Lauren Ortega	City of Douglas
Alvin Stump	Arizona Department of Transportation
James Tong	US Customs and Border Protection
Thomas Yearout	US Department of Homeland Security
Jesús Quintanar	Comisión Internacional de Limites y Aguas (CILA)
Andrea R. Brouillette-Rodriguez	U.S. Department of State
Laura Franco French	Arizona Office of Tourism
Sherry Henry	Arizona Office of Tourism
Mark Hoffman	Arizona Department of Transportation, MPD
Paul Melcher	Yuma County
Angela Palazzolo	U.S. Department of State
Melissa Ramirez Reyna	San Luis Rio Colorado
Ramon Riesgo	U.S. General Services Administration
Robert Sparks	Arizona Department of Transportation, ECD
Tim Strow	Maricopa Association of Governments
Marisa Walker	CANAMEX Corridor Task Force

Agenda
Arizona-Sonora Border Master Plan
Technical Working Group Meeting #2
Tuesday, January 17, 2012
1:00 – 3:30 p.m.
City Hall Multi-Purpose Room
1090 E. Union Street
San Luis, AZ 85349

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
 - The Honorable Juan Carlos Escamilla, Mayor, City of San Luis
- 1:15 p.m. Meeting Land Port of Entry Modernization Needs in a Constrained Budgetary Environment (Informational)
- Mikhail Pavlov, U.S. Customs and Border Protection (CBP)
- 1:30 p.m. Review Technical Memorandum No.1 Existing Conditions
- 1:50 p.m. Review Technical Memorandum No. 2 Existing Conditions - Land Ports of Entry
- 2:00 p.m. Status of Working Paper 1 Existing and Future Conditions
- 2:15 p.m. Discussion: Evaluation Process and Criteria
- 3:15 p.m. Schedule Update
- 3:25 p.m. Next Meeting Announcement
- 3:30 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831
Passcode: 774047#

Mexico Access Number: 1-720-279-0026
Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM

File: 1817 10016 Date: January 24, 2012

**Reference: Arizona-Sonora Border Master Plan
TWG Meeting #2 - Meeting Notes (1/17/2012)**

The second meeting was held at the San Luis City Hall Multi-Purpose Room on Tuesday, January 17, 2012 at 1:00 pm. The agenda(s) and presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions were given by Rudy Perez, ADOT PM and City of San Luis, AZ Mayor Juan Carlos Escamilla who stressed the importance of the meeting.
- *“Meeting Land Port of Entry Modernization Needs in a Constrained Budgetary Environment”*: Mikhail Pavlov, CBP talked about the challenges brought about by the current constrained budgetary and funding environment. Highlights included:
 - ❖ Agencies can accept donations of land but not cash donations to offset operating expenses
 - ❖ CBP leadership is aware of the issues brought about by the current environment
 - ❖ CBP leadership is looking into adjusting regulatory requirements to allow for more flexibility and alternatives
 - ❖ GSA staff is also looking into adjusting regulations but it is likely to require an Act of Congress
 - ❖ Some smaller projects may be progressed since some funding is available, however, those will fall well short of what is truly needed
- A project status update was provided by Bill Ferris and included:
 - ❖ A review of the Kickoff Meeting highlights.
 - ❖ Confirmation of approval of the Work Plan and Stakeholder Outreach Plan.
 - ❖ Confirmation of approval of the Focus Area and Area of Influence Maps.
 - ❖ Approval of the Project Schedule
- Review Technical Memorandum No. 1: Comments to TM #1 were due on 1/13/2012. TWG members provided additional data sources/modifications/edits. There was a request to further extend the study area along Route 15 to the Port of Guaymas. Bill Ferris noted that the data associated with the Port will be evaluated but the Area of Influence Map will remain as it was approved at the Kickoff Meeting. There was a request for further discussion on rail corridor options/upgrade opportunities. Bill Ferris noted that rail opportunities will be discussed in later

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portions of the study. **The group decided to allow one more week to review and provide comment on the memorandum and the new deadline is Tuesday, Jan. 24.**

- Review Technical Memorandum No. 2: Comments to TM #2 were due on 1/13/2012. TWG members provided additional data sources/modifications/edits. A request was made to provide additional detail at the San Luis Land Port of Entry (LPOE). Greater detail will be provided as part of Working Paper #1. **The group decided to allow one more week to review and provide comment on the memorandum and the new deadline is Tuesday, Jan. 24.**
- Discussion of Evaluation Process and Criteria: Bill Ferris led a discussion on the evaluation process and criteria development. At the conclusion of the study, the team will have a prioritized list of projects, however, the criteria need to be discussed and agreed upon first by the study participants. As the initial task the group needs to narrow down the “categories” of criteria. Discussion highlights:
 - ❖ There was significant dialogue on whether short-term projects (one to three years) should be included in the overall prioritization list. Considering the desire of federal representatives to be informed of all projects and the historical perspective that due to funding constraints some of these projects tend to slip to mid-term project status it was determined to include all projects. This approach appears to be consistent with the other BMP’s under development.
 - ❖ It was reiterated that the Border Master Plan (BMP) will be a living document; future updates will provide an opportunity for adjustments - project reprioritization due to schedule or funding delays or further evaluation of future projects that have not fully taken shape at this time (i.e. Punta Colonet, modifications at the Port of Guaymas, alternative LPOE location in greater Nogales region).
 - ❖ It was noted that due to funding constraints some of the larger LPOE projects may be delayed due to funding, but smaller-scale projects that maintain efficiency could materialize.
 - ❖ It was confirmed via on-line survey and subsequent conversation that there will be five categories of criteria:
 - ✓ Cost Effectiveness
 - ✓ Project Readiness
 - ✓ Capacity/Congestion
 - ✓ LPOE Connectivity
 - ✓ Regional Benefit
 - ❖ Cost-effectiveness, as a category of criteria, can be evaluated by project cost versus the number of people who would benefit.
 - ❖ It was confirmed that there will be three project types:
 - ✓ LPOEs
 - ✓ Multi-modal Infrastructure (Roads, Bridges, Interchanges, Peds, Bikes)
 - ✓ Rail

- ❖ It was also confirmed that weighting of the categories of criteria will be accomplished by project type (i.e. evaluate LPOE improvement projects against other LPOE improvement projects)
 - 21 TWG members voted to weight the categories of criteria by project type
- ❖ An online survey to gather input for weighting by project type will be created/forwarded to the TWG next week. It was noted that clear definitions of categories and criteria need to be provided. Results will be reviewed at the next meeting. Team leaders reiterated that we need 100% participation in the survey.
- ❖ A concern was raised that proposed LPOE improvements need to be coordinated with adjacent roadway infrastructure improvements (and vice versa) to ensure proper linkage between LPOE and non-LPOE infrastructure enhancements. Based on this comment it will be incumbent on the consultant team to develop a strategy to address this concern in later stages of the BMP development.
- ❖ Binational coordination will be added to the rail criteria.
- Juan Carlos Rivas Garcia agreed to coordinate the delivery of the Mexican travel demand data to the team for their use. Bill Ferris/Rudy Perez to follow up.
- Upcoming Meetings:
 - ❖ Feb: 9: PAC Meeting #2, in Rocky Point, Mexico
 - ❖ Feb. 16: TWG Meeting #3, in Nogales (10 a.m. – 2 p.m.)
 - ❖ March 8: PAC Meeting #3, in Tucson
- The meeting adjourned at approximately 3:30 pm.

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- c. PAC members, TWG members, Consultant Team - Dan Marum, Amy Moran, Alice Templeton, Jessica Withers, Omar Cervantes, Jennifer Pyne, Anita Shanker

Arizona-Sonora Border Master Plan
TWG Meeting #2 Attendees (1/17/2012)

Jon Ballard (General Services Administration)
Fidel Castaneda (indAAbin)
Todd Emery (Arizona Department of Transportation)
Miguel Escobar Valdez (Mexican Consulate, Yuma)
Charlene FitzGerald (Yuma Metropolitan Planning Organization)
Bill Harmon (ADOT)
Georgi Ann Jasenovec (Federal Highway Administration Arizona Division)
Gabriella Kemp (ADOT CCP)
Humberto Martínez (Ferrocarriil Mexicano)
Paul Melcher (Yuma County)
Jose Nunez (International Boundary & Water Commission)
Ana Olivares (Pima County Department of Transportation)
Angela Palazzolo (U.S. Department of State)
Mikhail Pavlov (U.S. Customs and Border Protection)
Luis Ramírez (Arizona-México Commission)
Melissa Ramírez Reyna (Gobierno Municipal de San Luis Río Colorado)
Juan Carlos Rivas García (Secretaria de Relaciones Exteriores)
John Starkey (City of San Luis)
Alvin Stump (ADOT)
Jesus Valdez (Santa Cruz County)
Marisa Walker (CANAMEX)
Mark Jankowski (U.S. Department of Homeland Security)
Gail Lewis (ADOT)
Ron Henry (CBP)
Anthony Kleppe (GSA)
Bruce Fenske (ADOT)
Travis Black (FHWA)
Juan Carlos Escamilla (Mayor, City of San Luis)
Greg LaVann (GYEDC)
Luis Esquivies (indAAbin)

Via Conference Call:

Nathan Barrett (Pima Association of Governments)
Juan Jose Erazo (SCT)
Randy Heiss (SouthEastern Arizona Association of Governments)
Mark Hoffman (ADOT, MPD)
Fernando Salazar Pompa (SIDUR Gobierno del Estado de Sonora)
Manuel Sanchez (FHWA, California Division)

Agenda
Arizona-Sonora Border Master Plan
Policy Advisory Committee Meeting #2
Thursday, February 9, 2012
1:00 – 3:30 p.m.
Office of Civil Protection - Central Fire Department Building
Fremont Boulevard
Puerto Penasco, Sonora, Mexico

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 1:20 p.m. Review Technical Memorandum No.1 Existing Conditions
- 1:35 p.m. Review Technical Memorandum No. 2 Existing Conditions - Land Ports of Entry
- 1:45 p.m. Status of Working Paper 1 Existing and Future Conditions
- 2:00 p.m. Discussion: Evaluation Process and Criteria
- 3:15 p.m. Schedule Update
- 3:25 p.m. Next Meeting Announcement
- 3:30 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831

Passcode: 774047#

Mexico Access Number: 1-720-279-0026

Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: Revised May 4, 2012

**Reference: Arizona-Sonora Border Master Plan
PAC Meeting #2 - Meeting Notes (2/09/2012)**

The second meeting was held at the Puerto Peñasco Fire Department on Thursday, February 9, 2012 at 1:00 pm. The agenda(s) and presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions were given by Rudy Perez, ADOT PM, Fernando Salazar Pompa, Gobierno del Estado de Sonora and Puerto Peñasco Mayor Alejandro Zepeda Munro who stressed the importance of the meeting.
- **Review Technical Memorandum No. 1 Existing Conditions and No. 2 Land Ports of Entry Review:** The team reinforced that it is important to have everyone's participation in the bi-national study. Bill talked about his recent experience watching northbound pedestrians and bicyclists queuing at the San Luis I LPOE and southbound POVs queuing at the Douglas LPOE. Bill then invited James Tong of Customs and Border Protection to talk about their strategic plan to focus on southbound operations:
 - ❖ CBP is running sustained outbound operations that mirror inbound operations
 - ❖ Outbound enforcement has had a significant impact on smuggling, stolen vehicles, money, ammunition and weapons trafficking
 - ❖ The southbound operations have created localized congestion and affected traffic circulation because roadways were never designed to accommodate the new southbound enforcement operations
- **Overview of Working Paper No. 1 Existing and Future Conditions:**
 - ❖ Received approval for Work Plan and Stakeholder Outreach Plan at kickoff meeting in December, 2011
 - ❖ Completed Focus Area Map, Area of Influence, Technical Memos No. 1 and 2. Received comments on both memos
 - ❖ The evolution of Technical Memos No. 1 & 2 will create the foundation for Working Paper No. 1
 - ❖ Email notification will be made to PAC and TWG members when Working Paper No. 1 is available on the ftp site for review (It is especially important to review Tables 3.1 and 7.1 to make sure they are complete)

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- **Discussion: Evaluation Process and Criteria** - Debate took place regarding how to define short-term projects. The first round of discussions ended in an affirmative vote to define short-term projects within a 0 to 5 year window and remove fully funded projects from the list. A second vote resulted in agreement that for all projects, if they are fully funded, they will be listed, but they will not be prioritized. An agreement will ultimately need to be made with the TWG and PAC on the definition of “fully funded” for purposes of this study.
 - ❖ Comments made during discussion included:
 - ✓ ADOT has a travel demand model that extends out to 2035 that will provide data to assist in prioritization
 - ✓ Defining midterm projects over a span from 3 or 5 to 25 years was considered too long
 - ✓ Long range projects out to 2050 was also considered too long
 - ✓ The team noted that whenever horizon or modeling years are used, it should be based on growth scenarios and not necessarily years. Growth might take more or less to occur based on development
 - ✓ The Border Master Plan is intended to be a living document that will be updated, therefore, this approach can be revisited 2-3 years out
 - ✓ Federal agencies noted a preference toward including all projects to allow for a more informed opinion on rankings
 - ✓ Regarding whether to include projects – should we, in essence, interfere with projects that have already gone through a process, identifying the need, developing an approach, moving toward funding, right-of-way acquisition, environmental reviews, etc.
 - ✓ The Mexican perspective - are projects fully funded and guaranteed? If not, fully funded then we should study them. This will define bi-national priorities and we can find funding for them. Furthermore, Mexican presidential terms are typically used when planning for the implementation of infrastructure improvements
 - ✓ In most of the other plans midterm is 10 to 15 years
 - ✓ Break it up a bit more, use the term super long, because from now to 25 years is a lot of projects
 - ✓ In Mexico, projects are determined over a shorter term because we don't require congressional approval of funds. When SCT gets annual funding they get it all at once so they don't have to go through such a long planning process
 - ✓ We have to consider the prospect of projects being funded and then losing their funding
 - ❖ Discussion then took place regarding how to define mid and long term projects. After discussion, the vote resulted in agreement that midterm projects are from 6 to 12 years and long term projects are beyond 12 years. Comments made during discussion included:
 - ✓ The GSA planning cycle is long term - 30 years with an interim of 10 years.
 - ✓ Long term is way too long at 25 years, it should be more like 15
 - ✓ In Mexico, the presidential terms are 6 years so the duration should be 6 to 12 years for midterm projects
 - ✓ What is long term duration? Should it be capped – anything beyond 12 years, the farther out it is the less likely it is to be ranked very high

- ✓ Based on what the team has seen from other BMPs, LPOE projects will be ranked against other LPOE projects and so forth. The TWG felt it was important to keep the three project types separate
 - ✓ At the TWG meeting, we discussed referencing/ linking all projects for continuity purposes even though the projects are on separate lists. There was a concern that if a large LPOE project was progressed, but the adjacent roadway was left unimproved we would just be relocating the problem. The team could apply planning or engineering judgment to recommend subtle reordering of projects to maintain bi-national linkages or project type linkages
 - ✓ It is very important to have significant coordination between LPOE projects and related multi-modal system improvements, and that should be added to criteria
 - ✓ For road construction it is definitely important to have bi-national coordination
 - ✓ FHWA noted that the first study we went through in California was almost exclusively for the ports of entry
 - ✓ The concept of linkages is very important, LPOEs require roadways and it also affects the local cities, such as in Nogales with pedestrian traffic
 - ✓ If a project is in the planning phase, cities need to come to the table and define where there are in the planning/implementation process
 - ✓ How wide of a net are you casting – how far from the border should we be looking at linkages that affect the LPOEs themselves. Multimodal infrastructure projects all need to be contained within the green area on the focus area map (approximately a 10 mile zone on both sides of the border) with bulges at San Luis/Yuma, Nogales and Douglas out to 25 miles
 - ✓ All major roadways that connect to the LPOEs are included in the study
 - ✓ It is incumbent upon the project team to study linkages between projects that may affect the final recommended implementation program for the Master Plan
- ❖ After discussion, separate ranking of the three project types was confirmed through vote.

The group took a short break

- ❖ Discussion continued.
- ✓ In the definition of multimodal projects we include transit systems
 - ✓ The primary focus of the last TWG meeting was a discussion on criteria, that will allow prioritization of projects
 - ✓ In the California and Texas master plans, there was extensive debate on criteria – up to 2 days
 - ✓ We are looking at categories of criteria and have come up with five categories included in packets for you to review
 - ✓ The TWG weighted categories of criteria through an on-line survey. There was insufficient participation to reach a conclusion – however, it was identified that capacity/congestion is the most important of the categories. Cost effectiveness and regional benefit were tied; POE connectivity was next and project readiness was last
 - ✓ Project readiness was considered very important (environmental, right-of-way etc. done), but for LPOE coordination it's the most significant

- ✓ Bi-national coordination is considered as a specific criteria but lumped under readiness
- ✓ Safety is being considered as a specific criteria and rolled up into the capacity/congestion category
- ✓ Using the California Master Plan as an example, we are concerned with such a low percentage for Project Readiness. At San Ysidro, the port of entry is facing very complex bi-national project coordination issues - we are rescuing an old port in San Ysidro but even though it was planned, it was not coordinated effectively and so the US is building on the eastern side of the port and Mexico is building on west side so infrastructure is not appropriately matched
- ✓ Keep in mind that the TWG recommends and the PAC approves so make sure you are bringing your concerns to your TWG members so they can represent you in Nogales at TWG Meeting #3 on February 16, 2012. The PAC makes the final decisions
- ✓ If a project is ranked high in other categories but project readiness is scored low, then how can it be pushed to the top. Bill – We don't want to use the calculations to make sure an individual project comes out No. 1. We want to establish, collectively, what is important – define the criteria, then apply them to a project candidate list and see what rises to the top
- ✓ The way readiness is being weighted you almost don't have to worry about it – it needs to have bigger weight
- ✓ Readiness needs to be applied differently and it is very important
- ❖ Discussion ensued regarding the need to complete the survey to build consensus on the percentages for the weighting of the categories. It was decided to do the survey on paper at the TWG meeting next week. Bill reinforced the importance of PAC and TWG members consulting with each other to reconfirm their priorities and concerns. Comments included:
 - ✓ Recommend ranking projects then use an additional ranking for LPOE's only for project readiness
 - ✓ TWG will bring back a recommendation to the PAC for voting
 - ✓ Categories will be revised and presented to the TWG next Thursday
 - ✓ Two different weights – one for LPOEs and one for the two other categories (multi-modal infrastructure and rail) will be the same
- **Schedule Update:** We need to have further discussion and gather more information from our colleagues in Mexico and are checking into dates to meet with them. (The meeting date has since been set for March 6, 2012). Finally, Working Paper No. 1 needs to be reviewed in the next three weeks.

- **Upcoming Meetings:**
 - ❖ March 8: PAC Meeting #3, in Tucson
- The meeting adjourned at approximately 3:30 pm.

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A handwritten signature in blue ink, appearing to read "W. Ferris Jr.", is positioned above the printed name.

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- c. PAC members, TWG members, Consultant Team - Dan Marum, Amy Moran, Alice Templeton, Jessica Withers, Omar Cervantes, Jennifer Pyne, Anita Shanker

Arizona-Sonora Border Master Plan PAC Meeting #2 Attendees (2/09/2012)

Claudia Aguirre (Municipio San Luis, Sonora)
Nathan Barrett (Pima Association of Governments)
Lic. Sean Carlos Cazares Ahearne (Secretaria de Relaciones Exteriores)
Ruth Cox (General Services Administration)
Margie A. Emmermann (Office of the Governor)
Abdee Gharavi (General Services Administration)
Victor Gonzales (Douglas International Port Authority)
Sylvia Grijalva (Federal Highway Administration)
Ramon Riesgo (General Services Administration)
Jose Humberto Martinez (Ferrocarriil Mexicano)
Hugo Rojas (Ferrocarriil Mexicano)
Melissa Ramirez (Municipio San Luis, Sonora)
Sally Stewart (Arizona Department of Transportation)
James Tong (Customs and Border Protection)
Mario Novoa (City of Douglas)
Marisa Walker (Canamex)
Tom Yearout (Customs and Border Protection)
Gabriella Silva (Arizona-Mexico Commission)
Fernando Salazar Pompa (Gobierno del Estado de Sonora)

Via Conference Call:

John Bernal (Pima County)
Shane Dille (City of Nogales)
Juan Jose Erazo (SRE)
Charlene Fitzgerald (Yuma Metropolitan Planning Organization)
Paul Melcher (Yuma County)
John Merino (International Boundary & Water Commission)
Jose Núñez (International Boundary & Water Commission)
Angela Palazzolo (U.S. Department of State)
Mikhail Pavlov (U.S. Customs and Border Protection)
Robert L Pickels (Yuma County)
Rachel Poynter (U.S. Department of State)
Jennifer Toth (Arizona Department of Transportation)

Others:

Monica Castro (Assistant to Mayor of Puerto Peñasco)
Juan Cárdenas (Secretario particular del alcalde)
Arq. Fausto Cesar Soto (Municipio Puerto Peñasco)

Agenda
Arizona-Sonora Border Master Plan
Technical Working Group Meeting #3
Thursday, February 16, 2012
10:00 – 2:00 p.m.
Holiday Inn Express
850 W. Shell Rd.
Nogales, AZ 85621

- 10:00 a.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 10:15 a.m. Working Paper #1: Existing and Future Conditions - Overview
- 10:30 a.m. Discussion: Evaluation Process and Criteria
- Review On-line Survey “Criteria Category Weighting”
 - Finalize Category Weighting
 - Review suggested Criteria
- 12:00 p.m. Working Lunch (to be provided)
- Finalize Criteria for Recommendation to the PAC
- 1:40 p.m. Schedule Update
- 1:55 p.m. Next Meeting Announcement
- 2:00 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831
Passcode: 774047#

Mexico Access Number: 1-720-279-0026
Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: Revised May 4, 2012

**Reference: Arizona-Sonora Border Master Plan
TWG Meeting #3 - Meeting Notes (2/16/2012)**

The third meeting was held at the Holiday Inn Express, Nogales, Arizona on Thursday, February 16, 2012 at 10:00 am. The agenda(s) and presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions were given by Rudy Perez, ADOT PM, and Fernando Salazar Pompa, Gobierno del Estado de Sonora.
- Bill reviewed the items available on the ftp site.
- **Working Paper No. 1 Existing and Future Conditions Overview:** Bill presented an overview of Working Paper No. 1 and encouraged everyone to get onto the FTP site to view the documents. He stressed that Tables 3.1 and 7.1 are very important for review as they contain the list of relevant studies and planned improvements that have been identified to date. The team needs the help of the TWG and PAC to make sure everything important is included.
- **Status of Working Paper No. 1 Existing and Future Conditions:** Bill provided a quick overview including a review of the focus area map, area of influence and the critical tables. He also provided figures of population density and employment density. A summary of the discussion includes:
 - ❖ It was noted that a few lines of data were incomplete on the tables. It is the team's intent to visit with SRE and SCT in Mexico City next month. Some of the missing data may be able to be filled in following that visit and the subsequent exchange of information. The data will be filled in prior to the ranking of projects.
 - ❖ There was a request to replace the pie charts that depict average volumes by crossing over a five year period with tables that illustrate the data annually and by mode. Pie charts will be supplemented with requested tables in the final version of the working paper. Since that will take more space the recommendation was to reference a much more complete table of data in an appendix.
 - ❖ The data going back to 2006 traffic volumes were much higher and the expectation is that as the economy improves the traffic volumes will go back to those levels. The current infrastructure system was already handling an extra 12 million people per year. Traffic volumes have also decreased because of border

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wait times. Need to provide more information and a bar graph or some kind of chart would be more powerful than a table.

- ❖ Whatever is depicted in this working paper has to be a true portrait of our region and LPOEs. It might be best to depict annually to get a truer picture of borders and infrastructure. Bill noted that the data will be updated on the next version of the Working Paper No. 1.
 - ❖ A March 6 meeting in Mexico City is being planned. The technical team will also be meeting with Customs and Border Protection. There is privileged data that we are trying to figure out if we can share. This data will not be in Working Paper No. 1 but more information will be added as the Border Master Plan is developed.
- **Evaluation Process and Criteria:** PAC meeting No. 2 was held last week in Puerto Peñasco. The PAC looked at short term, planned and future projects and provided considerable feedback. The PAC determined that all projects should be listed whether they are ready to go to construction, or environmental clearances are in place, or even if it is fully funded. The caveat was that if projects are fully funded, they should not go through the analysis of being ranked. Further highlighted discussions were as follows:
 - ❖ For federal projects, fully funded should mean funding has been appropriated.
 - ❖ Funding can be shifted around from year to year but when federal funding is appropriated that means the project is funded.
 - ❖ Fully funded implies that the project is going to construction, but what if projects are phased? It was determined that separate phases should be treated as separate projects.
 - ❖ Feasibility studies are an early step in the project development process – such projects should be listed for prioritization.
 - ❖ We may want to revisit this discussion following the introduction of some example rankings to be developed for the next TWG Meeting.
 - ❖ It would be desirable to know whether a project is intended to be phased prior to final rankings.
 - ❖ Relative to time frames, short term projects will now be considered over a duration of 0 to 5 years, midterm projects will be a 6 to 12 year time frame. Long term projects will be considered beyond the 12 year horizon. The PAC desired to somewhat tie the timeframes to presidential terms. Twelve years is conveniently divisible into 3 U.S. and 2 Mexican presidential terms.
 - ❖ There are going to be multiple funding streams for various projects. An example of something that is much shorter term is a project being done in San Luis to add POV lanes to the primary processing area in response to political pressure. Politics will always be present in funding discussions, but we have a responsibility to provide decision-makers with the best data to make decisions.
 - ❖ Many agencies have done work to advance projects. We have to be sensitive to those efforts but rely on the development of the project rankings to define the results proposed as part of the BMP.
 - ❖ At PAC meeting No. 2 they specifically wanted pedestrian, bicycle and transit projects included and emphasized in the multimodal infrastructure category.

- Bill talked about a concern propagated by the PAC in Puerto Peñasco, regarding the need to apply more weight to project readiness. The feedback was strong enough to consider creating a new category - bi-national coordination. Under project readiness there were already specific criteria related to bi-national coordination, but the PAC felt it should be criteria unto itself applying only for LPOE projects. Therefore, each project type will still maintain five categories, but LPOEs will include bi-national coordination. Multimodal and rail projects will also have five categories, but those will include LPOE Connectivity rather than bi-national coordination.
- Bill and Alice handed out a set of three voting sheets – weighting of the criteria categories for each of the three project types. Based on the results the TWG could make recommendations to the PAC on the proposed weighting. Bill requested that TWG members try to be balanced and use whole percentages only.
 - ❖ Participants on the phone sent in their voting sheets via email so they could be included in the totals.
 - ❖ Rail projects that cross a LPOE will be ranked separately from the LPOE. It was noted that rail projects (as well as multimodal and LPOE projects) should be located within the focus area.

The committee divided into three sub-groups (one for each project type), each targeting a detailed review of the specific criteria under each of the five criteria categories. Each sub-group was afforded the opportunity to comment on each of the three project types.

There was a comment made that after having the sub-group breakout sessions on the specific criteria, some TWG members might have a better understanding of the category weighting and wish to change the percentages they submitted during the voting. The committee was given the opportunity to revote, but the group decided to forward their initial recommendations to the PAC. Bill noted that each TWG member should discuss the weighting results with their PAC counterpart prior to the next PAC Meeting.

- **Schedule Update:** Working Paper No. 1 is currently on the ftp site. If you don't have access to the site, please let Alice know and she will make sure you get an invitation that will allow access. The next PAC meeting is scheduled to be in Tucson on March 8. After the proposed consultant team meeting in Mexico City on March 6, Bill will send out a revised project schedule for the rest of the year. It was reinforced that the Border Master Plan is a bi-national effort and we need Mexican agency input as much as possible. In the next TWG meeting the group will have a few project examples to run through the criteria to determine whether the process appears to be on track.
- **Upcoming Meetings:**
 - ❖ March 8: PAC Meeting #3, in Tucson

- The meeting adjourned at approximately 2:30 pm.

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A handwritten signature in blue ink, appearing to read "W. Ferris Jr.", with a stylized, cursive script.

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- c. PAC members, TWG members, Consultant Team - Dan Marum, Amy Moran, Alice Templeton, Jessica Withers, Omar Cervantes, Jennifer Pyne, Anita Shanker

Arizona-Sonora Border Master Plan TWG Meeting #3 Attendees (2/16/2012)

Jeff Austin (Department of State)
Jon Ballard (General Services Administration)
Nathan Barrett (Pima Association of Governments)
Todd Emery (Arizona Department of Transportation)
Javier Fernandez (General Services Administration)
Michael Filiaggi (Federal Motor Carrier Safety Administration)
Francisco Galvario (SCT)
Abdee Gharavi (General Services Administration)
Bill Harmon (Arizona Department of Transportation)
Randy Heiss (SEAGO)
Ricardo Hernandez (Consulate General of Mexico)
Mark Hoffman (Arizona Department of Transportation)
John Kissinger (City of Nogales)
Jose Humberto Martinez (Ferrocarril Mexicano)
Jose Núñez (International Boundary & Water Commission)
Ana Olivarez (Pima County Department of Transportation)
Lauren Ortega (City of Douglas)
Rafael Pacheco (INDAABIN – Sonora)
Luis Ramirez (Arizona-Mexico Commission)
Mark Rausch (Federal Motor Carrier Safety Administration)
C.T. Revere (Arizona Department of Transportation)
Juan Carlos Rivas Garcia (SRE)
Ing. Fernando Salazar Pompa (Gobierno del Estado de Sonora)
Jesus Valdez (Santa Cruz County)
Marisa Walker (CANAMEX)
Tom Yearout (Customs and Border Protection)
Georgi Ann Jasenovec (Federal Highway Administration)
Travis Black (Federal Highway Administration)

Via Conference Call:

Paul Melcher (Yuma County)
Angela Palazzolo (Department of State)
Mikhail Pavlov (Customs and Border Protection)

Agenda
Arizona-Sonora Border Master Plan
Policy Advisory Committee Meeting #3
Thursday, March 8, 2012
1:00 – 3:30 p.m.
Clarion Hotel
6801 S. Tucson Blvd.
Tucson, AZ 85756

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 1:15 p.m. Working Paper #1: Existing and Future Conditions – Overview
- 1:45 p.m. Discussion: Evaluation Process and Criteria
- Review TWG “Criteria Category Weighting”
 - Finalize Category Weighting
 - Review suggested Criteria
- 3:10 p.m. Schedule Update
- 3:25 p.m. Next Meeting Announcement
- 3:30 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831
Passcode: 774047#

Mexico Access Number: 1-720-279-0026
Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: *Revised* May 4, 2012

Reference: Arizona-Sonora Border Master Plan PAC Meeting #3 - Meeting Notes (3/08/2012)

The third meeting was held at the Clarion Tucson Airport Hotel, Tucson, Arizona on Thursday, March 8, 2012 at 1 p.m. The Agenda(s), Category Weighting Results and Presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions were given by Rudy Perez, ADOT PM and Fernando Salazar Pompa, Gobierno del Estado de Sonora.
- Bill Ferris provided an overview of actions from the Feb. 16, 2012, TWG meeting.
- **Working Paper No. 1 Existing and Future Conditions Overview:** Bill said the first Working Paper was distributed and it contained the information from Technical Memos 1 and 2 and an evolution of the materials to form Working Paper No. 1. He also noted that review of Tables 3.1 and 7.1 are critical elements to the BMP. Bill indicated that the comment deadline has passed, on March 5. He stressed the importance of feedback and the PAC subsequently voted to extend the comment deadline to March 19.
 - ❖ Bill said the visit with SRE and SCT in Mexico City elicited a commitment from SRE to drive productivity on the BMP from other Mexican agencies. The team discussed a technology exchange through which ADOT would provide a travel demand model to Mexican counterparts. SCT is currently developing a similar model and has committed to sharing that with the study team. The two models could be integrated and would result in an electronic database of traffic information for the entire Arizona-Sonora border. ADOT anticipates completing the 2035 model next week. SCT plans to finish their model in June.
 - ❖ The list contained in Table 7.1 represents the projects that will ultimately be ranked. Representatives commented that data should be broken down annually and that the funding source section will be redone based on updated information.

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- **Discussion: Evaluation Process and Criteria:** Projects are to be divided by the timeframe in which they will be implemented. The State Department wants more information to form a better baseline from which to make decisions.
 - ❖ If fully funded, projects won't be ranked just included in the project list.
 - ❖ Bill gave an overview of the timeframe definitions and allowed that there will be a place for unscheduled projects. The 6-12 year time frame (for mid-term projects) was derived from the presidential election cycles of both the United States and Mexico.

- **Review TWG "Criteria Category Weighting:** The three project groupings, LPOE, Multimodal Infrastructure and Rail, have five categories of criteria, each. The LPOEs have one unique criteria titled Binational Coordination; the others have a criteria entitled LPOE Connectivity. Further highlighted discussions were as follows:
 - ❖ The criteria used in the California and Texas border master plan models were studied. The TWG voted on how to weight the categories. Results: Capacity/Congestion weighted as most important at approximately 40 percent for LPOEs, Multimodal and Rail.
 - ❖ TWG comments were compiled and are available to the PAC. The TWG had concerns that the vote might be different if it occurred after the details of the weighting criteria were discussed rather than before. The TWG asked that the PAC have the opportunity to revote.
 - ❖ Origin and destination studies will not be an element of the BMP. Origin/destination data is considered in ADOT's Travel Demand Model. Bill said that the BMP will be updated every three to five years and improved data will be available for these updates.
 - ❖ CBP funding to staff and maintain the new infrastructure was discussed. The process can't count on whether additional staffing will be funded in the federal budget. Should the issue be highlighted after the fact or a gap analysis conducted? Bill said CBP staff funding is a concern, but not necessarily a criteria.
 - ❖ At the next meeting, the team will bring example projects from California and Texas and run them through prioritization process and see how they rank. The exercise will give the PAC a look at how the process would work. There were concerns that if we went through this exercise it might lead to possible manipulation of data.
 - ❖ A comment was made that relevant studies and reports that were in Technical Memo 1 were not in Working Paper No. 1. Bill noted and said he would review.
 - ❖ The State Department reported that the BMPs are used to help inform decision making in regards to Presidential Permits. The timeline for issuing a presidential

permit depends on the preparation of the sponsor and the public and interagency review process. A timeline showing all the steps on both sides will be a valuable tool. This will be included in the Draft Border Master Plan.

- ❖ The team needs to discuss how to address project readiness in joining projects together binationally.
- ❖ In order to achieve necessary funding, regions have to work together, including gaining funds from the private sector.
- ❖ Comment was made about the multimodal category and that the bias is toward larger volumes. Money is typically invested where the higher volume of traffic and populations are located.
- ❖ Input is needed from stakeholders and political decision-makers following preliminary evaluation of regional benefits.
- ❖ Politicians need to acquire funding so staff can be hired for the completed projects. Local, state and federal elected officials will be met with and briefed.
- ❖ Focus group sessions will begin over the next six months in Douglas, Nogales and San Luis and key stakeholders will be invited.
- ❖ The BMP effort will go smoother if the PAC regularly briefs elected officials.
- ❖ The rail category received a lot of feedback. The team was asked to consider frequency as well as number of cars.
- ❖ It was suggested that new criteria be added to measure congestion relief.
- ❖ It was decided that safety could be captured under the regional benefit category.
- **Finalize Category Weighting:** TWG voted at the Feb. 16, 2012 meeting to approve the weighting percentages. PAC members approved motion to approve weighting criteria as voted on by the TWG.
- **Schedule Update:** We need to have further discussion and gather more information from our colleagues in Mexico and are checking into dates to meet with them. Bill confirmed future meetings will be longer, but occur less frequently. Technical Memo No. 3 is due in May and will look at deficiencies and alternatives. The ADOT travel demand model is due in March, the SCT travel demand model is due in June.
- **Upcoming Meetings:**
 - ❖ May 15: TWG Meeting #4, in Nogales
 - ❖ May 15: Stakeholder Outreach Meeting #1, in Nogales
 - ❖ June 7: PAC Meeting #4, in Tucson
 - ❖ AMC Plenary Session will be June 7-8, in Tucson

- The meeting adjourned at approximately 3:35 pm.

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A handwritten signature in blue ink, appearing to read "W. Ferris Jr.", is positioned above the printed name.

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- c. PAC members, TWG members, Consultant Team - Dan Marum, Amy Moran, Alice Templeton, Jessica Withers, Omar Cervantes, Jennifer Pyne, Anita Shanker

**Arizona-Sonora Border Master Plan
PAC Meeting No. 3 Attendees, March 8, 2012**

Nathan Barrett (PAG)
John M. Bernal (Pima County Public Works)
Walter Breitenstein (Santa Cruz County)
Jeff Dana (Stantec)
Shane Dille (City of Nogales, Ariz.)
Todd Emery (ADOT Tucson)
Bill Ferris (Stantec)
Charlene Fitzgerald (Yuma Metropolitan Planning Organization)
Laura Franco French (Arizona Office of Tourism)
Jan Gordley (Gordley Group)
Juanita Garcia-Seiger (Pima County Public Works)
Victor Gonzalez (Douglas International Port Authority)
Sylvia Grijalva (Federal Highway Administration)
Sherry Henry (Arizona Office of Tourism)
Michael A. Jones (ADOT Yuma District)
Gail Lewis (ADOT)
Humberto Martinez (Ferromex)
Dan Marum (Wilson & Company)
Amy Moran (Wilson & Company)
Michael Ortega (Cochise County)
Rafael Pacheco (Direccion General de Administracion y Obras en Inmuebles Federales)
Mikhail Pavlov (Customs and Border Protection)
Rudy Perez (ADOT)
Rachel Poynter (U.S. State Department)
Sandra Quijada (ADOT)
Francisco Manuel Rodriguez (Ferromex)
Hugo Rojas (Ferromex)
Fernando Salazar Pompa (SIDUR, Gobierno del Estado de Sonora)
Sally Stewart (ADOT)
Alice Templeton (Gordley Group)
James Tong (CBP Tucson)
Jessica Withers (Gordley Group)

Agenda
Arizona-Sonora Border Master Plan
Technical Working Group Meeting #4
Tuesday, May 15, 2012
1:00 – 5:00 p.m.
Holiday Inn Express
850 W. Shell Rd.
Nogales, AZ 85621

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 1:15 p.m. Working Paper #1: Existing and Future Conditions – Status Report
- 1:30 p.m. Overview: Technical Memo #3: Deficiencies and Alternatives
- Review 2015 Volumes, Network Performance & Deficiencies
 - Review 2035 Long Range Volume Forecasts, Network Performance & Deficiencies
 - Review 2025 Interim Volume Forecasts, Network Performance & Deficiencies
 - LPOE Deficiency Overview
- 2:45 p.m. Break
- 3:00 p.m. Test Case – Project Rankings Using AZ-Sonora Criteria
- 4:00 p.m. Schedule Update
- 4:15 p.m. Next Meeting Announcement
- 4:30 p.m. Miscellaneous
- 4:55 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831
Passcode: 774047#

Mexico Access Number: 1-720-279-0026
Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM

File: 1817 10016 Date: May 22, 2012

**Reference: Arizona-Sonora Border Master Plan
TWG Meeting #4 - Meeting Notes (5/15/2012)**

The meeting was held at the Holiday Inn Express, Nogales, Arizona on Tuesday, May 15, 2012, at 1 p.m. The agenda(s), photos and presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions: Greetings were given by Rudy Perez, ADOT PM, who noted that Fernando Salazar Pompa, Gobierno del Estado de Sonora, was unable to attend.
- Rudy summarized project accomplishments to date, including completion of Technical Memorandum #1, Technical Memorandum #2, and Draft Working Paper #1: Existing and Future Conditions. Rudy noted that Working Paper #1 was ready to be finalized following the presentation at today's meeting.
- Bill reviewed the agenda, noting that the first stakeholder meeting would be taking place tonight in the same room from 6 to 8 p.m. He also mentioned the project team had received the ADOT Travel Demand Model. Based on comments from the project team the actual is going through a minor update. The model will not be updated and available for the PAC Meeting #4 in Tucson on June 7, which is being held in conjunction with the Arizona-Mexico Commission Plenary Session and the Binational Bridges and Border Crossings Group meeting. The first version of the Travel Demand Model from Mexico's Secretaría de Comunicaciones y Transportes (SCT) is expected to be available for evaluation in June/July. He hopes to have an initial review and subsequent findings available for the next TWG meeting in August.
- **Working Paper No. 1: Existing and Future Conditions – Status Report:** Bill noted the initial draft is a compilation of Technical Memo #1 and #2. This is being revised into a final draft based on comments and revisions to those memos from the TWG and PAC. The final draft will be available in June. The following was noted:
 - ❖ Several relevant studies were added to Table 3.1 based on feedback from the team. Corresponding planned improvements referenced in those studies were added to the compilation in Table 7.1.
 - ❖ Comment period initial deadline was March 5, which was extended to March 19; but any additional substantive feedback is still welcome, especially if it relates to projects that should be included for rankings.

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- ❖ Intention is to continue technology and data exchange by getting ADOT and SCT travel demand model personnel together to massage the data to reduce / eliminate inconsistencies.
- **Technical Memo #3: Deficiencies and Alternatives:** Bill noted this was almost ready for distribution and that graphics were posted on the wall at the meeting for review at the break. He noted the memo was geared toward LPOEs, and would address multimodal and rail infrastructure issues as well.
- ❖ **LPOE Deficiency Review:** Bill then went through the LPOEs in each border community and highlighted potential needs and alternatives for each as follows:
 - **San Luis Río Colorado I:**
 - **Deficiencies**
 - Capacity for inspecting southbound traffic
 - Bicycle and pedestrian queuing
 - Accommodation of POV volumes
 - **Possible alternative solutions**
 - Two additional POV booths are under construction
 - Commercial inspection has moved to San Luis II freeing up two booths for accommodation of POV traffic. CBP has converted the old booths to SENTRI lanes. So there will be an increase from 6 to 10 POV inspection lanes by the end of the year.
 - Pedestrian processing improvements include multiple building modification options
 - A canopy has been installed in the old commercial processing area – however, there is no power or other amenities at this location
 - A potential project whereby sidewalk on the Sonoran side of the border could be removed providing room for an additional lane of traffic approaching the POV inspection facility. This option would require a common entry point for all pedestrian and bicyclist traffic. SENTRI (ped & bike) traffic would have a more streamlined path to the processing booth near POV primary (hasn't been approved by either government yet), while non-SENTRI would be processed in the nearby building (consistent with the current plan)
 - Proposed conversion of First Street and Archibald Street to a one way couplet whereby southbound traffic will be diverted to Archibald and northbound border specific traffic will go to First Street (all phases of the project have been approved and the potential construction start date is summer 2013). This project will be included in border master plan but it will not be ranked
 - Convert a dedicated third lane (for southbound traffic) to SENTRI
 - Major project – with the departure of commercial inspection to San Luis II, the entire port could be redesigned to more efficiently handle border traffic

- **San Luis Río Colorado II:**
 - **Potential upgrades**
 - Construction of a permanent gantry building is pending
 - Utilize available space on the west side of the facility to process ped/bike/POV traffic
- **Lukeville:**
 - **Recent upgrades**
 - Two very efficient reversible lanes (southbound and northbound) were added at the port to assist with higher volume crossings, especially during holidays and long weekends
 - New radiation portal monitors (RPM's) were designed to accommodate RV's
 - **Potential upgrades**
 - Improvements were supposed to be made on the Sonoyta side but those improvements have not yet occurred. Recent discussions focus on identifying funding in the near future. This project will be part of the BMP.
- **Sasabe:**
 - **Potential Solution**
 - South of the border is a dirt road in poor condition for 7 or 8 miles. A potential project would target paving of the road
- **Mariposa:**
 - **Potential upgrades**
 - There are 8 commercial inspection booths now built and operating
 - For POVs there are now 6 operational booths and full build-out accommodates 12
 - Pedestrians processing will have its own facility once full build-out is completed (circa Spring 2014)
 - Because of bi-national coordination, the northbound, Sonoran approach to the border has been widened to eight lanes consistent with the eight lanes/booths recently completed in Arizona
 - Due to changes in CBP protocols, there is now an outbound (southbound inspections) expansion underway. Design will be complete and construction initiated this year.
 - Location for a pedestrian pick up and drop off facility has been identified
 - SR 189 spot improvement project is almost complete. Improvements should accommodate the port expansion that doubles commercial and triples POV traffic. The improvements include rerouting Freeport Drive as a frontage road and widening the mainline from 5 to 7 lanes.
 - New ADOT inspection facility including seven inspection booths and an administration building are now complete

➤ **DeConcini:**

○ **Ongoing upgrades**

- Outbound pedestrian turnstile replacement
- Tunnel storm drain access
- New rail crossing gate
- Morley Gate pedestrian re-engineering

○ **Potential Solution**

- Nearby parking lot (to the west) could be acquired to aid in the consolidation of the repatriation function in Nogales. Buses tasked to this purpose would have access directly to the appropriate location for citizens to re-cross the border. Moving the repatriation process back to Mariposa (scheduled for 2014) could be avoided
- Otherwise, there is no real room for expansion due to the fully built-out area of downtown Nogales.

➤ **Naco:**

○ **Potential upgrades**

- For rail, there is a short line that runs from Naco to Curtiss and a Ferromex line south of the border that were previously connected. There is a potential to reconnect the line as a potential rail crossing at the border. The Project Team will track progress of the right-of-way acquisition and leave a placeholder in the rankings for it. Copper, sulphuric acid and coal are potential products that could utilize the line. The line would have to be connected east of the port.

➤ **Douglas:**

○ **Deficiencies**

- More capacity is needed for southbound traffic but it will be difficult to expand the southbound facility further to the west because of the wide, concrete drainage channel
- There is a radius issue for truck traffic turning into the commercial port
- Along the mainline, approaching the Port, there is a small building which could be removed to allow for an additional traffic lane
- The ADOT inspection facility is located away from the CBP port

○ **Potential Solutions**

- Potential port re-layout, for efficiency, similar to what was proposed in San Luis. Project would include moving the commercial facility immediately west of the existing port or somewhere along Chino Road or Kings Highway. There are a variety of concepts at this location that will be included in the project list
- There is a project in place that detours traffic utilizing 3rd and 5th Streets to mitigate the southbound traffic that backs up on Pan American Ave. and blocks access to many of the businesses along the corridor.

- There is a Chino Road project that has cleared CBI funding to include a quarter mile extension to connect to the port
 - The Douglas area traffic study will be completed spring 2013
- **Multimodal Infrastructure Review:** Dan Marum, of Wilson Associates discussed different forecasts related to roadways within the project area and SCT/ADOT model projections.
- **Review 2015 Volumes, Network Performance & Deficiencies:** Requested permission to use ADOT modeling tool, which involves coded network to track projects statewide, in focus study area and area of influence.
- **Review 2035 Long-Range Volume Forecasts, Network Performance & Deficiencies:** Received both network and traffic volume data in draft form; noticed a couple of items critical to input into the model from the AZSBMP study model that will improve forecasting for the ADOT area, especially in the Nogales area; the model looked ready to be applied and utilized in the Douglas and Yuma areas.
- **Review 2025 Interim Volume Forecasts, Network Performance & Deficiencies:** Expect to receive revised forecasts back from ADOT in the next couple of weeks, which will allow a refined deficiency assessment and build evaluation of projects across the focus study area and area of influence.
- **SCT models:** Working with state and federal agencies in Mexico to obtain the model/data as recently accomplished with ADOT.
- **Test Case — Project Rankings Using AZ-Sonora Criteria:** Bill led participating TWG members through a series of exercises in ranking projects that have already been completed to familiarize them with the process, illustrate different methods and refine the AZSBMP approach.
 - ❖ Before leading the TWG through the exercise, Bill noted that in order to compare and contrast project rankings and AZSBMP criteria with those used in other jurisdictions, the project team went through the ranking exercise for 4 LPOEs and 4 roadways. The result yielded the same basic rankings although there was a different distribution of points. The team felt the approach and criteria developed by the PAC/TWG was validated. It was also noted that Binational coordination was not a category in other jurisdictions so the team used a zero for that category
 - ❖ For multi-modal projects there was a slight variation in points as opposed to other categories but the ranking results were still the same to the other jurisdictions.
 - ❖ The test projects for the exercise completed by the consultant team were not located in the AZSBMP region, so it was decided to do the test exercise with the TWG using projects the TWG is familiar with. The TWG looked at the San Luis Rio Colorado II LPOE and used the AZ-Sonora criteria to rank it.
 - ❖ The second project evaluated would be the Mariposa Port so the team can see how it compares with the San Luis II Port and how they would rank against each other.

- ❖ There were lots of questions during the vigorous exercise about the process and the test projects but the team was able to come to agreements and common understanding. A few point distributions were adjusted, but the group was able to build consensus on the results.
 - ❖ There was a request that the Capacity and Congestion criteria description needs to include safety as a consideration and add to the Regional Benefit criteria under modal effects
- **Schedule Update:** Distribution of Technical Memo #3 is pending the results of the revised ADOT Travel Demand Model.
 - **Next Meeting Announcement:**
 - ❖ Aug. 15: TWG Meeting #5, in Tucson
 - **Miscellaneous:** It was noted that following the TWG meeting, focus group meetings would be held. The focus groups would represent commerce, government and environmental interests in the Nogales area. The intent is to gain additional insight into their experiences that may influence how the PAC and TWG address their mission related to the AZSBMP. Similar meetings will be held in the San Luis and Douglas areas.
 - **Other Upcoming Meetings:**
 - ❖ June 7: PAC Meeting #4, in Tucson
 - **Adjourn:** The meeting adjourned at approximately **5:00** p.m.

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- c. PAC members, TWG members, Consultant Team – Omar Cervantes, Jeff Dana, Dan Marum, Amy Moran, Jennifer Pyne, Alice Templeton, Jessica Withers

Arizona-Sonora Border Master Plan TWG Meeting #3 Attendees (5/15/2012)

Jeff Austin (Department of State)
Nathan Barrett (Pima Association of Governments)
Andrea Brouillette-Rodriguez (U.S. Department of State)
Carlos de la Torre (Cochise County)
Todd Emery (Arizona Department of Transportation)
Charlene Fitzgerald (Yuma Metropolitan Planning Organization)
Randy Heiss (SEAGO)
Ron Henry (U.S. Customs and Border Protection)
Mark Hoffman (Arizona Department of Transportation)
José Humberto Martínez (Ferrocarril Mexicano)
Jose Núñez (International Boundary & Water Commission)
Ana Olivarez (Pima County Department of Transportation)
Lauren Ortega (City of Douglas)
Jesús Quintanar (Comisión Internacional de Límites y Aguas)
C.T. Revere (Arizona Department of Transportation)
Paki Rico (Arizona Department of Transportation)
Juan Carlos Rivas García (Secretaría de Relaciones Exteriores)
Jesús Valdez (Santa Cruz County)
Marisa Walker (CANAMEX)
Tom Yearout (Customs and Border Protection)
Fernando Jiménez (Arizona Commerce Authority)
Ricardo F. Hernández (Consulate General of México – Nogales)
Hugo Rojas (Ferromex)
Sylvia Grijalva (Federal Highway Administration)
Juan Guerra (City of Nogales)
Alejandro Barcenás (City of Nogales)
Gail Lewis (Arizona Department of Transportation)

Via Conference Call:

Jon Ballard (General Services Administration)
Oscar Fernández, Secretaría de Comunicaciones y Transporte
Bill Harmon (Arizona Department of Transportation)
Paul Melcher (Yuma County)
Alvin Stump (Arizona Department of Transportation)
Francisco Calvario García, Secretaría de Comunicaciones y Transporte

Agenda
Arizona-Sonora Border Master Plan
Policy Advisory Committee Meeting #4
Thursday, June 7, 2012
8:30 – 12:30 p.m.
JW Marriott - Starr Pass
3800 W. Starr Pass Blvd.
Tucson, AZ 85745

- 8:30 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 8:45 p.m. Working Paper #1: Existing and Future Conditions – Status Report
- 9:00 p.m. Overview: Technical Memo #3: Deficiencies and Alternatives
- Review 2015 Volumes, Network Performance & Deficiencies
 - Review 2035 Long Range Volume Forecasts, Network Performance & Deficiencies
 - Review 2025 Interim Volume Forecasts, Network Performance & Deficiencies
 - LPOE Deficiency Overview
- 10:15 p.m. Break
- 10:30 p.m. Test Case – Project Rankings Using AZ-Sonora Criteria
- 12:00 p.m. Stakeholder and Focus Group Meeting
- 12:15 p.m. Schedule Update
- 12:25 p.m. Next Meeting Announcement
- 12:30 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831
Passcode: 774047#

Mexico Access Number: 1-720-279-0026
Pass code: 774047#

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: June 29, 2012

**Reference: Arizona-Sonora Border Master Plan (BMP)
PAC Meeting #4 - Meeting Notes (6/7/2012)**

The fourth meeting of the Policy Advisory Committee was held at the JW Marriott Star Pass, Tucson, Arizona, on Thursday, June 7, 2012, at 8:30 a.m., in conjunction with Arizona-Mexico Commission and U.S.-Mexico Binational Group on Bridges and Border Crossings events. A list of attendees is attached. Highlighted discussions were as follows:

- **Welcome and Introductions:** Greetings were given by Rudy Perez, ADOT PM, who noted that Fernando Salazar Pompa, Gobierno del Estado de Sonora, was unable to attend. Juan José Erazo, of SCT (Secretaría de Comunicaciones y Transportes), offered greetings on behalf of the Mexican delegation.
- Rudy summarized project accomplishments to date, including completion of Technical Memorandum #1: Existing Conditions and Technical Memorandum #2: Land Ports of Entry Review (LPOEs), which have been compiled along with comments into Working Paper #1: Existing and Future Conditions. The next deliverable is Technical Memorandum #3: Deficiencies and Alternatives, to be discussed today.
- Rudy offered a quick overview and history of the Border Master Plan process as an outgrowth of the biennial work plan of the U.S.-Mexico Joint Working Committee on Transportation Planning.
- **Guest Presentation:** Rudy introduced Sergio Pallares, international border studies chief with the California Department of Transportation (Caltrans), to discuss his experiences with development of the California-Baja California Border Master Plan, on which he serves as project manager. Sergio said the two big challenges were a change in administration in Baja California at the start of efforts for that BMP and the ability to get useful data as “this process is very data hungry.”
- In response to Sergio’s presentation, Juan José emphasized the importance of information to effective transportation project planning, but noted accessibility to quality data wasn’t as symmetrical in Mexico as in the United States due to differences in how Mexican federal, state and local entities gather and share information. As a result, information from Mexican agencies on crossings by type of vehicle, by port, by commodity, etc., aren’t as easily accessible — but he stressed Mexico is working to build a more robust model to allow more effective

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transportation planning with multi-criteria evaluations to highlight projects with regional and national importance. He also underscored the importance of planning not just for physical or technical improvements to LPOEs, but personnel as well. The worst situation is to build costly infrastructure and not be able to utilize it due to a lack of human resources. He noted that Mexican presidents are obligated by a federal planning law to come up with a development plan, but what is in this plan isn't necessarily consistent with state and municipal plans. Juan José added that Mexico is seeking to increase cooperation with state and municipal authorities and to clarify inconsistencies with how information is exchanged between federal, state and municipal entities.

- In reply, Sergio's main advice was to stay focused — don't widen the scope of the BMP to extraneous issues, only study those projects within the study focus area, and avoid ideas that have no data or sponsors to back them up. He recommended operating by consensus wherever possible, staying open minded and respecting different national planning processes.
- **Working Paper No. 1: Existing and Future Conditions – Status Report:** Rudy passed the meeting off to Stantec Consultant Project Manager Bill Ferris, who reviewed the agenda. Bill noted that the first project Stakeholder Meeting took place following the Technical Working Group (TWG) Meeting #4, held May 15 in Nogales. He also mentioned the project team had received the ADOT Travel Demand Model, which was being reviewed to evaluate how useful it might be as a tool to enhance the BMP. The first version of the Travel Plan Model from Mexico's SCT was expected to be available for evaluation later in June as well. Bill hopes to have initial evaluations available for the next TWG meeting in August.
- Bill noted Working Paper #1 is a compilation of Technical Memo #1 and #2 that was revised to incorporate comments and revisions to those memos from the TWG and PAC. The following was noted:
 - ❖ Several relevant studies were added to Table 3.1 based on feedback from the team. Corresponding planned improvements referenced in those studies were added to the compilation in Table 7.1.
 - ❖ Any additional substantive feedback is still welcome, especially if it relates to projects that should be included for rankings.
 - ❖ The team's intention is to continue the technology and data exchange by getting ADOT and SCT travel demand model personnel together to massage data collection and reconciliation methods.
- **Technical Memo #3: Deficiencies and Alternatives:** Bill said the document was nearing completion and a detailed summary is outlined below. As part of the evaluation process, the TWG went through an exercise at the previous meeting to prioritize and rank sample projects, comparing different design criteria and weighting/scoring methods used by another jurisdiction's evaluation criteria while the Arizona-Sonora BMP model was being developed. Bill also underscored that it was decided to include current projects under way, or already planned and fully funded, in the project list to give the PAC and TWG a full picture of what was being done to improve border transportation; however, such current projects would not be included in the rankings for the Arizona-Sonora BMP.

❖ **LPOE Deficiency Review:** Bill then began to go through the LPOEs in each border community and highlighted potential needs and alternatives for each as follows:

▪ **San Luis Rio Colorado I:**

○ **Deficiencies**

- Capacity for inspecting southbound traffic due to increase in these inspections by U.S. Customs and Border Protection (CBP) in recent years
- Bicycle and pedestrian queuing
- Accommodation of privately owned vehicle (POV) volumes

○ **Possible alternative solutions**

- Two additional POV inspection booths are under construction
- Commercial inspection has moved to San Luis Rio Colorado II freeing up two booths for accommodation of POV traffic. CBP has converted the old booths to SENTRI. The port has now been upgraded from six to 10 lanes to more efficiently accommodate POV traffic
- Pedestrian options include building modifications/additions
- A canopy has been installed in the old Commercial Inspection area - with no power or other amenities. There is consideration of a second canopy
- A potential project whereby sidewalk on the Sonoran side of the border could be removed and an additional lane of traffic could be added approaching the POV inspection facility
- Add a common entry point and bring pedestrians and SENTRI approved traffic
- Proposed conversion of First Street and Archibald Street to a one way couplet whereby southbound traffic will be diverted to Archibald and northbound border traffic will go to First Street (all phases of project have been approved and the potential construction start date is next summer 2013; will be included in the BMP, but not ranked)
- Convert a dedicated third lane for southbound SENTRI
- Redesign port layout to operate more efficiently

○ **Commentary**

- Creating bi-national bicycle storage/security areas was suggested as an idea to prevent bicycle theft from border crossers and encourage more environmentally friendly alternative transportation modes. It was pointed out that this need may be artificial as, in the case mentioned as an example at the San Ysidro LPOE in California, a rapid increase in bicycle use followed improvements to speed bicycle crossings; and bicycles were simply being chained up wherever possible on the other side of the border. It was suggested that a bicycle security area might be an opportunity for the surrounding community or an offsite business interest, but shouldn't be included in the LPOE itself.

- **San Luis Rio Colorado II:**
 - **Deficiencies**
 - Largely a commercial crossing now, pedestrian inspection issues revolve around passengers in commercial vehicles
 - **Potential upgrades**
 - Space for future expansion to add POV inspection
 - Utilize available space for pedestrian crossing
 - A project is underway to add a gantry building just beyond the Primary Inspection area to assist in inspections
- **Lukeville:**
 - **Deficiencies**
 - Heavy traffic on weekends for vacation or weekend getaway travelers slows border crossings
 - **Upgrades**
 - Two very efficient additional reversible lanes were added so lane direction can be adjusted depending on traffic flow
 - New radiation portals are designed to accommodate RVs
- **Sasabe:**
 - **Deficiencies**
 - South of the border is a dirt road in poor condition for several miles
 - **Potential Solution**
 - Looking at potential of paving road to encourage alternate route for vacation/weekend travelers
 - **Commentary**
 - Need to consider stormwater drainage, as adding additional pavement increases potential for flooding
 - Increased gate closures at border also raises flooding incidence due to debris blockage
- **Mariposa:**
 - **Deficiencies**
 - Existing LPOE was not built to handle pedestrian inspections. Through bi-national cooperation, a suitable option was developed to accommodate the additional traffic mode by 2014.
 - **Potential and in-progress upgrades**
 - There are eight commercial inspection booths now built and operating
 - For POVs, there are now six operational booths and full build-out targets 12 over the next year or so
 - Pedestrians will be fully processed once build-out is in place
 - As part of the bi-national coordination effort, Mexican forces widened the pavement just south of the border to eight lanes consistent with the number of commercial processing booths
 - Due to change in CBP inspection protocol, there is now an outbound expansion under way for up to five processing booths and six docks
 - Potential area for pedestrian pick-up and drop-off facility, whether via POV, van or bus

- SR 189 spot improvement project under way to allow for doubling of commercial and tripling of POV traffic; includes a truck acceleration lane to allow trucks to safely rejoin northbound flow of traffic
 - New ADOT facility Weigh-in-Motion processing area with seven booths for inspection is almost complete
 - Freeport Drive improvements, includes redirection of traffic to signalized intersection to avoid congestion in CBP inspection area
 - **Commentary**
 - A suggestion was made to clarify for meeting attendees the definition of “fully funded” projects that would be included on the project list for background information, but not ranked. It was pointed out that U.S. fully funded projects are rarely bumped off 5-year project funding lists; but that, in Mexico, that could be the case more frequently due to changes in government administration. Additionally, in Mexico, operational staffing needs and costs have to be considered in determining whether a project is fully funded. Such is not the case in the United States, it was noted, as plans are made for 30-year traffic needs on a bricks-and-mortar basis only – funds are not immediately allocated for staffing of LPOEs. If funding had to be available for staffing at full projected capacity demand, it was noted that no projects would be listed as fully funded for planning purposes. It was suggested the funding issue be tabled until discussion of criteria and weighting point allocations later in the meeting.
- **DeConcini:**
 - **Deficiencies and alternative solutions**
 - Outbound turnstile replacement
 - Tunnel storm drain access
 - New rail gate
 - Morley Gate pedestrian re-engineering
 - Old parking lot (to the west) could be acquired to consolidate repatriation function of Mariposa and DeConcini as it is immediately adjacent to potential bus turnaround, this would also help with safety concerns
 - No room for expansion unless land is purchased in the fully built-out area around the port
- **Naco:**
 - **Deficiencies and alternative solutions**
 - For rail, there’s a short line that runs from Naco to Curtis and a Ferromex line south of the border that were previously connected. There is a potential to reconnect the line as a potential rail crossing at the border. Team will track progress of the project and leave a placeholder in the rankings for it. The project will be added to the list and detail provided.

efficiency, one point if there was no increase in staff and zero points if additional staffing was required.

- Scoring on bi-national coordination also reached a consensus by changing the points awarded from 0, 1 and 2 to 1, 2 and 3 to better reflect differences in how U.S. and Mexican evaluations might score this criteria, particularly how it was rated with respect to commitment and funding levels.
 - The second project to be evaluated was the Mariposa Port so the team could see how it compared with the San Luis Rio Colorado II LPOE. Bill reviewed the TWG scoring on this quickly due to a time crunch, noting that the Mariposa LPOE scored higher than the San Luis Rio Colorado II LPOE in the test case evaluation. This was a result that was anticipated largely due to the fact that Mariposa handles multiple modes of traffic (at higher volumes) while San Luis Rio Colorado II only handles commercial vehicles.
- **Schedule Update:** Final Working Paper #1 is on the cusp of coming out for the TWG/PAC's information. Technical Memo #3 is awaiting some further traffic model data/updates and then it will be distributed to the TWG for review.
 - **Next Meeting Announcement:**
 - ❖ Sept. 18: PAC Meeting #5, in Tucson
 - **Miscellaneous:** It was noted that a focus group meeting would be held in July in Douglas and/or San Luis, Arizona (TBD).
 - **Other Upcoming Meetings:**
 - ❖ Aug. 15: TWG Meeting #5, in Tucson
 - **Adjourn:** The meeting adjourned at approximately 12:30 p.m.

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cc: PAC members, TWG members, Consultant Team – Omar Cervantes, Jeff Dana, Jan Gordley, Dan Marum, David Mogollón, Amy Moran, Rudy Perez, Sandra Quijada, Jessica Withers

Arizona-Sonora Border Master Plan
PAC Meeting #4 Attendees (6/7/2012)

Jeff Austin (U.S. Department of State)
Nathan Barrett (Pima Association of Governments)
John M. Bernal (Pima County Public Works)
Travis Black (Federal Highway Administration)
Andrea Brouillette-Rodriguez (U.S. Department of State)
Sean Carlos Cazares Ahearne (Secretaría de Relaciones Exteriores)
Juan José Erazo (SCT – Secretaría de Comunicaciones y Transportes)
Charlene Fitzgerald (Yuma Metropolitan Planning Organization)
Juanita Garcia-Sieger (Pima County Public Works)
Victor Gonzalez (Douglas International Port Authority)
Sherry Henry (Arizona Office of Tourism)
Gail Lewis (Arizona Department of Transportation)
Gary Magrino (Greater Yuma Port Authority Inc.)
Gary Hayes (Pima County Association of Governments)
Randy Heiss (SEAGO)
Ron Henry (Customs and Border Protection)
Jose Humberto Martinez (Ferrocarril Mexicano – Ferromex)
Jose Núñez (International Boundary & Water Commission)
Michael Ortega (Cochise County)
Mikhail Pavlov (Customs and Border Protection)
Rachel Poynter (U.S. Department of State)
Ramon Riesgo (General Services Administration)
Hugo Alejandro Rojas Lopez (Ferrocarril Mexicano – Ferromex)
Sally Stewart (Arizona Department of Transportation)
James Tong (Customs and Border Protection)
Tom Yearout (Customs and Border Protection)
Roberto Cruz Medina (ITSON – Instituto Tecnológico de Sonora)
Misael Marchena Morales (ITSON – Instituto Tecnológico de Sonora)
Jesús Roberto Sitten Ayala (CMIC – Cámara Mexicana de la Industria de la Construcción)
Miguel Angel Ayala Guerrero (CMIC – Cámara Mexicana de la Industria de la Construcción)
Catherine Reheis-Boyd (Western States Petroleum Association – WSPA)
Juan Carlos Rivas Garcia (SRE – Secretaría de Relaciones Exteriores)
Sergio Pallares (California Department of Transportation – Caltrans)
Arturo Peinado Barragán (Procuraduría Ambiental del Estado de Sonora)
Norma Palafox (Comisión de Energía del Estado de Sonora)
José Coronado Celaya (CEDES – Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora)
Ramón Orquip García (CEDES – Comisión de Ecología y Desarrollo Sustentable del Estado de Sonora)
Kenneth L. White (Raytheon Missile Systems)
Danny Ortega (City of Douglas)
Alberto Fernández (SCT – Secretaría de Comunicaciones y Transportes)
Angela Palezzolo (Office of Mexican Affairs, Border Affairs Officer)

Via Conference Call:

Paul Melcher (Yuma County)

Agenda
Arizona-Sonora Border Master Plan
Technical Working Group Meeting #5
Wednesday, August 15, 2012
1:00 – 5:00 p.m.
Viscount Suite Hotel
4855 East Broadway
Tucson, AZ, 85711

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 1:15 p.m. Working Paper #1: Existing and Future Conditions – Status Report
- 1:25 p.m. Technical Memo #3: Deficiencies and Alternatives – Status Report
- Review Traffic Volume Update & Deviations from the AZTDM
- 1:45 p.m. Preliminary Project Rankings – Examples
- 2:30 p.m. Break
- 2:45 p.m. Preliminary Project Rankings – Overall Results
- 4:00 p.m. Schedule Update
- 4:15 p.m. Next Meeting Announcement
- 4:30 p.m. Miscellaneous
- 4:55 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831

Passcode: 774047#

Mexico Access Number: 1-720-279-0026

Pass code: 774047#

Memo



To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: August 31, 2012

**Reference: Arizona-Sonora Border Master Plan
TWG Meeting #5 - Meeting Notes (08/15/2012)**

The meeting was held at the Viscount Suites, Tucson, Arizona on Wednesday, August 15, 2012, at 1 p.m. The agenda and presentation are now uploaded to the Buzzsaw FTP site. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions: Rudy Perez, ADOT PM, and Fernando Salazar Pompa, Gobierno del Estado de Sonora, greeted attendees.
- Rudy provided a status report on the study and introduced Consultant PM Bill Ferris.
- Bill mentioned several key points:
 - ❖ The project team had been coordinating with their counterparts in Mexico City in regard to the Travel Demand Model.
 - ❖ A bi-national coordination meeting in Hermosillo, Sonora is scheduled for August 30/31 2012.
 - ❖ Bill will discuss which projects the General Services Administration would like to see included in the project Scoring/Rankings.
 - ❖ Bill noted Technical Memorandum #3 was almost ready for distribution.
 - ❖ The next PAC meeting will be September 18, 2012.
 - ❖ The Border Master Plan document will be available in November.
 - ❖ Bill then reviewed the information available on the study website.
- **Working Paper No. 1: Existing and Future Conditions – Status Report:** Bill noted Working Paper No. 1 is now considered final as it has been updated to include comments to the Draft Report. It is available on the Buzzsaw FTP site. Additional projects and/or studies may still be included, if appropriate.
- **Technical Memo #3: Deficiencies and Alternatives:** Dan Marum reviewed the Travel Demand Model and course of action which included: the comparison of the ADOT Statewide and regional data, the team recommendation to use regional data and the effort to obtain data from Mexico. Rudy reiterated the team's commitment to include bi-national data.
- **Overview of Geographical Information Systems (GIS):** Bill reviewed the functions, features and data available on GIS. He noted that once the final report/rankings are approved by the PAC the project rankings and other pertinent data will be uploaded to the GIS tool. Bill asked the group to submit input on any additional data they would like included in the GIS.

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- **Preliminary Project Rankings – 3 Examples:** Bill explained that today’s meeting would focus exclusively on reviewing multimodal project scoring and the evaluation criteria data used to create the rankings. Of the projects submitted within the study area, approximately 100 were identified under the multimodal project type. Bill reviewed the data categories, weighting point system and evaluation criteria, while participants followed along on hand-outs. The three example projects included:

- ❖ **Archibald and First in Yuma County**
- ❖ **SR189 in Santa Cruz County**
- ❖ **Chino Road Extension in Cochise County**

- There was extensive discussion and concerns raised regarding:
 - ❖ Traffic forecasts being low in some areas
 - ❖ The potential addition of a commercial POE
 - ❖ Potential for the change in the scope of some projects
 - ❖ Commercial development along new routes
 - ❖ The inclusion of projects not part of previous plans
 - ❖ The point value scale associated with truck volumes
 - ❖ The inclusion of bus transit

Bill confirmed that the project team would evaluate all of the input prior to developing the final scoring.

- **Preliminary Project Rankings – Overall Results:** Bill provided the opportunity for participants, by region, to offer initial feedback. Discussion ensued and it was agreed participants needed more time to review project scoring. Bill asked that TWG members submit their feedback by Monday, August 20, close of business.

- Additional remarks:

- ❖ When providing feedback, please provide the rationale behind any proposed changes.
- ❖ The BMP is a living document and will be updated in two to three years.
- ❖ Projects that were not submitted in time to receive a ranking may be added to the GIS and final project study.

- **Next Meeting Announcement:**

- ❖ October 16: Combined TWG/PAC Meeting, Viscount Suites in Tucson

- **Adjourn:** The meeting adjourned at approximately 5 p.m.

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c. PAC members, TWG members, Consultant Team

**Arizona-Sonora Border Master Plan
TWG Meeting #5 Attendees (8/15/2012)**

Kevin Adam (Rural Transportation Advisory Council)
Jeff Austin (Department of State)
Travis Black (Federal Highway Administration)
Eduardo Delgado (City of Nogales)
Charlene Fitzgerald (Yuma Metropolitan Planning Organization)
Charles Gutierrez (Yuma Metropolitan Planning Organization)
Randy Heiss (SEAGO)
Mark Hoffman (Arizona Department of Transportation)
Jerry James (Arizona Department of Transportation)
Jose Humberto Martinez (Ferrocarriil Mexicano)
Jose Núñez (International Boundary & Water Commission)
Lauren Ortega (City of Douglas)
Michael Ortega (Cochise County)
Jesús Quintanar (Comisión Internacional de Limites y Aguas)
Luis Ramirez (Arizona-Mexico Commission)
C.T. Revere (Arizona Department of Transportation)
Paki Rico (Arizona Department of Transportation)
Fernando Pompa (Gobierno del Estado de Sonora)
Alvin Stump (Arizona Department of Transportation)
James Tong (U.S. Customs and Border Protection)
Romare Truly (Federal Highway Administration)
Jesus Valdez (Santa Cruz County)
Tom Yearout (U.S. Customs and Border Protection)

Via Conference Call:

Jon Ballard (General Services Administration)
Bill Harmon (Arizona Department of Transportation)
Paul Melcher (Yuma County)
Virginia Mendoza (Imperial County)
Andrea Palazzolo (U.S. Department of State)
Mikhail Pavlov (U.S. Customs and Border Protection)

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: Sept. 20, 2012

**Reference: Arizona-Sonora Border Master Plan (BMP)
PAC Meeting #5 - Meeting Notes (Sept. 18, 2012)**

The meeting was held at the Viscount Suites, Tucson, Arizona on Tuesday, September 18, 2012, at 1 p.m. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions: Rudy Perez and Fernando Salazar Pompa, Gobierno del Estado de Sonora.
- Rudy started by stressing the importance of the meeting and reviewing the current status of the project. Highlights included:
 - ❖ The project team has been coordinating with their counterparts in Mexico City.
 - ❖ Approximately twenty-five projects were received from the State of Sonora for BMP evaluation. This was a deliverable stemming from the bi-national meetings held in Hermosillo on 8/30/31, 2012
 - ❖ Land Port of Entry (LPOE) project information was received from the U.S. General Services Administration (GSA) for BMP evaluation.
 - ❖ Bill noted Technical Memo #3 is almost ready for distribution.
 - ❖ Bill reviewed the project website and the available documents.
 - ❖ The next meeting on October 16 will be a combined PAC and TWG meeting.
 - ❖ The PAC requested a closeout meeting be held in December after the BMP is finalized.
 - ❖ The project team met with Ferromex and discussed potential long-term railway projects including one associated with the Nogales, Sonora Puerta de Anza development.
- **Overview of Geographical Information Systems (GIS):** A GIS database has been assembled to follow how each project in the BMP is developing and progressing. Bill reviewed the functions, features and data available. Project costs and ultimately the rankings will be included. Additional information can be added to each project as appropriate. The PAC suggested adding level of service and traffic volume

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information to the database. The PAC supported the GIS site as a deliverable for the BMP. The team will talk to ADOT about linking the GIS information to an ADOT website.

- **Preliminary Project Scoring – Multi-Modal Examples:** Bill focused on reviewing multi-modal project scoring and the evaluation criteria data used to create the rankings. Of the projects submitted, about 100 qualified as multi-modal within the focus area. Bill reviewed the data categories, point system weighting and evaluation criteria, while participants followed along on hand-outs, for the following projects:
 - ❖ Archibald and First in Yuma County
 - ❖ SR189 in Santa Cruz County
 - ❖ Chino Road Extension in Cochise County

Bill emphasized that the BMP is a living document and it will be updated in the future with the latest available information.

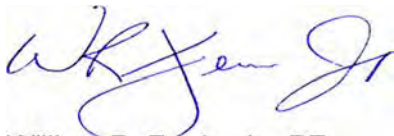
- **Rail Project Review:** Bill reviewed the six rail projects that have been evaluated:
 - ❖ New rail corridor at east side of Nogales (Puerta de Anza)
 - ❖ New rail corridor west side of Nogales
 - ❖ Rehab and new rail, Benson or Curtiss to Naco or Douglas POE
 - ❖ Rehab and new rail, Gila Bend to Lukeville POE
 - ❖ New rail corridor through San Luis POE
 - ❖ Passenger rail service, Nogales to Tucson

It was noted that these projects are very conceptual in nature and any potential construction activities would be well out in the future.

- Bill made the following comments:
 - ❖ Information was received from Sonoran stakeholders regarding the long-term conceptual planning of two Nogales bypass rail projects. There could be major environmental impacts associated with these projects.
 - ❖ Information regarding a study in Yuma on east-west rail was received but that won't be completed in time to be included in the BMP and can be added when the BMP is updated in 3-5 years.
 - ❖ An existing rail inspection facility is being upgraded in Rio Rico. The extent of the update is still being negotiated and the facility will not be included in the current BMP. It can be added later once there is a better understanding of the improvements.
 - ❖ The team is meeting with Union Pacific Railroad (UPRR) on Sept. 24, 2012 to review the rail scoring and to obtain detailed feedback.
 - ❖ UPRR is in the process of purchasing right of way from Naco to Curtiss, Arizona.

- ❖ Grade separations for railways are being included in multi-modal project rankings.
- **Preliminary Project Scoring – Overall Results:** Bill provided the opportunity for the PAC to offer feedback. Discussion ensued and it was agreed participants needed more time to review project scoring. Therefore, final comments on the preliminary scores will be accepted from the PAC through Monday (Sept. 24, 2012).
- The scoring will be presented to the PAC and TWG at their combined meeting on Oct. 16, 2012 for approval.
- The PAC suggested that the scoring description sheet (Point Spreads for Evaluation Criteria) be included with the scoring when the materials are distributed.
- **Next Meeting Announcement:**
 - ❖ October 16, 2012: Combined TWG/PAC Meeting at the Viscount Suites in Tucson, AZ.
- **Adjourn:** The meeting adjourned at approximately 5 p.m.

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c. PAC members, TWG members, Consultant Team

**Arizona-Sonora Border Master Plan
PAC Meeting #5 Attendees (Sept. 18, 2012)**

Kevin Adam (Rural Transportation Advisory Council)
Jeff Austin (U.S. Department of State)
John Bernal (Pima County Public Works)
Jamison Brown (Pima Association of Governments)
Omar Cervantes (XCL Engineering)
Margie Emmermann (Office of the Governor, State of Arizona)
Roman Fernandez (Secretaria de Relaciones Exteriores)
Bill Ferris (Stantec)
Juanita Garcia-Seiger (Pima County Public Works)
Charles Gutierrez (Yuma Metropolitan Planning Organization)
Randy Heiss (Southeastern Arizona Governments Organization)
Gail Lewis (ADOT)
Hugo Alejandro Rojas Lopez (Ferromex)
Dan Marum (Wilson & Company)
Doug Moseke (Stantec)
Amy Moran (Wilson & Company)
Jose Nunez (International Boundary and Water Commission)
Jessica Pacheco (Gordley Group)
Jennifer Pyne (URS)
Rudy Perez (ADOT)
Jesus Quintanar (Comisión Internacional de Limites y Aguas)
Fernando Salazar Pompa (SIDUR, Gobierno del Estado de Sonora)
Sally Stewart (ADOT)
Alice Templeton (Gordley Group)
Tom Yearout (U.S. Customs and Border Protection)

Via Conference Call:

Shane Dille (City of Nogales, Ariz.)
Todd Emery (ADOT)
Abdee Gharavi (U.S. General Services Administration)
Sylvia Grijalva (U.S. Federal Highway Administration)
Sherry Henry (Arizona Office of Tourism)
Robert Pickels (Yuma County)
Rachel Poynter (U.S. State Department)

Agenda
Arizona-Sonora Border Master Plan
Combined Policy Advisory Committee and Technical Working Group
Meeting #6
Tuesday, October 16, 2012
1:00 – 5:00 p.m.
Viscount Suite Hotel
4855 East Broadway
Tucson, AZ, 85711

- 1:00 p.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 1:15 p.m. Study Progress Update
- Project List: Sonora, Mexico
 - Stakeholder Coordination
 - Technical Memo #3: Deficiencies and Alternatives
 - JWC Debrief
- 1:30 p.m. Preliminary Project **Scoring** – Complete
- Multi-Modal Infrastructure
 - Rail
- 1:45 p.m. Preliminary Project **Scoring** – Exercise
- LPOE
- 2:30 p.m. Break
- 2:45 p.m. Preliminary Project **Rankings** – Overall Results
- Multi-Modal Infrastructure
 - Rail
 - LPOE
- 3:45 p.m. Phased Implementation Plan Methodology
- 4:00 p.m. Schedule Update
- Final Rankings
 - Draft Implementation Program
 - Draft Border Master Plan
- 4:30 p.m. Next Meeting Announcement
- 4:45 p.m. Miscellaneous
- 4:55 p.m. Adjourn

Memo



Stantec

To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: Oct. 16, 2012

**Reference: Arizona-Sonora Border Master Plan (BMP)
Combined PAC and TWG Meeting #6 – Meeting Notes**

The meeting was held at the Viscount Suites, Tucson, Arizona on Tuesday, October 16, 2012, at 1 p.m. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions: Rudy Perez and Fernando Salazar Pompa, Gobierno del Estado de Sonora.
- Rudy recapped activities since the start of the study last November. He then reviewed the current status of the project.
 - ❖ Tech Memo #3 - Deficiencies and Alternatives, is underway and scheduled for completion later this month.
 - ❖ The consultant team is awaiting the travel demand model information from SCT.
 - ❖ It is anticipated that the ADOT project website will ultimately house the new GIS tool.
 - ❖ The team has received a list of approximately 25 projects located in the state of Sonora and preliminary scoring will be completed later this month.
- Fernando gave a brief overview of several of the Sonoran projects.
- The consultant team plotted, in a PowerPoint format, all of the projects submitted in the state of Sonora for the BMP. Those printouts were available at the sign-in table for viewing by the PAC and TWG during breaks.
- Since the group has spent a lot of time discussing, debating and reviewing the multimodal projects, we've achieved consensus on the scoring of the multimodal projects.

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- Bill then went on to review the eight rail projects. Most of them are conceptual in nature and will likely not be built until well into the future.
 - ❖ The rail projects have been presented to both the PAC and TWG and comments have been received.
 - ❖ There was discussion about how a zero should be the lowest score rather than a one. When the criteria aren't applicable to a project the project shouldn't get an extra point and possibly an artificially inflated score. It was decided to do this for the first two criteria only (change in project number of railcars and cross border tonnage/value).
 - ❖ There was a request to add the zero score throughout the criteria. It was agreed that the team would review how zeros would affect the scoring.
 - ❖ Bill noted that grade separated crossings (over the railroad) were included in multimodal infrastructure projects rather than rail.
 - ❖ The majority of rail projects will likely be privately funded. It appears as though Union Pacific might be willing to contribute five to ten percent of the construction costs for multi-modal infrastructure overpass projects.
 - ❖ There was a suggestion to have a separate congestion alleviation criteria (it is currently under Regional Benefit criteria) in the future to take into consideration other benefits like passenger rail in project evaluation.
 - ❖ There was a discussion that needs follow up regarding the San Luis projects and where the railway starts and stops.

- Bill and Rudy reiterated that the purpose of reviewing the scoring with the PAC and TWG is to ensure the accuracy of project scoring. Once the scoring is completed and agreed upon, prioritization (rankings) becomes a mathematical operation. This has been emphasized since the start of the project.

- Discussion then moved on to LPOE project scoring.
 - ❖ The projects submitted range from projects that cost less than \$100K to a complete port expansion and modernization at a cost of \$100M.
 - ❖ The team initially agreed to select an example project and review the project's scoring for accuracy.
 - ❖ There was a philosophical discussion about how some smaller projects were submitted separately even though they originate at one LPOE. It was suggested that if they were combined and submitted together it might affect their rankings positively.
 - ❖ It was pointed out that there is a missing low cost, high impact Douglas project - replacement of POV primary processing booths.
 - ❖ Following the example project the team offered to review the scoring of any of the LPOE projects with the attendees. There was extensive discussion and several scores were adjusted on a consensus basis.

- ❖ Attendees agreed to score projects based upon their current status at the time they are submitted for consideration. As data is updated and projects mature, initially conceptual projects are likely to score better when the BMP is updated as part of their natural progression.
- Bill moved the discussion to the project schedule. At the last meeting, in light of the dialogue, it was agreed to make the final meeting in December of a longer duration and allow us to finish scoring modifications as appropriate, redo the rankings and use a portion of the December meeting to discuss the implementation plan. It was concluded that the meeting would be the first week of December from 10 a.m. to 5 p.m. to allow for same day travel time. A working lunch will be provided. We will present the rankings at the end of the day and have the PAC approve the rankings at that time. In the interim, the consultant team will work with Sonoran partners to get input on the consultant team scoring.
- Bill introduced the concept of the phased implementation plan that applies to linkages between ports and roadway segments or between Arizona ports and Sonoran ports. Dan reviewed the team's initial thoughts on methodology for a draft phased implementation plan. In light of MAP-21 legislation and the state of CBI funding the PAC/TWG were uncomfortable with the methodology that tries to identify a committed funding amount that would allow projects to be listed as short, medium or long term. Direction was given to simply rank the projects. The team will still identify linkages between projects for information only.
- **Next Meeting Announcement:**
 - ❖ The next combined PAC/ TWG meeting will take place early in December, in Tucson, but the date, time and exact location have not yet been determined.
- **Adjourn:** The meeting adjourned at approximately 5:20 p.m.

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c. PAC members, TWG members, Consultant Team

**Arizona-Sonora Border Master Plan
Combined PAC/TWG Meeting #6 Attendees (Oct. 16, 2012)**

Travis Black, U.S. Federal Highway Administration
Jamison Brown, Pima Association of Governments
Omar Cervantes, XCL Engineering
Alfonso de Alba, Mexican Consulate
Todd Emery, Arizona Department of Transportation
Roman Fernandez, Secretaria de Relaciones Exteriores
Bill Ferris, Stantec
Laura Franco French, Arizona Office of Tourism
Victor Gonzales, Douglas Port Authority
Sylvia Grijalva, U.S. Federal Highway Administration
Randy Heiss, Southeastern Arizona Governments Organization
Mark Hoffman, Arizona Department of Transportation
Michael Jones, Arizona Department of Transportation Yuma District
Gail Lewis, Arizona Department of Transportation
Hugo Alejandro Rojas Lopez, Ferrocarril Mexicano
Humberto Martinez, Ferrocarril Mexicano
Dan Marum, Wilson & Company
Paul Melcher, Yuma County
Luis Enrique Mendez, INDAABIN
Doug Moseke, Stantec
Amy Moran, Wilson & Company
Jose Nunez, International Boundary and Water Commission
Ana Olivares, Pima County
Lauren Ortega, City of Douglas
Jessica Pacheco, Gordley Group
Angela Palazzolo, U.S. Department of State
Robert Pickels, Yuma County
Rudy Perez, Arizona Department of Transportation
Jesus Quintana, Comisión Internacional de Limites y Aguas
Luis Ramirez, Arizona-Mexico Commission
Paki Rico, Arizona Department of Transportation
Fernando Salazar Pompa, SIDUR, Gobierno del Estado de Sonora
Sally Stewart, Arizona Department of Transportation
Alice Templeton, Gordley Group
Romare Truly, U.S. Federal Highway Administration
Jesus Valdez, Santa Cruz County
Tom Yearout, U.S. Customs and Border Protection
Marissa Walker, Arizona Commerce Authority

Via Conference Call:

Jon Ballard, U.S. General Services Administration

John Bernal, Pima County Public Works

Shane Dille, City of Nogales, Arizona

Charlene Fitzgerald, Yuma Metropolitan Planning Organization

Charles Gutierrez, Yuma Metropolitan Planning Organization

Mikhail Pavlov, U.S. Customs Border Protection

Agenda
Arizona-Sonora Border Master Plan
Combined Policy Advisory Committee and Technical Working Group
Final Meeting - #7
Thursday, December 13, 2012, 10:00 a.m. – 5:00 p.m.
Randolph Golf Complex, 600 S. Alvernon Way, Tucson, AZ 85711

- 10:00 a.m. Welcome and Introductions
- Rudy Perez, Project Manager, Arizona Department of Transportation (ADOT)
 - Fernando Salazar Pompa, Secretary of Infrastructure and Urban Development, State of Sonora (SIDUR)
- 10:15 a.m. Study Progress Update
- Technical Memo #3: Deficiencies and Alternatives
 - Draft Border Master Plan
- 10:45 a.m. Preliminary Project **Scoring** – Sonoran Projects
- LPOE
 - Multi-Modal Infrastructure
- 12:00 p.m. Working Lunch
- 12:30 p.m. Final Project **Rankings** – Overall Results
- Multi-Modal Infrastructure
 - Rail
 - LPOE
- 2:30 p.m. Project Linkages
- 3:30 p.m. Lessons Learned
- 4:00 p.m. Schedule Update
- Availability of Final Border Master Plan
- 4:15 p.m. Miscellaneous
- 4:55 p.m. Adjourn

For members participating by phone the dial in number and passcode are as follows:

Access Number: 1-877-820-7831

Passcode: 774047#

Mexico Access Number: 1-720-279-0026

Passcode: 774047#

Memo



To: Arizona Department of Transportation (ADOT) - Rudy Perez, Project Manager (PM) From: Bill Ferris – Consultant PM
File: 1817 10016 Date: January 4, 2013

**Reference: Arizona-Sonora Border Master Plan (BMP)
Combined PAC and TWG Meeting #7 – Meeting Notes (12/13/2013)**

The meeting was held at the Randolph Golf Complex Copper Room, Tucson, Arizona on Thursday, Dec. 13, 2012, from 10 am to 5 pm. A list of attendees is attached. Highlighted discussions were as follows:

- Welcome and Introductions: Rudy Perez and Fernando Salazar Pompa, Gobierno del Estado de Sonora.

- Bill recapped the progress made by the study team since work began a year ago.
 - ❖ Workplan - completed.
 - ❖ Stakeholder Outreach Plan - completed.
 - ❖ Focus Area and Area of Influence – defined and mapped.
 - ❖ Three Technical Memorandums - completed.
 - ❖ Working Paper No. 1 - completed.
 - ❖ Six PAC and six TWG meetings have been previously held (includes two joint PAC/TWG meetings).
 - ❖ Three stakeholder outreach meetings have been held.
 - ❖ Three bi-national coordination meetings have been held.
 - ❖ BMP projects - identified.
 - ❖ Categories of Criteria – developed and weighted.
 - ❖ Specific Criteria – defined and assigned points.
 - ❖ Projects have been scored and ranked.
 - ❖ Comment resolution matrix – completed (approved today by PAC)
 - ❖ BMP has been completed in DRAFT form.

- There was a discussion about the omission of airports in the BMP, mainly because the BMP focuses on cross border traffic at our land ports of entry. The decision of whether to include airport projects should be considered when the BMP is updated.

- The focus area generally extends 10 miles north and south of the border and includes bulges that have been extended in some areas of Arizona (San Luis/Yuma, Nogales/Naco/Douglas) at the PAC's request. Similarly, the Sonoran

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representatives have requested that the focus area also be extended approximately 25 miles south of the border, to the Cananea area. Several of the projects that have come from Sonora are located in that zone.

- Linkages: When the technical team started looking at linkages between projects and the associated coordination required, it was decided to divide the focus area into three distinct zones.
 - ❖ The “blue” zone is generally considered Yuma County and extends from San Luis, easterly to the county line, just before the Lukeville/Sonoyta area.
 - ❖ “Green” generally encompasses Pima and Santa Cruz Counties and extends from Lukeville/Sonoyta to the eastside of Nogales.
 - ❖ “Purple” generally represents Cochise County and includes the Naco and Douglas/Agua Prieta areas.
- Bill provided a brief overview of the chapters contained in the draft BMP.
- Implementation: Due to budget realities on the federal and state level, there appears to be some emphasis on completing low cost, high impact projects in Arizona. Sonora typically looks at major endeavors and handles smaller projects as they become necessary.
- A suggestion/recommendation was presented by the study team focusing on the development of an Implementation Monitoring Committee. This committee, with a suitable champion at its head, would become responsible for assessing the performance of the BMP and the progress of the projects. They would also provide updates to key stakeholders on both sides of the border. The PAC generally supported the concept, but thought that quarterly updates would be excessive and an appropriate timeframe will need to be explored further. It was noted that the updates would keep the federal agencies informed of the BMP project’s progress and would also help when the time comes to update the plan. It was decided that before moving forward with the committee concept, the PAC should provide written comments on the concept as currently outlined in the draft BMP.
- Long-term planning considerations: Dan explained that after reviewing the library of focus area long term planning documents (collected during the early stages of the BMP) the study team decided to include an overarching discussion of the appropriate long-term planning efforts in a separate chapter of the BMP.
- Preliminary Sonoran project scoring: Members of the technical team led a review of the evaluation of the Sonoran Land Port of Entry (LPOE) projects and the Sonoran Multimodal Infrastructure (MMI) projects. Discussion included:

- ❖ The “Wait Times” scoring of high, low or medium, is related to southbound traffic and is connected to capacity to process traffic on the Mexican side of the border. It does not account for potential delays due to CBP’s southbound inspection process.
 - ❖ There is no data available from the Mexican Aduana agency for southbound traffic so wait times scoring is based on observation and expertise of the project sponsors, the technical team and the Policy Advisory Committee (PAC). It is anticipated that better wait time data will be available when the BMP is updated in the next several years.
 - ❖ There were concerns that the project descriptions in the scoring sheets/tables needed to have more detail so reviewers not familiar with the area could have a better understanding of the scope of the project.
 - ❖ It was decided that after hearing the concerns expressed by the PAC, the technical team would review the Sonoran project scoring for accuracy and revise the scores as appropriate. The team would then resend to the PAC for their review.
- Final project rankings: The technical team led a review of the evaluation of the Arizona LPOE, MMI and rail projects. Most of the discussion targeted the LPOE scoring and included the following:
 - ❖ For LPOE projects, the four highest ranked projects are relatively low cost, high impact and likely to be completed and drop off the list in the next several years.
 - ❖ The Douglas Expansion and Modernization (including a new commercial facility and reconfiguration of the existing facility to more efficiently handle POVs and pedestrians) scored better than the independently ranked new commercial only port and the non-commercial reconfiguration projects. This is largely due to the number of modes of traffic being accommodated.
 - ❖ The San Luis II – POV/Pedestrian Processing Facility scored better than the San Luis I Expansion and Modernization project largely due to the cost differential.
 - ❖ New ports geared toward potential future rail crossings scored the lowest.
 - ❖ Better wait time data needs to be available when the BMP is updated in several years.
- A discussion occurred regarding a possible disconnect between the Arizona and Sonoran projects, especially interrelated LPOE projects. The PAC requested the study team analyze merging the Arizonan and Sonoran projects together to create one list. The combined list could be included in both the main report as well as the Executive Summary.

- Moving forward:
 - ❖ The study team will incorporate the comments received at today's meeting into the BMP and update the scoring spreadsheets.
 - ❖ The draft BMP will not include the executive summary.
 - ❖ Comments on the Sonoran project scoring will be expected from the PAC by close of business Friday, Dec. 21, 2012.
 - ❖ The study team will establish a method to combine the LPOE scoring into one list, then send the draft BMP to the PAC/TWG by Jan. 4, 2013 and expect comments by Jan. 18, 2013 (subsequently determined to be 1/22/2013).

- **Next Meeting Announcement:**
 - ❖ No further meetings are planned.

- **Adjourn:** The meeting adjourned at approximately 5:00 p.m.

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A handwritten signature in blue ink, appearing to read "William R. Ferris, Jr.", is positioned above the printed name and contact information.

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c. PAC members, TWG members, Consultant Team

Arizona-Sonora Border Master Plan
Combined PAC/TWG Meeting #7 Attendees (December 13, 2012)

Sean Carlos Cazares Ahearne, Secretaria de Relaciones Exteriores
Travis Black, U.S. Federal Highway Administration
Jamison Brown, Pima Association of Governments
Alejandro Zuniga Camacho, Obras en Inmuebles Federales
Omar Cervantes, XCL Engineering
Paul David, Arizona Department of Transportation
Alfonso de Alba, Mexican Consulate
Shane Dille, City of Nogales, Arizona
Todd Emery, Arizona Department of Transportation
Roman Fernandez, Secretaria de Relaciones Exteriores
Bill Ferris, Stantec
Charlene FitzGerald, Yuma Metropolitan Planning Organization
Laura Franco French, Arizona Office of Tourism
Victor Gonzales, Douglas Port Authority
Sylvia Grijalva, U.S. Federal Highway Administration
Michael Jones, Arizona Department of Transportation Yuma District
Gail Lewis, Arizona Department of Transportation
Hugo Alejandro Rojas Lopez, Ferrocarril Mexicano
Humberto Martinez, Ferrocarril Mexicano
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Paul Melcher, Yuma County
Doug Moseke, Stantec
Amy Moran, Wilson & Company
Jose Nunez, International Boundary and Water Commission
Ana Olivares, Pima County
Lauren Ortega, City of Douglas
Jessica Pacheco, Gordley Group
Robert Pickels, Yuma County
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Paki Rico, Arizona Department of Transportation
Fernando Salazar Pompa, SIDUR, Gobierno del Estado de Sonora
Alice Templeton, Gordley Group
Jesus Valdez, Santa Cruz County
Tom Yearout, U.S. Customs and Border Protection
Marissa Walker, Arizona Commerce Authority

Via Conference Call:

Jon Ballard, U.S. General Services Administration
Angela Palazzolo, U.S. Department of State
Michael Pavlov, U.S. Customs Border Protection



APPENDIX I

Planned Improvement Projects

ARIZONA-SONORA BORDER MASTER PLAN



Planned Improvement Projects

Document/Study/Plan	Facility	Facility Description/Extent	Proposed Improvement	Implementation Timing
Planning Assistance for Rural Areas (PARA) Studies & Small Area Transportation Studies (SATS)				
City of Nogales-Pedestrian Circulation at Ports of Entry – PARA (2012)	Pedestrian Staging Area	On Arizona Side of international border near Mariposa LPOE	Construct new facility	2012
	Transit Center in the Downtown Area	To serve the DeConcini and Morley Gate LPOEs with bus route connecting to Mariposa LPOE	Construct new facility	2017-2022
	Pedestrian Overpass	Across UPRR in the downtown area at Court Street	Construct new facility	2017-2022
	Crosswalks and Sidewalks	Improvements to the listed deficient crosswalks and sidewalks	Improvements	2012-2017
Town of Sahuarita Area Transportation Study – PARA (2010)	Old Tucson - Nogales Highway	Sahuarita Town Limits	Widening to 4 Lanes	2010-2030
	Nogales Highway	Pima Mine Road to Sahuarita Road	Widening to 6 lanes	2010-2030
	Nogales Highway	Sahuarita Road to Old Nogales Highway	Widening to 4 lanes	2010-2030
	Sahuarita Road	I-19 to east past Wilmot Road	Widening to 6 lanes	2030+
	Nogales Highway	Sahuarita Road to Old Nogales Highway	Widening to 6 lanes	2030+
Northwest Cochise County Long- Range Transportation Plan - PARA (2010)	SR 80	MP 293 to MP 303.5 (I-10 Bus/SR 80 split in Benson to Judd Road)	Widen to 4 lanes	2020
	SR 90	MP 289 to MP 294 (I-10/SR 90 TI to Post Ranch Road)	Widen to 6 lanes	2020
	I-10	MP 296 to MP 303 (Cochise/Pima County Line to I-10 Bus/W. 4th Street Exit)	Widen to 6 lanes	2040
	New I-10 Traffic Interchange	Between MP 298 and MP 299	Replace existing Skyline Traffic Interchange (TI)	2040
Unified Nogales/Santa Cruz County Transportation Plan 2010 (Represents latest evaluation and prioritizing of needed mobility improvements)	Crawford Street	At UPRR - Nogales	Pedestrian Overpass	2011-2015
	Public Library Vicinity	At UPRR - Nogales	Pedestrian Overpass	2011-2015
	Calle Sonora	At N. Hohokam Drive - Nogales	Widen roadway & bridge; improve intersection	2011-2015
	W. Frontage Road	Calle Calabasas to Yavapai Drive	Extension of Frontage Road	2011-2015
	Pendleton Drive	Rio Rico Drive to Palo Parado Drive	Roadway construction	2011-2030
	Yavapai Drive	Rio Rico Drive to W. Frontage Road	Capacity improvements	2011-2015
	Doe Street	Grand Avenue to Bankerd Avenue	Capacity improvements	2016-2020
	Bankerd Avenue	Doe Street to Morley Avenue	Capacity improvements	2016-2020

ARIZONA-SONORA BORDER MASTER PLAN



Planned Improvement Projects

Document/Study/Plan	Facility	Facility Description/Extent	Proposed Improvement	Implementation Timing
Unified Nogales/Santa Cruz County Transportation Plan 2010 (Continue)	Western Avenue	Grand Avenue to I-19	Capacity improvements	2016-2020
	Morley Avenue	Banks Bridge to Park Street, Nogales	Capacity improvements	2016-2020
	Ruby Road	At UPRR	Vehicular Overpass	2021-2030
	Old Tucson Road	Grand Avenue to Frontage Road	Design and Reconstruct to 5 Lanes	2021-2030
	Industrial Drive Loop	Nogales	Capacity improvements	2021-2030
Potential Nogales/Santa Cruz County Projects (Note: This section includes future major transportation improvements conceived during previous long-range evaluations of regional mobility needs. They are provided as potential solutions for consideration of improving border access.)	SR 189/Mariposa Road	I-19 interchange	Capacity improvements	Planning Ongoing
	SR 189/Mariposa Road	Frank Reed Road intersection	Capacity improvements	Planning Ongoing
	SR 189/Mariposa Road	Nogales Mariposa LPOE to I-19	Roadway widening and improvement	Planning Ongoing
	N-S Interconnector	SR 189 to I-19 at SR 289 (Ruby Road)	Corridor Study, Preserve Right-of-Way	NA
	Ruby Road	New Roadway to I-19	Design and Construct to 4 lane Section	NA
	E-W interconnector	SR 189 to SR 82	Corridor Study, Design and Construct	NA
	I-19 Frontage Road	Western Avenue to Rio Rico Drive	Corridor Study, Design and Construct	NA
	East I-19 Frontage Road	Ruby Road to Rio Rico Drive	Design and Construct	NA
	SR 289 Interconnector	New N-S Interconnector to SR 82	Corridor Study to preserve roadway alignment, Design and Construct	NA
	I-19 Interchanges	At Rio Rico Drive, SR 289/Ruby Road, SR 189/Mariposa Road, and Western Avenue	Interchange Upgrades	NA
	SR 189/Mariposa Road	Grand Avenue to Frank Reed Road	Design and Reconstruct to 6-lane roadway	NA
	SR 189/Mariposa Road	Grand Avenue Intersection	Capacity improvements	NA
	Frontage Road	SR 189/Mariposa Road to Country Club Drive	Connector road	NA
	I-19	At Grand Avenue interchange	Capacity improvements	NA
	E-W Route	SR 189/Mariposa Road to Grande Avenue	New roadway	NA
	Grand Avenue	Old Tucson Road intersection	Capacity improvements	NA
	Grand Avenue	Country Club Drive intersection	Capacity improvements	NA
	SR 82	Grand Avenue to Thelma Street	Capacity improvements	NA
	Grand Ave/Arroyo Boulevard	I-19 to DeConcini LPOE	Capacity improvements	NA
	I-19	I-19 Bus Terminus to West Street	Capacity improvements	NA
I-19	Tumacacori TI to SR 189/Mariposa Road	Capacity improvements	NA	

ARIZONA-SONORA BORDER MASTER PLAN



Planned Improvement Projects

Document/Study/Plan	Facility	Facility Description/Extent	Proposed Improvement	Implementation Timing
Potential Nogales/Santa Cruz County Projects (Continue)	I-19 Frontage Roads	Grand Avenue TI to Rio Rico Drive TI	Capacity improvements	NA
	Grand Avenue	International Border to Baffert Drive	Perform study of safety, traffic operations, parking, and access to improve capacity and throughput	NA
City of Somerton SATS (December 2006)	Somerton Avenue	Corridor Study	Study re-designation of functional classification	2006-2010
	US-95 Somerton West Gateway	Bingham Ave west to Somerton Canal	Design/Construction scoping	2006-2010
	US-95 Somerton West Gateway	Avenue F½ / Main Drain	Design/Construction scoping	2006-2010
	Main Street	Identify/acquire parking areas	Land acquisition/Facility development	2006-2010
	US-95	Avenue F intersection	Signal warrant study	2010-2030
	US-95	Vicinity of Carlisle	Mid-block signal warrant study	2010-2030
	US-95	Bingham Avenue to Avenue F½	Main Street Program planning	2010-2030
City of Benson SATS (September 2007)	I-10	At SR 90	Interchange improvements	NA
	I-10	Skyline Road	Roadway and TI Project Assessment	2010-2020
	SR 90	I-10 Connector west from SR 90	Developer	2010-2020
	SR 90	Extension to Benson Airport	Project Assessment, Design, & Construct	2010-2020
	SR 90	I-10 to Karchner Caverns	Access Management Plan & Conceptual Access Design Plans	2010-2020
	I-10	Mescal Road TI	Project Assessment	2010-2020
	Post Road	SR 90 to SR 80	Project Assessment, Design, & Construct	2010-2020
	Post Road	At SR 90	Signalization	2010-2020
	Janella Road	SR 90 to SR 80	Project Assessment, Design, & Construct	2010-2020
	Janella Road	At SR 90	Signalization	2010-2020
	Mescal Road	North and South of I-10	Project Assessment	2010-2020
	Mescal Road	North and South of I-10	Design & Construct	2020-2035
	Skyline Road	New N-S Route from TI	Design & Construct	2020-2035
	SR 90	I-10 to Karchner Caverns	Widen	2020-2035
	SR 80	I-10 Bus to Post Road	Conceptual Design Plans & Access Management Plan	2010-2020
SR 80	At Janella and Post roads	Signalization	2010-2020	

ARIZONA-SONORA BORDER MASTER PLAN



Planned Improvement Projects

Document/Study/Plan	Facility	Facility Description/Extent	Proposed Improvement	Implementation Timing
City of Benson SATS (September 2007) (Continue)	SR 80	I-10 Bus to Post Road	Widen	2020-2035
	I-10	Frontage Road	Project Assessment Report	2010-2020
	I-10	At Ocotillo	TI Project Assessment Report	2010-2020
	I-10	At Pomerene Road (SR 76)	TI Project Assessment Report	2010-2020
	I-10	SR 90 to W. 4th Street	Connector between exits	2010-2020
	I-10	At Ocotillo	TI Improvements	2020-2035
	I-10	At Pomerene Road (SR 76)	TI Improvements	2020-2035
City of San Luis SATS – 2009	County 22nd Street	9th Avenue to 10th Avenue	Construct 2 lanes	Short-term
	Downtown	Areawide	Conduct circulation study	2011
	US-95	Southbound through the City	Conduct bi-national study of traffic	Dec-12
	Juan Sanchez Blvd	US-95 to 10th Avenue	Widen to 5 lanes	Mid-term
	New Roadway	8th Avenue to Avenue F	Construct 2 lanes	Mid-term
	6th Avenue	Union Street to County 22nd Street	Construct 2 lanes	Mid-term
	Juan Sanchez Blvd	10th Avenue to Avenue E	Widen to 5 lanes	Long-term
	9th Avenue	County 19th Street to SR 195/Area Service Highway (ASH)	Construct 2 lanes	Long-term
	New Roadway	6th Avenue to Avenue E	Construct 2 lanes	Long-term
	Avenue E	AZ-Mexico Border to SR 195/ASH	Widen to 4 lanes	Long-term
	Avenue E	SR 195/ASH to County 19th Street	Construct 2 lanes	Long-term
	County 22nd Street	10th Avenue to Avenue E½	Construct 2 lanes	Long-term
Nogales Railroad Small Area Transportation Study – 2007	New Pedestrian Bridge	Between Primeria Alta Historical Society & Gazebo/Karam Park	Construct new pedestrian bridge across the railroad	Stage I
	New Pedestrian Bridge	South of Court Street	Construct new pedestrian bridge across the railroad	Stage I
	New Bridge	Near Nogales Public Library	Construct new roadway bridge across the railroad	Stage II
	New Bridge	Near future extension of Roper Road	Construct new roadway bridge across the railroad	Stage II
	New Bridge	At extension of Palo Parado Road to Pendleton Drive	Construct new roadway bridge across the railroad	Stage III

ARIZONA-SONORA BORDER MASTER PLAN



Planned Improvement Projects

Document/Study/Plan	Facility	Facility Description/Extent	Proposed Improvement	Implementation Timing
Regional Transportation Planning Documents				
YMPO Regional Transportation Plan 2010-2033	I-8	MP 0 to MP 14	Pavement Preservation	2010-2014
	US-95	Avenue 9 E to Aberdeen Road (Phase I)	Widening	2010-2014
	US-95	MP 42 to Cibola Lake Road	Design Concept Report (DCR)	2010-2014
	Yuma Expressway	I-8 to SR 195/ASH	Planning from Area Service Highway (ASH)	2010-2014
	16th Street (US-95)	Arizona Avenue to Pacific Avenue	Widening	2010-2014
	I-8 North and South Frontage Road	Avenue 9 ½ E to Avenue 10 E	Widening	2010-2014
	Avenue E	San Luis II LPOE at Arizona-Sonora border to SR 195/ASH	Widening to 4 lanes	2010-2014