

# **BINATIONAL BORDER TRANSPORTATION PLANNING AND PROGRAMMING STUDY**

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## **Task 3: Inventory of Selected Port of Entry Systems on the U.S.-Mexican Border**

***Barton-Aschman  
La Empresa***

***January 30, 1998***

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**BINATIONAL BORDER TRANSPORTATION PLANNING AND PROGRAMMING STUDY  
TASK 3 REPORT: INVENTORY OF SELECTED PORT OF ENTRY SYSTEMS ON  
THE U.S-MEXICAN BORDER**

This report discusses the standard border crossing event processes for pedestrians, passenger vehicles, commercial vehicles and rail. Through the selection of six port of entry systems (POE systems) this report discusses in detail the regional transportation infrastructure, the physical description of POEs, staffing and hours of operation of the POEs, system operation, and a statistical description of vehicular and trade flows. The six port of entry systems inventoried are: San Diego-Tijuana, Nogales-Nogales, El Paso-Ciudad Juarez, Eagle Pass-Piedras Negras, Laredo-Nuevo Laredo and Brownsville-Matamoros.

Publish Date: January 30, 1998

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Key Words: trade, port of entry, port of entry system, infrastructure, highways, U.S. Customs San Diego-Tijuana, Nogales-Nogales, El Paso-Ciudad Juarez, Eagle Pass-Piedras Negras, Laredo-Nuevo Laredo and Brownsville-Matamoros.

## **Preface**

U.S./Mexico Binational Border Transportation Planning and Programming Study implements a significant binational policy making document entitled "Memorandum of Understanding on the Planning Process for Land Transport on Each Side of the Border" signed by the federal governments of Mexico and the United States at the first "NAFTA Transportation Summit" held in Washington, D.C., April 29, 1994.

The purpose of this study is to provide policymakers with information needed to establish a continuous, joint, binational, transportation planning and programming process. A goal of this study is to improve the efficiency of the existing binational policy making planning procedures and funding criteria affecting our Border Land Transportation Systems (BLTS). The BLTS should be seen as a binational transportation system made of international bridges and border crossings and land connections to major urban and/or economic centers, principal seaports, airports and multimodal/transfer stations, and ultimately, to national transportation facilities.

## **Disclaimer**

The purposes of the Binational Planning and Programming Study and all of its reports were: to investigate current state and national transportation planning processes in both the United States and Mexico, to review available data on border transportation infrastructure and goods movement, and to recommend an ongoing, binational planning and programming process. The information contained in these reports was not developed to serve as the basis for making funding allocation or distribution decisions at either the federal or state level in the United States.

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## 3.1 Introduction

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The primary objective of the Binational Transportation Planning and Programming Study is to develop a binational process for the planning and programming of transportation facilities that will facilitate the flow of traffic and trade between the two countries. In order to understand how the traffic passes through the border it is necessary to be aware of what constitutes a border crossing facility and to understand the border crossing process.

The purpose of this task report is to provide an inventory of six border inspection facilities. This inventory provides information including: (1) regional and local highway, vehicular and pedestrian access, (2) location and operational characteristics of associated rail crossings, (3) physical facility descriptions including building layout and sizes, staffing and hours of operation, and special operational characteristics, and (4) historic volumes of trade, passenger vehicle and pedestrian traffic flow. This inventory also provides a model for collection and compilation of data for future inventories and for inventories at locations not specifically discussed in this report. Future funding considerations influenced neither the selection of the case study sites nor the findings. It was not the purpose of this study to develop the basis for specific funding requests for border crossings.

The vast majority of trade between the United States and Mexico occurs across the extensive border land between the two countries. Depending on the specific region, the border is defined by either geographic (natural) features or survey (man-made) lines. Approximately half of the 2,000 mile border is defined by two rivers, the Rio Grande (Rio Bravo) in the east and the Colorado River—for a short section—in the west. The remainder of the border is defined by several linear survey lines.

From the west, the border between the states of Baja California and California follows a survey line from San Ysidro-Tijuana to Andrade-Los Algodones, where it intersects the Colorado river. There, the border between the states of Baja California, and Arizona is defined by the course of the Colorado River. At San Luis-San Luis Rio Colorado, the U.S.-Mexican border is again defined by a series of survey lines that form the boundary between the Mexican states of Sonora and Chihuahua, and the U.S. states of Arizona and New Mexico. The border between the Mexican states of Chihuahua, Coahuila, Nuevo Leon, and Tamaulipas and the U.S. state of Texas is defined by the course of the Rio Grande (Rio Bravo) from El Paso-Ciudad Juarez to its outlet at the Gulf of Mexico.

There are 42 official crossings located along the border between the two countries described above. These crossings serve one or more of the following transportation modes: pedestrians, passenger vehicles, commercial motor vehicles (trucks), or railroads. While each border crossing must be included in any formal binational planning process, for the purposes of this study six port of entry (POE) systems and their associated border crossings and crossing facilities were inventoried in order to establish a framework for future binational planning efforts.

It is important at this point to define three terms which will be used throughout this document:

**Border Crossing.** A single border crossing such as a roadway, bridge or ferry.

**Port of Entry.** U.S. Customs has defined 22 ports of entry along the U.S.-Mexican land border. These POEs consist of one or more border crossings. Where a POE consists of more than one border crossing, it is most frequently two crossings located near each other, or two crossings that function as one crossing even though there are separate structures or roadways.

**Port of Entry System.** One or more border crossings that either operationally or functionally work as an integrated system serving a transportation route (highway) to facilitate international trade and the movement of people between the two countries. In some cases, a port of entry system might include more than one port of entry as defined by U.S. Customs.

Other terms are described as used throughout the report. These terms and all others are included in the Binational Border Transportation Planning and Programming Study *Glossary of Key Goods Movement Terms*.

### **3.1.1 Report Organization**

The remainder of this report is divided into nine chapters. Chapter 3.2 outlines the standard border crossing event. This chapter includes a description of the legally required process at border crossings on both sides of the border by type of traffic: pedestrian, vehicular, commercial vehicular and rail. Chapter 3.3 outlines the port of entry case study location selection criteria and process. Chapter 3.4 describes the organization and sources of the case study information. Chapters 3.5 through 3.10 consist of the individual case studies for the six port of entry systems.

## **3.2 Standard Border Crossing Event Process**

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Because inspection processes are similar from port of entry to port of entry it is worth generally describing them. This general outline will help the reader to understand what occurs during the border crossing event for the different types of crossings, pedestrian, passenger vehicle, commercial vehicle, and rail without having to repeat the information in each individual case study. For a complete description of the commercial crossing process, please refer to the Task 3.1 report, “Description of Commercial Motor Vehicle Trade Flow Process.”

### **3.2.1 Pedestrian Crossings**

#### *Northbound*

Pedestrians exiting Mexico and staying within the border zone, do not need to complete any special paperwork. However, there are certain additional requirements and documents necessary for visitors traveling to the interior of the United States (beyond 25 miles or for more than 72 hours). The process for inspection of pedestrian traffic is as follows:

1. At primary inspection, pedestrians are directed by signs to counters or turnstiles staffed by U.S. Customs and INS inspectors. The pedestrians are asked to state their citizenship or provide appropriate entry documents and to declare any goods they are bringing into the United States.
2. Based upon the response and observations by the inspector, pedestrians are either admitted into the United States or directed to secondary inspection.
3. At the secondary inspection area any further questioning is completed, and bags and packages are physically examined. In some locations there are x-ray machines available for further examination of packages, if necessary.
4. Upon release from secondary inspection, pedestrians proceed into the country.

#### *Southbound*

Similar to procedures in the United States, there are no formal requirements for pedestrians staying within the border zone. However, pedestrians interested in immigrating to Mexico or visiting the interior are directed to the office of the Office of Immigration (Instituto Nacional de Migración or INM).

1. Approximately 90 percent of all pedestrians are allowed to proceed into Mexico without any inspection.
2. The remaining 10 percent are selected by the random selection system—either at a turnstile or a counter, and their bags are inspected.
3. Once the inspection is complete, pedestrians are free to enter Mexico.

### 3.2.2 Passenger Vehicle Crossings

#### *Northbound*

The process for inspection of passenger vehicles is as follows:

1. At primary inspection, the driver of the vehicle and all passengers are asked to state their citizenship or provide appropriate entry documents, and asked whether they have any goods to declare.
2. Based upon the response, observation by the inspector, and the U.S. Customs computer's response to the license (tag) number, the primary inspector can release the car for entry into the United States or direct the vehicle to secondary inspection.
3. If a secondary inspection is made, the vehicle is guided into the secondary inspection area where agents inspect the vehicle further and question the occupants until they are satisfied with their investigation or have discovered any contraband or illegal immigrants.

On average, primary inspection takes between 30 seconds and two minutes, depending on the agent's assessment of inspection utilizing diverse devices such as lamps, mirrors, and/or sound testing. Should the vehicle be sent to secondary inspection, the agent may close the gate temporarily and escort the vehicle to the secondary inspection area. Secondary inspections can range from a matter of minutes to hours depending on the level of the inspection conducted.

#### *Southbound*

The procedure for passenger vehicle inspection is as follows:

1. A vehicle drives slowly through the available lanes which are equipped with sensors to detect vehicle weight and a random selection system traffic signal. The signal shows a green light for entry into Mexico or shows a red light and rings a bell signifying a required inspection. The random selection system is designed to select approximately 10 percent of the vehicles.
2. If a vehicle is selected for inspection, it moves into the inspection area where it usually takes one to three minutes for the inspection. The maximum inspection time is 15 minutes. Mexican Customs (Administracion General de Aduanas) conducts the inspection which is only for goods; immigration documents are not checked. If duty-bearing merchandise is detected duties must be paid at the banks located near the border crossing.

An important difference between the U.S. and Mexican crossing event is that Mexican Customs agents no longer ask each driver if they have anything to declare nor do they check immigration documents. Mexican Customs relies on the random selection system and only inspects vehicles that receive a red inspection signal. Overweight vehicles automatically get a red indication and are sent to the inspection area.

### 3.2.3 Commercial Vehicle Crossings

#### *Northbound*

The northbound commercial vehicle export and inspection process is carried out by Mexican Customs officers whose main functions are identified as:

- Collection of duties, and
- Surveillance and protection of social interests.

The elements of the Mexican export process are described below. Several elements of the process are carried out using the electronic filing system known as the Sistema de Automatizacion Aduanera Integral (SAAI). This system has the objectives of:

- Improving the efficiency of the Customs officers,
- Controlling and verifying international trade data,
- Automating the procedures for collecting and analyzing statistical data on Customs, and
- Providing information on the operations of international trade.

SAAI stores data about the shipment, shipper, value and other key information electronically. These electronic files are then accessed by the Customs broker association, Mexican Customs and the bank modules in both the import and export process.

The elements of the export process are:

**Validation by Customs.** An application is submitted via SAAI and is transmitted to Customs for validation. Validation is provided when a check is made that the application information matches the actual shipment.

**Bank processing payments.** The same application is then transferred to the banking module where appropriate payments are made

**Random selection module.** The vehicle is subjected to the random selection system to determine if it will be released or inspected. The computer, not the Customs officer, determines whether to release the vehicle or to inspect it. If the random selection system gives a green light, the vehicle may leave immediately. If the random selection gives a red light, the vehicle must be inspected.

**Inspection of vehicle (primary inspection).** If an inspection is required, there is a physical inspection of the vehicle and a review of the documentation prior to releasing the vehicle. At the end of the inspection the vehicle is again subjected to the random selection system and either re-inspected or released.

**Reinspection of vehicle (secondary inspection).** When a commercial vehicle requires a second inspection the same type of inspection occurs but the second time the inspection is conducted by privately contracted inspectors. This inspection serves as a check of the reliability and efficiency of the primary inspection.

**Release of vehicle.** Once all inspections are completed, the truck is allowed to leave the customs inspection area and proceed to the U.S. commercial compound.

On average, approximately 98 percent of the shipments are released for entry into the United States without inspection, the other two percent are subjected to inspection by a Customs officer. For the case of the maquiladoras this proportion is approximately the same. Released shipments are delayed between 30 seconds and one minute, while inspected shipments are delayed between 15 minutes and two hours.

At the U.S. border, there are four basic processes for cargo inspections: informal entries, at the gate entries, Automated Broker Interface (ABI) pre-file entries, and line release entries. These are:

**Informal Entries** are the least common form of entry. These entries are generally made by small "mom and pop" operations with no regular exportation experience. Typically, completion of paperwork or purchase of the necessary permits occur at the time of entry. These entries are the most difficult to process and consume the most time at secondary inspection stations.

**At the Gate Entries** are those where the manifest and other paperwork have been completed prior to arriving at the inspection station. The paperwork is presented to the inspectors at the time of entry. This type of entry reduces the time a vehicle spends at the port of entry, but still requires that the inspector process all the paperwork at the time of entry.

**Automated Broker Interface (ABI) Entries** allow Customs brokers to send their border release documents electronically to the POE prior to arrival of the cargo. Since some pre-processing can occur, this form of entry tends to further reduce the amount of time a shipment is at the port of entry.

**Line Release Entries** are a specialized pre-filed electronic entry. Line release allows import cargo that has a consistent history of problem-free cargo manifests and invoices to bypass standard Customs and other regulatory inspections. To qualify for line release, commodities must also be free of enforcement concerns (such as marking violations, penalties, seizures, fraud, and suspected narcotics); require no special documentation; and be selected by local Customs Districts on the basis of high volume and low risk cargoes. This process minimizes the amount of time a vehicle is at the port of entry.

Regardless of the entry method, all trucks and single-unit vehicles must pass through primary inspection. Here the process is much the same as for private vehicles. Each vehicle is stopped and the drivers present their paperwork. The Customs agent stamps the paperwork, keeps a copy, and checks the predisposition of the cargo on the computer terminal. Canine (K-9) patrols and often the National Guard assist Customs by inspecting the vehicle while the paperwork is being checked. At this point, a vehicle can be released or referred to secondary inspection.

Secondary inspections occur generally with one or more of the following:

- The agent's decision,
- Positive K-9 interest,
- Type of commodity (some require inspection),
- Computer research indicating suspicion, or
- Random selection by the computer.

The volume or percentage of secondary inspections varies widely from day to day, month to month, and port to port. Variables affecting the percentage of vehicles undergoing secondary inspection include: commodity type; origin; reputation/reliability of broker, shipper, and importer; and a computer program which randomly selects a variable percentage of vehicles for inspection.

The primary inspection process typically takes one to three minutes. However, if a vehicle is referred to secondary inspection or to the impound/import lot (indicating the paperwork was not complete), it may take from fifteen minutes to several hours to inspect the truck, depending on the cargo type and how it is loaded (palletized, boxed, or loose). If the commodity requires further approvals, such as food or agriculture products, the inspection time may be longer.

In addition to regular secondary inspections, canine "block" or "blitz" inspections are held at random intervals throughout the day on trucks that would otherwise be free to leave the compound. Typically these inspections consist of two to three rows of five to seven trucks each. The trucks are parked close together, with their engines shut down and wait while the dogs are walked around the trucks. These trucks are then released all at once for the exit. Canine block inspections can take up to 30 minutes depending on a vehicle's order of arrival in the block.

### *Southbound*

Southbound export inspections are performed at some border crossings. In the U.S. export facility, southbound cargo inspections are limited to certain types of commodities and some random inspections. Most trucks are immediately released for entry into Mexico.

Before beginning a border crossing into Mexico, all vehicles must have the required Mexican documents. The principal actor in this process is the Mexican Customs broker, who carries out a series of pre-specified processes including:

- Inspection of the load,
- Preparation of the necessary paperwork, including the Customs application,
- Payment of taxes and tariffs (if the product requires any), and
- Agricultural inspection (if the product requires any).

The random selection system determines whether the load will be sent to primary inspection or released into Mexico immediately. The system selects 10 percent of the traditional trade vehicles (non-maquiladora) and only two percent of maquiladora vehicles for primary inspection. The average delay caused by the random selection process varies from 30 seconds to one minute. If the vehicle is to be released without inspection, the Customs officer gives the driver a registered document and the driver proceeds to a second checkpoint where it is verified that the shipment is indeed free to be released without inspection.

If the vehicle is selected for inspection, the Customs officer gives the driver a copy of the documents and directs the driver to the inspection area. The actual import documents are sent to the Customs offices where they are held until the inspection is complete. Primary inspections on average take between 15 minutes and three hours to complete.

Once the primary inspection is complete, the vehicle is again subjected to a random selection process. If the vehicle is selected for release, then it is allowed to leave the dock area. If it is selected for a secondary inspection, it is sent to the secondary inspection area. Again, 10 percent of the traditional trade vehicles and two percent of the maquiladora vehicles are selected for secondary inspections.

Similar to the primary inspection process, secondary inspection can take from 15 minutes to three hours to complete. Secondary inspections are carried out by private companies on concession. These companies serve to monitor the work of Customs.

The average delays to southbound cargo vehicles while in the primary and secondary inspection areas can be summarized as follows:

- 90% of the vehicles experience delays of one to two minutes,
- 9% of the vehicles experience delays of 15 minutes to three hours, and
- 1% of the vehicles experience delays of 30 minutes to six hours.

### **3.2.4 Rail Crossings**

Trains, both northbound and southbound, are inspected in two ways depending on the border crossing and the available facilities.

Where no convenient off-line inspection area exists, trains are inspected during the actual border crossing, as in Nogales-Nogales or Brownsville-Matamoros. At these locations, the trains pass slowly while customs officials check the manifest mounted to the rail cars with the corresponding

import documents. This type of inspection usually causes delays in the vicinity of the crossings while trains are passing.

Where off-line inspection areas exist, the inspections are conducted there. The inspected rail-cars are marked with a seal and then proceed across the border.

When a railcar is selected for inspection it is separated from the train and left until it can be inspected. Some POE systems have de-vanning facilities that expedite loading, unloading, and inspection of loads. Others have to inspect the cars on a railway siding or in the railway yard. Often rail loads are transferred to trucks after inspection. This is due to the logistical problems of relative infrequency of rail service in some locations, and to make up lost time in others.

## **3.3 Selection of Case Study Border Crossing Sites**

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The Binational Border Transportation Study includes an inventory of border crossing facilities (Task 3) and an evaluation of border crossing efficiencies, identification of causes of significant delays to trucks, and the identification of opportunities to reduce those delays through operational, policy, and infrastructure improvements (Task 9). The resources available for these tasks made it necessary to limit the number of border crossings examined through the use of case studies. By conducting a small number of case studies, a more detailed analysis of the selected locations could be made. Each case study encompasses a port of entry system, where the (close) proximity or specialized nature of the crossings allows them to function as a system.

The JWC appointed a task force to oversee the POE system case studies. The Task Force was composed of representatives from the study's funding agencies including SCT and SRE from Mexico, the four U.S. border states, and U.S. FHWA and DOS.

### **3.3.1 Site Selection Criteria**

The following criteria were used to select case study sites:

- Sites should be appropriate to serve as examples for future studies
- Sites are to include at least one crossing able to accommodate heavy trucks (e.g., 18-wheel tractor-trailer combinations)
- There is to be one site per U.S.-Mexican state pair
- Individual sites should be selected to represent concentrations of each of the major commodity types (as defined in this study) shipped across the border
- Sites should represent a cross section of modal opportunities
- Consider availability of advanced technology
- All other criteria being similar, the highest activity sites should be selected

Future funding considerations influenced neither the selection of the case study sites nor the findings. It was not the purpose of this study to develop the basis for specific funding requests for border crossings.

#### *Examples for Future Studies*

The case studies were conceived to be representative examples for future studies which could be conducted by transportation entities. The selected POEs were thought to represent a variety of infrastructure, transportation facilities, types of movements, and local economic conditions across the entire U.S.-Mexican border. While there are many criteria which could be used to select study sites, the overriding need was to ensure a variety of case types which might be encountered in the future.

#### *Crossings Accommodating Full-Size Trucks*

Only crossings that could accommodate full-size trucks or freight trains were considered appropriate for study. Table 3.1 lists the official border crossings, excluding the railroad bridges at Laredo, Eagle Pass and El Paso. Those crossings that cannot accommodate trucks are noted on the table.

**Table 3.1  
Official Border Crossings**

Mexican State	U.S. State	No.	Border Crossing	MX Code	U.S. Code	Observations
Baja California	California		<b>San Ysidro-Tijuana</b>		2504	Includes Rail
		1	San Ysidro-Tijuana	BC-C-02		PVs/Pedestrians Only
		2	Otay Mesa-Mesa de Otay	BC-C-03		
			<b>Tecate-Tecate</b>			Includes Rail
		3	Tecate-Tecate	BC-C-04	2505	
			<b>Calexico-Mexicali</b>		2503	Includes Rail
		4	Calexico East-Nuevo Mexicali	BC-C-05		Completed 1997
		5	Calexico-Mexicali I	BC-C-07		
			<b>Andrade-Vicente Guerrero</b>			
		6	Andrade-Los Algodones	BC-C-08	2502	
Sonora	Arizona		<b>San Luis-San Luis Rio Colorado</b>			
		7	San Luis-San Luis Rio Colorado	SO-A-01	2608	
			<b>Lukeville-Sonoyta</b>			
		8	Lukeville-Sonoyta	SO-A-02	2602	
			<b>Sasabe-La Garita de la Ladrillera</b>			
		9	Sasabe-Sasabe	SO-A-03	2606	
			<b>Nogales-Nogales</b>		2604	Includes Rail
		10	Nogales-Nogales I	SO-A-04		PVs/Pedestrians Only
		11	Nogales(Mariposa) -Nogales III	SO-A-06		PVs/Freight Only
			<b>Naco-Naco</b>			
		12	Naco-Naco	SO-A-07	2603	
			<b>Douglas-Agua Prieta</b>			
		13	Douglas-Agua Prieta	SO-A-08	2601	
Chihuahua	New Mexico		<b>Antelope Wells-El Berrendo</b>			
		14	Antelope Wells-El Berrendo	CH-N-01		
			<b>Columbus-Gral. Rodrigo M. Quevedo</b>			
		15	Columbus-Palomas	CH-N-02	2406	
		16	Santa Teresa-San Jeronimo	CH-N-03		PVs/Freight Only
Chihuahua	Texas		<b>El Paso-Ciudad Juarez</b>		2402	Includes Rail
		17	Santa Fe-Puente Juarez	CH-T-01		One Way Northbound
		18	Stanton-Puente Lerdo	CH-T-02		One Way Southbound
		19	Bridge of the Americas-Pte Cordoba	CH-T-03		Load Limits
		20	Ysleta-Zaragoza	CH-T-04		
			<b>Fabens-Guadalupe Bravo</b>			
		21	Fabens-Guadalupe Bravo	CH-T-06	2404	
			<b>Fort Hancock-El Porvenir</b>			
		22	Fort Hancock-El Porvenir	CH-T-07		
			<b>Presidio-Ojinaga</b>			Includes Rail
		23	Presidio-Ojinaga	CH-T-08	2403	

PVs: Passenger Vehicles

**Table 3.1 (Continued)  
Official Border Crossings**

Mexican State	U.S. State	No.	Border Crossing	MX Code	U.S. Code	Observations
Coahuila	Texas		<b>La Amistad</b>			
		24	Del Rio (Amistad Dam)-Ciudad Acuña	CO-T-03		No Commercial Traffic
			<b>Del Rio-Ciudad Acuña</b>			
		25	Del Rio-Ciudad Acuña	CO-T-04	2302	
			<b>Eagle Pass-Piedras Negras</b>			Includes Rail
		26	Eagle Pass-Piedras Negras	CO-T-05	2303	
Nuevo Leon	Texas		<b>Laredo-Colombia</b>			
		27	Laredo III-Colombia	NL-T-01		
Tamaulipas	Texas		<b>Laredo-Nuevo Laredo</b>		2304	Includes Rail
		28	Laredo-Nuevo Laredo II	TA-T-01		Juarez-Lincoln <sup>1</sup>
		29	Laredo-Nuevo Laredo I	TA-T-02		Gateway to Americas <sup>2</sup>
			<b>Nuevo Ciudad Guerrero</b>			
		30	Falcon Heights-Nuevo Ciudad Guerrero	TA-T-03		No Freight Allowed
			<b>Roma-Ciudad Miguel Aleman</b>			
		31	Roma-Miguel Aleman	TA-T-04	2310	
			<b>Rio Grande City-Ciudad Camargo</b>			
		32	Rio Grande City-Ciudad Camargo	TA-T-05	2307	
			<b>Los Ebanos-Gustavo Diaz Ordaz</b>			
		33	Los Ebanos-Diaz Ordaz	TA-T-06		Ferry
			<b>Hidalgo-Reynosa</b>		2305	
		34	Hidalgo Mc Allen-Reynosa I	TA-T-07		One Way/PVs only
		35	Pharr-Reynosa III	TA-T-09		PVs/Freight <sup>3</sup>
			<b>Progreso-Nuevo Progreso</b>			
		36	Progreso-Nuevo Progreso	TA-T-10	2309	
			<b>Brownsville-Matamoros</b>		2301	Includes rail
		37	Los Indios-Lucio Blanco	TA-T-11		
		38	Brownsville-Matamoros (B&M)	TA-T-12		
		39	Brownsville-Matamoros (Gateway)	TA-T-13		

PVs-Passenger Vehicles

<sup>1</sup> No hazardous materials northbound, no pedestrians, restricted hours for empties.

<sup>2</sup> Southbound trucks restricted.

<sup>3</sup> No northbound commercial traffic allowed.

Source: Barton-Aschman-La Empresa, 1997

### Major Commodity Type

An important characteristic of the ports of entry is the principal type of commodities transported across the border at each crossing. This is important because of seasonal peaking, differences in inspection requirements for the commodities, and variations in the way they are handled by transporting companies. Hence, it was decided that each selected case study site would represent at least one of the following types of trade flow:

- Maquiladora
- Agriculture
- Hazardous Materials
- Traditional

**Maquiladora Trade.** Table 3.2 shows the northbound maquiladora trade through border ports of entry by value. This is an indication of the relative role of the listed ports of entry in the maquiladora industry. As can be seen, El Paso-Ciudad Juarez had the largest maquiladora role during the period covered by the table. Although several years have passed, maquiladora employment reflects that El Paso-Ciudad Juarez is still likely to be the highest value maquiladora border port (see Table 3.3). The increase in activity in the San Diego-Tijuana maquiladora industry can also be seen by the number of maquiladora employees in Baja California.

**Table 3.2**  
**Northbound Maquiladora Trade Through Border Ports, 1985-1991 (Millions of Dollars)**

Port	1985	1986	1987	1988	1989	1990	1991
El Paso-Ciudad Juarez *	1,838.5	1,904.8	2,317.5	3,303.3	3,995.9	4,290.7	5,141.3
San Diego-Tijuana	682.1	801.1	1,093.1	1,726.6	2,013.1	2,255.6	2,611.6
Brownsville-Matamoros	818.5	805.3	849.6	1,231.1	1,479.9	1,958.3	1,966.2
Hidalgo-Reynosa	358.7	527.2	637.2	658.5	946.2	977.9	1,063.2
Calexico-Mexicali	339.5	389.0	455.0	605.3	720.4	695.9	687.2
Laredo-Nuevo Laredo	68.6	72.7	200.7	439.7	494.1	492.6	575.9
Nogales-Nogales	405.1	462.6	532.9	706.7	695.0	639.2	674.0
Del Rio-Ciudad Acuña	99.2	129.8	197.0	238.3	298.7	372.0	444.4
Eagle Pass-Piedras Negras *	101.6	108.8	128.3	143.7	171.4	213.3	275.6

\* Merchandise produced by maquiladoras in Municipality of the border port and its area of influence.

Source: Problems of Connectivity in Juarez, Chihuahua. Instituto Mexicano del Transporte, Ovidio Gonzalez G. y J. Arturo Perez S., 1995.

**Table 3.3**  
**Maquiladora Employees by Mexican State**

Year	Baja California	Sonora	Chihuahua	Coahuila	Tamaulipas	Others	Total
1990	87,657	26,107	122,231	22,276	79,197	108,968	446,436
1991	89,010	24,343	123,888	23,991	81,297	124,803	467,332
1992	96,835	25,600	129,146	26,943	85,125	142,049	505,698
1993	107,674	25,993	132,046	27,633	88,452	160,276	542,074
1994	118,940	27,590	140,097	29,038	97,806	165,951	579,422
% in 1994	21%	5%	24%	5%	17%	29%	100%

Source: INEGI, 1995. Statistics of the Maquiladora Export Industry

Table 3.4 is a summary list of the border communities that contribute to the maquiladora export industry. Transportation plays an important role in the transfer of materials required by the maquiladora industry and finished goods that return to the United States. This table further demonstrates high maquiladora representation in El Paso-Ciudad Juarez and in San Diego-Tijuana.

**Table 3.4**  
**Number of Established Maquiladoras in Border Ports**

State	Border Port	# of Maquiladoras
Baja California	San Diego-Tijuana	551
	Tecate-Tecate	86
	Calexico-Mexicali	124
Sonora	San Luis-San Luis Rio Colorado	25
	Douglas-Agua Prieta	31
	Nogales-Nogales	65
Chihuahua	El Paso-Ciudad Juarez	232
Coahuila	Del Rio-Ciudad Acuña	51
	Eagle Pass-Piedras Negras	62
Tamaulipas	Laredo-Nuevo Laredo	54
	Hidalgo-Reynosa	96
	Brownsville-Matamoros	101

Source: INEGI, 1995 Statistics of the Maquiladora Export Industry, except for San Luis-San Luis Rio Colorado which is 1997 data from the Centro de Investigacion en Alimentacion Y Desarrollo (CIAD)

**Agriculture.** The highway and railway networks that join the Mexican western coastal states of Jalisco, Nayarit, Sinaloa and Sonora form a transportation funnel for agricultural products that enter the United States at Nogales. The northbound transport of agricultural goods through this port increases significantly during the harvest period and dominates cross-border trade activities. In the off season, border crossing activity at Nogales is significantly less, even when considering the impact of the local maquiladora trade activity.

Nogales is the only U.S-Mexican border crossing that experiences a significant seasonal effect. While agricultural trade patterns at other ports may experience similar seasonal variation, the volume of agricultural trade is a much smaller portion of the overall trade at those ports, thereby reducing the impact of the seasonal variation. One of these crossings is the new Santa Teresa-San Jeronimo crossing which connects the states of Chihuahua and New Mexico. This crossing is used for the northbound trade in livestock and experiences variations in the trade volume. However, since this port is included in the El Paso-Ciudad Juarez Port of Entry System, the variations in livestock trade are insignificant when compared to the maquiladora trade.

**Hazardous Materials.** Hazardous materials are transported through many of the POEs. However, no POE has a high percentage of its truck traffic carrying hazardous materials. Hence, no border crossing was classified as a predominantly major hazardous material crossing.

**Traditional.** Traditional trade involves the consumption of manufactured products and raw materials by the importing country. While this trade commingles with maquiladora trade and agricultural products, the level of activity can be approximated by examining overall border crossing activity such as reflected by total border crossing commercial truck and rail activity. Table 3.5 shows the level of commercial truck activity at crossings accommodating trucks. These are shown in descending order of activity.

**Table 3.5  
Northbound Commercial Vehicle (Truck) Volumes**

Port	1991	1992	1993	1994	1995	Total	%
El Paso-Ciudad Juarez	455,121	552,171	563,413	580,200	610,177	2,761,082	22.5%
Laredo-Nuevo Laredo	337,866	432,061	473,480	659,924	733,783	2,637,114	21.5
Otay Mesa-Mesa de Otay	312,752	374,141	384,615	428,086	477,390	1,976,984	16.1
Brownsville-Matamoros	182,715	203,116	224,147	264,345	233,615	1,107,938	9.0
Nogales-Nogales	167,388	154,845	185,107	187,423	203,298	898,061	7.3
Calexico-Mexicali	122,174	152,317	156,381	176,825	176,420	784,117	6.4
Hidalgo-Reynosa	115,576	129,354	147,492	158,405	174,049	724,876	5.9
Eagle Pass-Piedras Negras	36,060	41,868	45,318	55,046	54,779	233,071	1.9
Tecate-Tecate	49,625	41,833	36,710	34,674	41,064	203,906	1.7
San Luis-San Luis Rio Colorado	32,456	34,847	36,620	43,356	44,214	191,493	1.6
Del Rio-Ciudad Acuña	27,943	30,448	32,672	32,719	36,601	160,383	1.3
Douglas-Agua Prieta	18,744	26,113	18,300	47,522	38,242	148,921	1.2
Progreso-Nuevo Progreso	30,320	35,179	23,760	22,711	22,962	134,932	1.1
Rio Grande-Ciudad Camargo	9,009	11,639	15,649	15,665	14,936	66,898	0.5
Roma-Miguel Aleman	13,825	14,881	14,110	12,273	11,426	66,515	0.5
Naco-Naco	7,683	7,082	4,521	5,043	5,789	30,118	0.2
Presidio-Ojinaga	6,215	5,712	5,606	4,764	5,291	27,588	0.2
San Ysidro-Tijuana	24,138	88	0	0	0	24,226	0.2
Fabens-Guadalupe Bravo	7,208	8,587	3,199	700	269	19,963	0.2
Andrade-Los Algodones	2,042	1,577	1,420	3,114	3,818	11,971	0.1
Lukeville-Sonoyta	1,501	1,765	2,278	2,419	2,665	10,628	0.1
Santa Teresa-San Jeronimo	0	0	0	4,554	5,360	9,914	0.1
Columbus-Palomos	1,353	1,311	1,345	1,351	2,087	7,447	0.1
Sasabe-Sasabe	1,376	1,333	1,691	1,308	1,180	6,888	0.1
Total	1,965,081	2,264,260	2,379,827	2,744,421	2,901,410	12,245,034	100.0%

Source: U.S. Customs Service

**Table 3.6  
Historic Rail Trade in Tons**

Port	1990	1991	1992	1993	1994	1994 (%)
<b>Southbound</b>						
Calexico-Mexicali	71,129	68,006	10,637,	3,593	77,592	0.7%
Nogales-Nogales	355,424	473,455	598,629	604,972	408,016	3.7

**Selection of Case Study Border Crossing Sites**

El Paso-Cd. Juarez	620,775	721,478	1,143,531	1,438,625	1,500,240	13.5
Presidio-Ojinaga	35,134	18,543	26,622	20,611	40,461	0.4
Eagle Pass-Piedras Negras	1,066,356	808,174	909,676	883,353	1,012,359	9.1
Laredo-Nuevo Laredo	4,675,320	5,205,593	6,411,092	6,609,643	6,716,762	60.6
Brownsville-Matamoros	605,047	593,450	799,336	858,526	1,322,734	12.0
<b>Total Southbound</b>	<b>7,429,185</b>	<b>7,888,699</b>	<b>9,899,523</b>	<b>10,419,323</b>	<b>11,078,164</b>	<b>100.0%</b>
<b>Northbound</b>						
Calexico-Mexicali	136,090	0	38,057	30,433	24,831	1.0%
Nogales-Nogales	479,212	485,628	574,007	612,689	548,745	22.6
El Paso-Cd. Juarez	521,406	279,849	198,974	286,464	256,203	10.6
Presidio-Ojinaga	309	0	0	0	0	0.0
Eagle Pass-Piedras Negras	378,555	394,985	342,508	547,394	537,626	22.1
Laredo-Nuevo Laredo	716,694	667,400	603,091	1,082,879	891,151	36.7
Brownsville-Matamoros	141,565	86,220	127,877	127,044	169,867	7.0
<b>Total Northbound</b>	<b>2,373,831</b>	<b>1,914,082</b>	<b>1,884,514</b>	<b>2,686,903</b>	<b>2,428,423</b>	<b>100.0%</b>
<b>Total Both Directions</b>	<b>9,803,016</b>	<b>9,802,781</b>	<b>11,784,037</b>	<b>13,106,226</b>	<b>14,106,587</b>	<b>100.0%</b>

**Source:** Mexican National Railroads (FNM).

Table 3.6 shows the level of directional rail activity at each of the POEs with rail crossings.

The ranking of crossings in relation to the 1994 volume of international rail activity is as follows:

	<u>Southbound</u>	<u>Northbound</u>
Laredo-Nuevo Laredo	60.6%	36.7%
Eagle Pass-Piedras Negras	9.1	22.1
Nogales-Nogales	3.7	22.6
El Paso-Ciudad Juarez	13.5	10.6
Brownsville-Matamoros	12.0	7.0
Other	1.1	1.0

*One Per Border State Pair*

Because border crossings involve the two federal governments and the ten U.S. and Mexican border states where they connect, and because the governmental structures, institutional processes, financing mechanisms, planning processes, and economies of each state are different, it was concluded that there should be no less than one case study per border state pair. Table 3.1 lists official crossings by state pair.

**Summary of Candidate Sites.** Table 3.7 arrays the resulting candidate sites by trade or traffic category.

El Paso-Ciudad Juarez is the highest activity maquiladora trade port based on employment. Laredo-Nuevo Laredo is the highest volume port and most heavily traveled by the traditional trade industries due to its location on the I-35/MX 085 corridor. These two locations satisfy the need for sites in two state pairs, Texas-Chihuahua and Texas-Tamaulipas.

The dominant commercial crossing for California-Baja California, Otay Mesa-Mesa de Otay, was selected for that state pair. Nogales-Nogales is the dominant commercial crossing for the Arizona-Sonora state pair, and also was selected. Nogales-Nogales is also the highest volume agriculture trade crossing on the U.S.-Mexican border.

**Table 3.7  
Summary of Characteristics of the Border Ports**

State		Ports of Entry	Total Trade <sup>1</sup> %	Northbound Traffic <sup>1</sup>			Rail Trade by Volume (Tons) <sup>2</sup>		Maquiladoras (no.) <sup>1</sup>	Comment
MX	U.S.			Peds	PVs	Trucks	SB	NB		
BC	CA	San Diego-Tijuana	12.5%	19.9%	23.7%	16.5%	—	—	551	High, Maqu.
		Calexico-Mexicali	4.0%	17.0%	9.4%	6.1%	0.7%	1.0%	124	

**Selection of Case Study Border Crossing Sites**

SO	AZ	Nogales-Nogales San Luis San Luis-Rio Colorado	7.6% .1%	12.3% 5.4%	4.5% 3.5%	7.0% 1.5%	3.7% —	22.6% —	65 —	High, Agri. —
CH	NM	Santa Teresa-San Jeronimo	—	—	—	—	—	—	—	only NM
CH	TX	El Paso-Ciudad Juarez	22.6%	11.2%	20.7%	21.0%	13.5%	10.6%	232	High
CO	TX	Eagle Pass-Piedras Negras	4.2%	1.0%	3.3%	1.9%	9.1%	22.1%	62	High
		Del Rio-Ciudad Acuña	1.7%	0.7%	2.1%	1.3%	—	—	51	—
NL	TX	Laredo-Colombia	—	—	—	—	—	—	—	Only NL- TX
TA	TX	Laredo-Nuevo Laredo	28.3%	8.2%	7.5%	25.3%	60.6%	36.7%	54	Traditional
		Brownsville- Matamoros	8.4%	8.5%	7.5%	8.1%	12.0%	7.0%	96	High
		Hidalgo-Reynosa	6.4%	6.8%	7.4%	6.0%	—	—	101	—

1. 1995 Data
2. 1994 Data
3. Peds-Pedestrians
4. PVs-Passenger Vehicles
5. SB-Southbound
6. NB-Northbound

Source: SECOFI and U.S. Customs Service

The New Mexico-Chihuahua state pair has no high or moderate volume crossing with heavy activity at the present time. However, the Santa Teresa-San Jeronimo crossing, which is closely related to the El Paso-Ciudad Juarez border crossings and included in the same POE system, is this state pair's most active crossing. Its truck volume has been growing recently at a rapid rate. It was decided that this crossing was the most appropriate for the New Mexico-Chihuahua state pair and would be considered as part of a case study.

Eagle Pass-Piedras Negras is the highest activity crossing between the Texas-Coahuila state pair and was selected for case study on that basis.

The Colombia Bridge is the only crossing between Texas and Nuevo Leon. It was selected for that reason. Because the Colombia Bridge is included in the Laredo-Nuevo Laredo POE system, this case study presented an opportunity to study options to increase the role of a somewhat distant reliever bridge to reduce delays at an existing congested location and/or decrease total crossing time.

Since Laredo-Nuevo Laredo was included as the Texas-Nuevo Leon study, an additional site was available for Texas-Tamaulipas. Brownsville-Matamoros was selected because it is the most active of the other crossings for this state pair.

The candidate list of case study locations thus became:

- Brownsville-Matamoros
- Laredo-Nuevo Laredo/Colombia
- Eagle Pass-Piedras Negras
- El Paso-Ciudad Juarez/Santa Teresa-San Jeronimo
- Nogales-Nogales
- San Diego-Tijuana

### 3.3.2 Site Selection

The POE Task Force reviewed the proposed sites to confirm their appropriateness as examples for future studies. This selection was also discussed with a larger task force appointed to oversee the products of Phases I and II of the study. The above sites were accepted by both JWC Task Forces. Figure 3.1 shows the selected border crossing locations.

These selected POE systems were studied for the Task 3 report, and will also be evaluated for the Task 9 report. These locations may also be used in some of the Phase III, IV and V work.

Figure 3.1  
Case Study Locations



Source: Barton-Aschman, 1997

## 3.4 Case Study Organization

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The remaining six chapters of this report present the case study inventories for the six selected POE systems. The inventory information contained in these chapters is described below.

Each case study begins with a general overview of the port of entry system. This overview includes descriptions of the crossings that comprise the POE system, the regional location of the system, and the local land uses. Regional access routes to the POE systems are then discussed in terms of operation, capacity and existing conditions. A discussion of local access routes describes how vehicles and pedestrians access the various border crossing facilities. Next, the physical characteristics of the crossing are discussed in terms of building size, number of lanes, etc.

The second portion of the case study focuses on operational characteristics including staffing, hours of operation and any special or localized operational differences. These characteristics vary from crossing to crossing. This variation produces different efficiencies and deficiencies at locations that may have the same physical number of inspection booths or inspectors, or the same hours of operation.

Finally, each case study focuses on collected historic traffic data. This data is provided in terms of numbers of pedestrians, passenger vehicles, commercial vehicles and trains crossing the border. Also included are trade flow data by mode, type of entry and top import and export product categories.

The physical, operational and historic characteristics of the POE systems were then evaluated in conjunction with other collected data and consultant observations to develop a POE system findings summary. This section illuminates opportunities for improvement and observations of potential conflicts and inefficiencies.

Information contained in the case study inventories was obtained from a variety of sources. Regional transportation data was provided by the border states, by local municipalities where available, and by the Secretariat of Communications and Transportation (Secretaria de Comunicaciones y Transportes-SCT). Local land use data and crossing access data were provided by the border municipalities.

The physical descriptions of the facilities were inventoried by the consultants on various site visits during 1996 and 1997 and were confirmed by the U.S. Customs Service (USCS), the U.S. Immigration and Naturalization Service (INS), and the Mexican Customs Service. System operations were observed by the consultants. Additional information on specific system observations was obtained from interviews with U.S. Customs Service officials, INS officials, Mexican Customs Service officials, local municipalities, customs brokers, shipping companies, maquiladora companies and trucking companies.

Information provided in the traffic and trade flow description section was collected from a variety of sources. The U.S. Customs Service, Bank of Mexico (Banco de Mexico-BANCOMEX), National Institute of Immigration (Instituto Nacional de Migracion-INM), Secretariat of the Treasury and Public Credit (Secretaria de Hacienda y Credito Publico-SHCP) and College of the Northern Border (Colegio de la Frontera Norte-COLEF) all collect a variety of statistical data related to port operations and interdiction activities. Some known examples of the data collected are:

- Number of pedestrians processed (primary and secondary inspections),

- Passenger vehicles processed (including the number of people per vehicle),
- Buses and trucks processed,
- Total value of cargo processed,
- Value by commodity, and
- Average vehicle processing (wait) times.

Most of the data are sent to regional data centers of the above organizations and each organization uses the data for evaluation of their operations and for justifying staffing and allocation requests. Much of the information collected is confidential in nature and cannot be released. In the United States, some data is regularly packaged and released to the public; e.g., U.S. Customs Import and Export History data is available to the public on CD-ROM. In Mexico, the Exterior Bank of Foreign Trade (Banco de Comercio-BANCOMEXT) makes trade data available to the commercial public in electronic format.

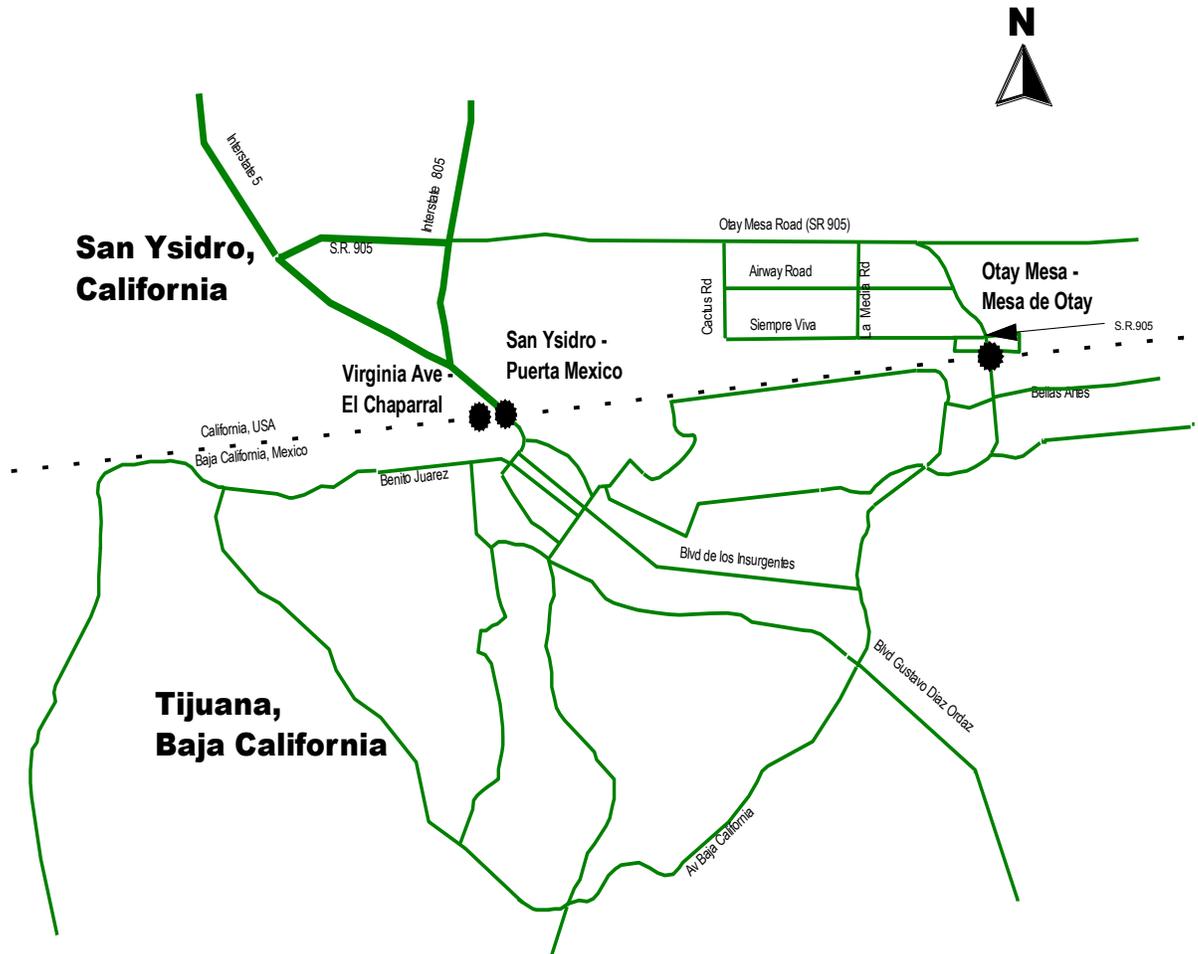
Additional operations-oriented data and conclusions will be covered in case studies described in the Task 9 report. Conclusions in that report will extend some of those represented here.

### 3.5 San Diego-Tijuana Port of Entry System

This port of entry located at the border between the cities of San Diego and Tijuana consists of two active crossings: San Ysidro-Puerta Mexico (pedestrians, passenger vehicles, commercial vehicles, and rail) and Otay Mesa-Mesa de Otay (pedestrians, passenger vehicles and commercial vehicles). A third crossing, the Virginia Avenue-El Chaparral facility, is also located within the POE system but is currently inactive.

The regional location of the San Diego-Tijuana POE system is shown on Figure 3.2.

Figure 3.2  
San Diego-Tijuana Port of Entry System



Source: Barton-Aschman-La Empresa, 1997

This POE system has served as the primary port of entry system for the States of California and Baja California since the opening of the Otay Mesa-Mesa de Otay port of entry in 1984. San Ysidro-Puerta Mexico serves as the main passenger vehicle and pedestrian entry while Otay Mesa-Mesa de Otay serves as the commercial vehicle entry.

Between the opening of the Otay Mesa facility in 1984 and 1995, the Otay Mesa and Virginia Avenue crossings functioned as a "regional commercial traffic couplet" with southbound traffic using Virginia Avenue and northbound traffic using Otay Mesa. With the closure of the Virginia Avenue-El Chaparral Facility in January 1995, all commercial traffic shifted to Otay Mesa. Currently, the El Chaparral-Virginia Avenue commercial vehicle facility, located approximately 0.5 kilometers west of the San Ysidro crossing, is being used for vehicle storage or impoundment. There is at least one study being conducted by the San Diego Association of Governments to determine what might be the best future use for the Virginia Avenue facilities.

Alternatives to the San Diego-Tijuana POE system include Tecate-Tecate and Calexico East-Nuevo Mexicali. The Tecate-Tecate crossing 50 kilometers east of San Diego-Tijuana serves as an alternate crossing, mainly for residents, during holidays when there is congestion at the San Diego-Tijuana facilities. The new border crossing at Calexico East-Nuevo Mexicali, completed in 1996, and located approximately 150 kilometers east of San Diego-Tijuana, includes a large commercial inspection facility and provides an alternative commercial crossing point.

### **3.5.1 San Ysidro-Puerta Mexico**

The San Ysidro-Puerta Mexico crossing is located in a relatively flat area adjacent to the Tijuana River. It is situated 24 kilometers south of downtown San Diego and approximately 8 kilometers inland from the Pacific Ocean.

On the U.S. side of the border, land uses surrounding the facility consist primarily of parking areas, commercial retail development, and service activities. The parking areas serve tourists crossing from the United States into Mexico. Factory outlet stores and service facilities in the area include fast food restaurants and motels. Residential land uses lie northwest of the crossing and include multi-family housing, an elementary school and an athletic park.

The San Diego trolley line terminus is located near this crossing. There is also a rail crossing to the east of the San Ysidro crossing that is operated on concession to an American company, the San Diego and Arizona Eastern Railway. This railway provides service between Tijuana and Tecate and travels both in the United States and in Mexico.

On the Mexican side of the border, the crossing is located in the center of the old part of the city near a great number of commercial centers, hotels and tourist services. In this area single-family and multi-family residences have been converted into shops and offices for service-related businesses. The development of the urban area has been moving toward the east and southwest, out from the old city. To the west, residential subdivisions such as Playas de Tijuana have been developed.

### **3.5.2 Otay Mesa-Mesa de Otay**

The Otay Mesa-Mesa de Otay crossing is located 10 kilometers east of the San Ysidro-Puerta Mexico crossing. As its name implies, Otay Mesa-Mesa de Otay sits atop a mesa approximately 150 meters above San Ysidro-Puerta Mexico. The area surrounding the Otay Mesa-Mesa de Otay is relatively flat and, until the construction of the commercial vehicle facility, the adjacent land use was primarily agricultural. Since the completion of the facility in 1984, the surrounding land use has changed to include numerous commercial activities supporting the crossing and trade.

The land uses on the U.S. side of the border include: warehousing (for both Customs brokers and maquiladoras), trailer storage facilities (used for both storage and repair of trailers), fast food restaurants, and some retail activities. Several industrial parks have been established along Otay Mesa Road but at present only a small number of buildings have been constructed.

The Richard J. Donovan Correctional Facility is located approximately 3.2 kilometers northeast of the Otay Mesa crossing. This facility is one of the state's largest correctional institutions. The location of this facility is important since the only access to the facility is via the two-lane Otay Mesa Road that also serves the crossing. Brown Field, a municipal airport that serves southern San Diego County, is also located along Otay Mesa Road.

On the Mexican side of the border, to the west of the crossing are mainly open spaces and the Tijuana International Airport. Airport land is located only one kilometer from the border crossing, however, the terminal building is located 2.5 kilometers west of the crossing. To the east are planned residential zones. These residential zones will be developed adjacent to the existing industrial developments that are principally used by the maquiladora industries.

**3.5.3 Regional Transportation Infrastructure**

*San Ysidro-Puerta Mexico*

Regional Access

Regional access to San Ysidro-Puerta Mexico from the north is provided by the roadway facilities described below.

Interstate 5 (I-5) is an eight-lane interstate freeway that serves as the primary north/south route for traffic in San Diego County. South of the I-5/I-805 junction, I-5 widens to six southbound lanes until it reaches its southern terminus at the San Ysidro POE. Table 3.8 lists the average daily traffic volumes for I-5 from 1991 to 1996.

Interstate 805 (I-805) is an eight-lane interstate freeway that serves as an alternative north/south route to I-5 through eastern San Diego County. The southern terminus of I-805 is located at the junction of I-5 approximately one-half mile north of the San Ysidro POE. Average daily traffic volumes on I-805 from 1991 to 1996 are shown in Table 3.9.

**Table 3.8  
Average Daily Traffic Volumes I-5 North of International Boundary**

Year	1991	1992	1993	1994	1995	1996
Peak-Hour Traffic Volumes	80,000	78,000	78,000	91,000	83,000	83,000

Source: Caltrans *Highway Volumes*, 1996

**Table 3.9  
Average Daily Traffic Volumes I-805 North of I-5 Interchange**

Year	1991	1992	1993	1994	1995	1996
Peak-Hour Traffic Volumes	40,000	41,500	44,000	45,500	46,000	38,000

Source: Caltrans *Highway Volumes*, 1996

The Beyer Boulevard/Camino De La Plaza and I-5 interchange is located approximately two-tenths of a mile north of the international border. This interchange provides access to the local businesses and parking areas adjacent to the port. This interchange also provides access to the now closed Virginia Avenue crossing, to the terminus of the San Diego Trolley, and to the passenger loading area for various jitney and services.

Since July 1981, the Metropolitan Transit Development Board (MTDB) has been operating trolley service between the border at San Ysidro and downtown San Diego. The South Line

is 16.5 miles long and includes 18 stations between Center City and the international border. The service is very popular and is a major factor in serving the high number of pedestrian crossings at this POE. The San Diego trolley operates from 5:00 AM to 1:00 AM daily, with service every 15 minutes, except during peak commute times when it operates every 10 minutes. The trolley carried 47,000 average daily passengers in 1996.

Regional access to the municipality of Tijuana from inland Mexico is provided by MX 002. Between Tijuana and Mexicali MX 002 is a two-lane "Type C" highway. Regional access from Baja California is provided by the Transpeninsular Highway MX 001. MX 001 follows the coast until it reaches Playas de Tijuana where it turns inland and becomes Avenida Internacional, a facility that runs east-west along the U.S.-Mexican border. Between Tijuana and Ensenada, MX 001 is a four-lane toll road facility.

Direct access to Puerta Mexico from the west is provided by an interchange that connects Avenida Internacional, Boulevard Sanchez Taboada and Paseo De Los Heroes. From the east, access is provided by two east-west arterials, Avenida Internacional and Avenida Cuauhtemoc, and by the north-south arterial Avenida Ferrocarril.

Facility Access

From the north, I-5 terminates at the border. The southbound travel lanes connect directly to the Mexican random selection system lanes. Beyond the Mexican facility vehicles travel to the interchange mentioned above. Northbound vehicles access the crossing facility from the three-way interchange at Avenida Internacional or from Paseo de Tijuana. The northbound egress from U.S. Customs allows cars to pass directly to I-5 or to exit to San Ysidro Boulevard. Figure 3.3 shows the San Ysidro-Puerta Mexico port of entry.

*Otay Mesa-Mesa de Otay*

Regional and Facility Access

Regional access to the Otay Mesa-Mesa de Otay crossing from the north for both passenger vehicles and commercial vehicles is provided by two segments of State Route 905 (SR 905) and Otay Mesa Road. The crossings for passenger vehicles and commercial vehicles are separated by approximately one kilometer. Table 3.10 summarizes the average daily traffic volumes for SR 905. Note that these volumes are very similar to the volumes of traffic carried by I-805 just north of the junction with I-5.

**Table 3.10**  
**Average Daily Traffic Volumes State Route 905**

Year	1991	1992	1993	1994	1995	1996
Peak-Hour Volume	27,500	31,000	30,000	37,000	34,500	36,000

Source: Caltrans *Highway Volumes*, 1996

Figure 3.3 San Ysidro-Puerta Mexico Port of Entry

A one-kilometer segment of SR 905, a four-lane divided facility, provides access from I-5 and I-805 in the west and becomes Otay Mesa Road just east of I-805. Otay Mesa Road is an east/west four-lane arterial maintained by the City of San Diego which extends from the western section of SR 905 to Siempre Viva Road. Otay Mesa Road is approximately 10 kilometers in length. At Siempre Viva Road, SR 905, a four-lane divided facility, continues south approximately one kilometer and provides local direct access to the passenger vehicle crossing. Figure 3.4 shows the Otay Mesa-Mesa de Otay port of entry.

Southbound commercial vehicles are diverted from Otay Mesa Road at La Media Road (a two-lane rural roadway) and travel approximately one kilometer south. Then, they turn left onto Siempre Viva Road and travel approximately one kilometer to Drucker Lane. They make a right turn onto Drucker Lane and then onto a designated two-lane truck access road that continues east along the northern edge of the border and into the commercial export facility.

As northbound trucks leave the U.S. commercial import facility, they turn right onto Via De La Amistad and continue east to Enrico Fermi Drive, into the California Highway Patrol vehicle inspection facility. Once they have passed their vehicle inspection, they are released northbound onto Enrico Fermi Drive and they turn left onto Siempre Viva Road. About one-half mile down Siempre Viva Road there is an at-grade intersection with SR 905.

Regional connections to Otay Mesa-Mesa de Otay from the south are made using MX 001 via the Libramiento Oriente or Avenida Internacional. From the east regional access is provided via MX 002.

Passenger vehicles access and exit the Mesa de Otay crossing on Boulevard Garita de Otay which intersects with Boulevard Bellas Artes just south of the border via an interchange constructed at this location to reduce congestion and delay. Connections can be made from Boulevard Bellas Artes to Boulevard Aeropuerto which turns into Avenida Internacional serving east-west traffic originating in central Tijuana.

Northbound trucks access the border crossing from a truck access roadway parallel to the Boulevard Garita de Otay. Access to this road is provided at the interchange of Boulevard Bellas Artes and Boulevard Garita de Otay.

Outbound trucks exit the Mexican commercial export facility onto Boulevard Bellas Artes. From Boulevard Bellas Artes, they can travel south on Blvd. Garita de Otay, or proceed east into the center of Tijuana via Avenida Internacional.

### **3.5.2 Physical Description**

The following section describes the physical characteristics of the San Ysidro-Puerta Mexico and Otay Mesa-Mesa de Otay border crossings.

#### *San Ysidro-Puerta Mexico*

Since the opening of the Otay Mesa-Mesa de Otay crossing in 1985, the border crossing at San Ysidro-Puerta Mexico serves only pedestrians and passenger vehicles. This crossing is the most traveled border crossing in the world, and consequently, is the most traveled border crossing on the U.S.-Mexican border. The original crossing was built in 1874. New facilities were constructed in the United States in 1971, and remodeled in 1993. In Mexico, the existing facilities were built in 1968 and remodeled in 1993. The 1993 remodeling added more passenger vehicle lanes and improved a few of the administrative buildings.

Figure 3.4 Otay Mesa-Mesa de Otay Port of Entry

**Table 3.11**  
**Facilities at the San Ysidro—Puerta Mexico Port of Entry**

	Puerta Mexico	San Ysidro
Land Area	24,000 m <sup>2</sup>	24,000 m <sup>2</sup>
Buildings	2	4
Date of Construction	1968	1971
Last Remodeling Date	1993	1993

Source: Barton-Aschman-La Empresa, 1997

Table 3.11 shows the size of each facility in acres and the number of buildings on the site.

Pedestrians

For northbound pedestrians there are 16 primary inspection booths. Secondary inspections are conducted in an area located beyond the primary inspection lanes. Southbound pedestrians enter Mexico through two primary inspection booths.

Passenger Vehicles

For northbound passenger vehicles at San Ysidro, there are 24 primary inspection lanes. Four of the lanes are used for high occupancy vehicles (HOVs) with three or more vehicle occupants, and one of the lanes is used exclusively for buses. There are two secondary inspection areas with a capacity to hold 72 vehicles.

Southbound passenger vehicles crossing at Puerta Mexico have 8 inspection booths controlled by Mexican Customs personnel—six underneath a canopy; one immediately east of the canopy, uncovered; and one immediately west of the canopy for vehicles with declarable goods. When a secondary inspection is necessary, there is an inspection area with the capacity for six vehicles side-by-side and another area which can hold 20 vehicles parked in a single line.

Table 3.12 shows the types of crossings and the number of inspection lanes/spaces.

Rail

Any goods transported by rail are inspected at the loading docks of the country of export, and once released, they continue on to their destination without further delay. Although the rail line is located adjacent to the San Ysidro-Puerta Mexico crossing, it falls under the jurisdiction of the commercial inspection conducted by inspectors at Otay Mesa-Mesa de Otay.

**Table 3.12**  
**Characteristics of the San Ysidro—Puerta Mexico Port of Entry**

	Puerta Mexico				San Ysidro			
	Peds	PVs	Trucks	Rail	Peds	PVs	Trucks	Rail
Type of Crossing	Yes	Yes	—	Yes	Yes	Yes	—	Yes
Primary Inspection Lanes/Spaces	2	6	—	1	16	24	—	1
Secondary Inspection Spaces	—	26	—	—	—	72	—	—

Peds-Pedestrians, PVs-Passenger Vehicles

Source: Barton-Aschman-La Empresa, 1997

*Otay Mesa-Mesa de Otay*

This crossing provides service for the crossing of pedestrians, passenger vehicles and commercial vehicles. It was constructed and opened for operation in 1985. Table 3.13 shows the size of each facility and the number of buildings included at this crossing.

Pedestrians

Northbound pedestrians enter the U.S. facility through six booths. Secondary inspections are conducted in an area located beyond the primary lanes. For southbound pedestrians, there is one primary inspection booth.

Passenger Vehicles

For northbound passenger vehicles, there are 13 primary inspection lanes and 36 spaces for secondary inspections. There is one lane used exclusively for buses and another lane used exclusively for the dedicated commuter lane (DCL) project, called the "Secure Electronic Network for Travelers Rapid Inspection" (SENTRI), that began November 1, 1995. (See Section 3.5.4 for a more detailed description of the SENTRI program)

Southbound passenger vehicles enter Mexico through three primary inspection stations. Each of these stations has a random selection system and scale. There are 16 spaces for secondary inspections of passenger vehicles.

Commercial Vehicles

There are four export inspection booths where paperwork is reviewed by Mexican customs officials and the trucks are subject to the random selection system. If a truck is selected for an export inspection, it is directed to the export inspection dock which has the capacity to handle 28 trucks. If no export inspection is required trucks pass on to the U.S. primary processing gates.

Northbound trucks enter the U.S. commercial inspection facility through one of five primary processing gates. Trucks selected at primary processing for inspection are directed to the dock area or to the x-ray machine. Inspections are carried out on different sides of the dock depending on the commodity and the type of inspection. There are approximately 100 inspection spaces available although not all are used. Trucks not inspected proceed directly to an exit gate. There are two exit gates, one for non-inspected trucks with two exit booths, and one for inspected trucks with three exit booths. (In the early morning and evening all trucks proceed through one exit gate only). Trucks are then required to pass through the California Highway Patrol Inspection facility.

**Table 3.13**  
**Facilities at the Otay Mesa—Mesa de Otay Port of Entry**

	Mesa de Otay	Otay Mesa
Area	258,000 m <sup>2</sup> (see footnote 1)	60,000 m <sup>2</sup> (see footnote 2)
Buildings	11	4
Date of Construction	1985	1984
Date Last Remodeled	1995	1992

Source: Barton-Aschman-La Empresa, 1997

<sup>1</sup> Land Area; <sup>2</sup> Building Area

All southbound trade passes through the U.S. export commercial facility that consists of a rectangular building with loading docks and space to park 70 vehicles, although few export inspections are conducted. The U.S. commercial export facility is also used to inspect hazardous materials entering and exiting the United States. There are two large tanks located on-site to discharge liquid hazardous materials if necessary. Hazardous materials are only allowed to cross the border on Tuesdays and Thursdays, and require prior notification.

The Mexican commercial inspection facility has eight booths where the trucks present their documentation and are subject to the random selection system. Primary inspections are conducted in an area that consists of two loading dock platforms with the capacity for 100 vehicles. Trucks selected for secondary inspection are directed to an area with a capacity for five vehicles. Table 3.14 shows the types of crossings and the number of inspection lanes/spaces at Otay Mesa-Mesa de Otay.

**3.5.3 Staffing and Hours of Operation**

At most U.S ports of entry, the staffing is shared by the U.S. Customs Service and the INS. While, in theory, the distribution of staff is shared equally between the agencies; in practice, this division of staffing may vary depending on the primary type of activity at a port and the availability of staff within each agency. Staffing levels are also fluid due to attrition and training programs. At Mexican ports of entry, the SHCP and the INM are responsible for staffing the ports. Table 3.15 summarizes current staffing.

*San Ysidro-Puerta Mexico*

The hours of operation at San Ysidro-Puerta Mexico are 24 hours a day, seven days a week with no closures for holidays. There are between 200 and 275 Customs agents and approximately 215 INS agents stationed at the U.S. facility. In the Mexican facility there are 30 custom agents who conduct passenger vehicle inspections and another 39 who carry out administrative tasks.

**Table 3.14**  
**Characteristics of the Otay Mesa—Mesa de Otay Port of Entry**

	Mesa de Otay			Otay Mesa		
	Peds	PVs	Trucks	Peds	PVs	Trucks
Type of Crossing	Yes	Yes	Yes	Yes	Yes	Yes
Primary Inspection Lanes/Spaces	1	3	100	6	13	5
Secondary Inspection Spaces	—	16	5	—	36	100

Peds-Pedestrians, PVs-Passenger Vehicles  
Source: Barton-Aschman-La Empresa, 1997

**Table 3.15**  
**Staffing and Hours of Operation**

	San Ysidro/Puerta Mexico		Otay Mesa/Mesa de Otay	
	INS	Customs	INS	Customs
U.S. Staffing	214	200-275	35	100-150
Mexican Staffing		69	14	86
Hours of Operation	Peds/PVs: 24 hours, 7 days/week Cargo: Not Applicable		Peds/PVs: 24 hours, 7 days/week Cargo: 6:00 AM-10:00 PM	
Hazardous Materials	N/A		Tue, Wed, & Th 7:00 AM-8:00 AM	
Seasonal Variation	None-However, some increase following U.S. and Mexican holidays		None-However, some increase following U.S. and Mexican holidays	

Source: Barton-Aschman-La Empresa, 1997  
*Otay Mesa-Mesa de Otay*

The hours of operation at the Otay Mesa commercial inspection facility are from 6:00 AM to 10:00 PM, however, the entry gates only receive loaded trucks between 8:00 AM and 5:00 PM. The hours of operation for pedestrians and passenger vehicles are also from 6:00 AM to 10:00 PM. There are between 100 to 150 U.S. Customs agents located at this facility. There are approximately 35 INS agents located at this facility.

The hours of operation at the Mesa de Otay commercial inspection facility are from 8:00 AM and 4:00 PM. However, the administrators and SHCP operate on a 24-hour schedule. For this

reason, special scheduling arrangements can be made to move shipments northbound or southbound beyond normal operating hours. However, this type of operation requires coordination between the U.S. and Mexican Customs officials. The hours of operation of the Mexican pedestrian and passenger vehicle facility are from 6:00 AM to 10:00 PM. There are 45 Customs inspectors and 41 administrative/support personnel at this facility. In addition, there are 14 immigration officers who process foreigners into Mexico.

### **3.5.4 System Operation**

The topic of facilitating border crossings has been regularly discussed by the Binational Bridges and Border Crossings Group over the course of 12 years. In this region, delays to vehicles have ranged from 45 minutes in off-peak periods to two and one-half hours in peak periods.

In May 1995, a local binational group was formed to help improve traffic flow at the San Ysidro-Puerta Mexico crossing and to reduce delays to an average of 20 minutes by June 1996. While this group recommended specific actions to improve operations, their effectiveness may have been reduced due to anti-smuggling programs, and other interdiction policies, and delays have not been significantly reduced.

Basic system operation was described in Chapter 3.3. The following sections discuss site specific operations.

#### *San Ysidro-Puerta Mexico*

##### Northbound

There is virtually no cargo entering through this port. However, if an informal entry is desired for a small quantity of cargo, the vehicle is almost always directed into the secondary inspection area where the appropriate paperwork is filled out and any inspections are conducted.

##### Southbound

There is not a random selection process for checking pedestrians traveling southbound into Mexico. At times there may be a customs agent stationed at the pedestrian crossing but the majority of the time, pedestrians enter without any inspection.

For southbound passenger vehicles the crossing is uninhibited the majority of the time with vehicles passing from Interstate 5 (I-5) directly to Mexican primary inspection. However, the California Highway Patrol occasionally conducts anti-theft operations, slowing down southbound traffic and stopping some of the motorists to inspect vehicle/driver papers. Additionally, during the PM peak hours, it is not uncommon for the southbound queue to extend one to two kilometers in length.

#### *Otay Mesa-Mesa de Otay*

##### Northbound

Northbound passenger vehicles have the option to use the pre-screened, dedicated commuter lane (DCL) which uses the "Secure Electronic Network for Travelers Rapid Inspection" (SENTRI) system.

The SENTRI process was developed to allow low-risk international travelers who cross the border frequently to cross in designated lanes more rapidly. SENTRI uses two identification devices, the Automatic Vehicle Identification system (AVI) and a "Port Pass" card reader. AVI

uses radio waves to transmit data from a device installed in the auto to the receiver located at the inspection booth. The "Port Pass" card is passed through a card reader at the primary inspection booth.

Pre-clearance of individuals is required before drivers and vehicles are allowed to participate in the SENTRI program. The pre-clearance process includes an extensive background check on drivers and passengers, which takes two to three weeks. Once approval is obtained, the AVI device is installed on the frame of the vehicle and a "Port Pass" (identification card with photo ID) is provided to participants.

At primary processing, inspectors check the vehicle and occupants with the information transmitted via AVI, and the "Port Pass." If matching is successful, and the "Port Pass" is read successfully and accepted, the vehicle is allowed by an inspector to enter the United States. The wait times for this process are minimal (approximately 30 seconds). Other separate and random inspection procedures may also take place on people and vehicles participating in this program at the discretion of the inspector.

Northbound commercial traffic is mainly maquiladora. Much of the maquiladora trade processed at Otay Mesa is in the form of line release entries. While this type of entry does not exclude a vehicle from a secondary inspection, it may speed the average processing of vehicles. For those maquiladoras and brokers that have a good shipping record, their trucks may be allowed to pass through primary inspection and then be released into the United States

It should be noted that most of the cargo moving through the Otay Mesa port arrives on pallets. This type of shipping arrangement benefits both Customs and the shippers. Palletized cargo can be unloaded quickly from the vehicles for inspection. In addition, fewer workers are required to do the unloading. Therefore, the loading docks are less crowded and the overall operation of the port is improved.

The arrangement of having most cargo palletized was developed through quality circle meetings held between U.S. Customs officials, Mexican brokers, and maquiladora representatives. The quality circle approach was said to have helped eliminate some existing problems and possibly head off potential problems at the Otay Mesa crossing. The Customs staff at Otay Mesa endorsed quality circles as a standard operational practice and means to communicate with the shippers and brokers.

After clearing U.S. Customs all northbound commercial vehicles must pass through the California Highway Patrol's vehicle inspection station. This facility is located approximately one-quarter mile east of the Customs commercial vehicle facility. Each vehicle is inspected for Gross Vehicle Weight (GVW) axle weight. Periodic inspections are also made for safety, insurance, taxes, registration, and emissions. If vehicles do not meet the appropriate standards, they are repaired on site or required to return to Mexico. Safety inspection stickers are issued and are valid for 90 days.

### Southbound

A dedicated truck road to the southbound commercial inspection facility is provided between the Otay Mesa street system and the Mesa de Otay POE. This one-kilometer roadway separates passenger vehicles and commercial vehicles and serves to minimize congestion typically caused by queued trucks in the vicinity of border crossing locations. While the access from Otay Mesa Road to the dedicated truck route is primarily via two-lane rural roadways with substandard pavement design or turning radii, the use of these roadways eliminates traffic problems elsewhere.

Southbound commercial cargo that requires agricultural inspections uses one of three U.S. facilities that have been approved by the Mexican agricultural agency, the Secretariat of Agriculture, Livestock and Rural Planning (Secretaria de Agricultura, Ganaderia y Desarrollo Rural-SAGAR). Each facility is designed for the inspection of a particular product type: animal, vegetable or forest products. The hours of operation for the SAGAR facilities are from 8:00 AM to 3:00 PM Monday through Friday. There are a total of 19 inspectors located at the three facilities. SAGAR reported the following inspection data for the month of December 1995.

Type of Inspection	Maquiladora Inspections	Total Inspections	Capacity (Vehicles)	Reserve Capacity
Animal	36	588	10	5
Vegetable	46	679	4	4
Forest Prod.	1,022	2,694	20	—

Agricultural and forest products typically require fumigation prior to entry into Mexico. Presently, there is no facility for fumigation. Therefore, this activity is carried out by companies approved by SAGAR. If the product is in enclosed containers the fumigation process requires little time (approximately 20 minutes), since fumigation can be accomplished using aspersion or tablets and the process is completed while the vehicle is in traffic. However, when the product is on pallets or in open boxes the fumigation process takes longer.

SCT maintains patrol cars at the southern exit from the commercial vehicle facility to ensure that all foreign vehicles entering Mexico meet the required safety and operational standards. Vehicle inspectors may stop any vehicle they believe is not roadworthy.

### 3.5.5 Statistical Description

#### *San Ysidro-Puerta Mexico*

In 1995, the San Ysidro port of entry processed nearly 14 million vehicles. Table 3.16 summarizes the northbound vehicle arrivals by type for Fiscal Years 1991 through 1995. In 1995 there was a downturn in the volume of passenger vehicles, which may be due to the devaluation of the peso and the subsequent drop in purchasing power for Mexicans.

The 14 million vehicles that passed through the crossing in 1995 accounted for 42 million northbound person trips. (See Table 3.17.) An additional seven million persons crossed the border as pedestrians to bring the total person trips in 1995 to 49 million trips. The average bus occupancy in 1995 was nine persons/vehicle while the average passenger vehicle occupancy was three persons/vehicle. While the bus occupancy rate may seem low, this is

**Table 3.16**  
**Vehicle Arrivals Northbound by Type of Conveyance—San Ysidro Port of Entry**

	1991	1992	1993	1994	1995
Trucks <sup>1</sup>	24,138	88	0	0	0
Buses	60,349	14,787	29,733	68,502	74,435
Passenger Vehicles <sup>2</sup>	13,715,288	13,540,135	14,667,073	15,933,956	13,833,715
Total	13,799,775	13,555,010	14,696,806	16,002,458	13,908,150

<sup>1</sup> All truck crossings were discontinued at San Ysidro in January of 1991; prior to that date, only empty trucks arrived at San Ysidro; subsequent to that date, all trucks are inspected at Otay Mesa only

<sup>2</sup> During the period from December 1991 to March 1993, all buses were rerouted from San Ysidro to Otay Mesa due to construction at San Ysidro

Source: U.S. Customs Service, 1996

**Table 3.17**  
**Person Arrivals Northbound by Type of Conveyance—San Ysidro Port of Entry**

	FY 91	FY 92	FY 93	FY 94	FY 95
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Via Truck <sup>1</sup>	73,809	88	0	0	0
Via Bus <sup>2</sup>	495,523	81,185	296,161	622,509	656,730
Via Passenger Vehicle	40,871,557	40,349,602	43,707,877	48,293,190	41,224,201
Pedestrians	11,983,630	11,647,190	8,828,312	9,267,088	7,467,712
<b>Total</b>	<b>53,424,519</b>	<b>52,078,065</b>	<b>52,832,350</b>	<b>58,182,787</b>	<b>49,348,643</b>

<sup>1</sup> All truck crossings were discontinued at San Ysidro in January of 1991; prior to that date, only empty trucks arrived at San Ysidro; subsequent to that date, all trucks are inspected at Otay Mesa only

<sup>2</sup> During the period from December 1991 to March 1993, all buses were rerouted from San Ysidro to Otay Mesa due to construction at San Ysidro

**Source:** U.S. Customs Service, 1996

probably due to empty return trips by many of the buses that carry tourists across the border for day trips. Therefore, a vehicle might be loaded going into Mexico in the morning and return empty and vice versa in the afternoon.

While the San Ysidro port is no longer designated as a commercial vehicle port, there are still a limited number of informal entries which are processed each year. In most of the last five years, fewer than 400 informal entries have occurred at this port. As shown in Table 3.18, virtually all of these entries underwent secondary inspection.

**Table 3.18**  
**Trade Activity San Ysidro Port of Entry<sup>1</sup>**

	<b>FY 91</b>	<b>FY 92</b>	<b>FY 93</b>	<b>FY 94</b>	<b>FY 95</b>
Informal Entries	367	542	403	378	355
Informal Entries Examined	366	320	403	278	328

<sup>1</sup> All land border commercial activity in San Diego is conducted at Otay Mesa with the exception of a very limited number of informal entries (commercial shipments valued at less than \$1,250)

**Source:** U.S. Customs Service, 1996

**Table 3.19**  
**Northbound Vehicle Arrivals by Type of Conveyance—Otay Mesa POE**

	1991	1992	1993	1994	1995
Trucks <sup>1</sup>	312,752	374,141	384,615	428,086	477,390
Buses <sup>2</sup>	3,589	49,099	29,434	16,159	18,095
Passenger Vehicles	3,432,124	4,123,417	3,711,402	3,821,390	4,591,529
Trains <sup>3</sup>	312	245	219	202	445
Rail Cars	4,619	3,468	2,258	1,532	2,482
Aircraft <sup>4</sup>	3,046	3,780	3,027	2,896	2,533
Total	3,756,442	4,554,150	4,130,950	4,270,265	5,092,474

<sup>1</sup> All truck crossings were discontinued at San Ysidro in January of 1991; prior to that date, only empty trucks arrived at San Ysidro; subsequent to that date, all trucks are inspected at Otay Mesa only.

<sup>2</sup> During the period from December 1991 to March 1993, all buses were rerouted from San Ysidro to Otay Mesa due to construction at San Ysidro.

<sup>3</sup> Arriving at the San Ysidro rail crossing.

<sup>4</sup> Arriving at Brown Field.

Source: U.S. Customs Service, 1996

*Otay Mesa-Mesa de Otay*

The Otay Mesa facility processed approximately five million vehicles in Fiscal Year 1995, without the drop-off in activity between 1994 and 1995 that was observed at San Ysidro. This is most likely a reflection that Otay Mesa serves primarily as a commercial port. Table 3.19 summarizes the total number of vehicles processed for Fiscal Years 1991 through 1995. Approximately, half a million trucks were processed by the facility in 1995. It should be noted that the U.S. Customs officials at the Otay Mesa facility are also responsible for processing any rail movements that occur at the San Ysidro crossing and they are responsible for processing goods which arrive via air through Brown Field.

The five million vehicle trips generated approximately 15 million person trips northbound through the port. Table 3.20 summarizes the person trips by type of conveyance for the Otay Mesa facility. Bus vehicle occupancies in 1995 were approximately 10.5 persons/vehicle and passenger vehicle occupancy was three persons/vehicle. These vehicle occupancy rates are similar to those calculated for San Ysidro.

**Table 3.20**  
**Northbound Person Arrivals by Type of Conveyance—Otay Mesa POE**

	1991	1992	1993	1994	1995
Via Truck <sup>1</sup>	341,513	374,141	384,615	428,086	477,390
Via Bus <sup>2</sup>	69,438	370,865	277,312	175,493	190,739
Via Passenger Vehicle	10,498,237	12,291,397	11,059,978	11,093,211	13,682,756
On Foot (Pedestrians)	274,275	659,481	521,426	377,435	388,220
Via Aircraft <sup>3</sup>	13,784	13,054	11,009	11,016	9,571
Totals	11,197,247	13,708,938	12,254,340	12,085,241	14,748,676

<sup>1</sup> All truck crossings were discontinued at San Ysidro in January of 1991; prior to that date, only empty trucks arrived at San Ysidro; subsequent to that date, all trucks are inspected at Otay Mesa only.

<sup>2</sup> During the period from December 1991 to March 1993, all buses were rerouted from San Ysidro to Otay Mesa due to construction at San Ysidro.

<sup>3</sup> Arriving at Brown Field.

Source: U.S. Customs Service, 1996

**Table 3.21**  
**Trade Activity—Otay Mesa**

	1991	1992	1993	1994	1995
Formal Entries	87,898	133,558	158,426	158,265	183,352
Informal Entries	24,120	21,918	20,066	19,541	26,412
Formal Entries Examined	44,324	26,026	18,934	17,186	16,466
Informal Entries Examined	1,797	1,268	4,339	2,965	2,885

Source: U.S. Customs Service, 1996

Table 3.21 lists the trade activity in terms of formal entries and informal entries which occurs at the Otay Mesa crossing. Table 3.21 also indicates the number of shipments that are inspected by U.S. Customs officials. (These numbers do not include agricultural inspections conducted by other federal agencies.)

In 1991 almost 50 percent of all formal entries were inspected. By 1995, that percentage had dropped to approximately 10 percent. Similarly, there have been fluctuations in the percentage of informal entries which were inspected. Table 3.21 shows that the variation in the percent of the informal entries which are subject to inspection is between 5 and 25 percent.

**3.5.6 Commercial Activity**

Table 3.22 summarizes the 1995 imports and exports by mode.

Table 3.23 shows the 15 major product categories for northbound trade (exports from Mexico to the United States). These 15 product categories account for 91 percent of the total value of Mexican exports through this POE system. Electrical machinery is the number one export with a value of \$3.50 billion-\$U.S. (48% of exports). Other significant Mexican exports include nuclear reactors and products and optical equipment.

Table 3.24 shows the 15 major categories of southbound products through the San Diego-Tijuana Port of Entry System in 1995. These 15 product categories account for 86 percent of the total value of Mexican imports through this POE system. Electrical machinery is the primary southbound Mexican import when measured by value. Electrical machinery accounted for 40 percent (\$1.62 billion-\$U.S.). Other significant categories include plastics and plastic products and nuclear reactor products.

Many of the commodities listed in the top 15 exports include materials that are or could be related to the maquiladora activities in Tijuana. It has been estimated by at least one local trade association that as much as 80 percent of the cross border trade for the Otay Mesa port is related to maquiladoras.

**Table 3.22**  
**1995 Trade Activity by Mode—San Diego-Tijuana Port of Entry**

	Highway	Rail	Pipeline	Other	Total
Northbound	99.8%	0.0%	0.0%	0.2%	100.0%
Southbound	98.0%	1.5%	0.0%	0.5%	100.0%

Source: 1995 Transborder Surface Freight Data; U.S. Department of Transportation.

**Table 3.23**  
**Top 15 Northbound Product Categories—San Diego-Tijuana POE System, 1995**

Code	Product Category	Value	Percent (%)
85	Electrical Machinery and Parts Thereof	3,496.97	48.35%
84	Nuclear Reactors, Boilers, Machinery and Appliances	922.12	12.75
90	Optical, Photographic, Cinematographic	412.40	5.70
95	Toys, Games, and Sport Equipment, Parts Thereof	347.76	4.81
87	Automobiles, Parts and Accessories	262.03	3.62
94	Furniture, Bedding, Cushion, etc.	254.65	3.52
07	Edible Vegetables and Certain Roots and Tubers	175.04	2.42
62	Articles of Clothing, not knitted or crocheted	149.44	2.07
39	Plastics and Articles Thereof	138.44	1.91
44	Wood, Coal and Wood and Coal Products	114.71	1.59
96	Diverse Manufactured Goods	81.27	1.12
08	Edible Fruit and Nuts	54.22	0.75
92	Musical Instruments Parts and Accessories	52.12	0.72
03	Fish and Crustaceans, Mollusks	49.71	0.69
48	Paper and Paperboard, Articles of Paper Pulp	45.13	0.62
	Other	677.01	9.36
	Total	7,233.01	100.00

Source: SECOFI

**Table 3.24**  
**Top 15 Southbound Product Categories—San Diego-Tijuana POE System, 1995**

Code	Product Category	Value <sup>1</sup>	Percent %
85	Electrical Machinery and Parts Thereof	1,620.50	40.18%
39	Plastics and Articles Thereof	437.59	10.85
84	Nuclear Reactors, Boilers, Machinery and Appliances	335.96	8.33
48	Paper and Paperboard, Articles of Paper Pulp	182.06	4.51
73	Articles of Iron or Steel	170.45	4.23
44	Wood, Coal and Wood and Coal Products	120.07	2.98
76	Aluminum and Aluminum Products	107.96	2.68
90	Optical, Photographic, Cinematographic	99.47	2.47
87	Automobiles, Parts and Accessories	77.55	1.92
62	Articles of Clothing, not knitted or crocheted	67.08	1.66
72	Iron and Steel	64.78	1.61
27	Mineral Fuels and Mineral Oils	44.62	1.11
02	Meats and Edible Parts of Meat	40.75	1.01
61	Clothes	39.00	0.97
40	Rubber and Articles Thereof	36.83	0.91
	Other Categories	588.90	14.60
	Total	4,033.59	100.00

<sup>1</sup>Millions of Dollars

Source: SECOFI

This estimation of high maquiladora trade activity may be supported by the fact that seven of the northbound commodities are also in the top 15 southbound commodities listed in Table 3.24. This relationship may be an indication that parts are being shipped south to be assembled in Mexico and returned to the United States as finished products or completed assemblies.

It should be noted that this discussion of trade value and products is based on the SECOFI data. USCS data differs as reported in the Task 8 report. Nevertheless, the significance of

the imbalance of trade flows (mostly northbound in 1995), the preponderance of maquiladora related trade, and the heavy flow of agricultural products northbound through this POE all remain valid observations.

### 3.5.7 Final Comments

The random selection system is installed at all Customs locations on both the northern and southern borders of Mexico. The system is considered to be efficient and treats both imports and exports equally. However, when the system breaks down, the flow of trade, both northbound and southbound, is halted. These breakdowns can last a few minutes or a few hours and there is no backup system available.

#### *San Ysidro-Puerta Mexico*

- An important operational difference exists between U.S. and Mexican immigration services and their interaction with pedestrians and passenger vehicles entering each country. In Mexico, the process (southbound) has little impact on the traffic flow since it is not necessary to demonstrate the immigration status of each person crossing the border. However, the U.S. process, which requires documentation of immigration status by law, is more time consuming and therefore does impact the flow of traffic.
- Southbound pedestrian movements through the port are circuitous and typically involve a lengthy walk. This is particularly true for pedestrians arriving on the east side of the port near the terminus of the San Diego trolley.
- Depending on the purpose of the visit, citizens and foreigners entering Mexico often need additional information and directions in order to complete the immigration process. Typically, they must appeal to each of the agencies involved in border crossing activities. In most cases, it is necessary to visit multiple agencies in order to obtain the information, and even then, the information is not always available. In order to improve efficiency, all the agencies involved could develop a single pamphlet to answer the most commonly asked questions. These pamphlets could then be made available at all agencies.
- Northbound pedestrian movements are more direct and involve a shorter walk. However, the pedestrian route requires pedestrians to cross half of the northbound vehicle lanes using an unsignalized at-grade crossing. Since vehicle operating speeds are low, there may not be an accident problem, but the situation does create potential friction for vehicles using the eastern approach to the port. Vehicle lane changes are frequent as motorists vie for the shortest queue line oblivious to pedestrians in the area.
- I-5 and I-805 are operating well below capacity. However, during PM peak hours, southbound traffic can queue as several lanes merge at the I-5/I-805 junction and approach the border inspection station. Additional delays may result when the vehicle anti-theft inspections are implemented.
- Northbound egress away from the port on I-5 and I-805 is not a problem. Both freeways are operating well below capacity.
- The northbound transition from the primary inspection lanes to the egress lanes and ultimately onto the freeway is a significant bottleneck during peak periods. This situation occurs due to barriers used to prevent vehicles from approaching the crossing and attempting to speed past the agent, commonly called port running.

- Based on information collected from port officials and from observations, there is a significant northbound morning peak on Mondays, or on Tuesdays following three-day weekends. Holiday peaks occur after either U.S. or Mexican holidays.
- Weekend peaks are similar to Monday peaks in volume but they occur in the evenings. Weekend peaks were observed to occur at dusk; therefore the timing of these peaks varies during the year.

#### *Otay Mesa-Mesa de Otay*

- The current configuration of Otay Mesa Road is a potential constraint to the operation of the Otay Mesa port. Presently, there are times where peak period congestion reduces the accessibility of the port. There are also times where accidents have completely closed port access. Plans to expand the Richard Donovan Correctional Institution would also impact the ability of Otay Mesa Road to carry port traffic. At least one study by Caltrans looked at potential alignments for continuing a divided freeway cross-section all the way to the border. Upgrading Otay Mesa Road would reduce congestion and the potential for accidents.
- Commercial access to the port has the additional constraint of relying on local two-lane streets for direct port access. While passenger vehicles can approach and depart the port on Otay Mesa Road, commercial vehicles are required to take circuitous routes to or away from the port facilities.
- Inspection of commercial shipments is the primary purpose of the commercial facility. Currently, two-thirds of all trucks are selected for inspection. The inspection process is designed to be thorough. Specific data regarding the number of trucks inspected or the length of inspections are not available from the port due to its sensitive nature. At present, Customs is focusing on the efficiency and effectiveness of its interdiction efforts, not the efficiency of goods movement.
- In Mexico, even when the load is subjected to random selection for inspection, the process at the crossing is very efficient, requiring 30 seconds to one minute at the initial checkpoint. If the shipment is selected for inspection by the Customs officer, the resulting delay is between 15 minutes and two hours. Approximately 98 percent of shipments are released without a secondary inspection, while two percent incur a secondary inspection by a Customs agent. The only problems occur when the computer system fails and traffic flow is completely stopped. This condition could last from a few minutes to several hours, causing long queues to form.

#### **3.5.8 Conclusions**

- The San Ysidro-Puerta Mexico crossing is the busiest on the border. It is fed from the north by both two freeways and the San Diego light rail system for passengers and the San Diego and Arizona Eastern railroad for freight. Pedestrians also cross in large numbers; extensive parking facilities are provided north of the border to accommodate such crossings. Other than a very low volume of informal crossings, all cargo crossings have been moved to Otay Mesa-Mesa de Otay. Even after removing the cargo traffic from San Ysidro-Puerta Mexico, this crossing suffers from extensive delays during peak periods.
- The San Ysidro-Puerta Mexico crossing is approached on the north by freeway and the south by a four-lane major arterial. Otay Mesa-Mesa de Otay is approached on the north by two and four lane highways and streets and on the south by the same.

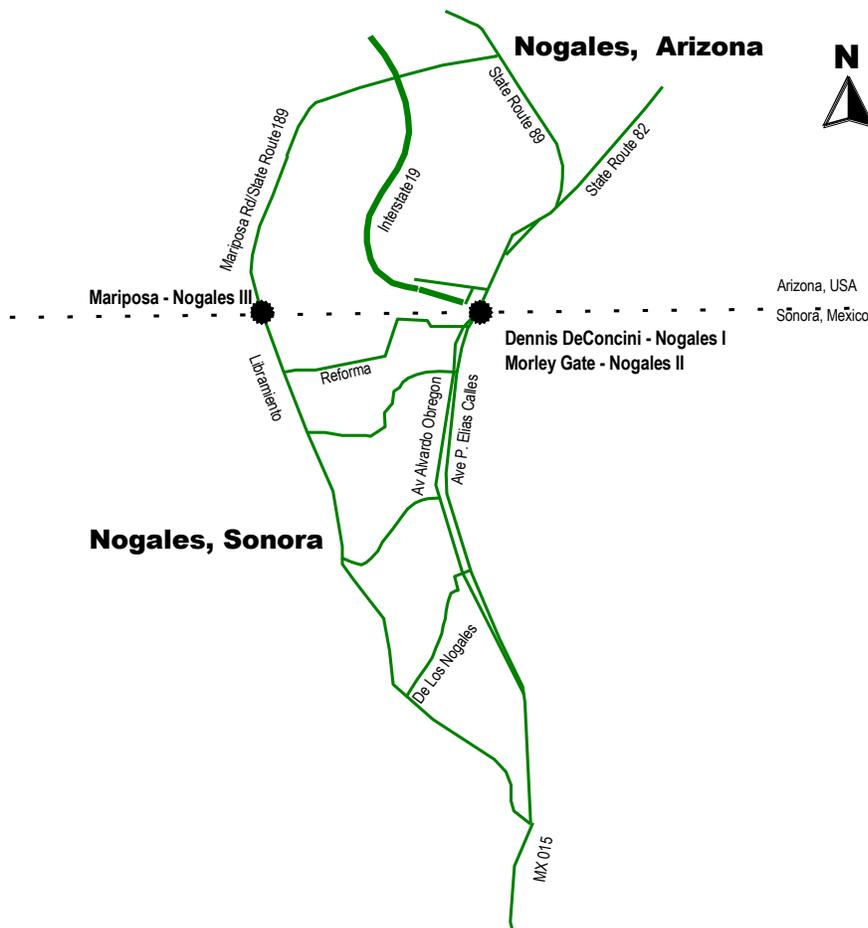
Caltrans is studying potential improvements to the California access. Due to the congestion at San Ysidro-Puerta Mexico, the reopening of Virginia Avenue-El Chaparral in some form is also being studied.

- Otay Mesa-Mesa de Otay serves almost all trucks crossing at this POE as well as passenger vehicles and pedestrians. Based on traffic counts, about 25 percent of the POE vehicle crossings occur there. Passenger vehicles appear to encounter less congestion than at San Ysidro-Puerta Mexico.
- A SENTRI system has been installed on one northbound lane at Otay Mesa-Mesa de Otay on an experimental basis to expedite passenger vehicle inspection. Pedestrians crossing the border southbound at San Ysidro-Puerta Mexico are not subject to the Mexican random selection process. Otherwise this POE's crossings are operated as described in Chapter 3.2.
- Truck inspection is separate from personal vehicle inspection at Otay Mesa-Mesa de Otay. Truck roads have been provided on the approaches to the border inspection stations both northbound and southbound. However, queues in both directions extend back into the public street system during peak periods. This will be examined further in Task 9 of this study.
- Traffic crossing the border has increased at both crossings since 1991. There was a major increase at the two crossings mentioned above in 1994 associated with the closing of the Virginia Avenue-El Chaparral crossing that year. However, there followed a decline in 1995 at both of the remaining crossings. Traffic volume growth between 1991 and 1996 was about 4 percent on I-5 at San Ysidro-Puerta Mexico and about 24 percent at Otay Mesa-Mesa de Otay.
- The bulk of the cargo crossing the border at this POE is going to and from maquiladoras. Most of the cargo is palletized to help expedite unloading and reloading for inspections. Several U.S. and California agencies conduct northbound inspections at different areas in the Otay Mesa border station as well as at an off-site California Highway Patrol facility. The Mesa de Otay inspection station is operated similar to other Mexican inspection facilities. Efficiencies of movement through the facilities will be examined in Task 9.

### 3.6 Nogales-Nogales Port of Entry System

The Nogales-Nogales Port of Entry System consists of three border crossings (see Figure 3.5): Nogales (DeConcini)-Nogales I (passenger vehicles, rail and pedestrians), Nogales (Morley Gate)-Nogales II (pedestrians only), Nogales (Mariposa)-Nogales III (passenger vehicles and commercial vehicles). Two crossings (Nogales I and II) are located within the urban area of the twin border cities while the third (Nogales III) is located approximately 2.5 kilometers west of the urban area. The railroad crossing, located between the Nogales I and II crossings, will be considered to be part of the Nogales I crossing for this discussion.

Figure 3.5  
Nogales-Nogales Port of Entry System



Source: Barton-Aschman-La Empresa, 1997

*Nogales (DeConcini)-Nogales I and Nogales (Morley Gate)-Nogales II*

The Nogales I and II crossings are located in the downtown business areas of both cities. Nogales I processes the majority of the northbound and southbound passenger vehicle flow and controls the railroad crossing which is located 10 meters to the east. In the United States, the main destinations for people using these crossings are Nogales, Tucson and Phoenix. In Mexico, the primary destinations are Nogales, Hermosillo, and the tourist areas located along the Sonora coast.

In Nogales, Arizona, the land uses directly adjacent to and along the roadways leading to Nogales I and II are primarily commercial retail and service uses. Residential uses are located to the east and northwest of these crossings.

In Nogales, Sonora, the land use adjacent to the Nogales I and II crossings is primarily service, commercial, and medium-density residential.

The rail crossing and mainline linking the two countries is located between Nogales I and the Nogales II pedestrian gate. Inspections are conducted by the U.S. Customs Service (USCS) in a small yard just north of the border.

*Nogales (Mariposa)-Nogales III*

Nogales III is located to the west of the twin cities and is dedicated almost exclusively to handling binational trade. Initially this port only handled commercial traffic, however, in 1983 it was also opened to passenger vehicles. While some local residents and tourists use this crossing, most of the traffic is related to trade. The majority of the trade flowing through this crossing falls into one of two categories: agricultural products and processed foods, or maquiladora trade.

Most of the land near the crossing on the U.S. side of the border has been reserved for light industrial and general commercial uses to include warehousing and trucking. The land use in Mexico surrounding Nogales III consists of services related to foreign trade. Because of the growth in business and service establishments surrounding the crossing, there is limited available space. This space is reserved for the offices of public agencies.

**3.6.1 Regional Transportation Infrastructure**

*Regional Access*

Regional access to the city of Nogales, Arizona, from the north is provided by the roadway facilities described below:

Interstate 19 (I-19) is a four-lane divided freeway designed to rural interstate standards (full-access controlled). I-19 runs in a north-south orientation connecting to I-10 in Tucson, Arizona. I-10 is one of the major east-west travel corridors running through the southwestern United States. The I-19 connection to I-10 is the major truck route connecting Nogales to markets throughout the United States.

State Route 82 (SR 82) is an alternative regional facility that runs northeast toward Tombstone and connects with SR 83, SR 90, and SR 80; each of which connect with I-10. SR 82 is a two-lane rural state route that provides a “short cut” to I-10 to and from the east. It also provides access to the Nogales Airport on the outskirts of town.

SR 189 provides access from I-19 to Nogales III. Table 3.25 shows the 1996 average annual daily traffic volumes for the segments of these roadways near the border.

**Table 3.25**  
**1996 Average Daily Traffic Volumes on Access Highways to Nogales, Arizona**

Location	Segment	ADT	Commercial Vehicle %
I-19	Nogales—Western Avenue	8,500	10.7
I-19	Western Avenue—SR 189	10,000	10.7
I-19	SR 189—Exit on I-19	12,000	10.7
SR 189	International Border—Nogales HS	11,000	9.0
SR 189	Nogales HS—I-19	12,000	9.0
SR 82	SB I-19—Thelma Street	3,780	8.5

Source: Arizona Dept. of Transportation, 1997

Regional access to the City of Nogales, Sonora, from the south is provided by the roadway facilities described below:

Federal Highway 15 (MX 015) is a four-lane freeway between the city of Magdalena and Nogales. South of Magdalena, the facility is a four-lane, Type “A” facility tollway that passes through Santa Ana on its way to Hermosillo.

MX 015 climbs from Hermosillo through Benjamin Hill, Santa Ana, Magdalena, and Imuris. This road, known as the Mexico-Nogales highway, links states on the Pacific coast and west-central regions with Mexico City. The rail branch line into Nogales is part of the Northwest Railroad (Ferrocarril Del Noroeste), which from the town of Benjamin Hill, parallels MX 015 to Nogales.

The Nogales-San Antonio state highway is the second most important regional facility. This two-lane roadway has a low classification and has only recently been paved. This facility links the city of Nogales to the Cananea-Imuris stretch of MX 002.

Table 3.26 shows the 1995 vehicle volumes for the two highways leading to Nogales. The Average Daily Traffic (ADT) on MX 015 at a counting station approximately 16 kilometers from the fringe of the urban area was 6,890 vehicles (5,030 cars, 480 buses, and 1,380 trucks). At a counting station located near the Nogales city limits, an ADT of 20,615 vehicles (three times the former) was recorded (14,515 cars, 1,550 buses, and 4,550 trucks).

These numbers imply that a large percentage of vehicular traffic is contributed by the city and its suburbs. The large number of trucks can be explained by local movement of maquiladora transfers and by mode changes from piggyback and other activity in the industrial subdivision.

**Table 3.26**  
**Vehicle Flow on Nogales Access Highways, 1995**

Gauge Point	Average Daily Traffic (ADT)	Vehicle Classification, %		
		Passenger Vehicle	Bus	Truck
MEX-015 (MX 015) Santa Ana-Nogales T. Left to Saric Km. 88+500 Both Directions (two-way)	6,890	73	7	20
MEX-015 (MX 015) Santa Ana-Nogales Nogales Km. 104+280 Both Directions (two-way)	20,615	70.4	4.5	22.1
State Nogales-San Antonio Nogales Km. 0+000	760	N.D.	N.D.	N.D.

Source: SCT, Vital Statistics

The 1995 ADT for the Nogales San Antonio Highway was 760 vehicles. Most of these vehicles were passenger vehicles such as 1.5- and 3.5-ton pickups.

Table 3.27 shows the trend of vehicle volumes on the two highways for the period 1991 through 1995. On the Magdalena-Imuris stretch of MX 015, traffic grew at a mean annual growth rate (MAGR) of two percent over the period analyzed, while counting stations on the fringe of Nogales showed a decrease of 1.8 percent MAGR in the same period. The numbers reflect a relatively stable traffic flow.

Crossing Access

From I-19, via the Crawford Street Interchange, Grand Avenue and Arroyo Boulevard provide direct access for southbound passenger vehicles to Nogales I. Both roadways are classified as major arterial streets and function as a one-way couplet. Figure 3.6 shows the Nogales I and II ports of entry.

Morley Avenue runs parallel to Grand Avenue/Arroyo Boulevard to the east of the Union Pacific railroad tracks. Morley Avenue is a two-lane local street that terminates at Nogales II.

From MX 015, the main road used by northbound and southbound traffic to access Nogales I and II is Avenida Lopez Mateos. For traffic coming from the east or south of the city, a second alternative is Avenida Reforma. This wide street connects Nogales' business district with the Libramiento, which is used by both north-and southbound traffic. Other urban streets are discontinuous, since the city is built on rough terrain.

From I-19, access to Nogales III for southbound passenger vehicles and commercial vehicles is via Mariposa Road (SR 189). Mariposa Road is a four-lane divided highway that extends approximately five kilometers from I-19 to the border-crossing facility. Figure 3.7 shows the Nogales III port of entry.

From the south, access to Nogales III is provided by the Libramiento de Nogales. This roadway connects to MX 015 south of the border crossing. The Libramiento is a two-lane highway with a 1.5-meter shoulders. The northbound shoulder functions as a lane during peak periods.

Access to the Libramiento from the main north-south arterial is provided by several roadways including: Avenida Reforma, Boulevard de Ensueño and its extension with Matamoros and Rayon; Avenida 5 de Febrero; and Avenida Arroyo and its extension, General Heredia.

**Table 3.27**  
**Average Daily Traffic Volumes on Access Highway to Nogales, Sonora**

Year	State Highway Libramiento de Nogales	MX 015 Santa Ana-Nogales		State Highway Nogales-San Antonio
	Km. 0+0 Link to Santa Ana-Nogales	T. Der Imuris Km. 40+370	Nogales Km. 104+280	Nogales Km. 0+0
1991	7,136	5,296	22,200	N.D.
1992	7,426	5,482	22,864	719
1993	N.D.	N.D.	N.D.	N.D.
1994	N.D.	5,684	20,521	750
1995	N.D.	5,725	20,615	760

Source: SCT, Vital Statistics.

Figure 3.6 Nogales-Nogales I and Nogales-Nogales II Ports of Entry

Figure 3.7 Nogales-Nogales III Port of Entry

**3.6.2 Physical Description**

This section describes the physical features of the border crossings which make up the Nogales-Nogales Port of Entry System.

*Nogales (DeConcini)-Nogales I*

Table 3.28 lists the basic characteristics of the Nogales I crossing. The Nogales I crossing serves pedestrians, passenger vehicles, and railroad traffic.

Pedestrians

Pedestrians, traveling northbound, must use the west walkway (next to the Customs building) and are allowed free access from Mexico without restriction. Approximately 10 meters further on, they enter the U.S. primary inspection area, where there are six primary inspection lanes.

Southbound pedestrians destined for Mexico use the same walkway as northbound pedestrians entering the United States. A temporary chain link fence separates pedestrians moving in opposite directions. At the Mexican facility, there is a small building for voluntary declarations and a branch office of the Mexican Army Bank (BANJERCITO). A few meters in front of this building is an area for inspection and random selection of people who enter Mexico with large packages.

Passenger Vehicles

Northbound passenger vehicles exiting Mexico pass under a 20-meter-wide concrete arch that can accommodate six lanes of vehicles. On the U.S. side, there are eight primary inspection lanes. The number of lanes in operation varies depending on the demand. When traffic volumes are low, only two or three primary inspection lanes may be open. During peak periods, such as noon time, seven lanes are opened. There are also 28 secondary inspection positions.

On the U.S. side, there are three southbound lanes for vehicles exiting the country. Typically, only one lane is open and the other two lanes are closed. This policy has been implemented to minimize potential conflicts between southbound vehicles and pedestrians trying to use the southbound vehicle lanes to enter the United States.

As southbound vehicles enter Mexico there are six primary inspection lanes and one lane for small imports. Typically only two lanes are open to meet off-peak demand while four or five lanes may be open during peak demand periods. Usually four lanes are sufficient to meet the demand created by the single lane of traffic exiting the United States. The secondary inspection area can handle up to 12 vehicles.

**Table 3.28  
Characteristics of the Nogales Urban Crossings**

Crossing Type	Nogales I-Nogales (DeConcini)				Nogales II-Nogales (Morley Gate)			
	Peds	Autos	Trucks	Rail	Peds	Autos	Trucks	Rail
<b>Crossing Allowed</b>	Yes	Yes	No	Yes	Yes	No	No	No
<b>Southbound (Mex.)</b>								
Primary Inspection Lanes/Spaces	1	6	—	1	1	—	—	—
Secondary Inspection Spaces	0	12	—	—	0	—	—	—
<b>Northbound (U.S.)</b>								
Primary Inspection Lanes/Spaces	6	8	—	1	2	—	—	—
Secondary Inspection Spaces	0	28	—	—	0	—	—	—

Source: Barton-Aschman-La Empresa, 1997

Facilities

The U.S. port of entry building was originally constructed in 1964 and was basically reconstructed in 1994. These latest improvements added a new headhouse for administrative offices, increased the number of primary inspection lanes from six to eight, added 16 additional secondary inspection positions and increased the number of pedestrian crossing points to six.

The Mexican port of entry building was constructed in 1966 as a part of the National Border Program (Spanish acronym: PRONAF). This program built most of the border crossing facilities during the second half of the 1960s. The facility consists of a double arch which covers the passenger vehicle primary inspection areas. Pedestrians are processed adjacent to the domed building which houses the offices of the Customs Administration, INM, and the Secretariat of Tourism. In addition, there is a small branch office of the BANJERCITO located in the facility. Table 3.29 provides a summary of the crossing’s administrative facilities.

*Nogales (Morley Gate)-Nogales II*

The characteristics of this crossing are shown in Table 3.28 and of the facilities in Table 3.29. Nogales II is limited exclusively to pedestrians. On the U.S. side, there is a single turnstile to enter the United States and two Customs stations. Typically, only one Customs or INS inspector is on duty at this location. On the Mexican side, there is only one Customs checkpoint which is typically unstaffed.

*Nogales (Mariposa)-Nogales III*

The Nogales III crossing was opened in 1976 exclusively for handling freight, and in 1983 was opened to passenger vehicles. Table 3.30 lists the basic characteristics of the Nogales III crossing.

**Table 3.29  
Facilities at the Nogales Urban Crossings**

	Nogales I		Nogales II	
	Mexico	United States	Mexico	United States
Floor Space	3,800 m <sup>2</sup>	3,730 m <sup>2</sup>	80 m <sup>2</sup>	67 m <sup>2</sup>
Number of Buildings	5	1	1	1
Construction Date	1966	1964	1966	1924
Latest Remodel Date	—	1994*	—	—

\*New facility constructed in 1994.

Source: Barton-Aschman-La Empresa, 1997

**Table 3.30  
Characteristics of the Mariposa-Nogales III Crossing**

Crossing Type	Mexico				United States			
	Peds	Auto	Truck	Rail	Peds	Auto	Truck	Rail
Crossing Allowed	No	Yes	Yes	No	No	Yes	Yes	No
Primary Inspection Lanes/Spaces	—	3	7	—	1	4	4	—
Secondary Inspection Spaces	—	4	2	—	—	24	92	—

Source: Barton-Aschman-La Empresa, 1997

Passenger Vehicles

At the Mexican border facility, two of the four lanes are dedicated for passenger vehicles. A four-lane roadway joins the Mexican facility to the U.S. facility where there are four primary inspection lanes.

Southbound, passenger vehicles use a two-lane access road to reach the Mexican facility where there are four primary inspection lanes. One lane is used for passenger vehicles carrying declarable merchandise. The other three lanes are used to process passenger vehicles with nothing to declare. One of these lanes also allows empty trucks or tractors without trailers. There is a small facility for secondary inspections that can handle four vehicles.

Commercial Vehicles

After Mexican export inspection, if any, northbound commercial vehicles proceed through the Mexican facility on two designated lanes. One lane is for traditional freight and maquiladora shipments, the other for perishables and empty trucks. This roadway widens to four lanes corresponding with the four U.S. primary processing lanes. The right-hand lane is reserved for perishable freight. The remaining lanes are shared by non-perishable freight shipments, maquiladora vehicles, and empty trucks. If a vehicle is selected for a secondary inspection it is directed into one of 92 secondary inspection spaces.

There is no special U.S export facility for commercial vehicles. There is a small structure where random inspections are held and a mailbox for deposit of export documentation. The Mexican compound is reached by the same two-lane roadway that is used by passenger vehicles. Commercial vehicles are separated from passenger vehicles at primary inspection where there are three lanes equipped with the random selection system. There are seven primary inspection spaces and two secondary inspection spaces.

Table 3.31 lists the general features of the facilities at the Nogales III crossing.

Facilities

The U.S. facilities, newly constructed in 1991, are relatively uncrowded, except for some minor circulation problems caused by the tendency of drivers to congest the area around the secondary inspection platform nearest the primary inspection booths (south facing platforms).

On the Mexican side, the limited physical space and the lack of available surrounding space to expand the facility are noteworthy. The main building is 20 meters west of the crossing and houses the offices of Customs, SAGAR and INM. Another building, which separates passenger vehicles from the truck inspection area, houses the offices of the BANJERCITO and Banco BITAL.

**Table 3.31**  
**Facilities at the Mariposa-Nogales III Crossing**

	Mexico	United States
Floor Area	4,140 m <sup>2</sup>	6,535 m <sup>2</sup>
Buildings	6	1
Construction Date	1976	1976
Latest Remodeling	1982	1991

Source: Barton-Aschman-La Empresa, 1997

**Table 3.32  
Staffing and Hours of Operation—Nogales-Nogales POE System**

Border Crossing		Nogales I		Nogales II		Nogales III	
		Mexico	United States	Mexico	United States	Mexico	United States
Staff <sup>1</sup>	Country	24	See Footnote	2	See Footnote	40	189
	Customs						83
	Immigration						23
	U.S.D.A.						
Hours of Operation <sup>2</sup>		8 am-10 pm	24 hours	8 am-6 pm	6 am-8 pm	8 am-8 pm	Mon-Sat 8 am-7 pm Sun 10 am-4 pm
Seasonal Variation		No		No		Peak Off Peak	Nov-Apr Jan-Mar

<sup>1</sup>U.S. staffing reported for all three locations-combined.

<sup>2</sup>During off-peak months hours may be shortened depending on commercial demand.

Source: Barton-Aschman-La Empresa, 1997

### 3.6.3 Staffing and Hours of Operation

The staffing levels for the Nogales POE system are described below and summarized in Table 3.32.

On the U.S. side of the border, there are approximately 295 federal employees. Of these, 189 work for the U.S. Customs Service, 83 work for INS, and 23 for the U.S. Department of Agriculture. Due to seasonal variation in demand noted earlier, there are periods where inspection staff cannot meet the demand for inspections.

On the Mexican side of the border, 121 people are assigned from the Customs Service. Of these, 81 are Customs inspectors or are involved in port operations and the remainder are administrative staff. Approximately one-half of the Nogales staff works at one of the three border crossings while the other half are deployed at the international bus terminal, the Nogales airport or the 20-kilometer immigration checkpoint.

### 3.6.4 System Operation

The following sections discuss the operational conditions at each of the three border crossings that make up the Nogales POE System.

#### *Nogales I-Nogales*

There has been some difficulty at this facility in the recent past with port runners, people trying to cross illegally into the country through the facility. The majority of these port runners have been pedestrians, crossing northbound through the southbound vehicle lanes. This phenomenon has caused the U.S. Customs Service to operate only one or two of the three available southbound lanes to avoid passenger vehicle/pedestrian conflicts. When the traffic demand warrants the third lane, it is opened by the Customs agents.

#### *Nogales (Morley Gate)-Nogales II*

There are no special system operations at this location.

#### *Nogales (Mariposa)-Nogales III*

Approximately 50 percent of northbound commercial vehicles undergo a special export operation. For these vehicles, document and inspection procedures take place at the facilities of the Sonora State Federation of Agricultural Associations (Confederacion de Asociaciones Agricolas Del Estado de Sinaloa-CAADES). While initially CAADES loaned its facility only

for export procedures for produce, fruit and other perishables, the facility now is used for other types of products as well.

The CAADES yard is located at the intersection of MX 015 and the Libramiento. This strategic location allows northbound commercial trucks to exit the CAADES yard directly to the Libramiento, and then continue on the Libramiento to the Nogales III commercial inspection facility.

This yard provides storage areas for trucks, and for trailers that have arrived by rail, while their customs paperwork is checked and while any required inspections are carried out on the cargo. The yard is equipped with stevedore brigades and forklifts for unloading cargos. Both Mexican export customs inspections and U.S. Department of Agriculture (APHIS) inspections are conducted at this facility. This makes Nogales one of the handful of border crossings which allows inspectors from both countries to conduct inspections in one country.

For the remaining 50 percent of the commercial traffic, northbound operations are similar to other ports of entry.

Due to Arizona State law, truck drivers must get an Arizona Department of Transportation (ADOT) day pass to operate the vehicle on Arizona roadways. Drivers must stop within the compound at least once each day to get their ADOT pass. U.S. Customs has requested that this service be conducted outside the inspection yard.

Both southbound and northbound commercial vehicles are inspected in the Mexican Customs Yard. The yard is about 2,200 sq. meters in size and the two platforms/lanes are 35 meters (in length), so inspection capacity is limited to seven vehicles. As in other ports of entry, 10 percent of import shipments are inspected. Applied to the 420 trucks a day in 1994, inspecting 42 trucks a day in cramped facilities is feasible. However, at certain times of the year (at the beginning of the farm season and the last quarter of the year), queues of freight trucks occur at the inspection yards because of the limited inspection capacity.

The secondary inspection is performed in an area of about 300 sq. meters in which no more than two trucks can be handled. To enter this area, the trucks must maneuver on the Libramiento itself, interfering with automobile traffic. Once Customs procedures and physical inspection are completed, trucks move directly onto the Libramiento.

### **3.6.5 Statistical Description**

As is the case with other significant port systems, the Nogales-Nogales statistics for vehicle movements and person trips are summarized and reported by system on a fiscal year basis (October to October). At Nogales most cars are processed through Nogales I, however significant volumes also pass through Nogales III. Trucks use Nogales III only and pedestrians use Nogales I and II.

Daily northbound pedestrian volumes through Nogales I and II averaged 14,530 in 1993, 13,555 in 1994, and 12,705 in 1995 (through November). In 1993 an average daily northbound volume of 4,935 vehicles was reported entering the United States (northbound) through this crossing. In 1994, the average daily vehicle count was 6,030 and in 1995 (through November), 5,735.

The average daily truck traffic was 515 vehicles northbound. However, these averages for commercial vehicle flows significantly understate the challenges faced by this inspection facility. Daily truck volumes range from 200 vehicles per day in the summer months to 1,200 vehicles in winter months when fruits and vegetables are shipped north to U.S. consumers. This variation in flow rates represents the key challenge for this POE system.

Table 3.33 shows the vehicle and pedestrian flows for this POE system. Northbound traffic declined by 15 percent between 1991 and 1992 and has remained relatively constant during the period from 1992 through 1995.

Commercial truck flows had a small decrease between 1991 and 1992 and have had modest increases for the period from 1992 through 1995. The mean annual growth rate (MAGR) for northbound truck traffic over the five-year period from 1991 through 1995 was approximately 5.0 percent. On average, over the period analyzed, freight transport has represented 4.5 percent of the total number of northbound vehicles.

Pedestrian flow, similar to passenger vehicles, experienced a sharp decrease of 18 percent between 1991 and 1992 and has decreased by approximately 5 percent per year for the period from 1992 through 1995. The MAGR for pedestrian activity for the five-year period from 1991 through 1995 was -8.6 percent (negative). This drop-off in activity is a result of the peso devaluation of 1995, which affects the discretionary crossers, the tourists and shoppers, the most.

The number of loaded freight conveyances, both trucks and rail cars, which must be inspected varies significantly from month to month. Table 3.34 reports the monthly totals of loaded and empty conveyances passing northbound through the Nogales-Nogales POE system.

**Table 3.33**  
**Northbound Vehicle and Pedestrian Flows—Nogales-Nogales POE System<sup>1</sup>**

Mode	1991	1992	1993	1994	1995
Passenger Vehicles	4,151,725	3,493,058	3,360,680	3,803,610	3,489,357
Trucks	167,388	154,845	185,107	187,423	203,298
Pedestrians	6,978,992	5,677,678	5,316,890	4,983,429	4,859,231

<sup>1</sup>Reporting year Fiscal Year October to October.

Source: U.S. Customs Service, 1996

**Table 3.34**  
**Nogales U.S. Commercial Facility Monthly Cargo Statistics (Number of Northbound Conveyances)**

Month	1992			1993			1994			1995		
	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total	Loaded	Empty	Total
Jan	11,860	4,624	16,484	15,353	4,698	20,051	14,627	5,055	19,682	17,106	4,527	21,633
Feb	10,750	4,635	15,385	15,551	4,894	20,445	16,205	4,905	21,110	19,584	4,259	23,843
Mar	9,494	5,146	14,640	16,288	5,766	22,054	19,075	5,236	24,311	20,654	4,924	25,578
Apr	9,711	4,795	14,506	14,686	5,454	20,140	14,668	5,374	20,042	16,836	4,238	21,074
May	10,309	5,379	15,688	12,329	5,237	17,566	10,651	5,607	16,258	13,087	5,026	18,113
Jun	6,722	5,281	12,003	6,293	5,211	11,504	6,838	5,541	12,379	10,242	4,837	15,079
Jul	4,231	5,219	9,450	4,667	5,196	9,863	4,404	4,790	9,194	6,025	4,479	10,504
Aug	3,763	5,567	9,330	4,373	5,261	9,634	5,258	5,929	11,187	5,695	5,077	10,772
Sep	3,826	5,948	9,774	4,145	5,206	9,351	4,788	5,855	10,643	5,236	4,569	9,805
Oct	5,037	6,664	11,701	4,965	5,737	10,702	5,734	6,107	11,841	6,911	5,235	12,146
Nov	9,075	7,453	16,528	7,686	5,337	13,023	8,757	6,474	15,231	12,657	4,601	17,258
Dec	11,113	5,096	16,209	11,679	5,067	16,746	11,750	5,199	16,949	15,107	3,855	18,962
Total	95,891	65,807	161,698	118,015	63,064	181,079	122,755	66,072	188,827	149,140	55,627	204,767

Source: U.S. Customs Service, 1996

The Railroad Crossing at Nogales

Table 3.35 shows import-export freight movements by rail at Nogales I. The volumes handled by the railroad show a slightly greater flow northbound, fluctuating between 50 percent and 57 percent of the total trade between the countries. For the period 1990 through 1993, exports from Mexico grew at a MAGR of 8.3 percent while imports grew at 19.4 percent. However, both movements show declines in 1994 (-10.4 percent in northbound tonnage and -36 percent in southbound tonnage). Preliminary reports indicate growth in northbound trade to 750,000 tons in 1995 and southbound trade (tonnage by rail) remaining constant at about 480,000 tons.

Most of the freight moved consists of intermediate goods traveling to and from the maquiladoras and assemblers located along the border and within the interior of Sonora. The Nogales FNM branch line typically ranks second in northbound trade movement and fifth in southbound trade of the rail lines serving the U.S.-Mexican border.

**3.6.6 Commercial Activity**

Table 3.36 shows the trends in northbound truck volumes through Nogales III for 1991 through 1995. This volume shows growth at a MAGR of approximately 5.0 percent with a notable fluctuation in 1992. In that year there was a decrease in volume of trade by 7.5 percent compared to the previous year.

Table 3.37 shows the distribution by mode of north-south trade flow through the Nogales-Nogales POE System as reported by SECOFI.

For Mexican exports (northbound trade into the United States), railroads moved 36.3 percent of the trade (by value) northbound in 1995, while trucks transported 63.2 percent of the trade (by value). Most of the northbound trade was either agricultural products (fruits and vegetables) or finished products from maquiladoras.

**Table 3.35**  
**Rail Cargo Through Nogales Crossing (Tons)**

Direction	1990	1991	1992	1993	1994
Northbound	479,212	485,628	574,007	612,689	548,745
Southbound	355,424	473,455	598,629	604,972	408,016

Source: Mexican National Railroad (FNM), 1995

**Table 3.36**  
**Northbound Truck Volumes Using Nogales III—Mariposa Crossing**

Year	Total Vehicles
1991	167,388
1992	154,845
1993	185,107
1994	187,423
1995	203,298

Source: U.S. Customs, 1996

**Table 3.37**  
**1995 Trade Activity by Mode—Nogales-Nogales POE System**

	Highway <sup>1</sup>	Rail <sup>1</sup>	Air <sup>1</sup>	Other <sup>1</sup>	Total <sup>1</sup>
Northbound	3,107.4	1,784.2	28.5	0.5	4,920.6
	63.15%	36.36%	0.58%	0.01%	100%
Southbound	1,497.0	72.7	0.6	388.6	1,958.9
	76.42%	3.71%	0.03%	19.84%	100%

<sup>1</sup>Millions of Dollars  
Source: SECOFI

For southbound trade, trucks carried 76.4 percent of the trade (by value) and railroads only 3.7 percent. The majority of southbound trade travels by truck since it is destined to maquiladora facilities located near the border. In other words, southbound trade is destined to manufacturing facilities within either the City of Nogales or the State of Sonora. It should be noted that the data for southbound trade indicates that 19.8 percent of the trade uses other modes. While a portion of this may be attributed to southbound goods carried by pedestrians, this statistic may also indicate that the mode of transportation is not always recorded properly.

Table 3.38 shows the 1995 Trade Activity percentages by mode for the Nogales-Nogales POE System as reported by the U.S. Department of Transportation. The northbound percentages are very close to those reported by SECOFI. The southbound highway percentage is much higher, with most of the difference seeming to transfer from the “other” category as compared to SECOFI data.

Table 3.39 shows the 15 major categories of products exported from Mexico to the United States through the Nogales III POE System in 1995. These 15 product categories account for 94 percent of the total value of Mexican exports through this POE System. Automobiles and auto parts are the primary northbound Mexican export when measured by value. These shipments originate at maquiladoras and assembly plants such as the Ford facility located in Hermosillo.

Autos and auto parts represented \$1.76 billion (\$U.S.) of trade in 1995, or 36 percent of total value of northbound trade through Nogales. Other significant Mexican export categories linked to maquiladoras included machinery and electric materials, boilers, and manufactured plastics. These three categories accounted for approximately \$1.2 billion (\$U.S.) of northbound trade, or 24 percent of total Mexican exports.

**Table 3.38**  
**1995 Trade Activity by Mode—Nogales-Nogales POE System**

	Highway	Rail	Pipeline	Other	Total
Northbound	66.3%	33.7%	0.0%	0.0%	100%
Southbound	96.5%	3.3%	0.0%	0.0%	100%

Source: 1995 Trans-Border Surface Freight Data, U.S. Department of Transportation.

**Table 3.39**  
**Top 15 Northbound Product Categories—Nogales POE System, 1995**

Code	Product Category	Value <sup>1</sup>	Percent (%)
87	Automobiles, Parts and Accessories	1,765.35	35.88
7	Edible Vegetables and Certain Root and Tubers	791.28	16.08
85	Electrical Machinery and Parts	700.66	14.24
84	Nuclear Reactors, Boilers, Machinery & Appliances	348.85	7.09
3	Fish and Crustaceans, Mollusks, ...	295.25	6.00
8	Edible Fruit and Nuts	165.59	3.37
39	Plastics and Articles Thereof	133.43	2.71
74	Copper and Articles Thereof	68.40	1.39
95	Toys, Games, and Sports Equipment, Parts Thereof	71.54	1.45
90	Optical, Photographic, Cinematographic, ...	60.08	1.22
1	Live Animals	56.19	1.14
30	Pharmaceuticals	52.69	1.07
71	Natural or Cultured Pearls, Precious Stones, ...	51.82	1.05
62	Articles of Clothing, not Knitted or Crocheted	30.57	0.62
43	Fur Skins and Artificial Furs	39.68	0.81
	Other Product Categories	289.24	5.88
	Total	4,920.62	100.00

<sup>1</sup>Millions of Dollars

Source: SECOFI

The second largest single category was edible vegetables at \$791 million (\$U.S.), or 16 percent of total Mexican exports (northbound trade). Other important categories of northbound products

were fish and crustaceans, and edible fruits and nuts, which account for approximately \$460 million (\$U.S.) of trade, or 9.37 percent of total northbound trade. These food and agricultural products, representing a combined value of over 26 percent of all trade, are particularly significant due to the large number of conveyances (e.g., trucks) required to transport them across the border.

Table 3.40 shows the top 15 product categories for 1995 southbound trade through Nogales III. The first four product categories, which are directly linked to maquiladora activity, represented 62 percent of the total southbound trade through this port of entry system in 1995. In fact, 12 of the leading 15 products were maquiladora-related. These 12 products amounted to 75 percent of total southbound trade by value. This finding suggests that the majority of southbound trade stay within the City of Nogales or the State of Sonora.

It should be noted that this discussion of trade value and products is based on the SECOFI data. USCS data differs as reported in the Task 8 report. Nevertheless, the significance of the imbalance of trade flows (mostly northbound in 1995), the preponderance of maquiladora related trade, and the heavy flow of agricultural products northbound through this POE all remain valid observations.

**Table 3.40**  
**Top 15 Southbound Product Categories—Nogales POE System, 1995**

Code	Product Category	Value	Percent (%)
85	Electrical Machinery and Parts Thereof	500.55	25.55
84	Nuclear Reactors, Boilers, Machinery & Appliances	274.87	14.03
87	Automobiles, Parts and Accessories	244.73	12.49
39	Plastics and Articles Thereof	197.48	10.08
48	Paper and Paperboard, Articles of Paper Pulp	123.63	6.31
73	Articles of Iron or Steel	87.44	4.46
90	Optical, Photographic, Cinematographic, ...	53.29	2.72
12	Oils Seeds and Oleaginous Fruits, Misc. Grains ...	49.74	2.54
40	Rubber and Articles Thereof	44.80	2.29
74	Copper and Articles Thereof	31.71	1.62
94	Furniture, Bedding, Cushion, Etc. ...	20.99	1.07
08	Edible Fruits and Nuts	19.53	1.00
62	Articles of Apparel not-Knitted or Crocheted.	19.46	0.99
56	Wadding, Felt and Non-woven; Special Yarns	19.08	0.97
72	Iron and Steel	18.65	0.95
	Other Categories	252.71	12.93
	Total	1,958.96	100.00

<sup>1</sup> Millions of Dollars

Source: SECOFI

### 3.6.7 Final Observations

#### DeConcini-Nogales I and Morley Gate-Nogales II

- Southbound pedestrians have few restrictions on their flow from the United States to Mexico. Pedestrians carrying large packages may be subjected to random searches, but most pedestrians are not delayed on entry. The existing conditions at the Nogales I-DeConcini facility could be improved by providing some form of permanent barrier (walls or a fence) between northbound and southbound pedestrians. Pedestrians entering Mexico ultimately end up on Avenida Lopez Mateos.
- The most common delay to southbound passenger vehicles occurs on the U.S. side of the border. Typically, U.S. Customs opens only one or two lanes for southbound vehicles exiting the country, which can cause a queue to form. Once a queue forms, it can quickly block the intersection of Crawford and Arroyo Boulevard/Grand Avenue, which is located approximately 200 meters from the crossing. Crawford, a local city street leads in turn to Business I-19 (Grand Avenue and Arroyo Boulevard), a set of one way streets leading from and to DeConcini-Nogales I. These roadways are the primary access routes for both regional and local traffic.

#### Mariposa-Nogales III

- The U.S. POE is not a barrier to southbound truck flow. However, at the Mexican POE, truck operations are impacted by the limited amount of space that is available in the inspection facility, which has room for only seven vehicles. The limited space makes turning movements difficult and hampers the inspection process since it is difficult to unload and load the trailers. The space limitations adversely impact the efficiency of the Mexican operation when an inspection is required.
- On the Mexican side, the most significant southbound problem is generated by the lack of space in the import yard exit. As a truck exits the yard, it is subjected to a second random selection system. If selected for a secondary inspection, vehicles often move into the passenger vehicle lanes and then into the secondary inspection area located outside the compound along the roadway. This operation impacts the efficiency of the roadway serving passenger vehicles that have already cleared Customs and are free to enter Mexico.
- There is a distinct difference between peak and off-peak seasons at the Nogales III-Mariposa POE. Northbound truck traffic peaks during the fall, winter and spring when fruits and vegetables are imported from Mexico to the United States. Even though much of the inspection and paperwork processing are conducted at the CAADES facility in Mexico, delays occur at the U.S. Customs inspection facility due to staff limitations. Queues from the commercial primary inspection lanes can reach eight kilometers in length. Queues of this length restrict the access of passenger vehicles to the border crossing and delay the entry of trucks with perishable goods.

### **3.6.8 Conclusions**

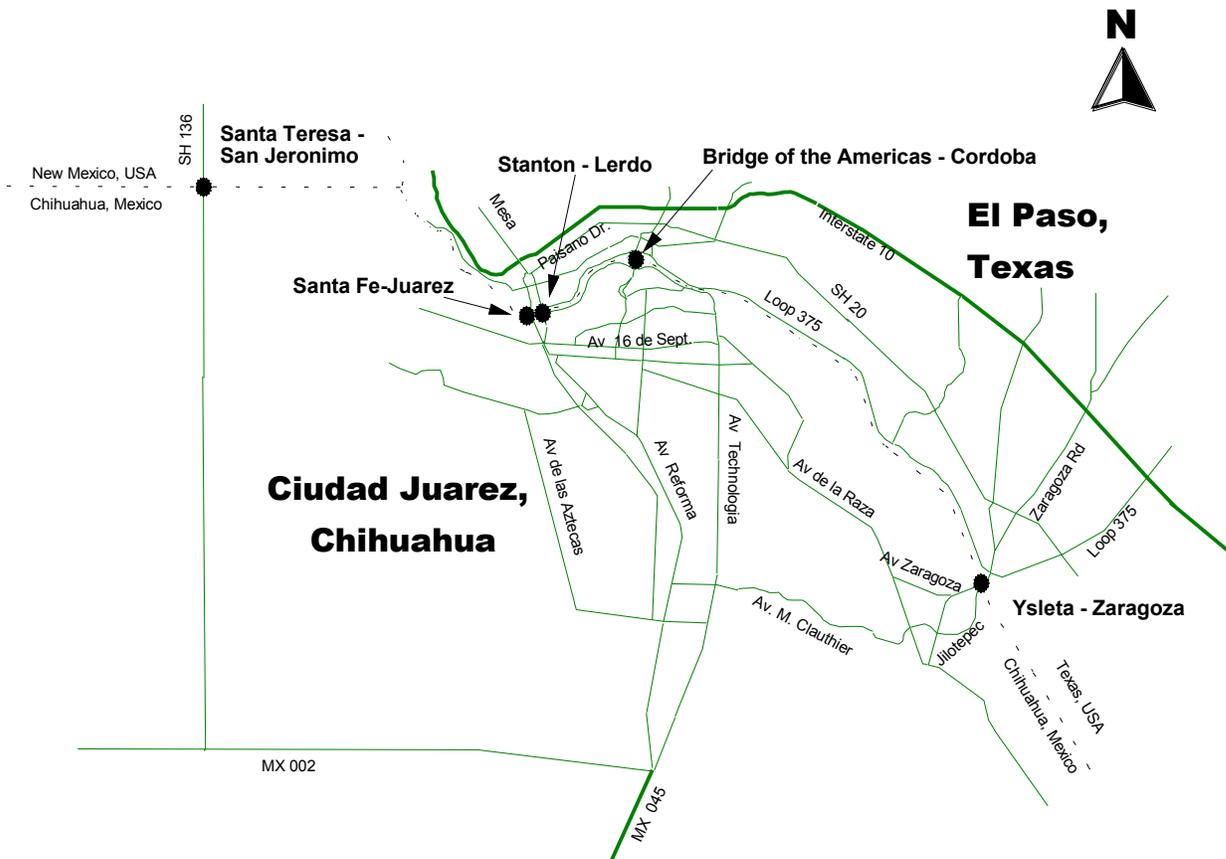
- The Nogales-Nogales POE consists of three crossings. All three accommodate passenger vehicles and pedestrians. Mariposa-Nogales III was opened as a commercial vehicle crossing but passenger vehicles have since been added due to congestion at the other two crossings.
- Southbound access to the border crossings is primarily from I-19 but also from SR 82 and SR 189 (Mariposa Road). However, downtown streets are used to get from the end of I-19 and from SR 82 to the crossing points and congestion develops near the border at peak periods. This affects city traffic as well as vehicles approaching the border.
- Northbound access to the downtown crossings is via MX 15 and Avenida Lopez Mateos. This route is congested during peak periods. Mariposa-Nogales III is reached via the Libramiento which is very congested during peak periods. This will be studied in Task 9.
- There has been a problem with northbound “port running” pedestrians sneaking through the southbound vehicle lanes, causing U.S. Customs to operate fewer lanes southbound except when demand requires. This has resulted in minor delays but normally not major ones.
- Due to the large variability in seasonal commercial crossings, the commercial inspection facility becomes congested during peak seasons due to the lack of inspection (personnel) capacity. Northbound queues approaching the border can reach up to eight kilometers. Border crossing movement efficiency will be studied further in Task 9.
- There is an imbalance of trade at this POE with a major flow of agricultural products going northbound. Maquiladora trade accounts for the largest value of trade across the border, but agriculture dominates the truck movements (volumes) and demand on inspection staff during peak produce season (November-April).
- Some of the northbound agricultural inspections are being performed at the CAADES facility in Mexico to expedite inspections and paper work processing at the border. That facility has started to accept limited other cargoes for inspection.
- Southbound cargo inspections are delayed by the insufficient space available in the primary inspection area and between the primary and secondary inspection areas where conflicts with passenger vehicles occur.
- Northbound passenger vehicle flows have declined since 1991. The 1991-1995 change was about 15 percent. There has been fluctuation in those volumes. Pedestrian volumes have also declined, but more steadily, averaging about five percent annually. However, truck volumes have been increasing at an average of about five percent annually. Northbound data generally is consistent with the southbound volume trends. This points to an increasing need to improve truck inspection capacity in both directions.

### 3.7 El Paso-Ciudad Juarez Port of Entry System

The El Paso-Ciudad Juarez Port of Entry System consists of seven border crossings (see Figure 3.8): Santa Fe-Puente Juarez (Paso Del Norte) (pedestrians and northbound passenger vehicles), Stanton Street-Puente Lerdo (Good Neighbor) (southbound pedestrians and southbound passenger vehicles), Bridge of the Americas-Puente Cordoba (pedestrians, passenger vehicles, and commercial vehicles), Ysleta-Zaragoza (pedestrians, passenger vehicles, and commercial vehicles), Santa Teresa-San Jeronimo (pedestrians, passenger vehicles, and commercial vehicles), and two railroad crossings.

This chapter describes the physical and operational characteristics of the seven border crossings within the El Paso-Ciudad Juarez Port of Entry System. Six of the crossings are located within the cities of El Paso, Texas and Ciudad Juarez, Chihuahua. The seventh crossing, Santa Teresa-San Jeronimo, is located in New Mexico/Chihuahua at the western edge of the urbanized area.

Figure 3.8  
Location of Crossings in the El Paso-Ciudad Juarez POE System



Source: Barton-Aschman-La Empresa, 1997

*Paired International Crossing Points Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo*

The paired one-way bridges of Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo are located in the downtown centers of El Paso and Ciudad Juarez. The Santa Fe-Puente Juarez Bridge handles vehicular flow in the northbound direction and two-way pedestrian access. The Santa Fe-Puente Juarez bridge is commonly referred to as Paso Del Norte, Santa Fe, Benito Juarez, and Del Centro (Downtown), and is mainly used by tourists, business people, and shoppers. The Stanton Street-Puente Lerdo Bridge handles vehicular and pedestrian traffic in the southbound direction only. The Stanton Street-Puente Lerdo Bridge is commonly referred to as Lerdo, Buen Vecino (Good Neighbor), Rio Bravo, and del Centro (Downtown).

On the U.S. side of the border, in downtown El Paso, the land uses consist of a combination of retail commercial, banking, government/civic, and office uses. Immediately adjacent to the bridge couplet, there are primarily retail commercial establishments that cater to the pedestrian traffic. Slightly farther to the north, but still within the downtown area, there are office buildings, the civic auditorium, and additional commercial uses. To the east of the downtown bridges and south of I-10, there are some areas of medium-density residential use.

In Ciudad Juarez, the land use adjacent to the bridges consists primarily of commercial and service uses with some residential uses in the area. In the area around the Santa Fe-Puente Juarez Bridge there are public buildings such as the Transit Department (Delegacion de Transito) and Fire Station No. 1 (Estacion de Bomberos No. 1), as well as restaurants and night clubs. Surrounding the intersection of Avenida Juarez and Guerrero there are hotels, travel agencies, and small shopping areas. Land uses around the Stanton Street-Puente Lerdo Bridge are primarily residential and government services such as the City Hall (Presidencia Municipal), the Health Department (Departamento de Salubridad y Asistencia), and the Red Cross (Cruz Roja). In the area between Avenida Juarez and Avenida Lerdo, there are a variety of service activities related to international trade such as Customs brokers and money exchange businesses. In addition, there has been a notable increase in dental services and medical clinics in this area, primarily serving U.S. clientele.

*Rail Crossings*

There are two railroad bridges between the United States and Mexico in this POE. The Mexican National Railroad. (Fercocarriles Nacionales de Mexico-FNM) has two lines that serve the El Paso-Ciudad Juarez POE system. These operations are the Northwest Railroad (Fercocarriles Del Noroeste) and the Chihuahua-Pacific Railroad (Fercocarriles Chihuahua al Pacifico). On the U.S. side of the border, the railroad bridge located west of the Santa Fe-Puente Juarez Bridge connects to the tracks of the Burlington Northern Santa Fe Railway Company. The bridge located between the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo auto bridges connects to the Union Pacific.

*Bridge of the Americas-Puente Cordoba*

The fifth urban crossing point is the federally-owned Bridge of the Americas-Puente Cordoba. This bridge serves pedestrians, passenger and commercial vehicles. This bridge is located four kilometers east of the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo bridges. Since this is the only toll-free access in the El Paso-Ciudad Juarez POE system, it is the most congested.

On the U.S. side of the border, the Bridge of the Americas-Puente Cordoba is surrounded by freeways and highways. There is a park to the west of the bridge and the remaining land uses consist of low-and medium-density residential or public/quasi-public uses.

On the Mexican side of the border, the Bridge of the Americas-Puente Cordoba is located in Chamizal Park. Beyond the park, the surrounding land uses are commercial, residential, and service. In the area adjacent to the park, there are a government center, a high number of customs broker offices, money exchange businesses, dental clinics, and small shopping centers. The area east of Avenida Lopez Mateos and north of Paseo Triunfo de la Republica is becoming a center for maquiladora facilities which generate significant commercial cross border traffic at this location.

*Ysleta-Zaragoza Crossing Point*

The sixth urban crossing point is the Ysleta-Zaragoza Bridge, which is the newest bridge between the two cities. The pair of bridges that comprise the Ysleta-Zaragoza crossing are located approximately 16 kilometers to the east of the Bridge of the Americas-Puente Cordoba crossing. One bridge is exclusively used by commercial traffic, and the other for non-commercial traffic and pedestrians. Traffic flows in both directions on both bridges.

Land uses immediately adjacent to the crossing in the United States and along Loop 375 are large parcels of land dedicated as open areas and maquiladora industry/light industrial and retail sites. Northwest of the crossing are primarily residential and commercial uses, particularly along Zaragoza Road, which leads to I-10.

Land uses in Mexico are comprised primarily of industrial and commercial uses. There is an industrial and maquiladora area located near the crossing called Rio Bravo Industrial Park (Parque Industrial Rio Bravo). Additional commercial areas are in the process of development in the area located along Avenida Waterfill. There are very few residential uses in the area adjacent to the crossing.

*Santa Teresa-San Jeronimo Crossing Point*

The Santa Teresa-San Jeronimo land crossing, is located approximately 20 kilometers northwest of the El Paso-Ciudad Juarez central business district. This is the newest crossing in the El Paso-Ciudad Juarez POE System. Unlike the rest of the crossings in the POE system, this is a land crossing. It was opened to commercial and non-commercial traffic in January 1993. Currently, this facility is underutilized due to limitations in the roadway infrastructure and the lack of adequate commercial support services surrounding the crossing, but recent crossing volumes have been reported to be increasing.

The land use on both sides of the border surrounding this crossing is composed primarily of agricultural and rural uses. The area north of the border is planned for industrial and service uses, but little is currently developed.

**3.7.1 Regional Transportation Infrastructure**

Regional access from the interior of the United States to the El Paso-Ciudad Juarez POE system is provided via I-10 and three U.S. (federal) highways: U.S. 54, U.S. 62, and U.S. 180. I-10 is a major east-west transportation corridor serving the southwest United States by linking California, Arizona, New Mexico, and Texas. I-10 extends beyond Texas, passing through the southeastern United States and terminating in Jacksonville, Florida. Approximately 180 miles east of El Paso, I-10 connects with I-20, which provides a transportation link to the Dallas-Fort

**Table 3.41  
Average Daily Traffic Volumes—El Paso Metropolitan Area**

Data Collection Point	ADT
1-10 East of Junction with U.S. 62/180	179,000

West of Junction with U.S. 54	151,000
West of Junction with U.S. 85	99,000
<b>U.S. 54</b>	
North of Junction 1-10	89,000
South of Junction 1-10	71,000
<b>U.S. 62/180</b>	
West of Junction with 1-10	19,900

1996 Two-Way ADT.

**Source:** Texas Department of Transportation *1996 Texas District Highway Traffic Map*.

Worth metropolitan area in north central Texas. U.S. 62 and U.S. 180 extend to the northeast to Carlsbad, New Mexico and into west Texas. U.S. 54 extends north into central New Mexico to Alamogordo and points north.

Table 3.41 shows average daily traffic volumes for the regional access facilities described above.

By comparing the volumes of traffic on the U.S. and Mexican regional facilities, it is apparent that the majority of the traffic on the U.S. facilities is related to commuter and local travel rather than cross border trade.

Regional access from the interior of Mexico to the El Paso-Ciudad Juarez POE system is provided by two federal highways, MX 002 and MX 045. MX 002 parallels the U.S.-Mexican border extending from the municipality of El Porvenir in the east to Baja, California. MX 002 is a two-lane "Type B" facility that operates at LOS C. Just outside the city limits of Ciudad Juarez, MX 002 intersects MX 045, which is the major north-south transportation facility extending south to the city of Chihuahua and points beyond. MX 045 is a non-toll highway from Chihuahua to El Sueco, a four-lane divided toll highway from El Sueco to Villa Ahumada that operates at LOS B, and a non-toll highway from Villa Ahumada to Ciudad Juarez.

Table 3.42 shows the 1995 vehicular flow by mode for the two regional access roadways to Ciudad Juarez.

Table 3.43 shows the variation of traffic volumes on these key segments between 1991 and 1995.

**Table 3.42**  
**1995 Vehicular Flow for the Access Highways to Ciudad Juarez**

Data Collection Point	ADT	Vehicular Classification in Percent		
		Passenger Cars	Buses	Trucks
002 Juarez-Janos	2,650	71.2%	3.3%	25.5%
002 E. Porvenir-Juarez				
Guadalupe	3,190	N/A	N/A	N/A
Zaragoza	7,620	N/A	N/A	N/A
Waterfill	13,340	N/A	N/A	N/A
045 El Sueco-Juarez	8,240	73.1%	5.1%	21.8%

**Source:** SCT Vital Statistics.

**Table 3.43**  
**Average Daily Traffic Volumes for Highways Serving Ciudad Juarez**

Year	MX 045 El Sueco-Juarez		MX 002 Janos-Juarez		MX 002 El Porvenir-Juarez	
	Km 197+720	Km 197+920	Km 0 + 0	Km 112 + 0	Km 30 + 540	Km 70 + 320
1991	3,317	3,227	1,681	1,138	2,691	NA
1992	3,361	4,812	2,430	1,245	3,040	7,253
1993	NA	NA	NA	NA	NA	NA
1994	3,610	4,956	2,575	1,320	3,220	7,690
1995	4,100	5,150	2,650	1,360	3,900	7,620

Source: SCT Vital Statistics

Crossing Access

Access to the southbound downtown bridge, Stanton Street-Puente Lerdo, from the north is via local streets. From I-10/U.S. 180/U.S. 80, there are interchanges with Yandell Drive and Missouri Avenue, which provide access to Stanton Street. Vehicles proceed approximately 16 blocks south to the border crossing. Vehicles entering the United States from the Santa Fe-Puente Juarez bridge travel approximately 16 blocks north to reach I-10/U.S. 180/U.S. 80. Because vehicles must use surface street, cross border traffic has to contend with local vehicle congestion, pedestrian flows, and traffic signals. The Stanton Street-Puente Lerdo and Santa Fe-Puente Juarez ports of entry are shown on Figure 3.9.

From the south, access to the Ciudad Juarez urban zone is provided via MX 045. From this major north-south facility, there are several east-west cross streets that provide access to Avenida Juarez and the Santa Fe-Puente Juarez crossing. The major east-west cross streets are Avenida de la Raza and Paseo Triunfo de la Republica, which becomes Avenida 16 de Septiembre.

The southbound vehicular traffic from the Stanton Street-Puente Lerdo crossing is distributed to several arterial roadways including: Avenida Malecon, Avenida Heroico Colegio Militar, and Avenida 16 de Septiembre.

Southbound access to the Bridge of the Americas-Puente Cordoba is provided directly from I-110, which is a short section connecting to I-10, U.S. 54, and U.S. 80. The Bridge of the Americas-Puente Cordoba port of entry is shown on Figure 3.10.

Northbound access to the Bridge of the Americas-Puente Cordoba is provided by Boulevard Aeropuerto and Avenida Tecnologico. From the southeast, the bridge can be accessed using Boulevard Gomez Morin and Tomas Fernandez, which later connect with Avenida Triunfo de la Republica, Avenida Lopez Mateos, or Avenida de las Americas. Direct access to the crossing is via Avenida Lincoln and Avenida Rafael Perez Serna. Southbound traffic is deployed by Avenida Malecon and Boulevard Fronterizo, which intersect with Avenida San Lorenzo, to continue on Avenida Tecnologico and Boulevard Aeropuerto and finally connect with MX 045 and MX 002.

Southbound access to the Ysleta-Zaragoza crossing is provided via Loop 375, which connects to I-10 approximately two miles from the border crossing. An alternate access to this crossing is via Zaragoza Road, which also connects to I-10 approximately two miles from the border crossing. The Ysleta-Zaragoza port of entry is shown on Figure 3.11.

Figure 3.9 Stanton Street-Puente Lerdo and Santa Fe-Puente Juarez Ports of Entry

Figure 3.10 Bridge of the Americas-Puente Cordoba Port of Entry

Figure 3.11 Ysleta-Zaragoza Port of Entry

The northbound interurban access to the Ysleta-Zaragoza crossing is accomplished via Libramiento Aeropuerto and its connection with Avenida de las Torres and Avenida Jilotepec. These facilities form the fastest access route to the crossing from the west side of the city. From MX 002 the access to the crossing is via Ramon Rayon and Waterfill. The primary connection to the Ciudad Juarez urban area from the Ysleta-Zaragoza crossing is via Avenida Jilotepec, Calle Juarez-El Porvenir, and Boulevard Tomas Fernandez.

Southbound access to Santa Teresa-San Jeronimo is via New Mexico State Highway 136 (SH 136). Currently SH 136 connects to Airport Road and to SH 273, Texas SH 20, and I-10. In the future, access will be provided more directly to I-10 with the construction of the last segment of SH 136 over the Rio Grande in Texas. TxDOT has indicated that right-of-way is being acquired for this last section. The Santa Teresa-San Jeronimo port of entry is shown on Figure 3.12.

Northbound access to the Santa Teresa-San Jeronimo crossing is provided by a new 19-kilometer, two-lane road that was paved in 1994. This road connects to MX 002.

**3.7.2 Physical Description**

This section describes the physical characteristics of each crossing included in the El Paso-Ciudad Juarez POE.

*Paired International Crossing Points Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo*

Table 3.44 summarizes the characteristics of the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo crossings. Table 3.45 shows a summary of the facilities located at both bridges.

**Table 3.44**  
**Characteristics of the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo Crossings**

	Mexican Facilities				U.S. Facilities			
	Peds	PVs	Truck	Rail	Peds	PVs	Truck	Rail
<b>Santa Fe-Juarez (NB)</b>								
Type Permitted	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Primary Inspection Lanes/Spaces	4	2	—	1	4	9	—	1
Secondary Inspection Spaces	0	0	—	—	—	26	—	—
<b>Stanton Street-Puente Lerdo (SB)</b>								
Type Permitted	Yes	Yes	No	No	Yes	Yes	No	No
Primary Inspection Lanes/Spaces	1	10	—	—	0	0	—	—
Secondary Inspection Spaces	0	20	—	—	0	0	—	—

Peds-Pedestrians, PVs-Passenger Vehicles  
Source: Barton-Aschman-La Empresa, 1997.

**Table 3.45**  
**Facilities at the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo Crossing**

	Juarez-Santa Fe		Lerdo-Stanton	
	Mexico	U.S.	Mexico	U.S.
Land Area	20,000 m <sup>2</sup>	50,000 m <sup>2</sup>	100,000 m <sup>2</sup>	na*
Number of Buildings	2	2	3	1
Construction Date	1967	1967	1967	1967
Latest Renovation	—	1991	—	—

\*No Customs facility here.  
Source: Barton-Aschman-La Empresa, 1997

Figure 3.12 Santa Teresa-San Jeronimo Port of Entry

*Santa Fe-Puente Juarez*

Pedestrians

Pedestrians can use this facility in both the northbound and southbound directions. In the northbound direction, pedestrians access the bridge through four entrances controlled by three toll booths (one of these booths has two entrances that are rarely open simultaneously). Pedestrians enter the bridge through four toll booths. From Monday through Wednesday, half of the toll booths are closed, and the rest of the days all of the booths are open.

Passenger Vehicles

The Santa Fe-Puente Juarez crossing has four travel lanes for northbound non-commercial traffic flow. There are four toll booths on the Mexican side of the bridge. Some trucks without trailers (bobtails) utilize this bridge to transfer equipment to the United States, but this is uncommon and, therefore, involves a relatively small number of trucks. When passenger vehicles reach the U.S. point of entry, there are nine primary inspection lanes where the U.S. Customs Service (USCS) processes vehicles. If a secondary inspection is required, vehicles move into the secondary inspection area with 26 inspection spaces.

*Stanton Street-Puente Lerdo*

Pedestrians

In the United States, pedestrians pass through turnstiles which allow them access to the bridge. Pedestrian entry into Mexico is conducted through three entrances, each one with its respective inspection selection system.

Passenger Vehicles

On the U.S. side of the bridge there are three toll booths for passenger vehicles and three lanes to handle southbound traffic flow. This bridge can operate up to four lanes if traffic flow warrants the extra capacity. There are no U.S. inspection facilities. At the Mexican facility, there are six primary inspection booths, two of them usually closed, where vehicles are subjected to the random selection and weight detection system. In addition, the inspection building has a large covered area that was designed for use as the secondary inspection area. However, due to the low vehicle demand at this bridge, the area is currently used as a parking lot.

Facilities

The Mexican inspection facilities of the Stanton Street-Puente Lerdo Bridge have adequate space, and due to the volume of traffic flow on the bridge; the space is usually underutilized. The main building at this crossing point, the Garita Reforma, is used by Customs and INM personnel.

*Bridge of the Americas-Puente Cordoba*

Table 3.46 shows the general characteristics of the Bridge of the Americas-Puente Cordoba and the Ysleta-Zaragoza crossing points. Table 3.47 shows a summary of the facilities. The Bridge of the Americas-Puente Cordoba crossing point operates 24 hours a day and handles the flow of passenger vehicles, loaded trucks, and pedestrians. This is the only toll-free crossing facility in the POE system, and therefore generates the greatest demand of any crossing facility in the El Paso-Ciudad Juarez POE. Overutilization of this facility caused

**Table 3.46**  
**Characteristics of the Bridge of the Americas-Puente Cordoba and Ysleta-Zaragoza Crossings**

	Mexican Facilities				U.S. Facilities			
	Peds	PVs	Truck	Rail	Peds	PVs	Truck	Rail
<b>Bridge of the Americas-Puente Cordoba</b>								
Type Permitted	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Primary Inspection Lanes/Spaces	3	12	116	—	3	10	6	—
Secondary Inspection Spaces	0	12	5	—	—	24	55	—
<b>Ysleta-Zaragoza</b>								
Type Permitted	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Primary Inspection Lanes/Spaces	1	6	65	—	3	8	6	—
Secondary Inspection Spaces	0	20	2	—	—	26	55	—

Peds-Pedestrians, PVs-Passenger Vehicles

Source: Barton-Aschman-La Empresa, 1997

**Table 3.47**  
**Facilities at the Bridge of the Americas-Puente Cordoba and Ysleta-Zaragoza Crossings**

	Bridge of the Americas-Puente Cordoba		Ysleta-Zaragoza	
	Mexico	U.S.	Mexico	U.S.
Land Area	160,000 m <sup>2</sup>	80,000 m <sup>2</sup>	120,000 m <sup>2</sup>	180,000 m <sup>2</sup>
Number of Buildings	9	5	9	5
Construction Date	1967	1967	1990	1991-92
Latest Renovation	ongoing	1997	—	—

Source: Barton-Aschman-La Empresa, 1997

significant structural damage to the previous bridge. Replacement of this bridge began in July 1996 and is nearly complete at this time. Full completion is scheduled for July 1998. The completed project will consist of two separate bridges with four lanes each direction for passenger vehicles and one lane each direction for commercial vehicles.

Pedestrians

With the completion of the new project, pedestrians will continue to be able to cross the bridge in both directions. There are three inspection lanes for pedestrians on both the north and south sides of the bridge.

Passenger Vehicles

Both northbound and southbound passenger vehicles cross the bridge in exclusive passenger vehicle-only lanes. In the United States, there are 10 primary inspection booths and space for up to 24 vehicles in the secondary inspection area.

In Mexico, there are 12 primary inspection lanes and space for up to 12 vehicles in the secondary inspection area.

Commercial Vehicles

The Mexican export inspection facility for northbound merchandise is located on the east side of the bridge. This facility has three inspection booths where the random selection system is used. If a green light is obtained, the trucks exit the facility directly to the international bridge.

There are six primary inspection lanes at the U.S. commercial inspection facility and dock space for 55 trucks at secondary inspection.

In the southbound direction, there are two Mexican Customs primary inspection booths for southbound trade. If a truck is selected for inspection, it enters the Customs yard where there are three platforms that can handle up to 116 trucks for a primary inspection.

There is one secondary inspection platform that can handle five trucks. Finally, there is a departure booth for exiting the Customs facility.

### Facilities

The U.S. facility consists of five buildings which house U.S. Customs officers, INS officers, and associated government officials. The commercial facility was renovated in 1992.

With the exception of the facilities at the new Santa Teresa-San Jeronimo crossing, the Mexican facilities at the Bridge of the Americas-Puente Cordoba crossing are the most extensive within the El Paso-Ciudad Juarez POE. The buildings house personnel from the International Boundary and Water Commission (IBWC) (Comision Internacional de Limites y Aguas-CILA), Customs, INM, SAGAR, and the Secretariat of Tourism. The bridge construction project has generated the need for significant renovation of the existing facilities. This work is underway and should expand the capacity for inspections at this location.

### *Ysleta-Zaragoza*

The Zaragoza-Ysleta crossing point is located at the southern end of the greater El Paso urban area and in the Mexican urban zone of Zaragoza. Tables 3.46 and 3.47 summarize the characteristics of and facilities at the Ysleta-Zaragoza crossing, respectively.

The crossing is actually two separate bridges, one is used by trucks and the other by passenger vehicles and pedestrians. Each bridge handles traffic flow in both directions. The passenger vehicle bridge operates 24 hours a day. The bridge used by loaded commercial trucks has two traffic lanes in each direction and operates from 8:00 a.m. to 12 midnight, Monday through Friday and 9:00 a.m. - 5:00 p.m. on Saturday. The passenger vehicle bridge has two traffic lanes in each direction.

Caminos y Puentes Federales de Ingresos y Servicios Conexos (CAPUFE) personnel operate the toll booths. A construction firm operates this bridge under a concession scheme. The current concession period has been extended to 20 years. CAPUFE has a contract with the concessionaire for managing the vehicular and pedestrian flow across both bridges.

### Pedestrians

There are three primary inspection stations for northbound pedestrians and one primary inspection station for southbound pedestrians. Pedestrians cross the traffic flow via an elevated crosswalk that takes them to/from the second floor of the U.S. administration building.

### Passenger Vehicles

Northbound passenger vehicles pay tolls at four toll booths and cross the bridge on two dedicated passenger vehicle lanes. At the U.S. inspection facility, there are eight primary inspection lanes and room for 26 vehicles in the secondary inspection area.

Southbound passenger vehicles pay toll at five toll booths and cross the bridge on two dedicated passenger vehicle lanes. At the Mexican inspection facility, there are six primary inspection lanes and room for 20 vehicles in the secondary inspection area.

Commercial Vehicles

The Mexican facilities used for inspecting southbound import merchandise are also used for inspecting northbound export merchandise. For northbound exports, there are five random selection lanes. Prior to the selection, all trucks are subject to a customs yard user fee, which was instituted to offset costs of expansion of the facility. The primary inspection area contains 50 spaces. The secondary inspection area can handle two trucks. At U.S. Customs primary inspection there are six primary inspection lanes and room for 65 secondary inspections.

Southbound commercial vehicles pass through two toll booths. Beyond the toll booth, a U.S. export facility dock and an export paper mailbox are located. The export dock is not currently used. Trucks cross the bridge on two dedicated commercial vehicle lanes.

At the Mexican inspection facility, there are five random selection lanes and 65 primary inspection spaces. Near the exit of the fiscal yard, there is an inspection booth equipped with another random selection system used for secondary inspections. The secondary inspection area can handle a maximum of two trucks. Finally, at the exit, there is a booth where documents are collected and the vehicles exit the Customs facility onto Avenida Jilotepec.

Facilities

The offices for Immigration, Customs, SAGAR, and the Secretariat of Tourism are located in the Edificio de Dependencias (Agencies Building) at the entrance of the international bridge. The facilities on the Mexican side occupy an area of approximately 120,000 square meters. The nine buildings were constructed in 1990, and house the governmental agencies involved with the movement of people and goods.

The U.S. inspection facility consists of two main administration buildings for USCS and INS. The U.S. Commercial Inspection Facility consists of one main building and a few small auxiliary buildings.

*Santa Teresa-San Jeronimo*

Santa Teresa-San Jeronimo is a land crossing located 20 kilometers to the west of El Paso-Ciudad Juarez. This crossing was established as a result of the petitions of a private investment group called "Santa Teresa International." The original purpose for establishing this international crossing point was to create an industrial and commercial development zone west of the El Paso-Ciudad Juarez metropolitan area, and provide a western connection between 1-10 and Ciudad Juarez. Table 3.48 summarizes the basic characteristics of the crossing. Table 3.49 lists the facilities at the crossing. This crossing point currently processes passenger and commercial vehicles. Associated with this crossing and located approximately one mile east of the commercial crossing, is a land crossing for live cattle. The facilities at this location are owned by the Cattle Growers of Chihuahua.

**Table 3.48**  
**Characteristics of the Santa Teresa-San Jeronimo Crossing**

	Mexican Facilities				U.S. Facilities			
	Peds	PVs	Truck	Rail	Peds	PVs	Truck*	Rail
Type Permitted	No	Yes	Yes	No	No	Yes	Yes	No
Primary Inspection Lanes/Spaces	—	2	60	—	—	2	1	-
Secondary Inspection Spaces	—	4	—	—	—	6	10	-

Peds-Pedestrians, PVs-Passenger Vehicles

\*Planned expansion to two primary lanes and 30 secondary inspection lanes (September 1997)

Source: Barton-Aschman-La Empresa, 1997

**Table 3.49**  
**Existing Facilities at the Santa Teresa-San Jeronimo Crossing<sup>1</sup>**

	Santa Teresa-San Jeronimo	
	Mexico	U.S.
Land Area	260,000 m <sup>2</sup>	400,000 m <sup>2</sup>
Number of Buildings	4	1
Construction Date	1992	1992
Latest Renovation	—	—

<sup>1</sup>New facilities under construction and expected to open late 1997.

Source: Barton-Aschman-La Empresa, 1997.

Passenger Vehicles

For passenger vehicles, there are two lanes for northbound traffic and two more for southbound traffic, while commercial trucks have one exclusive lane serving each direction. Northbound passenger vehicles pass through two primary inspection lanes. There are six secondary inspection spaces. Southbound passenger vehicles cross through two primary inspection lanes and there is room for four passenger vehicles in the secondary inspection area.

Commercial Traffic and Facilities

On the U.S. side, there is a single facility that serves commercial imports and exports. Trucks enter through one primary inspection lane. The building and adjacent inspection areas are temporary structures with a capacity of inspecting 10 commercial vehicles. In terms of potential expansion, this U.S. facility has the largest amount of available land for the POE system with approximately 405,000 sq. meters of total space. This land is reserved for future expansion of the facility to include an new intermodal facility.

On the Mexican side, there is a common inspection area for both imports and exports that is entered through one random selection lane with an inspection platform that handles up to 60 trucks. In addition, there is a building that currently houses only Customs personnel.

Figure 3.12 shows the Phase I design for new inspection facilities for this crossing, which are currently under construction and are expected to open in late 1997.

**3.7.3 Staffing and Hours of Operation**

In the United States there are 331 Customs agents and 206 INS agents that rotate between the four vehicular urban crossings.

On the Mexican side of the border, there are 285 Customs agents, 57 immigration agents, and 66 INM staff people responsible for administrative duties who work from 8:00 AM to 3:00 PM, assigned to the four urban vehicular crossings in the Juarez-El Paso POE. In addition to the personnel listed in Table 3.50, SAGAR has 22 produce inspectors who work from 8:00 AM to 4:00 PM. Most of the Customs personnel work at the Bridge of the Americas-Puente Cordoba, as well as other sites such as the Porvenir Customs, Ciudad Juarez Airport, Bus Station (Central Camionera), and at the 30-kilometer check point on the Pan American Highway. Table 3.50 gives a summary of personnel and working office hours of each agency.

For the Santa Teresa crossing there are three Mexican Customs agents, 11 U.S. Customs agents, and one INS inspector. Agriculture inspectors also work at this location.

**Table 3.50  
Staffing and Hours of Operation—El Paso-Ciudad Juarez POE**

	Mexico			U.S.	
	Customs	Immigration	CAPUFE	Customs	Immigration
<b>Santa Fe-Puente Juarez, Stanton Street - Puente Lerdo, Bridge of the Americas-Puente Cordoba, and Ysleta-Zaragoza Bridges</b>					
No. of Personnel	285	123	—	331	206
Hours	8:00 AM-10:00 PM	8:00 AM-3:00/10:00 PM	24 hours.	24 hours <sup>a</sup>	24 hours <sup>a</sup>
Seasonal Variation	No	No	No	No	No
<b>Santa Teresa-San Jeronimo</b>					
No. of Personnel	3	—	—	11	1
Hours	8:00 AM-4:00 PM	—	—	6:00 AM -10:00 PM	6:00 AM -10:00 PM
Seasonal Variation	No	No	No	No	No

<sup>a</sup> Passenger vehicle operation only

Source: Barton-Aschman-La Empresa, 1997.

**3.7.4 System Operation**

The crossings within the El Paso-Ciudad Juarez POE experience problems similar to the other crossings along the U.S.-Mexican border. Differences in the hours of operation and operational practices create cross-border coordination problems that reduce the effectiveness of performance on each side of the POE.

*Paired Crossing Points Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo*

The Santa Fe-Puente Juarez crossing point only handles northbound traffic. Even though loaded trucks are not allowed at this crossing, there are six export inspection booths on the Mexican side of this crossing with an inspection area for 60 trucks. The crossing is sometimes used by farm tractors and truck tractors to connect trailers for temporary or permanent importation. Up to 60 of these vehicles cross per day, and they usually use the rightmost lane.

Truck tractors and unloaded trucks also use this crossing, which has four inspection booths equipped with random selection systems. There is also a secondary inspection area with a capacity of 60 trucks. Neither the inspection booths nor the inspection facilities are used since this crossing no longer processes southbound freight. The underutilization of the Stanton Street-Puente Lerdo Custom facilities is in sharp contrast to the congested conditions experienced at the Bridge of the Americas-Puente Cordoba crossing.

*Bridge of the Americas-Puente Cordoba*

The U.S. and Mexican governments with the support of the El Paso- Ciudad Juarez communities have instituted temporary commercial vehicle tolls to assist in financing of the construction to replace and expand the prior structure. It currently operates with fewer lanes than will exist upon completion of construction in mid 1998. The bridge itself appears to operate acceptably even during peak periods. However, accommodations for construction and limited inspection capacity (passenger vehicle lanes and open primary inspection booths northbound) and truck inspection capacity southbound) do generate significant peak period delays, especially northbound. This will be examined further in Task 9. The street system appears to be able to efficiently accommodate existing traffic volumes, subject to inspection facility capacity limitations.

*Ysleta-Zaragoza*

Operations at this relatively new crossing generate little delay to passenger vehicles except northbound during peak periods. It appears that demand exceeds the capacity of the northbound primary inspection lanes.

Trucks encounter extensive delays both northbound much of the day and southbound especially during the afternoon due to limited staffing of inspection booths. This will be studied further in Task 9.

*Santa Teresa-San Jeronimo*

Operations at this crossing are low volume and without major problems. Daily commercial vehicle crossings are approaching 100 and increasing.

An additional project, an intermodal terminal on the U.S. side, is being studied. An important constraint for this project remains that this crossing does not have adequate highway infrastructure for access. The intermodal project includes the construction of a railroad line for commercial trade.

**3.7.5 Statistical Description**

The statistical description shown in Table 3.51 includes an aggregate of the four most active vehicle and pedestrian crossings: Santa Fe-Puente Juarez, Stanton Street-Puente Lerdo, Bridge of the Americas-Puente Cordoba, and Ysleta-Zaragoza.

Table 3.51 indicates the number of pedestrian crossings was stable from 1991 to 1993, jumped by 15 percent in 1994, then had a sharp decrease due at least in part to the devaluation of the peso. The number of passenger cars using the crossings increased steadily from 1991 through 1995 for an overall increase of 32 percent for an average annual growth rate of approximately 7 percent. Similarly, truck traffic increased steadily, by 34 percent from 1991 to 1995, for an average annual growth rate of approximately 8 percent.

Similar to the San Diego-Tijuana POE system, international trade using the El Paso-Ciudad Juarez POE system is primarily related to the maquiladora industry.

*El Paso-Ciudad Juarez International Railroad Crossings*

Table 3.52 shows the volume of northbound and southbound trade processed on the two railroad bridges located near the Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo bridges. The northbound volume of rail trade, which accounted for over 45 percent of total rail trade in 1990, has fallen sharply over the five-year period to only 17 percent of total rail traffic through this POE. In 1991, the volume of trade decreased by 52 percent from the previous year. During the four-period from 1991 through 1994 the volume of trade has varied within 20 percent of the four-year average. Preliminary information from 1995 indicates that the volume of trade moved by rail is increasing, however it is still 18 percent below the volume of trade in 1990. There have been continuous increases in southbound trade the period shown. From 1990 through 1994 the volume of imports had an average annual growth rate of 24.7 percent. However, based on preliminary data, the 1995 southbound trade volume decreased by 31 percent from 1994, primarily due to the devaluation of the peso.

**Table 3.51**  
**Northbound POE Vehicular and Pedestrian Flow**

Mode	1991	1992	1993	1994	1995
Passenger Vehicles	12,271,656	12,665,373	14,231,784	15,747,393	16,098,890
Trucks	455,121	552,171	563,413	580,200	610,177
Pedestrians	5,373,675	5,126,383	5,279,779	6,122,025	4,442,060

Source: U.S. Customs Service, 1996

**Table 3.52**  
**Rail Freight Movement Through the El Paso-Ciudad Juarez POE System (In Tons)**

	1990	1991	1992	1993	1994
Northbound	521,406	279,849	198,974	286,464	256,203
Southbound	620,775	721,478	1,143,531	1,438,625	1,500,240

Source: Mexican National Railroad (FNM), 1995

### 3.7.6 Commercial Activity

Table 3.53 shows the number of loaded northbound commercial vehicles using the El Paso-Ciudad Juarez POE system for the period from 1991 to 1994. The average annual growth rate of commercial vehicles using the El Paso-Ciudad Juarez POE was 7.6 percent from 1991 through 1994.

The majority of freight movement through the El Paso-Ciudad Juarez POE, both northbound and southbound, utilizes the highway transportation system. Approximately 99 percent of northbound trade and 98 percent of southbound trade occurs over the highway system. Table 3.54 shows the distribution by mode for trade using the El Paso-Ciudad Juarez POE based on SECOFI data. Even though there are two railroads connecting the Mexican National Railroad (FNM) with two U.S. railroad companies, freight transportation by rail is almost negligible. One reason highway transportation is the most common mode is that approximately 70 percent of the commercial trade using the POE is destined to or originating from Ciudad Juarez. Most of the remainder of trade through this POE is associated with other locations within the State of Chihuahua. These numbers reflect the strong influence of maquiladora trade using the El Paso-Ciudad Juarez POE system. Table 3.55 shows the 1994 trade activity percentages as reported by the Department of State. These numbers are similar to those reported by SECOFI.

**Table 3.53**  
**Total Northbound Commercial Vehicles at the El Paso-Ciudad Juarez POE System**

Year	Total Northbound Commercial Vehicles
1991	455,121
1992	552,171
1993	563,413
1994	580,200

Source: 1995 U.S. Customs Service

**Table 3.54**  
**1995 Trade Activity by Mode—El Paso-Ciudad Juarez POE System**

	Highway <sup>1</sup>	Rail <sup>1</sup>	Pipeline <sup>1</sup>	Other <sup>1</sup>	Total <sup>1</sup>
Northbound	10,659.99 98.98%	92.6 0.86%	0 0	17.2 0.16%	10,769.8 100%
Southbound	9,361.9 97.61%	195.54 2.04%	20.1 0.21%	7.67 0.08%	9,582.2 100%

<sup>1</sup>Millions of dollars

Source: SECOFI

**Table 3.55**  
**1995 Trade Activity by Mode—El Paso-Ciudad Juarez POE System**

	Highway	Rail	Pipeline	Other	Total
Northbound	94.3%	1.8%	0.0%	3.9%	100%
Southbound	98.1%	1.8%	0.0%	0.1%	100%

Source: 1995 Trans-Border Surface Freight Data, U.S. Department of Transportation.

Table 3.56 presents the top 15 categories of northbound products passing through the El Paso-Ciudad Juarez POE system. Ten of these products are among the 15 major Mexican export categories (to the United States) at a national level. The major categories of products flowing northbound through the El Paso-Ciudad Juarez POE system are related to the manufacturing of plastics, paper, wood, and rubber, as well as machinery, replacement parts for machinery, and textile products. These product categories are all related to the maquiladora industry. One significant non-maquiladora product using this POE system is the northbound trade in cattle.

Table 3.57 shows the major southbound product categories passing through the El Paso-Ciudad Juarez POE system. Again, 10 of the major southbound product categories passing through the El Paso-Ciudad Juarez POE system are among the 15 major southbound product categories (coming from the United States) at the national level. Eight of these categories correspond to the major northbound products shown on Table 3.56, indicating a large participation here in the maquiladora industry. Other products such as aluminum, steel, cast iron, filaments, and textile fibers are also related to the maquiladora industry. Only the products corresponding to mineral fuels, such as natural and liquefied petroleum (LP) gas, are not related directly to the maquiladora industry.

**Table 3.56**  
**Top 15 Northbound Product Categories—El Paso-Ciudad Juarez POE System, 1995**

Key	Product Category	Value <sup>1</sup>	Percent (%)
85	Machinery, Electric Materials and Devices	6,735.29	62.54
84	Nuclear Reactors, Boilers and Machinery	711.84	6.61
62	Clothes and Accessories	606.77	5.63
94	Furniture, Medical and Surgical Supplies	418.14	3.88
90	Optical Instruments and Supplies, Photography	232.71	2.16
39	Plastic Materials and Plastic Products	228.33	2.12
87	Cars, Tractors, Bicycles and Other Vehicles	208.07	1.93
48	Paper and Cardboard (Raw Material/Products)	205.40	1.91
44	Wood, Coal, and Wood and Coal Products	165.88	1.54
63	Other Textile Items	150.68	1.40
01	Live Animals	119.01	1.11
61	Clothes	108.77	1.01
74	Copper and Copper Products	95.36	0.89
95	Toys, Games, and Recreational Items	84.23	0.78
73	Iron and Steel Products	65.13	0.60
	Other Products	634.23	5.89
	Total	10,769.84	100.0

<sup>1</sup> Millions of dollars

Source: SECOFI

**Table 3.57**  
**Top 15 Southbound Product Categories—El Paso-Ciudad Juarez POE System, 1995**

Key	Product Category	Value <sup>1</sup>	Percent (%)
85	Machinery, Electric Materials and Devices	4,340.55	45.28
39	Plastic Materials and Plastic Products	1,115.14	11.63
84	Nuclear Reactors, Boilers and Machinery	608.94	6.35
73	Iron and Steel Products	551.65	5.76
62	Clothes and Accessories	356.16	3.72
48	Paper and Cardboard (Raw Material/Products)	317.74	3.31
90	Optical Instruments and Supplies, Photography	242.56	2.53
27	Mineral Fuels and Mineral Oils	218.64	2.28
54	Synthetic or Artificial Filaments	154.87	1.62
74	Copper and Copper Products	140.25	1.46
76	Aluminum and Aluminum Products	130.86	1.37
40	Rubber and Rubber Products	112.46	1.17
41	Leather	97.83	1.02
58	Special Textiles	92.62	0.97
56	Raw Cotton, Felt, and Fabrics	77.92	0.81
	Other Products	1,027.06	10.72
	Total	9,585.25	100

<sup>1</sup> Millions of dollars

Source: SECOFI

### 3.7.7 Final Comments

#### *International Crossing Points Santa Fe-Puente Juarez and Stanton Street-Puente Lerdo*

- Customs and CAPUFE facilities are underutilized at the Stanton Street-Puente Lerdo crossing point. This crossing presents the smallest average daily traffic for the four Ciudad Juarez urban bridges, in contrast with its capacity of six traffic lanes. Increased usage of this bridge may help reduce traffic congestion at other bridges. One way this might be implemented is by the completion of the proposed Designated Commuter Lane (known as SENTRI). This system would be similar to the one in place at Otay Mesa. This will require construction of northbound inspection facilities and the entry's official designation as a port of entry.
- On the U.S. side of the Stanton Street-Puente Lerdo bridge, there is limited space available (known as sentri) and no facilities to process northbound passenger vehicles, trucks and/or pedestrians. In the last ten years, it has been proposed that two-way traffic be permitted at the Lerdo-Stanton bridge in order to better utilize the bridge and the facilities, as well as to relieve traffic from the Santa Fe-Puente Juarez bridge during rush hours.
- The buildings and facilities in the Santa Fe-Puente Juarez crossing are small and there is no available space for possible expansion on the Mexican side of the crossing. Similar space constraints exist on the U.S. side.

#### *Bridge of the Americas-Puente Cordoba*

- Until 1995, most of the commercial shipments were processed through this crossing. Even though a high volume of cargo remains, there is only one lane currently assigned to commercial vehicles. In addition, this bridge carries the highest volume of passenger vehicles so traffic flow and congestion is constant from 11:00 AM until 8:00 PM.

- A new bridge is under construction. This project will increase the vehicular capacity for both passenger and commercial vehicles. Corresponding increases in inspection capacity will be needed.
- The fact that this is a toll-free bridge creates higher usage. This has made it more difficult to balance vehicular flow and optimize the usage of the four crossings within the urban area. Since the new replacement bridge will also be a toll-free facility, traffic problems likely will continue.
- To improve the efficiency of commercial operations, Mexican Customs officials expanded and reorganized the export inspection area. The inspection area was divided into three platforms: produce products, permanent exportation, and maquiladora. This reorganization has reduced processing times.
- In spite of the expansion, there are still long waiting lines for commercial vehicles due to the limited staffing of the U.S. primary inspection booths. Mexican authorities have requested the opening of more primary inspection lanes on the U.S. side.

#### *Ysleta-Zaragoza International*

- This crossing is operating under capacity in terms of traffic volumes, which to date allows for efficient performance of both the commercial and non-commercial bridges. However, during peak periods, queues result due to insufficient inspection capacity, especially northbound.
- One of the objectives for constructing the bridge exclusively for commercial vehicles was to provide service to the maquiladora industry located close to the bridge. However, since this bridge is a toll facility and Cordoba-Bridge of the Americas-Puente Cordoba is not, the Ysleta-Zaragoza Bridge does not attract informal loads and a large portion of unloaded trucks and bobtails.

#### *Santa Teresa-San Jeronimo International*

- So far, commercial and non-commercial traffic flow has been very limited. Therefore, the future operational activity/efficiency of this crossing cannot be ascertained.
- On the U.S. side, in Santa Teresa, there is a thriving maquiladora industry. Currently, the access roads to these industrial plants have not been finished. In addition, the lack of a direct connection in Texas to I-10 makes shippers less interested in using this crossing.

### **3.7.8 Conclusions**

- Like most other POEs, this one started with centrally located road crossings and has added one on each end of the urbanized area to attract and serve commercial vehicles. Ysleta-Zaragoza has attracted most of the loaded trucks. Santa Teresa-San Jeronimo is still relatively new and without a direct connection to I-10 so it has not yet made a major impact.
- The absence of tolls on the Bridge of the Americas-Puente Cordoba causes that bridge to remain attractive to both passenger vehicle and truck drivers. The crossing time for empty and informal loaded trucks is not sufficiently longer than at Ysleta-Zaragoza to justify the additional cost of the toll.

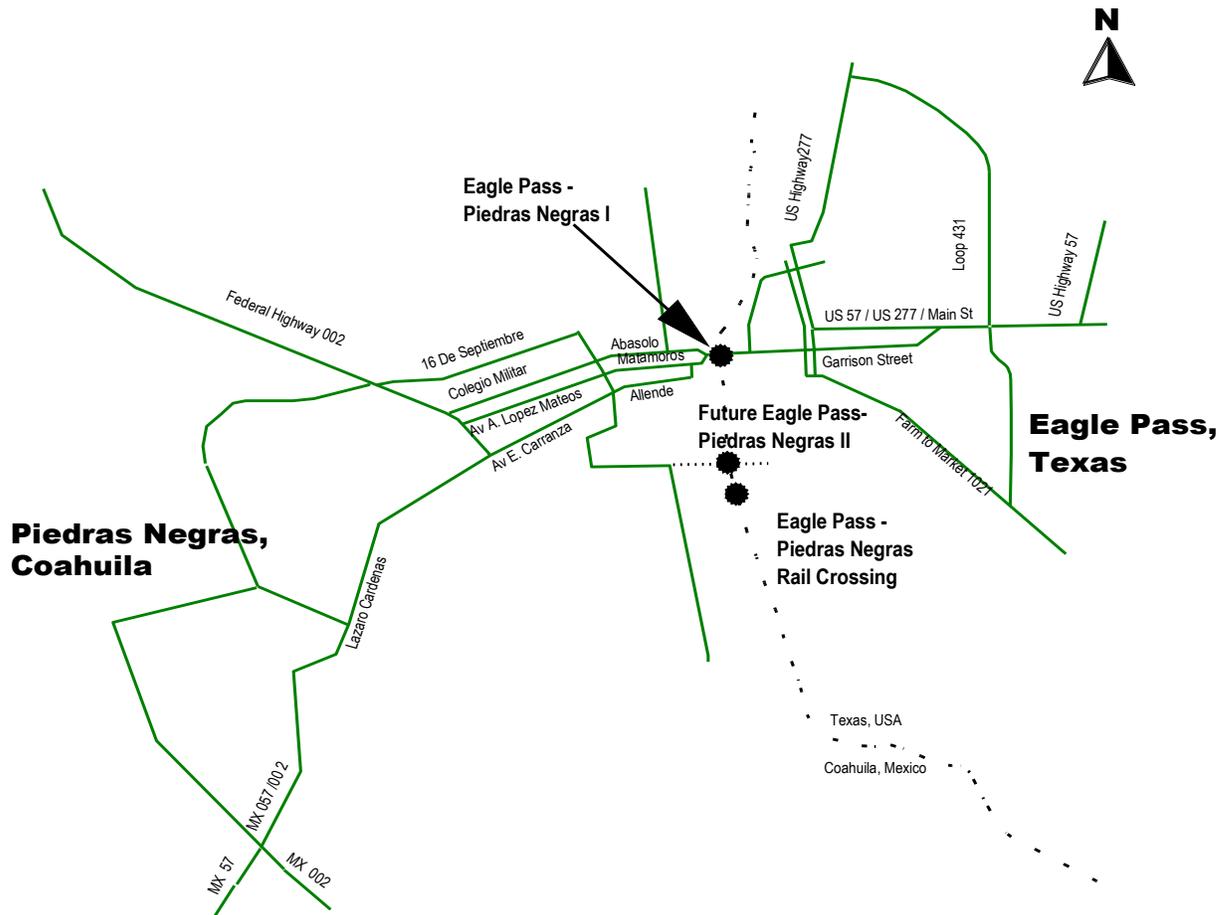
- There are northbound delays at the two major crossings due to limited passenger vehicle inspection capacity and commercial vehicle primary booth staffing. In both cases there appear to be too few northbound lanes available or open during peak demand periods.
- Santa Fe-Puente Juarez carries limited volumes of passenger vehicles. However, the intersection capacity limitations on the north end of the bridge preclude significant increases.
- The Stanton Street-Puente Lerdo crossing is underutilized as a northbound crossing, but it has limited space for inspection facilities. Even if northbound inspection facilities are built, for exclusive use as a dedicated commuter lane, space limitations on the U.S. side will limit the bridge's capability to accommodate more traffic.
- Capacity limitations at Bridge of the Americas-Puente Cordoba and Ysleta-Zaragosa appear to be limited by inspection capacity. The downtown crossings have insufficient space or intersection limitations causing them not to be able to handle much more traffic. Santa Teresa-San Jeronimo appears to have the ability to handle far more traffic, but needs the direct connection to I-10.

### 3.8 Eagle Pass-Piedras Negras Port of Entry System

The Eagle Pass-Piedras Negras POE system consists of two crossings: Eagle Pass-Piedras Negras I (pedestrians, passenger vehicles, and commercial vehicles) and the Eagle Pass-Piedras Negras railroad crossing. Figure 3.13 shows the geographic location of the border crossings. By early 1998, ground breaking will occur for a third crossing, Eagle Pass-Piedras Negras II.

The vehicular crossing is located in the downtowns of Eagle Pass and Piedras Negras. On the U.S. side, the downtown is located slightly to the west of the crossing. In Piedras Negras, however, the crossing is located in the most dynamic commercial and service zone of Piedras Negras. The railroad bridge is located 0.5 kilometer to the south (east) of the vehicle bridge.

Figure 3.13  
Crossing Points in the Piedras Negras-Eagle Pass POE



Source: Barton-Aschman-La Empresa, 1997

*Eagle Pass-Piedras Negras*

On the U.S. side, the land use in the vicinity of the bridge consists of commercial and public service uses. The land use adjacent to the crossing on the Mexican side is composed primarily of commercial and service purposes with some low density residential. A variety of restaurants and hotel services are located on Avenida Matamoros. Special facilities located in this zone include the Zaragoza Market, Central de Autobuses, and Parroquia de Nuestra Señora de Guadalupe. On Avenida Abasolo, there are several important public buildings including the Police Department, the former City Hall, and the Secretariat of Tourism.

**3.8.1 Regional Transportation Infrastructure**

Regional access to the Eagle Pass-Piedras Negras POE system is provided in the United States via U.S. 57 and US. 277. U.S. 57 provides the most direct connection to I-35, the major north-south transportation facility in Texas. U.S. 57 joins I-35 approximately 45 miles south of San Antonio, Texas. U.S. 57 has been widened to four lanes for eight miles from Eagle Pass northwest. U.S. 277 parallels the U.S.-Mexican border connecting Eagle Pass to Laredo in the south and Del Rio in the north. U.S. 277 widening projects were awarded for two locations with completion anticipated October 1997. Table 3.58 shows average daily traffic volumes in the Eagle Pass area.

Regional access to the Eagle Pass-Piedras Negras POE system is provided in Mexico via MX 057. This facility is a “Type B” highway that operates at Level of Service C (LOS C). MX 057 links Piedras Negras to the cities of Nueva Rosita, Sabinas, Monclova, and Saltillo in the State of Coahuila. MX 057 is a two-lane highway in the Saltillo-Monclova-Sabinas section, a four-lane highway from Sabinas to Nueva Rosita (13 km), a two-lane highway in the Nueva Rosita-Allende-Nava section, and a four-lane highway from Nava to Piedras Negras.

At Monclova, MX 057 intersects MX 053 and MX 030, which provide links to Monterrey and Torreon, respectively. An alternative route to Torreon is through Saltillo via MX 040. MX 057 extends into other states in central Mexico such as San Luis Potosi, Queretaro, Estado de Mexico, and the Federal District. Alternatively, MX 054 connects with other states such as Zacatecas, Aguascalientes, Michoacan, and Jalisco.

Another important regional facility is MX 002. This facility is a two-lane “Type B” highway that operates between LOS A and LOS B. This roadway connects the Mexican border communities from Ciudad Acuña in the west to Matamoros on the Gulf coast. The Guerrero-Piedras Negras (southern) section of MX 002 in the State of Coahuila generates the heaviest volume of traffic. Table 3.59 shows traffic volumes for Mexican roadways serving Piedras Negras.

**Table 3.58  
Average Daily Traffic Volumes—Eagle Pass Area**

Highway, Section	ADT
U.S. 57, north of 57/277 junction	3,400
U.S. 57/277, west of 57/277 junction	11,800
U.S. 277, north of 57/277 junction	10,600

**Source:** Texas Department of Transportation, *1996 Texas District Highway Traffic Map*

**Table 3.59**  
**Vehicular Flow for the Access Highways to Piedras Negras, 1995**

Data Collection Point	ADT	Vehicular Classification in %		
		Passenger Vehicles	Passenger Buses	Commercial Vehicles
MEX-002 (MX 002) T.C. (Monclova-Piedras Negras)-Nuevo Laredo Entronque Monclova-Piedras Negras Km. 0 + 0	1,630	NA	NA	NA
MEX 002 (MX 002) Piedras Negras-T.V. (Morelos-Ciudad Acuña) Piedras Negras Km. 0 + 0	2,420	NA	NA	NA
MEX-057 (MX 057) Monclova-Piedras Negras Nava Km. 206 + 850	10,175	82.1	5.7	12.2

Source: SCT Vital Statistics

**Table 3.60**  
**Daily Traffic on the Access Highways to Piedras Negras**

Highway	1991	1992	1993	1994	1995
MEX-002 (MX 002) T.C. (Monclova-P. Negras)-Nuevo Laredo Entronque Monclova-Piedras Negras, Km. 0 + 0 Guerrero, Coahuila, Km. 42 + 000	1,313 569	1,362 1,153	NA NA	1,648 1,405	1,630 1,387
MEX-002 (MX 002) Piedras Negras-T.C. (Morelos-Cd. Acuña) Piedras Negras, Km. 0 + 0 Jimenez, Km. 46 + 000	NA NA	NA 1,910	NA NA	2,400 2,600	2,420 2,080
MEX-057 (MX 057) Monclova-Piedras Negras Nava, Km. 206 + 850 (one way) Der. to Guerrero, Km. 240 + 280 (one way)	4,559 4,770	4,452 4,803	NA NA	10,387 5,140	10,175 5,037

Source: SCT Vital Statistics

Table 3.60 shows growth in daily traffic on the access highways.

MX 002 had a slow increase in traffic volumes. For the Entronque Piedras Negras-Nuevo Laredo section, the average annual growth rate was between 5.6 percent and 6.3 percent for the 1991 through 1995 period for the data collection points shown. The Piedras Negras-Entronque Ciudad Acuña section had an annual growth rate of 2.9 percent.

MX 057 had a significant increase in traffic between 1992 and 1994 when the traffic volumes doubled. However, between 1994 and 1995 the traffic volumes did not change, possibly due to the economic slow down in 1995. The average annual growth rates were 22 percent and 1.4 percent in the city of Nava and in the city of Guerrero, respectively.

### Crossing Access

In the United States, access to the bridge from U.S. 57/U.S. 277, which becomes Main Street in the City of Eagle Pass, is provided via Garrison Street. Both commercial vehicles and passenger vehicles have to cross downtown Eagle Pass to access the bridge. Figure 3.14 shows the Eagle Pass-Piedras Negras POE. From Mexico, access is provided via two major downtown streets: for northbound traffic Avenida Matamoros and for southbound traffic Avenida Abasolo. Access from MX 057 and MX 002 is provided via downtown thoroughfares. In Piedras Negras both passenger vehicles and commercial vehicles must cross through the downtown area to access any regional facilities.

Figure 3.14 Eagle Pass-Piedras Negras POE

### 3.8.2 Physical Description

The physical characteristics of this POE are presented in Table 3.61. The original bridge was constructed in 1927, reconstructed in 1954 and rehabilitated in 1985. The vehicular capacity on the bridge is limited since there are only two traffic lanes, one for each direction. Each lane must accommodate a mixed flow of passenger vehicles and commercial trucks. There are two sidewalks, one on each side of the bridge, which are used by pedestrians.

#### Pedestrians

Both northbound and southbound pedestrians are separated from conflicts with vehicular flow. There is one primary inspection station in each direction.

#### Passenger Vehicles

On the Mexican side of the border, there are three toll booths for northbound traffic. Both commercial vehicles and passenger vehicles pass through these toll booths. On the U.S. side, there are five primary inspection lanes for passenger vehicles. There are 20 secondary inspection spaces.

On the U.S. side of the border, there are three toll booths. For southbound passenger vehicle traffic there are four primary inspection booths equipped with the random selection system. There are 10 secondary inspection spaces available.

#### Commercial Vehicles

Mexican commercial vehicle export inspections are located away from the border crossing and all commercial vehicles must go to the customs area prior to crossing the border. The Mexican customs area is located 700 meters to the southeast of the bridge. Export inspections are conducted at this remote location and paperwork is provided to the truck drivers to give to the toll takers indicating that the truck is free to cross the border.

In the United States there is a single primary inspection lane. If a vehicle is selected for a secondary inspection, it proceeds into the secondary inspection area which has a truck dock with a capacity of 25 vehicles.

For southbound commercial traffic there are two primary inspection bays which are accessed through one southbound lane. The random selection system is applied at this location. If primary or secondary inspections are required, the trucks are escorted through downtown Piedras Negras to the Mexican Customs facility, 700 meters to the southeast. Table 3.62 shows a summary of the facilities at the Eagle Pass-Piedras Negras POE.

**Table 3.61  
Characteristics of the Eagle Pass-Piedras Negras I Crossing**

	Mexican				United States			
	Peds	PVs	Trucks	Rail	Peds	PVs	Trucks	Rail
Type of Flow Permitted	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Primary Inspection Lanes/Spaces	1	4	2	—	1	5	2	—
Secondary Inspection Spaces	—	10	18	—	—	20	25	—

Source: Barton-Aschman-La Empresa, 1997

**Facilities**

On the U.S. side, the facilities were renovated in 1991 when the commercial inspection area was expanded to a total of 520,000 square meters. The renovations increased the size of the inspection docks to allow up to 25 trucks at a time. In addition, the facility was constructed to allow for a maximum of 50 inspection spaces in the future.

On the Mexican side, the available area is small and without any room for future expansion since it is surrounded by the city. The two buildings and the inspection booths, which were constructed in 1963, have not received any major renovation. On the Mexican side, the entrance and departure facilities are located only 40 meters from each other. Between the two facilities, there are two buildings. One building, Garita Internacional, houses Mexican Customs and another is used by CAPUFE personnel.

**3.8.3 Staffing and Hours of Operation**

Table 3.63 displays the number of Customs personnel and the working office hours available for processing commercial vehicles at the Eagle Pass-Piedras Negras POE.

In the United States, approximately 100 federal employees are stationed at Eagle Pass, including 72 Customs agents, and 31 INS agents.

On the Mexican side, a total of 65 customs agents have been assigned to this POE. These agents are assigned as follows: 15 agents to the Eagle Pass-Piedras Negras I crossing, 7 to the export inspection area, 25 to the administrative offices, and the rest to the bus station, airport, and rail station.

The bridge is open 24 hours for passenger vehicles, but has restricted hours for commercial vehicles, as shown in Table 3.63.

**Table 3.62  
Facilities at the Eagle Pass-Piedras Negras POE**

Facilities	Mexican	United States
Land Areas		
Buildings	560 m <sup>2</sup>	N/A
Federal Land	1,000 m <sup>2</sup>	520,000 m <sup>2</sup> *
Number of Buildings	2	2
Construction Date	1963	1963
Latest Renovation	1985	1991

\*Total land and building areas.

Source: Barton-Aschman-La Empresa, 1997

**Table 3.63  
Staffing and Hours of Operation—Eagle Pass-Piedras Negras POE System**

	Mexico	United States	
		Customs	INS
Number of Personnel	65	71	31
Office Hours			
Commercial	8:00 AM-10:00 PM	9:00 AM-9:00 PM	
Non-Commercial	24 hours	24 hours	
Seasonal Variation	No	No	

Source: Barton-Aschman-La Empresa, 1997

**3.8.4 System Operation**

There is no designated “Ruta Fiscal” (“Customs Route”) in Piedras Negras for commercial vehicles to follow to the remote inspection area. Therefore, the use of the remote inspection area requires driving large commercial vehicles on narrow streets within the downtown.

**3.8.5 Statistical Description**

This section presents historic traffic flow volumes for pedestrian, passenger vehicle, commercial vehicle and rail traffic. Table 3.64 summarizes the data for the three modes using Eagle Pass-Piedras Negras I from 1991 to 1995. Table 3.65 shows the railroad commercial flow at the Eagle Pass-Piedras Negras POE from 1990 to 1994.

Pedestrian crossings were the highest in 1991 followed by a significant drop of over 22 percent in 1992. For the four-year period from 1992 to 1995, pedestrian volumes have fluctuated slightly but remained at around 400,000 persons annually.

Passenger vehicle volumes had a steady increase of approximately 2.5 percent per year. There was a slight decline in volume in 1995 that corresponds to the devaluation of the peso.

Commercial traffic also showed a steady increase from 1991 to 1994 with an average annual growth rate of approximately 15.1 percent. In 1995, the commercial volumes remained at the same levels as in 1994. Again, this was probably due to the devaluation of the peso. However, it should be noted that many POEs experienced a sharp decline in commercial volume in 1995.

There is clearly a rail trade imbalance between northbound and southbound trade. The 1990 trade figures show the greatest imbalance, with a ratio of northbound to southbound trade of 26 percent to 74 percent. In the most balanced year, 1993, the northbound to southbound trade ratio was 38 percent to 62 percent.

Northbound rail trade increased significantly in 1993 by 59.8 percent over the previous year. Northbound tonnage by rail had been relatively stable in the prior two years and did not increase the year after the big 1993 jump. Southbound rail trade fluctuated to a large degree during this five-year period. Tonnage for 1990 and 1994 were similar.

**Table 3.64  
Northbound Vehicular and Pedestrian Flow**

Mode	1991	1992	1993	1994	1995
Passenger Vehicles	2,503,684	2,541,132	2,661,287	2,691,652	2,537,840
Commercial Vehicles	36,060	41,868	45,318	55,046	54,779
Pedestrians	510,839	405,442	415,285	398,774	399,685

Source: U.S. Customs Service, 1996

**Table 3.65  
Cargo Movement by the Eagle Pass-Piedras Negras Railroad Bridge (Tons)**

Direction	1990	1991	1992	1993	1994
Northbound	378,555	394,985	342,508	547,394	537,626
Southbound	1,066,356	808,174	909,676	883,353	1,012,359

Source: Mexican National Railroad, 1995

**3.8.6 Commercial Activity**

The modal distribution of trade between truck and rail is unique at this POE system. Northbound rail traffic carried 50.5 percent of cargo movement by value, a condition that has not been observed at any of the other seven border railroad crossings. For southbound cargo flow, the modal distribution participation also shows a different trend with respect to the rest of the railroad crossings. For southbound trade, rail carried 16.4 percent and commercial vehicles carried 53.4 percent. The remaining 30.2 percent is reported as "Other" modes. While in some ports other modes might include pedestrian and small imports/exports, the high percent reported for this POE

system cannot be explained. It may be the case that the mode was not recorded when the import/export documents were filed. Table 3.66 shows the modal distribution of trade according to SECOFI data using the Eagle Pass-Piedras Negras POE system.

Table 3.67 shows 1995 trade activity by mode according to the U.S. Department of Transportation. Northbound numbers are quite similar to those reported by SECOFI. Southbound numbers, however, show a much higher amount of trade carried by rail.

Table 3.68 shows traffic statistics for northbound commercial trucks. A steady growth was observed in the vehicular traffic from 1991 to 1994. For this period, the mean annual growth rate was 15 percent. In 1995, truck volumes did not grow, possibly due to the peso devaluation.

Table 3.69 lists the 15 major northbound commodities passing through the Eagle Pass-Piedras Negras POE system in 1995. These 15 product categories represent 96.6 percent of the total amount of northbound trade at this POE system. In fact, the first five product categories accounted for 74.9 percent of the total northbound trade. Eight of the fifteen products are related to maquiladora industry, especially textiles and cloth. It should also be noted that the exportation of automobiles from Mexico accounts for approximately 27 percent of the northbound trade. The automobiles come from the Saltillo-Ramos Arizpe automotive corridor, located in the State of Coahuila, and pass through this POE system on their way to distribution centers in the United States.

**Table 3.66**  
**1995 Trade Activity by Mode—Eagle Pass-Piedras Negras POE System**

	Highway <sup>1</sup>	Rail <sup>1</sup>	Pipeline <sup>1</sup>	Other <sup>1</sup>	Total <sup>1</sup>
Northbound	1,088.624 49.42%	1,113.295 50.54%	0.661 0.03%	0.220 0.01%	2,202.8 100%
Southbound	854.187 53.39%	262.224 16.39%	0.160 0.01%	483.33 30.21%	1,599.9 100%

<sup>1</sup>Millions of U.S. dollars.  
Source: SECOFI

**Table 3.67**  
**1995 Trade Activity by Mode—Eagle Pass Piedras Negras POE System**

	Highway	Rail	Pipeline	Other	Total
Northbound	46.9%	53.1%	0.0%	0.0%	100%
Southbound	34.3%	65.6%	0.0%	0.1%	100%

Source: 1995 Trans-Border Surface Freight Data, U.S. Department of Transportation.

**Table 3.68**  
**Northbound Commercial Traffic in the Eagle Pass-Piedras Negras I Crossing**

Year	Number of Trucks
1991	36,060
1992	41,868
1993	45,318
1994	55,046
1995	54,779

Source: SCT and U.S. Customs Service

**Table 3.69**  
**Top 15 Northbound Product Categories—Eagle Pass-Piedras Negras POE System, 1995**

Key	Product Category	Value <sup>1</sup>	Percent (%)
87	Cars, Tractors, Bicycles and Other Vehicles	599.89	27.23

61	Clothes	360.35	16.36
84	Nuclear Reactors, Boilers, and Machinery	345.74	15.70
62	Clothes and Accessories	202.42	9.19
85	Machinery, Electric Materials and Devices	142.51	6.47
74	Copper and Copper Products	114.26	5.19
73	Iron and Steel Products	107.40	4.88
72	Iron and Steel Castings	74.08	3.36
22	Beverages, Alcoholic Liquids, and Vinegar	56.93	2.58
01	Live Animals	43.80	1.99
40	Rubber and Rubber Products	19.83	0.90
48	Paper, Cardboard, and their Products	18.45	0.84
79	Zinc and Zinc Products	17.97	0.82
29	Organic Chemical Products	14.00	0.64
94	Furniture, Medical and Surgical Supplies	9.83	0.45

<sup>1</sup> Millions of Dollars

Source: SECOFI

Table 3.70 shows the list of the 15 major southbound product categories. These product categories represent 87.15 percent of the total value of southbound trade passing through the Eagle Pass-Piedras Negras POE system. It is important to note that the first five southbound product categories are the same as the first five northbound product categories. These five categories account for 66.3 percent of the total southbound trade.

A total of eight of the major southbound categories are also in the list of northbound categories and all of them relate to maquiladora industry. Again, the main southbound product category is associated with the automotive industry, located in the Saltillo-Ramos Arizpe corridor, which accounts for 21 percent of the total value of southbound trade through the Eagle Pass-Piedras Negras POE.

### 3.8.7 Final Observations

- A new crossing has been proposed between Eagle Pass and Piedras Negras. If approved and built, it could reduce or eliminate existing deficiencies. The proposed crossing would accommodate all truck traffic as well as passenger vehicles. It would have full inspection capability on site (U.S. and Mexican), eliminating the need for the current remote Mexican facility.

**Table 3.70  
Top 15 Southbound Product Categories—Eagle Pass-Piedras Negras POE System, 1995**

Key	Product Category	Value <sup>1</sup>	Percent (%)
87	Cars, Tractors, Bicycles and Other Vehicles	331.54	20.72
61	Clothes	260.79	16.30
84	Nuclear Reactors, Boilers, and Machinery	213.15	13.32
62	Clothes and Accessories	141.71	8.86
85	Machinery, Electric Materials and Devices	113.90	7.12
27	Mineral Fuels and Mineral Oils	64.06	4.00
47	Pastes of Wood or Other Fibrous Materials	46.43	2.90
72	Iron and Steel Castings	47.32	2.96
73	Iron and Steel Products	32.29	2.02
90	Optical Instruments and Supplies, Photography	29.99	1.87
39	Plastic Materials and Manufactures	25.89	1.62
40	Rubber and Rubber Products	25.29	1.58
10	Cereals	25.27	1.58
41	Leather	20.24	1.27
11	Mill Products, Malt	16.53	1.03

<sup>1</sup> Millions of Dollars  
Source: SECOFI

**Southbound**

- Since there is no “*customs route*” from the crossing point to the inspection area, this forces a procedure called “*procedimiento en conduccion*” where a customs agent accompanies the truck driver to this facility. This requires commercial vehicles to drive on the narrow streets of the city of Piedras Negras, which sometimes damages public services, such as power and phone lines.

**Northbound**

- Bridge I has only two traffic lanes, one for each direction. In addition, the bridge was constructed in 1954 and may be nearing the end of its design life.
- On the Mexican side, the only inspection area assigned to exports and imports is located 700 meters from the crossing point. The lack of a defined “*customs route*” connecting the crossing and inspection areas creates infrastructure and safety problems.
- The existing Mexican customs facilities and inspection areas are small and old. There is no possibility for expansion, since the facilities are surrounded by urban development.
- A better understanding is needed regarding the higher use of rail at this POE than other crossings with rail connections. Also, additional understanding is needed to determine why there is such a large imbalance between northbound and southbound rail shipments.

**3.8.8 Conclusions**

- Eagle Pass-Piedras Negras depends on a downtown crossing, using a two-lane bridge, with a remote Mexican inspection facility. The crossing is congested. Trucks needing inspection in Mexico must be escorted several blocks through narrow streets. This crossing is outmoded, at least for commercial traffic. Construction of the new bridge, permitted in May 1997, began in Mexico in December 1997 and in the United States in January 1998. Construction will take less than two years. It will have inspection facilities at the crossing and accommodate all trucks. This could resolve most of the existing problems at this crossing.
- Passenger vehicle crossings have stayed relatively stable, but commercial vehicle crossings grew by about 50 percent between 1991 and 1995. This points to the increased need or efficient handling of truck crossings.

- Maquiladora cargo constitutes most of the freight crossing the border at this POE in both directions. The materials and products crossing the border in both directions are related. Rail accounts for half of the northbound trade volume by value, perhaps dominated by automobiles and related products which are assembled in Coahuila.

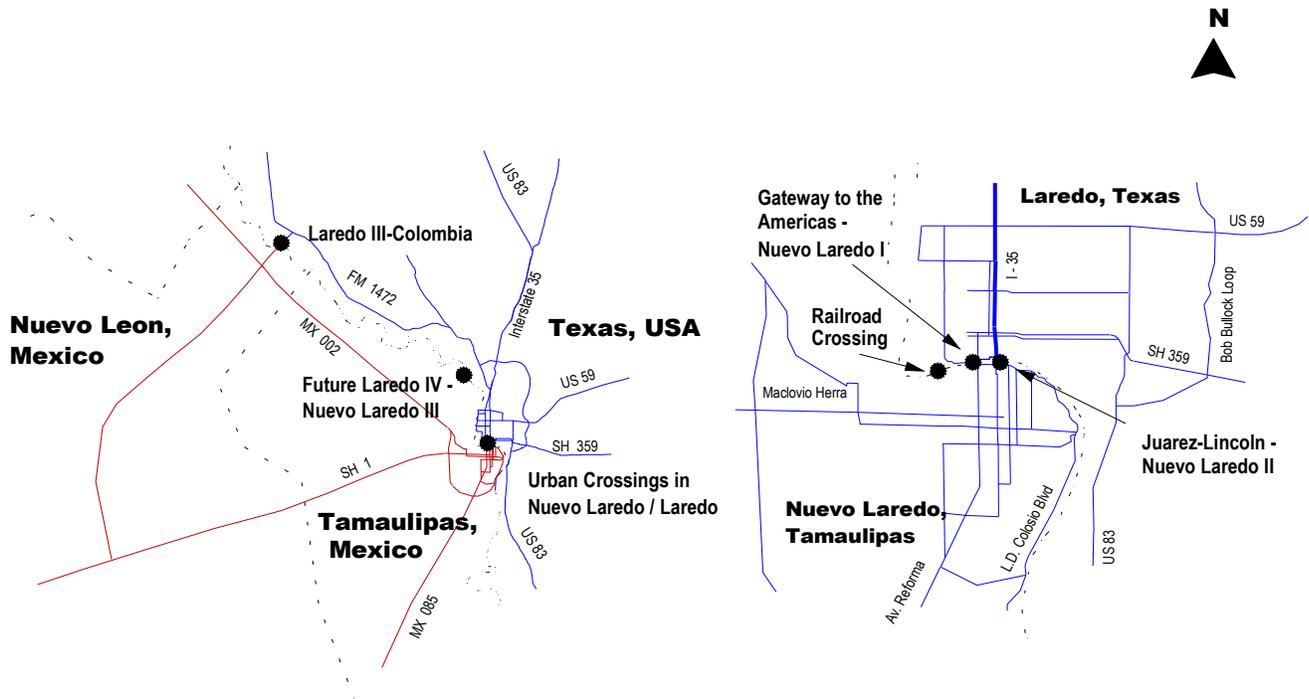
### 3.9 Laredo-Nuevo Laredo Port of Entry System

The Laredo-Nuevo Laredo Port of Entry System consists of the following four crossings (see Figure 3.15): Laredo-Nuevo Laredo I (Convent Street) (pedestrians, passenger vehicles and commercial vehicles), Laredo-Nuevo Laredo Rail Crossing, Laredo-Nuevo Laredo II (Lincoln-Juarez) (pedestrians, passenger vehicles and commercial vehicles), Laredo III-Colombia (Solidarity) (pedestrians, passenger vehicles and commercial vehicles). In addition, construction will likely begin on Laredo IV-Nuevo Laredo III in 1998.

Laredo I, Laredo II, and the railroad bridge are located in the center of the urban area. The fourth border crossing is the Laredo III-Colombia bridge located approximately 35 kilometers northwest of the city centers.

There are some unique aspects related to the administration and operation of the Laredo-Nuevo Laredo crossings. On the U.S. side, the bridge owners operate the bridges and the Laredo District of the U.S. Customs Service (USCS) handles the inspection operations of all four crossings. However, on the Mexican side, the city of Nuevo Laredo and the State of Tamaulipas operate the two downtown vehicle crossings and the rail crossing, while the Laredo-Colombia crossing is located in the Municipio of Anahuac, a city within the Mexican State of Nuevo Leon. This administrative situation makes it more difficult to coordinate the management of the four crossings as an integrated binational crossing system.

Figure 3.15  
Location of the Crossings in the Nuevo Laredo-Laredo POE System



Source: Barton-Aschman-La Empresa, 1997

Another unique aspect to the Laredo-Nuevo Laredo POE, is that southbound commercial trade uses both of the downtown crossings while northbound commercial trade uses only the Laredo-Nuevo Laredo II crossing. It should be noted that while fewer maquiladora plants are located within the vicinity of Nuevo Laredo, the POE serves maquiladora plants in the interior of Mexico, i.e., Monterey. This POE also serves a large portion of the traditional trade which is located throughout the industrial areas of Central and Northern Mexico.

#### *Laredo-Nuevo Laredo I*

Laredo-Nuevo Laredo I is located in the historic centers of both cities and connects the downtown business districts as well as major tourist areas. Currently, this is the only downtown crossing open to pedestrian traffic. Vehicular traffic consists of passenger vehicles and light commercial trucks.

Until 1992, this crossing carried the heaviest volume of traffic of all the crossings and was often congested with passenger and commercial vehicles. In 1992, the majority of northbound commercial traffic flow shifted to Laredo-Nuevo Laredo II.

The central business district of Laredo lies just north of Laredo-Nuevo Laredo I and Laredo-Nuevo Laredo II and is bounded by Main Avenue, San Agustin Street and Scott Street. In this commercial area there are clothing and electronics stores, gift shops, and grocery stores. There are several parks and plazas including San Agustin, Jarvis and Bruni. Government buildings located in the downtown area include the post office, county offices and city hall. Other services include restaurants, hotels, the USCS facilities, and the bus station. The Laredo Multimodal Transportation Center is also located near the two crossings.

In Nuevo Laredo, the central business district is defined by Avenida Alvaro Obregon, Avenida Reynosa, Avenida Mier and Avenida 15 de Junio. This area contains approximately 80 percent of the commercial activity, including hospitals and government buildings. Residential land uses surround the downtown commercial district. The primary commercial zone is located along Avenida V. Guerrero where there are currency exchange stores, small shopping centers, shoe and souvenir shops, pharmacies and clothing stores. There are also some public parks and squares including Juarez and Hidalgo, and public offices such as the federal and municipal buildings. Along Avenida Heroes de Nacataz there are several custom broker offices, banks, restaurants, and hotels.

#### *Laredo-Nuevo Laredo II*

This crossing is located approximately 500 meters east of the Laredo-Nuevo Laredo I bridge. Although opened in 1976, until 1988 it lacked adequate facilities on the Mexican side to operate as a southbound commercial port. In 1989, it was opened as an alternate commercial route allowing for the passage of empty trucks and tractor transfers (bobtails). Since 1992, this crossing has become the most commonly used facility for southbound trade and is the only downtown bridge used for northbound trade. Laredo-Nuevo Laredo II is restricted to passenger and commercial vehicles only. No pedestrians are allowed to use the bridge.

#### *Laredo-Nuevo Laredo Railroad Bridge*

The railroad bridge is located 1.2 kilometers west of the Laredo-Nuevo Laredo I. The railroad bridge, jointly owned by Texas Mexican Railway Company (Tex-Mex), Ferrocarriles Nacionales Noreste (FNE-Mexican National Railroad-Northeast) and the Union Pacific Railroad (UP) is actively used for international rail commerce by the FNE, Tex-Mex, and UP. A joint venture of Transportation Maritime Mexicana (TMM), Kansas City Southern Industries/Kansas City Southern Railway (KCS) and Tex-Mex, was the successful bidder for FNE under the Mexican government's privatization program. By mid-year 1997, FNE was expected to be operated by Tex-Mex/KCS

under the name, "Transportation Terroviaria Mexicana." In addition, UP allows a local short-haul railroad system, Tex-Mex Railroad, to use the railroad border crossing. The Tex-Mex Railroad primarily serves the Laredo to Corpus Christi corridor.

*Laredo-Colombia*

This crossing is located 35 kilometers northwest of Laredo, Texas. It received its name from the Colombian Congregation, a community three kilometers west of these facilities. This is the newest crossing in the Laredo-Nuevo Laredo Port of Entry System. Opened in 1991, this is the only border crossing located in the Mexican State of Nuevo Leon. Therefore, on the Mexican side, the border crossing facilities are operated by the State of Nuevo Leon through the FIDENOR organization. On the U.S. side, the crossing is administered by the City of Laredo.

Presently, the potential of the crossing has not been fully realized due to several different factors. First, the crossing's location adds approximately 70 kilometers of travel to the border-crossing event. Second, there are institutional issues related to the port being located in the State of Nuevo Leon while the other Nuevo Laredo crossings are located in the State of Tamaulipas. Finally, the existing access roads on the Mexican side are two-lane facilities which may become a problem as traffic volumes increase. Highway infrastructure connecting this bridge to major highways is lacking at present. However, construction of major new highway infrastructure was begun in late 1997 in Mexico and should begin in Texas in 1998. Since the commercial activity of this port is very low, the investment made in its construction is not being recovered as fast as the concessionaires had hoped.

The land uses surrounding the Laredo-Colombia crossing on both sides of the border are designated for light industrial, open space and agricultural uses. Currently, all of these uses are still being developed around the crossing. On the U.S. side, there are some areas that are designated for low-density residential uses and supporting commercial activities.

**3.9.1 Regional Transportation Infrastructure**

*Regional Access*

On the U.S. side, regional access to the Laredo-Nuevo Laredo POE system is provided by four highways. In terms of binational trade, I-35 is the most significant of the four facilities and provides the main link to the interior of the United States. I-35 begins at the Laredo-Nuevo Laredo II bridge and runs northward to the Great Lakes bisecting the United States. Between Laredo and San Antonio there are only a few small urban areas. However, in San Antonio, I-35 intersects I-10, an important east-west transportation corridor running from coast-to-coast across the United States. These two freeways provide this crossing with excellent access to both the U.S. and Mexican industrial areas and markets. Table 3.71 summarizes traffic volumes for the major regional highways.

The second most significant regional facility serving Laredo (in terms of binational trade) is U.S. 59. This is an alternative route into the interior of the United States and provides a shorter route to Houston and locations in the eastern United States. The only significant urban area between Laredo and Houston is the City of Victoria. U.S. 59 can also be used as a route to Corpus Christi (using either SH 44 or I-37) where there is a deep water port.

**Table 3.71  
Average Daily Traffic Volumes—Laredo Area 1996**

Highway-Section	ADT
Interstate 35, south of junction with U.S. 83	22,000
Interstate 35, north of junction with U.S. 83	8,500
U.S. 59, east of Laredo	2,700

State Highway 359, east of Laredo	6,800
U.S. 83, south of Laredo	4,800

**Source:** Texas Department of Transportation, 1996 Texas District Highway Traffic Map.

Another route from Laredo to Corpus Christi is via SH 359. SH 359 is generally an east-west transportation facility that connects to SH 44 in San Diego, Texas. SH 44 runs through the City of Alice and into downtown Corpus Christi.

Another important regional transportation facility is U.S. 83, which follows the U.S.-Mexican border from Laredo southeastward to the lower Rio Grande Valley. While this route may not be as important to binational trade as are I-35 and U.S. 59, it is important to local transportation needs. The primary connection provided by U.S. 83 is to the farming communities in south Texas such as McAllen, Harlingen, and Brownsville. At Brownsville, it is also possible to access Port Isabel via SH 48 or SH 100.

In Mexico, three highways are used to connect Nuevo Laredo to the interior of Mexico. The primary regional transportation facility is MX 085. It connects Nuevo Laredo to Monterrey and points south. This north-south highway is a four-lane divided facility in the Nuevo Laredo urban area. Approximately 75 kilometers south of Nuevo Laredo, at the town of La Gloria, MX 085 divides into two facilities: the original MX 085 (a free road) and the new MX 085 (a toll road). The original route of MX 085 is called the Mexico-Nuevo Laredo highway. The newer toll road, which parallels the original route, was constructed in 1991. At Monterrey, MX 085 connects to other east-west and north-south highways.

The second most significant regional transportation facility is MX 002. This highway runs along the U.S.-Mexican border connecting the border towns from the Gulf of Mexico to Ciudad Acuña (across the Rio Grande from Del Rio). This road provides access to Nuevo Laredo from two different directions: north and south. The northern connection is the Piedras Negras-Nuevo Laredo segment, which connects directly to the downtown area of Nuevo Laredo. The southern connection is the Nuevo Laredo-Reynosa segment which connects with MX 085 approximately 25 kilometers south of Nuevo Laredo.

The third regional access facility is Nuevo Leon State Highway 001. It connects the city of Anahuac, Nuevo Leon, to downtown Nuevo Laredo. This road carries a high volume of traffic from the small towns located in the western portion of the State of Nuevo Leon and provides direct access to the urban areas in the center of the State of Coahuila.

Table 3.72 shows the characteristics of the traffic for the regional transportation facilities serving Nuevo Laredo. MX 085 is classified as a two-lane "Type A" facility from Monterrey to La Gloria. Starting at La Gloria, the road becomes a four-lane, "Type B" facility. At the 25-kilometer check point, located outside the city limits of Nuevo Laredo, the two-way average daily traffic volume is 12,387 vehicles (8,200 cars, 500 buses, and 3,700 trucks). At present, this road has the highest traffic volume of any facility serving Nuevo Laredo. In addition, this road has the greatest proportion of triple-axle vehicles, approximately 30 percent of the total traffic volume.

**Table 3.72**  
**Traffic Flow on the Access Roads to Nuevo Laredo, 1992**

Check Point	ADT	Vehicular Classification in %		
		Cars	Buses	Trucks
MX 085				
Monterrey-Nuevo Laredo	6140	56.6	4.0	30.4
Km. 228 + 000	6247	67.0	4.0	29.0
MX 085				
Highway Monterrey-Nuevo Laredo	3,765	69.7	5.4	24.9

## Laredo-Nuevo Laredo Port of Entry System

Km. 147 + 000	3,230	69.2	5.3	25.5
MX 002 Piedras Negras-Nuevo Laredo Km. 175 + 000	2,239	80.2	5.0	14.8
MX 002 Reynosa-Nuevo Laredo Km. 221.08	1,110	90.7	0.9	8.4
MX 001 Nuevo Leon Huizachito-Nuevo Laredo Km. 51 + 000	3,975	79.2	4.3	16.5

Source: SCT Vital Statistics.

The toll road portion of MX 085 is classified as a “Type A” roadway. It connects at La Gloria with the free road that continues toward Nuevo Laredo as a four-lane road. The traffic data indicates a two-way average daily traffic volume of 6,995 vehicles. The vehicle distribution includes: 4,840 cars, 370 buses, and 1,785 trucks.

The segment of MX 002 between Piedras Negras and Nuevo Laredo is classified as “Type B” with two lanes providing a Level of Service C. The traffic count location is within the urban city limits of Nuevo Laredo and has an average daily traffic volume of 2,239 vehicles (1,790 cars, 110 buses, and 340 trucks). This volume exceeds the actual capacity of 1,500 vehicles. MX 002 provides access to the Laredo-Colombia crossing as well as the downtown crossings. Almost half of the total traffic proceeds to the junction at Colombia. The traffic volumes described above are due primarily to local traffic between the core urban area and the suburban areas. The majority of the buses and trucks are directed toward Colombia and Piedras Negras.

The section of MX 002 that connects the cities of Reynosa and Laredo begins at a junction with MX 085 approximately 28 kilometers outside of Nuevo Laredo. This section of highway is classified as a two-lane “Type B” facility operating at a Level of Service B. This road carries the lowest volume of traffic of the three regional highways with the average daily traffic volume approximately 1,110 vehicles (1,000 cars, 10 buses, and 100 trucks).

The traffic counts conducted within the urban areas indicate that SH 001 provides an important contribution to the flow of traffic. SH 001 has an average daily traffic volume of 3,975 vehicles (3,150 cars, 170 buses, and 655 trucks), which is approximately one third of the total daily traffic on MX 085. This state highway is classified as a “Type D” facility and has only two lanes.

The Colombia-El Huizachito portion of the SH 001 provides an alternative connection to the Colombia-Laredo crossing. This roadway is designated as “Type C” with a two-lane cross-section. Near the Colombia-Laredo crossing, the average daily traffic volume is approximately 390 vehicles of which 91 percent are cars.

Crossing Access

On the U.S. side, local access to the downtown border crossings is primarily provided by the extension of the regional facilities along with some of the local surface streets. I-35 connects directly to the Laredo-Nuevo Laredo II bridge. Access to Laredo-Nuevo Laredo I is provided from I-35 by several downtown east-west arterials including Houston Street, Matamoros Street, and Farragut Street. These east-west arterials intersect with Convent Street, which continues to the Laredo-Nuevo Laredo I bridge. The Laredo-Nuevo Laredo I and Laredo-Nuevo Laredo II POEs are shown on Figure 3.16.

Other local streets that provide important access for binational trade include Piedragal River Road, Santa Isabel Avenue and the truck access road. These roadways serve as the primary truck route from the USCS compound to the warehousing facilities located in northwest Laredo along Old Santa Maria Road. Use of this route was developed as a means to provide relief to the congested I-35 corridor.

In Mexico, passenger vehicles and commercial vehicles take different routes to egress/access the downtown bridges. Southbound commercial vehicles are required to use LD. Colosio Boulevard. This Nuevo Laredo bypass (Boulevard L.D. Colosio) allows commercial vehicles to reach and exit Laredo-Nuevo Laredo II without passing through the congested urban core. Currently, the completed portion of the loop is being used as a continuation of MX 002 connecting the northern and southern sections of the route. Traffic counts conducted on the loop indicate an average daily traffic volume of 1,460 vehicles in 1992.

Northbound commercial vehicles are encouraged to use the bypass but also have the additional option to take Avenida Cesar Lopez de Lara (Avenida Mexico) then turn east along a segment of the Boulevard Internacional.

Northbound passenger vehicles have a variety of access options. While direct access to Laredo-Nuevo Laredo I is from 15 de Junio, other roadways such as Avenida Ocampo can also be used. Avenida Ocampo is the most heavily traveled by public transportation. Many of these buses have stations in two of the squares in downtown Nuevo Laredo.

Southbound traffic coming from Laredo-Nuevo Laredo I is channeled onto Avenida Vicente Guerrero and ultimately distributed onto east-west arterials away from the border area. Another option for passenger vehicles is to use Boulevard Reforma, which ultimately turns into MX 085, Mexico-Nuevo Laredo Highway, that proceeds into the interior of the country.

Northbound passenger vehicles traveling to Laredo-Nuevo Laredo II use Avenidas Alvaro Obregon, Jesus Caranza and Degollado, which converge at the toll gates.

From Laredo-Nuevo Laredo II, passenger vehicles can go south on Avenida Leandro Valle and then use the east-west arterials to reach their final destination within the city. For persons traveling to the interior of Mexico, they would connect to Boulevard Reforma using Avenidas Vicente Guerrero or Colon.

From the north, access is provided to Laredo-Colombia by FM 255, which is connected to the I-35 corridor by Mines Road (FM 1472). The Laredo-Colombia port of entry is shown on Figure 3.17.

In Mexico, access to Laredo-Colombia is provided by a short roadway segment that links the international bridge with MX 002.

Figure 3.16 Laredo-Nuevo Laredo I and Laredo-Nuevo Laredo II POEs

Figure 3.17 Laredo-Colombia Port of Entry

### 3.9.2 Physical Description

The following section describes each crossing within the Nuevo Laredo-Laredo POE System in terms of its physical characteristics, such as the number of circulation lanes, services and entities involved in the flow of commercial and pedestrian traffic, and the accessibility of the crossing.

#### *Laredo-Nuevo Laredo I*

The Laredo-Nuevo Laredo I bridge is a four-lane facility with two lanes in each direction. In addition, there are two pedestrian walkways, one in each direction. On the Mexican side, commercial vehicle transport is restricted to vehicles of three axles or less. On the U.S. side, there is a weight limit of 44,000 pounds for southbound trucks. Table 3.73 lists the operational characteristics of the Laredo-Nuevo Laredo I bridge.

#### Pedestrians

This bridge, also known as the International Bridge or Convent Bridge, carries all of the pedestrian traffic. Pedestrian and passenger vehicle traffic is channeled through the city centers along Convent Street in Laredo and Avenida V. Guerrero in Nuevo Laredo. This bridge is commonly used by tourists visiting the historic areas located in both border cities. Depending on the season, tourists travel to livestock shows, the hippodrome, and sports events. Northbound, CAPUFE operates two toll gates for pedestrians, and there is one primary U.S. inspection lane. Southbound, Mexico has two primary inspection lanes.

#### Passenger Vehicles

CAPUFE operates two northbound toll gates for passenger vehicles and tractors without trailers. At the U.S. facility, the vehicles pass through four primary inspection lanes. If a secondary inspection is required, there are 22 available spaces. There are two primary inspection points for southbound passenger vehicles where they are subjected to the random selection system. If a secondary inspection is required there is an inspection area containing 12 spaces.

Southbound passenger vehicles pass through two toll booths and onto the two-lane bridge. At the Mexican inspection facility there are two random selection lanes. If a secondary inspection is required there are 12 spaces available.

**Table 3.73**  
**Operational Characteristics of the Laredo-Nuevo Laredo I Crossing**

	Mexico				United States			
	Peds	PVs	Trucks	Train	Peds	PVs	Trucks <sup>1</sup>	Train
Type of Traffic Permitted	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Primary Inspection Lanes/Spaces	2	2	3	1	1	4	-	1
Secondary Inspection Spaces	-	12	42 <sup>2</sup>	-	-	22	-	-

<sup>1</sup> Truck Restrictions: Northbound restricted. Southbound trucks allowed with loads less than 44,000 pounds. No hazardous materials allowed.

<sup>2</sup> Combined secondary inspection area for both downtown bridges.

Source: Barton-Aschman-La Empresa, 1997

Commercial Vehicles

Northbound access is restricted to non-commercial vehicles only. Southbound commercial vehicles pass through three random-selection lanes located 20 meters (66 feet) west of the bridge. If an inspection is required the truck moves into a common inspection area used by both downtown bridges. There are 42 secondary inspection spaces within this combined import/export compound.

Facilities

There is only the U.S. administration building at this location. The building has been designated as a historical landmark.

Table 3.74 shows that the Mexican facilities at this crossing date back to 1948 with the exception of the CAPUFE operative offices and the Customs office which were constructed between the 1980s and 1993.

*Laredo-Nuevo Laredo II*

Laredo-Nuevo Laredo II has a total of six vehicle lanes, three in each direction. It also has two pedestrian walkways that are not currently in use. This bridge is located one-half kilometer downstream (east) from the Laredo-Nuevo Laredo I bridge. This bridge was opened for operation on November 27, 1976.

There are seven toll booths for northbound traffic leaving Mexico. The two lanes located on the right side are used exclusively for loaded and unloaded trucks and tractors. The others are used for northbound passenger vehicles. Table 3.75 lists the main operational characteristics of the Laredo-Nuevo Laredo II crossing.

**Table 3.74  
Facilities at the Laredo-Nuevo Laredo I Crossing**

	Mexico	United States
Land Area	10,000 m <sup>2</sup>	28,328 m <sup>2</sup>
Buildings	5	1
Construction Date	Building: 1948 Bridge: 1955	Building: 1941 Bridge: 1956
Latest Renovation	1993	1991

Source: Barton-Aschman-La Empresa, 1997

**Table 3.75  
Operational Characteristics of the Laredo-Nuevo Laredo II Crossing**

	Mexico				United States			
	Peds	PVs	Trucks	Train	Peds	PVs	Trucks	Train
Type of Traffic Permitted	No	Yes	Yes	No	No	Yes	Yes	No
Primary Inspection Lanes/Spaces	-	3	6	-	-	12	4	-
Secondary Inspection Spaces	-	18	42 <sup>1</sup>	-	-	54	43	-

<sup>1</sup>Combined secondary inspection area for both downtown bridges.

Source: Barton-Aschman-La Empresa, 1997.

Passenger Vehicles

Northbound passenger vehicles keep to the two left lanes as they cross the bridge. At the U.S. inspection facility, there are 12 primary inspection lanes and 54 secondary inspection spaces.

Southbound passenger vehicles use all three bridge lanes. At the Mexican inspection facility, there are three random selection lanes and 18 secondary inspection spaces 10 meters south of the bridge.

Commercial Vehicles

There are two Mexican export inspection lanes located approximately 300 meters to the south of the toll booths. All northbound loaded trucks pass through these lanes. There is a dock with five spaces where export inspections are carried out.

Northbound commercial vehicles travel through the two right-hand toll booths in Mexico and cross the bridge in the rightmost lane. Trucks are not restricted to that lane but the majority use it while a few tractors or empty trucks use the middle lane for passing.

At the U.S. inspection facility, there are four primary processing lanes, three of which are usually open. There are 43 dock spaces available for secondary inspections. Trucks exit the facility through two exit gates.

Southbound commercial vehicles enter the bridge by the two leftmost toll booths (passenger vehicles use the other six booths). As they cross the bridge, the trucks must cross to the right-hand lane to enter the Mexican facility causing a weaving problem. There are six inspection booths where the trucks are subjected to the random selection system. Two of the booths are used exclusively for processing unloaded trucks and “transfer” tractors. The trucks randomly selected for inspection are directed to an area with 42 spaces. There is a small area for secondary inspections located just prior to the exit gate.

Facilities

The U.S. commercial facility is located on the bank of the Rio Grande between the two international bridges and directly across the river from the Mexican commercial facility. The administration buildings located adjacent to the passenger vehicle inspection lanes house USCS, INS, and other federal agency offices. Descriptions of the facilities are shown in Table 3.76.

The Mexican commercial inspection facility is located on the bank of the Rio Grande, in the area between the international bridges. The General Customs Administration is housed in six buildings, located just south of the commercial inspection area, in the Mexican gateway area. Two of these buildings are occupied by CAPUFE and the other two are occupied by staff from SAGAR, SEMARNAP, the Health Department and INM.

**Table 3.76**  
**Facilities at the Laredo-Nuevo Laredo II Crossing**

	<b>Mexico</b>	<b>United States</b>
Land Area	42,000 m <sup>2</sup>	81,000 m <sup>2</sup>
Buildings	10	5
Construction Date	1992	Border Station: 1982 Bridge: 1976
Recent Renovation	—	—

Source: Barton-Aschman-La Empresa, 1997

*Laredo-Colombia*

Laredo-Colombia, the newest bridge in the Laredo-Nuevo Laredo POE system, has eight vehicle lanes, four in each direction. In addition, it has pedestrian walkways for travel in both directions. The bridge and main support facilities were opened for operation on August 28, 1991. Table 3.77 shows the characteristics of this crossing.

Passenger and Commercial Vehicles

Northbound commercial export inspections are conducted in the combined import/export facility where there are 100 spaces for each type of inspection. Secondary inspections if warranted are also conducted at this facility.

Northbound vehicles exiting Mexico must pass through one of five toll gates operated by CAPUFE. The original plan was to have two toll gates designated for commercial vehicles and the rest for passenger vehicles. However, due to the low traffic volumes at this crossing, the lane assignments are not strictly enforced. Traffic flow is mixed on the bridge as well.

When northbound vehicles reach the U.S. side of the bridge, there are two primary inspection lanes for trucks and two primary inspection lanes for passenger vehicles. Both primary inspection areas have room for future expansion. If a secondary inspection is required for a passenger vehicle there are currently 20 secondary inspection spaces. The secondary inspection area for commercial vehicles can accommodate up to 50 vehicles. Again, both of these secondary inspection areas were designed with ample room for future expansion.

For southbound passenger and commercial vehicles exiting the United States there are three toll booths. At the Mexican point of entry, there are four random inspection lanes for passenger vehicles and six for commercial vehicles. For southbound passenger vehicles, if an inspection is required, there are 20 spaces available. For southbound commercial vehicles, if an inspection is required, there are 100 spaces available.

Facilities

On the U.S. side, the two permanent administration buildings were both constructed in 1993. One is the commercial port where all trucks and commercial vehicles are processed. The building, and accompanying loading docks, are operated by the USCS. In addition, this building also houses other federal inspection agencies such as U.S. Department of Agriculture, and the Food and Drug Administration. There are a total of four buildings at this crossing.

The other building is the non-commercial port which is operated jointly by USCS and Immigration and Naturalization Services (INS). This building is connected to the primary and secondary inspection areas for passenger vehicles and has processing areas for pedestrians. Due to the remote location of the Laredo-Colombia crossing, very few pedestrians or passenger vehicles use this crossing.

**Table 3.77**  
**Characteristics of the Colombia-Laredo Crossing**

	Mexico				United States			
	Peds	PVs	Trucks	Train	Peds	PVs	Trucks	Train
Type of Traffic Permitted	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Primary Inspection Lanes/Spaces	1	4	100	—	2	2	2	—
Secondary Inspection Spaces	—	20	incl.	—	—	20	50	—

Source: Barton-Aschman-La Empresa, 1997

On the Mexican side, the port of Colombia consists of nine buildings, six of which are subdivided into administrative offices, inspection and random selection stations, and the inspection areas. The offices of INM, SAGAR, Customs Administration and the Department of Tourism are located in the governmental building. The commercial inspection areas for both imports and exports has a 100-vehicle capacity. The buildings were constructed in 1991 and are currently in good operating condition (see Table 3.78).

**3.9.3 Staffing and Hours of Operation**

In the United States, there is a staff of 200 agents from the USCS with an additional 100 staff members (including support personnel). The INS has funding for a staff of 132, but actual staff numbers are somewhat lower due to attrition and vacant positions.

In Mexico, there are currently 232 people employed by the Customs Office at the three crossings within the Laredo-Nuevo Laredo POE. The staff is composed of administrative personnel, Customs officers, and inspection police (see Table 3.79). There are 28 inspectors at the Laredo-Nuevo Laredo I crossing and 66 inspectors at the Laredo-Nuevo Laredo II crossing. Customs officials are also posted at the 25-kilometer inspection stations, the railroad station, the bus station, and the international airport.

Both Laredo-Nuevo Laredo I and Laredo-Nuevo Laredo II are open 24 hours for passenger vehicles. Northbound commercial vehicles at Laredo-Nuevo Laredo II are allowed to cross from 8:00 AM until 12:00 midnight. Southbound commercial vehicles at Laredo-Nuevo Laredo II are allowed to cross from 8:00 AM until 11:00 PM.

**3.9.4 Statistical Description**

As is the case elsewhere, much of the statistical data maintained by the U.S. Commerce Department is presented by Customs District rather than individual crossing. For the purposes of the following discussion, the information is presented for the Laredo-Nuevo Laredo Port of Entry System and includes data from all three vehicle crossings.

**Table 3.78  
Facilities at the Laredo-Colombia Crossing**

	<b>Mexican</b>	<b>United States</b>
Land Area	246,000 m <sup>2</sup>	283,000 m <sup>2</sup>
Buildings	9	4
Construction Date	1991	1993
Recent Renovation	—	—

Source: Barton-Aschman-La Empresa, 1997

**Table 3.79  
Staffing and Hours of Operation—Laredo-Nuevo Laredo POE System**

<b>Entity</b>	<b>Mexico</b>		<b>United States</b>	
	<b>Customs</b>	<b>INM</b>	<b>Customs</b>	<b>INS</b>
Personnel	232	—	300	132
Hours of Operation	8:00-22:00	8-15/24 hr	—	—
Laredo-N. Laredo I	24 hours	24 hours	24 hours	24 hours
Laredo-N. Laredo II	24 hours	24 hours	24 hours	24 hours
Laredo-Colombia	8:00-24:00	8:00-24:00	8:00-24:00	8:00-24:00
Seasonal	No	No	No	No

Source: Barton-Aschman-La Empresa, 1997

Table 3.80 presents the total number (northbound and southbound) of pedestrians and vehicles using the Laredo-Nuevo Laredo POE system for the period of 1989 through 1994. The passenger vehicle activity has remained relatively constant over the six-year period.

The flow of pedestrians also was relatively stable for the three-year period from 1989 to 1991. However, since 1991 there has been an increase but greater fluctuations. The peak year for both passenger vehicles and pedestrians was 1992.

On the other hand, the commercial vehicle transportation flow increased steadily at an average annual rate of 37.5 percent for the period from 1989 to 1994. It is important to note that the increase in truck traffic has significantly changed the proportion of trucks to passenger vehicles. In 1989 commercial vehicles represented only 2.7 percent of the total vehicular volume. By 1994, commercial vehicles accounted for just over 12.5 percent of the total vehicular traffic. These increases are due, at least in part, to the growth of Mexican imports during the given period. Note also that these numbers do not exactly match those of U.S. Customs.

Table 3.81 shows the monthly flow of vehicles during 1994. The automobile traffic displays relatively little seasonal variation, with an average of 531,000 vehicles per month, and a fluctuation of nine percent. The pattern for loaded commercial vehicles was similar to that of passenger vehicles in that there was little seasonal variation. However, this data does reflect a steady increase in cargo activity. It should be noted that empty trucks represented 40 percent of the total commercial vehicle trips. Almost all of these commercial movements involving empty trucks or tractors are local exchanges or “transfers” of equipment (empty trailers and tractors).

**Table 3.80**  
**Two-Way Vehicle and Pedestrian Flows—Laredo-Nuevo Laredo POE System**

Means of Transportation	1989	1990	1991	1992	1993	1994
Cars	6,560,781	6,203,043	6,369,077	6,667,877	6,297,802	6,371,440
Commercial Trucks	185,683	261,067	346,524	457,401	777,154	914,421
Pedestrians	3,257,874	3,188,720	3,217,944	3,910,497	N/0	3,658,531
Total of Vehicles	6,746,464	6,464,110	6,715,601	7,125,278	7,074,956	7,285,861

Source: Laredo Bridge System

**Table 3.81**  
**Traffic Flow Through the Ports of Laredo in 1994 (North-South Direction)**

Month	Cars	Trucks	Empty Trucks	Total
January	546,259	38,977	25,972	611,208
February	507,127	41,996	28,629	577,752
March	549,438	45,699	32,219	627,356
April	537,943	43,452	29,689	611,084
May	559,912	45,723	30,317	635,952
June	543,121	48,490	32,600	624,211
July	570,440	44,122	30,269	644,831
August	528,182	48,161	31,193	607,536
September	488,126	45,902	30,667	564,695
October	524,918	49,076	31,884	605,878
November	479,801	49,632	31,764	561,197
December	536,173	47,179	30,809	614,161
Total	6,371,440	548,409	366,012	7,285,861

Source: Laredo Bridge System

Rail Activity

The Laredo-Nuevo Laredo POE System is the largest railroad crossing for binational trade between the United States and Mexico. This POE system's rail crossing handles 4.5 times the southbound volume of the second most active rail crossing. (It also handles 65 percent more northbound rail traffic.) Overall there is a significant imbalance, of more than seven to one, in the flow of southbound to northbound goods.

The Laredo-Nuevo Laredo POE system handles approximately 65 percent of all southbound rail traffic using the seven existing railroad crossings. It also carries approximately 40 percent of the total northbound rail volume across the U.S.-Mexican border.

Table 3.82 summarizes the total volume of trade transported by railroad (northbound and southbound) through the Laredo-Nuevo Laredo POE system. The northbound trade fluctuated between a low in 1992 and a high in 1993. The average annual rate of increase over the five-year period was 15.4 percent. In 1990 through 1992 period there was a decrease in activity (-8.3 percent) followed by a large increase (79.6 percent) the following year. It went down again to 17.7 percent in 1994. If 1993 is not taken into account, the amount of goods exported by railroad through the period of 1990 through 1994 had a mean annual growth rate increase of 5.6 percent.

On the other hand, the amount of southbound goods transported by rail shows a constant increase over the period presented in Table 3.82, with an average annual growth rate of 9.5 percent.

**3.9.5 Commercial Activity**

Table 3.83 shows the volume of northbound trade between the United States and Mexico.

Between 1991 and 1995, the northbound commercial traffic through the Laredo-Nuevo Laredo POE system increased at an average annual rate of 21.4 percent. The largest increases occurred in 1992 and 1994 with annual growth rates of 27.9 percent and 39.4 percent, respectively.

**Table 3.82**  
**Amount of Goods Transported by Railroad Through Nuevo Laredo**

Direction	1990	1991	1992	1993	1994
Southbound	4,675,320	5,205,593	6,411,092	6,609,643	6,716,762
Northbound	716,694	667,400	603,091	1,082,879	891,151

Source: Mexican National Railroad  
Figures in Tons

**Table 3.83**  
**Northbound Truck Volumes at the Nuevo Laredo-Laredo POE System**

Year	Total Vehicles
1991	337,866
1992	432,061
1993	473,480
1994	659,924
1995	733,783

Source: U.S. Customs Service

Table 3.84 shows the distribution of commercial traffic flow by transportation mode as reported by SECOFI for 1995. It should be noted that, in 1995, the percent of northbound trade by rail was more than double that of the southbound trade. These numbers do not reflect the trend that occurred over the previous years. Typically, the value of southbound trade via rail substantially exceeds northbound trade. The northbound return of empty railway equipment is reported as one

loaded unit for three unloaded units (in the case of carloads and gondolas belonging to American companies).

The higher rail usage reported in 1995 may have been due to the devaluation of the peso which generally caused an increase in northbound trade. Alternatively, the increase in northbound trade by rail in 1995 could be a result of the improved balance of trade between the United States and Mexico wherein Mexico's exports (through the Laredo-Nuevo Laredo POE system) exceeded imports for the first time since 1987.

Table 3.85 shows mode distribution as reported by the U.S. Department of Transportation. Both the northbound and southbound percentages show a higher proportion of trade by highway.

Table 3.86 lists the 15 top northbound product categories passing through the Laredo-Nuevo Laredo POE system in 1995. Three product categories dominate northbound trade: automobiles, machinery, and electronic devices. These three categories accounted for \$8.4 billion of trade, 62.7 percent of the total northbound trade, using this POE system. The top seven product categories, which accounted for approximately 75 percent of the northbound trade, primarily come from origins in the industrial manufacturing zones located in Nuevo Laredo and Monterey. The only exception is coffee, which is produced in the states of Chiapas and Oaxaca with annual export figures surpassing the \$500 million mark.

Table 3.87 lists the top 15 southbound product categories using the Laredo-Nuevo Laredo POE system. The four top product categories represent approximately 46 percent of the total southbound trade through the Laredo-Nuevo Laredo POE system. These four categories represent approximately \$5.4 billion in trade. It should be noted that three of the top four product categories are the same as for northbound trade.

The top 12 product categories account for 68 percent of all southbound trade. Six of these product categories are included in the top 15 northbound product categories. The top 12 categories account for \$8.1 billion of trade which exceeds the total trade through all other individual ports. It is important to note that, although some of the southbound products are finished manufactured goods, over half are intermediate goods such as auto parts, machinery parts, paper, chemical products, and metals used in iron industries. These components, when assembled into final products in Mexico, are either exported to the United States or to other countries or are consumed in the domestic market.

**Table 3.84**  
**1995 Trade Activity by Mode—Laredo-Nuevo Laredo POE System**

Direction	Highway <sup>1</sup>	Railroad <sup>1</sup>	Air <sup>1</sup>	Others <sup>1</sup>	Totals <sup>1</sup>
Northbound	8587.56	4,851.44	9.421.19	5.38	13,453.8
	63.83%	36.06%	0.07%	0.04%	100%
Southbound	9,609.00	1,949.77	1.19	472.53	11,932.5
	79.69%	16.34%	0.01%	3.96%	100%

<sup>1</sup>Millions of U.S. Dollars  
Source: SECOFI

**Table 3.85**  
**1995 Trade Activity by Mode—Laredo-Nuevo Laredo POE System**

	Highway	Rail	Pipeline	Other	Total
Northbound	66.9%	33.1%	0.0%	0.1%	100%
Southbound	82.6%	16.6%	0.0%	0.8%	100%

Source: 1995 Trans-Border Surface Freight Data, U.S. Department of Transportation

**Table 3.86**  
**Top 15 Northbound Product Categories—Laredo-Nuevo Laredo POE System, 1995**

Key*	Product Category	Value <sup>1</sup>	Percent (%)
87	Cars, Tractors, Bicycles and Other Vehicles	4,517.38	33.58
84	Nuclear Reactors, Boilers and Machinery	2,300.30	17.10
85	Machinery, Electric Materials and Devices	1,620.96	12.05
9	Coffee, Tea, Spices	519.30	3.86
73	Iron and Steel Products	437.05	3.25
39	Plastic Materials and Plastic Products	339.19	2.52
74	Copper and Copper Products	303.15	2.25
70	Glass and Glass Products	299.48	2.23
22	Beverages, Alcoholic Beverages and Vinegar	197.13	1.47
69	Ceramic Products	162.62	1.21
76	Aluminum and Aluminum Products	151.99	1.13
62	Clothes	136.90	1.02
55	Synthetic or Artificial Fibers	136.65	1.02
94	Furniture, Medical and Surgical Supplies	136.72	1.02
72	Iron and Steel Melting	132.84	1.02

<sup>1</sup> Millions of U.S. Dollars

\*Scheduled tariff code

Source: SECOFI

**Table 3.87**  
**Top 15 Southbound Product Categories—Laredo-Nuevo Laredo POE System, 1995**

Key*	Product Category	Value <sup>1</sup>	Percent (%)
84	Nuclear Reactors, Boilers and Machinery	2,270.31	19.03
85	Machinery, Electric Materials and Devices	1,426.84	11.96
39	Plastic Materials and Products	1,066.77	8.94
87	Cars, Tractors, Bicycles and Other Vehicles	700.30	5.87
48	Paper and Cardboard (Raw material/Products)	418.55	3.51
47	Paste (made of Wood or other Fibrous Materials)	351.68	2.95
98	Importations through Special Operations	334.38	2.80
90	Optical Instruments and Supplies, Photography	345.28	2.89
76	Aluminum and Aluminum Products	335.67	2.81
29	Organic Chemical Products	309.58	2.59
73	Iron and Steel Products	286.28	2.40
72	Iron and Steel Melting	278.53	2.33
10	Cereals	254.40	2.13
28	Inorganic Chemical Products	210.84	1.77
40	Rubber and Rubber Products	176.20	1.48

<sup>1</sup> Millions of U.S. Dollars

\*Scheduled tariff code

Source: SECOFI

### 3.9.6 Final Comments

#### *Nuevo Laredo I-Gateway to the Americas*

##### Southbound Vehicles

- There is traffic congestion in the evening peak (6:00 PM to 7:00 PM) due to the volume of traffic and the limited number of routes to the bridge. In addition, there is some traffic congestion generated by pedestrian and passenger vehicle conflicts at the corner of Convent and Water Streets.
- At present, the combination of the random selection system and the electronic overload detection system does not impede traffic flow, allowing the continuous and rapid flow of vehicles into Mexico.

- In general, the small volume of commercial trucks traveling south, which are checked at the primary inspection gates, typically do not impede traffic flow on the bridge. However, there are recurring exceptions to this general observation, however, as noted under Laredo-Nuevo Laredo II.

#### Northbound Vehicles

- Due to the commercial vehicle restrictions, this bridge is now more efficient in terms of northbound passenger vehicle and pedestrian flows. The operation of the USCS/INS is a little slower than the Mexican operation due to inspection requirements; however, there is minimal traffic congestion. While pedestrian flows experience a few minutes of delay during the peak hours (8:00 AM to 9:00 AM and 6:00 PM to 7:00 PM), it is not a problem.
- Secondary inspections of passenger vehicles entering the United States at the Convent Street crossing point are conducted efficiently and last less than 20 minutes. Normally, the secondary inspection area is only 30 to 40 percent occupied.
- Generally in Nuevo Laredo, access to and from the Nuevo Laredo I-Gateway to the Americas bridge is adequate, however, some vehicles may experience congestion when they use Avenida V. Guerrero. Vehicles using 15 of Junio and its extension to Lopez de Lara typically have no access problems.

#### *Laredo-Nuevo Laredo II*

#### Southbound Vehicles

- On the U.S. side of the bridge, trucks are assigned to the center (left-hand) toll lanes. This requires trucks to weave with passenger vehicles in order to use the right lane on the far side of the bridge to enter the Mexican Customs compound. This weaving and merging adds to congestion on the bridge.
- The primary inspection lanes for loaded trucks at the Mexican crossing are functioning efficiently. However, this is contingent upon the time taken to inspect all the documentation for each truck. The average time for this inspection normally lasts 30 to 60 seconds in the four designated gates. The other gates are for the inspection of empty trucks and tractors. Trucks, however, do queue back through the primary lanes due to inadequate space for trucks waiting to access secondary inspection docks.
- The primary inspection lanes at the Mexican POE serve vehicles from both downtown crossings. The inspection of trucks does not present any problems; however, the 42 bays established for this purpose are continuously occupied all day long. This situation is due to the detailed inspection of merchandise and documentation performed by Customs inspectors with the help of crews using stevedores and four forklifts. Since the inspection spaces are occupied for most of the day, it might be deduced that the number of personnel and equipment is insufficient. Inspection times range from 30 minutes to three hours depending on the type of merchandise. As noted above, congestion at this location leads to the development of queues that sometimes extend into the United States
- The computerized registration of documentation accelerates the commercial flow. However, improvements are needed to prevent power outages and information overload of the system. These system failures halt all Customs transactions and the resulting queues can back up into the United States
- At the Mexican POE, the southbound passenger vehicles pass through two lanes. If there is high demand, a third lane can be opened. The secondary inspection areas function efficiently

with the average inspection time from 5 to 15 minutes. The passenger vehicles entering Nuevo Laredo have multiple route options into the urban area which reduce congestion.

### Northbound Vehicles

- Northbound passenger vehicle traffic flow creates some congestion at the Mexican POE. This situation occurs during the peak hours between 11:00 AM and 3:00 PM and is caused by (1) the narrowness of the roads that access the bridge, (2) interference from tractors without trailers and empty trucks on the bridge itself, and (3) the limited number of toll lanes.

Trucks can use one of three lanes at the entrance of the Mexican POE, while one is reserved for empty trucks and tractors without trailers. As only one lane is designated for trucks on the bridge, this causes some additional congestion. During peak demand, the authorities of both countries often reverse the traffic flow in the centermost southbound lane in order to add capacity and reduce congestion for northbound vehicles. During these periods, the bridge operates with two southbound lanes and four northbound lanes.

- Queues and delays to commercial flow exist in the northbound direction along Boulevard L.D. Colosio. The peak days are Wednesday, Thursday, and Friday, when queues of up to six kilometers long are common. On the Mexican side, the random selection system is used, selecting approximately two percent of the vehicles. The inspections take place 300 meters before entering the toll gates. Currently the inspection activity does not pose significant problems other than merging with traffic after the inspection.
- Commercial flow into the United States is slower than into Mexico, primarily due to the inspection requirements. The rate of inspection by the USCS can vary depending on the level of enforcement. Typically, 10 percent or less of all commercial vehicles are inspected in secondary. Occasionally, special enforcement activities require the inspection of all vehicles. The operation of the USCS directly impacts the truck congestion over the bridge and on the access roads in Nuevo Laredo.

### *Colombia-Laredo*

#### All Movements

- Due to the relatively low volume of traffic using this facility, it is not possible to identify all the potential problems with this crossing. Currently, the Laredo-Colombia crossing represents an unrealized potential for facilitating binational trade. One existing problem is the lack of good connecting roads on both the U.S. and the Mexican sides from the major north-south highway. These connections should be completed by 1999 to make the crossing more competitive, particularly as usage increases.

#### **3.9.7 Conclusions**

- The opening of the Laredo-Colombia crossing has provided an efficient alternative to the congested crossings, especially southbound, and local street systems which delay trucks in the Laredo-Nuevo Laredo crossings. Once the direct highway connections are provided on both sides of the border, this bridge may become the crossing of choice for most drivers. Truck volumes have recently been increasing.
- The placement of the truck lanes on the left at the southbound toll booths of Laredo-Nuevo Laredo II and the inspection compound on the right requires trucks to weave from left to right

as they cross the bridge. This is inefficient, causes congestion during busy periods, and increases traffic accident potential. It will be reviewed as part of Task 9.

- There are not enough inspection docks at the southbound Mexican Laredo-Nuevo Laredo II facility. This results in extended queues along I-35 and delays trucks. It also introduces accident potential on I-35.
- Electric power failures occasionally cause the Mexican inspection facility at this crossing to become inoperable. This stops all inspection processing and backs vehicles up along I-35. Improvements in power reliability are needed.
- Truck crossings are rapidly increasing at this POE, which has the highest truck volume crossing (Laredo-Nuevo Laredo II). This is a combination of location on the primary shipping corridor between the two countries and proximity of maquiladoras in the corridor.
- This POE also has the highest volume of trade crossing the border by rail. The tonnage is heavily southbound.
- There is no congestion for vehicles using Laredo-Nuevo Laredo I. Commercial vehicle size and weight restrictions limit commercial vehicle use.

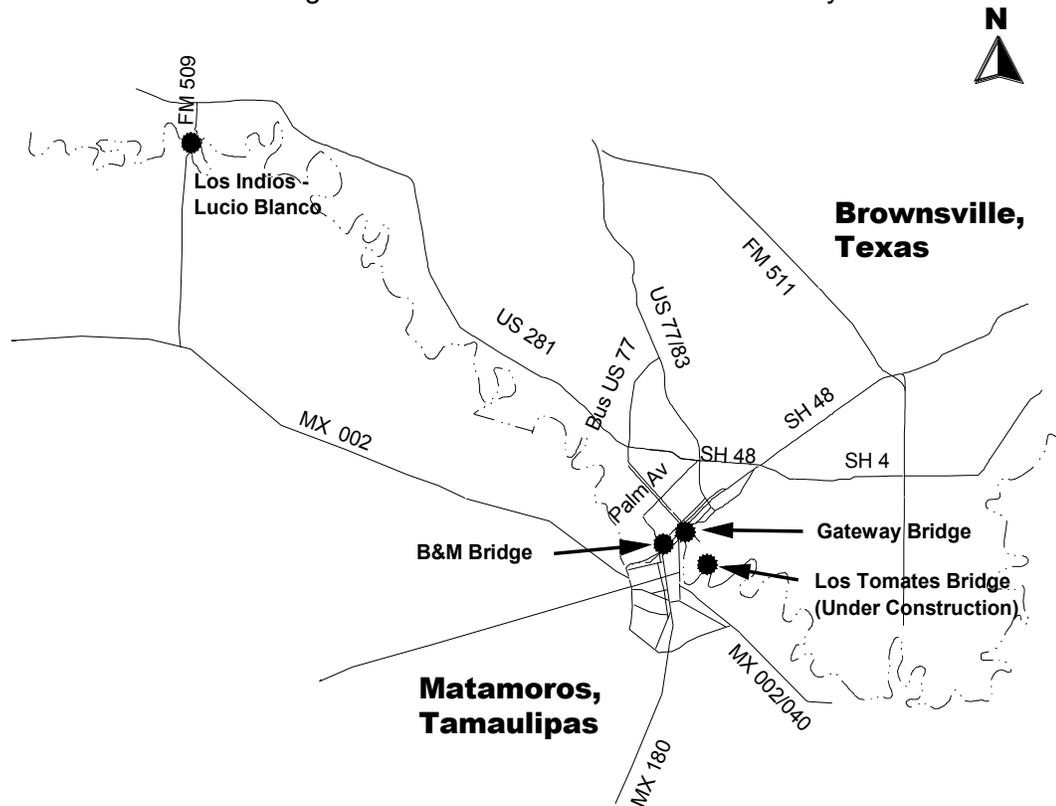
### 3.10 Brownsville-Matamoros Port of Entry System

The Brownsville-Matamoros Port of Entry System consists of the following three crossings: Brownsville-Matamoros (B&M) Bridge (pedestrians, private vehicles, commercial vehicles and rail), Brownsville-Matamoros (Gateway) (pedestrians, private vehicles and commercial vehicles), Los Indios-Lucio Blanco (pedestrians, private vehicles and commercial vehicles). In addition, constuction on the Los Tomates-Matamoros bridge was begun in 1997 and should be completed by 1999.

Two crossing points are located in the twin cities of Brownsville and Matamoros, and the third crossing is located approximately 26 kilometers to the northwest of these cities. The crossing locations relative to the U.S.-Mexican border are shown on Figure 3.18

The Gateway Bridge is the primary link between Brownsville and Matamoros for passenger vehicles, commercial vehicles, and pedestrians. Gateway Bridge serves as the primary crossing for non-agricultural goods. The B&M Bridge, the oldest bridge in the system, handles rail traffic as well as vehicular traffic. The B&M Bridge serves as the primary crossing for perishable goods. The Los Indios-Lucio Blanco crossing is designated for commercial and passenger vehicles. This crossing is the newest and has the largest facilities (in terms of site size and capacity) in the system.

Figure 3.18  
Location of the Crossings at the Brownsville-Matamoros POE System



Source: Barton-Aschman-La Empresa, 1997

*Brownsville-Matamoros (B&M) Bridge*

The B&M Bridge connects Brownsville and Matamoros near the central business districts of both cities. The structure consists of two separate bridges, one used exclusively for commercial vehicles and rail, and the other for pedestrians and passenger vehicles. The bridge is operated by the B&M Bridge Company, a subsidiary of Union Pacific (UP) and the Mexican government in a 50-50 joint venture, which manages the commercial and pedestrian flow in both directions.

The land use on the U.S. side of this crossing point consists of public services, light industry, parks, and open space toward the northwest. This area also includes the railroad yard area used and maintained by UP.

Land use on the Mexican side of the crossing is primarily commercial with a small percentage of residential use. Typical businesses include travel agencies, restaurants, hotels, the railroad station, cultural centers, and the Matamoros Casino.

*Gateway Bridge*

The Gateway Bridge is located approximately two kilometers to the northeast of the B&M Bridge. This bridge connects the downtown shopping and commercial centers of Brownsville and Matamoros. This bridge processes pedestrians, passenger vehicles, and commercial vehicles.

The land use on the U.S. side includes commercial retail development such as clothing and electronic stores and service activities such as restaurants. Municipal services located in the downtown area near this crossing include: the federal court house and Brownsville City Hall; civil and commercial associations, such as the Brownsville Chamber of Commerce and the Civic Center; education and cultural centers, such as the University of Texas at Brownsville, the Stillman Museum, and the Historical Museum of Brownsville

On the Mexican side, land use surrounding this crossing consists of commercial, low-density residential, and public service uses. The water treatment and sewage system offices, federal offices, the Department of Marine offices and some restaurants are located in this area. The U.S. Consulate and the bus station are located nearby.

*Los Indios-Lucio Blanco*

This is the newest crossing point of the system and is located 26 kilometers northwest of Brownsville and nine kilometers south of Harlingen, Texas. The available inspection facilities at this location are the largest in the Brownsville-Matamoros POE system in terms of size and capacity to handle heavy vehicular traffic. This bridge primarily handles passenger vehicles and commercial vehicles carrying mainly agricultural products. Few pedestrians cross at this POE due to its remote location isolated from any urban communities.

The land use on both the U.S. and Mexican sides is related to customs and immigration activities. However, nearly all of the land currently consists of agricultural uses interrupted by the Rio Grande and the Anzalduas channel.

### **3.10.1 Regional Transportation Infrastructure**

#### *Regional Access*

In the United States, the principal regional access facilities are U.S. 77 and U.S. 83. U.S. 77 is the principal north-south route for accessing the border region. North from Brownsville, U.S. 77 passes through Harlingen, Kingsville, Corpus Christi and Victoria. Interstate 37 (I-37) connects to U.S. 77 at the seaport of Corpus Christi. I-37 then connects Corpus Christi with San Antonio where it intersects with I-10 and I-35. At Victoria, U.S. 77 intersects with U.S. 59, which provides a link to the city of Houston, the port of Houston, and I-10.

U.S. 83 is similar to MX 002 since it parallels the U.S.-Mexican border and links the U.S. border communities. To the west of Brownsville, U.S. 83 connects to the cities of Pharr, McAllen, Rio Grande City and Laredo. In Laredo, U.S. 83 intersects with I-35, which provides access to the interior of the United States

Union Pacific operates the principal rail line serving Brownsville. This line links Brownsville to the city of Corpus Christi following an alignment similar to U.S. 77. In Corpus Christi, there are two principal lines that extend to Houston and San Antonio.

In Mexico, the principal regional access facilities for the Brownsville-Matamoros POE system are: MX 180 and MX 002 and the State Highways SH 004 and SH 005. MX 180 parallels the gulf coast connecting the city of Matamoros with the seaports of Altamira and Tampico. The route continues south to the city of Veracruz and to other coastal communities. Approximately 120 kilometers south of Matamoros, MX 180 connects with MX 101, which provides access to Ciudad Victoria, San Luis Potosi and to the interior of the country.

MX 002 runs parallel to the U.S.-Mexican border connecting the Mexican border cities. MX 002 is a particularly important connection between Matamoros and Reynosa (federal) where it connects with MX 040. MX 040 links the border region to the interior of Mexico including the cities of Monterey, Saltillo, and Durango. SH 004 and SH 005 provide an important local connection to the agricultural zone of Valle Hermoso.

The railways that reach the city of Matamoros are part of the Mexican National Railroads "Ferrocarril Del Noreste" (Northeastern Rail Co.). One important line stretches from Matamoros to Ciudad Camargo along the border and then turns south connecting to the city of Monterey.

Table 3.87 shows the 1994 volumes for the major regional U.S. roadways serving the Brownsville-Matamoros POE system. The route that parallels the border (U.S. 83) carries the highest volume of traffic. This traffic pattern suggests that much of the traffic using these facilities consist of local (i.e., the Brownsville-Harlingen-McAllen (Rio Grande Valley) area) rather than regional trips. The average daily traffic volume on U.S. 77/83 is approximately 30,000 vehicles. When U.S. 83 turns westward from U.S. 77, which continues north, the majority of the traffic follows U.S. 83, which also has an average daily traffic volume of 31,000 vehicles. On the other hand, U.S. 77 has an average daily traffic volume of only 10,700 vehicles north of the junction with U.S. 83.

Table 3.88 lists the 1996 average daily traffic volumes for local facilities serving the downtown crossing in Brownsville.

**Table 3.88**  
**1996 Average Daily Traffic U.S. Regional Facilities Serving Brownsville-Matamoros POE**

Facility/Section	Average Daily Traffic (two-way)
U.S. 77/83	
Brownsville to State Route 100	32,000
State Highway 100 to Junction w/U.S. 83	29,000
U.S. 77 North of U.S. 83 to Raymondville	9,600
U.S. 83	
Junction of U.S. 77 to Junction 281	33,000
State Highway 100	
U.S. 77 to Port Isabel	5,700

Source: Texas Department of Transportation, 1996 Texas District Highway Traffic Map.

**Table 3.89**  
**1996 Average Daily Traffic Local Facilities Serving Brownsville-Matamoros POE**

Facility/Section	1992 Average Daily Traffic (two-way)
U.S. 77/83	
North of Tejon Road	29,000
FM 802 to Tejon Road	32,000
Boca Chica Boulevard to FM 802	56,000
Boca Chica Boulevard	
West of U.S. 77/83	16,900
U.S. 77/83 to SH 48	29,000
SH 48	
SH 4 to FM 802	26,000

Source: Texas Department of Transportation, 1996 Texas District Highway Traffic Map.

Table 3.90 summarizes the 1995 traffic volumes on the Mexican highways used to access the Brownsville-Matamoros POE system. The most heavily used facility is MX 002, where the highest volume of traffic was recorded. This implies that a high level of regional and local traffic is using the facility.

The highest volumes on MX 002 occur along the section of roadway between Matamoros and Reynosa.

To the east on MX 002 the traffic volumes are typically lower. In the section from Matamoros to Playa Villar an average daily volume of 4,112 vehicles was recorded. A count taken just outside

**Table 3.90**  
**Daily Traffic Volumes and Vehicle Classification—Access Highways to Matamoros, 1995**

Data Collection Point	Vehicular Classification in %			
	ADT	Passenger Vehicles	Passenger Buses	Commercial Vehicles
MX 180 Cd. Victoria-Matamoros Izq. Reynosa, Km. 202 + 000	5,625	75.0	7.2	17.8
MX 002 Matamoros-Reynosa Empalme, Km. 38 + 000	9,685	80.2	4.9	14.9
MX 002 Matamoros-Playa Villar Matamoros, Km. 0 + 0	7,110	81.1	6.7	12.2
SH 005 T.C. (Valle Hermoso- Empalme)-Matamoros Matamoros, Km. 33 + 900	2,660	NA	NA	NA
SH 004 Valle Hermoso-Empalme Valle Hermoso, Km. 0 + 0	5,370	NA	NA	NA

Source: SCT Vital Statistics

the Matamoros city limits indicated a total daily volume of 7,110 vehicles (5,770 passenger vehicles, 475 buses, and 865 trucks).

The truck percentage of traffic using MX 002 varies from 12 percent to 15 percent.

On the Matamoros-Empalme Branch, MX 002 is classified as “Type A,” operating at Level of Service (LOS) A. The Matamoros-Playa Villar branch is classified as “Type C,” and operates at LOS D.

On MX 180, the traffic count location is 110 kilometers from Matamoros at its junction with MX 097 which connects with Reynosa. At this location an average daily volume of 5,625 vehicles was recorded (4,220 passenger vehicles, 405 buses and 1,000 trucks). This section of roadway had the highest percentage of truck usage at 17.8 percent. The highway is classified as “Type A” and operates at LOS B.

The state highways also provide an important contribution to regional traffic flow. The section of SH 005 that connects Valle Hermoso and Empalme to Matamoros recorded an average daily volume of 2,660 vehicles at the entrance to the city of Matamoros. The section of SH 004 that links MX 002 (in the town of Empalme) to Valle Hermoso recorded an average daily volume of 5,370 vehicles in the outskirts of Valle Hermoso. Since these communities are relatively small this level of vehicular activity denotes a significant portion of regional traffic using the highway network that stretches between Reynosa and Matamoros.

Table 3.91 presents the average daily volumes for the period from 1991 to 1995 for the highways that serve Matamoros. The data presented in this table for MX 180 are two-way volumes except for 1992, which is a one-way volume. On this highway, vehicular traffic grew at a average annual rate of 5.3 percent between 1991 and 1994. In 1995, there was a slight decrease of 3.5 percent.

As was previously mentioned, MX 002 has the highest volume of vehicular activity in the region surrounding Matamoros. On the Matamoros-Playa L. Villar branch, there has been a slow decrease in vehicular traffic at an annual rate of -2.7 percent. On the other hand, the

**Table 3.91  
1991-1995 Average Daily Traffic Volumes on Access Highways to Matamoros, Tamaulipas**

<b>Highway-Section</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
MX 180 Cd. Victoria-Matamoros Izq. Valle Hermoso Km. 254 + 500	6,451	3,430	NA	7,529	7,267
MX 002 Matamoros-Playa L. Villar Matamoros Km. 0 + 0	7,929	NA	NA	7,234	7,112
MX 002 Matamoros-Reynosa Est. Maestra Garita Aduanal Km. 21 + 600 Empalme Km. 33 + 900	3,960 8,800	4,151 9,224	NA NA	NA 9,770	NA 9,685
SH 005 T.C. (Valle Hermoso-Empalme)-Matamoros Matamoros Km. 33 + 900	2,930	2,590	NA	2,720	2,660
SH 004 Valle Hermoso-Empalme Valle Hermoso Km. 0 + 0	2,689	5,330	NA	5,490	5,370

Source: SCT Vital Statistics <sup>1</sup>One-way only

Matamoros-Reynosa section shows an average annual growth of 3.5 percent for the period from 1991 to 1994 and a small decrease of less than one percent in 1995.

SH 004 and SH 005 show stable behavior during the period that was studied, with little relevant fluctuation over each year, with the exception of 1991 and 1992. As on the federal highways, the 1995 vehicular traffic volume decreased slightly with respect to the previous year.

### *Crossing Access*

In the United States, southbound vehicle access to the B&M Bridge is primarily provided by Sam Perl Drive, which connects to 12th and 13th Streets in downtown Brownsville. On the northeast side of downtown, 12th and 13th Streets connect with U.S. 77 and U.S. 83. The B&M port of entry is shown on Figure 3.19.

Alternate access to this crossing on the U.S. side is via Mexico Street and its connection to Palm Boulevard. Palm Boulevard, together with Central Boulevard, connects with State Highway 48 (SH 48) (Boca Chica Boulevard). Boca Chica Boulevard provides direct access to SH 4 and SH 281 (Military Highway). SH 48 provides a connection to the Port of Brownsville and SH 4 provides a connection to the Brownsville-South Padre Island International Airport.

In Mexico, vehicular access to the B&M Bridge is provided by Avenida Hidalgo and Avenida Tamaulipas. Traffic from the west or from Reynosa utilizes Avenida Hidalgo. Traffic coming from the south, or the interior of Mexico uses Calles 6th and 7th connecting to Avenida Tamaulipas. South of the city, Avenida Tamaulipas becomes MX 180, continuing on to Ciudad Victoria via MX 101, the State Capital of Tamaulipas.

On the U.S. side, southbound access to the Gateway International Bridge is provided by International Boulevard with connections to U.S. 77/83. From International Boulevard, vehicles approach the bridge on 14th Street. The Gateway port of entry is shown on Figure 3.20.

On the Mexican side, northbound vehicle access to the Gateway Bridge from the west is via Avenida Hidalgo, which connects to MX 002. From the south, there are two alternative routes. The first route uses Avenidas 6th and 7th to connect with Avenida Hidalgo. From Avenida Hidalgo, direct access to the crossing is via Avenida Alvaro Obregon. The second route approaches the crossing from the southeast portion of Matamoros. This route uses 1st and Avenida Tamaulipas as approaches to the crossing. 1st connects with other major cross-town streets such as Avenida Lauro Villar, Division Del Norte (Mutualismo) and Canales. Traffic on 1st enters the crossing on Avenida Alvaro Obregon and exits on Avenida Rosas. Traffic using Avenida Tamaulipas can enter the crossing directly. East of Matamoros, Avenida Lauro Villar connects to MX 002, which passes through Ciudad Industrial and ends at Villar Beach.

Access to Los Indios-Lucio Blanco from the north is via FM 509, which provides a direct route to U.S. 77/83 in Harlington and San Benito, and U.S. 281, which connects Brownsville to Progreso and Hidalgo to the west. The Los Indios-Lucio Blanco port of entry is shown on Figure 3.21.

On the Mexican side, northbound access to the Lucio Blanco crossing is provided by MX 002, which runs east-west parallel to the U.S.-Mexican border. MX 002 provides traffic access from the southern region of the city of Matamoros, as well as the southern parts of Tamaulipas via MX 180 and, ultimately, MX 101. MX 002 also provides access for traffic from the cities of Rio Bravo and Reynosa where it connects to MX 097 from southern Tamaulipas and MX 040, which leads to Monterrey.

Figure 3.19 Brownsville-Matamoros (B&M) Port of Entry

Figure 3.20 Brownsville-Matamoros (Gateway) Port of Entry

Figure 3.21 Los Indios-Lucio Blanco Port of Entry

**3.10.2 Physical Description**

The following sections describe the physical characteristics of the three Brownsville-Matamoros POE System crossings.

*Brownsville-Matamoros (B&M) Bridge*

The historic B&M Bridge was originally designed and constructed for railroad use only. However, in 1941 it was modified to provide for vehicular traffic and pedestrians. The bridge has two traffic lanes and a sidewalk. In 1997, an additional four-lane bridge was constructed for pedestrian and passenger vehicles adjacent to the existing bridge. The original bridge now serves commercial vehicular traffic and rail only. Both the U.S. and Mexican sides of the bridge are owned and operated by the Brownsville & Matamoros Bridge Corporation. When a train crosses the bridge, other commercial traffic is blocked. This occurs two times a day on average and it usually takes approximately ten minutes for a train to clear the bridge. There are no facilities for the inspection of rail cargo at this location. Inspections occur on the tracks at the ends of the bridge. Tables 3.92 and 3.93 show a summary of the characteristics and the facilities at the B&M Bridge border crossing.

Tolls are collected for both northbound and southbound traffic on the U.S. side.

Pedestrians

Northbound pedestrians cross on the new bridge and southbound pedestrians cross on the original bridge.

Passenger Vehicles

Northbound passenger vehicles approach the bridge on two lanes, cross the bridge, and pay the toll at one of three toll booths. The vehicles then proceed to four U.S. primary inspection booths. There is space for 12 vehicles in the secondary inspection area.

Southbound passenger vehicles pay toll in the United States at the one of two booths and cross the bridge. At the Mexican facility, there are two random selection lanes and eight secondary inspection spaces.

**Table 3.92  
Characteristics of the B&M Bridge Crossings**

	Mexico				United States			
	Peds	Cars	Trucks	Rail	Peds	Cars	Trucks	Rail
Type of Crossing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Primary Inspection Lanes/Spaces	1	2	20*	0	1	4	2	0
Secondary Inspection Spaces	—	8	2*	—	—	12	14	—

\*Shared spaces with Gateway Bridge  
 Source: Barton-Aschman-La Empresa, 1997

**Table 3.93  
Facilities at the B&M Bridge Crossing**

	Mexico	United States
Area	15,000 m <sup>2</sup>	49,000 m <sup>2</sup>
Buildings	1	3
Date of Construction	1909	1908
Last Remodeling Date	1997	1992

Source: Barton-Aschman-La Empresa, 1997

Commercial Vehicles

Northbound commercial vehicles cross through an export inspection gate at the south end of the bridge. There is a small area for primary and secondary export inspection adjacent to the passenger vehicle inspection area. Trucks cross the bridge and pay their toll in the United States. They access the U.S. commercial POE by crossing under the bridge. At the U.S commercial facility there are two primary processing lanes and 14 secondary inspection spaces.

Southbound commercial vehicles pay their toll on the U.S. side of the bridge and proceed south. At the southern end of the bridge, the trucks enter the exclusive truck roadway and travel to the Mexican inspection facility. In the Mexican inspection facility, there are five lanes for the random selection system. If an inspection is required, there are 20 dock spaces provided (only seven are usable for full-sized trucks due to limited maneuvering space). Two secondary inspection spaces are provided near the exit.

Facilities

The Mexican facilities include a new administration and bank building constructed in 1997, a control booth area, and an entrance for commercial processing.

The facilities on the U.S. side were completely renovated in 1992. Table 3.93 shows the size of the facility and the number of buildings on the site.

*Brownsville-Matamoros (Gateway) Bridge*

Table 3.94 is a summary of the crossing types and facilities at this location. This crossing processes pedestrians, passenger vehicles, and trucks. There are four lanes, two in each direction on separate bridge structures. There are sidewalks on the outside of each bridge.

Passenger Vehicles

There are three toll booths for passenger vehicles in the northbound direction. Passenger vehicles are allowed to travel in both vehicle lanes but often stay in the left lane to avoid waiting in the queue of trucks. There are five primary inspection lanes at the U.S. inspection facility, with 17 spaces for secondary inspections.

Southbound passenger vehicles pass through three toll booths and cross the bridge in either of the two lanes. At the Mexican inspection facility there are four random inspection lanes (three for nothing to declare and one for small imports) and 12 spaces for inspection.

**Table 3.94  
Characteristics of the Gateway Bridge Crossings**

	Mexico				United States			
	Peds	Cars	Trucks	Rail	Peds	Cars	Trucks	Rail
Type of Crossing	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Primary Inspection Lanes/Spaces	1	4	20*	—	1	5	4	—
Secondary Inspection Spaces	—	12	2*	—	—	17	24	—

\*Shared spaces with B&M bridge  
Source: Barton-Aschman-La Empresa, 1997

Commercial Vehicles

Northbound commercial vehicles stop at the Mexican inspection facility just to the south of the bridge and form a line in one lane. If a truck is selected for inspection, it pulls to the side of the

road for its inspection. Once the trucks are released, they cross to their dedicated toll booth and onto the bridge. Trucks travel in the right lane of the bridge. At the end of the bridge, the trucks make a sharp right turn into the four U.S. primary inspection lanes. There are 24 spaces available for secondary inspections.

Southbound commercial vehicles pay their bridge toll and cross the bridge in the right lane. Near the Mexican passenger vehicle inspection facility, the trucks turn right and into the dedicated fiscal route (a one-lane roadway that follows on the bank of the river crosses under the B&M bridge and then goes to the Mexican commercial inspection facility).

Facilities

On the U.S. side, the inspection facility consists of a large administrative building which houses the offices of the U.S. Customs Service (USCS), the Immigration and Naturalization Service (INS) (immigration) and U.S. Department of Agriculture (USDA) officials. This structure was completely renovated in 1991. The import dock and commercial inspection offices are located behind the administration building and were renovated in 1994. These facilities include new offices, 24 inspection docks, and new primary inspection booths.

On the Mexican side, the main building is occupied by government agencies: the customs administration, the INM (immigration), the Secretariat of Tourism, SEMARNAP, BANJERCITO, and a guaranty corporation. A separate building is used by CAPUFE for their operations. The facilities are summarized in Table 3.95.

Renovations were made to the CAPUFE building in 1990. The customs facilities and the government agency facilities may be remodeled at a later date. It should be noted that the current size of these facilities is sufficient to handle the existing traffic flows even though their layout creates some operational inefficiencies. Expansion of the facility is constrained by the available land and, therefore, future expansion is unlikely.

*Los Indios-Lucio Blanco*

The Los Indios-Lucio Blanco crossing opened on November 1, 1992. It is a four-lane structure, two lanes in each direction, with a total length of four kilometers. Table 3.96 summarizes the main characteristics of this crossing. This port of entry processes passenger vehicles, trucks, and pedestrians.

**Table 3.95  
Facilities at the Gateway Bridge**

	<b>Mexico</b>	<b>United States</b>
Area	24,000 m <sup>2</sup>	40,000 m <sup>2</sup>
Buildings	2	4
Date of Construction	1961 (Bridge)	1968
Last Remodeling Date	1963 (Buildings) 1990 (CAPUFE)	1991/1992

Source: Barton-Aschman-La Empresa, 1997.

**Table 3.96  
Characteristics of the Lucio Blanco-Los Indios Crossing**

	<b>Mexico</b>				<b>United States</b>			
	<b>Peds</b>	<b>Cars</b>	<b>Trucks</b>	<b>Rail</b>	<b>Peds</b>	<b>Cars</b>	<b>Trucks</b>	<b>Rail</b>
Type of Crossing	Yes	Yes	Yes	No	Yes	Yes	Yes	No

Primary Inspection Lanes/Spaces	1	2	70	—	1	4	4	—
Secondary Inspection Spaces	—	6	2	—	—	12	50	—

**Source:** Barton-Aschman-La Empresa, 1997.

Passenger Vehicles

Passenger vehicles traveling northbound travel through two toll booths and onto the bridge. The two lanes are mixed-flow lanes. At the U.S. inspection facility there are four primary inspection lanes with room to expand to 12, and 12 secondary inspection spaces with room to expand to 36. Southbound passenger vehicles pay toll at one of four toll booths and cross the bridge in one of the mixed-flow lanes. At the Mexican inspection, there are two random selection lanes and six secondary inspection spaces.

Commercial Vehicles

Northbound commercial vehicles exist the Mexican export facility, which has two random selection booths and an inspection area and travel through one of two toll booths. The commercial vehicles enter the United States through four primary inspection lanes. There are 56 secondary inspection spaces.

Southbound commercial vehicles pass through two toll booths and cross the bridge. At the Mexican commercial vehicle inspection facility, there are four random selection lanes. If a primary inspection is required, there are 32 spaces. If a secondary inspection is required, there is an area for two trucks.

Facilities

On the U.S. side, there is an administration building which houses the offices and processing areas for INS, USCS, and USDA (APHIS).

The Mexican customs facilities for this port of entry are located between the flood control barrier of the Rio Grande and the Anzalduas Canal and contain the offices of INM, SAGAR, SEMARNAP, and the Secretariat of Tourism. The Mexican Customs administrative offices have their own building, while CAPUFE offices are located at the toll gate building. There is also a storage building and inspection stations for southbound imports headed to Mexico from the United States.

The facilities are new and efficiently designed with a lot of potential for expansion to handle more services. Table 3.97 shows a summary of the facilities of this crossing point.

**Table 3.97  
Facilities at Los Indios-Lucio Blanco**

	<b>Mexico</b>	<b>United States</b>
Land Area	169,600 m <sup>2</sup>	202,000 m <sup>2</sup>
Buildings	7	6
Date of Construction	1992	1992
Last Remodeling Date	—	—

**Source:** La Empresa, 1997

**3.10.3 Staffing and Hours of Operation**

This section briefly describes the staffing and scheduling for the three crossings included in the Brownsville-Matamoros POE system.

At the U.S. ports of entry, the staffing is shared by the USCS and the INS. There are approximately 230 persons from these two agencies stationed at the three crossings. Other agencies that have staff located at the crossing include the USDA and Federal Drug Administration (FDA). Table 3.98 summarizes current staffing and hours of operation.

In the Mexican ports of entry, there are a total of 180 employees staffing the customs administration offices of the three crossing points. In addition, there are 27 customs inspectors working at the B&M Bridge facilities, 52 at the Gateway Bridge, and 30 at Los Indios-Lucio Blanco. Twelve more inspectors work at the bus station, the Matamoros Airport, and the immigration inspection point located 25 kilometers inside the country.

Both the B&M and the Gateway bridges are open 24 hours for passenger vehicles. For commercial vehicles, B&M is open from 7:00 AM to 5:00 PM and Gateway from 8:00 AM to 10:00 PM. Los Indios is open for both passenger vehicles and commercial vehicles from 5:00 AM to 10:00 PM.

**Table 3.98  
Staffing and Scheduling**

<b>Crossing Point</b>	<b>B&amp;M Bridge</b>	<b>Gateway Bridge</b>	<b>Los Indios</b>
U.S. Customs/INS	50	154	24
Mexican Inspector	27	52	30
Hours of Operation	24 hours 7 days/week	24 hours 7 days/week	5:00 AM to 10:00 PM 7 days/week

**Source:** Barton-Aschman-La Empresa, 1997

**3.10.4 System Operation**

Establishment of the operating system requires the owner of the bridge to form or authorize an agency to be responsible for the day-to-day operations and maintenance. The operators may be a public or private entity. Each of the three bridge crossings considered in this case study utilizes a different operating scheme. The B&M Bridge is owned and operated by Brownsville and Bridge Company, a private subsidiary of UP. The Gateway Bridge is owned by Cameron County and operated by the Cameron County International Bridge System public entity. The Los Indios-Lucio Blanco bridge is owned by Cameron County, City of San Benito, and City of Harlingen, jointly. The Los Tomates-Matamoros bridge will be operated by Cameron County and the City of Matamoros. The agencies allow Cameron County International Bridge System to maintain operation. The USCS staff at the three bridges is administered by the USCS from the Gateway Bridge facilities.

**3.10.5 Statistical Description**

The following statistics were compiled for the B&M and Gateway Bridges located in downtown Brownsville. Northbound vehicular traffic and pedestrian volumes for the period from 1991 to 1995 are shown in Table 3.99. Pedestrian volumes show a steady decrease during the given period with an average annual decline of 9.4 percent. The vehicular traffic volumes experienced an increase from 1991 to 1994 with an average annual growth rate of 6.3 percent for passenger

**Table 3.99**  
**Arrivals Northbound by Type of Conveyance**  
**at Downtown Crossings Brownsville-Matamoros POE**

<b>Transportation Mode</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
Automobiles	4,990,401	4,939,722	5,163,396	5,998,462	5,846,098
Trucks	182,715	203,116	244,147	264,345	233,615
Pedestrians	4,974,562	451,855	4,016,657	3,880,344	3,352,541

Source: Bureau of Transportation Statistics

vehicles and 13.1 percent for commercial vehicles. Over the five-year period, truck traffic has comprised between 3.5 percent to 4.0 percent of the total vehicle flow for the two downtown crossings.

Rail Traffic

The volume of cargo transported by railroad over the B&M Bridge for the period from 1990 to 1994 is shown in Table 3.100. Unlike the rail crossings in El Paso-Ciudad Juarez and Laredo-Nuevo Laredo, northbound rail volumes are slightly higher than southbound flows. There was one exception in 1992. During the five-year period the average northbound rail volume was 53 percent of the total rail volume.

The rail volumes experienced annual increases during the five-year period except in 1994. Preliminary reports indicate that in 1995 the northbound rail volumes increased by 35 percent which exceeds the -10.4 percent decrease experienced in 1994. The northbound rail volumes increased at an average annual rate of 8.5 percent between 1990 and 1993. On the other hand, the southbound rail volume had an average annual increase of 19.4 percent between 1990 and 1993, and experienced a sharp decrease in 1994 of -32.6 percent.

**3.10.6 Commercial Activity**

Northbound truck volumes obtained for the Gateway Bridge (the International Bridge of Matamoros), which is operated by CAPUFE and the Cameron County International Bridge System, are shown in Table 3.101. Commercial vehicles through the Gateway Bridge crossing point registered an average annual growth rate of 13 percent from 1991 to 1994, and then experiencing a decline of 11.6 percent in 1995. The largest annual increase (17.9%) occurred in 1994. Overall, an increase was recorded throughout this period. Meanwhile, the Mexican external trade balance through the crossing points of Matamoros in 1995 registered an increase of 11 percent.

**Table 3.100**  
**Railroad Traffic Flow through the Brownsville-Matamoros Crossing Point**

<b>Direction of Flow</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>
Northbound	479,212	485,628	574,007	612,689	548,745
Southbound	355,424	473,455	598,629	604,972	408,016

Source: Mexican National Railroad (FNM)

**Table 3.101**  
**Northbound Commercial Vehicles Through Downtown Brownsville-Matamoros Crossings**

<b>Crossing</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
Matamoros-Brownsville	182,715	203,116	224,147	264,345	233,616

Source: U.S. Customs Service, 1996.

Based on data obtained from U.S. Customs, the Brownsville-Matamoros facilities processed approximately \$3.98 billion (\$U.S.) worth of northbound trade and \$3.58 billion (\$U.S.) of southbound trade in 1995. Table 3.102 summarizes the northbound and southbound trade by mode of transportation. By mode, the majority of northbound trade (94.3%) was via highway transportation (trucks) while rail accounted for only 5.7 percent. Rail use was slightly higher for southbound trade (10.8%), however, highway transportation (trucks) still carried the majority of trade, 89.2 percent by value.

Table 3.103 lists the top 15 northbound product categories (by value) passing through the Brownsville-Matamoros POE system in 1995. The largest product category by far, in terms of percent of total trade, is machinery, appliances and electric materials, which account for 56 percent. The seven main products represented 86.2 percent of the total in 1995. The 15 products outlined in Table 3.102 represent 94.5 percent of the total. The principal northbound export products are related to the maquiladora and petrochemical industries. Seven products are related to the maquiladora industry, four to the petrochemical industry, and three to raw materials.

Table 3.104 lists the top 15 southbound product categories (by value) passing through the Brownsville-Matamoros POE system in 1995. As with northbound trade, the top product category is machinery and electric materials, which represent 34.5 percent of all southbound trade. Ten of the top product categories are included in the lists for both northbound and southbound trade. Seven of these categories are related to the maquiladora industries. It should be noted that 101 of the 256 maquiladoras operating in the State of Tamaulipas are located in Matamoros.

**Table 3.102**  
**1995 Trade Activity by Mode—Brownsville-Matamoros POE System**

	Highway <sup>1</sup>	Rail <sup>1</sup>	Pipelines <sup>1</sup>	Other <sup>1</sup>	Total <sup>1</sup>
Northbound	\$3,751.875 94.29%	\$226.410 5.69%	\$0 0.0%	0.716 0.02%	\$3,979.08 100%
Southbound	\$3,193.644 89.19%	\$386.360 10.79%	\$0 0.0%	\$0.716 0.02%	\$3,580.72 100%

<sup>1</sup>Millions of \$U.S.

Source: U.S. Customs Service

**Table 3.103**  
**Top 15 Northbound Product Categories—Brownsville-Matamoros POE System, 1995**

	Product Category	Average Value	Percentage %	Schedule B Tariff Code
1	Machinery, Appliances, and Electric Materials	2,244.89	56.42	85
2	Iron and Steel Castings	353.80	8.89	72
3	Cars, Tractors, Bicycles	292.98	7.36	87
4	Nuclear Reactor, Boilers	178.71	4.49	84
5	Plastic Materials and Plastic Products	152.12	3.82	39
6	Manufactures of Steel and Iron Castings	107.68	2.71	73
7	Fish, Crustaceans, Mollusks, and others	99.23	2.49	03
8	Inorganic Chemical Products	70.15	1.76	28
9	Clothes and	68.13	1.71	61
10	Rubber Products	59.82	1.50	40
11	Optical Instruments	53.57	1.40	90
12	Mineral Fuels, Mineral Oils	29.69	0.75	27
13	Chemist Industry Products	24.79	0.62	38
14	Grease, Animal and Vegetable Oils	20.62	0.52	15
15	Organic Chemical Products	21.05	0.53	29

Source: SECOFI

**Table 3.104  
Top 15 Southbound Product Categories—Brownsville-Matamoros POE System, 1995**

	<b>Product Category</b>	<b>Average Value</b>	<b>Percentage %</b>	<b>Schedule B Tariff Code</b>
1	Machinery, Appliances, and Electric Materials	1,236.30	39.53%	85
2	Plastic Materials and Plastic Products	289.26	8.08	39
3	Manufactures of Steel and Iron Castings	220.07	6.15	73
4	Nuclear Reactor, Boilers	207.05	5.78	84
5	Iron and Steel Castings	173.42	4.84	72
6	Organic Chemical Products	161.25	4.50	29
7	Seeds and Oleaginous	147.96	4.13	12
8	Common Metals	132.39	3.70	81
9	Chemical Industrial Products	102.53	2.86	38
10	Mineral Fuels, Mineral Oils	84.82	2.37	27
11	Paper and Cardboard Manufactures	87.44	2.44	48
12	Cotton	60.17	1.68	52
13	Rubber Products	49.90	1.39	40
14	Cereals	47.99	1.34	10
15	Leather Processing Products	47.67	1.33	32

Source: SECOFI

**3.10.7 Final Comments**

*B&M Bridge*

- The principal bottleneck at this crossing occurs when a train crosses the bridge and all vehicular and pedestrian traffic must stop. Typically, a rail crossing stops traffic for only 15 to 20 minutes, however, this can create long queues if it occurs during peak hours. These queues create additional congestion, especially on the Matamoros street system.

*Gateway Bridge*

- For southbound commercial traffic entering Mexico, there is a truck exit in advance of the south end of the bridge where pedestrians must cross the flow of truck traffic. This crossing is not controlled by a traffic signal and creates the potential for accidents.
- In Matamoros, northbound pedestrian traffic conflicts with vehicular flow, since the majority of pedestrians arrive from southeast Matamoros and must cross Avenida Alvaro Obregon to access the crossing. There is no traffic signal at this intersection.
- The northbound truck queues on the Mexican side are generally considered to be caused by the inspection process at U.S. Customs. However, these queues are not as long as have been observed at other crossings. It appears that primary inspection capacity is the limiting factor; it cannot process trucks fast enough to dissipate queues during peak periods.
- For northbound and southbound traffic flow, the operation and schedule of this port are considered to be adequate for the amount of vehicular and pedestrian demand. The operation should benefit from the completion of the new (second) bridge at the B&M Bridge location.

*Los Indios-Lucio Blanco*

- This port is not being fully utilized primarily because the industrial zone where maquiladora industries are located is very close to the Gateway Bridge. However, as economic development increases trade flows, this port should be an attractive alternative to the downtown ports.

### **3.10.8 Conclusions**

- There is congestion associated with the two central city crossings. In Matamoros it is a result of conflicts between heavy through traffic on a local street system with multiple functions and rail interference. In Brownsville the southbound Gateway bridge toll collection appears to be the bottleneck; even with all booths open it does not meet peak period demand.
- The primary inspection capacity at the U.S. inspection facility on the B&M crossing is also unable to meet demand when fully staffed. The two lanes are insufficient to accommodate arriving trucks.
- The Matamoros commercial inspection facility, which serves both downtown crossings, is congested and causes unnecessary delays.
- All of the above conditions need to be addressed in the more detailed operational study in Task 9.
- The rail crossing which shares the B&M bridge with commercial traffic has no special inspection facilities. The practice of conducting inspections at the ends of the bridges stops traffic flow for extended periods, causing congestion. This is most critical in Matamoros where a major street is blocked for an at-grade railroad crossing.
- A new crossing is under construction (Los Tomates). It is planned that all commercial vehicles will be diverted to that crossing, thereby alleviating many of the problems now occurring at B&M and Gateway. However, it is expected that the southbound toll collection deficiency will still remain.
- Border crossings are increasing slowly but steadily by rail and truck at this POE which serves industry and maquiladora trade.
- Los Indios-Lucio Blanco is underutilized, but may be too far away to attract many vehicles from Brownsville-Matamoros crossings.

# APPENDIX A

## CONSULTANT SITE VISITS

San Diego-Tijuana	1/96, 2/96, 4/97, 6/97, 9/97
Nogales-Nogales	1/96, 1/97
El Paso-Ciudad Juarez	3/96, 7/97
Eagle Pass-Piedras Negras	4/97
Laredo-Nuevo Laredo	1/96, 4/97
Brownsville-Matamoros	1/96, 8/97