



TOLL ROAD UNIT

Ministry of
Communications
and Transportation

Analysis of Alternative Coordination Methods at Border Ports of Entry between the United States and Mexico

Final Report



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Analysis of Alternative Coordination Methods at Border Ports of Entry between the United States and Mexico

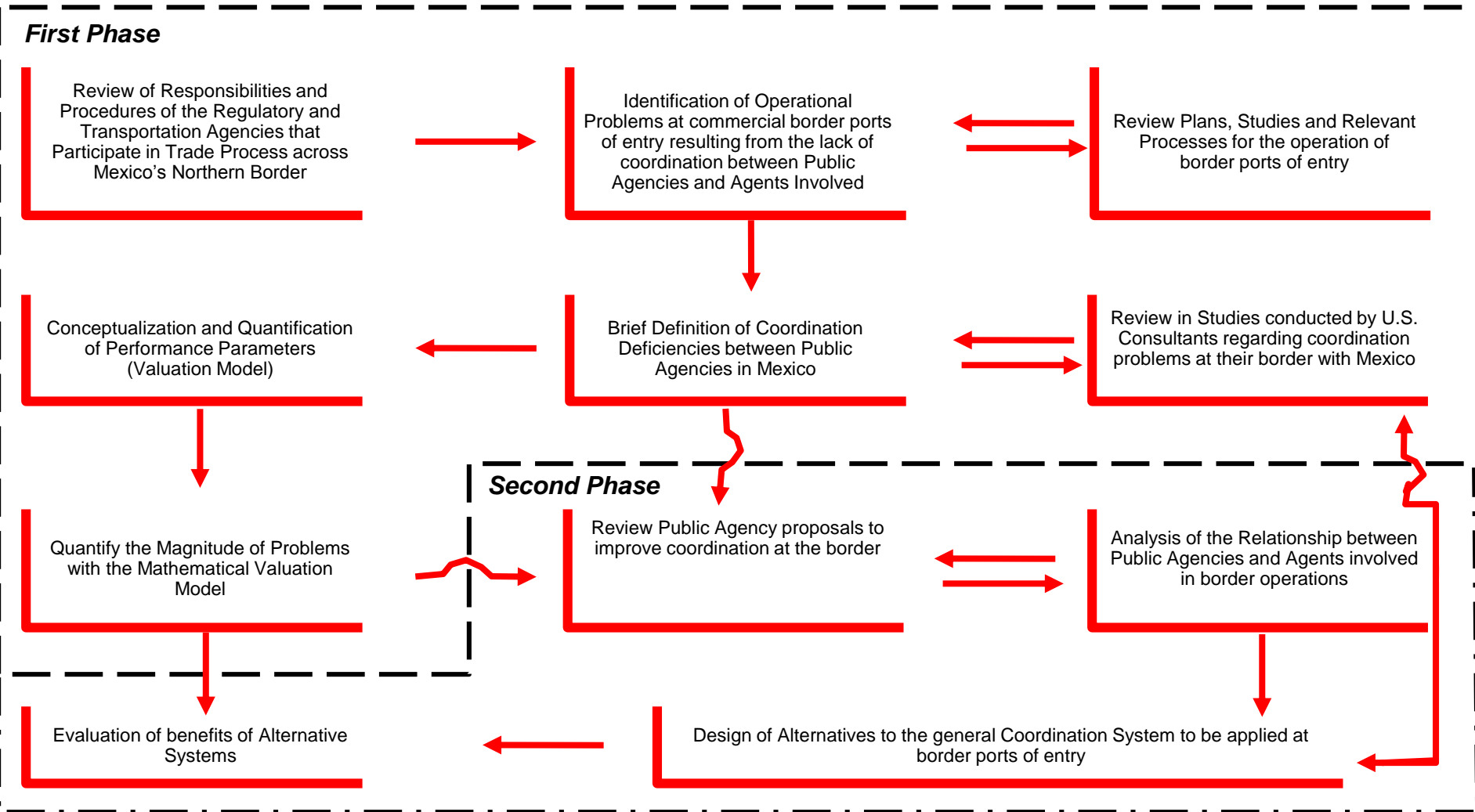
Objectives of the Study

- Phase 1:** To identify the intersectorial coordination problems between public agencies in Mexico, the problems that originate from the lack of Bi-national Coordination at the Border Ports of Entry, and the costs derived from these problems.
- Phase 2:** To develop a general coordination system between Mexico and the United States to process the movement of freight that crosses through the commercial border ports of entry at the US-Mexican border.

Expected Results

- Identification of the agencies involved in operation of transportation of freight in the Northern border of Mexico.
- Description of the main coordination problems between authorities and users that operate in the Northern border zone of Mexico, and proposals for improving inter-agency and binational coordination.
- Analysis of alternatives to improve the coordination between authorities and users with responsibilities at the border.
- Formulation of a mathematical valuation model that will allow the comparison of costs resulting from coordination problems between public agencies and users, and of their improvement measures.
- Cost/benefit analysis of the implementation of improvement measures for the coordination of operating functions of the binational agencies involved in freight transportation at the US-Mexico border.

For the development of the study, a series of activities were conducted, which were integrated to each of the phases.



Analysis of Public Agency Roles

There is an important number of public agencies with foreign trade responsibilities and/or operations at border ports of entry. Duplication of efforts between them has not been identified.

Federal Public Agencies with Foreign Trade Responsibilities and/or in the Border Ports of Entry located in the Northern part of the Country

N°.	Public Agencies	Functions	Avoid Contraband and Collect Revenue	Traffic Security and Financial Sources for Road and Bridge Conservation	Legal Stay of Vehicle Operators	Phytosanitary Inspections of Import Products	Administration of Facilities and Services at Border Ports of Entry	Coordination Bi-national Topics	National Security (Arms and Drugs)	NAFTA Topics	Claims & Accusations	Hazardous Materials & Forestry Products
1	S H C P	Customs	☐									
2	S C T	Fed Truck Transport		☐								
3		Preventive Medicine		☐								
4		CAPUFE/UAC		☐								
5	S G	National Immigration Institute			☐							
6	S A G A R P A	National Commission for Agricultural Health CONASAG / OISA (Office of Inspection of Agricultural Health)				☐						
7	S E C O D A M	CABIN					☐					
8		Complaints Department									☐	
9	Pcia. Rep.	Northern Border Commission										
10	PROFEPA								☐			
11	PPF/PFC								☐			
12	S R E	G.D. North America						☐				
13	S E C O N	G.D. Foreign Trade Services								☐		
14	SEMARNAT	Inspection & Fumigation										☐

A smaller number of Public Agencies have a permanent physical presence at the border. Nevertheless, other important users of border facilities are included.

Identified Agencies Involved in the Cross-border Truck Transportation Process in Mexico

With Operations at the Border Crossings

Public Agencies

- ▣ SHCP.- Customs
- ▣ SAGARPA.- CONASAG/OISA
- ▣ SECODAM - Cabin
- ▣ SECODAM – Complaints
- ▣ SEMARNAT – Inspection and Fumigation
- ▣ (□) SCT – Federal Trucking
- ▣ SCT - CAPUFE
- ▣ (□) SEGOB – National Immigration Institute

Other Participating Entities

- ▣ Customs Agents
- ▣ Drayage Firms
- ▣ Long Haul Transportation Firms
- ▣ Banks

(□) Mainly operate in booths situated at the 25/30 km in the interior of the country.

Not Operating at the Border Crossing

- ▣ (□) SCT – Preventive Medicine
- ▣ President’s Office – Northern Border Commission
- ▣ PROFEPA
- ▣ (□) PFP/PFC
- ▣ SRE – General Directorate for North America
- ▣ SECON - General Directorate of Foreign Trade Services
- ▣ SCT – Toll Road Unit

□ Occasionally at the Border Crossing

Customs represents the agency with the greatest influence at border crossings, considering its responsibility over the country’s international trade. SAGARPA conducts an important activity in the border zone due to the importation of agricultural products. CABIN is the legal administrator of federal assets.

Key Stakeholders with Responsibilities at Border Ports of Entry

Governmental Public Agencies		Private Sector Entities	
Customs	Avoid Contraband Collection of Revenue Freight Inspection	Customs Agents	User Representative (Importer/Exporter) in Customs transactions
SAGARPA	Phytosanitary Inspection of Imported Agricultural Products	Drayage Firms	Trailers and Semi-Trailer movements across the border within the border zone
SECODAM (Cabin)	Administration of Facilities and Services at Border Ports of Entry	Long Haul Firms	Trailers and Semi-Trailer movements to/from the interior of the country
SEMARNAT	Fumigation of Forestry Products and Hazardous Materials		
SCT-DGAF (Federal Trucking)	Security of Commercial Vehicles Operating permits and Drivers Licenses Operates Commercial Inspection Facilities of Vehicles and Drivers; mainly at km 25-30 Stations		
SCT CAPUFE	Toll Roads and Bridges Administration, Operation, and Maintenance		
SEGOB INM	Legal Status of Vehicle Operators Operates Inspection, mainly at km 25-30 Stations		

For the analysis of commercial vehicle operational problems at border crossings, bibliographic information was reviewed and interviews were conducted with regulatory and operational authorities, as well as users of border facilities.

Interviews conducted in Mexico City and Visits to Border Ports of Entry

Agencies in Mexico, D.F.	Border Ports Load Type Characteristics
<p><u>Dates: August - October, 2001</u></p> <ul style="list-style-type: none"> ▣ Federal Truck Transport Field Office, SCT-DGAF ▣ Central Administration of Customs Planning. SAT ▣ Phytosanitary Inspection Field Office, SAGARPA ▣ Confederation of Customs Agent Associations, AC (CAAAREM) ▣ National Council of Maquiladora Export Industry, Intermodal Freight Terminal, Querétaro. Interior Customs ▣ National Institute of Immigration, Interior Ministry 	<p><u>Dates: September - November, 2001</u></p> <ul style="list-style-type: none"> ▣ Tijuana-Mesa of Otay/San Diego Maquiladora-Regional ▣ Cd. Juárez / El Paso Maquiladora-Regional ▣ Nuevo Laredo-Colombia / Laredo Containerized-Interior of the Country Hazardous Materials (Colombia) ▣ Reynosa-Pharr Containerized Freight - Interior of the Country Maquiladora - Regional

The visited border stations are the most important customs offices in the country.

Customs Service Statistics in Mexico, 2000

Border Station	Pedimentos	Operations	Collections (\$ pesos)	POE Visited
Nuevo Laredo	1,728,215	3,929,032	31,005,358,197	☐
AICM (*)	986,734	2,299,433	17,603,990,897	
Tijuana	716,167	3,504,076	3,460,807,020	☐
Colombia	553,375	1,656,836	6,494,807,735	☐
Ciudad Juárez	433,461	2,659,474	2,629,408,548	☐
Nogales	427,158	1,482,742	1,115,225,332	
Matamoros	320,128	951,793	3,342,255,197	
Veracruz	222,648	492,805	11,704,893,433	
Toluca	187,868	382,305	5,403,426,359	
Manzanillo	126,015	302,582	6,742,152,148	
Reynosa	-	-	-	☐

(*) AICM. - Mexico City International Airport
Source: Customs Service, SHCP

Interviews were conducted with staff members from local public agencies that participate in activities that provide services to foreign trade.

Border Operations Interviews

Economic Entity	Tijuana	Cd. Juárez	Laredo System		Reynosa*
			Nuevo Laredo	Colombia	
Official Agencies					
□ Customs Representatives, SAT, SHCP	□	□	□	□	□
□ SAGARPA Representatives	□	□	□ ↔ □	□	□
□ Federal Trucking Representatives, SCT	□	□	□ ↔ □	□	□
□ National Institute of Immigration, SEGOB		□			
Other Economic Agents					
□ Customs Agents, Individuals, Association		□	□	□	□
□ Carriers, Independent Truckers, Association	□				□
□ Association of Maquiladora Exporters					
□ Consignees		□			
□ Other FIDENOR				□	

+ Interviews in Conjunction with Consultants in Mexico and U.S..

Summary of Operational Problems

Along Mexico’s Northeast border regional freight is mainly maquiladora. The border crossing at Tijuana is characterized by high saturation rates and conflicts with urban traffic. Cd. Juárez has vehicular congestion during certain hours of the day. Currently, there are no facilities at the border for the inspection of meat products.

Principal Characteristics and Problems Identified at Commercial Vehicles Border Crossings (1/2)

Border Station	Principal Characteristics	Principal Operational Problems
Tijuana	<ul style="list-style-type: none"> ▢ Regional border crossing, mainly for the Maquiladora industry ▢ Only one commercial border crossing at this location (Mesa de Otay) ▢ N° of Trucks/Day: 3,300 (2,000M+1,300X) plus empty vehicles 	<ul style="list-style-type: none"> ▢ Congestion at peak times, M and X. ▢ No nearby alternate for truck crossings ▢ Share infrastructure for local and border crossing traffic ▢ Reduced number of inspection slots ▢ No space for the installation of meat inspection facility
Cd. Juárez	<ul style="list-style-type: none"> ▢ Regional border crossing; some from Chihuahua, State capital; for the maquiladora industry ▢ High traffic capacity at Zaragoza-Ysleta and San Jerónimo-Santa Teresa ▢ N° of Trucks/Day: 3000 (1,700 M + 1,300X) plus empty vehicles 	<ul style="list-style-type: none"> ▢ Congestion at peak times, M and X, at the Córdoba and Zaragoza bridges ▢ Lack of spaces at Córdoba bridge, worsened by the long-term parking of decommissioned vehicles. ▢ No facilities for the inspection of meat products; there is sufficient space for installation at a future date

M = Imports; X = Exports

The Northeast has important volumes of freight traffic with origin/destination in the interior of Mexico. There is sufficient border crossing infrastructure. However, congestion and long traffic lines exist because of concentrations at peak hours of the day.

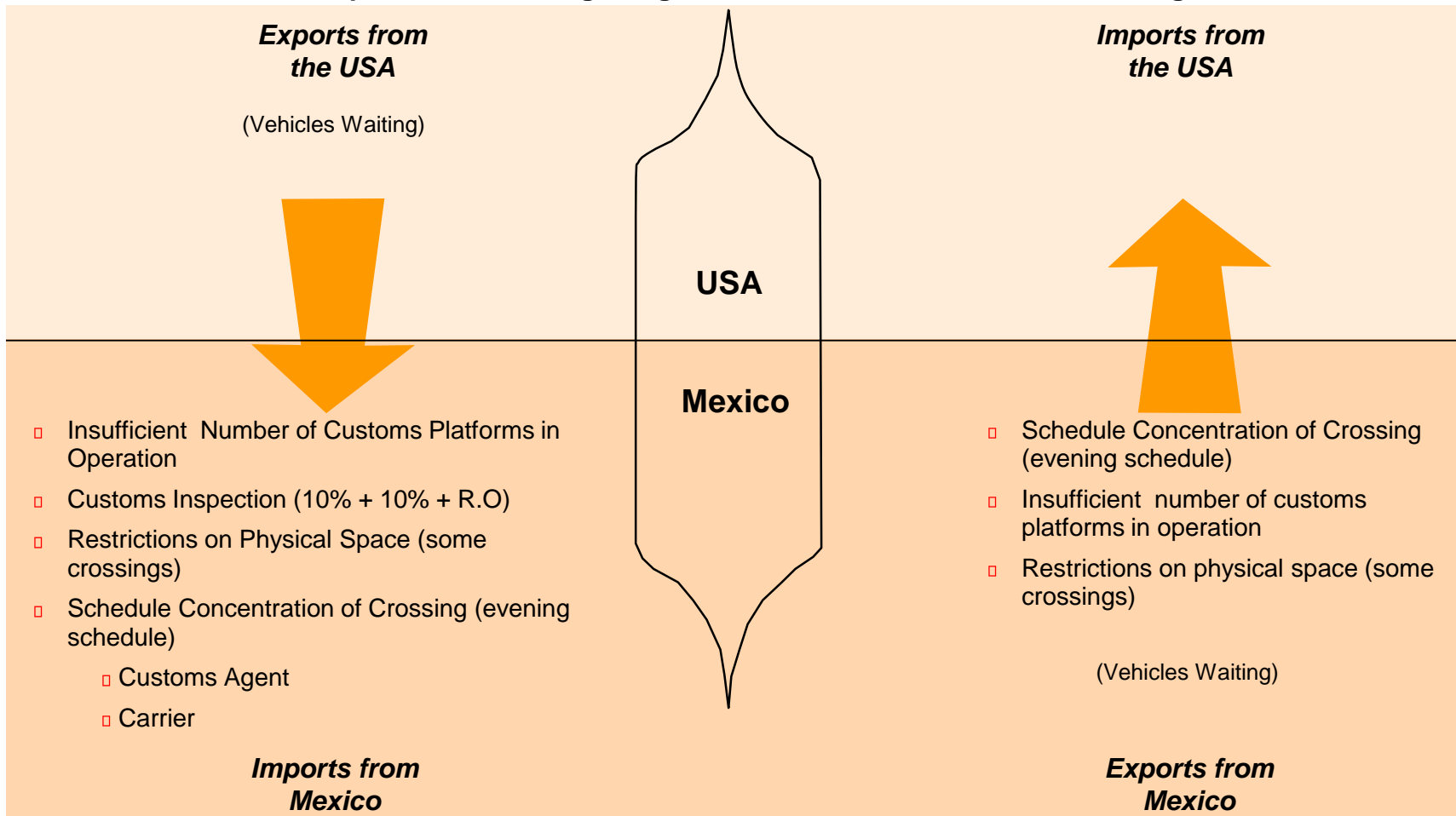
Principal Characteristics and Problems Identified at Commercial Vehicles Border Crossings (2/2)

Border Station	Main Characteristics	Main Operational Problems
<p>Nuevo Laredo</p> <p>Colombia</p>	<ul style="list-style-type: none"> ▢ Border freight crossings to/from interior of the country ▢ Nuevo Laredo III and Colombia Solidaridad Bridge, only ones with freight operations in the area ▢ Abundant competition between facilities ▢ N° of trucks/day. Nuevo Laredo III, 4600 (3000 M+1600X); Colombia, 1500 (800 M + 700X); plus empty vehicles ▢ High traffic capacity at both crossings ▢ Colombia has a meat products inspection center and is the only one authorized for hazardous materials. 	<ul style="list-style-type: none"> ▢ The station at Km 26 in the interior of the country presents physical conditions inconsistent with the aggregate capacity of the border bridges of the area. ▢ Colombia competes at a disadvantage with Nuevo Laredo III, considering the greater distances and restricted access (in process of improvement) ▢ Irregular legal situation (rights and privileges) at the Nuevo Laredo III Bridge, makes growth and expansion difficult
<p>Reynosa</p>	<ul style="list-style-type: none"> ▢ Mainly freight border crossing to the exterior of the country; some industrial maquiladora freight ▢ The Reynosa-Pharr bridge has ample capacity for commercial vehicles; Reynosa-Hidalgo is mainly for imported freight ▢ N° of vehicles/day 3,200 (1,900M +1,300X) plus empty vehicles 	<ul style="list-style-type: none"> ▢ Congestion at peak hours in M and X ▢ The inspection platform for exports has significant design and construction problems, making its operation inefficient ▢ At Reynosa-Pharr the only southbound commercial vehicles access lane is blocked partially by trans-migrant vehicles

M = Importats; X = Exports

The relative high time required for commercial freight vehicle to cross the border and the associated cost represents the main problem at the commercial crossing between Mexico and the United States. The problems are identified in the Mexican side of the border for imports and exports.

Principal Issues Causing Congestion and Slow Down Border Crossing



R.O. = Red Operational

3.

Alternatives for Domestic Intersectorial Coordination

Coordination

What is understood from coordination?

Coordination is the harmonious action of activities conducted by various participants for the achievement of desired results.

- Who are the participants?
- What are the actions?
- How are these developed?
- What are the desired results?

Listed are the participants of trade and border crossing related activities and the related responsibilities. The coordination between the key stakeholders presents problems that create obstacles that impede the trans-border traffic of commercial vehicles.

The efficient operation of trans-border commercial vehicles between Mexico/USA requires coordination of the different authorities and private stakeholders

Coordination between Mexican Stakeholders involved in foreign trade at the Northern Border¹

	Customs A	Customs Agent B	SECODAM (Cabin) C	SAGARPA D	SCT DGAF E	Transfer Carrier F	Road Carrier G	User H
Customs 1	●							
Customs Agent 2	●							
SECODAM (Cabin) 3	●							
SAGARPA 4	●	●						
SCT- DGAF								
Transfer Carrier 6		●			●			
Road Carrier 7	●	◐			●			
User 8	◐	●		◐	◑	○	◐	

¹ Only shipping by Truck

● Highly Coordinated Interaction; ◐ Medium Interaction; ○ No Coordinated Relationship

Different factors that create obstacles to reduce commercial vehicle crossing time were identified

Identified Coordination Problems at Commercial Vehicle Ports of Entry (1/2)

Customs Agent-Customs (2-A)*	SECODAM - Customs (Cabin) (3-A)	User - Customs (8-A)
<ul style="list-style-type: none"> ▫ Commercial vehicle concentration at reduced number of hours of operation. ▫ Customs Agents absent when inspection of exported or imported freight is required. ▫ Incomplete documentation of the operation of the selection station. ▫ Lack of consensus with the Customs Agent Associations at the location in the design of facilities for the customs operation. 	<ul style="list-style-type: none"> ▫ Operational difficulties because of needed improvements and facility maintenance not attended to in a timely manner ▫ Lack of coordination in the design and planning of projects 	<ul style="list-style-type: none"> ▫ Facilitate the customs handling of imported freight, authorizing more handling flexibility at interior customs offices. ▫ Changes in legislation, allowing the maquiladora industry to directly send products to their customers in the interior of the country
		<p style="text-align: center;">Carrier - Customs (7-A)</p> <p style="text-align: center;">Inefficient mechanism of action for the temporary importation of trailers with freight</p>

* Represents the crossings in the rows and columns of the matrix presented on previous page.

Identified Coordination Problems at Commercial Vehicle Ports of Entry (2/2)

SAGARPA - Customs Agent (4-B)	Carrier - SCT (Federal Trucking) (6/7-E)	User - Customs Agent (8-B)
<ul style="list-style-type: none"> ▢ Limited operation schedules; SAGARPA operates inspection of products until 3:00pm, performing office duties in the afternoon. ▢ Potential Project to limit the number of meat inspection facilities to provide import certificate. 	<ul style="list-style-type: none"> ▢ Authorization of vehicles for trans-border operation and federal freight transportation. ▢ Issue commercial driver's licenses 	<ul style="list-style-type: none"> ▢ Delay in forwarding funds for payment of import duties. ▢ Lack of accuracy over procedures related to foreign trade. ▢ Imposition of contracting "transfer" vehicles for border crossing.
	<i>User - SCT (Federal Trucking) (8-E)</i>	
	<ul style="list-style-type: none"> ▢ The management of permits for the circulation of trans-migratory vehicles blocks the available facilities for trans-border transit. 	

Customs-Customs (1-A)

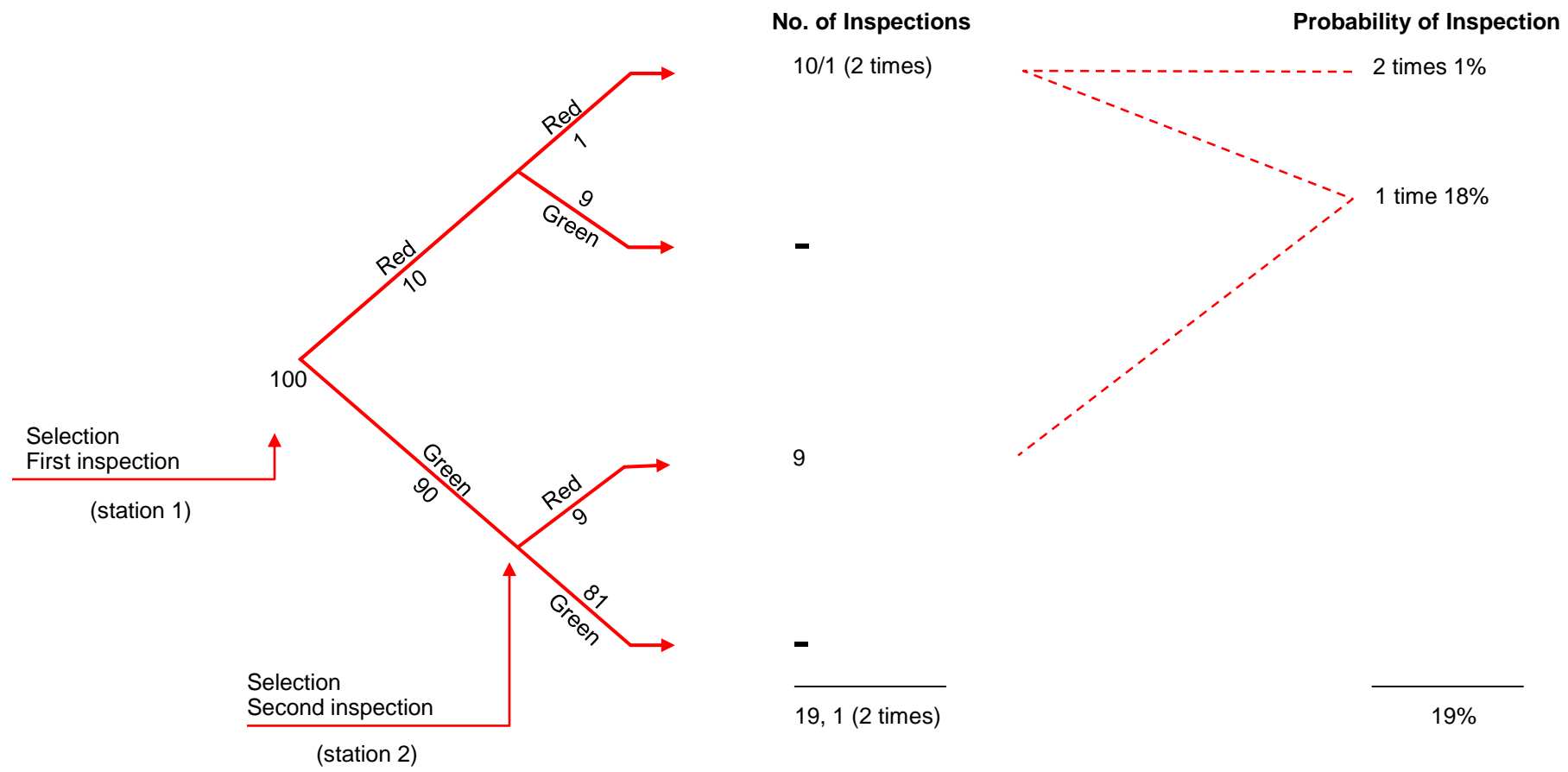
Some improvements in the operation of the Mexican border are identified as being internal to customs, relying on it's authority to detain the transportation of freight exercising its duties.

Inefficiencies in the Internal Operation of Customs

- Delays and lines at the entrance of vehicles importing (southbound) at the selection station, because of the lack of sufficient control personnel.
- More widespread authority to conduct the customs clearance of freight at the destination point.
- Delays during freight “recognition” (inspection), because of lack of documentation by the “modulator”.
- Lack of sufficient attention of inspection personnel to in-transit freight.
- Insufficient freight inspection personnel to meet the vehicle arrival rate at the inspection point.
- Inadequate customs inspection facilities for efficient operation.
 - Physical area of the platform makes lift operation difficult.
 - Work area has excessive number of columns and makes operation difficult.
 - Inspection platform too narrow for effective operation.
- Customs inspection ratios greater than those established as the Mexican Norm (transition period)
 - Red operations by type of freight, as per the signature of customs agent.
 - Logistics of circulation of vehicles doubles the access to selection system.
- Delays in the removal of confiscated vehicles that occupy space and restrict the already inefficient areas designated for customs operations.
- Interior facilities (station at km 25/30) inconsistent with the volume of border crossings.

Customs Inspection of Imported Freight

The automatic selection system for customs inspections presents a higher probability of reds (19%) to the previously planned (10%), without accounting for "operative" red process.



Improvements in Commercial Vehicle Border Crossing Operations (Southbound)

Customs

- The automatic selection system substituted the random system to determine the occurrence of customs inspections. Reducing inspections to the most trusted importers, the rates of inspection increased during the transition. The rates should be adjusted to those established by the norm.
- Plans that should be considered:
 - The need to present invoices and bills in printed form. This should be accepted only in electronic form.
 - Mandatory requirement that the documentation be signed in 25% of the cases. This should be at the discretion of the agent of international commerce. In the case the Mexican banking system, this has been overcome.
 - Reduction of the inspection level of the freight/customs examinations at the border points of entry.
 - An increased rate of customs clearance at the borders. An increased rate of border clearance must be promoted at locations in the interior of the country (internal customs offices.)
- Mexican customs creates obstacles for importing commercial vehicles, creating lines; this could be improved in the following way:
 - Increase number of operation booths at stage 1 (presentation of documents and automatic inspection selection)
 - Decrease percentage of vehicles to the fiscal inspection.
 - Increase inspection capacity (infrastructure and personnel).
 - Promote a normal distribution schedule at border crossings, distributing peak hours.
 - Establishing differential quotas at crossing times.
 - Reduce percentage of inspections at slow times.
 - Recognition for customs agents that approve the proposed plan.
 - Negotiate with municipalities improvements in infrastructure at entry and exit of fiscal yard and border installations.
 - Improvements in the pneumatic system that transfers documents from the operation booth, stage 1, to the inspection station.
 - Use of X-rays to expedite the inspection of vehicles.

-
- For import trailers that move to the interior of the country, establishing a bond/warranty mechanism, allowing the auto transporters to show authorities its operation in a satisfactory manner.
 - Allow the use of customs facilities for simultaneous inspection of driver, vehicle and freight by other public agencies.

SAGARPA

- The agricultural inspection is performed for imported freight. The inspection facilities are located at the border on the USA side.
- Due to recent changes in regulations The inspection of agricultural products,, must be completed (meat industry) at facilities located at the border on the Mexican side. Currently, there is only one inspection center available at the border (Colombia, Nuevo Leon) this situation congests the operation and movement of this kind of product. It is necessary to increase the number of inspection centers for this type of product, or to continue operate with inspection centers located at the US side of the border. It is estimated that an average of 20,000 per month with inspected freight will be inspected at this agency.
- By complying with SAGARPA's requirement of having verification and inspection at the Mexican side of the border more congestion will be created and hold-up at the border crossing for commercial vehicles. Handling areas are required for vehicles, and cooling and freezing storage facilities are required among with other facilities (minimum spaces required by the law), a handling yard for forty trucks, 250m³ of cooling storage and 300m³ of freezing storage.

Other Public Agencies

- ❑ Federal Trucking. Participation at the border is minimal at this time, even though they have access to facilities at the border. The operations are primarily to authorize the passage of vehicles and the issuance of commercial drivers licenses. The inspections are conducted in areas adjacent to the control booths at the internal stations (Km 25-30), and is limited by the lack of personnel assigned to conduct these tasks.
- ❑ A stricter inspection of vehicle conditions and drivers is done at the US side. This situation somewhat assures satisfactory operational conditions.
- ❑ Immigration. Activities of INS at the border points are mainly for assistance to tourism. They do not hold up or limit in any way the transit of commercial vehicles. It generally operates at the control station at Km 25/30.
- ❑ Immigration functions are implemented on an as needed basis in internal routes of the country (control station Km 25), depending on personnel availability of designated.

Other Actors

- ❑ Customs Brokers. The operation plan of the customs brokers, who concentrate on imported freight shipments during the morning hours, represent an element that contributes to the formation of long lines. Shipment to customs offices should follow a distribution schedule which should be more in balance with customs agency hours of operation.
- ❑ Banks. Flexible hours of operation, coordinated with the customs schedule.
- ❑ Transfer Vehicles. Reduce the use of the transfer vehicles, opening the possibility of vehicles crossing to pick up or deliver freight at the border; a) Mexican Imports Case : Vehicles with or without freight, crossing northbound, deliver freight and return with imported freight; b) Mexican Exports Case (northbound); cross the vehicle, deliver the freight, and cross back with or without freight. The use of facilities for the freight forwarding company at the Mexican border (i.e., Colombia), will facilitate the procedure.
- ❑ Commercial vehicles crossing without trailer or with an empties should not be encouraged; This could reduce the number of vehicles crossing border ports of entry. Improve supply/demand balance.
 - ❑ Higher crossing fee for vehicles empties (if applicable).
 - ❑ Use of another less attractive border crossing.
 - ❑ Foreign commercial vehicles authorized to transport imported freight be allowed to operate with return freight to the USA.

An increased use of the interior customs for the release of products would result in a reduction of existing levels of commercial vehicle congestion of at border customs facilities.

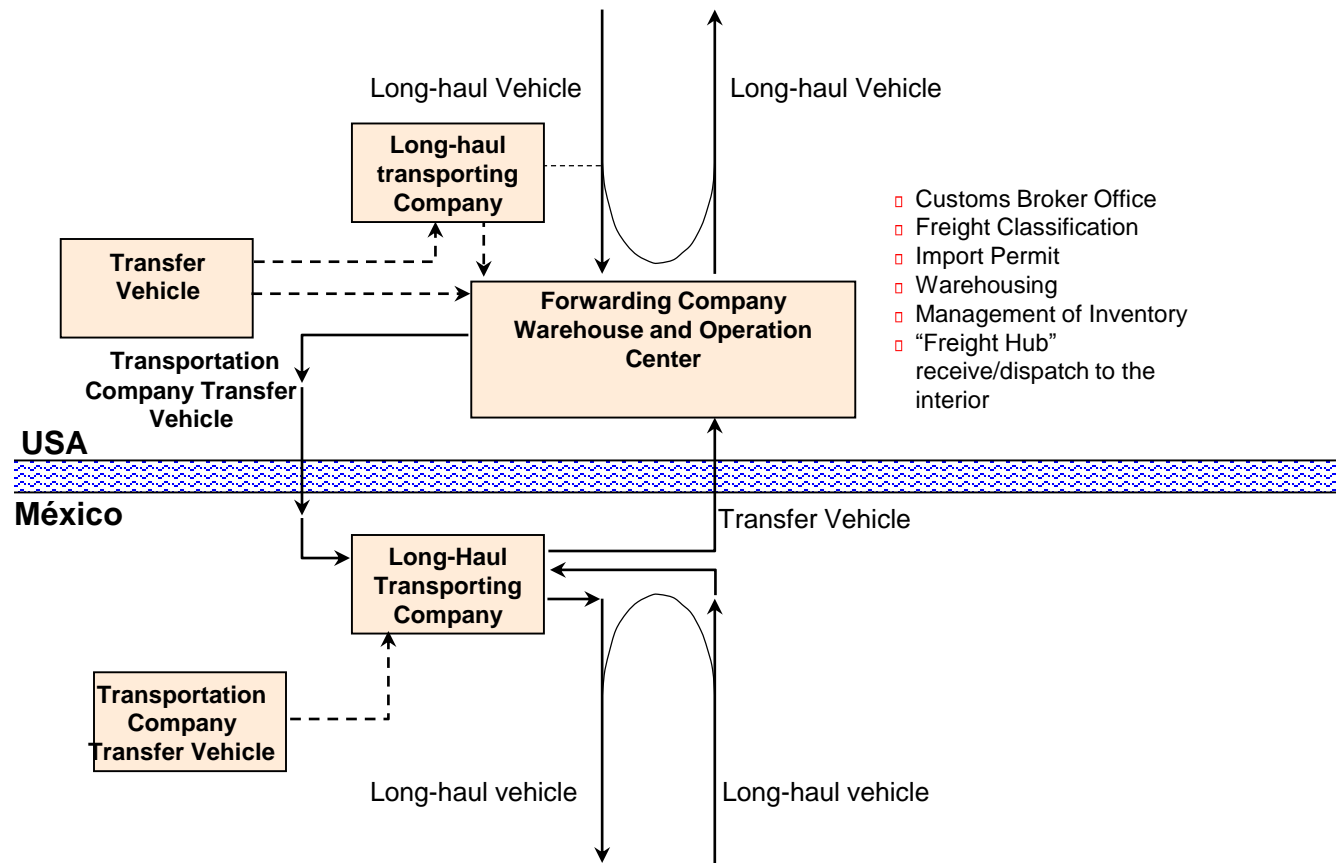
Locations of Customs Offices



Source: General Customs Administration, SHCP (information of the SHCP web site)

The location of customs agent's warehouses (forwarding companies) in the US border zone, encourage the use of transfer vehicles, increasing time and costs to the user.

Current Transfer Vehicle Typical Operation at the US-Mexico Border



Advantage in Favor of the Transfer Vehicle Outline

- ❑ Long crossing and high cost of long-haul vehicle
- ❑ Urban Traffic Jam
- ❑ Customs dispatch
- ❑ Reduced spaces for long-haul tractors
- ❑ Drivers not familiar with the urban zone and bridge

Non convincing elements in most cases

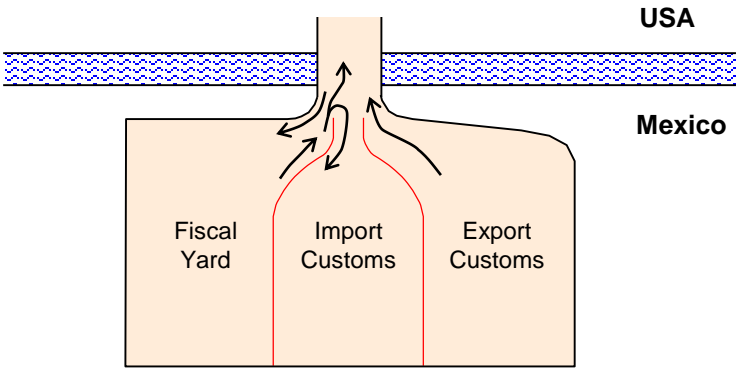
Long-haul vehicles with operations in both countries using a scheme offered at the Colombia Bridge, present opportunities to avoid transfer vehicles in border operations.

Colombia Bridge Vehicle Transfer Operation Scheme

- For freight imports, long-haul vehicles from the US deliver the trailer and freight to the forwarding company or Mexican customs broker warehouse located next to the customs office in the Colombia Bridge Fiscal Yard. The vehicle will return to the US with or without the trailer, empty or loaded, depending on the balance of cargo that the customs broker can handle.

- The US customs inspection for drugs will significantly be reduced with the guarantee that the vehicle did not leave the fiscal yard and that the customs broker is strict in his inspections.

- For exports, the loaded vehicle will pass Mexican customs and arrive at the fiscal yard adjacent to customs, where the loaded trailer is delivered, and return thru Mexican customs and roadways with or without a trailer, loaded or empty.



Improvements in Commercial Vehicle Border Crossing Operation (Northbound)

- ❑ Operations of northbound vehicles (exports from Mexico) have been impeded because the high rate of inspection that the US authorities perform (drugs, immigration, safety, vehicle, health) to the vehicle, freight and driver. The operation can be improved by:
 - ❑ Normal schedule distribution of northbound vehicles.
 - ❑ Increase size of US facilities and personnel assigned to operations.
 - ❑ more availability of X-ray equipment and operation lines.
 - ❑ more fiscal area in waiting areas, inside the US border.
 - ❑ Increased level of trust in the drug traffic operations.
 - ❑ Confine transit vehicle waiting areas on the Mexican border.
 - ❑ Use new intelligent transport systems for vehicles and drivers, with dedicated transit lanes.
 - ❑ Periodic security inspection of transborder commercial vehicles, with an estimated number of inspections per crossing.
- ❑ The inspection of vehicles, freight and operators are activities that take place at the US border for traffic coming from Mexico.
- ❑ The inspection agencies in the US slow down the flow of northbound commercial vehicles.
- ❑ The different US authorities use non-related and non-coordinated databases, duplicating their efforts.

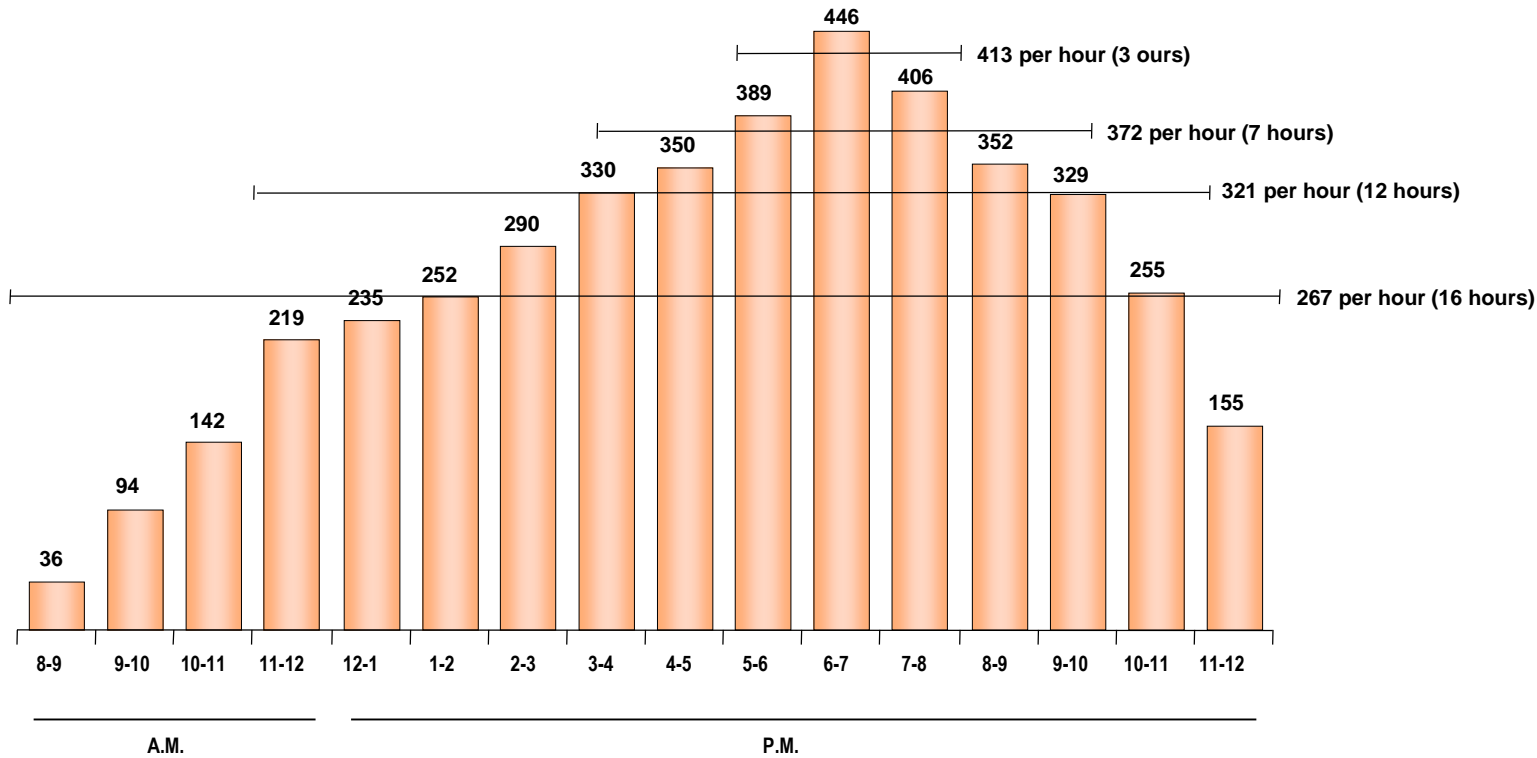
Main Public Agencies with Activities at the Border Crossings

- ❑ US Customs. Verify the compliance of commercial regulations and drug and smuggling related laws.
- ❑ Immigration and Naturalization Service. Authority to regulate the admission of vehicle operators to the US.
- ❑ U.S. Department of Agriculture (USDA) Prevent the introduction of in plant and animal plagues.
- ❑ Food and Drug Administration (FDA). Ensure the health and safety of products.
- ❑ US Department of Transportation, State and Federal. Safety inspection of commercial vehicles.

-
- The rate of inspection could be quicker based on the inspectors discretion favoring the balance of freight between competitive crossing points.
 - The number of vehicles and a scheduled distribution during the workday can be determined from the demand side, with infrastructure, equipment availability and personnel in the supply-side of the equation.
 - A SENTRI (automobiles) system for commercial vehicles, identified by exclusive lanes for companies/vehicles/drivers in both countries with acceptable background data, could help the reduction of travel time at the border crossing.
 - The best coordination of border operations, considering authorities from both sides, transport companies and customs agencies could be obtained by the creation of a single authority or administration in both nations protecting the interests of both countries.
 - For Mexican exports (northbound), the physical inspection in Mexico of freight should exclude exports that come from companies under the maquila, pitex and non tax regimens, eliminating those types of industry from the automatic sorting system for inspection.

High concentration of freight vehicles at the border crossing during reduced peak times represents the key reason for the formation of long lines, therefore increasing crossing time.

Average Time Distribution (Monday to Friday) in the New Laredo III Border Crossing Bridge
 (Imports/Exports Freight Trucks; August 2001 numbers)



Intelligent Transport Systems (ITS) at Border Crossings

- The implementation of ITS for commercial vehicles should be promoted to reduce border crossing time. Some examples are:
 - Exclusive SENTRI type lanes for commercial vehicles, currently used for passenger vehicles.
 - Driver's route information, or pre-travel information, such as electronic boards with variable signals, indicating waiting time for crossing the border. This will support and facilitate customs agent and driver's operations decision on which route to follow. For example, crossing at Colombia or New Laredo III bridge.
 - Automatic toll collection mechanisms.
Will not modify traffic flow significantly; however, this system would prevent drivers from carrying cash.
 - Automatic safety inspection for commercial vehicles, including electronic vehicle identification systems, shared data bases between agencies and the two countries, and weight-in-motion machines.
 - Electronic vehicle dispatch, including driver, transport company/vehicle, and freight.
 - GPS system to locate and track commercial vehicles.
 - Electronic customs dispatch for specific freight types.

4.

Analysis of Binational Coordination Alternatives

The task of identifying and evaluating Binational Coordination improvements in the Operation of Border Ports of Entry were developed working in coordination with the U.S. consulting team.

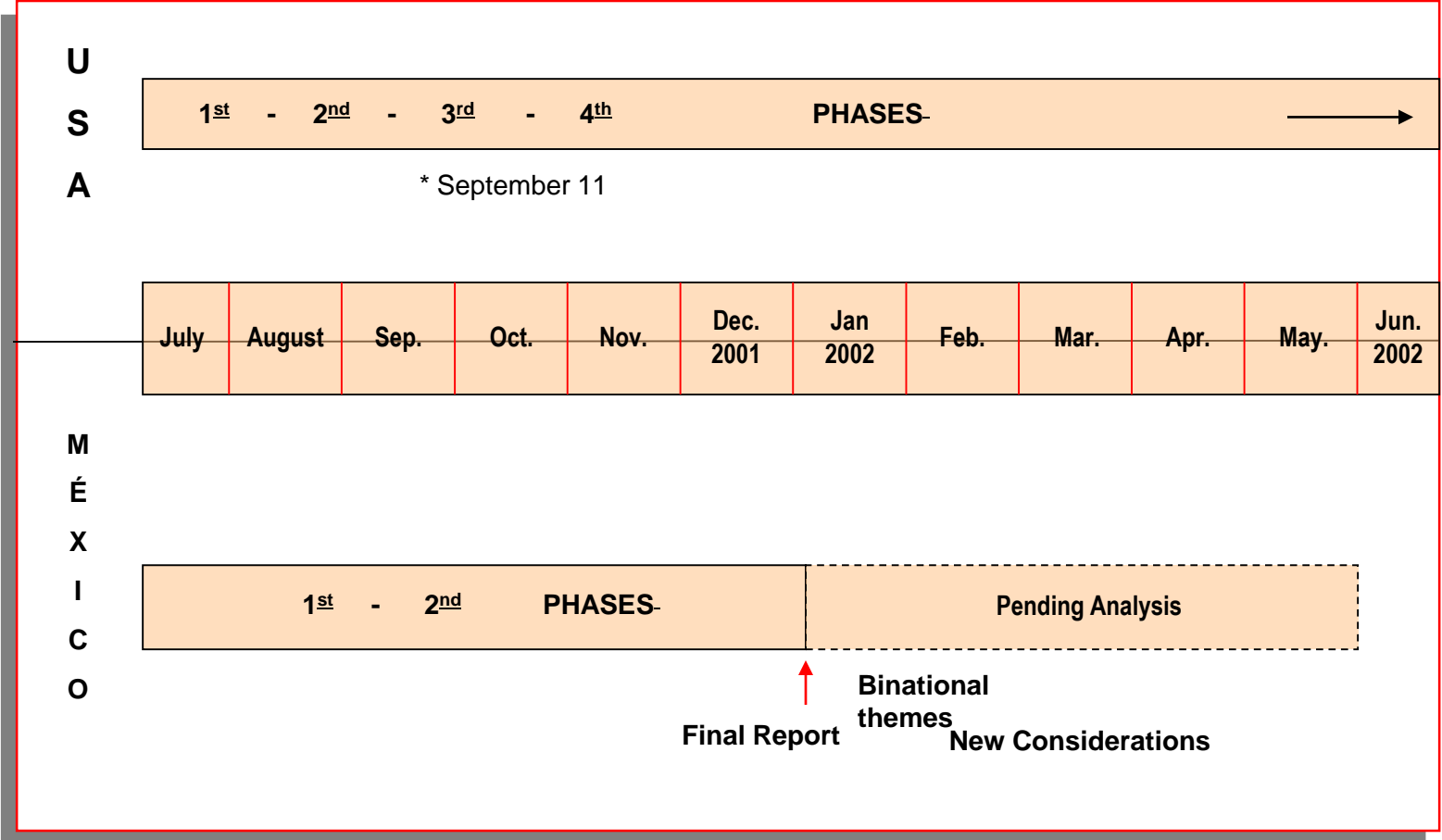
Joint Activities USA - Mexico

Date	Visited Topics	Place
July 16	Coordination meeting	El Paso, Tx
September 5, 27	Concepts of coordination, Advances	Mexico, D F
November 14/16	Joint Interviews Progression of field visits Inspection of model Validation	Reynosa, Tamps
December 3/4	Work meeting Progression of field visits Inspection of model Validation Binational topic discussion Phoenix CCT presentation preparation	Mexico, D.F
December 12/13	Discussion of Binational themes Next Steps	Phoenix, AZ
July -December	Permanent exchange of Information	Mexico- USA
February 2002*	Binational themes Discussion	Austin, Tx
March 2002*	Binational themes Discussion	Mexico, D.F.
April		
May 2002*	Binational themes Discussion Binational results Presentation	Mexico, D.F. Monterrey, N.L.

* Future date

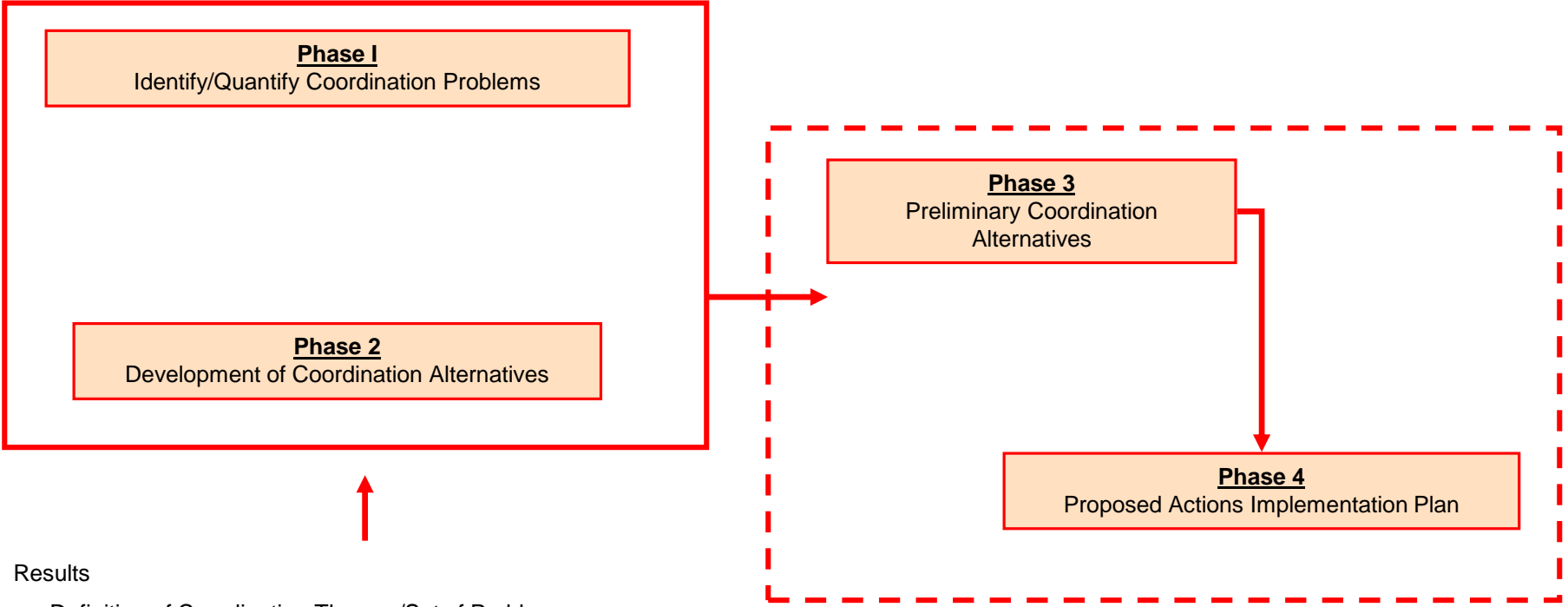
The binational teams initiated work in parallel, however differences in contractual schedules modified site visit programs. Binational issues were conducted in coordination.

Stages and Progress



Scope of work for US and Mexican consultants was defined in coordination developed by the consultants of the analysis of Mexico and its corresponding analysis in the USA.

General Concepts



Results

- Definition of Coordination Themes/Set of Problems
- Development of Alternatives
- Proposed Methods of Change

USA authorities that participate in border crossing

There are 7 principal governmental agencies that participate in border crossing process.

Main Agencies of the United States Government that Participate in the Border Crossing Process

Agency	Main Attribute
USCS	Assures that the freight and services that enter the US comply with the norms and duties
INS	Regulates the entry of visitors and immigrants into the USA and prevents the irregular entry of persons and jobs into the country
USDA	Inspects animal, agricultural products that enter the US
FDA	Regulates the entry of food and drugs into the US
EPA	Regulates the transportation of hazardous materials into the US
GSA	Operates and is owner of the Ports of Entry
DPS y DOT	Protects and regulates the safety of ground transportation in the US

As in Mexico, there is not a single agency that is in charge of the commercial border crossing process in the U.S. at border crossings, or the development of common objectives between the agencies.

Individual Operation of Agencies

INS: Prevents immigration/employment of illegals

US Customs: Contraband /Narcotics

EPA: Controls the entry of hazardous materials

FDA: Safety of food and drugs

DPS: Security in transportation of freight

USDA: Animal and agricultural health

GSA: Design and operation of efficient border crossings

There is no individual authority with a common objective

Private sector stakeholders were identified.

Private Sector Stakeholders (US and Mexico)

Entity	Objectives
Shipper	Efficient and low cost Transportation Services.
Long Haul Transportation Companies	Meets the needs of origin-destination transport with the highest level of efficiency.
“Transfer” Carriers (Drayage)	Trans-Border Transportation firms with short trips in the immediate area of the border zone.
Customs Brokers	Represents the Exporter/Importer of freight before the US or Mexico Customs.
Forwarding Co./others	Stores freight, manages inventories and shipments to interested parties as necessary.

Different aspects of binational inter-agency coordination are identified. Coordination issues between the customs agencies of both countries are important.

Binational Inter-agency Relationship and Main Coordination Problems (2/2)

Agencies		Problem Identified
Mexico	US	
SECODAM	GSA	<ul style="list-style-type: none"> ▫ Inadequate facilities at ports of entry, with lack of space for future expansions ▫ Inefficient distribution of existing facilities
Mexican Customs	USCS	<ul style="list-style-type: none"> ▫ Irregular communication between customs for flexible human resources and materials in a coordinate way and joint extended operation schedules. ▫ Frequent changes of personnel impede coordination efforts ▫ The non existence of strategies of both nations to incorporate new techniques and the use of shared information
Mexican Customs	User	<ul style="list-style-type: none"> ▫ Frequent standard changes and lack of communication with the commercial transport community
Customs Broker	Customs Broker	<ul style="list-style-type: none"> ▫ Duplication of efforts from deficiencies in customs requirements and limits on shared information
SCT	DOT DPS	<ul style="list-style-type: none"> ▫ Lack of weight and dimension standards, and service schedules. ▫ Very limited information sharing of drivers and vehicles (transfer and long-haul).
SAGARPA	USDA	<ul style="list-style-type: none"> ▫ Changes in meat inspection procedures will make difficult the possibility of sharing facilities of interest to both nations
SAGARPA	FDA	<ul style="list-style-type: none"> ▫ Changes in meat inspection procedures will make difficult the possibility of sharing facilities of interest to both nations
SAGARPA	User	<ul style="list-style-type: none"> ▫ Changes in meat inspection procedures will make difficult the possibility of sharing facilities of interest to both nations

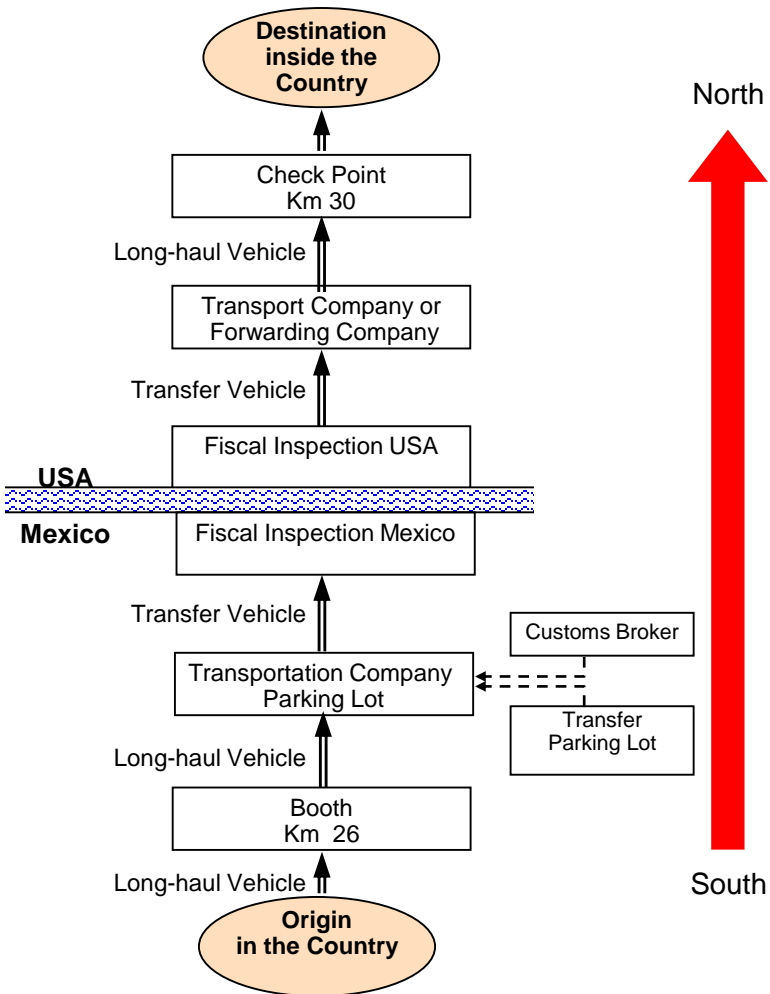
Cross border transport vehicle regulations must be identified to eliminate problems that these agencies generate.

Binational Inter-agency Relationship and Main Coordination Problems(2/2)

Involved Dependencies		Problem Identified
Mexico	US	
Mexican Transfer Vehicle	DOT DPS	<ul style="list-style-type: none"> ▫ Complex freight transportation binational regulations with acceptance problems. ▫ Lack of information and knowledge between parties for the opening of a commercial vehicle border crossing (January 2002).
Mexican Transportation Firms	DOT DPS	<ul style="list-style-type: none"> ▫ Complex freight transportation binational regulations with acceptance problems. ▫ Lack of information and knowledge between parties for the opening of a commercial vehicle border crossing (January 2002).
SCT	US Transportation Firms	<ul style="list-style-type: none"> ▫ Complex freight transportation binational regulations with acceptance problems. ▫ Lack of information and knowledge between parties for the opening of a commercial vehicle border crossing (January 2002).
Mexican Customs Agent	User	<ul style="list-style-type: none"> ▫ Communications problems between users and customs brokers resulting in incomplete documentation. ▫ Frequent changes in laws and requirements with difficulties in communication with end users.
Mexican Transfer Vehicle	INS	<ul style="list-style-type: none"> ▫ Manual Inspection and transfer of immigration documents; limited use of technology.
Mexican User	USCS	<ul style="list-style-type: none"> ▫ Lack of communication to obtain pre dispatch program certification requirements. ▫ Slow procedures to certify personnel changes.
Mexican Transfer Vehicle	USCS	<ul style="list-style-type: none"> ▫ Lack of information and knowledge between parties for the opening of a commercial vehicle border crossing (January 2002).

The binational border crossing process incorporates public and private sector stakeholders in Mexico and the US. The preliminary and secondary inspections of importing freight to the US by US authorities represent the principal problem for the northbound Trans border crossing.

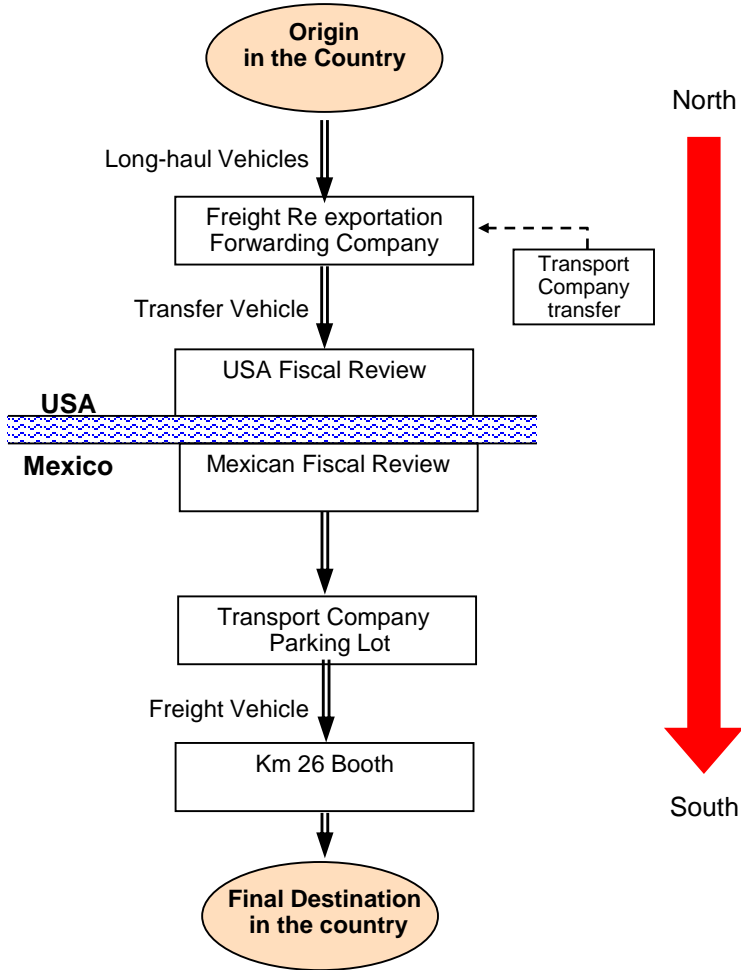
Example of Northbound Commercial Vehicle Crossing
(Mexican Export)



6. The commercial vehicles presents documentation and legal paperwork for the vehicle, mainly the importation bond, if applicable, for the in-transit trailer.
5. The long-haul vehicle arrives at the transportation company's parking lot, and leaves the trailer and goes back to Mexico without the trailer, loaded or unloaded. Contact with a customs broker is established. The trailer is attached to a transfer truck and drives to the border port of entry.
4. The loaded transfer vehicle accesses the automatic selection custom's booth, if applicable, provides documentation and the need for customs inspection is identified. A toll fee for the bridge is paid.
3. Immigration, customs, food, hazardous materials, drugs and vehicle's safety authorities receive information on the shipment coming from Mexico. Each authority performs inspections if necessary.
2. The transfer vehicle drives to the transport or forwarding company facilities. Leaves the trailer, to a long-haul carrier.
1. US entry documents revision for commercial vehicles.

In the case of imports to Mexico (southbound), the Mexican customs inspection is the agency that slows down the flow of commercial vehicle trans-border transport.

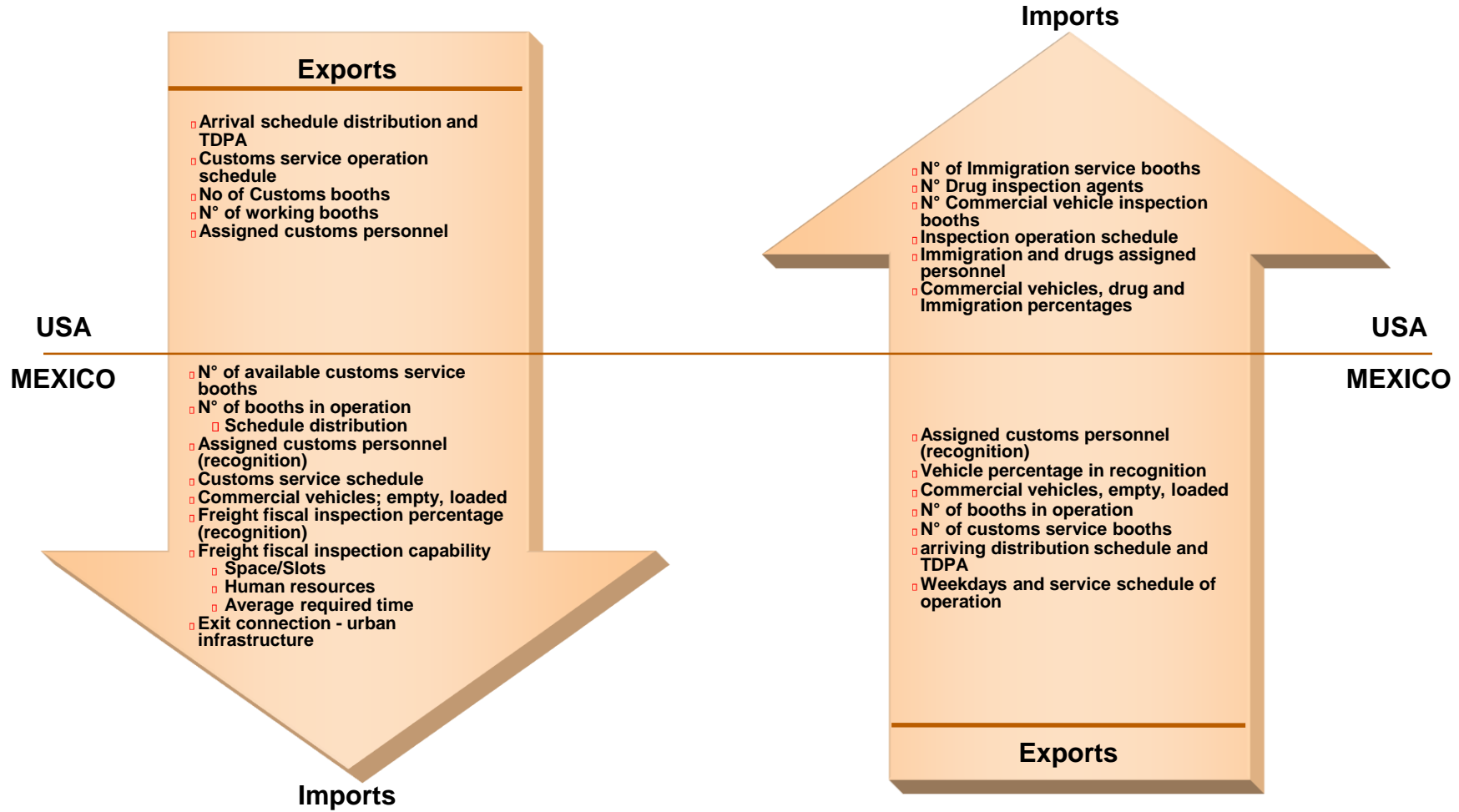
Southbound Commercial Vehicle Crossing



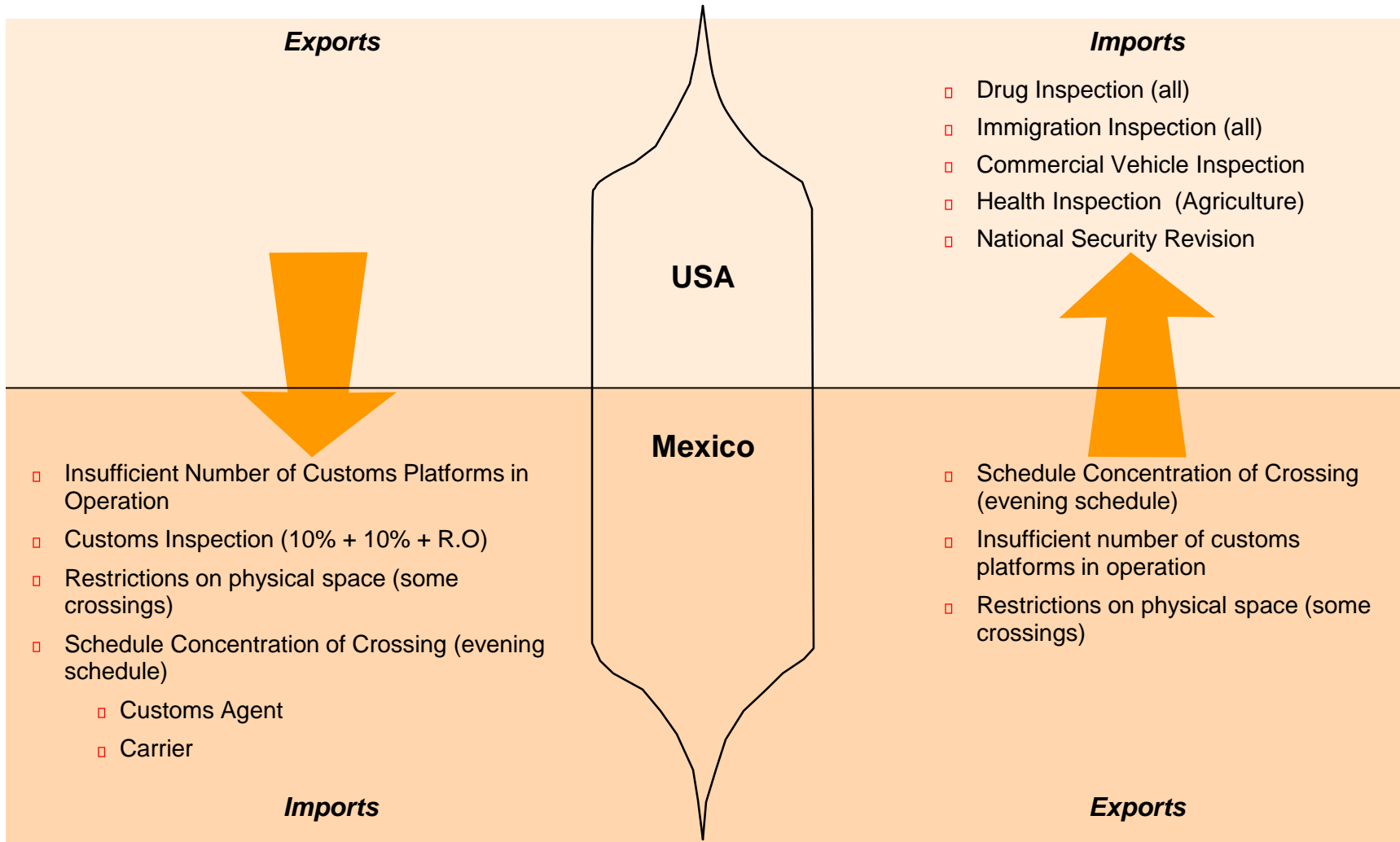
1. The long-haul vehicle leaves the trailer at the forwarding company facilities and returns to the USA, tractor only or with the trailer loaded or not.
2. Customs broker receives, classifies, stores and creates the importation documents, loads the transfer vehicle and sends it to the border crossing.
3. The export process is completed.
4. Large part of the customs importation processing is developed in Mexico at the automatic selection booth to define the need for customs inspection.
5. The transfer vehicle drives the freight to the long-haul transport company yard, for a tractor to take the shipment into Mexico.
6. The long-haul vehicle stops at the Km 26 inspection facility gives required import documents, including the guarantee/bond of the vehicle going into the country.

Coordination of scheduling, human resources, and infrastructure of customs operations and freight inspection requires attention in both countries.

Binational Issues that Require Coordination for a Competitive Border Crossing Operation.



Principal Issues that Congest and Create Delay at the Border Crossing



R.O = Operative Red

Operating schedules, resource assignment and the possibility of sharing facilities and information, that should be homogeneous between agencies, are some of the key binational issues

Binational Coordination Issues (1/2)

Issue	Problems requiring both nation's attention
<p>Operation schedules and crossing time reduction</p>	<p><u>Queue Formation</u></p> <ul style="list-style-type: none"> □ Flexible operation schedules based on each countries requirements □ Concentration of of cross border traffic <ul style="list-style-type: none"> □ Exports from Mexico <ul style="list-style-type: none"> □ Insufficient equipment and inspections personnel in the US border (Customs, Immigration, Vehicle safety, Drugs) □ High inspection levels (vehicle and timing combinations percentages) □ Imports to Mexico <ul style="list-style-type: none"> □ Insufficient personnel in the selection and recognition booths □ High levels of inspection in customs dispatch.
<p>Shared Information</p>	<p><u>Information Management to Speed up the Cross-border Traffic</u></p> <p>Shared databases (electronic)</p> <ul style="list-style-type: none"> □ Transfer Vehicles <ul style="list-style-type: none"> □ Information on companies, commercial vehicles and drivers that operate exclusively in the cross-border transport industry. Provide services to both sides of the border. □ Better activities control, making operation easier □ Long-haul trailers with exchange agreements with companies in the neighboring country. <ul style="list-style-type: none"> □ Commercial vehicles and driver information. □ Avoid procedures to obtain bonds and import permits at the border. □ Vehicle's security inspection could be easier by having historic background checks of companies and vehicles.

Binational Coordination Issues (2/2)

Issue	Problems requiring both nation's attention
Standardization of laws and requirements	<p><u>Transit Requirements</u></p> <ul style="list-style-type: none"> □ Standardize the vehicle operation rules on both sides of the border (transfers) □ Binational licenses for drivers that transit on both sides of the border and for drivers who travel inside both countries. □ The effort would have to be made at the State level in the US. <p><u>Binational Inspection Center</u></p> <ul style="list-style-type: none"> □ It will avoid the duplication of facilities and would be used by authorities from both countries, independently of the traffic direction.
Inadequate infrastructure and facility distribution at the ports of entry, causing commercial vehicle delays and congestion.	<p><u>Facility Planning and Design</u></p> <ul style="list-style-type: none"> □ Binational coordination by project managers and consideration of other participating agencies. □ Evaluate current operations and technology changes. □ Ensure the efficient commercial vehicle traffic flow coordinating inspections requirements. □ Consider intelligent transport systems (ITS) for traffic distribution. <p><u>Facilities Expansion</u></p> <ul style="list-style-type: none"> □ Provide space for facility expansion. □ Build sufficient service slots and capacity to receive the arrival rate of vehicles, avoiding queues and excess operation times. Combined inspection booths with different agencies that inspect at the USA border; as well as service booths at Mexican customs inspection. <p><u>Facility Redistribution</u></p> <ul style="list-style-type: none"> □ Allow easier access to customs installations for commercial vehicles, without interfering with passenger vehicles. □ Flexibility in the distribution of facilities based on hours of operation.
Long-Term Binational Programs	<p><u>Institutionalization Program</u></p> <ul style="list-style-type: none"> □ Establish long range plans that organize agency activities. □ Institutionalize programs, independent of changes in government officials.

The “transfer vehicle” should be an alternative option. This would help reduce congestion at the ports of entry.

Vehicle Types with International Operations
(Only International Border Traffic)

Type	Regular Operations	Current Operations	Characteristics
US Company Vehicle with US/Texas plates and US Driver (transfer)	Have permission to cross freight from US (southbound) and return to the us empty.	Cross freight from the US (Southbound), pick up freight in Mexico for the US (allowed); not registered with Hacienda (Mexican IRS)	Older vehicles in good working conditions
Special Project for regularization; US/Texas plate vehicle property of Mexican company with Mexican driver (transfer)	The Company/ Vehicle have permission (cross-border freight) to cross from Mexico (northbound) and return empty	Takes freight from Mexico (northbound), picks up freight to return in the US for Mexico (allowed)	Older model vehicles in good working conditions
Mexican Vehicle authorized for the Federal Public Service (Commercial Vehicle)	The company/ vehicle have permission to travel on all the Mexican roadway network and can be used as a transfer vehicle for international freight at the border	Transports freight from Mexico (northbound) to the US. Not allowed to pick up freight in the US to take back to Mexico	Recent model vehicles for long haul in Mexico. Few units operate as transfer vehicles

Among the most important issues to reduce the cost and time for freight vehicle's border crossing, is assigning more resources during peak concentration times at the crossings. . .

Potential Commercial Vehicle Cross-border Improvement Plan

Problem	Alternative Improvement Plan
<p>Traffic congestion at peak hours, creates long lines requiring more time to cross the border</p> <p>Continued. . .</p>	<p><u><i>Imports</i></u></p> <ul style="list-style-type: none"> □ Incorporate more personnel at the available booths at Mexican customs (module 1) □ Increase inspection efficiency (reducing overall times) in customs inspection area (first inspection) □ Reduce the percentage rate of “red operatives” (products and customs brokers) <p><u><i>Exports</i></u></p> <ul style="list-style-type: none"> □ US authorities should incorporate more service stations (personnel and equipment) for customs inspections, Immigration, vehicle safety, drugs, in primary as well as secondary inspections.

. . . Or, more promotion of using interior customs and encourage border crossing at non-peak hours.

Problem	Alternate improvement plan
<p>Continued...</p> <p>Traffic congestion at peak hours, creates long lines requiring more time to cross the border</p>	<p><i>Bi-national</i></p> <ul style="list-style-type: none"> □ Encourage “interior” customs office (internal customs or fiscal offices): (1) for borders with vehicles destined to the interior of both countries; (2) for borders with high commercial vehicle volume of repetitive shippers. <ul style="list-style-type: none"> a) Increase the promotion of pre “dispatch” b) Increase the user’s personnel certification (shipper and transport company) <ul style="list-style-type: none"> □ Create binational database of shippers and certified transport companies c) Provide incentives for program participation □ Different handling, depending on vehicle type: i.e., pre-dispatch of commercial vehicles, loaded vehicles, empty “bob-tails”. <ul style="list-style-type: none"> a) Dedicated lanes for different type of traffic b) Pre establish schedules for different types of traffic c) Express lanes for different types of traffic □ More coordination and information exchange between shippers and US, Mexican customs authorities for document preparation. □ Stimulate border crossing at non-peak hours. <ul style="list-style-type: none"> □ Different toll fees □ Less inspection □ Recognition to customs agents □ Expand agency operation schedules on both sides of the border, adjusting to the user’s requirements. □ Increase use of ITS technologies for improved schedule management and entry port selection

Manual handling of customs information also inhibits the flow of commercial vehicles at border crossings.

Problem	Alternative improvement plan
Manual document information persists at some border crossings, generating an increased possibility of mistakes and delays	<ul style="list-style-type: none">□ Management of a binational bill of lading, reducing shipper cost and delay.□ Electronic management of import and export information and permits (applied at some US entry points).□ Standardize commodity classification systems in both countries to avoid duplication of efforts.□ Toll collections must be expedited: electronic payment and /or pre-paid accounts.□ Driver's identification requirements could be automatic biometrics systems, reducing process time. The international transport driver operates on both sides of the border and crosses several times a day. Combination of binational databases.

The “transfer” system used through-out the border, represents additional costs and delays in the cross-border commercial operation.

Theme	Alternative improvement plan
The mandatory use of the transfer vehicle in the commercial border crossing, increases vehicle traffic, costs and produces longer crossing times	<ul style="list-style-type: none">□ Implement the NAFTA agreement to open the borders for commercial vehicles. Support feasibility of using long-haul equipment at border crossing reducing the number of crossings and congestion.□ Promote safety standards and harmonious operation for US/Mexico commercial vehicles.□ Differentiate higher crossing toll fees for empty trailers and “bob-tails”.

Integration of Binational infrastructure and commercial vehicle operations will reduce cost and inefficiencies by avoiding duplication of efforts by authorities from both countries.

Theme	Alternative improvement plan
Binational infrastructure and operation integration	<ul style="list-style-type: none">□ Promote binational mid/long term strategies.□ Explore the possibility of operating in binational facilities (Ports of Entry) staffed by US and Mexican agencies.□ Share information generated by different US and Mexican agencies to create a binational database.□ Common use of information technology.

Having one facility for binational multidisciplinary use to handle and inspect freight, vehicle, and driver would help the flow of vehicles, avoiding duplication.

**One Binational Inspection
Border Authority**



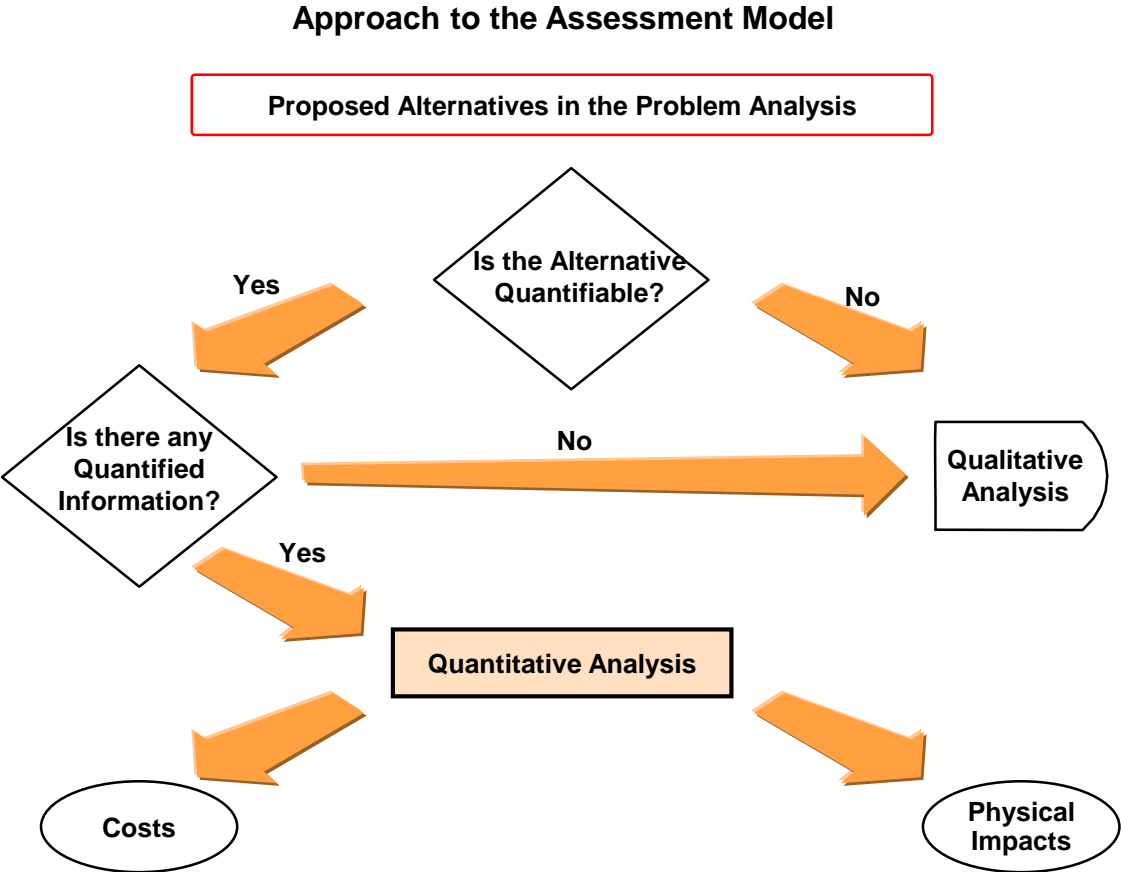
**CUSTOMS//NARCOTICS/TRANSPORTATION
AGRICULTURE**

Implications:

- Binational facilities and personnel with inspections in both directions, employees of only one binational organization.
 - Eliminating problems concerning operation schedules and facility duplication.
- Official approval of standards in both countries
 - vehicle security
 - shared vehicle registration
 - customs
 - control of entries and departures
 - agriculture
 - shared inspection facilities for agricultural products
 - national security
 - identification of possible terrorist attacks and security measures
 - tariff payments and previous permits, concerning each case
 - 100% of customs inspection (X-rays) and random checks on freight
 - Opening of a preferential lane.
 - SENTRI type, for commercial vehicles. Reduces rate of inspections.
 - Shared information system that includes carrier company, vehicle, and driver
 - Handling in-bond shipments (Interior Customs)
- Homogeneous Inspection in both directions
- Indistinct inspection areas in both directions (located at any of them).
- Monitored vehicle lanes, assigning more personnel and inspection units.

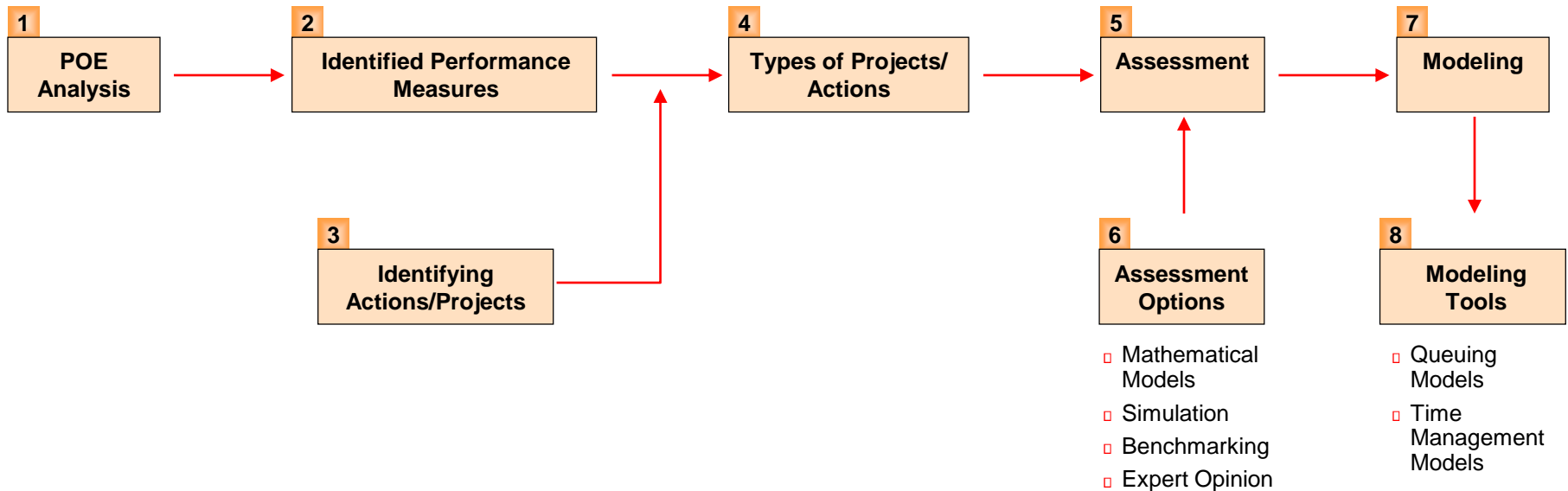
Assessment of Costs and Benefits of Improvements in Binational Coordination

To perform an assessment of costs and benefits of identified coordination problems, a preliminary analysis of the specific problems to be assessed is recommended.



Alternate assessment diagrams were identified as well as the tools for possible models

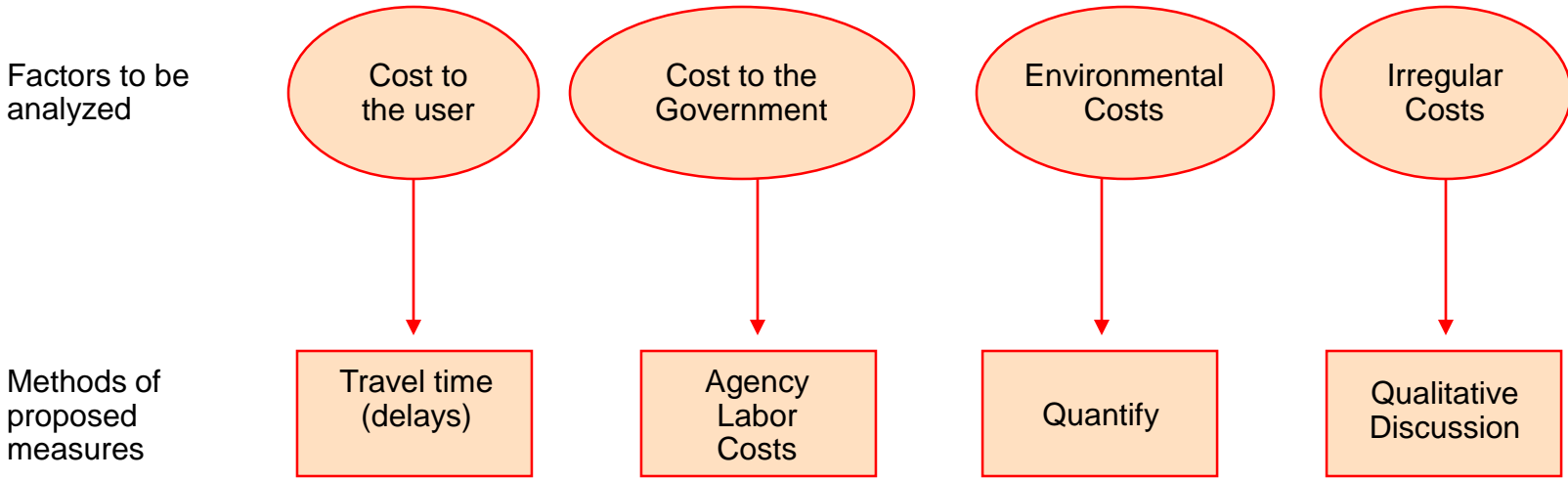
Proposed Approach for the Assessment of the Benefits of the Coordinated Alternative Projects/Actions



POE = Port of Entry

There are several factors that must be analyzed and different methods are proposed for the assessment of these factors.

Type of Expected Effects



Benefit Assessment for Coordination Schemes

If the total time elapsed from the moment freight leaves the shipper (exporter) until it is received by the consignee (Importer) is considered a performance indicator, then the time taken by the commercial vehicle to cross the border including customs inspections should be considered within this period of time. The “handling time”, or waiting time between the buying/selling transaction and the time before crossing the border should also be included. The reduction in any of these periods of time due to improved coordination between the involved agencies/institutions will have an economic benefit to the stakeholders and to the nation.

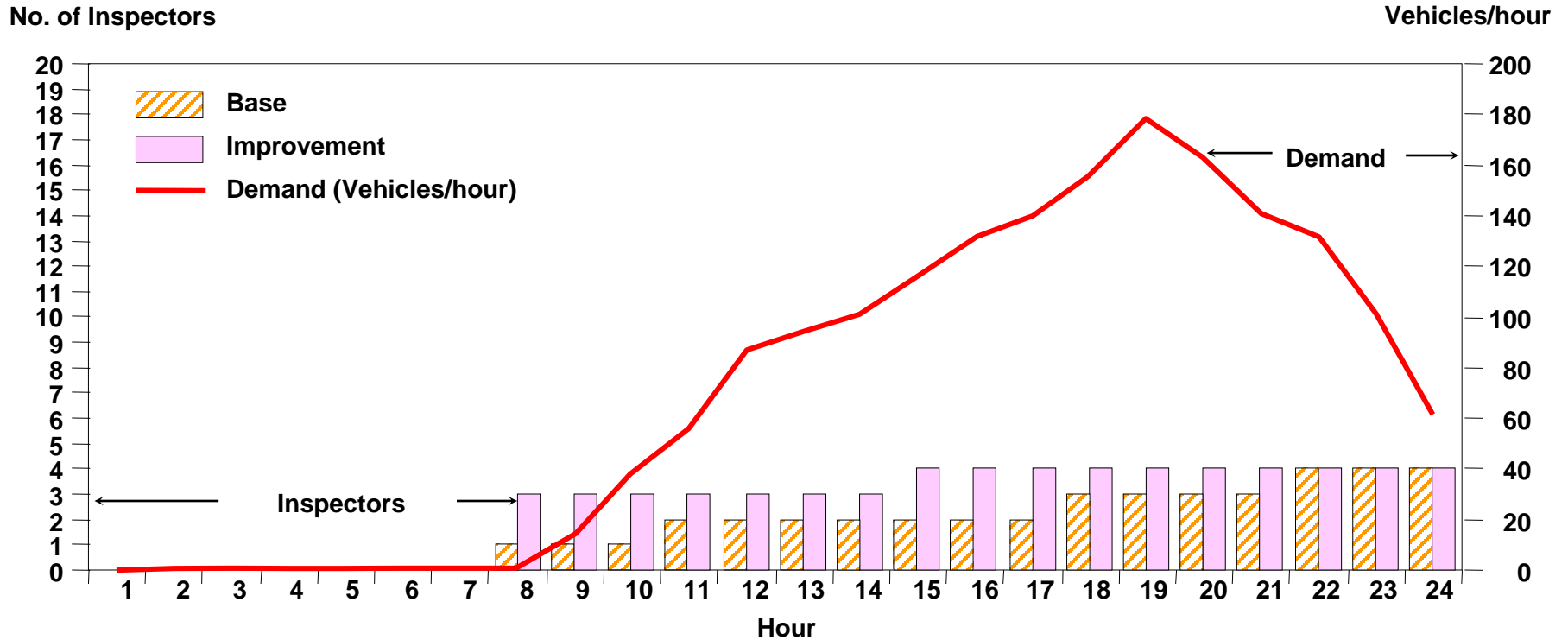
The crossing time can be measured in the field or could be estimated through queuing models and each time element (indicated in the diagram) can be associated with an opportunity cost expressed in \$/units of time/vehicle.

Through scheduling factors, the volume of vehicles and persons could be increased to daily or annual volumes to calculate the opportunity cost for assessment effects and subsequent evaluations.

Also, the opportunity costs can be estimated by associating the “handling time” of freight by remaining in storage before crossing the border.

Benefits of a Greater Number of Operators in the Primary Units

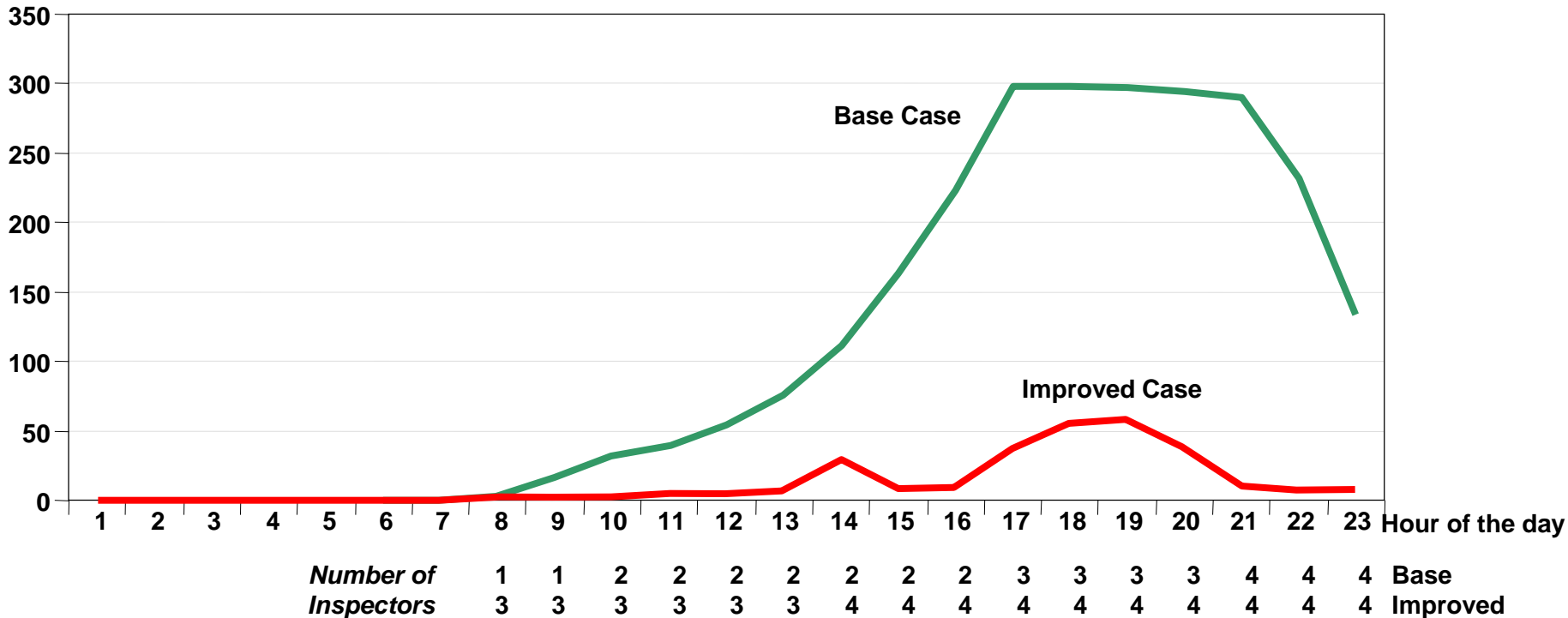
Increasing the staff at inspection booths when demand increases, reduces vehicles queues



Benefits of Increasing the Number of Inspectors (cont.)

- Case of southbound commercial vehicles
- Baseline of 300 vehicles at peak; improvement of 50 vehicles at a high point
- Base cost VOC = 1,084 million pesos; Improved Cost VOC = 200 million pesos; Net Savings in VP@ 12%, 20 years = 884 million pesos (93 Million USD)

Queue Length (Vehicles)



Complementary Actions

- A greater number of operating booths at primary inspection reduces the queue length waiting for service.
- However, the congestion problem could be transferred to the customs/tax area when greater number of vehicles are waiting for physical inspection.
- This situation can be minimized with the following points:
 - Reduction in the percentage of selected vehicles for physical inspection at the border port.
 - Increase customs personnel for this type of work.
 - Increase the number of parking inspection bays.
 - Reduce the average time required for vehicle inspection.
 - Authorize a longer number of vehicles to be inspected in the interior of the country.

Savings from the Reduction of Handling Time (Tg*) and from Eliminating Transfer Vehicles

- There is an estimated reduction of 2 or 3 days in the Tg. (1 day of savings); in both directions. Also, an additional 20% of the border crossing is considered by eliminating transfer vehicles.
- A mixture of commodity types similar to the US/Mexico land trade is considered.
- Savings of 318 million pesos is estimated (VP@ 12%, 20 years)¹. (33.5 Millions U\$D)

Concept	Type of Benefit	PV of Benefits (millions of pesos)
1. Reduction in the opportunity costs of the value of the freight in transit	Tg	\$ 97.52
2. Reduction of storage time	Tg	\$85.14
3. Reduction of transfers	Savings of 20% of Transfers	\$136.23
total		\$ 318.89 (33.5 Millions of U\$D)

1 measure of annual discount in real terms during 20 years.
 * From payment until receipt of the freight

5.

Results Summary

1. In Mexico at least 14 federal agencies that operate at the Border Ports of entry were identified, eight operate directly at the border crossings. Several private stakeholders also operate at the POE.
2. Commercial vehicles traveling in the North and Northeast of the country, move regionally, transporting maquiladora industry freight. Commercial vehicles from the interior of Mexico and the US travel through Northeast POEs.
3. In Tijuana there is only one commercial vehicle POE; and commercial traffic creates congestion in the urban area, especially during peak hours. Cd. Juárez, on the other hand, has alternative commercial vehicle ports of entry. The Cordoba bridge is toll-free has limited space, which is further reduced by confiscated vehicles that have been placed in the border crossing area.
4. Nuevo Laredo and Colombia, N.L. have ample space and modern POE facilities, with enough capacity to satisfy current demand. The operation and crossing schedules are extended during certain hours of the day due to the long evening queues. Customs checkpoint, at km 26 in the interior of Mexico, does not have enough capacity to handle current vehicle flow that travel through the Nuevo Laredo and Colombia, N.L bridges.
5. Some border facilities present significant design and construction deficiencies, making difficult to operate, in the logistics of vehicle circulation as well as freight inspection facilities.
6. The automated inspection selection system considers an average of 10% of the vehicles that travel south (imports). On top of this, an additional “rojo operativo” or operative red is added for certain commodities, resulting sometimes in a greater percentage of inspected units. The available facilities and the assigned personnel for physical inspection are not enough to process the total amount of selected vehicles, especially during peak periods.

-
7. Recent changes in Mexican legislation will increase problems at the border operations, as meat inspection would need to be performed at facilities located in the Mexican side of the border. So far, Mexican meat imports have been inspected in the US side of the border. Colombia N.L. is the only POE with certified facilities in the Mexican border.
 8. Long commercial vehicle delays to cross the border, specially during peak hours, could be minimized with a greater number of inspection booths in operation, and/or more personnel at the inspection platform. In general terms, it was noticed that there were some un-staffed facilities that could be used with increased personnel.
 9. Other elements that preclude efficient vehicles flow at the border crossing; include the absence of the customs broker representative when a inspection is required; incomplete documentation; inefficient arrangements for trailer temporary importation, and the use of “transfer” vehicles for border crossings.
 10. Some the measures that could be implemented to reduce time and cost of commercial vehicle crossings at the border include the use of customs inspections in the interior of the country, “despacho previo” or pre-approval import permits, reduce freight inspection ratio, discourage customs brokers practice to increase shipments during peak hours, and increase utilization of technological equipment and X-Rays for freight inspection.
 11. Customs brokers have modernized its operations with the use of electronic equipment to handle despacho previo, however, physically inspecting almost 100% of the imported commodities represents additional barriers to expedite border crossing, increasing the cost of this operation, claiming that is done to support customs handling process.
 12. Inspection of cargo, drivers and vehicles performed by authorities with diverse responsibilities hinder the harmonious flow of freight. The required physical inspection should be performed on one single location where all the authorities could interact to reduce crossing time and costs.
 13. Binational issues include the lack of coordination between border authorities in each country, between authorities of both countries, schedule flexibility, human resources and equipment that would match neighboring country’s operations.

-
14. For northbound flow, inspections by different US authorities for customs, narcotics, vehicle condition, driver identification and guns, obstruct the free flow commercial vehicles.
 15. By not allowing free flow of commercial vehicles between Mexico and the US, the usage “transfer” vehicles affect both countries, producing a higher volume of vehicles crossing the border.
 16. Northbound commercial vehicle border crossing is higher due to rigorous inspection process by US authorities, export process by Mexican authorities and toll collection in the Mexican side of the border, generates queues and congestion.
 17. In the southbound direction, the number of customs booths in operation determines border-crossing time, the time of service during the day, the percentage of vehicles sent for inspection and the average inspection time (given by the staffing level and space availability).
 18. A potential solution for these problems is sharing information amongst binational authorities. Information that could be shared includes transfer vehicles registration, transportation firm data and border crossing drivers’ information, as well as freight information.
 19. Certification of binational shippers, transportation companies and drivers would help expediting shipments through the border, performing any inspection at origin or destination.
 20. Promoting the use of off-peak schedules could be stimulated by using differential toll, lower inspection rates at off-peak periods, and by recognizing customs brokers that use off-peak periods, or modifying public agencies operating hours based on negotiations with the private sector.

-
21. Electronic document handling required by Customs, would help reducing error margins and delays.
 22. The use of ITS (Intelligent Transportation Systems) would help schedule management and in POE selection, decisions that are taken by the customs broker.
 23. Finally, it is recommended to analyze the possibility of using binational infrastructures, in which agencies from both countries would share facilities, avoiding infrastructure duplication on both sides of the border.
 24. It is recommended to perform and cost benefit analysis on binational coordination alternative improvements, defining specific problems to be analyzed initially.

Appendixes

Appendix 1

Relevant Aspects of Border Crossing Operations

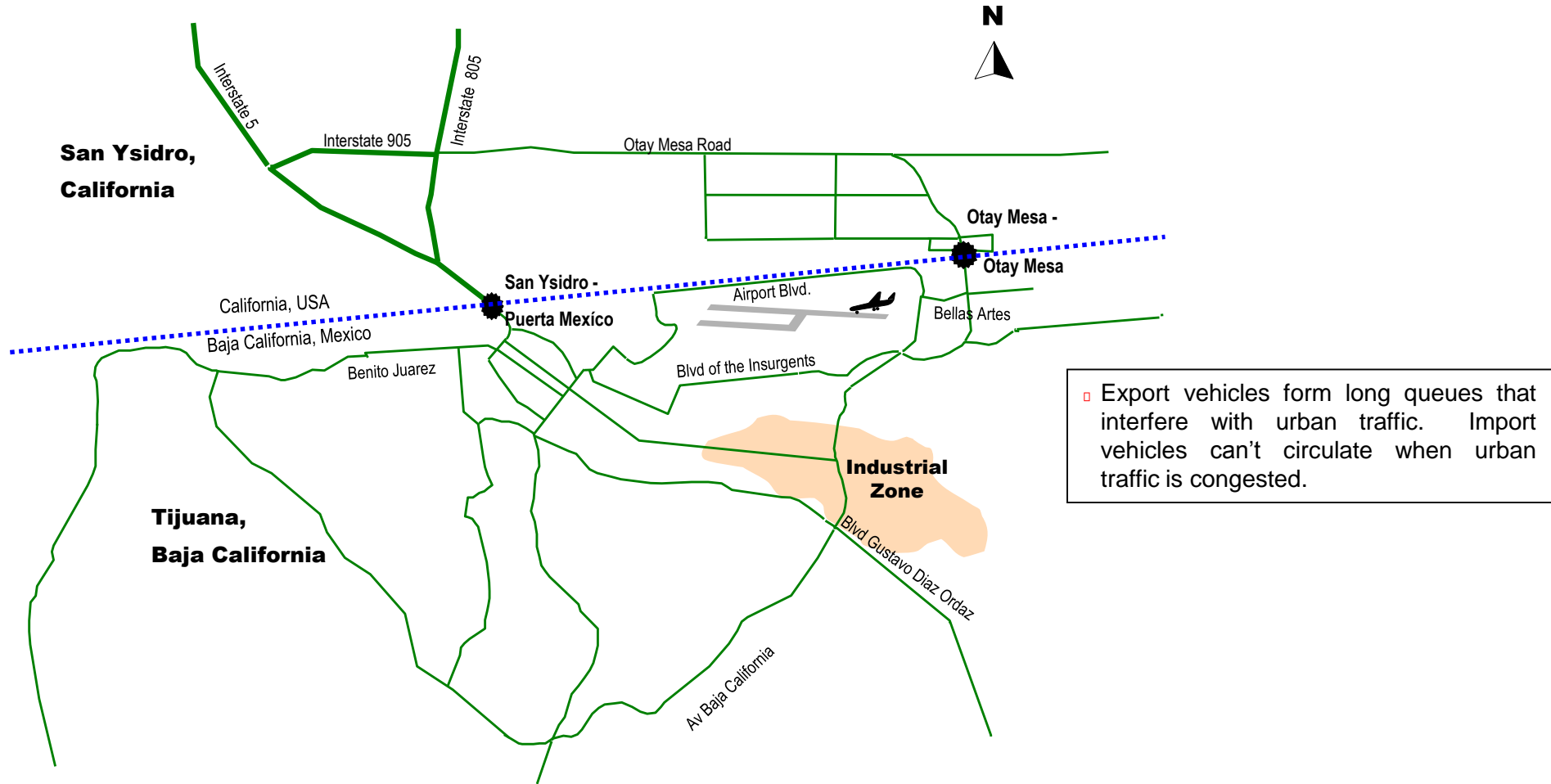
Appendix 1 presents the relevant information of each of the border ports of entry identified during field visits and in available bibliographical information.

The following ports of entry are included in this section:

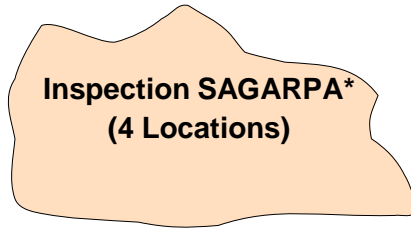
- ▣ Mesa de Otay, Tijuana – Otay Mesa
- ▣ Cd. Juárez, Chih. - El Paso, Tx.
- ▣ Nuevo Laredo, Tamps. - Laredo, Tx.
- ▣ Colombia, N.L. - Laredo, Tx.
- ▣ Reynosa, Tamps. - Hidalgo, Pharr, Tx.

Location of the crossing of Mesa de Otay in Tijuana

Mesa de Otay is the only border crossing for commercial vehicles in Tijuana.



Agencies with Operations at the Border Port of Tijuana (Border Crossing of Otay Mesa—Mesa de Otay)



**At the US Border, 17
Agencies Operate**

At the Customs Yard of the USA the following inspections are performed:

- ▣ Customs - Agriculture
- ▣ Customs - Hazardous Materials
- ▣ X-Rays, canine inspection of vehicles (K-7)
- ▣ Security conditions of the vehicle

**North
of the
USA**

Line

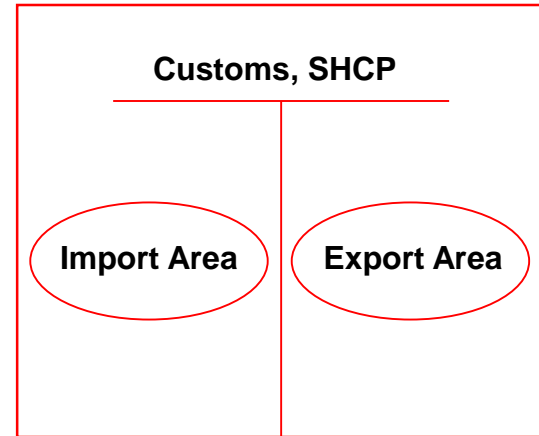
**South
of
Mexico**

Administration Offices

- ▣ Customs, Secretary of State
- ▣ OISA, CONASAG, Sagarpa
- ▣ Cabin, SECODAM
- ▣ SECODAM
- ▣ Sectur (Angeles green)
- ▣ Unidad of Inspection Fiscal Aduanera [Fiscal Customs Inspection Unit] (UIFA, for its initials in Spanish), SHCP

Assigned Areas

- ▣ Fiscal Yards, Customs, SHCP
- ▣ Federal Truck Transport, Preventive Medicine, SCT
- ▣ Fiscal Yards Improvement



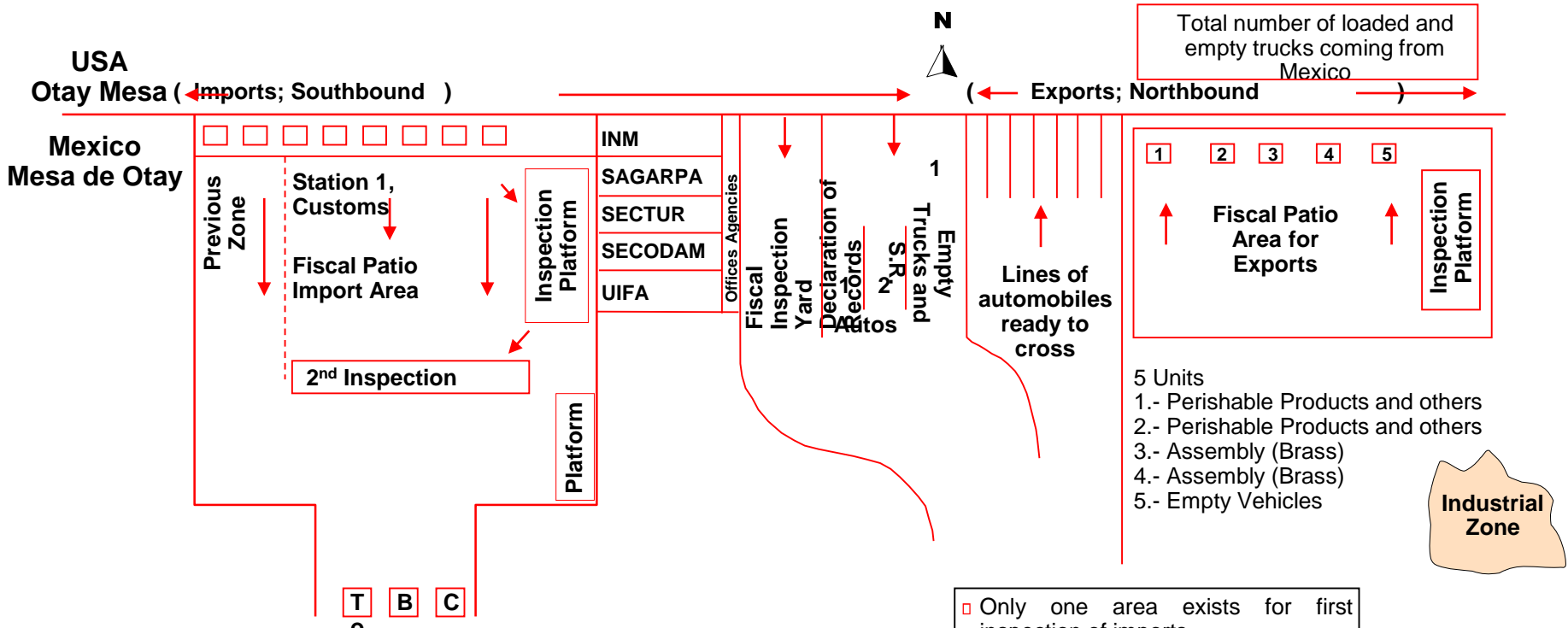
PGR

Bellas Artes Avenue, Urban Infrastructure

* Inspection Facilities for Agricultural Products
OISA, CONASAG, SAGARPA,
There are 4 facilities authorized by SAGARPA

* To specific area of PFP was not identified. Occasionally they park in the entrance area of vehicles to Mexico

Main Areas Identified at Border Port of Mesa de Otay



Avenida Bellas Artes. Municipal Infrastructure

- To.- Improved Booth for prior payments
- B.- Improved Booth payments prior to crossing
- C.- SCT Booth
 - ▣ Federal Truck Transport
 - ▣ Preventive Medicine

- ▣ Only one area exists for first inspection of imports.
- ▣ The inspection platform has the capacity to inspect 34 vehicles.
- ▣ Empty trucks do not pass the customs system.

S.R. = Trucks without towing gear [For its initials in Spanish]

Customs Operation (Imports)

- ▣ Customs operation business hours are from 9:00 to 17:00 hrs from Monday through Friday, and from 9:00 to 11:00 hrs on Saturdays (8:00-15:00 hrs in the USA), for imports; this is subject to US customs operation hours.
- ▣ Station 1 of the documentation and Random Selection System has 8 booths. Generally only 4 or 5 are operating. This station is located approximately 20 meters from the export booths of US customs.
- ▣ In principle, the Random System dispatches 90% of the commercial vehicles without customs inspection, and 10% receiving inspection.

Recent statistics received from customs show the following:

- 10,673 vehicles with imported freight (Monday through Friday); 308 units Saturdays (There is no import operations on Sundays).
(A daily estimate of 1,500 southbound empty trucks).
- 6,626 vehicles with imported freight (Monday through Friday); 548 units on Saturdays and Sundays.
(A daily estimate of 1,000 northbound empty vehicles).

From Monday through Friday, 1,380 inspections were performed with 54 on Saturdays for imports; for exports, 1,623 from Monday through Friday and 74 on Saturdays and Sundays.

An additional estimated daily average of 2,500 empty vehicles cross the border.

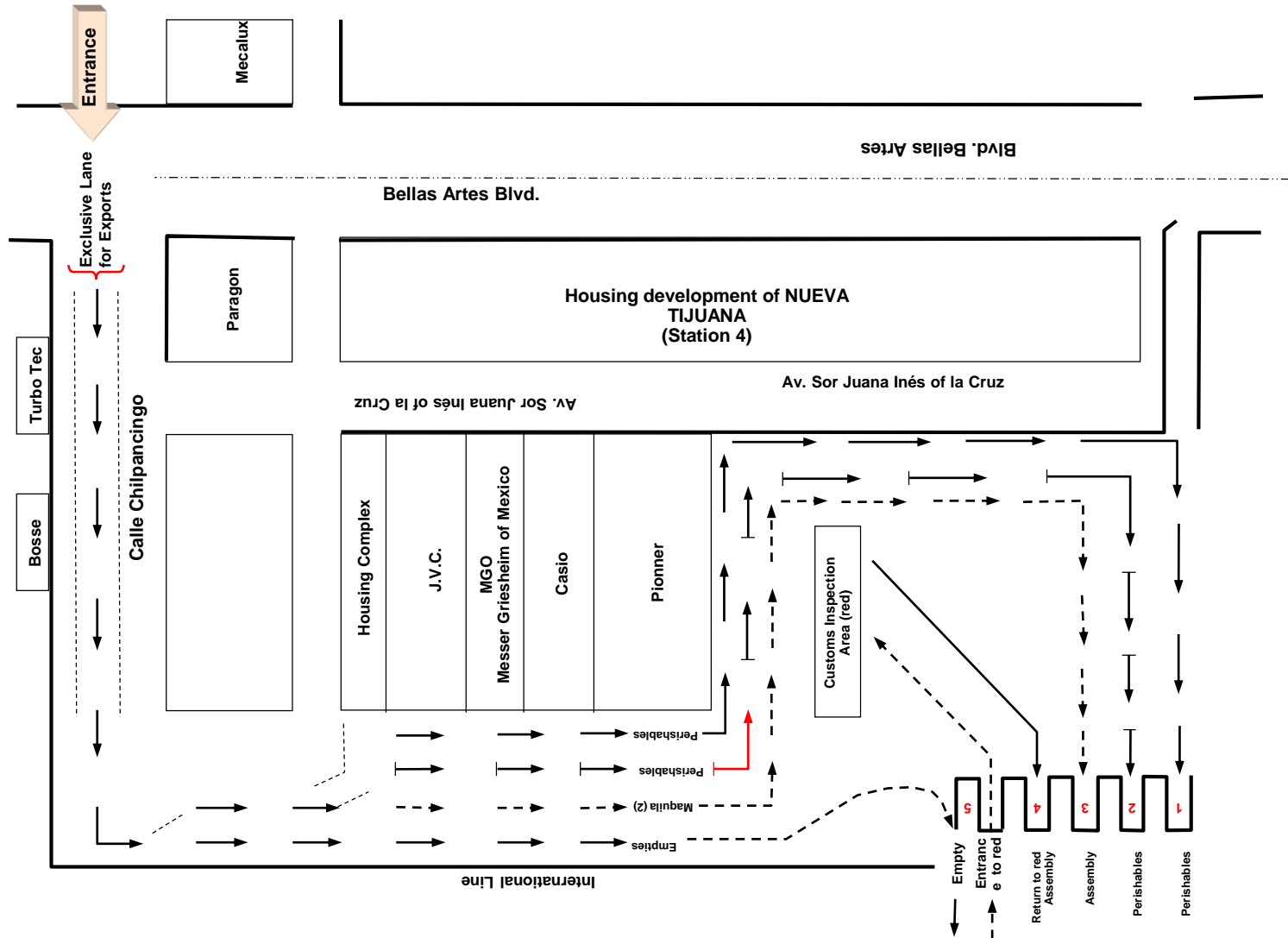
The average length of inspection is 3 hours and 26 minutes. The inspection capacity is of 57 imported (containers) and 34 containers for exports.

- ▣ When passing to the second random selection station for second inspection, all vehicles cross that were not required to be inspected (90%), as well as those inspected (10%).
- ▣ Freight vehicles are directed towards the import fiscal area exit where there are three more booths: the SCT (Federal Truck Transports, Preventive Medicine), and two to take the payment of improvements costs to the fiscal yard (Customs Agents, Carriers, Assemblers, etc.).
- ▣ Sagarpa indicated that to comply with the changes in the Law of Animal Sanitation, an area is required for an inspection area within the border port. There is an unoccupied area that could be used by customs.
 - ▣ The actual operation diagram is adequate since the facilities are of sufficient to complete the necessary inspections. Four facilities located 5 to 20 km from the line in the USA area are used.
 - ▣ Requiring facilities at Mexican ports of entry, as per interviews, would benefit the employment level in Mexico and will guarantee that the product inspected is the same that enters the country.
 - ▣ A daily average of 80/100 agricultural freight vehicles cross at the port.
- ▣ Vehicles departing from the federal zone face problems when merging with urban traffic.

Customs Operations (Exports)

- For exports, customs operates during the following hours: from 7:00 to 23:00 hrs.
- The customs station has 5 booths. Mainly industrial assembly freight crosses the border port. There are complaints that not all the booths operate because of lack customs of personnel.
- Occasionally, it was noticed that lines of trucks form, obstructing urban traffic of Tijuana at Bellas Artes Avenue, requiring a waiting period of up to 8 hours to arrive at the random selection booth.
- The entrance to the export fiscal yard requires excessive maneuvering of commercial vehicles. There are slow traffic zones in which drugs can be incorporated into the vehicles, with and without the driver's knowledge (see annexed sketch). There is no security or crossing restrictions within this zone, enhancing the problem of drugs and undocumented individuals.
- The vehicle requiring inspection, according to the random system, needs to return to the inspection platform. There is only one area for the first inspection of exports.
- When crossing the random selection station and border, the vehicles are submitted to X-rays; sometimes the 3 pieces of available equipment are not enough, forming a bottleneck in vehicle transit, with lines on the Mexican side. Two additional X-ray machines are required.
- Based on inspector judgment, vehicles pass through canine and vehicle inspection over a weighbridge and through a workshop to verify the physical condition of the truck and its operational safety for US traffic.
- The US and Mexico customs infrastructure in in Mesa de Otay has a physical unevenness by the difference in elevations, requiring additional driving of trucks, mainly Northbound. Studies have been done to move customs about 1 km towards Tecate. This crossing will be available in the year 2007.

Export of Freight Facility Location (Mesa de Otoy, Tijuana)



SAGARPA (OISA*)

- There are 4 accredited facilities that are used for the inspection of imported agricultural freight in Mexico. The facilities are located on the north side of the border (USA) about 5/20 km from the border line. Two of these facilities are used for the inspection of meat products, 1 for vegetables and meats and 1 for vegetables only. The facilities are considered of good quality to generate inspection jobs for imported products.
- Good coordination exists among other agencies regarding operations at the border, especially customs.
- The changes in the Law of Animal Sanitation are considered to be beneficial to the operations of the agency in generating employment on the Mexican side of the border (an estimate of 100 new actual positions) and to ensure that the products inspected are those that are actually entering the country, which under the present system of operations is not guaranteed.
- It is estimated that at the Border Port of Mesa de Otay there is enough space to locate the required facilities, near the previous customs area. A private corporation could receive a contract to build and operate the facilities. Presently, no effort has been made to this effect.
- 100% of the freight inspection of agricultural products is performed at the border port. An average of 100 daily inspections of federal trucking vehicles are operated daily on this type of product, within the business hours from 8 to 16 hrs, Monday through Friday. An estimated 40% of inspections are performed on meat products and 60% on vegetable products.

* Inspection Office of Agricultural Sanitation

SCT (Federal Truck Transports and Preventive Medicine)

- Departing the area (south) of the Fiscal Yard for Imports (Customs, SHCP) there is a passage through which all commercial vehicles circulate during their transit towards urban traffic of Tijuana (three lanes of traffic, with a distance of approximately 150 meters).
- ATPF and MP occupy a shared booth, through which by random selection, vehicles are inspected for documentation and physical condition of the vehicle. The inspection is made “pulling the vehicle to one side” of the circulation lane.
- While the vehicle is being inspected, the driver is required to enter the preventive medicine booth to check the driver’s physical condition to properly drive the vehicle.
- There is a technical inability to return a vehicle (rarely) that does not comply with the safety conditions to transit; in which case only the corresponding infraction is recorded. The Federal Truck Transport Inspection is the last one performed (vehicle, driver, freight) in the transborder operation. There is no weighbridge available for commercial vehicles.
- When the vehicle crosses the SCT booth, it faces (only 15 meters) urban traffic of Tijuana (Av. Bellas Artes) with difficulties to travel west. The traffic can also obstruct the exit of commercial vehicles, generating “lines” at the exit of the fiscal/federal inspection yard.
- Some items that Federal Truck Transport randomly inspects at the border (generally to “transfer” vehicles; highway vehicles require annual physical inspection by ATF).
 - Current truck permit
 - Insurance policy of the vehicle
 - Current driver’s license
 - Vehicles with hazardous materials (adequate signs and equipment)
 - Vehicle gas emissions
 - Vehicle operating conditions (visual inspection)
- The inspection performed by Federal Truck Transport seems to duplicate the inspection performed by the US border authorities, as well as the local transit inspection in Tijuana. This inspection should be shared with the US authorities, when considering the interests of binational operations.

Other Identified Agencies

- INM; one office is located at the pedestrian entrance for imports; pedestrian traffic operations were not analyzed. It operates on demand.
- SEMARNAT and PROFEPA, have a certain level of responsibility in the lumber import zone. No inspection or lumber fumigation facilities were done.

Main Project Areas of Interest

Customs Inspection

- The automated import freight inspection system includes in the second inspection all vehicles inspected in the first inspection and all those released from station 1. The yard distribution makes it difficult to distinguish vehicles that were released from station 1.
- When considering 57 parking spaces in the import inspection area, with an average of 3 hours of inspection and 9 hours at the customs offices, there is a total capacity to inspect 171 vehicles, which is lower than 10% of the vehicles that transit daily through the imports area, equivalent to 2,153 vehicles. The concept of an interior customs office would reduce traffic congestion at the border.
- At the export freight booths, the random inspection (station 1) is located north of the inspection platform, which requires additional vehicle maneuvers to return, to the inspection platform.
- Reduced customs business hours and limited operation because of the available booths at the customs station. Concentration of operations during evening hours.
- The fiscal inspection yards are exclusively for the use of this agency.

Federal Truck Transport, SCT

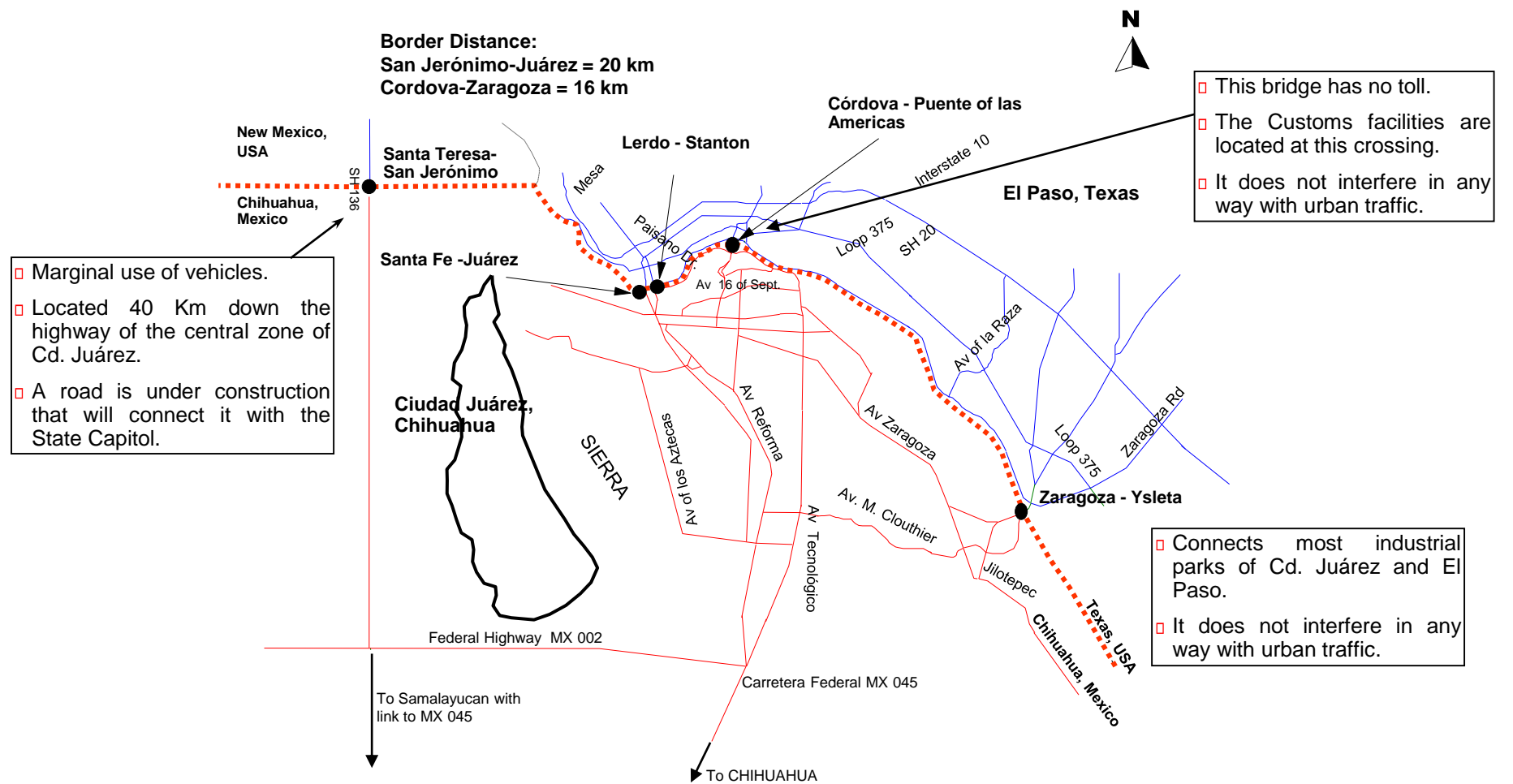
- They operate at the border zone. It's job of inspecting vehicles random, not following any particular vehicle selection system. There is no weighbridge nor space to place one.
- The inspection of commercial vehicles at the US border is very thorough. Vehicles that transit through the border crossing area are the same vehicles (each vehicle an average of 4/5 times a day,).
- Freight vehicle selection includes the preventive medicine area which examines the vehicle driver.

Other Agencies

- Customs operations were not identified border entries and departures PFP, or the fumigation facilities on forest and wood products, to comply with the requirements of the SEMARNAT.

POE Location at the Ciudad Juárez-El Paso System

There are three commercial vehicle border crossings at the Ciudad Juárez - El Paso zone.

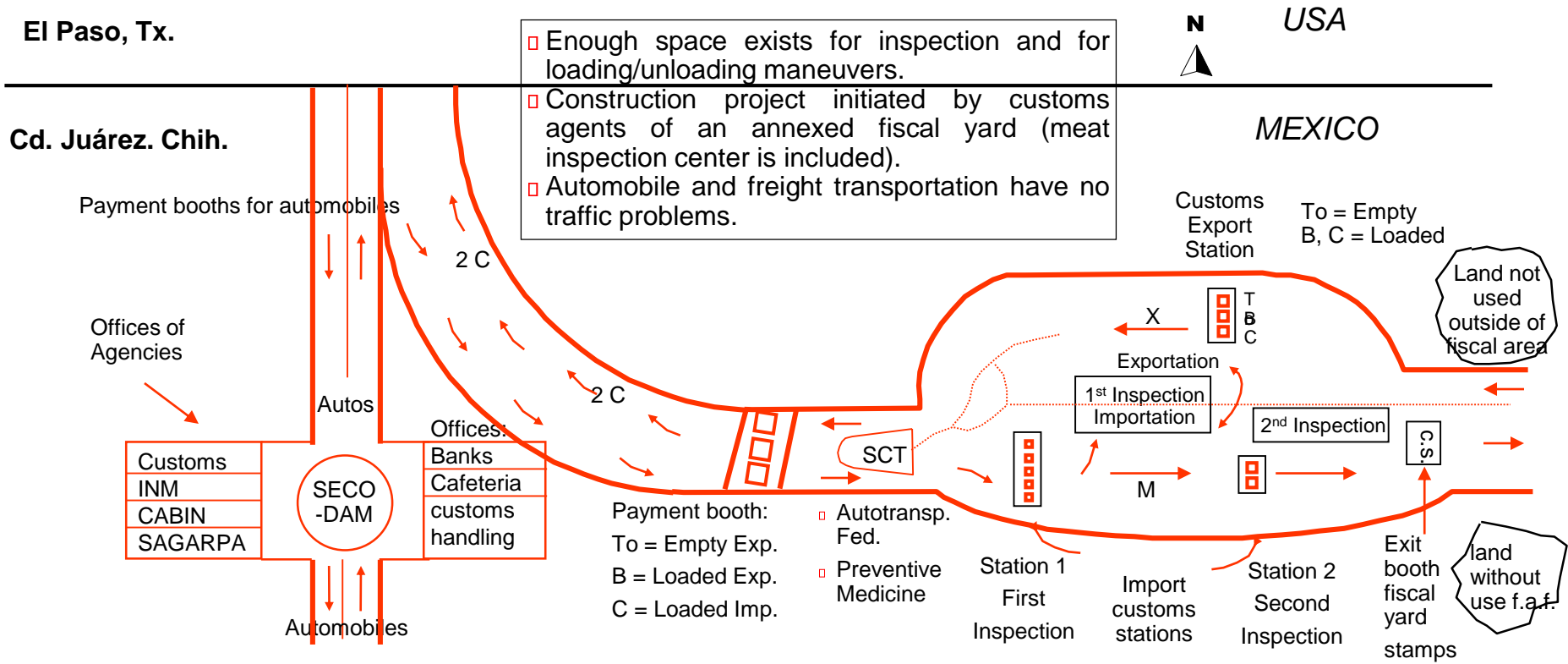


Cd. Juárez-El Paso POE System

Border Crossings	Traffic Characteristics				Other Characteristics
	Pedestrians	Autos	Truck	Rail	
▣ Juárez (North crossing)-Santa Fé	▣ N/S	▣ N	—	—	Located in the central zone, next to the urban zones of El Paso, Texas.
▣ Lerdo-Stanton (Good Neighbor)	▣ S	▣ S	—	—	Located in the urban zone. It is the oldest bridge.
▣ Cordova-Bridge of The Americas	▣	▣	▣ N/S	—	Free toll Bridge. Operates 24 hours a day for passengers in the Park zone of Chamizal
▣ Zaragoza-Ysleta	▣ N/S bridge A	▣ N/S bridge A	▣ N/S bridge B	—	Located in the industrial zone of Juárez and El Paso, Texas Operated by CAPUFE/Contract. (Promofort) There are 2 bridges
▣ San Jerónimo-Sta. Teresa		▣ N/S	▣ N/S	—	Located at crossing with Nuevo Mexico, USA. It's a direct crossing without a bridge. Basically a deserted zone. Incipient industrial Park of Sta. Teresa, NM.
▣ Railroad 1				▣	It crosses the urban zone, dividing the city in two; works better during the evening crossing hours. Frictions exist with the municipal government from its operation
▣ Railroad 2				▣	

N/S: North/South direction
 V: Empty vehicles
 VSR: Trucks without towing gear [For its initials in Spanish]

Zaragoza-Ysleta Main Facilities



INM:
 X = Exports
 M = Imports
 f.a.f. = out of fiscal area [for its initials in Spanish]; c =lanes

Specific Comments of Field Inspectors in Cd. Juárez

- Customs, like at the other border crossings of the country, represents the agency that in complying with its functions, makes the transit of vehicles difficult at border crossings, mainly during the evening peak hours in the customs handling of imports and exports.
- Cd. Juárez does not present any significant traffic problems (this location is mainly comprised of the assembly industry which has seen a reduction in operation in the last months). Better coordinate between the transportation section and the Customs Agents, could reduce peak hours and evening lines of commercial vehicles. The aforementioned could also be obtained with an increase in personnel at the random selection units.
- The inspection of import freight represents 10% + 10% + Red Operative of the transit of vehicles, more than 10% of the total of vehicles selected by the authorities.
- The “Cordova” crossing, free of freight, is limited in space by the amount of confiscated vehicles (an estimate of 4000 vehicles), of which have been in inventory for over 10 years. A coordination effort with the responsible agency of SAT “destination of assets” is needed to dispose of these vehicles and free space.
- The San Jerónimo crossing, which experiences little traffic, has the capacity to increase its level of customs operations. A greater coordinated effort with customs brokers could transfer traffic to this crossing, i.e, commercial vehicles for imports within the country. This way a more thorough inspection of the freight can be performed (increase the percentage of inspection) subsequently avoiding the border inspection at the booth at km 30.

Transit between borders of commercial vehicles in Cd. Juárez (daily average)

Direction	Córdoba	Zaragoza	San Jerónimo	Total
M	695 (63%)	935 (54%)	5 (7%)	1 635 (56%)
X	401 (37%)	799 (46%)	69 (93%)	1 269(44%)
Total	1 096 (100%)	1 734 (100%)	74 (100%)	2 904 (100%)

Ports of Entry Nuevo Laredo-Colombia

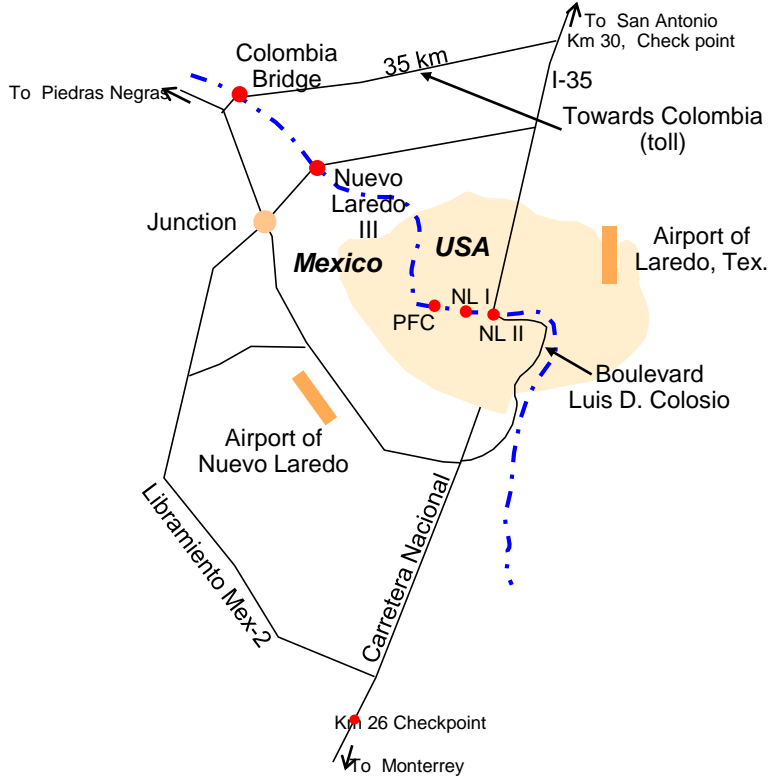
With the opening of Nuevo Laredo III bridge in April of 2000, the bridges of Nuevo Laredo I and II were closed to the operation of commercial vehicles. Nuevo Laredo III and Solidaridad Bridge in Colombia, Nuevo León, operate exclusively for commercial vehicles whose main origin/destination is towards the interior of the country.

Nuevo Laredo-Colombia POE System

Border Crossings	Type of crossing				Observations
	Pedestrian	Passenger Vehicles	Commercial Vehicles	Railroad	
Nuevo Laredo I-Laredo, Tx. (Convent Street) Gateway to the Americas	☐	☐			located in the Central zone of the City
Nuevo Laredo II-Laredo, Tx. (Juárez-Lincoln)		☐			located in the Central zone of the City
Nuevo Laredo III-Laredo, Tx., IV (Bridge of World Commerce)			☐		14 km Northeast of Nuevo Laredo
Colombia N. León-Laredo, Tx III (Solidarity)		☐	☐		35 km Northeast of Nuevo Laredo
FFCC N. Laredo-Laredo				☐	

Extensive highway construction underway connects the bridges of Nuevo Laredo III and Colombia with the National Highways of Mexico and I-35 towards San Antonio Tx., diverting freight truck traffic from the urban zone of Nuevo Laredo, Tamps. and Laredo Tx. The use of Nuevo Laredo III and Colombia reduced considerably commercial vehicle traffic congestion in the region.

Highway Connections to the System of Exterior Commercial bridges of Nuevo Laredo III-Colombia



Highway toll towards Colombia:
 Automobiles: 3 Dollars
 Trucks: 16 Dollars

NL I: Bridge Nuevo Laredo I
 NL II: Bridge Nuevo Laredo II
 PCF: Railroad Bridge

Urban zone

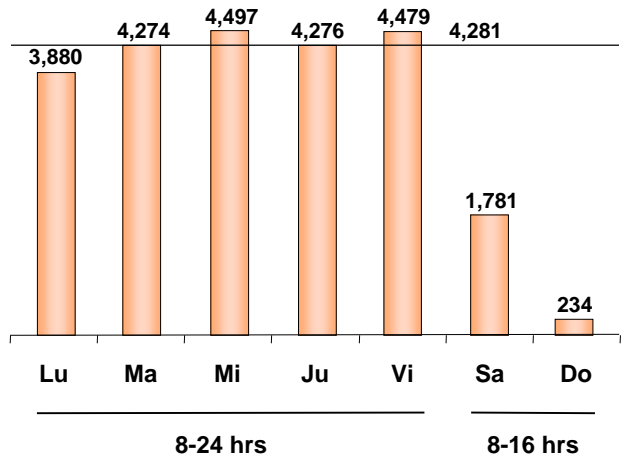
Relevant Aspects of Nuevo Laredo III Bridge Facilities

- The international Nuevo Laredo III bridge began operations in April of 2000. Presently it concentrates on freight vehicle operations, prohibiting the commercial vehicles on Nuevo Laredo I and II. This bridge is exclusively for the transit of freight trucks from both directions. Also imported “pick-up” trucks are handled.
- The new bridge has significantly reduced the levels of congestion of commercial vehicles that use Nuevo Laredo II. An average estimate of 6,000 commercial vehicles cross this bridge. Enough space for the formation of lines is available.
- The facilities (offices) in the transit of imports can house the following agencies: Customs, SAGARPA, Federal Truck Transport and Preventive Medicine. They have not been occupied and are practically abandoned.
- There are 19 units of automated selection for imports and 6 units for exports. The available capacity is considerably exceeded. At peaks up to 6 booths of the station operate. During the evening hours 3 booths operate, forming lines of up to approximately 40 trucks. The station requires 40/50 seconds of attention per vehicle.
- Customs operates from 8 to 24 hrs., with personnel in 2 shifts of 8 hours each. Some problems have been encountered concerning the transfer of personnel to the border bridge.
- The customs inspection area has 110 slots. The average inspection time fluctuates around 1.5 hrs.
- The second inspection has 6 selection units and X inspection slots. Generally a maximum of 3 units are operational.
- Customs concentrates on activities of imports between 17 and 23 hrs; exports are distributed more evenly during the day.
- The border crossing constructed by the municipality of Nuevo Laredo, supported by customs brokers, has not been given to Cabin (agency of the Federal Government) for its management, identifying problems in determining rights and obligations.
- The approval inspection area report has not yet been issued (300 ha) for the construction of adjoining areas of the bridge, which would allow the construction of the infrastructure for the development of border crossings.

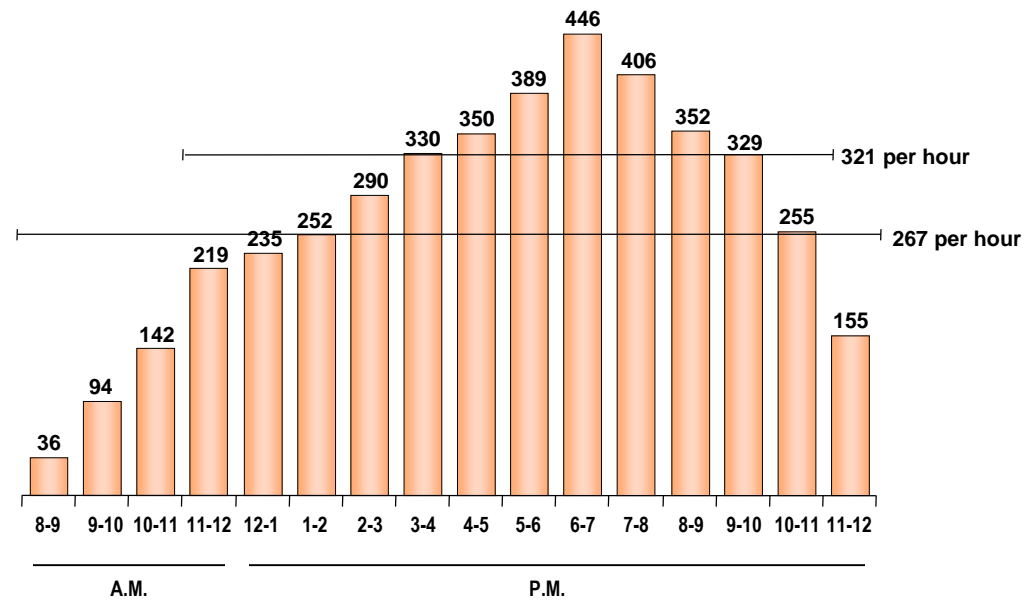
Customs at the Bridge of Nuevo Laredo operates 7 days a week. It operates an average of 300 vehicles per hour From Monday thru Friday during 16 hours of operation, in both directions.

Weekly Distribution and Business Hours at the Border Crossing on the Bridge of Nuevo Laredo III
 (Loaded trucks for importation/exportation; statistics from August 2001)

Day of the Week

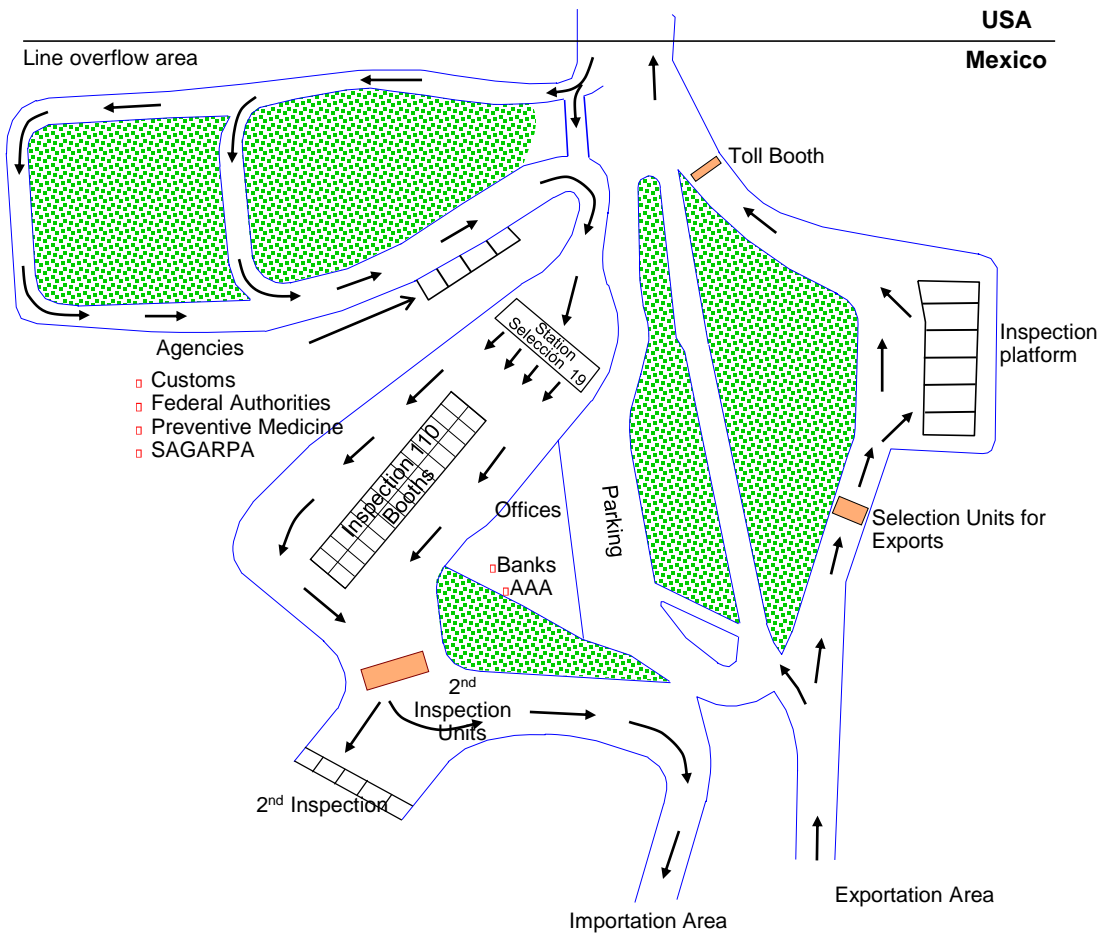


Distribution of Average Business Hours (Lu-Vi)



Nuevo Laredo III Bridge operates commercial vehicles exclusively; it has the capacity to manage 16,000 vehicles a day (both directions).

Mexican Customs Facilities on the Nuevo Laredo III Bridge

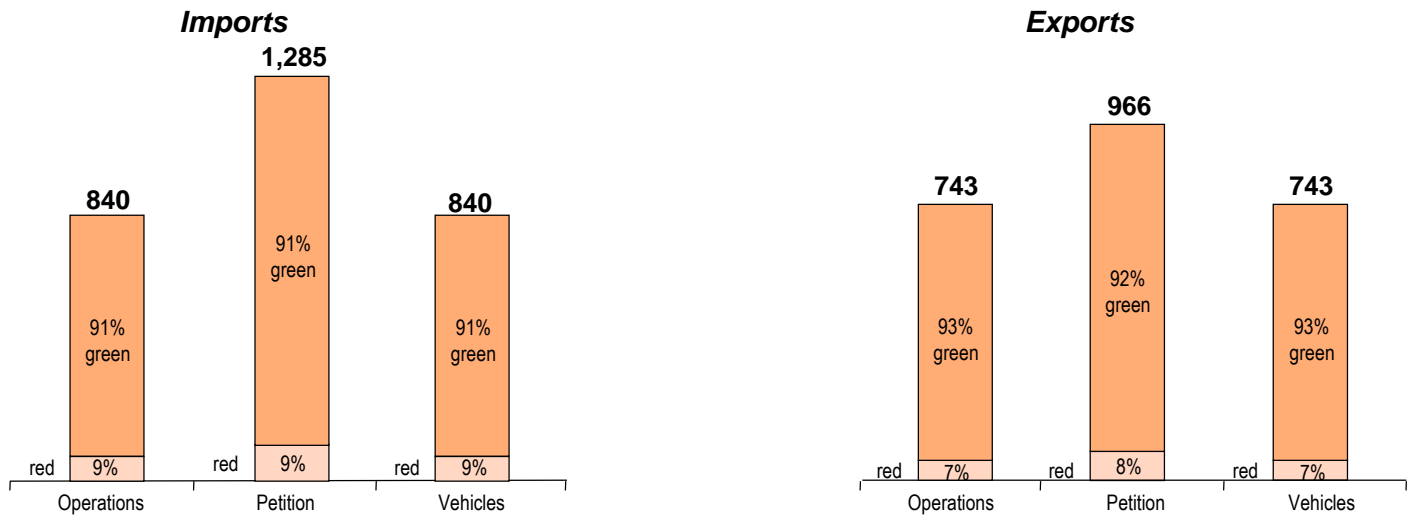


Notes of the Colombia Bridge Facilities

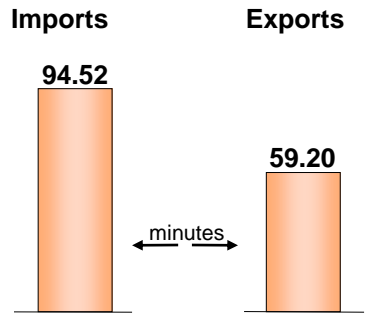
- ▢ Fidenor is a Government Trust Fund from the State of Nuevo León that promotes the development of the north zone of the State; it includes the township of Anáhuac where the border complex of Colombia, N.L. is located. It manages and operates the border crossing facilities.
- ▢ Among its clients are the customs brokers, transport companies and forwarding brokers.
- ▢ The International Bridge of Colombia has 8 lanes; it has a capacity for a busy daily traffic of 12,000 commercial vehicles (both directions).
- ▢ There is an 8 minute time lapse in the process of a truck entering and exiting the Mexican customs office. The time required at the selection station is 30 seconds/truck.
- ▢ The unloaders, at the inspection area, are personnel contracted by FIDENOR.
- ▢ The complex includes long term development of housing and health clinics, in an area where close to 300 residents live.
- ▢ The first inspection center for meat import products at the Mexico border, among others, is in operation in the fiscal area of the Colombia zone; storage facilities operated by the customs broker agency of Dicex, for the reception and classification of commercial exterior freight in the fiscal area; Metalintra corporation is dedicated towards industrial development in the fiscal area, allowing for the integrated development of the border crossings of the country.
- ▢ The authorities of Laredo, TX, have requested that all vehicles that transport hazardous materials use the Colombia Bridge.
- ▢ The highway connection between Nuevo Laredo-Piedras Negras to the Colombia Bridge expands to 4 lanes for the transit of commercial vehicles. The highway from Nuevo Laredo III to Colombia is expanding to 4 lanes, which will reduce, the high levels of accidents that are registered on this stretch. The transferring of freight from Nuevo Laredo to the bridge of Nuevo Laredo III, reduces the disadvantage of Colombia because of its proximity.
- ▢ Vehicle transfers crossing the border by the Colombia Bridge, adds a tariff of 20 dollars for the transfer of the freight, in addition to the payment for the use of the Nuevo Laredo III Bridge.

The number of freight vehicles that transit on the Colombia Bridge is an average of close to 1,600 units/day. From the total, an average of 10% and 7% of the vehicles for imports and exports respectively, require an inspection from the customs offices.

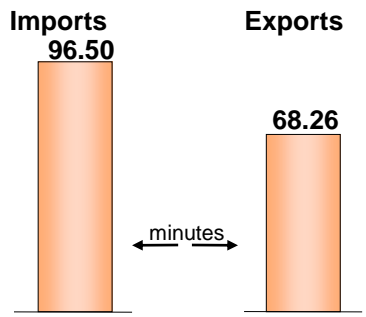
Relevant Data of Customs Operation at the Colombia Bridge
(Daily Average (24 days), February 2001)



Inspection Time*/Truck (February)



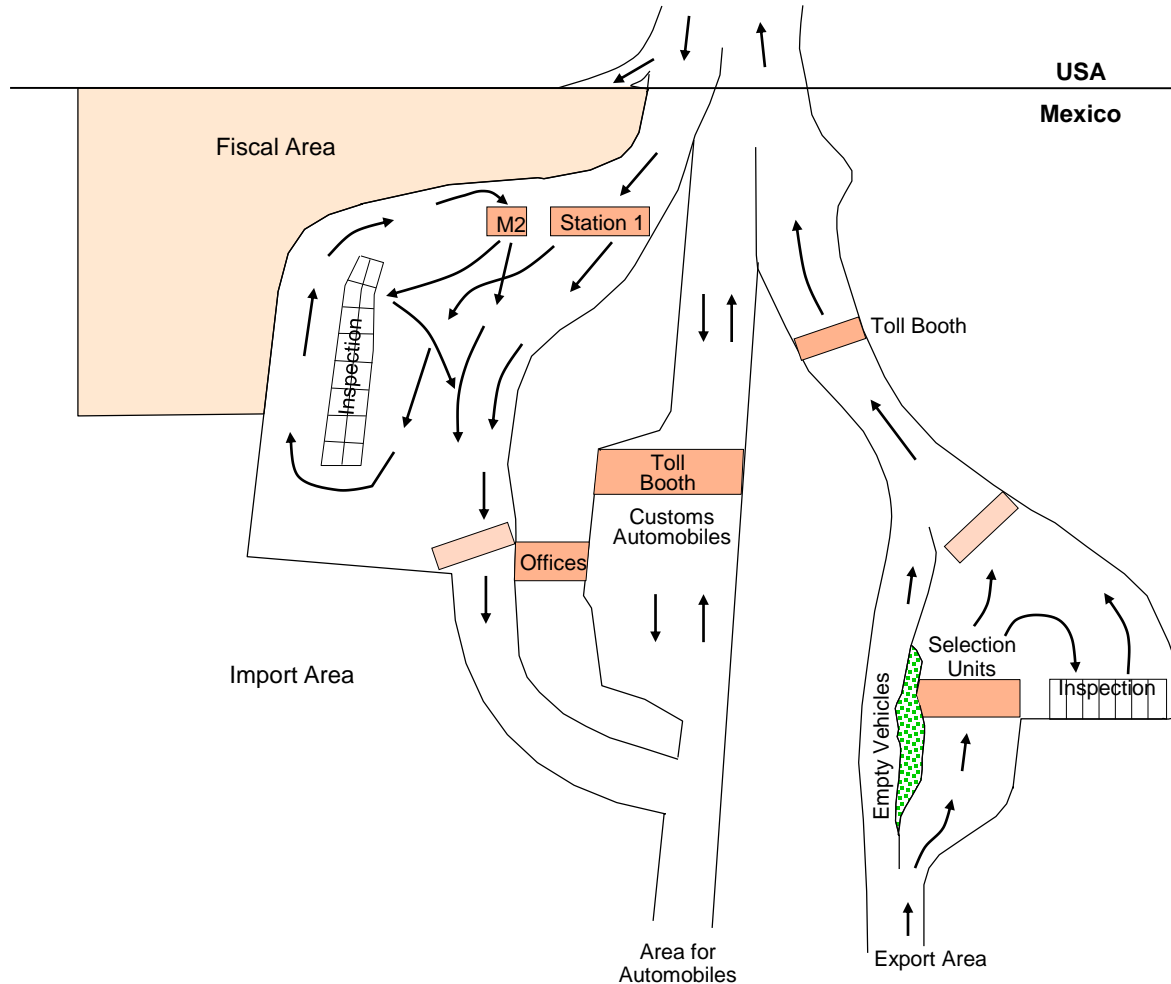
Inspection Time*/Truck (January-September)



* Does not include the overnight stay of the vehicles within the customs area

The Colombia Bridge additionally integrates the facilities for customs operations with a designated fiscal area.

Mexican Customs Facilities on the Colombia, N. León Bridge



Nuevo Laredo-Colombia POE System Characteristics

	Colombia, Nuevo León	Nuevo Laredo III, Tamps.
▫ Type of Transportation	Freight Trucks Automobiles (North and South)	Freight Trucks (North and Southbound)
▫ Capacity of Truck crossings/day	12,000 vehicles	16,000 vehicles (first phase)
<ul style="list-style-type: none"> ▫ Export Vehicles (loaded)* ▫ Vehicles in Importation (loaded)* ▫ Vehicles traveling North (empty)* ▫ Vehicles traveling South (empty)* 	700 800 1,000 600	3,000 1,600 300 -
▫ Tiempos of trámite <ul style="list-style-type: none"> ▫ Exportation (Northbound) ▫ With inspection¹ ▫ Importation (Southbound) ▫ With inspection 	8 minutes from reaching the bridge 68 minutes Exportation 30 seconds/truck 90 minutes Importation	40/50 seconds/truck 90 minutes/vehicle
▫ Operation and Management of Border crossing	Fidenor	Capufe/Cabin
▫ Area	450 residents of territorial reserve 332 residents Commercial International Center annexed	

1 minute per container; does not include the vehicles that stay overnight.

* Preliminary Data.

Other Agencies at the Nuevo Laredo-Colombia Border Crossing

SAGARPA

- In October, 2001, the inspection activities for meat products began on the national side of the Colombia Bridge. It is the first inspection center for imported agricultural products located at the northern border of Mexico.
- The office of SAGARPA in Nuevo Laredo issues a monthly average of 8,000 import certificates, 5,000 of which are related to meat products. The Nuevo Laredo Zone is the main border crossing for the issuance of certificates of importation of agricultural products. Reynosa follows with 4,500, Matamoros with 3,500, Juárez with 2000, Tijuana with 1,500 and others 2,000.
- The inspection of meat products has been performed in the region at eight locations in Laredo, Texas, accredited by the Mexican Government for the inspection of animal products and sub products. Other inspection points for vegetable products are available.
- The port of Laredo III does not have inspection facilities for agricultural products. First of all, a formal agreement must be created to establish a fiscal area to promote investment and of utility services for the cooling of the products.
- The inspection of imported meat products at the Mexican border in an area adjacent to the customs border will require a higher certainty from the importer-supplier of the freight, considering the difficulties of returning the product, which will have no effect if the requirements are not fulfilled in the standard agreement.
- Presently an average of 250 containers/embarkations of imports are handled daily of meat products in the Laredo area in the shift from 8:00 to 16:00hrs. If Laredo/Colombia were the only existing authorized point of inspection of meat products, then an increase in inspectors would be needed.

Federal Freight Truck Transport

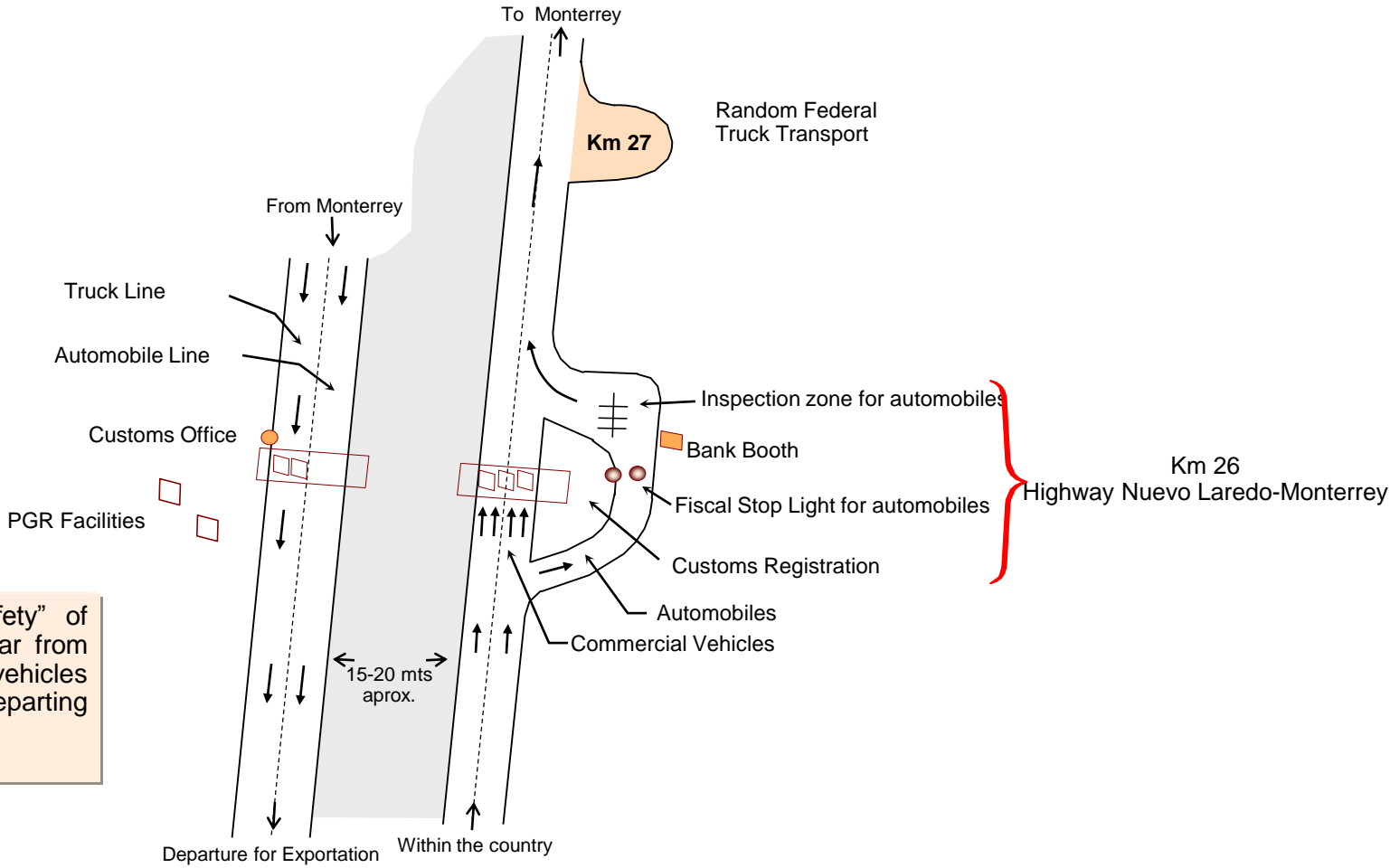
- The new Bridge III is equipped with offices and inspection areas for personnel from the Federal Truck Transport and Preventive Medicine divisions. They haven't been occupied by the agencies. There are not enough staff members to perform their duties permanently. There is no weighbridge for vehicles.

Check Point at Km 26; Last Inspection Point for Commercial Vehicles

- The inspection or customs handling for the importation of freight closes the checkpoint circle at km 26. In the case of Nuevo Laredo/Colombia, the checkpoint is of vital importance considering that the greater part of commercial vehicles that use these border points is related to freight that enters the country.
- The vehicles that transit through the checkpoint come from the border crossings of Nuevo Laredo III and Colombia, forming lines of commercial vehicles mainly for document handling. On occasion, personnel is dedicated to the inspection of freight at this point
- The checkpoint is justified by the differences that exist in the fiscal treatment of freight that enter the country versus the freight that stays at the border zone of the country (ex. The IVA [Added Value Tax] and exemption from customs duties are different).
- The facilities and the conditions of operation at this point of inspection are not completely satisfactory.
- The inspection of the safety of the containers (towing gear) of commercial vehicles present problems that obstruct traffic.
 - For import vehicles, a large amount of errors are found in the electronic system applied by the transportation sector.
 - For exports, the inspection of the safety of the containers is performed, impeding the transit of vehicles and creating lines.

Customs facilities located at km 26 (interior checkpoint) can not match demand generated at the Nuevo Laredo III and the Colombia bridges, generating commercial vehicle queues waiting for service.

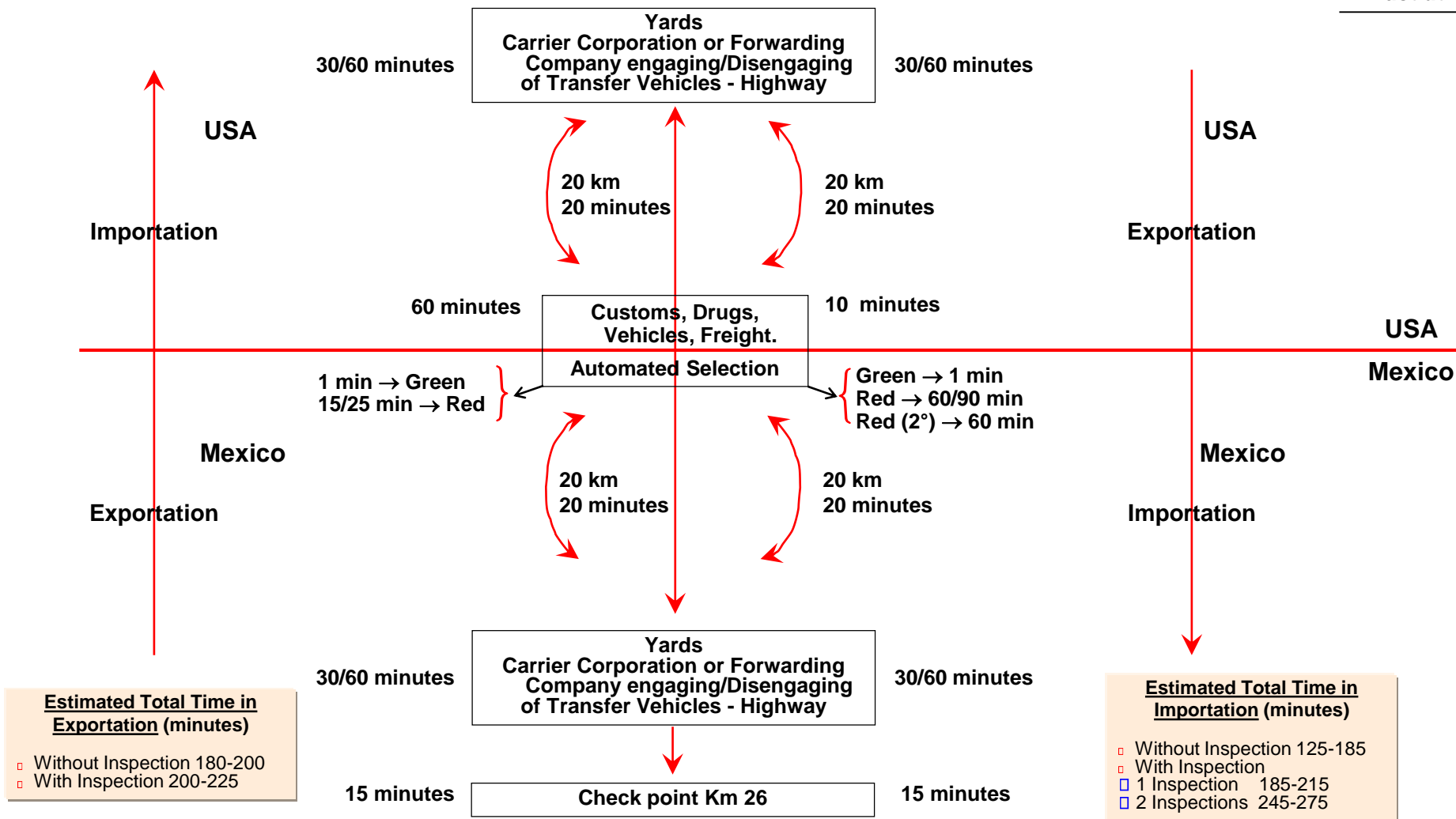
Facilities of Checkpoint at Km 26



Only the “safety” of the towing gear from commercial vehicles for exports departing the country

Average Time Used in the Border Crossing of Commercial Vehicles (Case of the Nuevo Laredo-Colombia System)

Illustrative



Opportunities Around the Colombia Bridge

- The authorization by SHCP to operate a fiscal area next to the Colombia Bridge supports the development of the location of stores for the preparation of freight for import before entering the country. These are presently located at the border between USA and Mexico. It must compete with Webb County for land prices, availability of credit, required securities and services for operation.
- Fidenor, the license holder for the border crossing, promotes improvements in operational and infrastructure coordination, among the different economic agents that operate at the border, nationally and binationally.
- The crossing of commercial vehicles on Colombia Bridge has functioned as support to vehicle transit between the borders of Nuevo Laredo and Colombia. Higher levels of congestion and crossing time at the Nuevo Laredo III Bridge increases the utilization of the Colombia Bridge. The operational agencies of the US support this strategy, the efficiency of inspections at Colombia bridge.
- The installation of warehouses and small assembly industries in the fiscal area of Colombia will generate freight transit at this border crossing, in addition to hazardous waste operations which are required, and a relocation of transportation corporations at the limits of a new highway near the border crossing.
- The border crossing at Colombia is presently the only inspection center for meat products at the US border; to comply with the standards of operation for this type of product would concentrate this type of freight at the Colombia Bridge, increasing the number of vehicles at this crossing.
- The disadvantages of the Colombia Bridge for larger distances, traffic and transit conditions, compared with Nuevo Laredo III Bridge, is compensated with less traffic times during the passage through the border on both sides of the border, as well as logistics and facilities to attract investors. Fidenor must promote improved binational coordination to achieve these goals.

-
- The operation of a fiscal area at the limits of the border crossing, in addition to attracting investors and acquiring equipment for the pre-inspection of import would avoid the use of “transfer” vehicles that require additional costs, increased connection/disconnection times for highway trucks. For imports, vehicles that travel towards the interior of Mexico can cross the border traveling North, take the tow at the customs facilities located in the fiscal zone of the border and return to the interior of the country. The certainty of a speedy border crossing when no physical inspection of the freight is required, or minimal inspection time, allows considering the elimination of transfer vehicles at the Colombia bridge.

For exports, coordination between the highway transportation sector and customs brokers is easier, connecting the trailer at the custom’s broker yard, by the long-haul US vehicles, with the additional exportation permits complete. The inspection could also be done at the US border.

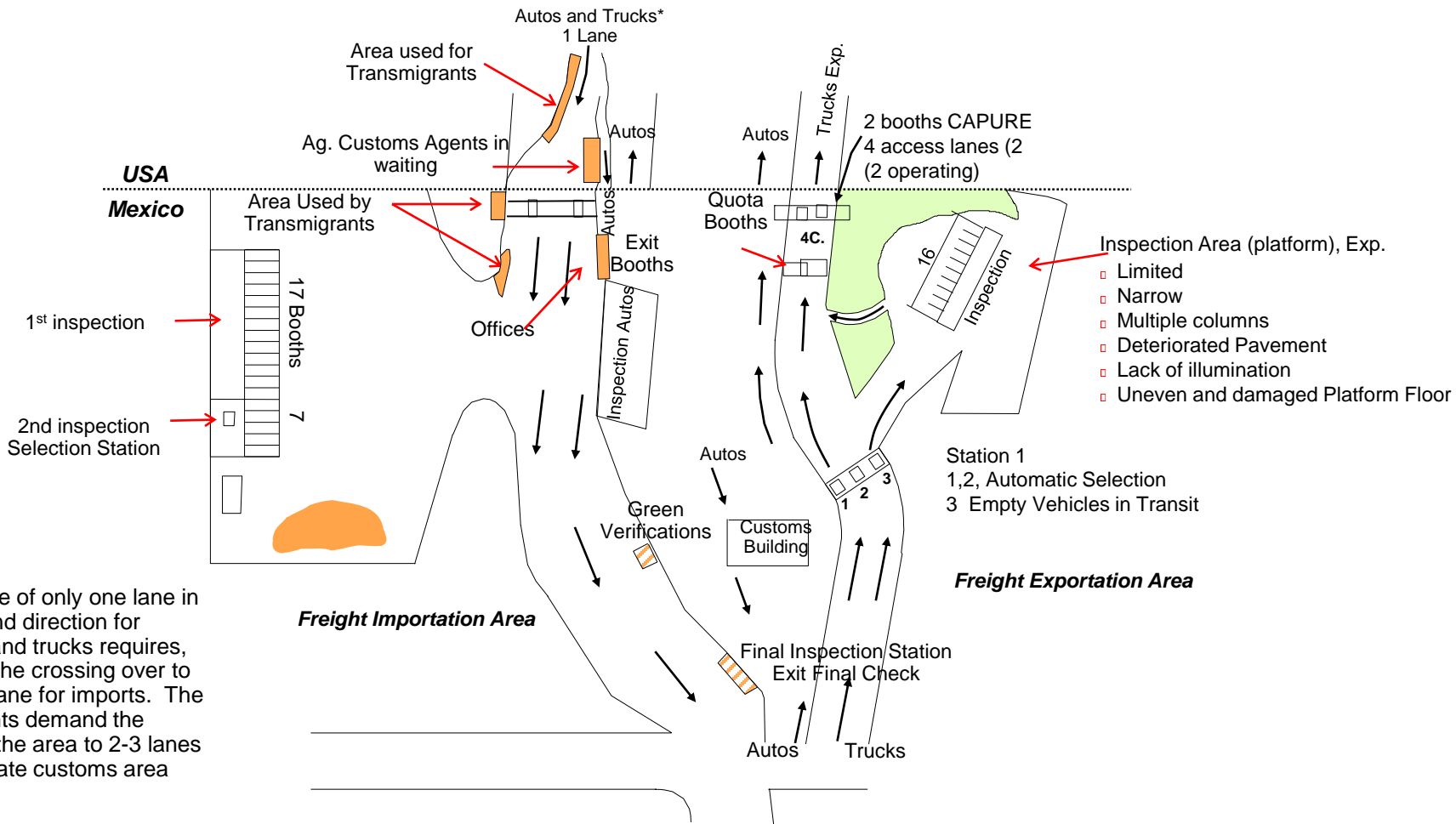
Reynosa, Tamps. POE System

Ports of Entry	Characteristics	Pedestrian Flow	Auto-mobile	Truck Flow	Hours of Operation
Díaz Ordaz	<ul style="list-style-type: none"> ▫ 36 km from Reynosa-Hidalgo ▫ Crossing in Chalan ▫ New bridge project 	N/S ▫	N/S ▫		
Anzalduas-Mission	<ul style="list-style-type: none"> ▫ 15 km from Reynosa-Hidalgo ▫ New bridge project 	—	—	—	—
Reynosa-Hidalgo	<ul style="list-style-type: none"> ▫ Urban Zone ▫ Juárez-Lincoln ▫ 2 bodies, north & south ▫ High number of confiscated vehicles at customs installations 	N/S ▫	N/S ▫	South Loaded ▫	Bridge: 24 hours Customs: 8-20 hrs Freight (Lu-Vi) Sa:8-14 hours Sun: 10-14 hours
Reynosa-Pharr	<ul style="list-style-type: none"> ▫ 11 km from Reynosa-Hidalgo ▫ Nuevo Amanecer Bridge ▫ 5 km in length ▫ Close to airport 	—	N/S ▫	N/S ▫	Bridge: 6-24 hours Customs:8-20 hrs Freight
Nuevo Progreso-Progreso	<ul style="list-style-type: none"> ▫ Mainly granelero ▫ 1 maquiladora ▫ 35 km from Reynosa-Hidalgo ▫ Las Flores Bridge 			N/S ▫	

Commercial Vehicle Operation in the Reynosa Port System

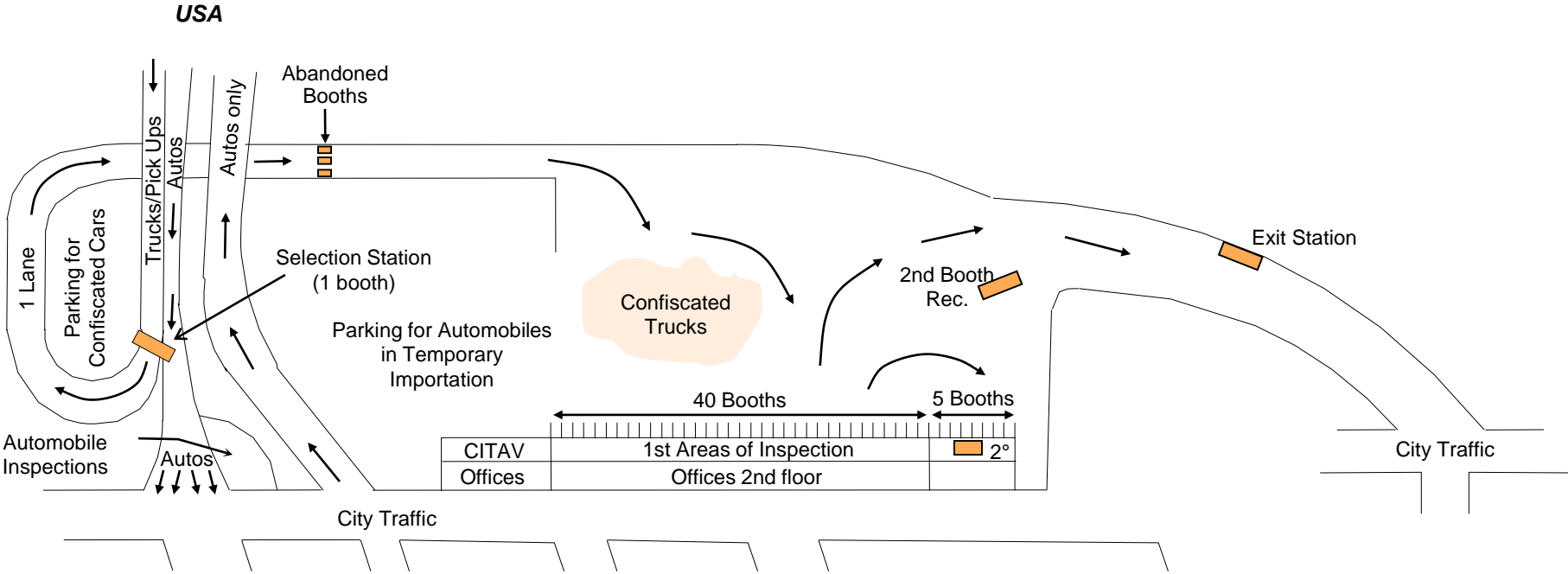
Main Operational Aspects	Reynosa - Hidalgo	Reynosa-Pharr	Nuevo Progreso-Progreso, Tx.
TDPA (veh/day) <ul style="list-style-type: none"> ▣ North Direction ▣ South Direction 			
Operation (veh/day) <ul style="list-style-type: none"> ▣ Exportation ▣ Importation 	Not Applicable 600	1,300 1,300	120
Customs Hours of Operation Schedule Distribution <ul style="list-style-type: none"> ▣ Exports ▣ Imports 	8-20 hrs	8-20 hrs Mornings in General Maquiladoras afternoons Mainly afternoons	10-17 hrs (Lu-Vie)
Inspection Area(1st) <ul style="list-style-type: none"> ▣ Booths <ul style="list-style-type: none"> ▣ Exports ▣ Imports ▣ Personnel 	40	16 17	- 3
Inspection Area (2nd) <ul style="list-style-type: none"> ▣ Booths <ul style="list-style-type: none"> ▣ Exports ▣ Imports ▣ Personnel 	- 5	- 7	There is no 2° Inspection.

Entry System Reynosa – Pharr Port (Freight vehicles in both directions)



- Confiscated Trailers
- Transmigrant Parking

Reynosa - Hidalgo POE System (Commercial Vehicle Imports)



Types of Imports

- ▣ Trucks with Freight
- ▣ Imported Pick-ups
- ▣ Autos/tourism

The inspection area is 80% occupied by confiscated commercial vehicles

Appendix 2

Commercial Vehicle Border Crossing Process

- Northbound**
- Southbound**

Appendix 3

N° of Vehicles in Transborder Traffic, CAPUFE

Number of Trucks at Border Crossings

Crossing	1994	1995	1996	1997	1998	1999	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	2000	Jan-01	Feb-01	Mar-01	Apr-01
International Bridge Libre Comercio	31,968	31,558	38,974	45,748	69,048	85,066	6,570	6,467	6,996	6,525	8,152	8,540	7,599	7,754	5,723	5,330	5,502	4,370	79,534	4,650	3,982	4,042	3,592
International Bridge Reynosa - Pharr	0	31,920	107,865	210,176	239,050	282,586	25,107	26,563	31,902	25,621	27,837	27,670	26,109	28,703	26,973	27,795	26,871	23,258	324,405	26,090	24,463	30,835	27,806
International Bridge Solidaridad en Colombia	83,582	79,041	209,321	467,583	590,184	680,444	56,214	59,474	65,343	41,835	28,713	30,949	24,184	23,489	21,706	23,510	22,017	18,706	416,140	22,850	18,833	16,299	18,133
International Bridge Zaragoza	188,128	283,614	354,237	306,254	316,996	633,814	48,157	50,905	60,084	52,503	49,127	45,350	39,573	43,468	48,733	44,175	45,738	41,534	569,353	38,780	38,851	48,325	38,924
International Bridge Cd. Acuña	39,788	44,015	45,258	50,647	54,783	61,907	5,505	5,404	5,941	5,187	5,888	5,882	5,066	5,850	5,269	5,738	5,351	4,347	65,428	5,234	4,902	5,565	5,378
International Bridge Camargo	65,414	13,931	17,192	20,913	20,153	22,972	1,865	2,162	2,275	2,368	1,987	1,903	1,852	1,968	2,092	2,082	1,960	2,061	24,575	2,627	2,267	2,355	2,361
International Bridge Juárez Lincoln	806,071	690,311	611,010	429,362	480,147	549,304	40,800	41,154	44,135	21,012	582	689	629	665	735	566	598	551	152,116	726	538	765	681
International Bridge Laredo	651	724	1,895	2,601	1,809	2,365	289	208	252	213	214	283	272	300	275	289	282	254	3,131	0	256	311	298
International Bridge Las Flores	23,956	20,928	23,850	20,411	15,948	15,338	788	1,011	1,181	825	882	852	956	1,203	951	799	1,276	1,223	11,947	1,622	1,436	2,002	1,784
International Bridge Matamoros	147,762	143,240	128,593	108,456	100,925	33,187	168	153	140	168	162	169	179	182	148	143	120	97	1,828	86	96	92	69
International Bridge Miguel Alemán	6,060	7,135	9,368	9,966	12,353	14,885	1,057	1,065	1,285	990	1,145	975	990	1,017	892	901	963	832	12,112	835	797	976	805
International Bridge Ojinaga	6,262	6,221	5,127	8,665	11,792	12,064	1,042	1,019	1,138	986	1,108	867	749	685	824	926	1,303	1,070	11,717	930	851	1,000	1,019
International Bridge Paso del Norte	15,807	17,365	18,242	17,905	18,592	12,453	533	451	1,608	1,575	1,834	1,543	1,297	1,370	1,303	1,601	1,246	1,525	15,886	1,285	1,393	1,377	1,436
International Bridge Piedras Negras	67,135	63,501	69,408	87,242	101,051	81,116	227	193	225	204	207	199	188	198	166	158	185	162	2,312	155	141	159	178
International Bridge Reynosa	172,495	145,070	88,687	3,846	22,012	6,821	506	524	402	385	442	1,022	729	841	657	543	660	741	7,452	586	466	555	477
International Bridge Ignacio Zaragoza Los Tamales	0	0	0	0	0	124,162	10,314	11,050	11,795	10,135	11,419	11,135	10,170	11,775	10,741	10,408	8,660	8,135	125,744	8,708	8,258	9,243	8,601
International Bridge Negras II	0	0	0	0	0	30,059	9,311	9,122	10,254	9,192	10,452	9,543	8,858	9,781	9,227	10,264	9,808	7,910	113,722	9,283	8,554	9,306	8,841
International Bridge Laredo III	0	0	0	0	0	0	0	0	0	31,512	81,427	81,036	77,667	93,739	86,363	89,974	86,927	78,487	707,136	78,701	75,217	85,964	76,066

Number of Buses at Border Crossings

Crossing	1994	1995	1996	1997	1998	1999	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	2000	Jan-01	Feb-01	Mar-01	Apr-01
Internacional Bridge Comercio	0	0	0	0	29	3,388	12	0	0	13	5	12	24	45	16	10	9	14	163	27	40	40	17
Internacional Bridge Reynosa - Pharr	0	0	0	14	210	361	68	107	143	94	38	208	101	47	33	31	45	68	983	62	202	416	116
Internacional Bridge Solidaridad Colombia	0	0	0	0	57	0	0	0	0	0	0	0	1,010	0	0	0	0	0	1,010	0	0	0	0
Internacional Bridge Zaragoza Ysleta	1,961	0	0	0	0	41	75	0	0	0	0	0	0	0	0	0	0	0	75	0	0	0	0
Internacional Bridge Cd. Acuña	3,162	5,879	5,936	5,887	4,407	4,670	389	535	573	514	564	558	587	578	568	590	694	606	6,756	574	545	630	575
Internacional Bridge Camargo	86	15	44	1,334	134	43	12	10	11	10	8	17	7	1	9	11	10	4	110	9	17	5	8
Internacional Bridge Juárez Lincoln	1,302	7,016	15,071	13,003	21,331	30,505	2,548	2,382	2,617	2,654	2,746	2,626	3,090	2,805	2,380	3,033	3,298	3,803	33,982	3,236	2,807	3,283	3,272
Internacional Bridge Laredo	0	0	120	37	15	268	0	0	0	1	0	0	0	0	0	7	0	8	16	282	0	1	0
Internacional Bridge Las Flores	38	31	161	331	271	206	57	24	21	38	34	16	24	3	14	33	38	20	322	45	40	62	32
Internacional Bridge Matamoros	13	2,365	6,213	7,921	11,442	4,660	75	92	91	68	77	78	93	85	77	71	67	77	951	70	64	74	72
Internacional Bridge Miguel Alemán	13	845	2,801	3,335	3,023	3,983	296	290	330	310	319	325	331	330	423	326	323	395	3,998	284	275	329	354
Internacional Bridge Ojinaga	2	10	130	256	373	333	17	36	32	31	23	35	28	32	28	23	22	24	331	18	26	30	26
Internacional Bridge Paso del Norte	1,063	4,367	4,499	5,515	6,180	11,824	1,440	1,535	424	317	353	331	636	685	578	346	595	643	7,883	735	660	965	657
Internacional Bridge Piedras Negras	2,464	3,886	3,455	3,460	4,125	3,650	310	236	247	224	243	253	208	197	241	248	244	276	2,927	239	189	265	236
Internacional Bridge Reynosa	5	12,982	30,249	29,710	22,916	25,212	2,101	2,072	2,229	2,255	2,333	1,677	2,118	1,971	2,025	2,048	1,885	1,948	24,662	1,992	2,075	2,370	2,117
Internacional Bridge Ignacio Zaragoza Los Tomates	0	0	0	0	0	5,994	5,754	5,601	6,502	5,774	6,527	6,416	5,811	6,888	6,376	6,575	6,003	5,530	73,757	5,822	5,456	5,836	5,266
Internacional Bridge Piedras Negras II	0	0	0	0	0	83	29	78	54	34	49	34	57	41	84	29	52	30	571	40	32	66	25
Internacional Bridge Laredo III	0	0	0	0	0	0	0	0	0	19	118	221	236	280	119	54	2	23	1,072	7	4	11	5

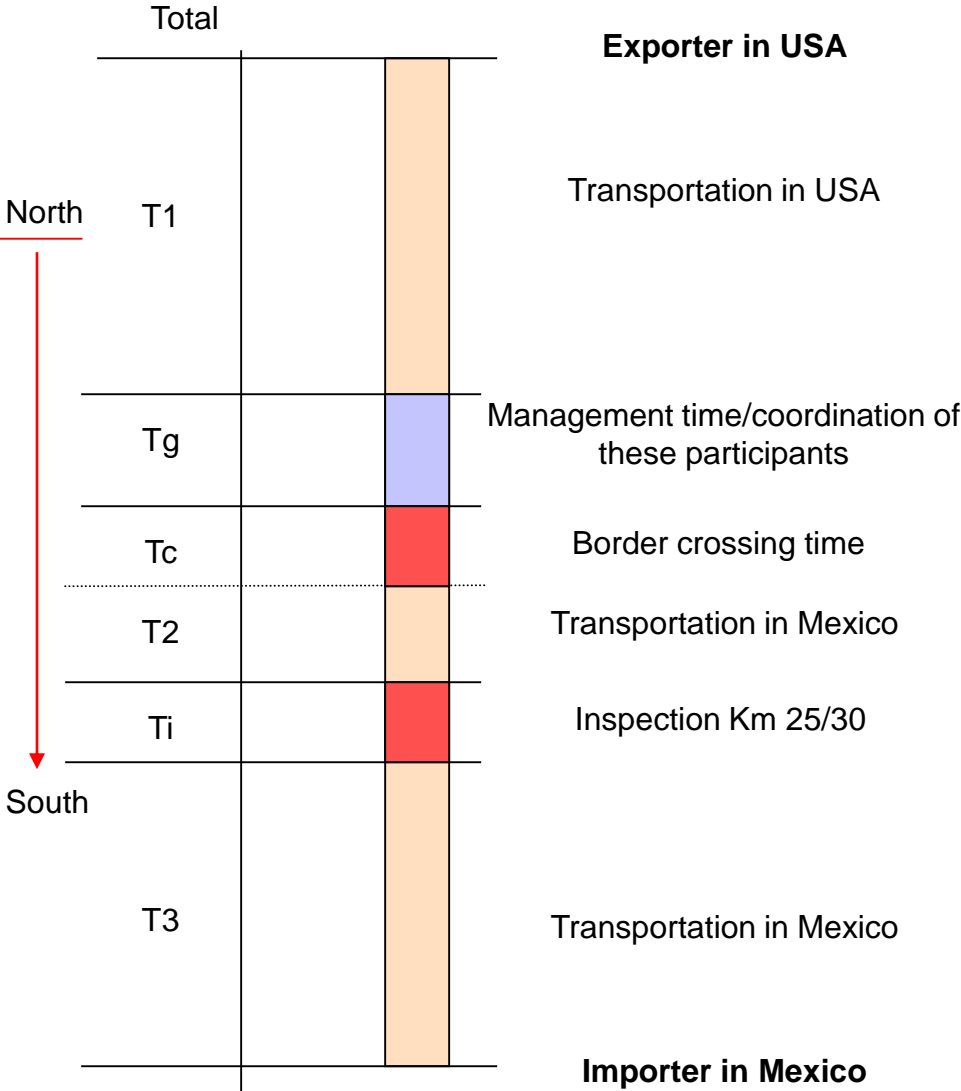
Number of Automobiles at Border Crossings

Crossing	1994	1995	1996	1997	1998	1999	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	Oct-00	Nov-00	Dec-00	2000	Jan-01	Feb-01	Mar-01	Apr-01
International Bridge Libre Comercio	368,837	364,780	438,896	492,422	586,882	642,286	52,790	49,943	53,391	53,084	51,489	48,615	56,631	50,560	48,290	46,414	50,130	59,694	621,031	51,988	49,133	58,763	57,352
International Bridge Reynosa - Pharr	0	898,312	1,309,292	1,521,914	1,786,021	2,079,802	172,623	171,237	180,304	169,014	177,236	172,708	195,373	180,368	178,391	175,975	189,764	203,491	2,166,484	180,332	175,223	208,889	191,442
International Bridge Solidaridad en Colombia	73,330	54,398	87,004	120,180	131,465	188,359	12,370	8,279	11,936	13,128	9,503	9,045	15,192	11,642	10,899	10,759	16,507	24,264	153,525	15,608	10,502	7,779	13,140
International Bridge Zaragoza Ysleta	2,472,210	2,935,232	2,953,423	3,283,205	3,340,765	3,373,362	276,018	272,840	290,388	284,030	302,288	294,095	294,825	286,854	276,174	283,701	272,011	283,988	3,417,208	270,917	254,590	285,630	280,145
International Bridge Acuña Cd	1,296,326	1,372,062	1,504,938	1,622,993	1,481,190	1,781,213	158,477	152,158	166,311	164,653	162,908	152,853	164,331	155,713	154,598	152,454	150,858	170,792	1,906,107	153,493	146,177	167,399	165,033
International Bridge Camargo	456,973	475,590	538,642	588,217	628,497	656,174	54,561	51,712	55,414	57,505	55,445	50,106	53,138	51,034	49,510	50,562	52,094	57,403	638,490	52,272	49,877	56,583	55,550
International Bridge Juarez Lincoln	4,376,467	4,159,677	4,198,624	4,218,563	4,775,873	5,268,858	449,510	427,384	457,647	446,817	459,938	435,048	444,472	461,715	453,090	446,877	434,159	448,241	5,364,900	462,952	429,500	485,459	482,160
International Bridge Laredo	2,099,503	2,097,375	2,052,633	1,801,715	1,672,707	1,714,368	141,973	137,154	151,098	146,442	158,315	160,987	158,856	159,550	159,308	166,183	159,512	160,421	1,859,805	142,980	147,113	162,055	160,027
International Bridge Flores Las	870,718	819,948	912,049	951,673	963,506	1,084,550	92,982	92,606	99,721	93,480	90,876	83,257	90,952	81,851	81,713	81,109	87,881	100,313	1,076,741	94,725	94,862	108,296	97,638
International Bridge Matamoros	2,651,526	2,591,916	2,873,056	2,785,827	2,852,668	2,716,378	206,614	201,358	216,721	213,249	216,208	208,555	218,747	215,574	208,772	207,402	206,477	218,302	2,537,984	205,726	193,018	218,469	206,028
International Bridge Miguel Alemán	908,942	793,947	898,618	895,410	973,373	1,115,234	100,214	93,034	100,214	100,771	98,334	89,700	95,941	92,065	93,852	93,665	97,960	112,288	1,168,038	98,244	94,096	106,578	101,640
International Bridge Ojaca	532,268	534,806	578,978	616,014	666,001	756,343	62,298	58,398	62,531	61,071	63,278	61,023	62,997	60,612	58,842	57,263	59,402	66,095	733,810	61,250	56,176	64,402	63,588
International Bridge Paso del Norte	4,271,418	4,559,911	4,562,824	4,801,905	4,688,215	5,060,298	404,855	409,251	440,725	427,950	423,843	409,394	422,202	444,049	431,229	451,454	428,237	450,922	5,144,111	419,043	391,939	429,735	425,755
International Bridge Piedras Negras	2,473,790	2,326,580	2,290,688	2,471,722	2,477,043	2,211,181	105,953	101,109	104,650	96,490	100,288	93,457	95,678	87,659	88,779	89,632	90,143	98,323	1,152,164	93,338	88,296	95,287	89,678
International Bridge Reynosa	5,360,023	4,522,721	4,677,777	4,714,920	4,894,689	5,764,190	471,746	451,381	488,347	495,315	500,432	462,954	472,123	483,212	446,817	459,628	451,998	478,764	5,662,715	454,914	436,392	477,259	479,558
International Bridge Ignacio Zaragoza Tomates Los	0	0	0	0	0	1,083,007	127,992	136,797	145,216	138,154	143,896	135,471	141,534	132,596	135,934	135,844	138,511	148,774	1,660,713	133,682	129,555	148,604	146,133
International Bridge Piedras Negras II	0	0	0	0	0	528,266	159,428	152,746	171,253	173,694	171,457	154,601	171,349	167,983	163,077	168,813	170,103	205,327	2,029,831	171,933	162,309	186,630	189,861
International Bridge Laredo III	0	0	0	0	0	0	0	0	0	1,452	4,691	5,362	8,500	14,324	15,635	11,948	15,199	7,484	84,595	6,897	7,088	10,178	9,366

Appendix 4

Cost Valuation Model

**Conceptual Evaluation Model (Illustrative)
(southbound)**



Assumptions:

- a) T1, T2, T3:
are standard times and almost constant
- b) Tg, Tc, Ti:
are times that can be reduced or eliminated in some cases

Opportunity costs linked to time:

- Opportunity costs of vehicles (VOC Model of the World Bank)
- Opportunity cost of freight (Logistical costs)
- Opportunity costs of freight (Scarcity of freight)



Opportunity Costs Related to Crossing Times

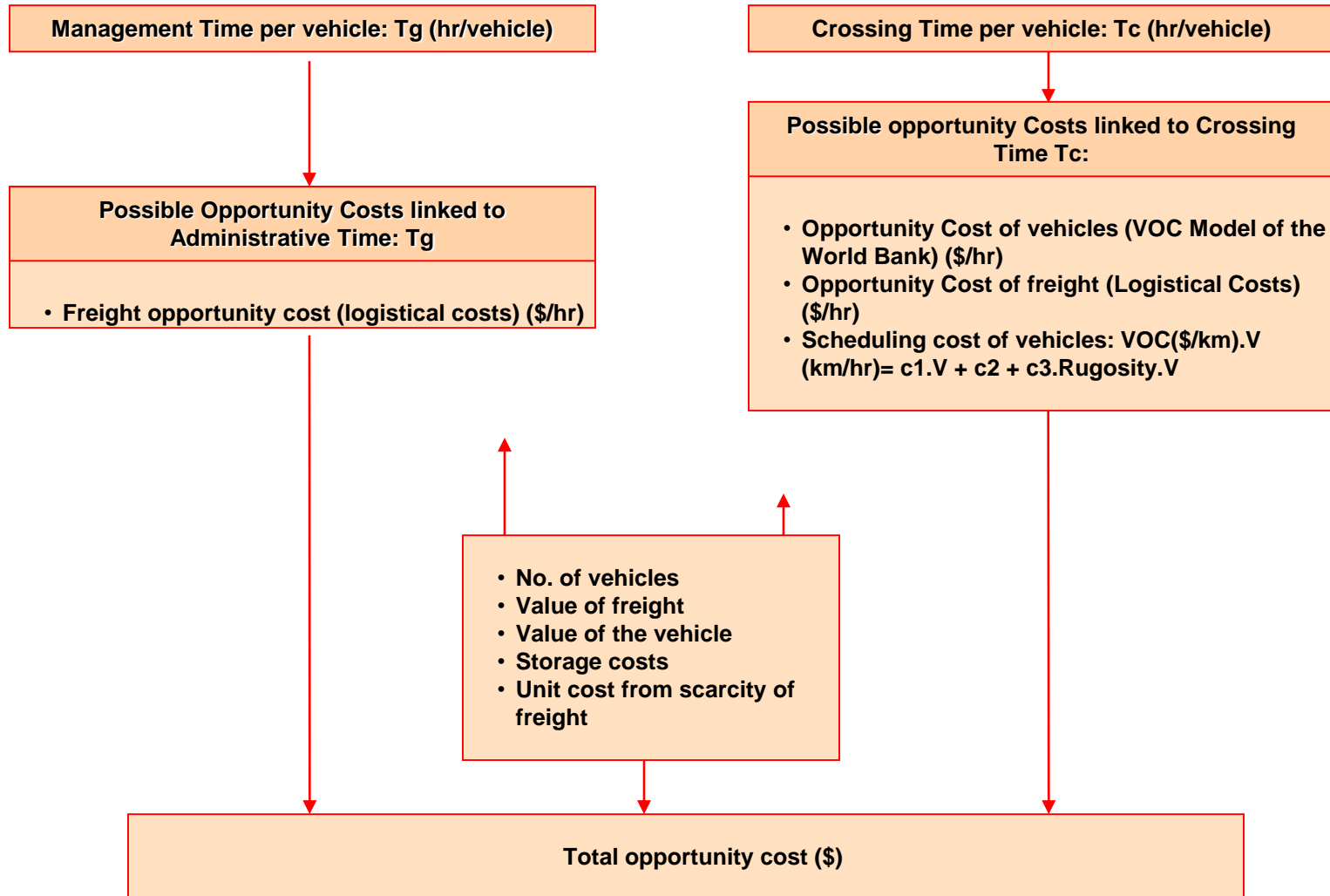
Crossing Times (T_c)

The previous report presented an exercise to estimate the opportunity costs related to crossing times, the quantification of the previously mentioned opportunity costs and its contrast in situations **with** and **without** improvements or reductions (with and without project improvements) allows the establishment of improvement **project benefits** and estimate indexes of effectiveness of the measures in economic terms.

From the results obtained, the opportunity cost of commercial vehicles crossing with delays at border crossings.

Results show that crossing time is about three hours/vehicle. The addition of another inspection station at the right time has a noticeable effect, given that the average delay in the system is reduced to less than 1.5 hours. The annual expected benefit, in terms of present value, is in the order of \$270 million pesos.

Identified Opportunity Costs



Opportunity Costs Related to Management Time

Administrative Time (T_g)

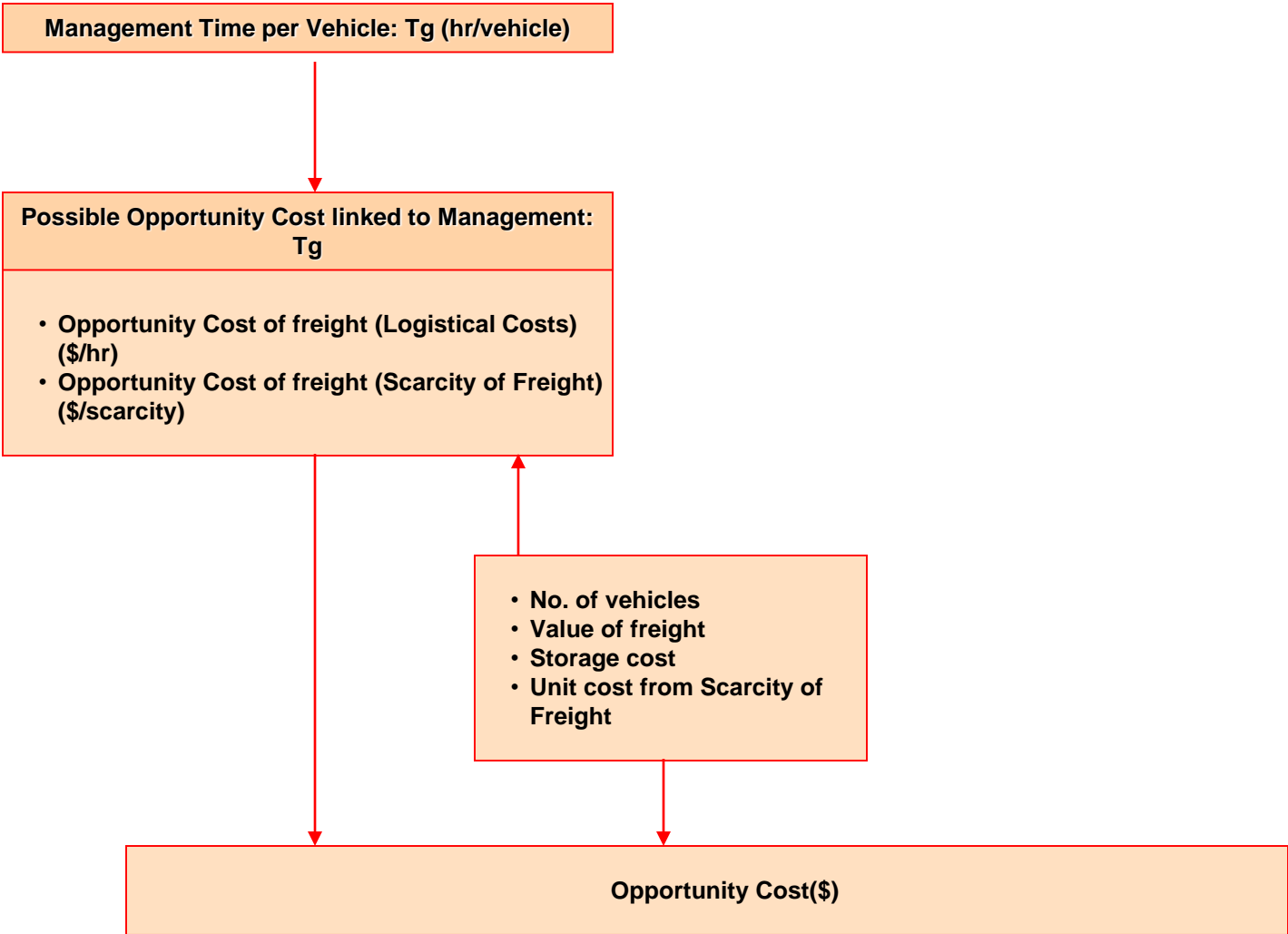
In the adjoining figure the opportunity costs identified and related to Management Time/Coordination and the cost of freight has been isolated.

Logistical Costs:

Freight inventories waiting to cross the border. Given opportunity costs are related to the **value of the freight that must remain a time T_g in a warehouse** (probably of the provider or customs broker) waiting for “managing” of the import/export of the freight to allow the freight through the border. This cost is applied to the user/country that holds the ownership of the freight.

Storage costs. Similarly, because the freight in waiting has entered a transit warehouse or must remain in the warehouse of origin, it will have an additional cost **for the use of storage space during the additional time T_g with respect to the average freight stay** that is for internal commerce of the country of origin and does not require any additional management. As in the previous case, this cost is applied to the user/country that holds the ownership of the freight.

Opportunity Costs Related to Management



Opportunity Costs Related to Management Time

Other logistical costs. This is the case of **additional loading/unloading** that has to be done because of inefficient management for freight imports. The inventory of freight in transit during crossing time forms part of the logistical costs but to a lesser degree (10 times less than the opportunity cost of inventory in warehouses awaiting crossing).

Scarcity of freight.

Other costs, more difficult to quantify and probably random in nature correspond to scarcity cost of the freight that if it is not at its destination, additional costs are generated because of the lack of presence of the freight or by its arrival at odd times (lack of production because of lack of inventory, materials or critical equipment repair parts).

The quantification of the mentioned opportunity costs and its contrast to situations **without** and **with** improvements (**without** project and **with** project: an improved coordination with the institutions/organisms of the importer/exporter country or within the institutions of the country of origin and destination) of the freight will allow the establishment of **project benefits** of improvements and estimates of schedules of effectiveness of measures in economic terms.

Estimate of Opportunity Costs Related to Management

To obtain an estimate of the order of magnitude of the reduction of opportunity costs related to management time and the possible benefits is proposed by the following formulas for benefits (Bop) by reducing ΔTg days the average administrative time (Tg) and the benefit by a reduction in storage time (Balmac) in the same time frame:

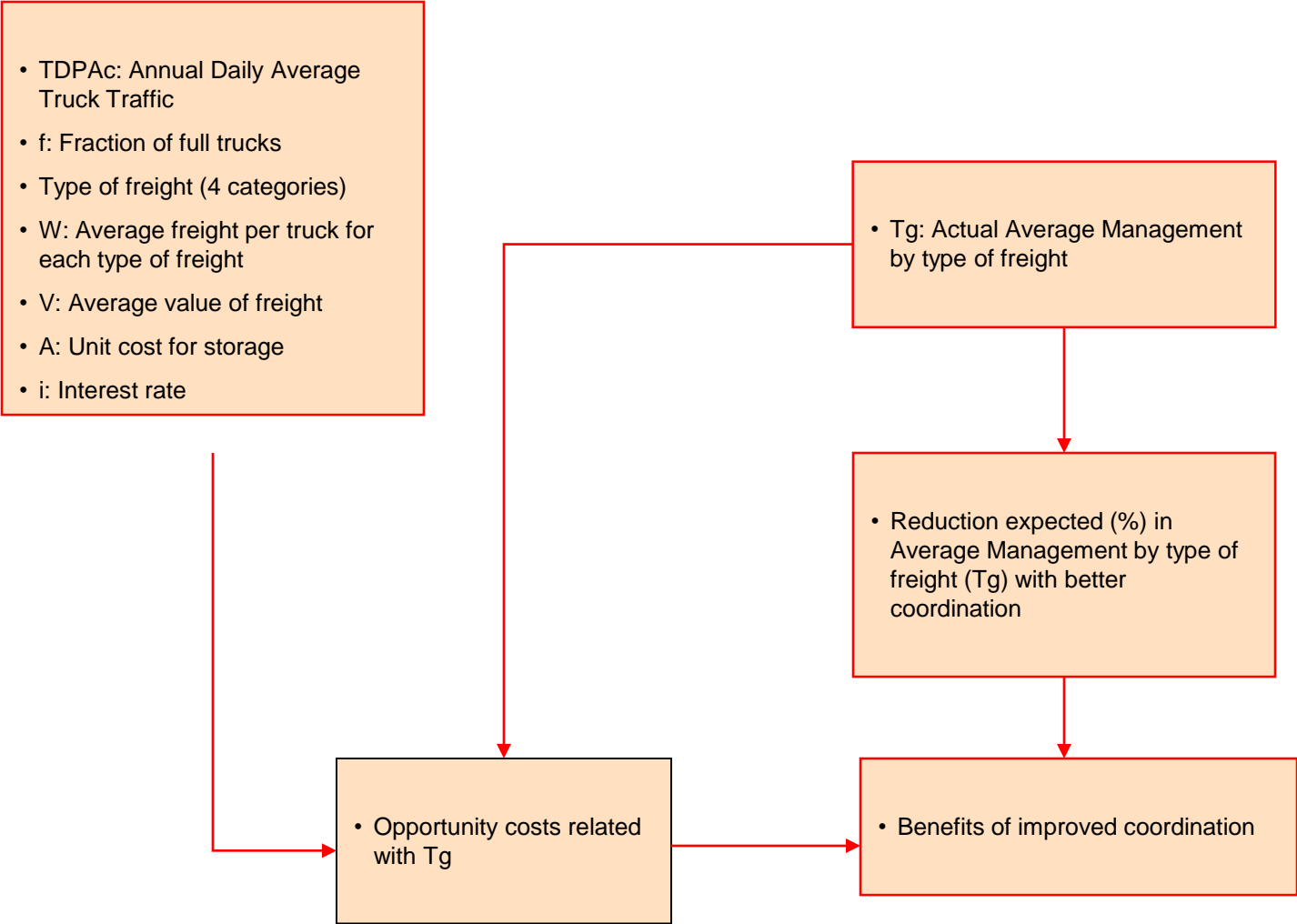
$$Bop = TDPAC \cdot f \cdot \sum_j F_j \cdot W_j \cdot V_j \cdot (i/365) \cdot \Delta Tg_j$$

$$Balmac = TDPAC \cdot f \cdot \sum_j F_j \cdot W_j \cdot A_j \cdot \Delta Tg_j \cdot (365)$$

Where,

- TDPAC: Annual Daily Average Truck Traffic(trucks/day)
- f: Proportion of trucks with freight
- Fj: Fraction of trucks with type j freight
- Wj: Average weight of type j freight per truck (Ton/truck)
- Vj: Average value of type j freight(\$/Ton)
- i: Annual interest rate
- ΔTgj : Expected reduction in Administrative Time (Tg) for type j freight (days)
- Aj: Unit storage cost for type j freight (\$/ton/day)

Estimate of Opportunity Costs Related with Management



Management Time: The time that freight remains in storage waiting that all the processing is performed or concluded to ship to the buyer.

Storage considered for the estimated time and costs in the model will be developed only outside the border region, defined between km 26 and 30 within Mexico and the USA.

Storage centers can be considered forwarding companies, or freight expeditors, property of and/or operated by Mexico and US customs brokers or third party transport enterprises, or any other enterprise or entity located in the defined border region.

"Management Time" is defined as the time that freight is immobilized within the border zone because of processing problems, management before an economic entity or dependency with related external trans-border commercial shipping activities; not included is the storage time requested by the seller or the buyer of the freight.

Estimate of Opportunity Costs Related to Transaction Times

Sensibility exercises have been conducted using a worksheet to determine the average freight value, estimated transaction time, and various reduction percentages classified by freight type, with the purpose of obtaining estimates of the order of magnitude of the potential expected benefits.

Example of the Present Value (1) of Benefits obtained by Reducing Transaction Times Tt

Amounts shown are in millions of pesos.

Concept		Present Value of Benefits by Load Type				
		Agricultural	Maquila	Industrial	Others	Sum
1	Reduction of the opportunity cost of the value of the freight waiting cross-over	\$9.33	\$9.33	\$9.33	\$9.33	\$37.32
2	Reduction of Storage time	\$21.29	\$21.29	\$21.29	\$21.29	\$85.14
3	Reduction of handling (Transfers)	\$34.06	\$34.06	\$34.06	\$34.06	\$136.23
	Sum	\$64.67	\$64.67	\$64.67	\$64.67	\$258.69

(1) Discount rate of 12% in real terms during 20 years

Estimate of Benefits Resulting from a Reduction in Transaction Time

Opportunity cost of the value of freight waiting to cross the border

	Present Value at: 12%				Sum
\$9,330,557	\$9,330,557	\$9,330,557	\$9,330,557	\$9,330,557	\$37,322,228

Year	TDPAc	f	F.W.V: Contribution in Value by type of freight (\$/truck)				DTGj: Reduction in Tg by type of freight (days)				Bop: Benefits in reduction of Tg by freight type (\$/year)				
			Agricultural	Maquila	Industrial	Other	Agricultural	Maquila	Industrial	Other	Agricultural	Maquila	Industrial	Other	Sum
			FWV1	FWV2	FWV3	FWV4	DTg1	DTg2	DTg3	DTg4	Bop1	Bop2	Bop3	Bop4	Sum (Bop)
2001	1,722	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,033,200	\$ 1,033,200	\$ 1,033,200	\$ 1,033,200	\$ 4,132,800
2002	1,774	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,064,196	\$ 1,064,196	\$ 1,064,196	\$ 1,064,196	\$ 4,256,784
2003	1,827	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,096,122	\$ 1,096,122	\$ 1,096,122	\$ 1,096,122	\$ 4,384,488
2004	1,882	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,129,006	\$ 1,129,006	\$ 1,129,006	\$ 1,129,006	\$ 4,516,022
2005	1,938	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,162,876	\$ 1,162,876	\$ 1,162,876	\$ 1,162,876	\$ 4,651,503
2006	1,996	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,197,762	\$ 1,197,762	\$ 1,197,762	\$ 1,197,762	\$ 4,791,048
2007	2,056	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,233,695	\$ 1,233,695	\$ 1,233,695	\$ 1,233,695	\$ 4,934,779
2008	2,118	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,270,706	\$ 1,270,706	\$ 1,270,706	\$ 1,270,706	\$ 5,082,823
2009	2,181	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,308,827	\$ 1,308,827	\$ 1,308,827	\$ 1,308,827	\$ 5,235,307
2010	2,247	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,348,092	\$ 1,348,092	\$ 1,348,092	\$ 1,348,092	\$ 5,392,367
2011	2,314	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,388,534	\$ 1,388,534	\$ 1,388,534	\$ 1,388,534	\$ 5,554,138
2012	2,384	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,430,190	\$ 1,430,190	\$ 1,430,190	\$ 1,430,190	\$ 5,720,762
2013	2,455	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,473,096	\$ 1,473,096	\$ 1,473,096	\$ 1,473,096	\$ 5,892,385
2014	2,529	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,517,289	\$ 1,517,289	\$ 1,517,289	\$ 1,517,289	\$ 6,069,156
2015	2,605	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,562,808	\$ 1,562,808	\$ 1,562,808	\$ 1,562,808	\$ 6,251,231
2016	2,683	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,609,692	\$ 1,609,692	\$ 1,609,692	\$ 1,609,692	\$ 6,438,768
2017	2,763	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,657,983	\$ 1,657,983	\$ 1,657,983	\$ 1,657,983	\$ 6,631,931
2018	2,846	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,707,722	\$ 1,707,722	\$ 1,707,722	\$ 1,707,722	\$ 6,830,889
2019	2,932	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,758,954	\$ 1,758,954	\$ 1,758,954	\$ 1,758,954	\$ 7,035,815
2020	3,020	0.5	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	1.0	1.0	1.0	1.0	\$ 1,811,722	\$ 1,811,722	\$ 1,811,722	\$ 1,811,722	\$ 7,246,890

Estimate of Benefits Resulting from a Reduction in Transaction Time

Reduction of freight storage time

	Present Value at: 12%			Sum
\$21,285,333	\$21,285,333	\$21,285,333	\$21,285,333	\$85,141,333

Year	TDPAc	f	FWA: Contribution to storage (\$/truck/day)				Balmac: Benefits from reduction in storage (\$/year)				Sum
			Agricultural	Maquila	Industrial	Other	Agricultural	Maquila	Industrial	Other	Sum
			FWA1	FWA2	FWA3	FWA4	Balmac1	Balmac2	Balmac3	Balmac4	Sum (Balmac)
2001	1,722	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,356,988	\$ 2,356,988	\$ 2,356,988	\$ 2,356,988	\$ 9,427,950
2002	1,774	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,427,697	\$ 2,427,697	\$ 2,427,697	\$ 2,427,697	\$ 9,710,789
2003	1,827	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,500,528	\$ 2,500,528	\$ 2,500,528	\$ 2,500,528	\$ 10,002,112
2004	1,882	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,575,544	\$ 2,575,544	\$ 2,575,544	\$ 2,575,544	\$ 10,302,176
2005	1,938	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,652,810	\$ 2,652,810	\$ 2,652,810	\$ 2,652,810	\$ 10,611,241
2006	1,996	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,732,395	\$ 2,732,395	\$ 2,732,395	\$ 2,732,395	\$ 10,929,578
2007	2,056	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,814,366	\$ 2,814,366	\$ 2,814,366	\$ 2,814,366	\$ 11,257,465
2008	2,118	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,898,797	\$ 2,898,797	\$ 2,898,797	\$ 2,898,797	\$ 11,595,189
2009	2,181	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 2,985,761	\$ 2,985,761	\$ 2,985,761	\$ 2,985,761	\$ 11,943,045
2010	2,247	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,075,334	\$ 3,075,334	\$ 3,075,334	\$ 3,075,334	\$ 12,301,336
2011	2,314	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,167,594	\$ 3,167,594	\$ 3,167,594	\$ 3,167,594	\$ 12,670,376
2012	2,384	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,262,622	\$ 3,262,622	\$ 3,262,622	\$ 3,262,622	\$ 13,050,488
2013	2,455	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,360,501	\$ 3,360,501	\$ 3,360,501	\$ 3,360,501	\$ 13,442,002
2014	2,529	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,461,316	\$ 3,461,316	\$ 3,461,316	\$ 3,461,316	\$ 13,845,262
2015	2,605	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,565,155	\$ 3,565,155	\$ 3,565,155	\$ 3,565,155	\$ 14,260,620
2016	2,683	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,672,110	\$ 3,672,110	\$ 3,672,110	\$ 3,672,110	\$ 14,688,439
2017	2,763	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,782,273	\$ 3,782,273	\$ 3,782,273	\$ 3,782,273	\$ 15,129,092
2018	2,846	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 3,895,741	\$ 3,895,741	\$ 3,895,741	\$ 3,895,741	\$ 15,582,965
2019	2,932	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 4,012,613	\$ 4,012,613	\$ 4,012,613	\$ 4,012,613	\$ 16,050,454
2020	3,020	0.5	\$ 8	\$ 8	\$ 8	\$ 8	\$ 4,132,992	\$ 4,132,992	\$ 4,132,992	\$ 4,132,992	\$ 16,531,967

Estimate of Benefits Resulting from a Reduction of Transaction Times
Reduction of freight handling (use of "transfers")

	Present Value at: 50%			Sum
\$34,056,533	\$34,056,533	\$34,056,533	\$34,056,533	\$136,226,132

Year	TDPAc	f	FT: Reduction of Transfer movements (truck/day)				Balmac: Benefits resulting from Transfer reduction (\$/year)				Sum (Balmac)
			Agricultural	Maquila	Industrial	Others	Agricultural	Maquila	Industrial	Others	
			FWA1	FWA2	FWA3	FWA4	Balmac1	Balmac2	Balmac3	Balmac4	
2001	1,722	0.5	172	172	172	172	\$ 3,771,180	\$ 3,771,180	\$ 3,771,180	\$ 3,771,180	\$ 15,084,720
2002	1,774	0.5	177	177	177	177	\$ 3,884,315	\$ 3,884,315	\$ 3,884,315	\$ 3,884,315	\$ 15,537,262
2003	1,827	0.5	183	183	183	183	\$ 4,000,845	\$ 4,000,845	\$ 4,000,845	\$ 4,000,845	\$ 16,003,379
2004	1,882	0.5	188	188	188	188	\$ 4,120,870	\$ 4,120,870	\$ 4,120,870	\$ 4,120,870	\$ 16,483,481
2005	1,938	0.5	194	194	194	194	\$ 4,244,496	\$ 4,244,496	\$ 4,244,496	\$ 4,244,496	\$ 16,977,985
2006	1,996	0.5	200	200	200	200	\$ 4,371,831	\$ 4,371,831	\$ 4,371,831	\$ 4,371,831	\$ 17,487,325
2007	2,056	0.5	206	206	206	206	\$ 4,502,986	\$ 4,502,986	\$ 4,502,986	\$ 4,502,986	\$ 18,011,945
2008	2,118	0.5	212	212	212	212	\$ 4,638,076	\$ 4,638,076	\$ 4,638,076	\$ 4,638,076	\$ 18,552,303
2009	2,181	0.5	218	218	218	218	\$ 4,777,218	\$ 4,777,218	\$ 4,777,218	\$ 4,777,218	\$ 19,108,872
2010	2,247	0.5	225	225	225	225	\$ 4,920,535	\$ 4,920,535	\$ 4,920,535	\$ 4,920,535	\$ 19,682,138
2011	2,314	0.5	231	231	231	231	\$ 5,068,151	\$ 5,068,151	\$ 5,068,151	\$ 5,068,151	\$ 20,272,602
2012	2,384	0.5	238	238	238	238	\$ 5,220,195	\$ 5,220,195	\$ 5,220,195	\$ 5,220,195	\$ 20,880,780
2013	2,455	0.5	246	246	246	246	\$ 5,376,801	\$ 5,376,801	\$ 5,376,801	\$ 5,376,801	\$ 21,507,204
2014	2,529	0.5	253	253	253	253	\$ 5,538,105	\$ 5,538,105	\$ 5,538,105	\$ 5,538,105	\$ 22,152,420
2015	2,605	0.5	260	260	260	260	\$ 5,704,248	\$ 5,704,248	\$ 5,704,248	\$ 5,704,248	\$ 22,816,992
2016	2,683	0.5	268	268	268	268	\$ 5,875,376	\$ 5,875,376	\$ 5,875,376	\$ 5,875,376	\$ 23,501,502
2017	2,763	0.5	276	276	276	276	\$ 6,051,637	\$ 6,051,637	\$ 6,051,637	\$ 6,051,637	\$ 24,206,547
2018	2,846	0.5	285	285	285	285	\$ 6,233,186	\$ 6,233,186	\$ 6,233,186	\$ 6,233,186	\$ 24,932,744
2019	2,932	0.5	293	293	293	293	\$ 6,420,182	\$ 6,420,182	\$ 6,420,182	\$ 6,420,182	\$ 25,680,726
2020	3,020	0.5	302	302	302	302	\$ 6,612,787	\$ 6,612,787	\$ 6,612,787	\$ 6,612,787	\$ 26,451,148

Parameters, Data:

No.	Parameter	Value	Unit	TMCA
1	Annual interest rate:	12%	%/year	3%
2	Annual discount rate:	12%	%/year	3%
3	Initiation Year	2001		3%
4	Initial Transit	1722	TDPA trucks	3%
5	Initial growth rate	3%	%/year	3%
6	Fraction of empty trucks:	0.5		3%
7	Transfer fee	60	\$/truck	3%
8	Transfer reduction expected			3%
9	Agricultural	20%		3%
10	Maquila	20%		3%
11	Industrial	20%		3%
12	Others	20%		3%
				3%
				3%
				3%
				3%
				3%
				3%
				3%
				3%

Participation Percentage, Average Truck Weight

Year	F: % participation by cargo type					W: Average weight per truck (Tons/truck)			
	Agricultural	Maquila	Industrial	Others	Sum	Agricultural	Maquila	Industrial	Others
	F1	F2	F3	F4	Sum	W1	W2	W3	W4
2001	25%	25%	25%	25%	100%	20	20	20	20
2002	25%	25%	25%	25%	100%	20	20	20	20
2003	25%	25%	25%	25%	100%	20	20	20	20
2004	25%	25%	25%	25%	100%	20	20	20	20
2005	25%	25%	25%	25%	100%	20	20	20	20
2006	25%	25%	25%	25%	100%	20	20	20	20
2007	25%	25%	25%	25%	100%	20	20	20	20
2008	25%	25%	25%	25%	100%	20	20	20	20
2009	25%	25%	25%	25%	100%	20	20	20	20
2010	25%	25%	25%	25%	100%	20	20	20	20
2011	25%	25%	25%	25%	100%	20	20	20	20
2012	25%	25%	25%	25%	100%	20	20	20	20
2013	25%	25%	25%	25%	100%	20	20	20	20
2014	25%	25%	25%	25%	100%	20	20	20	20
2015	25%	25%	25%	25%	100%	20	20	20	20
2016	25%	25%	25%	25%	100%	20	20	20	20
2017	25%	25%	25%	25%	100%	20	20	20	20
2018	25%	25%	25%	25%	100%	20	20	20	20
2019	25%	25%	25%	25%	100%	20	20	20	20
2020	25%	25%	25%	25%	100%	20	20	20	20

Commodity Value

Year	V: Average value per type of cargo (\$/Ton)				F.W.V: Contribution in Value by cargo type (\$/truck)			
	Agricultural	Maquila	Industrial	Others	Agricultural	Maquila	Industrial	Others
	V1	V2	V3	V4	FWV1	FWV2	FWV3	FWV4
2001	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2002	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2003	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2004	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2005	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2006	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2007	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2008	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2009	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2010	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2011	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2012	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2013	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2014	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2015	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2016	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2017	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2018	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2019	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
2020	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000

Storage Cost

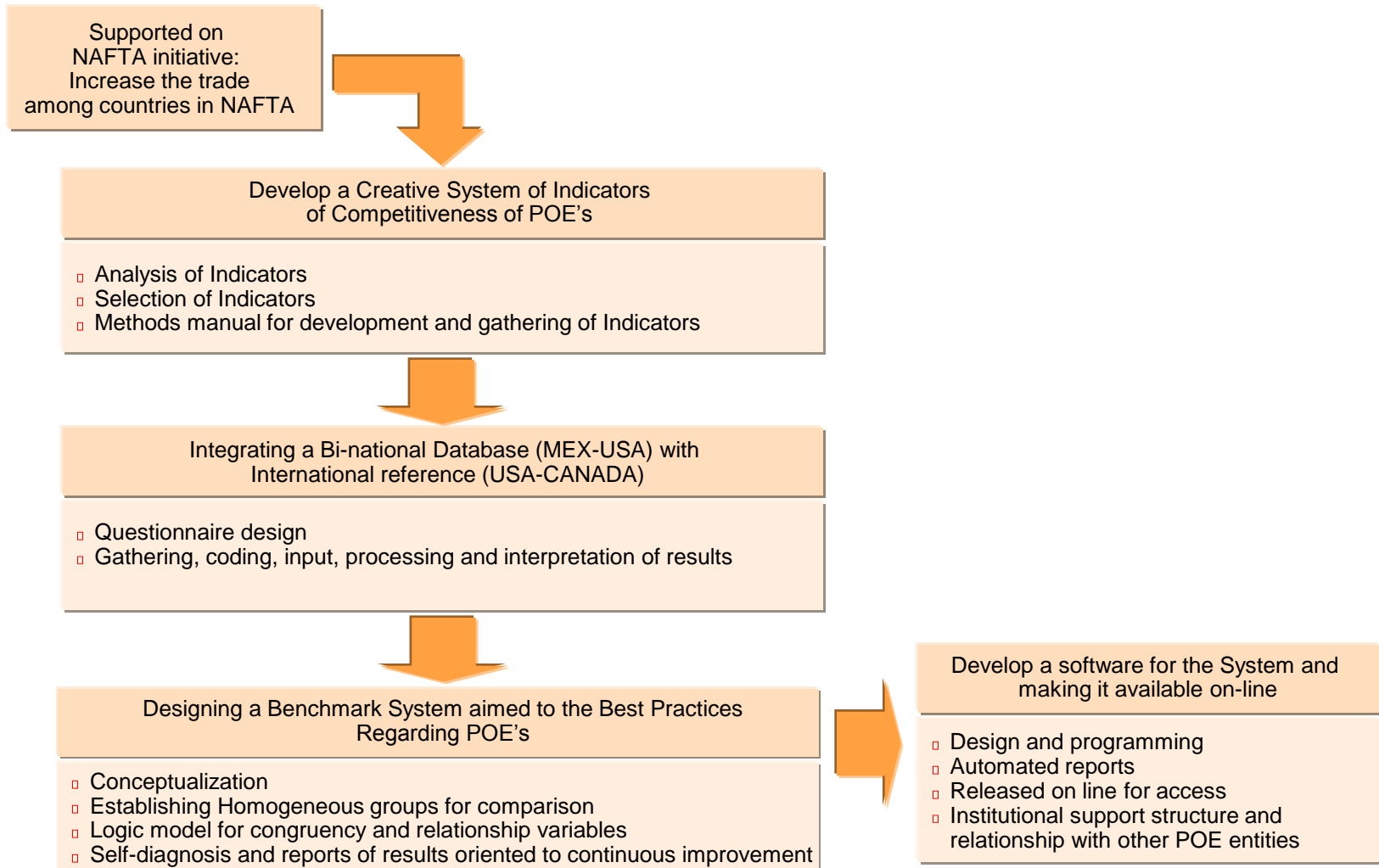
Year	A: Average storage cost per cargo type (\$/Ton/day)				F.W.A: Storage, contrib. By cargo type (\$/truck/day)			
	Agricultural	Maquila	Industrial	Others	Agricultural	Maquila	Industrial	Others
	A1	A2	A3	A4	FWA1	FWA2	FWA3	FWA4
2001	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2002	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2003	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2004	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2005	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2006	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2007	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2008	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2009	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2010	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2011	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2012	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2013	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2014	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2015	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2016	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2017	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2018	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2019	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50
2020	\$ 2	\$ 2	\$ 2	\$ 2	\$ 7.50	\$ 7.50	\$ 7.50	\$ 7.50

Transfer Reduction

Year	T: Fraction of trucks that would not use Transfer			
	Agricultural	Maquila	Industrial	Others
	T1	T2	T3	T4
2001	20%	20%	20%	20%
2002	20%	20%	20%	20%
2003	20%	20%	20%	20%
2004	20%	20%	20%	20%
2005	20%	20%	20%	20%
2006	20%	20%	20%	20%
2007	20%	20%	20%	20%
2008	20%	20%	20%	20%
2009	20%	20%	20%	20%
2010	20%	20%	20%	20%
2011	20%	20%	20%	20%
2012	20%	20%	20%	20%
2013	20%	20%	20%	20%
2014	20%	20%	20%	20%
2015	20%	20%	20%	20%
2016	20%	20%	20%	20%
2017	20%	20%	20%	20%
2018	20%	20%	20%	20%
2019	20%	20%	20%	20%
2020	20%	20%	20%	20%

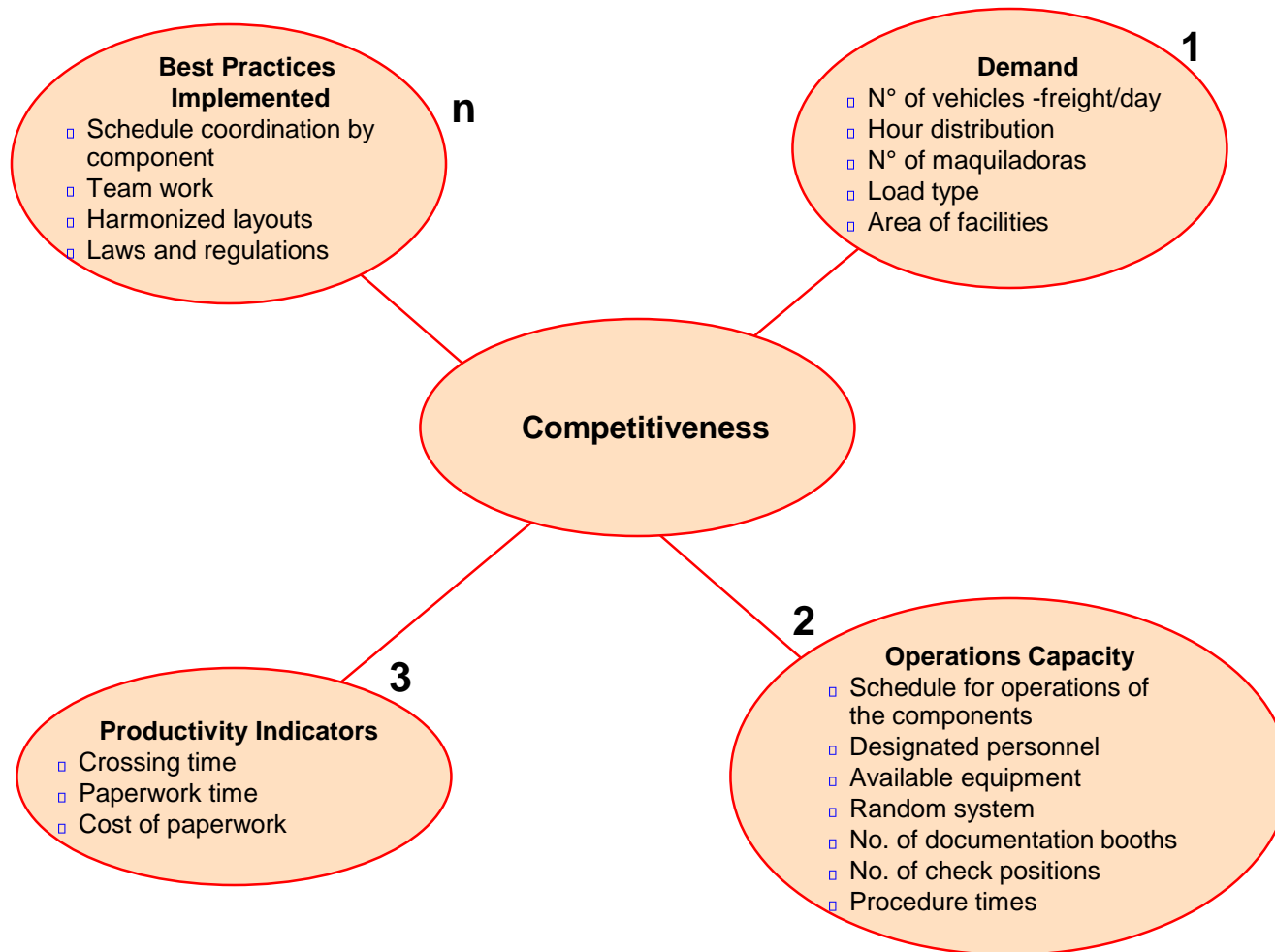
Flowchart of Integral Benchmarking System for POE's in the future

(Following steps not actually covered)



Example of Benchmarking Competitive Variables for POE's

Conceptual



Appendix 5

USA-Canada Commercial Vehicle Border Crossing Aspects

Trade between Canada and United States –Transportation of Border Freight

- ❑ Canadian maritime ports have US and Canadian customs inspectors checking containers and placing seals to allow freight to cross into the United States without further revision. Being this a bilateral agreement, there are also Canadian customs officers in the United States following the same procedures.
- ❑ In order to perform their duties, Customs agents have full federal government authorization. They place a bond (\$) with the government and in the event that the documentation is not accurate, this bond is held and the authorization is revoked.
- ❑ Several documents are attached to each shipment, among them, agriculture and food inspection (if required), the Form B13, etc.
- ❑ CANPASS – Road Program. This is a program for the transit of persons, available for “low risk” U.S. and Canadian citizens developed within the Canada-U.S. Agreement of a common border. The participants in this program receive, among other items, a vehicle label, allowing them at some crossing points to enter without being checked by customs or immigration agents. A card is recorded with a customs declaration and the duties or taxes are charged directly to the card. There are dedicated lanes for vehicles in this program. The program was suspended after the events September 11. (Passenger vehicles)
- ❑ Trans-border traffic is sped up by automated systems, among them are the following:
 - ❑ Automatic surveillance system at primary inspection lines. Using license plate readers, along with a data base to detect “high risk” travelers.
 - ❑ ACROSS (Accelerated Commercial Release Operations Support System). The agents can electronically receive release data for customers.
 - ❑ PARS (Pre Arrival Review System). Officers can check documentation before the arrival of the shipment to the border, and unless an inspection is required, can release the freight as soon as it arrives.
 - ❑ FIRST (Frequent Importer Release System). Used to release low risk freight of major importers. For example, at San Bernard de Lacolle, 52% of released freight uses PARS o FIRST.

- U.S. Customs inspects only 2% of the total freight entering the U.S. every year.
- The Governments of the United States, Michigan and Ontario are conducting a study to assess the existing transportation network and related border crossing activities. The two-way tunnel connecting downtown Detroit and Windsor is almost at full capacity and the Ambassador bridge, with four lanes, as well as the connecting roads, will reach design capacity by 2010. The study includes the following stages: Planning and Feasibility Analysis (1 year) and Environmental Analysis (3 to 5 years). Permits and construction work.
- An importer can use the services of a forwarding agent to:
 - Register the company and opening an import-export account.
 - Define documents required to release a freight.
 - Payment of government duties and taxes.
 - The use of a forwarding agent is not mandatory.
- The fast lane at Canada-U.S. border crossings:
 - Border-crossing delays could soon be a thing of the past, thanks to research in automated border clearance systems in Canada and the U.S..
 - Working together at some of the busiest border crossings, Canadian and U.S. researchers are developing a "smart" system based on electronic data exchange, vehicle-to-roadside communications, and automatic identification and weighing technologies to fast-track freight across the Canada-U.S. border.
 - The ultimate goal? Non-stop crossing for pre-cleared freight and passenger vehicles, customs documentation filed electronically, and no more lines.
- Crossing times of less than 5 minutes are estimated. At peak hours, lines form and the maximum border crossing time for a freight vehicle is 30 minutes going South and less than 15 minutes going North.

Other Agencies at the Nuevo Laredo-Colombia Border Crossing

SAGARPA

- In October, 2001, the inspection activities for meat products began on the national side of the Colombia Bridge. It is the first inspection center for imported agricultural products located at the northern border of Mexico.
- The office of SAGARPA in Nuevo Laredo issues a monthly average of 8,000 import certificates, 5,000 of which are related to meat products. The Nuevo Laredo Zone is the main border crossing for the issuance of certificates of importation of agricultural products. Reynosa follows with 4,500, Matamoros with 3,500, Juárez with 2000, Tijuana with 1,500 and others 2,000.
- The inspection of meat products has been performed in the region at eight locations in Laredo, Texas, accredited by the Mexican Government for the inspection of animal products and sub products. Other inspection points for vegetable products are available.
- The port of Laredo III does not have inspection facilities for agricultural products. First of all, a formal agreement must be created to establish a fiscal area to promote investment and of utility services for the cooling of the products.
- The inspection of imported meat products at the Mexican border in an area adjacent to the customs border will require a higher certainty from the importer-supplier of the freight, considering the difficulties of returning the product, which will have no effect if the requirements are not fulfilled in the standard agreement.
- Presently an average of 250 containers/embarkations of imports are handled daily of meat products in the Laredo area in the shift from 8:00 to 16:00hrs. If Laredo/Colombia were the only existing authorized point of inspection of meat products, then an increase in inspectors would be needed.

Federal Freight Truck Transport

- The new Bridge III is equipped with offices and inspection areas for personnel from the Federal Truck Transport and Preventive Medicine divisions. They haven't been occupied by the agencies. There are not enough staff members to perform their duties permanently. There is no weighbridge for vehicles.