

**TEXAS BORDER PARTNERSHIP WORKING GROUP
MEETING HELD ON JUNE 18, 2004**

Table of Contents

Agenda item #1 - Agency Self Introductions	1
Agenda item #2 – Future Model Improvement to the Freight Analysis Framework (FAF) Model – Summary of Presentation by Bruce Lambert	1
Agenda item #3 – Use of Border Wizard for El Paso MPO Border Improvement Project – Summary of Presentation by Dr. Paula Dowell.....	1
Agenda item #4 – Statewide Analysis Model – Freight Tool – Summary of Presentation by Janie Byrum	2
Agenda item #5 – CALTRAN/JWC – Bottleneck Study at U.S./Mexico Border – Summary of Presentation by Lisa Dye	3
Agenda item #6 – Coordinated Port of Entry Study for TxDOT – Summary of Presentation by Bill Stockton.....	4
Agenda item #7 – Shifting Trade Patterns Across the U.S. – Mexico Border Under NAFTA – Summary of Presentation by Dr. John McCray.....	5
Agenda item #8 – Use of TRANSDEC (Version 2.0) by MPOs for Multimodal Planning and Ranking Strategies – Summary of Presentation by Dr. Steven Roop	6

List of Appendices

Appendix A – Future Model Improvement to the Freight Analysis Framework (FAF) Model Presentation	7
Appendix B – Use of Border Wizard for El Paso MPO Border Improvement Project Presentation.....	17
Appendix C – Statewide Analysis Model – Freight Tool Presentation.....	35
Appendix D – CALTRAN/JWC – Bottleneck Study at U.S./Mexico Border Presentation.....	51
Appendix E – Coordinated Port of Entry Study for TxDOT Presentation	65
Appendix F – Shifting Trade Patterns Across the U.S. – Mexico Border Under NAFTA	77
Appendix G – Use of TRANSDEC (Version 2.0) by MPOs for Multimodal Planning and Ranking Strategies.....	87
Appendix H – Sign-in Sheets.....	101

Texas Border Partnership Working Group

June 18, 2004

Agenda item #1 – Agency Self Introductions

Summary of Presentation by Bruce Lambert FHWA Headquarters' Office of Freight Management and Operation

Future Model Improvements to the Freight Analysis Framework (FAF) Model

Currently there are many questions about freight issues including: how much freight is being moved, what is considered a corridor, what to do about large amounts of freight, and what the connection between freight and the U.S. economy is. These questions can start to be understood or answered by the Freight Analysis Framework (FAF). The Federal Highway Administration (FHWA) developed FAF.

State data is used to help local planners and decision makers.

There were no questions.

Summary of Presentation by Dr. Paula Dowell Wilbur Smith & Associates

Use of Border Wizard for El Paso MPO Border Improvement Project

We are studying trade along the U.S.-Mexican border, especially El Paso and Ciudad Juarez, Mexico due to the increasing growth in that region. While at the same time the per capita income levels are lower than the State of Texas and the nation as a whole. Wholesale and retail is one of El Paso's largest employment markets. Retail trade in El Paso has a growing reliance on trade from Mexico. Demand for retail trade from Mexico continues to grow. Trade along the border can serve as an economy booster for the area. In 2002, El Paso had the third largest volume of trucks entering the U.S. behind Otay Mesa, California and Laredo. If the truck routes are better designed it would help the flow of truck traffic and the economy.

Juarez's Maquiladora Program is the largest in Mexico. It provides employment for over 200,000 living in the U.S. Creating more efficient crossings will allow for more employment opportunities in similar businesses.

The use of Border Wizard to assess and make recommendation for ports of entry requires analysis from both the U.S. and Mexico. The project consists of 5 tasks.

If the U.S. Visit Legislation passes it may impact the time it takes to cross the border by examining both cargo and passenger vehicles. Currently only passenger vehicles are examined. The additional cargo examination will slow down border crossing.

Questions

Joe- Is there another study like this?

Dr. Dowell- Yes mostly for the U.S. Canadian border.

El Paso- U.S. Visit Legislation in act by January 1, 2005?

Dr. Dowell- We don't know. It is very general answers.

Lisa- There is information out now. The 50 highest will be initiated by 2005. If the visit is less than 72 they do not have to be examined. It will be different for the northbound. It doesn't have a huge impact for southbound traffic.

Dowell- The main focus is on the examination expanding from passenger to cargo.

Audience- Are there any recommendations on making the crossing passengers (personal) or business only?

Dr. Dowell- We do not know yet. It will depend on the data and the model.

El Paso- There is a great concern in the community about what will happen and we want to have that investigated.

Summary of Presentation by Janie Byrum TxDOT Traffic Analysis Division

Statewide Analysis Model – Freight Tool

The Statewide Analysis Model (SAM) contains passenger and freight data for transportation planning. There are several internal and external zones with 5 area types. SAM contains county data and data from the four adjacent states to Texas. SAM not only does rail and truck freight information it also works with passenger information.

SAM has three interface levels. The Executive Level Interface was developed for policy makers and politicians. The Analyst Level Interface was developed for travel demand modelers. The third level Operating Interface is to be used by Transportation Planning and Policy (TPP) at TxDOT.

The Statewide Analysis Model is more of a regional area model that works best for trips over 75 minutes long.

Help with model can be gotten from TPP or the help desk for easy questions. Harder questions can be answered by getting a different version or having TPP do some analysis for you.

Questions

Audience- Can you combine passenger and freight information together?

Bynum- Yes

**Summary of Presentation by Lisa Dye
FHWA Texas Division (International Transportation Program Engineer)**

CALTRAN/JWC – Bottleneck Study at U.S./Mexico Border

The bottleneck study is a two year work plan designed to address planning issues. Federal Highway Administration wants to reduce congestion at the ports of entry from Mexico to the U.S. Phase I of the study includes a case study of San Diego – Tijuana Gateway. Visual vehicle counts were taken at Otay Mesa – Mesa de Otay (commercial crossing) and San Ysidro – Puerta Mexico (passenger vehicle crossing). In total there were over 50 count locations in both the U.S. and Mexico.

There are many minor details that are slowing down the vehicle and truck traffic at the border crossings. Details such as widening turn radii and paving some roadways would help increase the flow of traffic. The location of high occupancy vehicle lanes (HOV) and secure electronic network for travelers rapid inspections (SENTRI) lanes at the port of entries also reduces congestion.

The Phase I final report will be finished this summer.

Questions

Audience- How many HOV lanes and (SENTRI) lanes are there?

Dye- There is 3 HOV lanes and 4 SENTRI lanes.

Audience- Do you really need a traffic count?

Dye - Yes because of funding and documentation. There are many problems solved just by watching the site. The vehicle count helps with lane closures also.

**Summary of Presentation by Bill Stockton
Texas Transportation Institute (College Station, TX)**

Coordinated Port of Entry Study for TxDOT

In 2000 a prototype border crossing was conducted which found that if the good vehicles were separated from those with no information it would make passing faster and easier. This led to retrofitting Texas border crossings in 2001 and coordinating systems for border ports-of-entry in 2002.

Many agencies are involved in northbound trade from Mexico to the United States. Many of these agencies are duplicating the process. In order to coordinate the trade system, over 100 stakeholders were interviewed. The interviews indicated that the United States and Mexico could coordinate security, technology, staffing, infrastructure, processes, and planning issues to help congestion and delay.

These findings led to the El Paso Pilot Program in 2004. The pilot program will address some of the stakeholder's issues. From June to December 2004 the project will develop a plan. The next phase, implementation, will be decided once the results of plan has been developed.

No Questions.

Summary of Presentation by Dr. John McCray
University of Texas (San Antonio)
Dr. Robert Harrison
Center of Transportation Research (University of Texas)

Shifting Trade Patterns Across The U.S. – Mexico Border Under NAFTA

U.S. – China trade flow vs. U.S. Mexico trade flow. We trade more with Mexico than all other Latin American Countries. Major trade flows more from the Eastern U.S. than the Western U.S.

Trade has shrunken from 2000 to 2003 between U. S. and Mexico. This is due to our drop in the economy. This time period proved an increase in trade between China and the US. Today we import more from China than Mexico. It is dominated by us receiving trade from China. The new ships leave every 46 hours and equate to 40,000 ADT. The new ships are too large it fit through the Panama Channel so they port in California and shift transportation modes to truck or rail.

Trade with China has now exceeded that of trade with Mexico. Texas trades more value in trucks than rail. This is shown in high trade ports of entry like El Paso and Laredo. Recently you can see a growth in truck traffic in Mc Allen and Brownsville.

Questions

Audience- Is there a move to have ships come into Mexico to avoid the traffic in LA?

There is a move to more of the northern cities in California. They are trying many different ways to get the appropriate location.

Audience- I was thinking there would be more of a mover to Mexico. Is that something we need to look at?

There is a small problem with some of the terrain in Mexico.

Audience- The better option is to move through the Panama Channel to get western transport to the east, making an all water trade instead of switching to train or freight.

Summary of Presentation by Dr. Steven Roop
Texas Transportation Institute

***Use of TRANSDEC (Version 2.0) by MPOs for Multimodal Planning
and Ranking Strategies***

There is a three pronged approach to freight transportation planning, including alternative assessment, assessment of financial options, and operational assessment. Freight is important due to public ramifications.

TransDec2.0 is a program with many functions for freight planning. The program allows mixing of freight planning with other types of transportation planning. The framework allows a balance between public and private sector. It allows for public input and private gain.

No Questions.

Future Meetings

Kirk- We have met 3 times and met our obligation. Do we wish to continue meeting?

Maybe put together a work plan. Look at future issues and problems and how to deal with them. Identify some goals and projects for joint projects.

Kirk- Our goal was to reduce delay by 5%. Our goals have grown. I would like to continue maybe twice a year. Maybe we should expand what we are looking at.

Montie- Maybe discuss legislation.

We should meet again in 6-8 weeks to examine some of the bills.

We could do more teleconferencing. It seems to work well.

Kirk- Anything else?

No.

**Appendix A – Presentation by Bruce Lambert
FHWA Headquarters’ Office of Freight Management and Operation**

Future Model Improvements to the Freight Analysis Framework (FAF) Model

Redesign of the Freight Analysis Framework (FAF2)



U.S. Department
of Transportation
**Federal Highway
Administration**

June 9, 2004

What questions are people trying to answer?

-
- What freight moves through certain facilities?
 - What are the major freight corridors by mode?
 - How does the system respond to shocks?
 - What is the importance of a certain link to the U.S. economy?
 - Can we promote an understanding of freight movement to a generalized audience?
 - How do emissions, safety, etc., relate to freight movements?
 - What infrastructure investments do I need to make?
-

Federal Highway Administration
U.S. Department of Transportation

The Freight Analysis Framework (FAF) – Initial Objectives

- Understand magnitude and geography of freight moving on the nation's transportation system
- Develop tool to evaluate emerging congestion and capacity challenges related to freight
- Support reauthorization policy analysis
- Involved:
 - Synthesis of diverse data (BTS, Army Corps, Reebie Truck, Rail Waybill Sample, etc.)
 - Working across the modes.
 - Understanding emerging logistics and trade/transportation issues



Federal Highway Administration
U.S. Department of Transportation

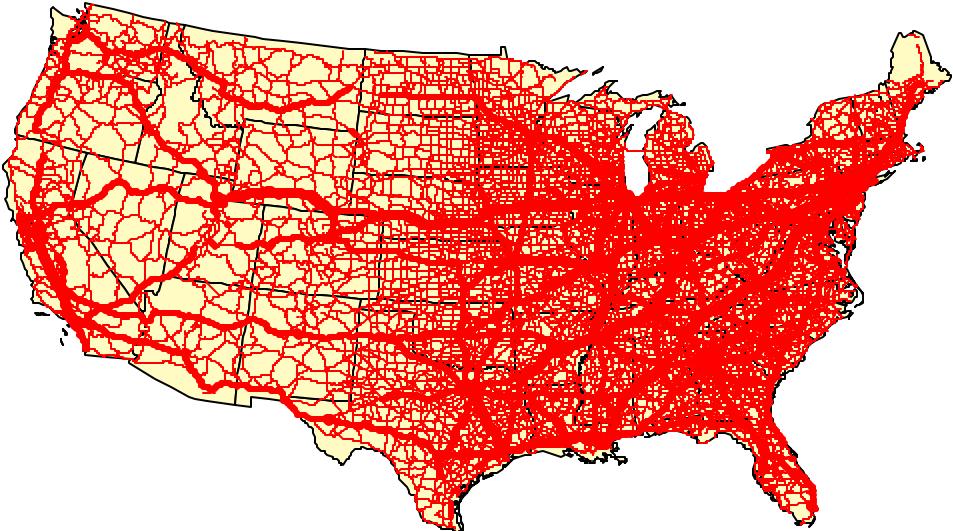
Freight Analysis Framework - FAF 1

- Developed by Federal Highway Administration to understand and forecast commodity movements in the U.S.
- Integrates place-to-place commodity flow data, and assigns flow to the modal networks.
- Ability to analyze changes in flows or networks.
- Modes included: Trucks, Railroads, Water and Air.
- Commodity Detail: 2 and 4 Digit STCC.
- Base Year- 1998 Forecasts- 2010, 2020.

Federal Highway Administration
U.S. Department of Transportation

Truck Freight Flows, All Commodities

All truck types; highway freight density in tons



Federal Highway Administration
U.S. Department of Transportation

FAF 1 – Limitations/Opportunities for Improvement

- Annual basis.
- Forecast is dated.
- State traffic counts do not match with HPMS Databases.
- Unable to assign all truck traffic.
- Only a national or regional analysis with some degree of certainty, not a localized, specific planning tool.
- Don't forget other tools and databases exist.

Federal Highway Administration
U.S. Department of Transportation

We are developing a “freight toolbox” but:

- Are these the correct data and tools?
 - How does the FAF link to other FHWA, DOT data and analytical research efforts?
 - Will these tools be sufficient to program projects that are beneficial to freight?
 - Can tools be developed to effectively address the wide range of local, State, multi-state, national, and international needs?
 - Can we develop expertise at all levels to assist people in making effective decisions: Federal, State, MPO?
-

Federal Highway Administration
U.S. Department of Transportation

*This should not be the end of
Transportation Data...*



Goals of the FAF2 improvement plan

- More complete alignment with 2002 Economic Census
 - Better assurance of data quality in benchmark
 - Timely provisional updates
 - Methods and data products that are transparent and can be reproduced
 - Balance needs of state and local governments for help with freight issues and ability of the federal government to understand local freight activity.
-

Federal Highway Administration
U.S. Department of Transportation

The Plan

- Origin-Destination Database: 106 CFS regions plus international gateways
 - 2002 benchmark
 - Forecasts for 2010, 2015, ..., 2035
 - Annual provisional estimates
 - Network Flow Database
 - 2002 benchmark, forecasts, annual provisional estimates
 - Maintain and improve source data
 - Freight Model Improvement Program
 - Truck Payload Equivalent
 - Training and Outreach Efforts
-

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U.S. Department of Transportation

Freight Model Improvement Program

- Inventory state of practice, identify and implement training and tool development, and other short-term improvements for local freight estimation and forecasting
 - Extend and link Freight Analysis Framework databases to support national policy studies
 - Research to support long-term improvements for national and local freight estimation and forecasting
 - Emphasis is on the demand side improvement
-

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U.S. Department of Transportation

Truck Payload Estimation

- Current methods of converting commodity flows into truck movements are not transparent and cannot be reproduced in public.
 - Our methods imply more precision than we actually have.
 - We do not have a common measure of truck capacity for comparing transportation systems.
-

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U.S. Department of Transportation

The Proposal

- Define a standard measure of Truck Payload Equivalent (TPE), similar in concept to the maritime measure of Twenty-foot Equivalent Unit (TEU) and the highway measure of Passenger Car Equivalent (PCE).
- Use the measure in the Freight Analysis Framework to transform the Origin-Destination Database into the Network Flow Database.

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U.S. Department of Transportation

Questions Regarding TPE

- Does the TPE measure help or confuse users of transportation statistics?
- Does the TPE measure reduce precision or does it better represent precision?
- Should TPEs be calculated for all North American trucks? By country? By commodity?
- Should TPEs be based on maximum payloads to indicate theoretical capacity or typical payloads to indicate commonly utilized capacity?
- Do we count empty backhauls?
- Should TPEs be developed as a commonly used measure or an official standard?

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U.S. Department of Transportation

Freight Professional Development (FPD) Program

- Training
 - “Integrating Freight Into the Transportation Planning Process” : Mar. 2003
 - “Multimodal Freight Forecasting”: June 2004
- FPD Library
 - Notable Practices, reports, White Papers, databases, Freight Plans and more
 - New FPD Website - Launch Date: Oct. 20, 2003
- Technical Assistance
 - “Talking Freight” Seminar Series
 - Freight Planning Peer Exchange LISTSERV
- Education
 - University Programs on Logistics and Freight Transportation
 - U.S. Merchant Marine Academy

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The Challenges

- Provide useful products to local agencies without discouraging local understanding of freight issues
- Make the most effective use of the private sector in delivering products
- Encourage innovative approaches to freight measurement and modeling--passenger travel models versus freight

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U.S. Department of Transportation



*FHWA Office of Freight Management
and Operations, USDOT*

<http://www.ops.fhwa.dot.gov/freight>

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**Appendix B – Presentation by Dr. Paula Dowell
Wilbur Smith & Associates**

Use of Border Wizard for El Paso MPO Border Improvement Project



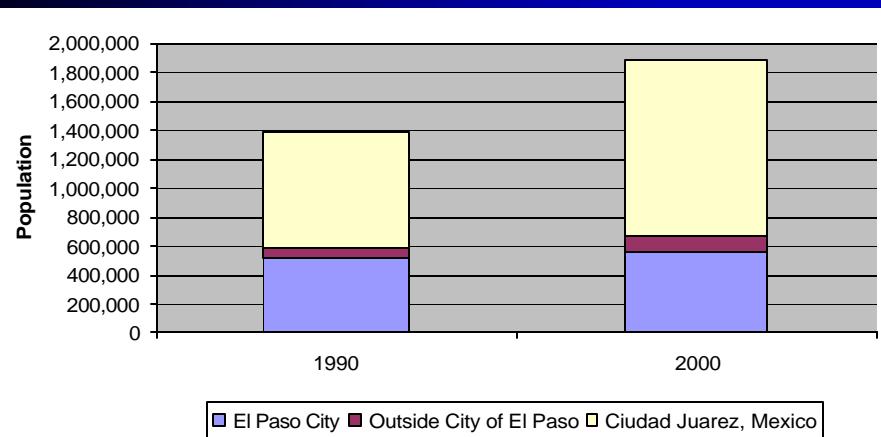
Texas Border Partnership

El Paso-Border Improvement Plan

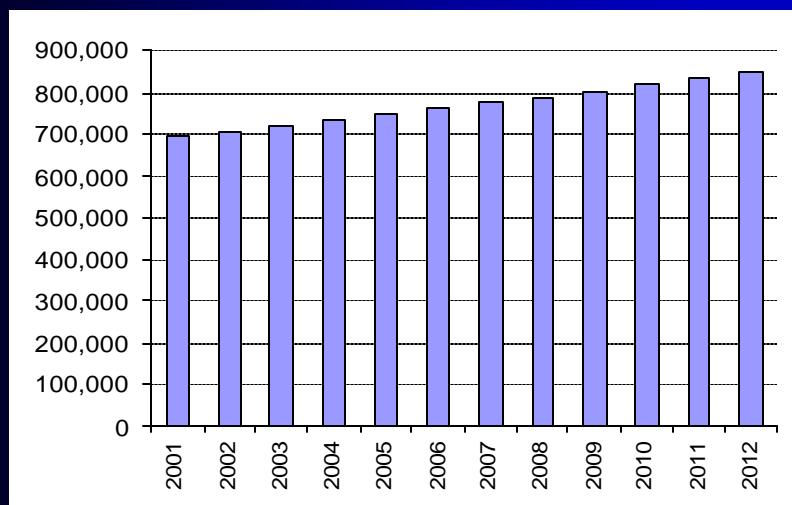
In Professional Association With
Carter & Burgess, Inc.
Parkhill, Smith & Cooper, Inc.
VillaVerde, Inc.
Regal Decision Systems, Inc.
Hunt-Zollars, Inc.



Population: 1990-2000



El Paso MSA Population Projections

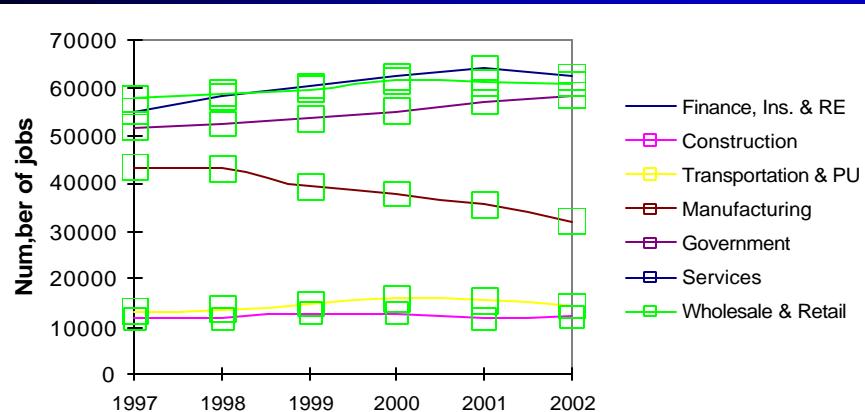


Income Levels Income Levels

Region	Per Capita Income, 2000	% of Region
El Paso	\$18,535	100.0%
Texas	\$27,752	66.8%
U.S.	\$29,469	62.9%

El Paso MSA Job Growth

June 1997 – June 2002



Impact of Border Crossing and Trade on the Region's Economy



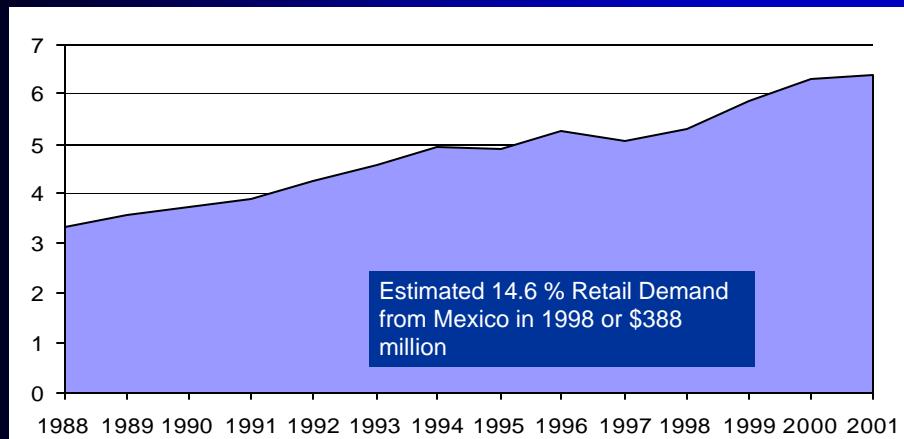
Paso Del Norte
El Paso, Texas – Ciudad Juarez, Chihuahua
(The U.S. is shown on the right in the photo.)



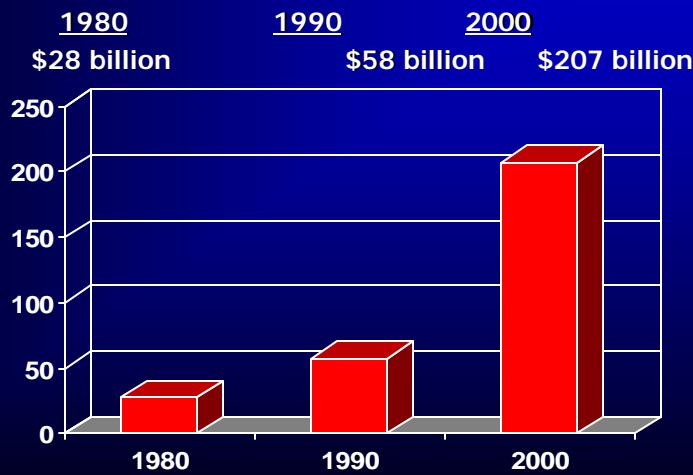
El Paso Gross Retail Sales

1988 - 2001

In Billions



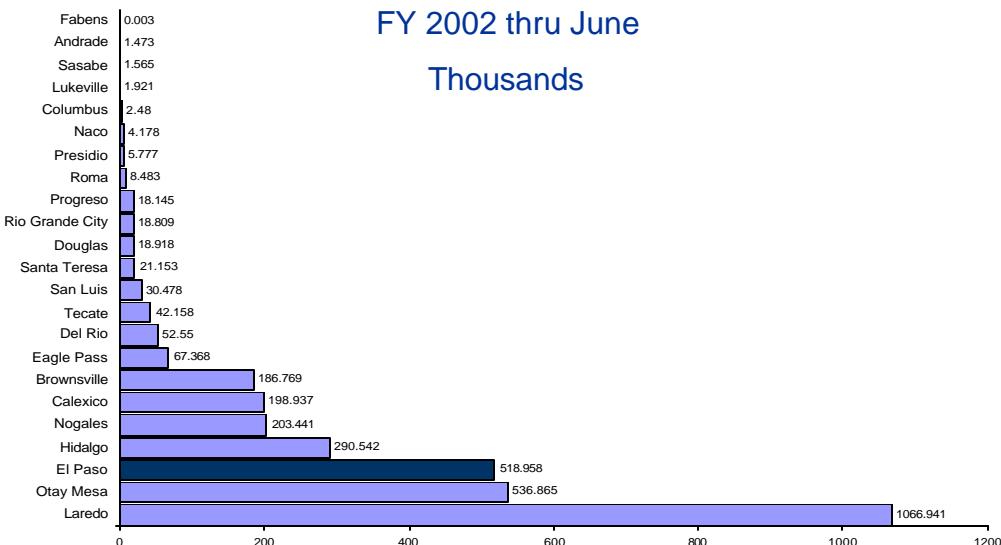
Change in Volume Goods Traded U.S. – Mexico



Total Trucks Entering

FY 2002 thru June

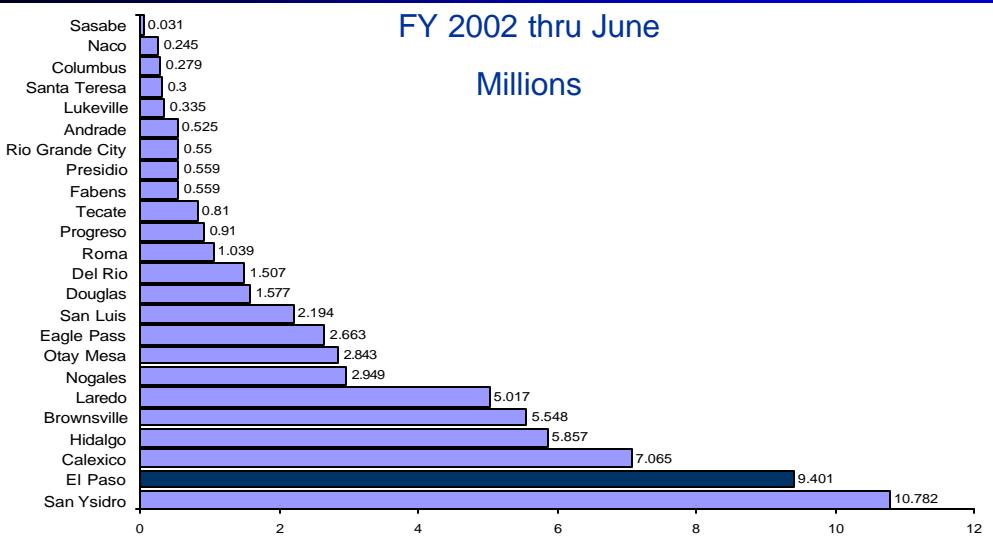
Thousands

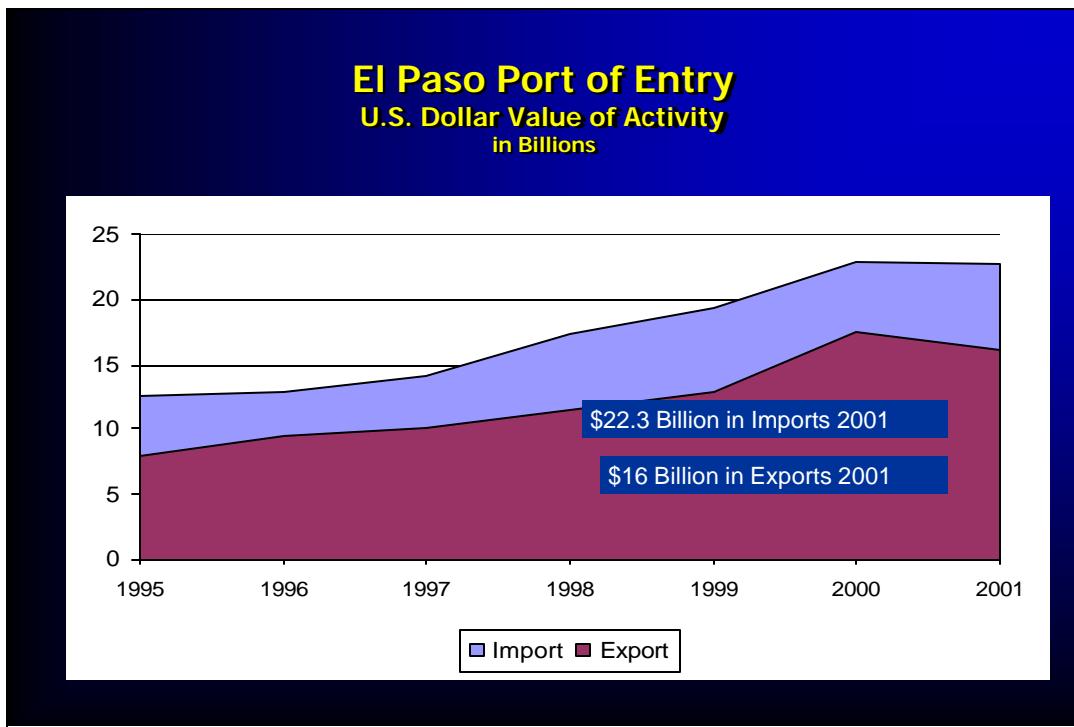
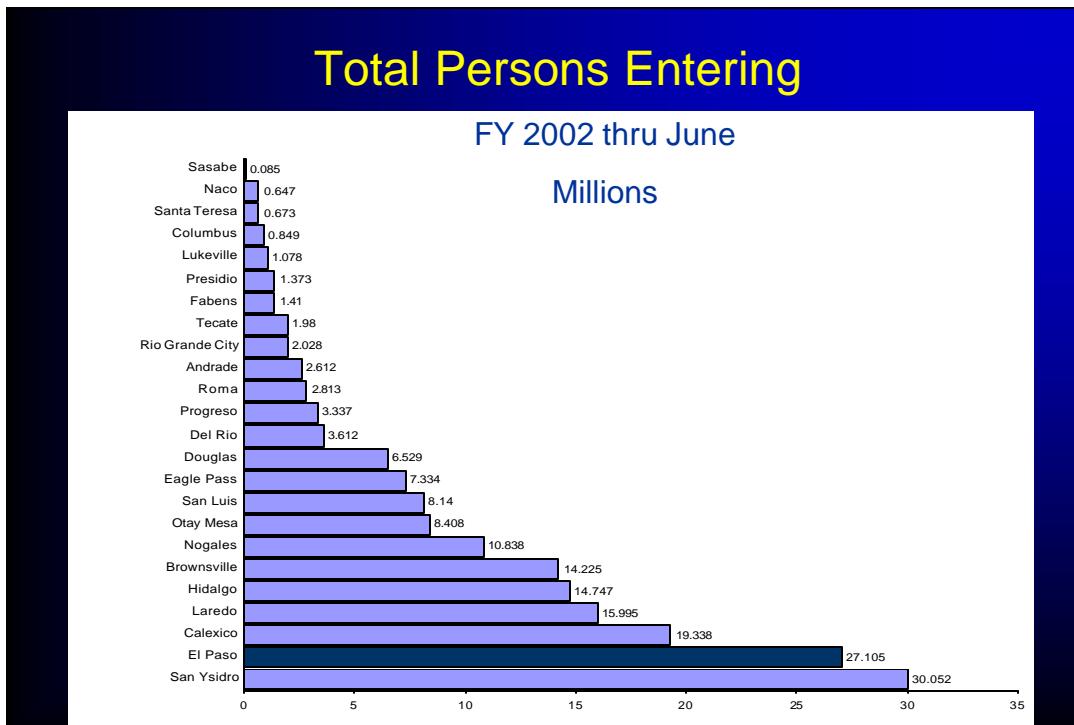


Total POVs Entering

FY 2002 thru June

Millions





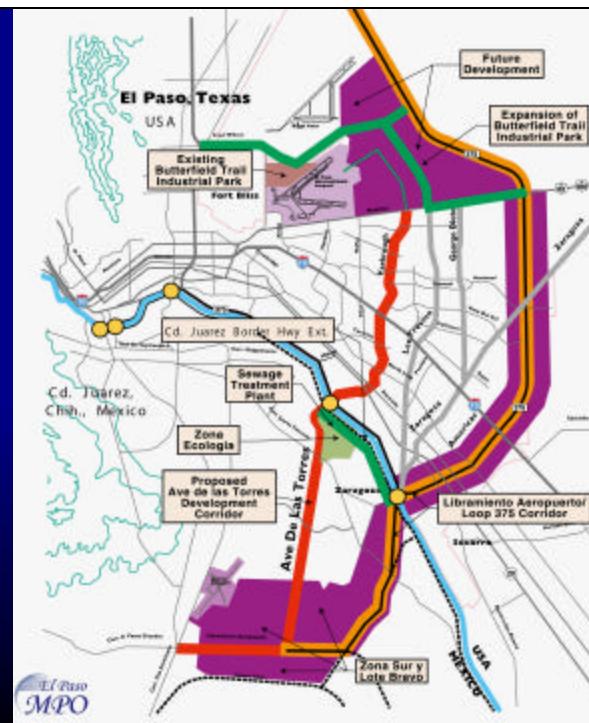
Juarez Maquiladora Program

- Ciudad Juarez has largest Maquiladora employment concentration in Mexico
- Employs more than 200,000
- Estimated Value of \$3.4 Billion

Economic Benefits of Juarez Maquiladora Program

- Payroll of \$247.8 Million for employees who live in U.S.
- Production-sharing sector of border economy has attracted companion industries
- Purchase \$1.6 Billion in services from U.S.

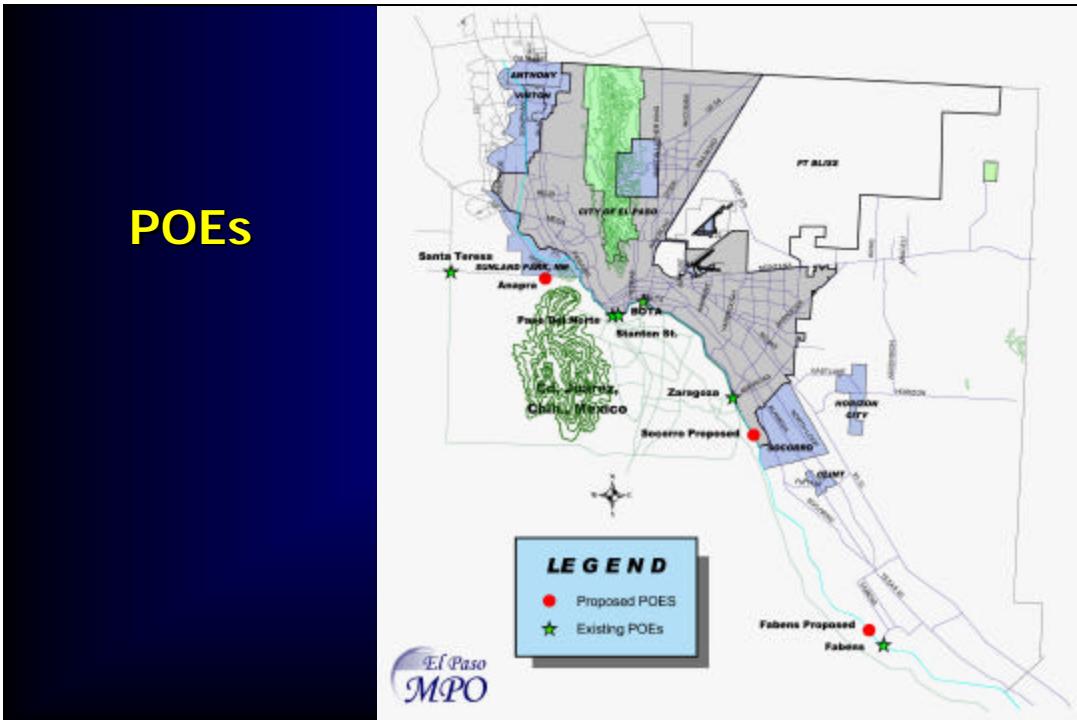
El Paso – Juarez Transportation Link



El Paso Regional Mobility Plan



POEs



Truck Routes



Project Work Plan

Tasks

Task 1

Data Collection & Processing

Task 2

Regional/International
Transportation Analysis

Task 3

Compare to Rail Study Results

Task 4

Site Analysis for
Recommended Improvements

Task 5

Public & Agency
Involvement

Task 1

Data Collection and Processing

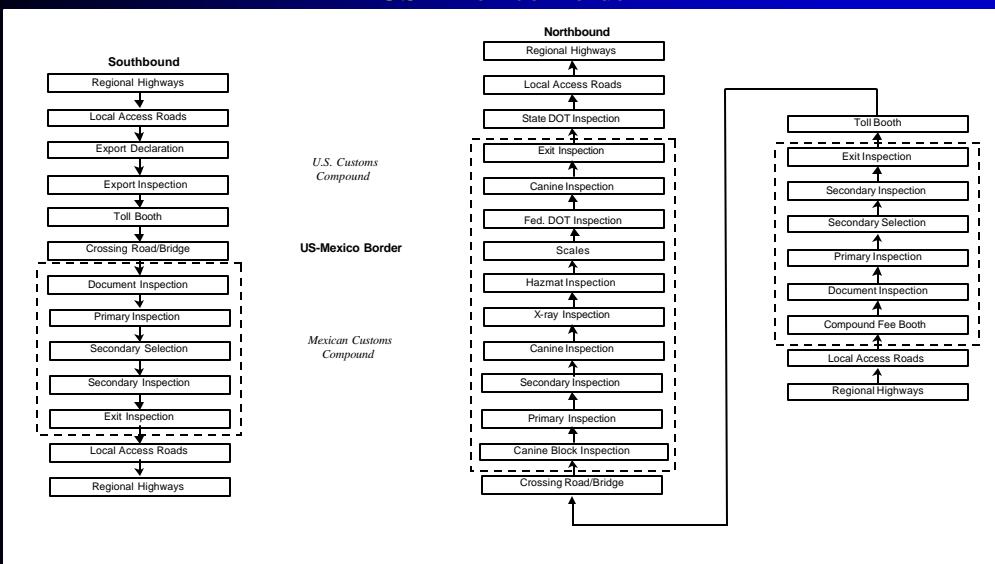
- Develop baseline data on BIP study area border crossings
- Develop regional commodity flow O/D data
- Compile regional traffic volume and classification data

Task 2

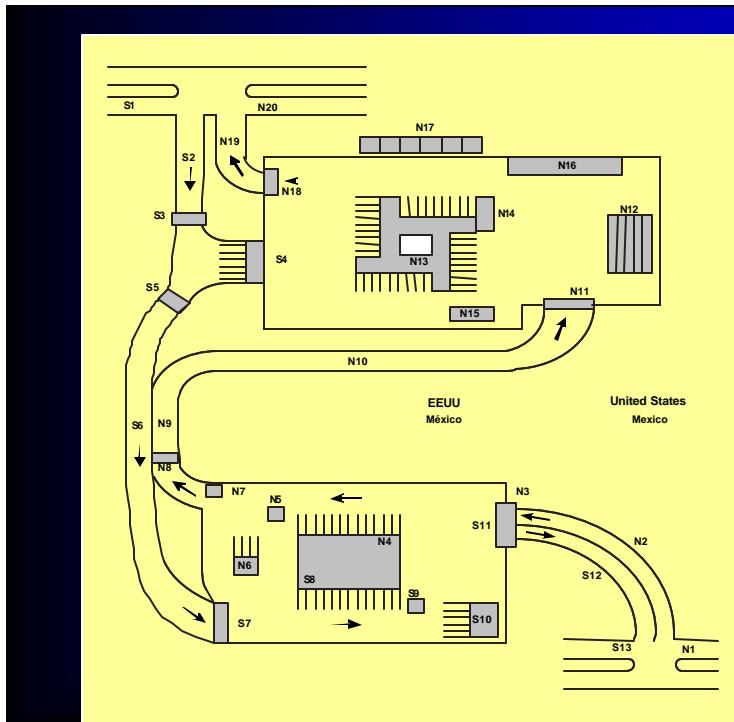
Regional/International Transportation Analysis

- Determine existing and future regional/international transportation conditions
- Analyze alternative solutions to border crossing needs
- Examine potential impacts of U.S. Visits legislation
- Recommend improvements

INSPECTION REQUIREMENTS US - Mexico Border

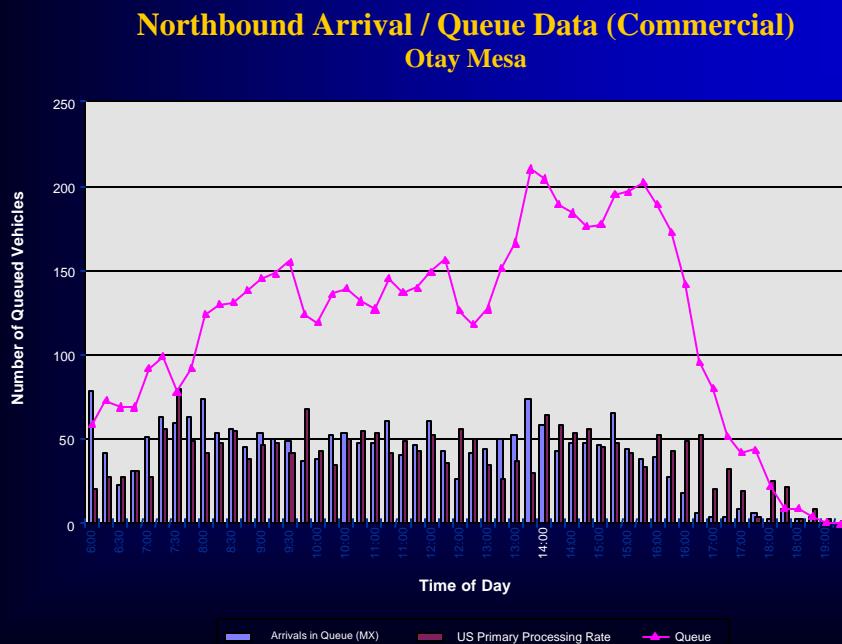


COMMERCIAL BORDER CROSSING COMPONENTS

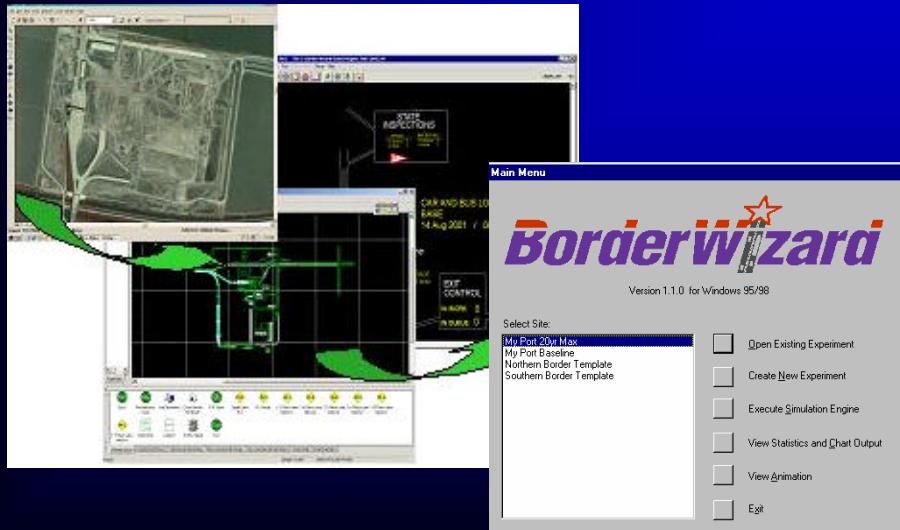


U.S. Visits Legislation

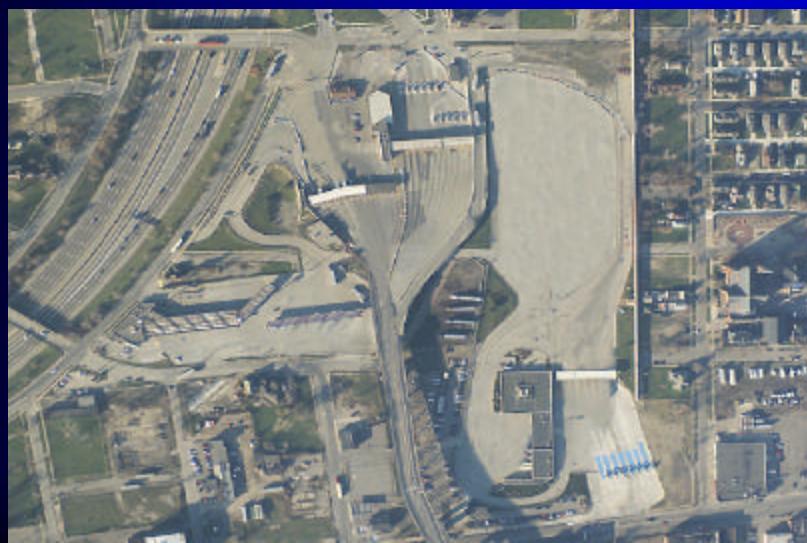
- Developed under Homeland Security
- Currently passenger only screening
- Cargo screening to being developed
- Pertains only to individuals requiring a visa to enter U.S.



Use of Border Wizard



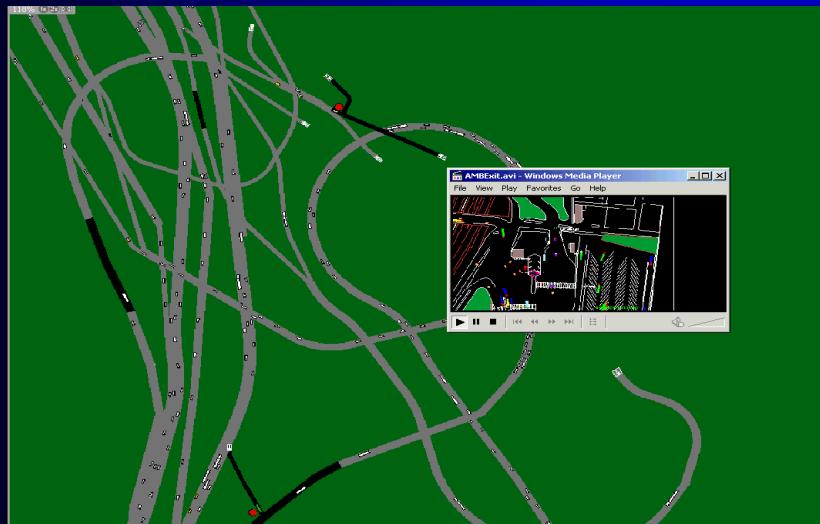
Ambassador Bridge, Michigan



Ambassador Bridge, Michigan



Integrate into Regional Network



Use of Border Wizard

- Run several scenarios
- Focus is on impact on facilities and regional mobility
- Results will be incorporated in recommendations
 - Location of alternative POEs
 - Design of facilities

**Appendix C – Presentation by Janie Byrum
TxDOT Traffic Analysis Division**

Statewide Analysis Model – Freight Tool

The Statewide Analysis Model (SAM) ...A Freight Tool



Janie Bynum

Transportation Analysis Section
Transportation Planning and Programming
Division

Status

SAM has been completed and
is being utilized by Districts
and Divisions

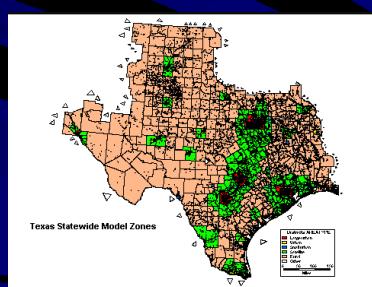
What is the SAM?

A tool to examine statewide travel demand with:

- Expanded geographic coverage**
- Intercity passenger flows**
- Commodity group freight flows**
- Multimodal flows**

SAM as a freight tool...

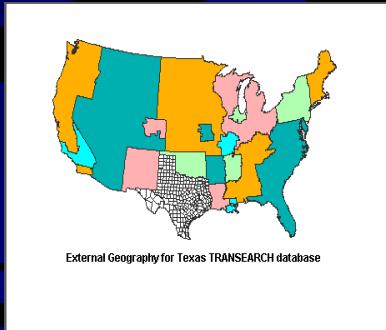
TAZ structure



- 4600 internal zones**
- 142 external zones**

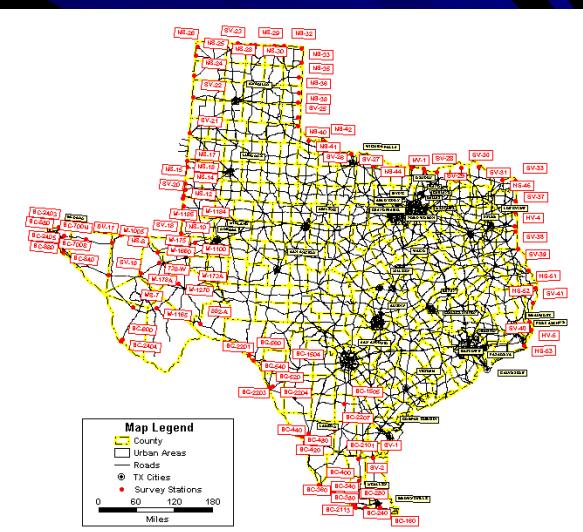
SAM as a freight tool...

Freight data for:



- 254 counties
- 7 Business Economic areas (BEA's)
- 4 Adjacent state

Intensive data acquisition



Facts regarding the freight data:

- SAM uses REEBIE Transearch data for its freight component
- All commodities have been divided into 11 sub-categories to use in the model
- Executive Interface includes the individual commodities rather than using 11 groups

Based on user requirements...

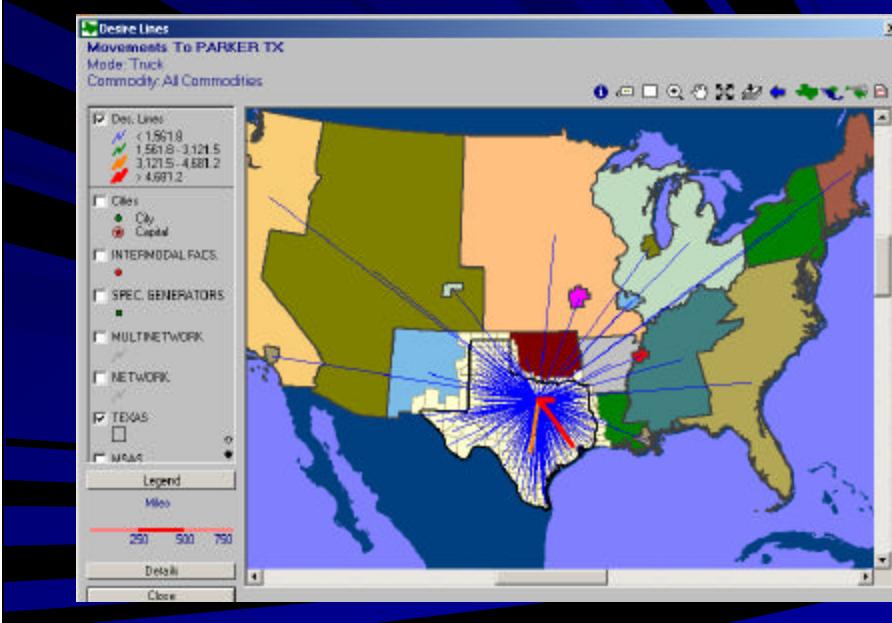
three interfaces were developed for the Statewide Analysis Model.

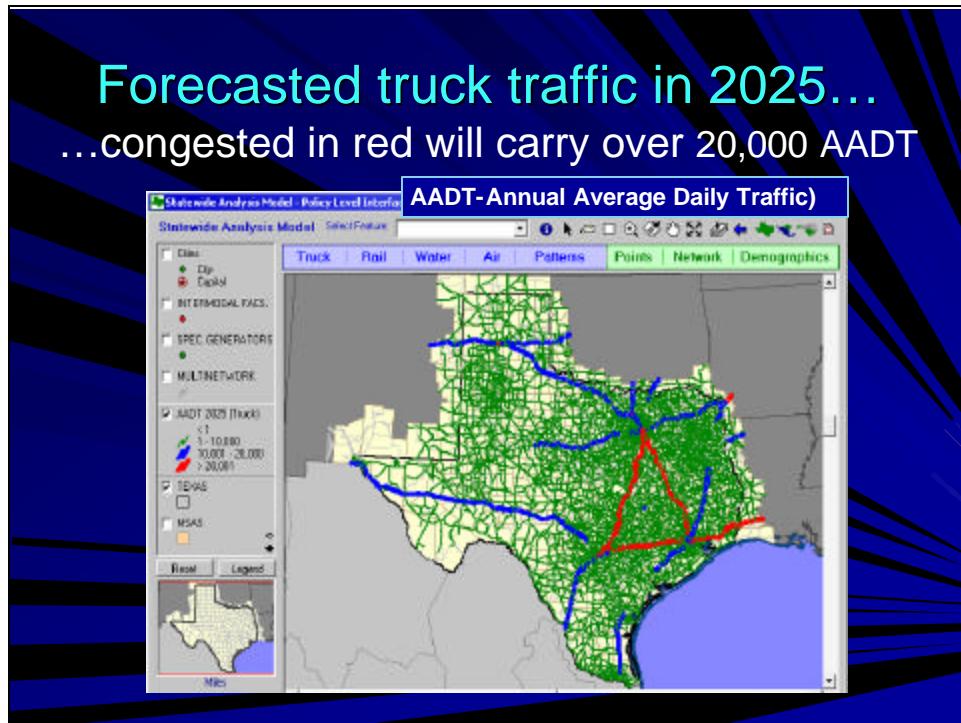
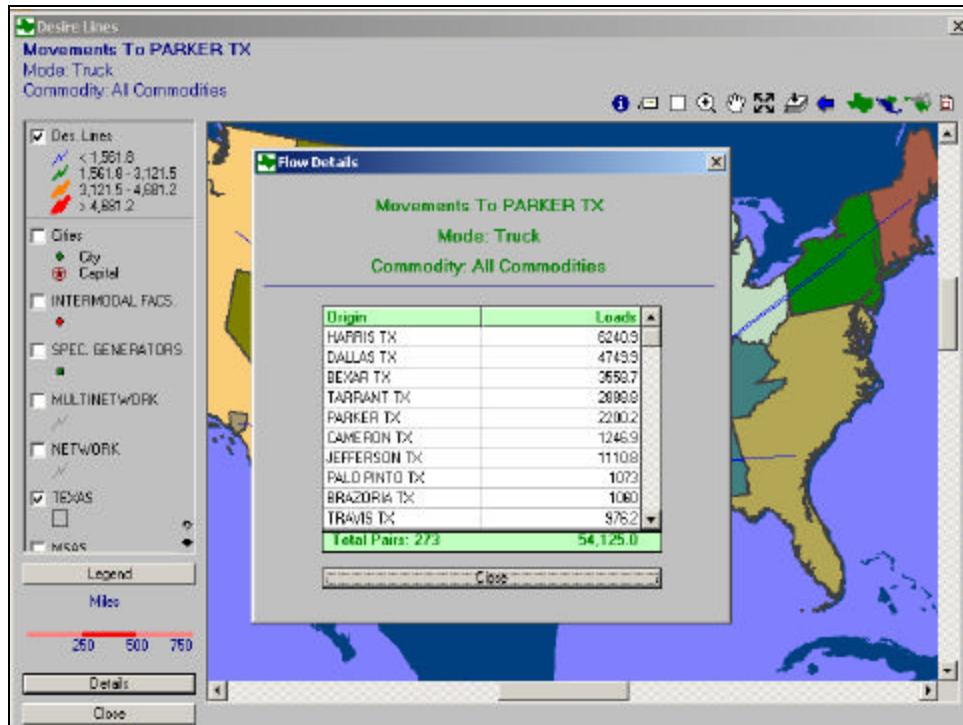
- 1. Executive Level Interface** for Policy Makers or Executive Level Audience
- 2. Analyst Level Interface** for Technical audiences dealing with Travel Demand Modeling
- 3. Operating Interface** to be used by TPP to produce new model runs/alternative analysis and network and demographic updates

Executive Level Interface

for
Policy Makers or Executive
Level Audience

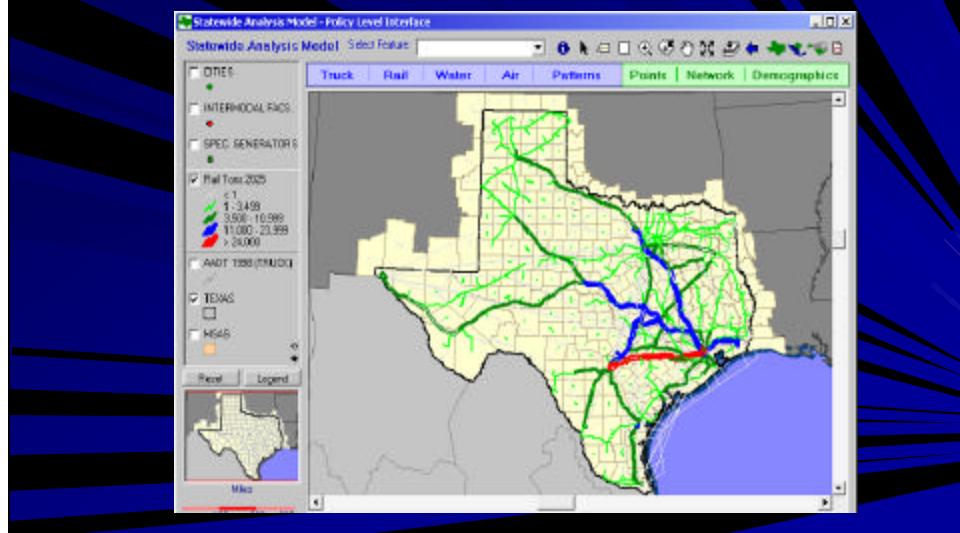
SAM as a freight tool...





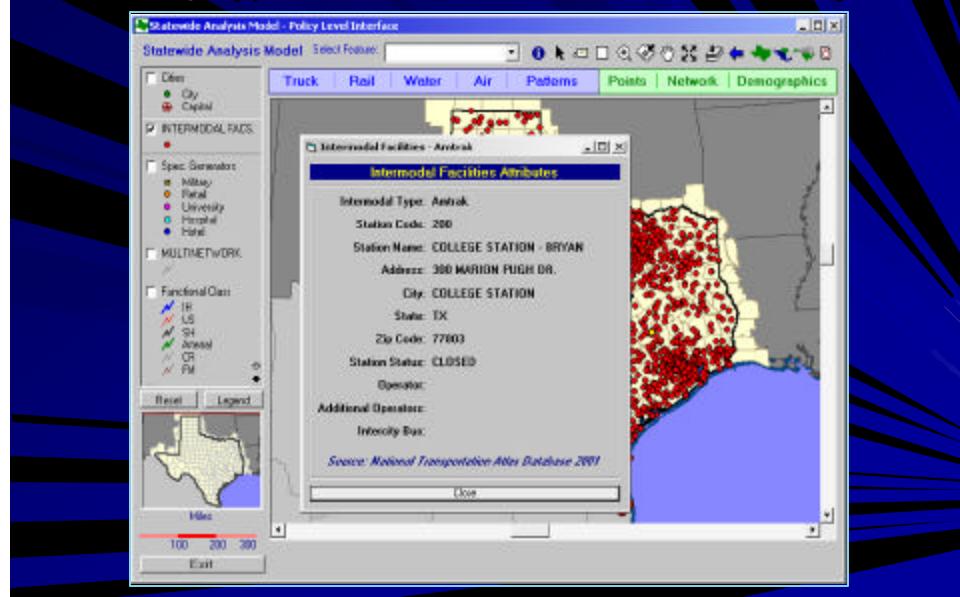
Freight forecast for 2025 by Rail...

blue indicates over 11,000
& red over 24,000 tons



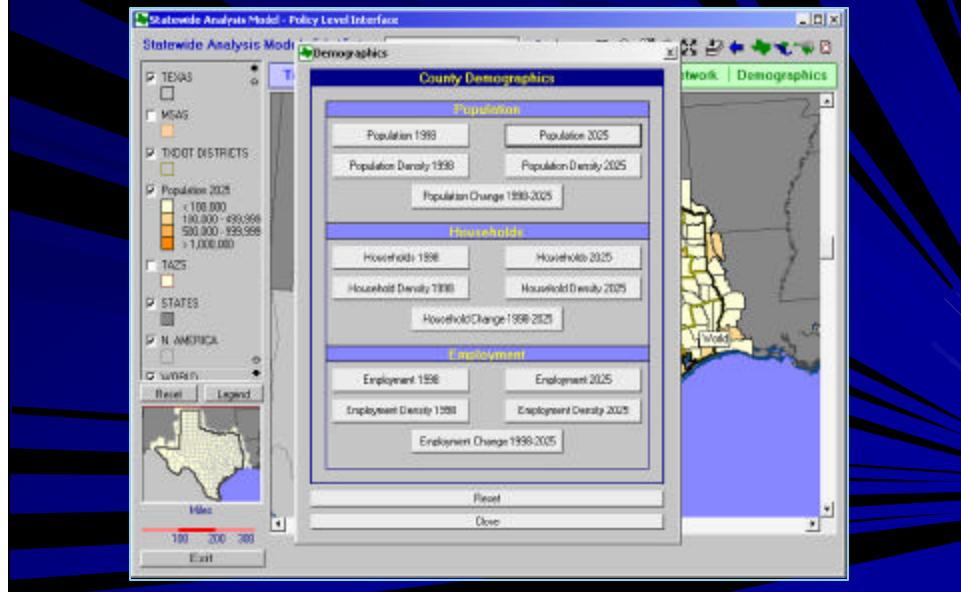
Information about intermodal facilities...

e.g. type, location, and status of the facility



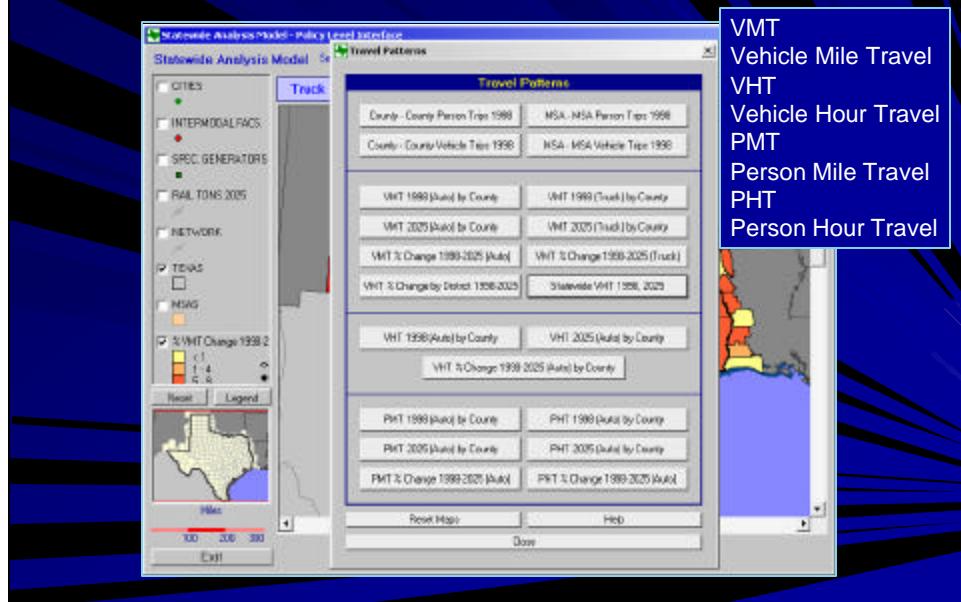
Demographic Analysis Options...

by population, household or employment



Travel Pattern Analysis Options...

County – County or MSA – MSA for VMT, VHT, PMT, PHT for 1998 or 2025

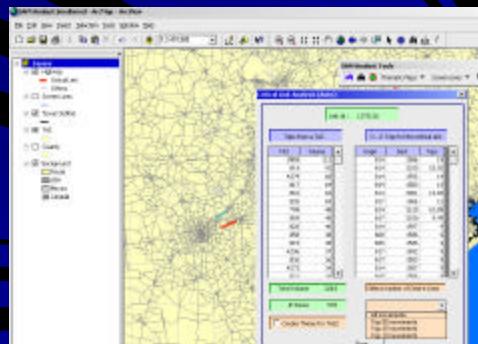


Analyst Level Interface

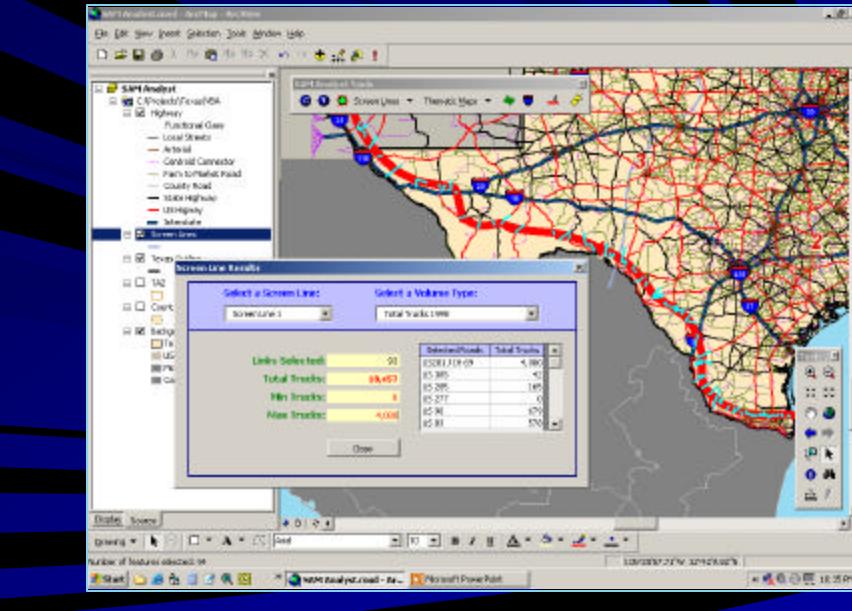
for
Analysts
dealing with
Travel Demand Modeling

What analysis options are available with
the SAM Analyst Level Interface?

- ❑ Assess of transportation and travel characteristics of your area
- ❑ Project evaluation
 - Identify
 - Justify
 - Rate
 - Compare



Screen Line Analysis



Operating Interface

allows TPP to query and customize information in response to customer requests.

TransCAD is required to run the operating interface.

SAM was developed for regional coverage while urban models provide local detail.



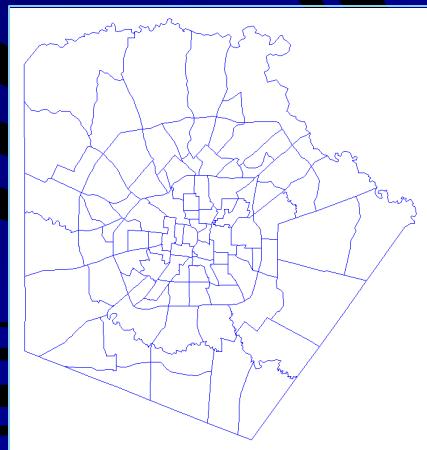
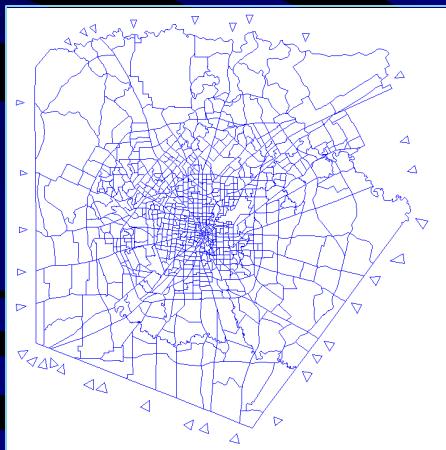
The SAM network and zone structure is very aggregate in urban areas

...an example of level of details in zone structure for SAM and urban model

San Antonio - Bexar County

913 TAZ in urban model

97 TAZ in SAM

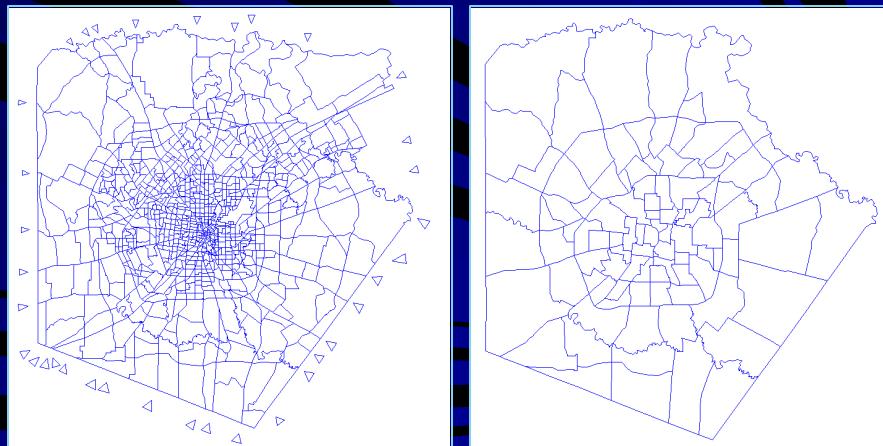


...an example of level of details in zone structure for SAM and urban model

San Antonio - Bexar County

913 TAZ in urban model

97 TAZ in SAM



How can you get help from SAM?

There are two ways to get help depending upon the nature of your request:

- For simple projects submit the request to the TPP-SAM project director.

How can you get help from SAM?

...continue

- Request the complete model for a complex project, if you want to run alternatives yourself or submit it to the SAM project director.

How can you get help from SAM?

...continue

To get a copy for use by a consultant:

- Submit the request with the description of your project
- Sign a confidentiality agreement
- TPP Division Director signs the agreement and a CD will be shipped to you

For More Information:

Janie Bynum

at

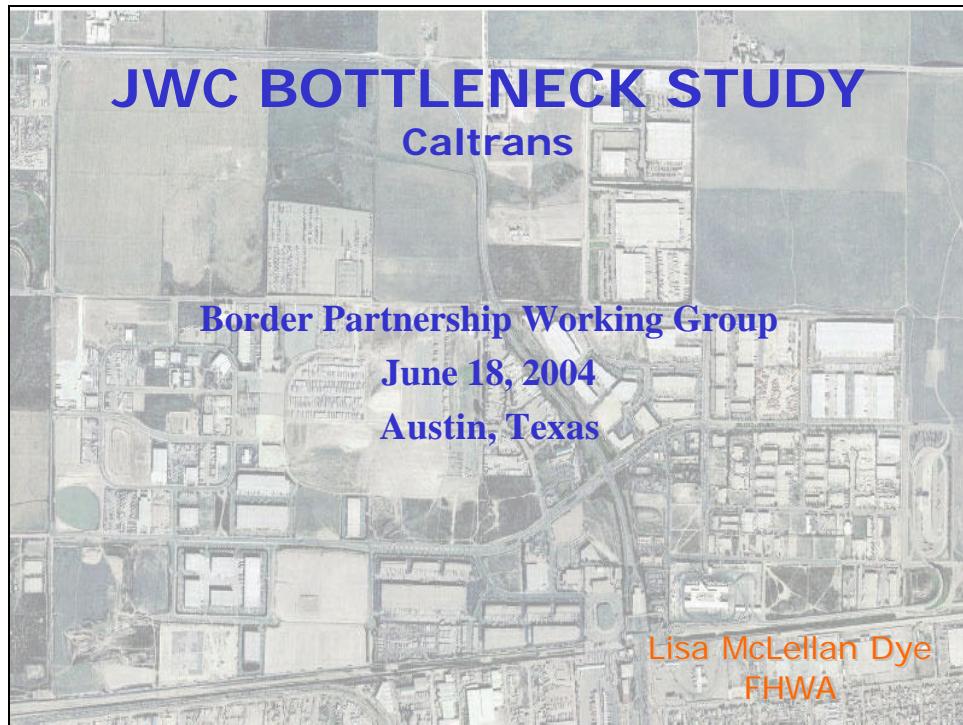
jbynum@dot.state.tx.us

or

512-486-5100

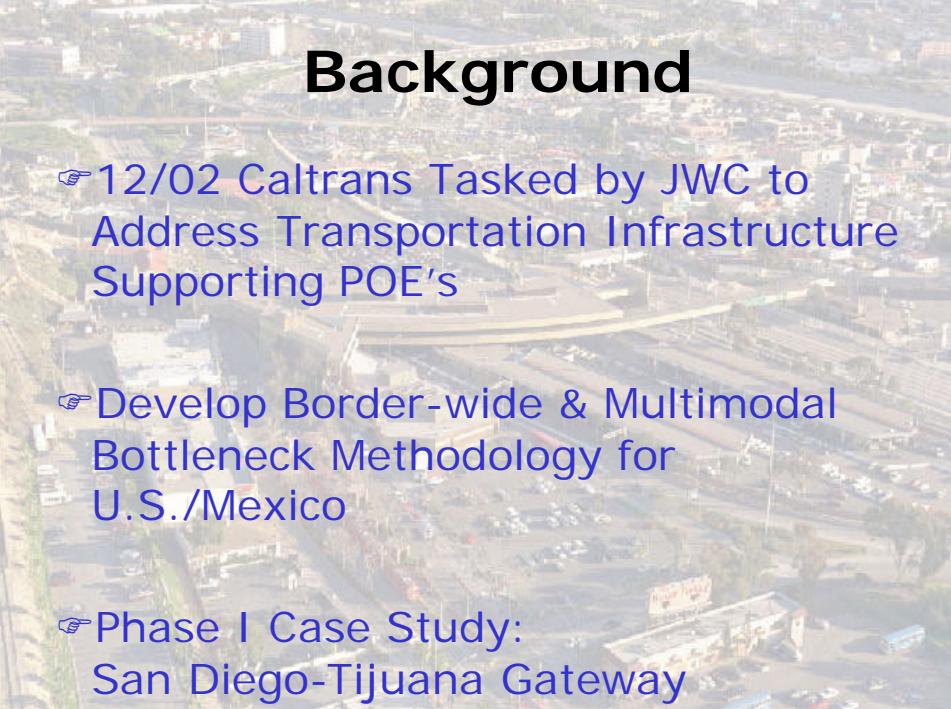
**Appendix D – Presentation by Lisa Dye
FHWA Texas Division (International Transportation Program Engineer)**

CALTRAN/JWC – Bottleneck Study at U.S./Mexico Border



Presentation Outline

- ☛ Review Background, Objectives and Methodology
- ☛ Status of Phase I Case Study
- ☛ Review Proposed Future Activities



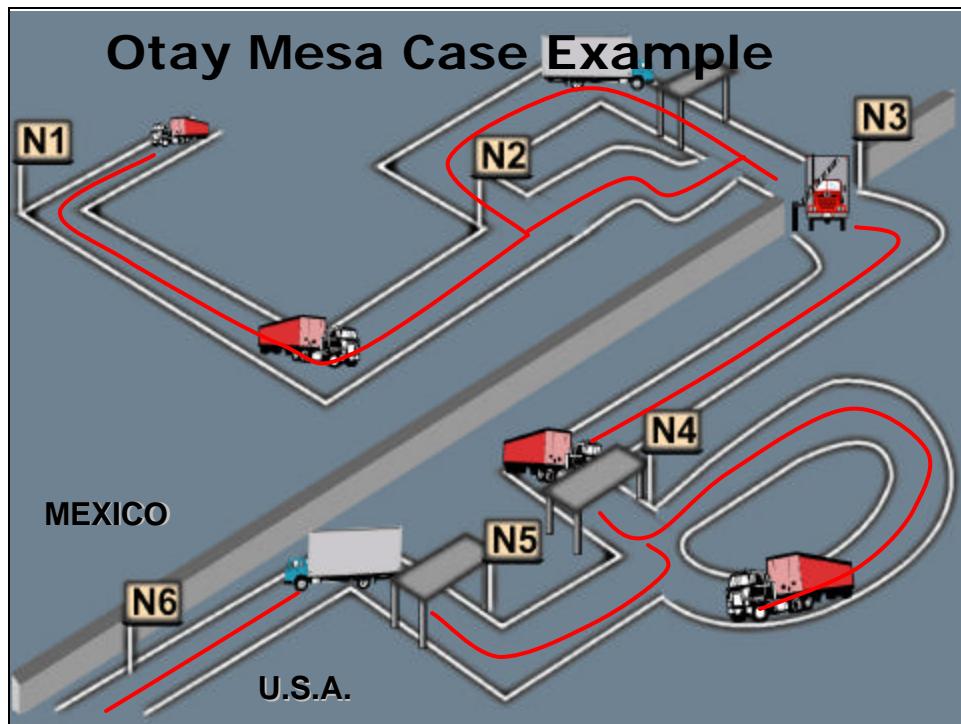
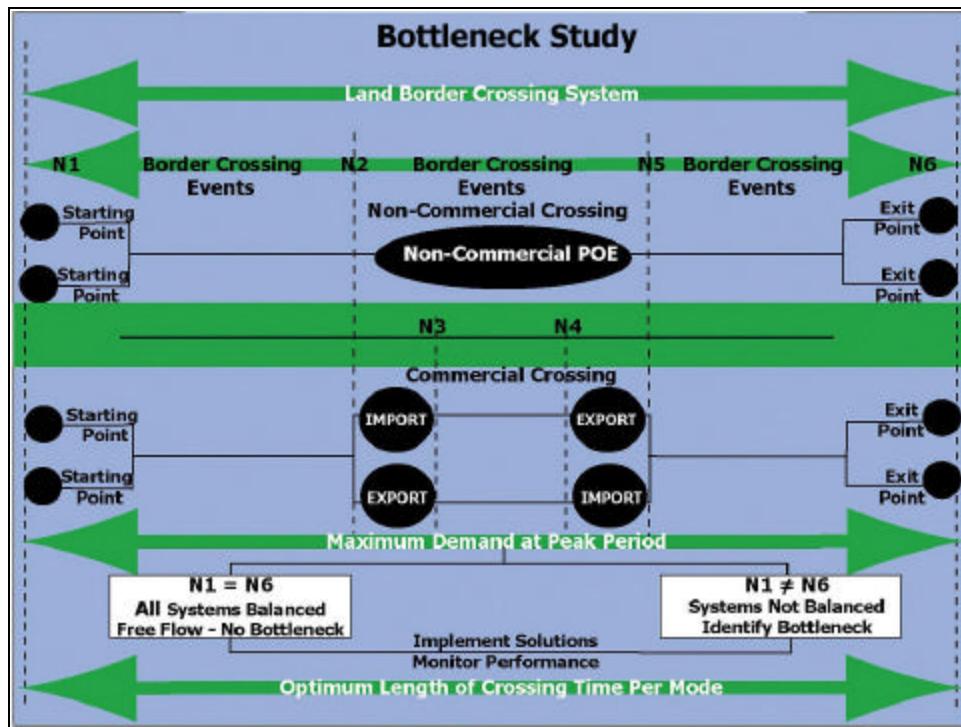
Background

- ☞ 12/02 Caltrans Tasked by JWC to Address Transportation Infrastructure Supporting POE's
- ☞ Develop Border-wide & Multimodal Bottleneck Methodology for U.S./Mexico
- ☞ Phase I Case Study:
San Diego-Tijuana Gateway



Objectives

- ☞ Identify and Quantify Short-Term, Low Cost Needs to Solve Transportation Bottlenecks
- ☞ Satisfy Smart Border Agreement Point 2
- ☞ Develop Border-wide Framework for Future Funding Requests



Phase I Update

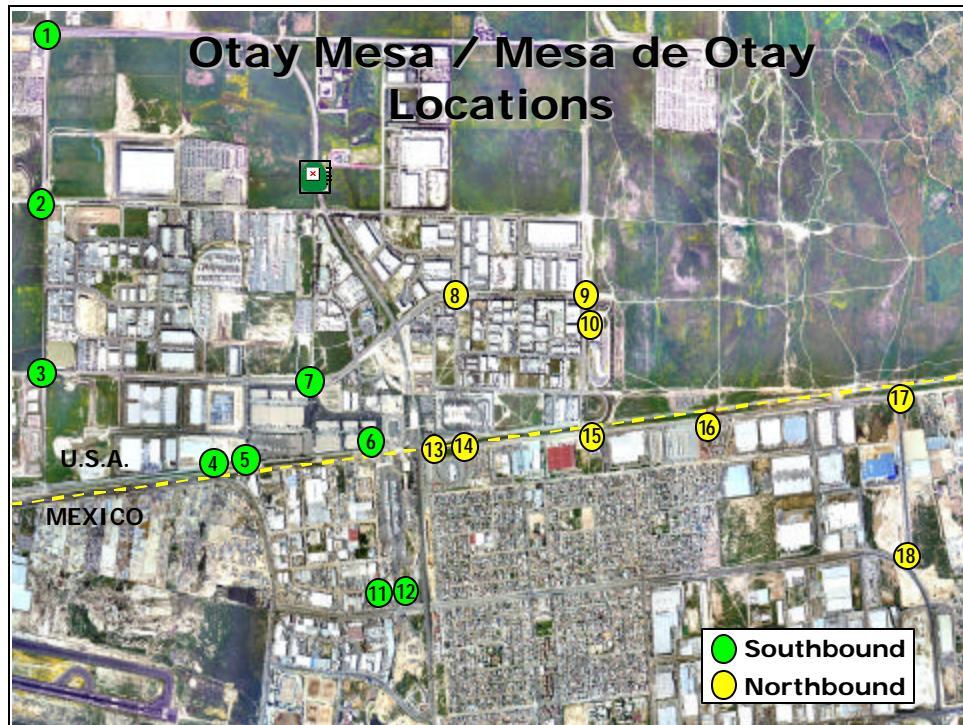
San Diego-Tijuana Gateway

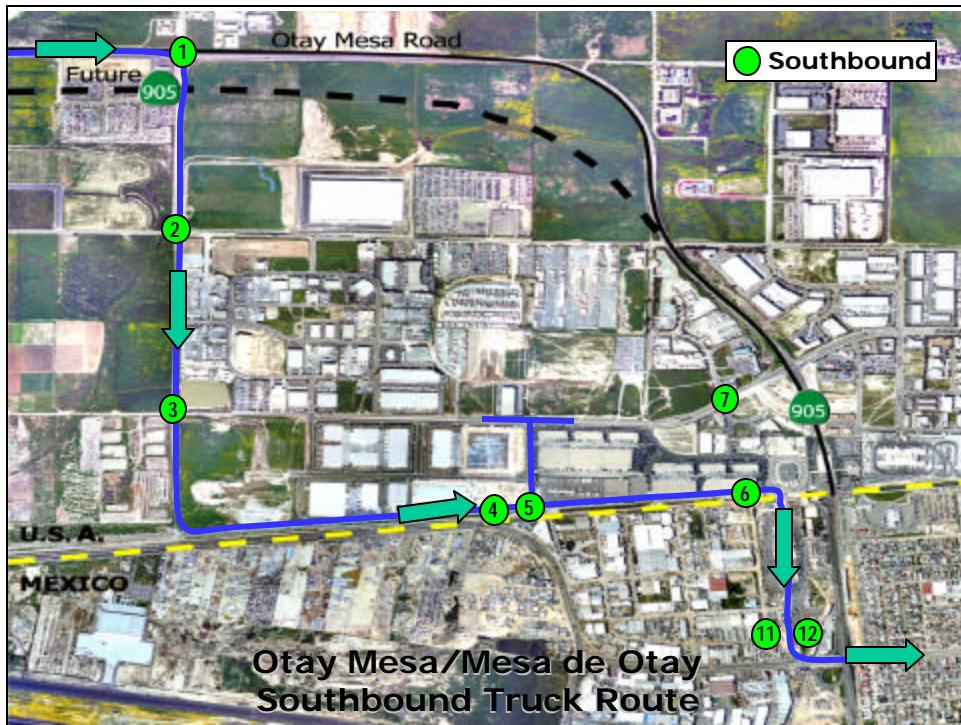
- ☞ Otay Mesa / Mesa de Otay:
 - Commercial Crossings
- ☞ San Ysidro / Puerta Mexico:
 - Passenger Vehicle Crossings

Total Staffing Effort

- ☞ 38 Count Locations Overall
- ☞ 16 Queue Locations Overall
- ☞ 68 Employees Overall







**Improve Turning Radius at
La Media Road and Siempre Viva Road**



**Pave the Western Portion of
Siempre Viva Road**





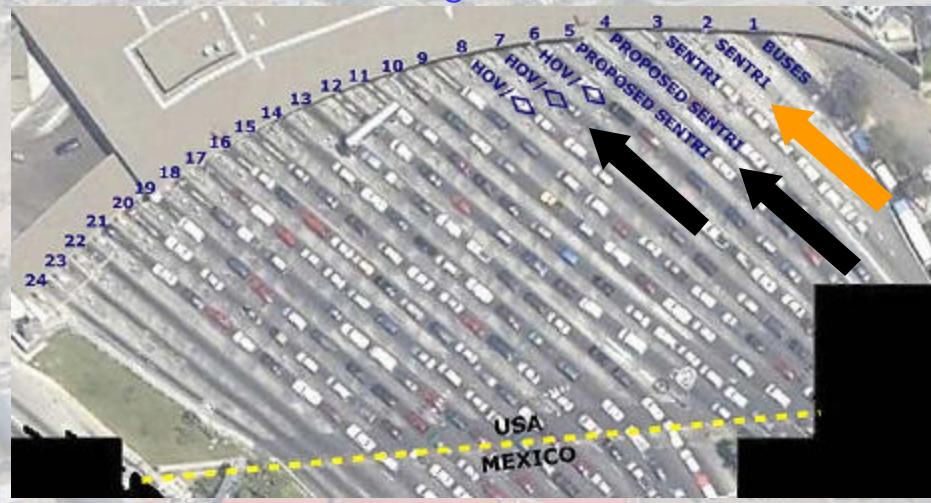
San Ysidro/Puerta Mexico Northbound Preliminary Findings (cont.)

- ☞ Expand Access to Existing and Proposed SENTRI Lanes and Re-route HOV and SENTRI Traffic leading to POE

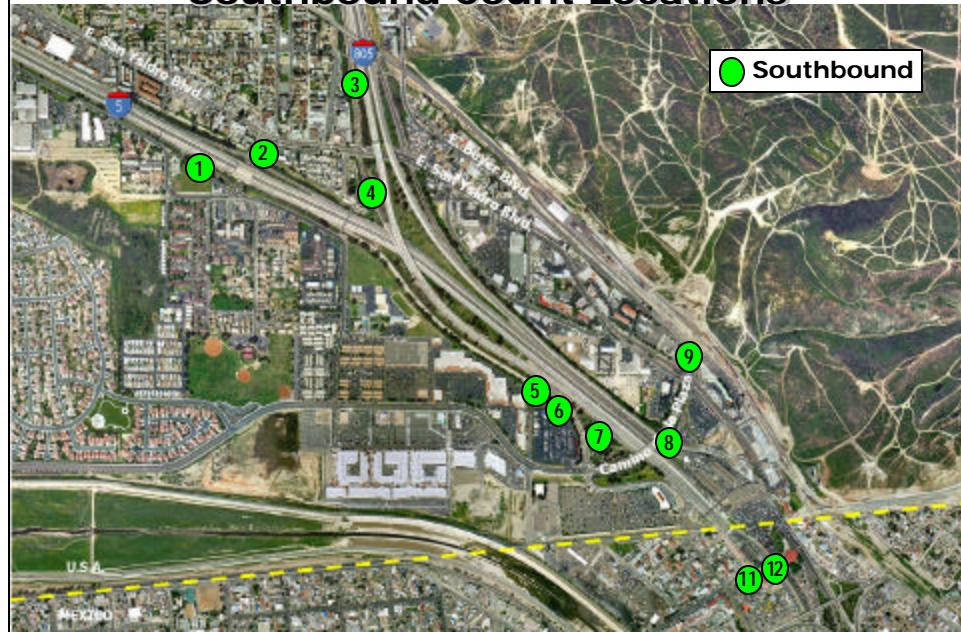


San Ysidro/Puerta Mexico Northbound Preliminary Findings

- ☞ Proposed Expansion of SENTRI and Realignment of HOV

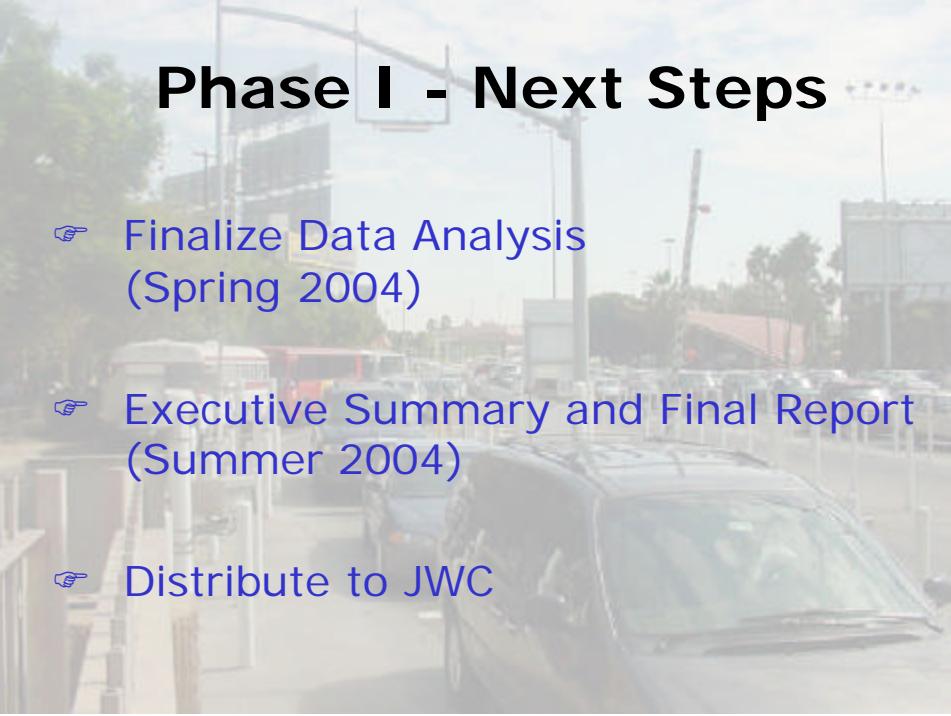


San Ysidro/Puerta Mexico Southbound Count Locations



San Ysidro/Puerta Mexico Southbound Preliminary Findings

- ☞ Utilize the Existing Southbound Through Lanes at Secondary Inspection Area
- ☞ Reconsider Municipal Police Traffic Control Over Puente Mexico/Colonia Federal - Reduce or Eliminate Lane Closures



Phase I - Next Steps

- ☞ Finalize Data Analysis
(Spring 2004)
- ☞ Executive Summary and Final Report
(Summer 2004)
- ☞ Distribute to JWC



Future Activities

- ☞ Phase II
Other Border Gateways (Unfunded)
- ☞ Phase III
U.S./Mexico Border-wide
Bottleneck Report - (Unfunded)



**Appendix E – Presentation by Bill Stockton
Texas Transportation Institute (College Station, TX)**

Coordinated Port of Entry Study for TxDOT

Coordination Systems for Border Ports-of-Entry El Paso / Juarez Pilot

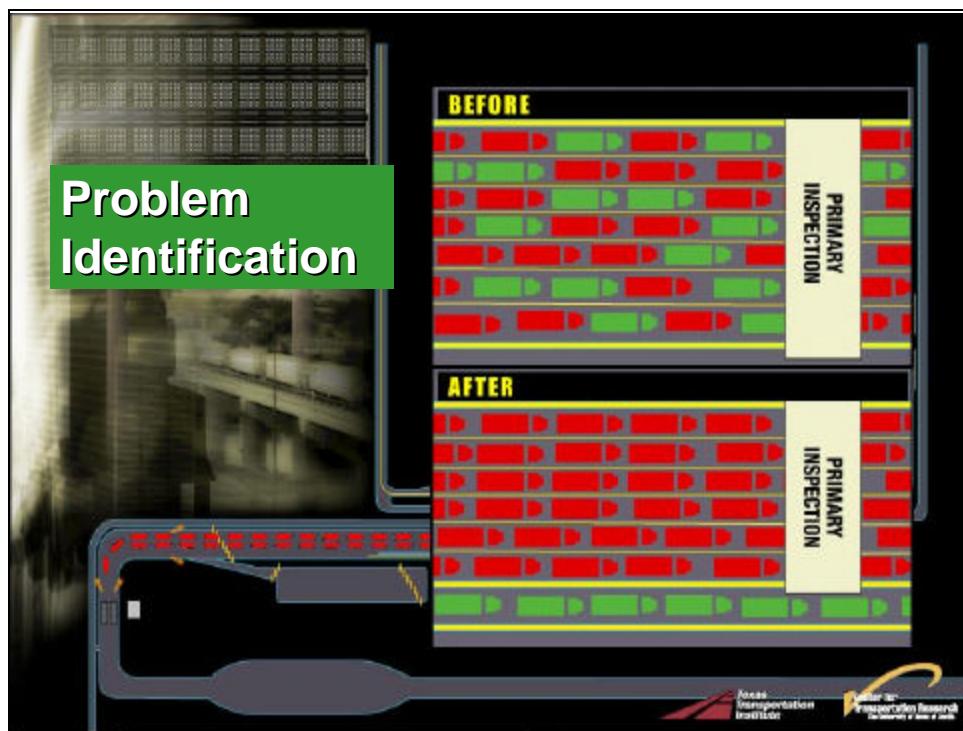
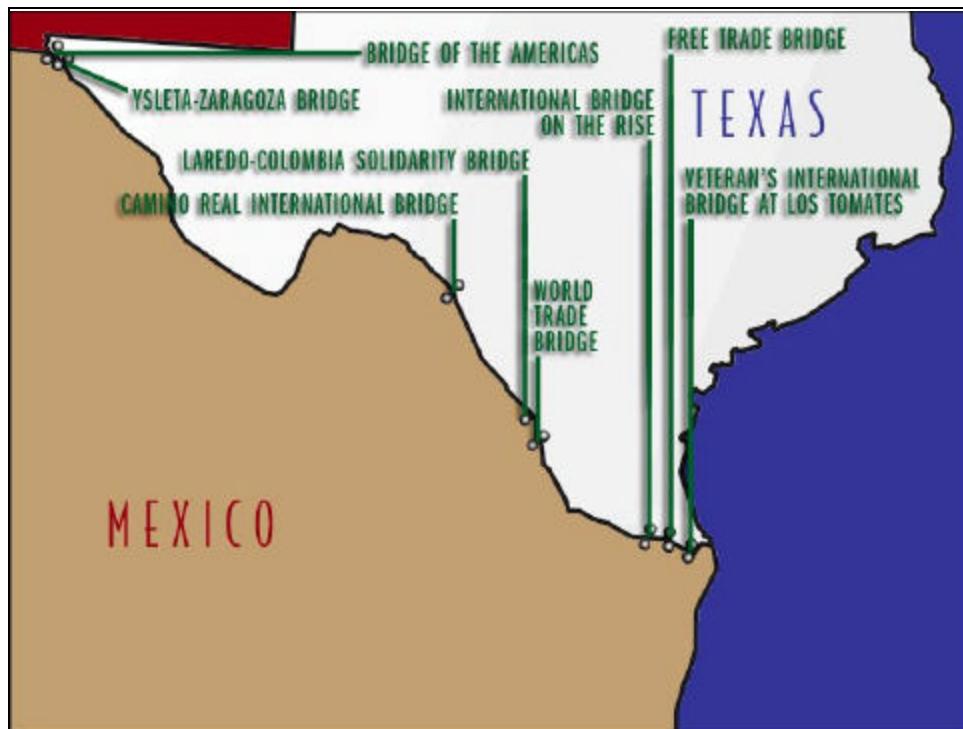
Presented to
Texas Border Partnership Working Group
June 18, 2004

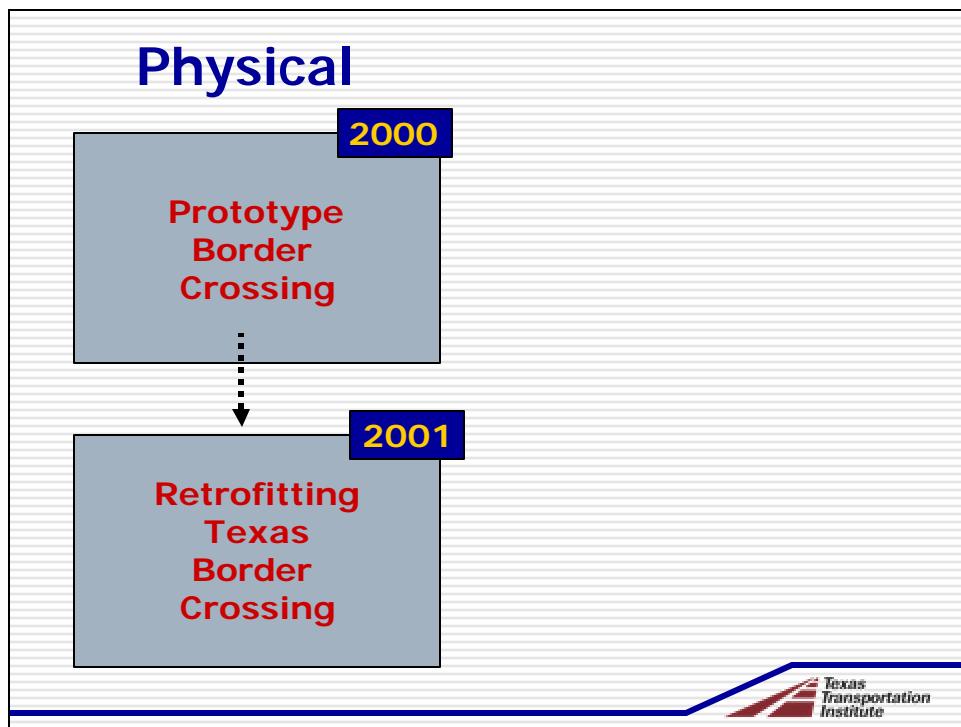
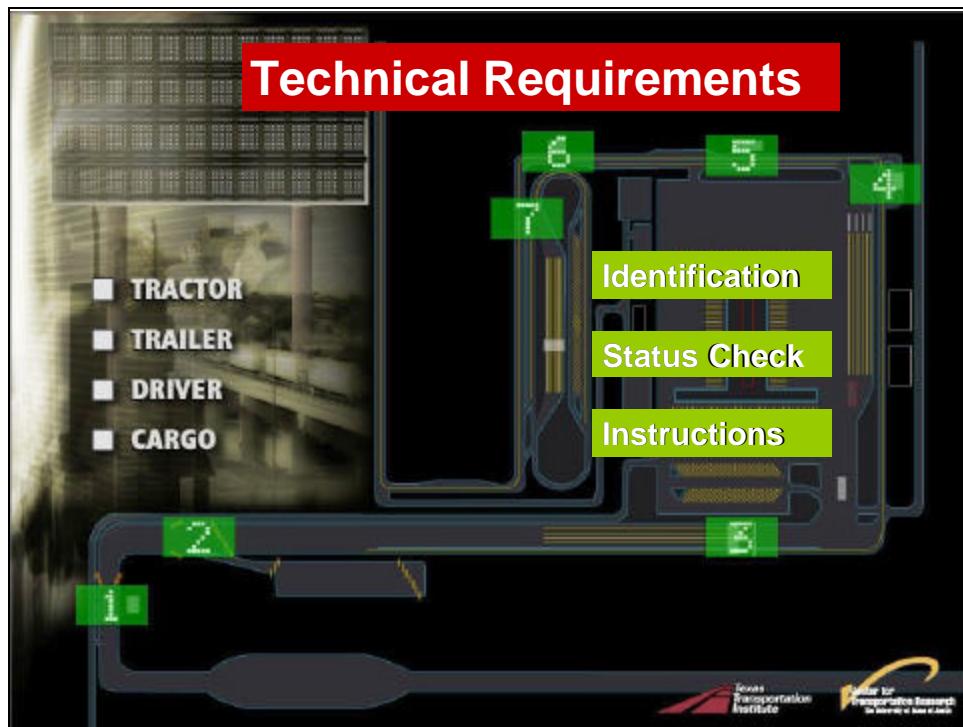


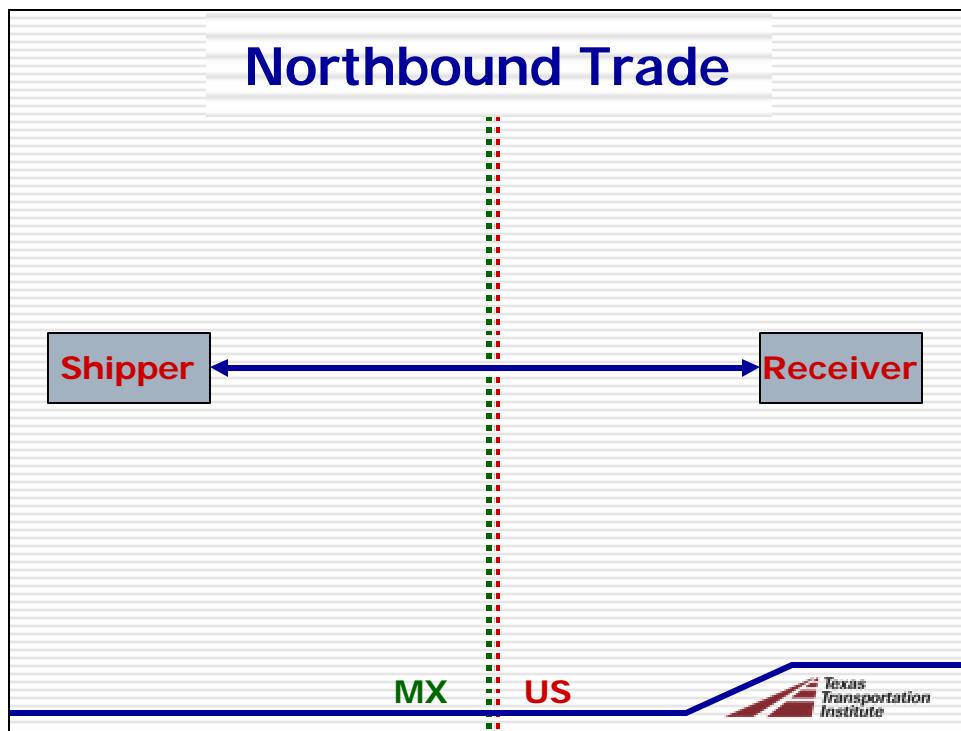
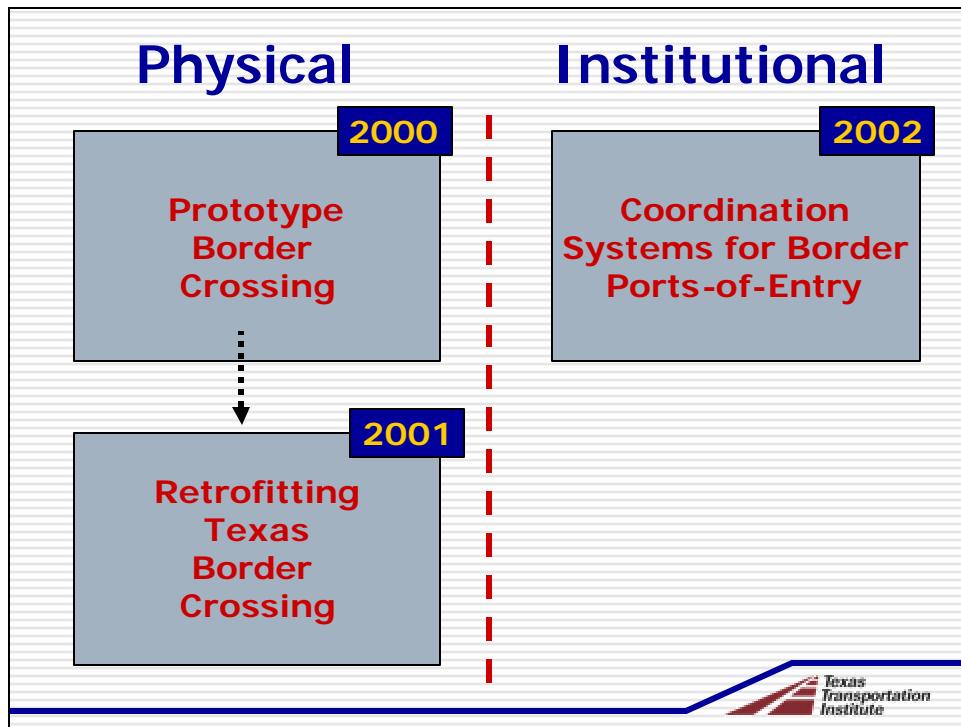
Physical

2000
Prototype
Border
Crossing

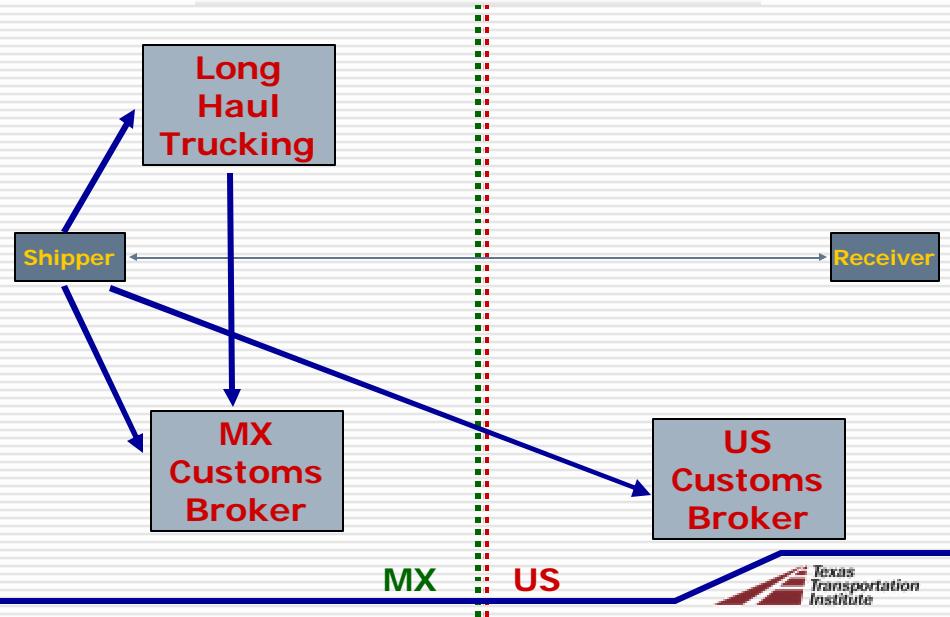




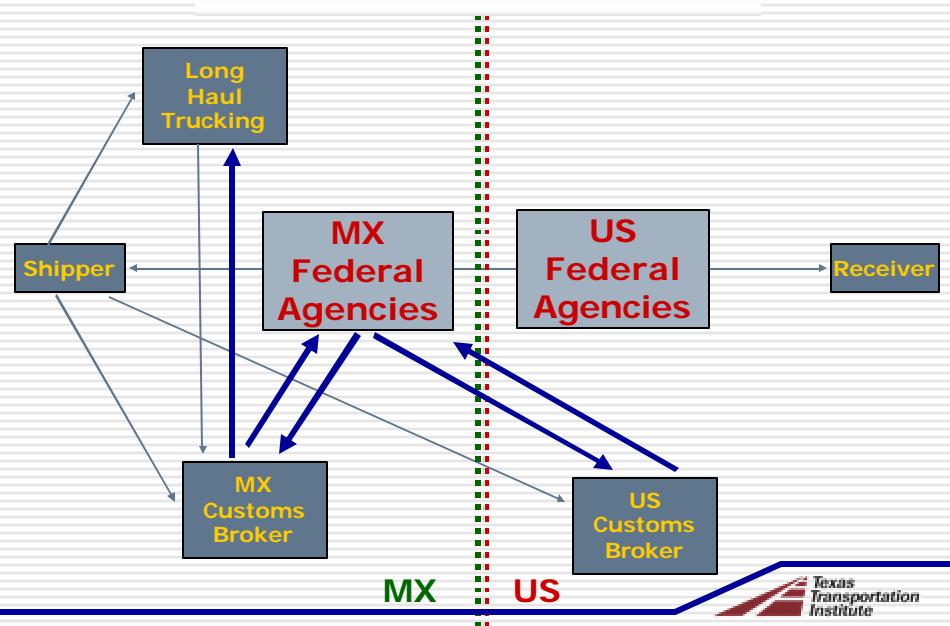




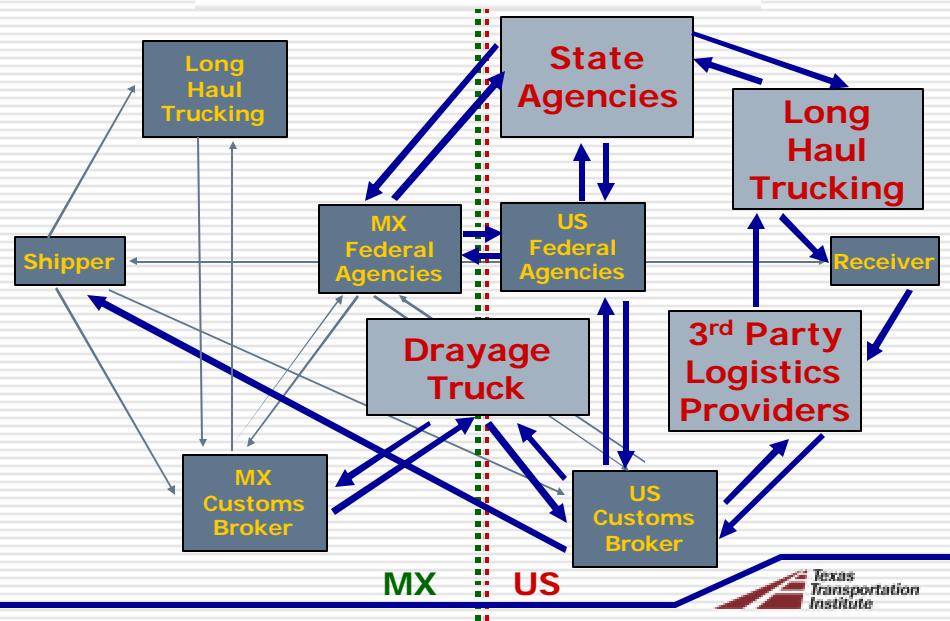
Northbound Trade



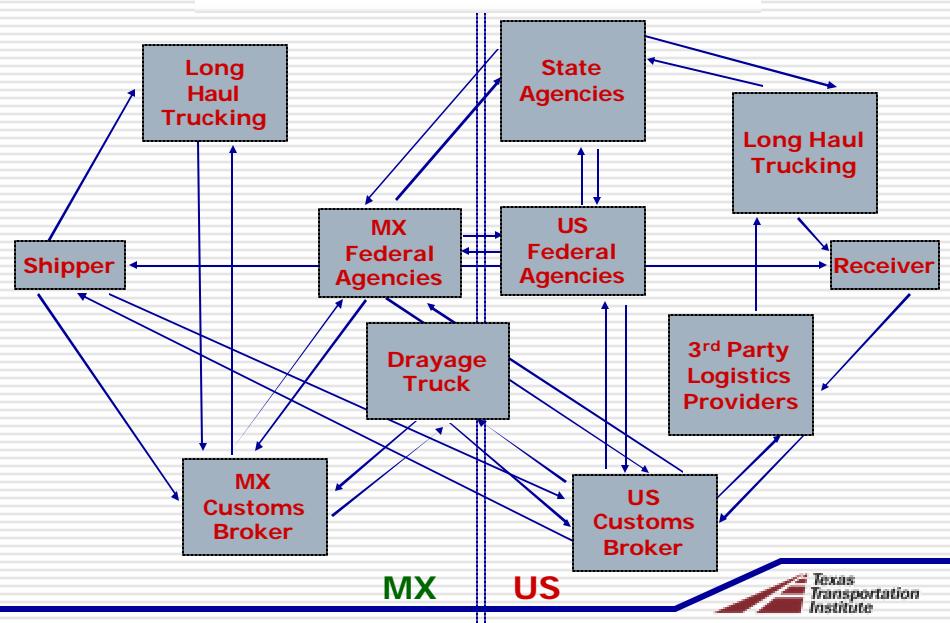
Northbound Trade



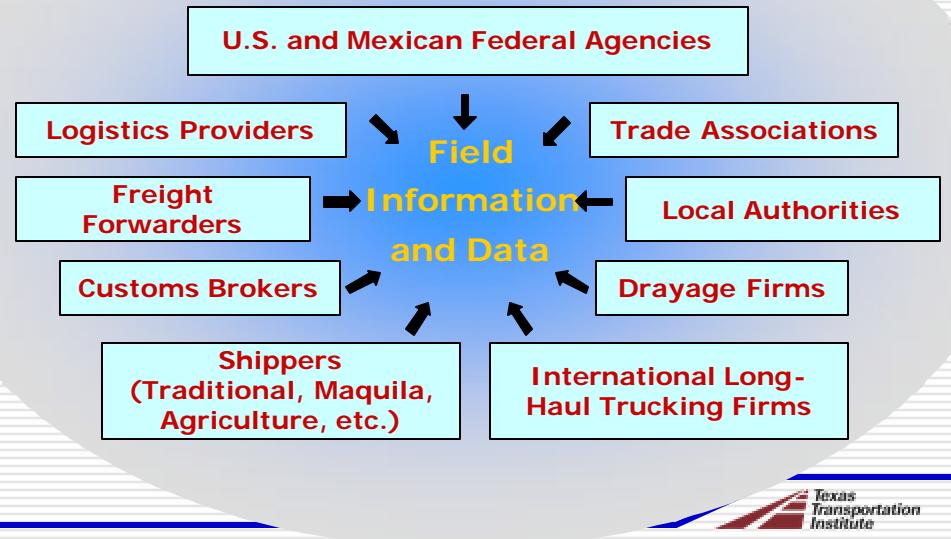
Northbound Trade



Northbound Trade

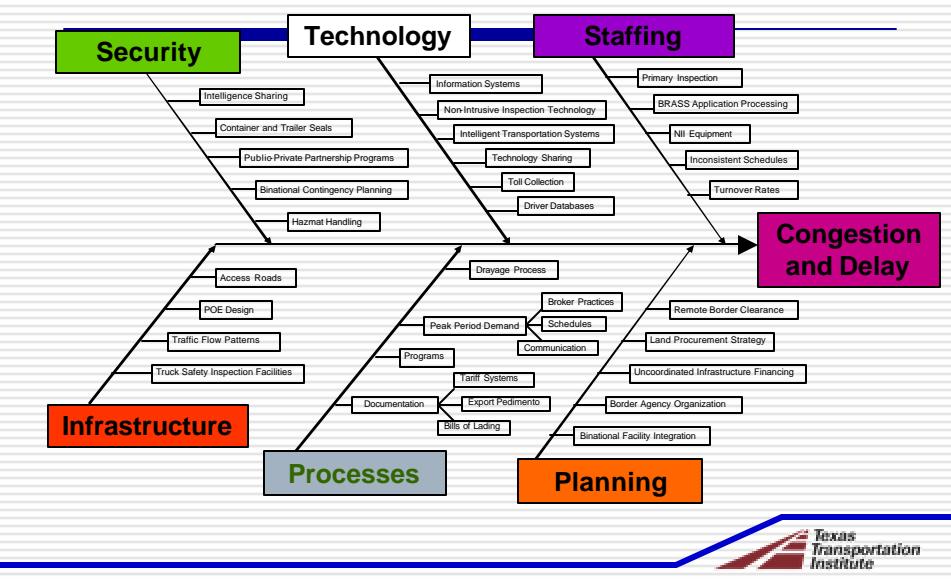


MORE THAN 100 STAKEHOLDER INTERVIEWS CONDUCTED IN THE UNITED STATES AND MEXICO...

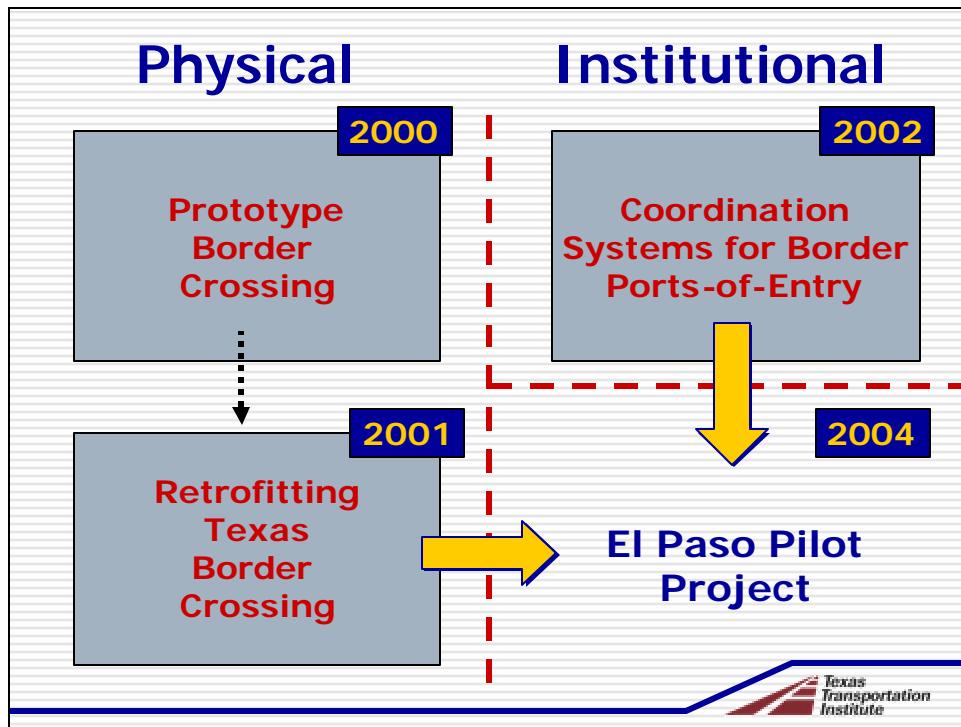


Texas
Transportation
Institute

OVERVIEW OF MAJOR COORDINATION ISSUES



Texas
Transportation
Institute



Pilot Project Phase

Implement and evaluate selected alternatives to address coordination shortcomings among border stakeholders

A Develop Consensus Implementation Plan

June – December 2004

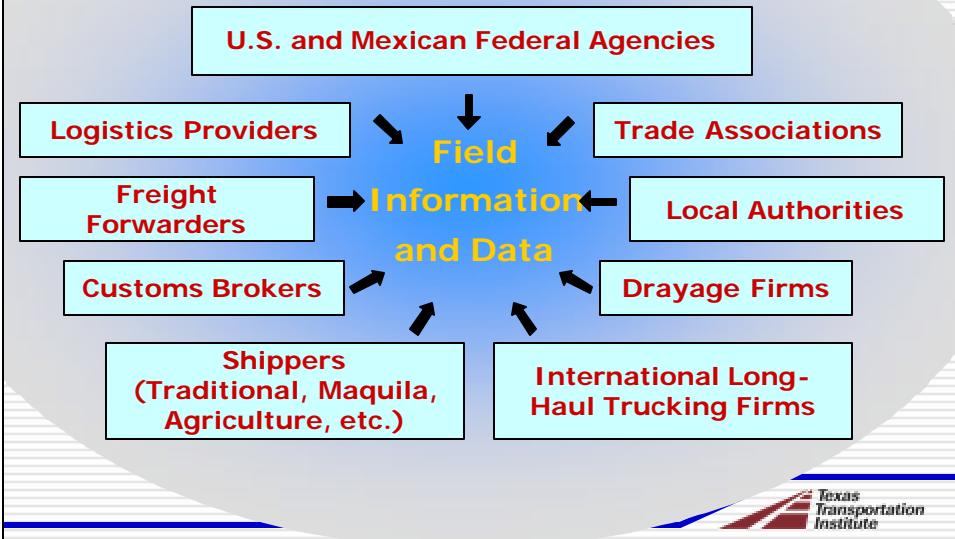
B Implement and Evaluate Changes (pending results of Phase A)

Final Phase

Develop a coordination improvement process that can be exported to other border crossings



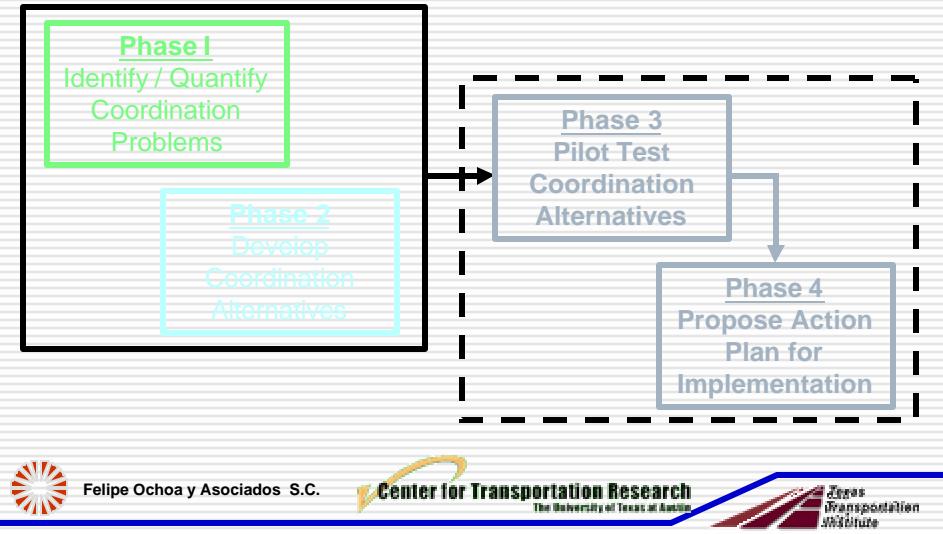
Key Stakeholders



Pilot Outcomes

- Consensus Action Plan
- Stakeholder Benefits and Responsibilities
- Objective Evaluation Plan

PROJECT CONCEPT



Felipe Ochoa y Asociados S.C.



Center for Transportation Research

The University of Texas at Austin



Appendix F – Presentation by Dr. John McCray
University of Texas (San Antonio)
Dr. Robert Harrison
Center of Transportation Research (University of Texas)

Shifting Trade Patterns Across The U.S. – Mexico Border Under NAFTA

SHIFTING TRADE AND MODAL TRENDS

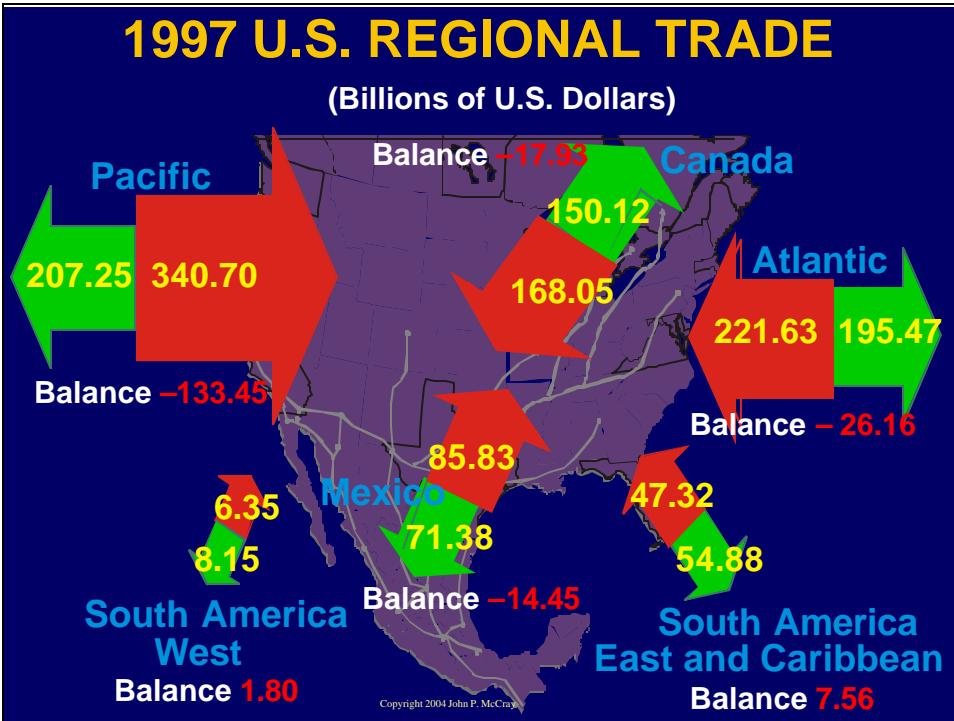
A Presentation to the Texas Border Partnership Working Group

June 18, 2004

by

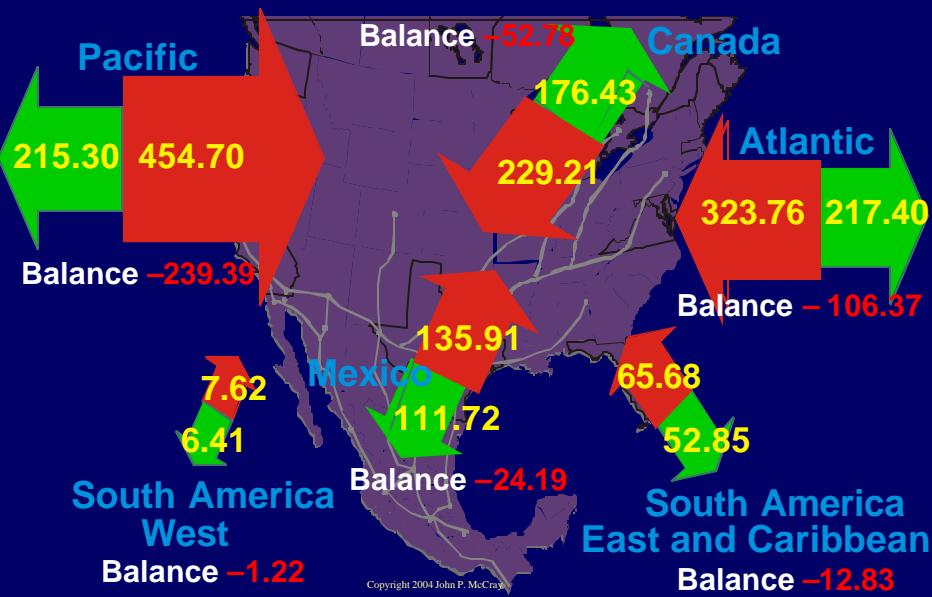
John P. McCray, P.E., Ph.D., UT San Antonio
210 458-2507 jmccray@utsa.edu

and Rob Harrison, Assoc. Director of the Center
for Transportation Research, UT Austin
512 232-3112 - harrison@mail.utexas.edu



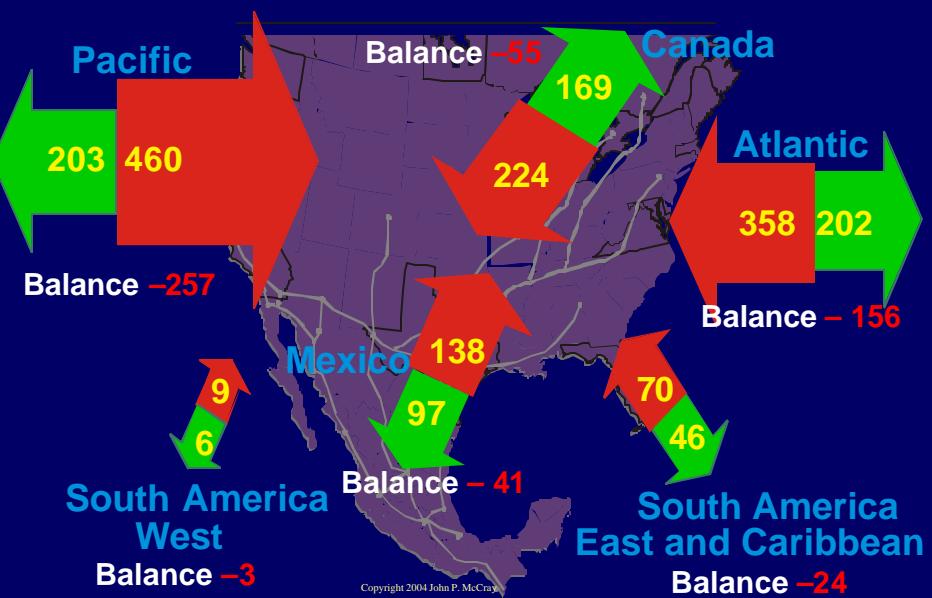
2000 U.S. REGIONAL TRADE

(Billions of U.S. Dollars)



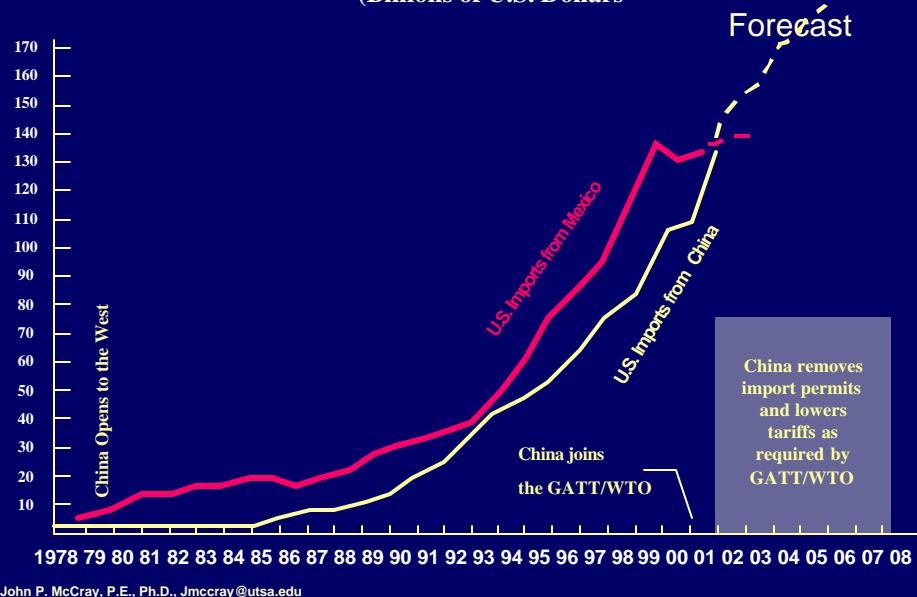
2003 U.S. REGIONAL TRADE

(Billions of U.S. Dollars)



U.S. – IMPORTS FROM CHINA AND MEXICO

(Billions of U.S. Dollars)



John P. McCray, P.E., Ph.D., Jmccray@utsa.edu

China removes
import permits
and lowers
tariffs as
required by
GATT/WTO

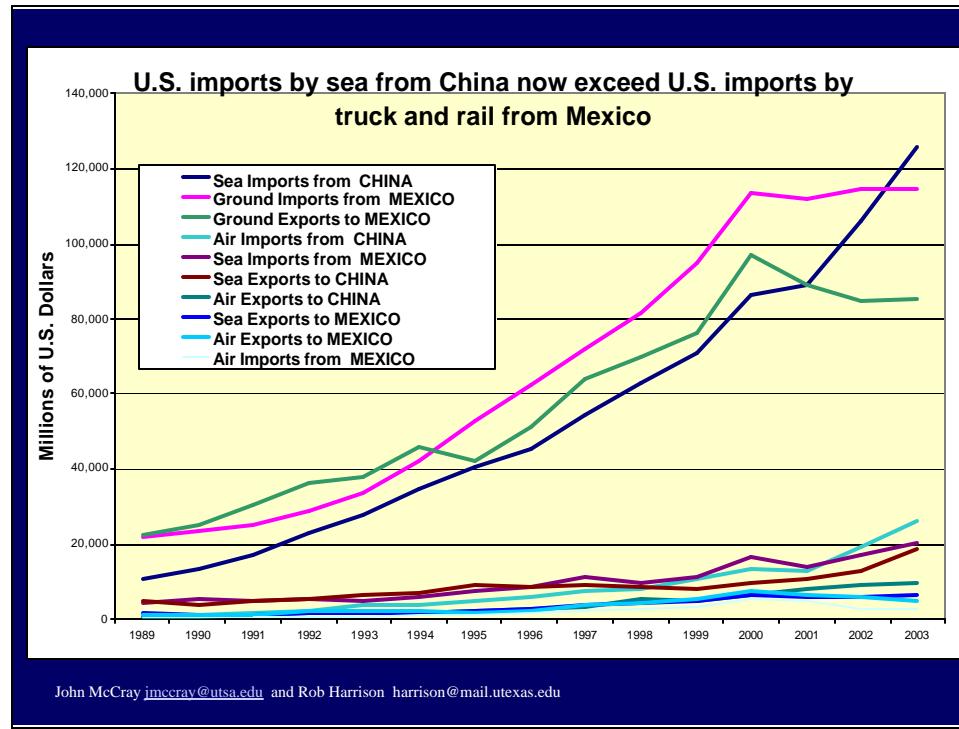
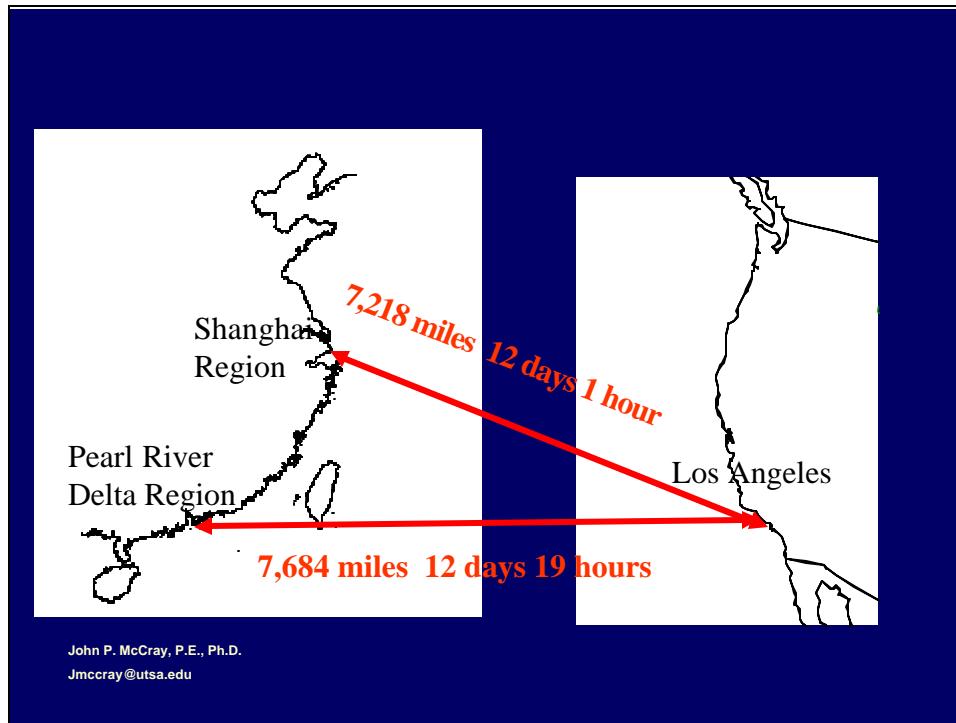
OOCL Shenzhen (8,063 TEU)

Capacity = Over 20 Double Stack 100 Car Unit Trains



John P. McCray, P.E., Ph.D.
Jmccray@utsa.edu

Length	323m	1,060ft
Speed	25.2k	29mph
DWT	100,000mt	110,231st
Draft	14.53m	47.67ft

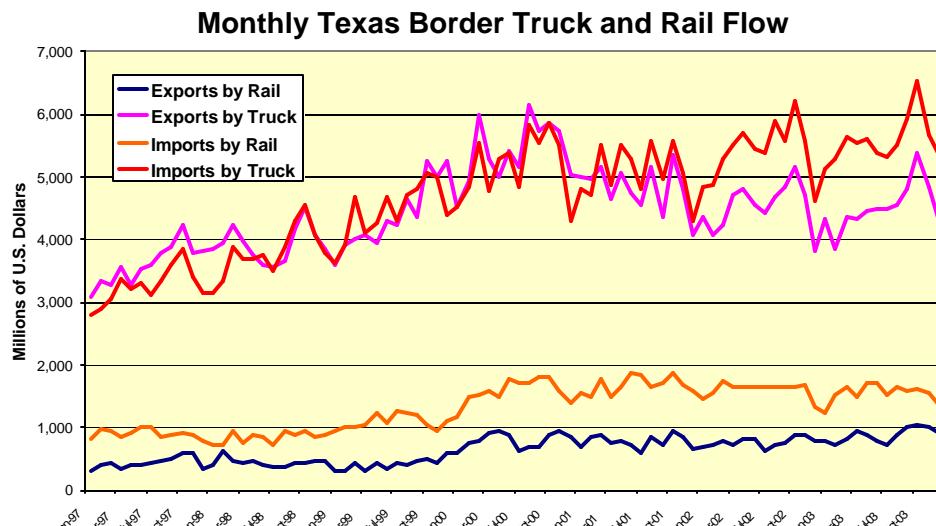


U.S. – China trade moves by sea to Los Angeles and by air to major U.S. population and manufacturing centers.

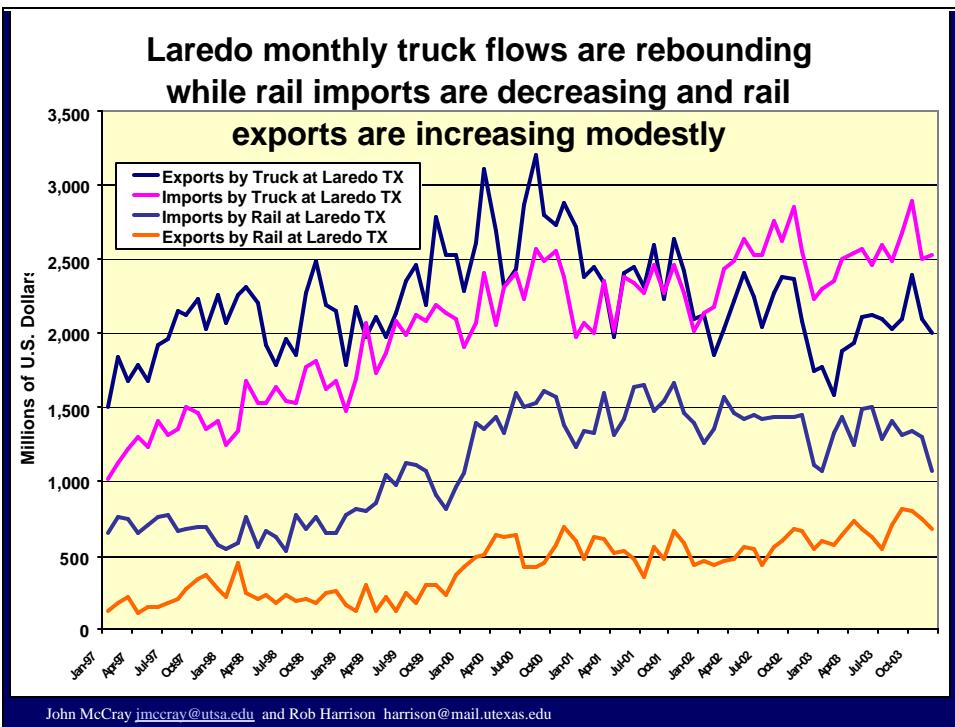
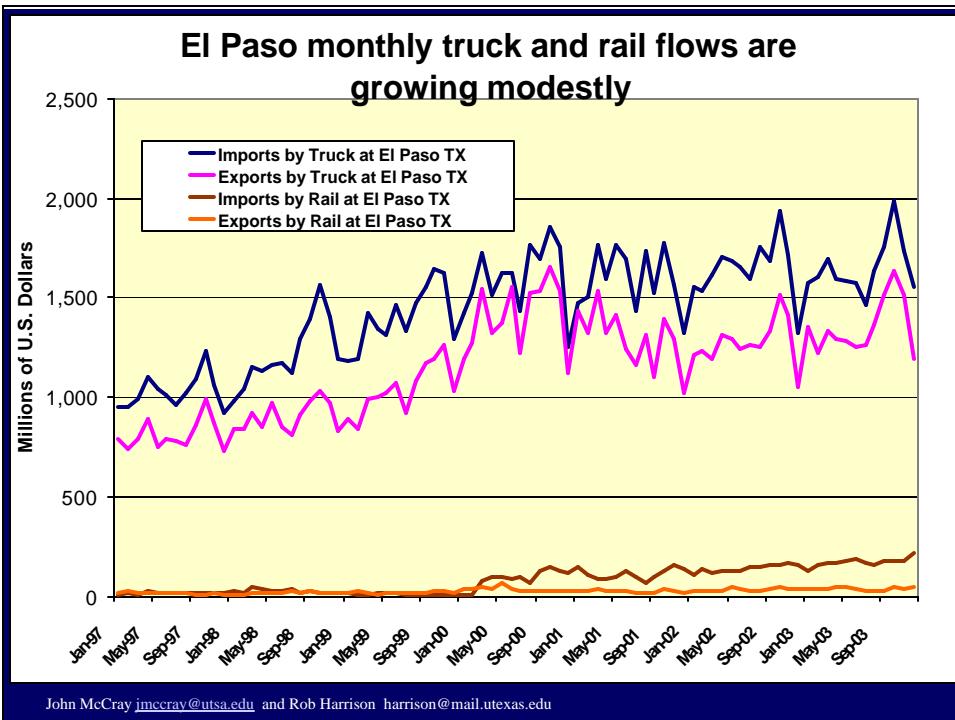
**Some of this trade crosses the Texas border into
Mexico as components and consumer products.**



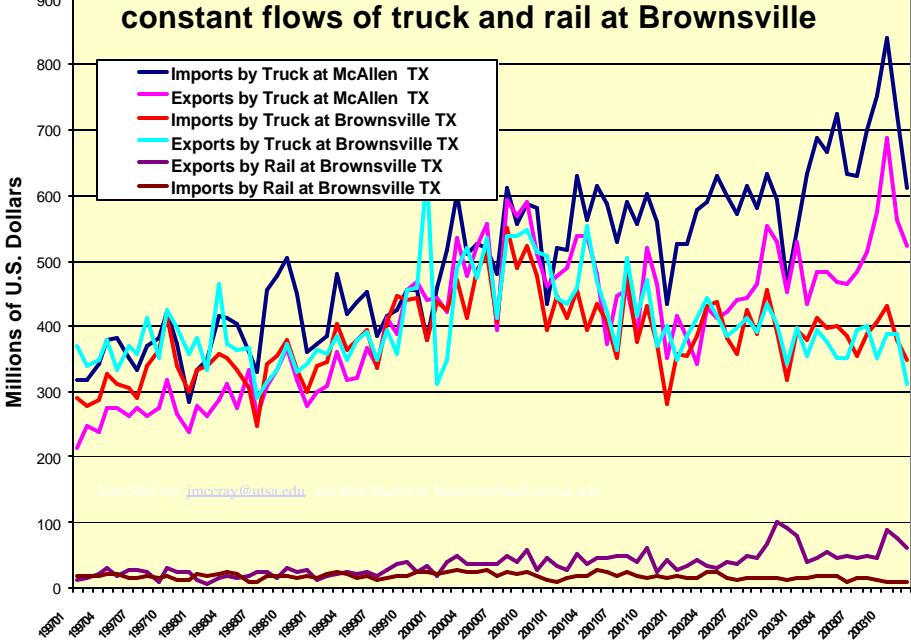
Trucks carry 5 times the value of rail across the border and rail is not gaining mode share



John McCray jmcrray@utsa.edu and Rob Harrison harrison@mail.utexas.edu

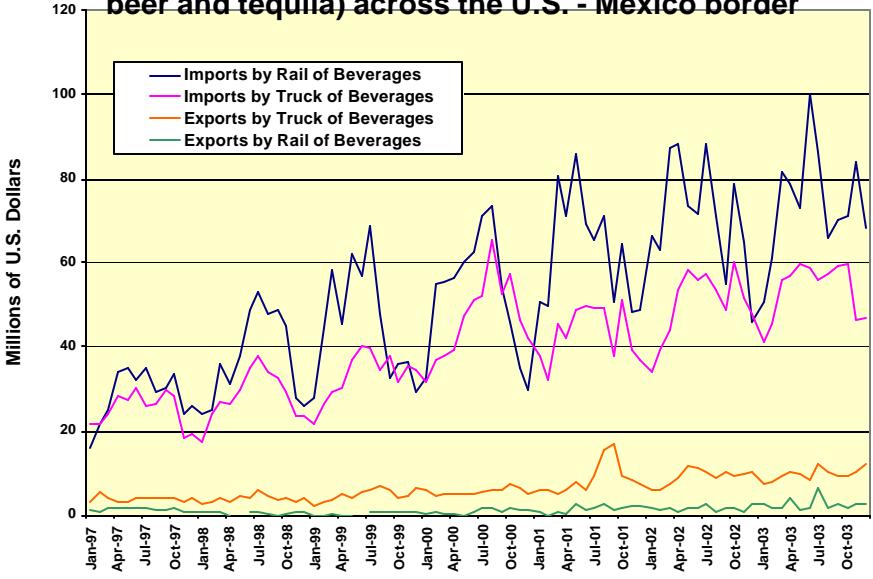


**Significant growth of truck flows at McAllen and
constant flows of truck and rail at Brownsville**

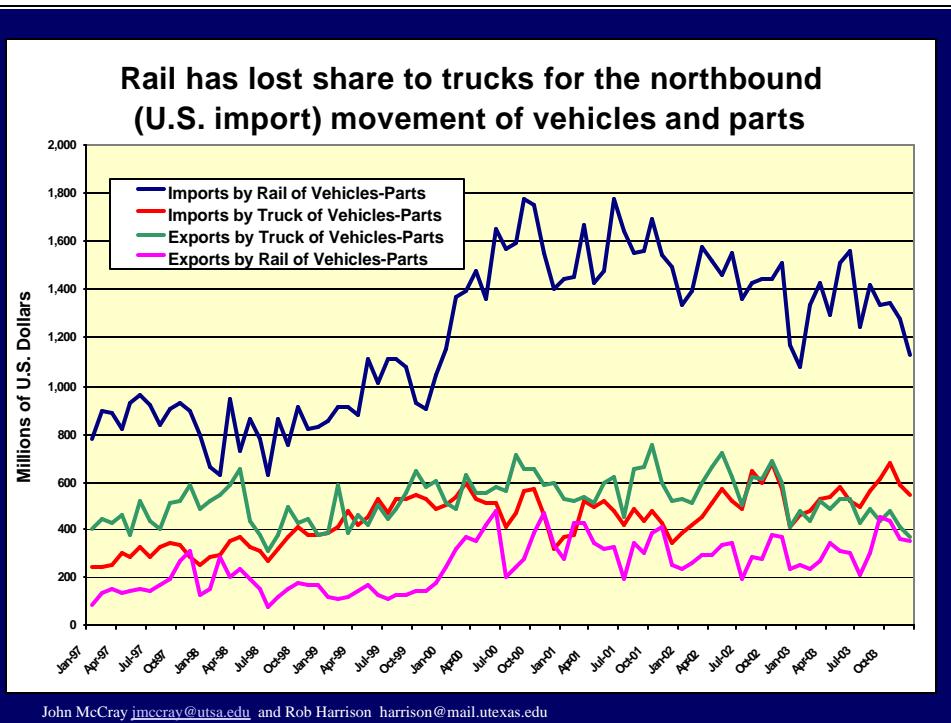


John McCray jmccray@utsa.edu and Rob Harrison harrison@mail.utexas.edu

Rail leads truck in imports of beverages (primarily beer and tequila) across the U.S. - Mexico border



John McCray jmccray@utsa.edu and Rob Harrison harrison@mail.utexas.edu



SUMMARY

- U.S. trade with Mexico peaked in 2000 and has not completely recovered
- Between 2000 – 2003 U.S. imports from China grew dramatically faster than imports from Mexico.
- The U.S. now imports more from China than Mexico.
- Modal share along the border is relatively constant with trucks transporting about 5 times the value of rail.
- Recent increases in cross border trade flows suggest that U.S. – Mexico trade is now growing moderately.
- Understanding modal trade flows is critical for U.S. – Mexico border transportation planning.

John McCray jmccray@utsa.edu and Rob Harrison harrison@mail.utexas.edu

Presentation by Dr. Steven Roop
Texas Transportation Institute

*Use of TRANSDEC (Version 2.0) by MPOs for Multimodal Planning
and Ranking Strategies*

Freight Transportation Planning: 3-Pronged Approach

Texas Border Partnership Working
Group

June 2004

Dr. Steve Roop
Texas Transportation Institute

Freight Transportation Planning: 3-Pronged Approach

- Alternative Assessment
 - Determination of which among an array of options is "best" to meet a particular goal
- Assessment of financial options
 - Determination of public-private costs and benefits
- Operational Assessment
 - Determination of system performance through simulation

Freight Transportation Planning: 3-Pronged Approach

- Freight and Freight Mobility is Receiving Greater Amounts of Attention
 - Freight projects are often left out of planning due to
 - Private nature of freight transportation
 - Limited understanding of how public-sector action impacts freight movement
 - Few clear performance measures for freight projects
 - "Freight doesn't vote"

Freight Transportation Planning: 3-Pronged Approach

- Impacts of Freight Transportation on the Public Sector are Becoming Chronic:
 - Congestion
 - Pavement damage
 - Air quality
 - Safety
- Mitigating These Impacts May be Higher Priority in the Future

Using TransDec2.0 For Freight Planning Decisions

- Multicriteria Approach
 - Decisions often require trade-offs
 - Contemplation of competing or conflicting objectives
 - Reliance on a variety of measures
 - Different scales
 - Variety of metrics
 - Objective and subjective factors
 - Need to consider measures other than *dollars*

TransDec2.0

- Provides a Framework Within Which to Rank and Select Alternative Projects
 - Results in a Single Index
 - Provides Component Contributions
 - Allows Modification and Updates
 - Stores, Reports, and Prints Results

TransDec2.0

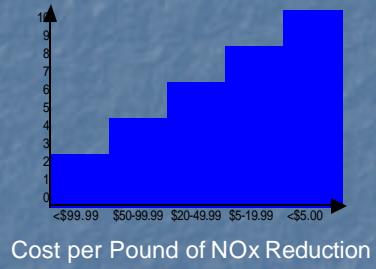
- A Common Decision Framework:
 - Establish Broad Hierarchy of Goals
 - Safety
 - Environment
 - Mobility
 - Cost effectiveness
 - Define Objectives that address each goal
 - Usually discrete efforts or processes
 - Select performance measures that reflect achievement of the objectives
 - Define rating scales and preferred outcomes

TransDec2.0

- Rating Scales
 - Numerical
 - Project cost per pound of emissions eliminated (low value preferred)
 - Average free flow traffic speed (high value preferred)
 - Categorical Ratings or Rankings
 - High, Medium, Low
 - Level of Service – A, B, C, D, F
 - Binary
 - Yes, No

TransDec2.0

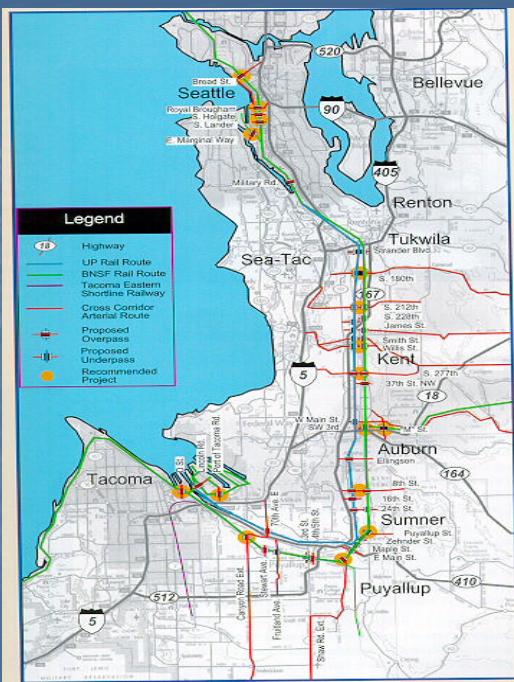
- Combination of Diverse Scales and Measures is Accomplished by Mapping All Scales to a Universal 10-point Metric



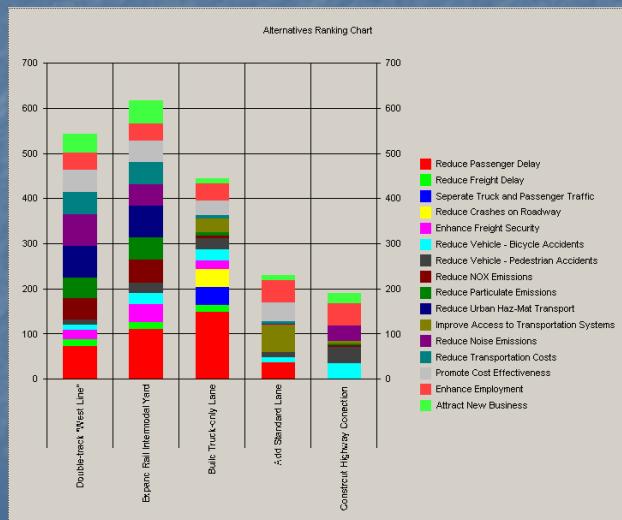
TransDec2.0

Example:

FAST Corridor
Seattle, WA



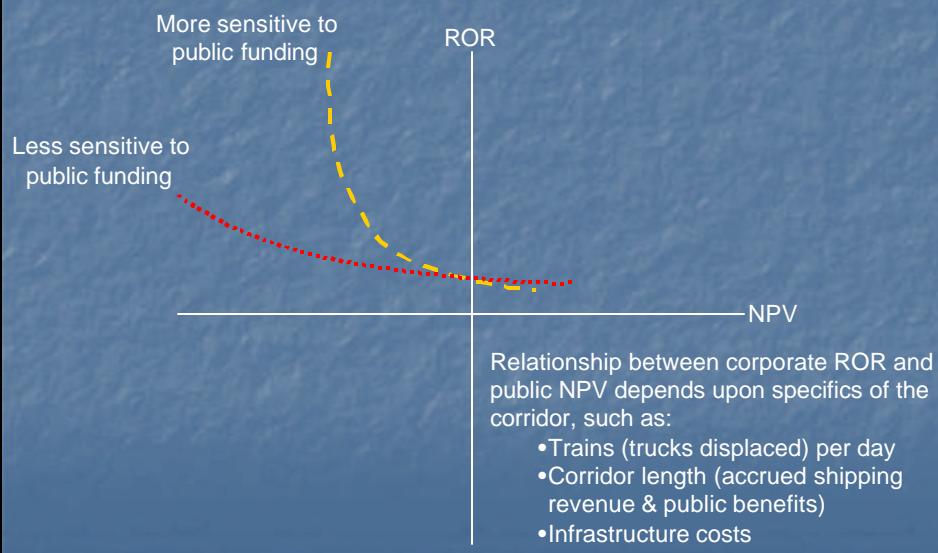
TransDec2.0 Evaluation Reports



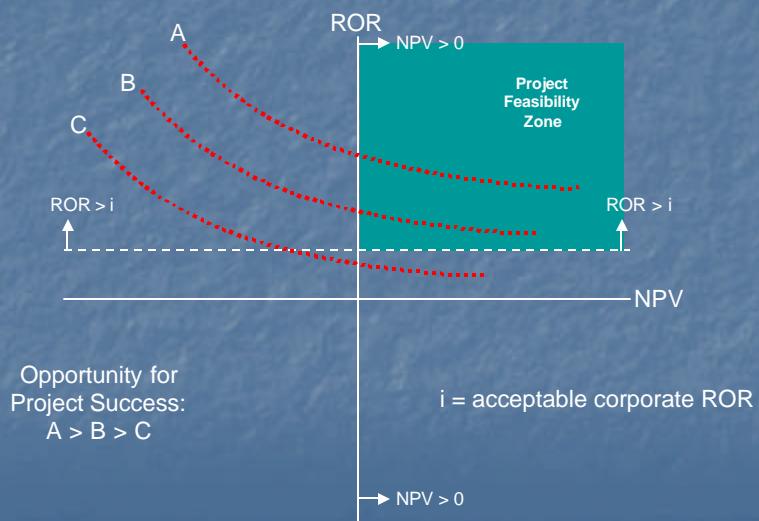
A Public-Private Investment Framework for Freight Investment Decisions

- PPIF Strikes a Financial Balance Between Public and Private Contributors to a Project
 - Assess public benefits in terms of net present value
--relative to--
 - Private sector rate of return on their share of invested capital

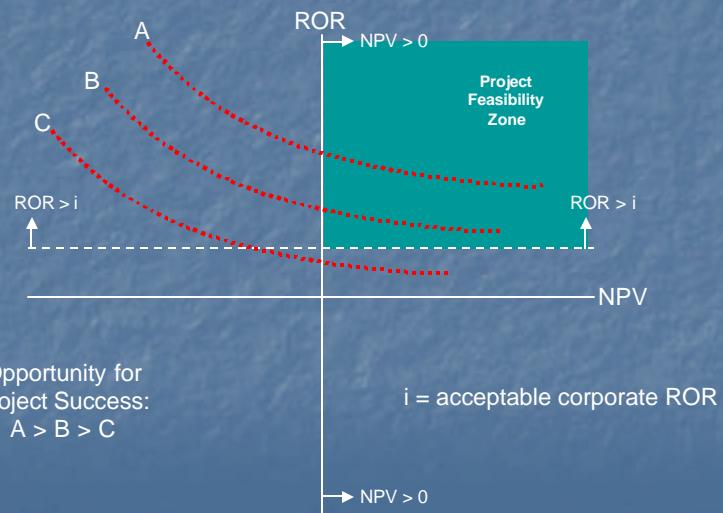
Economic Relationship Between Public & Private Sectors



Project Feasibility for Public & Private Sectors



Project Feasibility for Public & Private Sectors



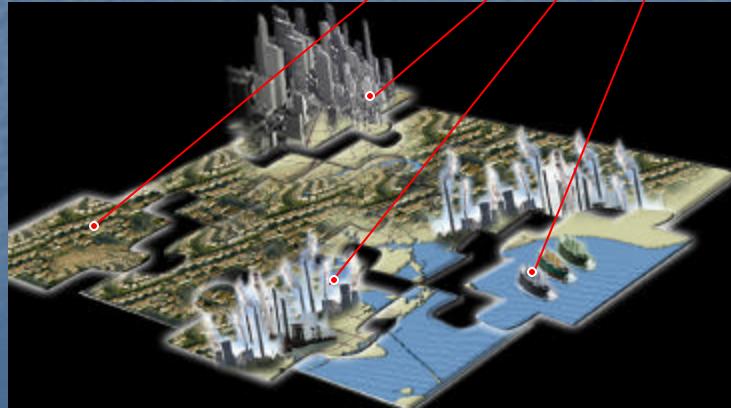
Freight Transportation Simulation: Port Setting

- Nation's 3d Largest Port
- World's 8th Largest Port
- Large Population Center
- Petrochemical Plants
- Texas Medical Center
- International Airport
- Johnson Space Center
- 25-mile Long Complex



Freight Transportation Simulation: Port Setting

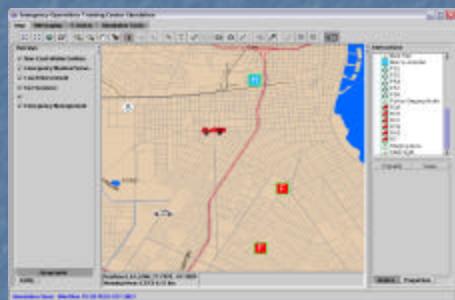
- Ship Channel and Surrounding Waters
- Petrochemical Plants and Loading/Unloading Facilities
- Large Downtown Area with Many Multi-Story Buildings
- Industrial and Residential Areas



Five Primary Displays

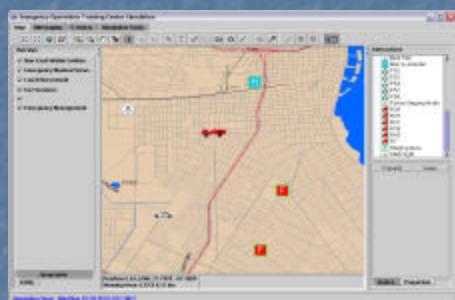
- **Map Display** – This is the primary display to be used for command and control and is totally driven by the events in the simulation. Because it is the primary source for maintaining an operational view of the scenario and its associated events, instruction related to this display will be more detailed than that provided for the others.
- **Messaging System** – This system allows the participants to send and receive messages from other participants, role players, observer/controllers, and entities being modeled in the simulation.
- **E-Status Display** – This display provides a convenient mechanism for tracking assigned resources, both committed and non-committed.
- **Simulation Clock** – The simulation clock represents the current time and date being portrayed in the simulation.
- **Simulation Manager** – The simulation manager contains embedded scenario and event editors for designing, building, constructing, and controlling the training exercise.

The Map Display



- Primary display to be used by participants.
- This display is used for command and control of personnel, vehicles, and equipment.
- This display is the primary source for maintaining an operational view of the scenario and its associated events.

The Map Display



- Primary display to be used by participants.
- This display is used for command and control of personnel, vehicles, and equipment.
- This display is the primary source for maintaining an operational view of the scenario and its associated events.

E-Status Display

Dispatcher Name	Location	Comments		
Dispatcher ID	Dispatcher Type	Dispatcher	Status	Comment
CN Engine 0	Emergency Medical Ser.	In Service		
CN Engine 1	Emergency Medical Ser.	In Service		
CN Engine 2	Emergency Medical Ser.	In Service		
CN Engine 3	Emergency Medical Ser.	Out of Service		
CN Engine 4	Emergency Medical Ser.	Out of Service		
CN Engine 5	Emergency Medical Ser.	Out of Service		
CN Engine 6	Emergency Medical Ser.	Out of Service		
CN Firehouse Maine 1	Emergency Medical Ser.	In Standby		
CN Firehouse Maine 2	Emergency Medical Ser.	In Standby		
CN Engine #1	Fire Service	Assigned		
CN Engine #2	Fire Service	Assigned		
CN Engine #3	Fire Service	Assigned		
CN Engine #4	Fire Service	Assigned		
CN Engine #5	Fire Service	Assigned		
P20 Engine 0	Fire Service	Assigned		
CN Engine #6	Fire Service	Assigned		
CN Engine #7	Fire Service	Assigned		
CN Engine #8	Fire Service	Assigned		
CN Engine #9	Fire Service	Assigned		
CN Engine #10	Fire Service	Assigned		
CN Truck 01	Fire Service	Assigned		
CN Truck 02	Fire Service	Assigned		
CN Truck 03	Fire Service	Assigned		
CN Truck 04	Fire Service	Assigned		
P20 Ladder 700	Shifting Medic Unit	Assigned		
P20 Ladder 700	Shifting Medic Unit	Assigned		
P20 Ladder 700	Shifting Medic Unit	Assigned		
CN Powerline Graphics 001	Fire Service	Assigned		

- Used to track status of vehicles and equipment.
 - Requires manual inputs and is shared with all other staff members.

Messaging System

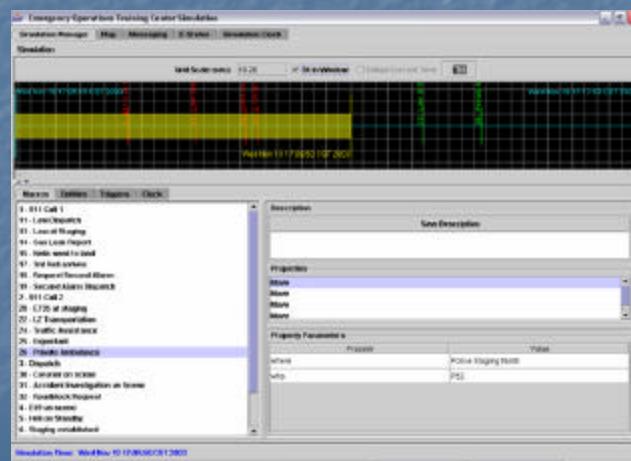
- Contains address book for all staff positions and role players.
 - Can be used to send and receive color-coded messages.

Simulation Clock



- Represents simulation time as opposed to "wall clock" time.
 - Serves as source for environmental variables such as temperature, wind direction, wind speed, etc.

Simulation Manager



Appendix H – Sign-in Sheets

FOR TEXAS BORDER PARTNERSHIP WORKING GROUP

Registration of Attendance

JUNE 18, 2004

Registration of Attendance
FOR TEXAS BORDER PARTNERSHIP WORKING GROUP
June 18, 2004

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