



TEXAS DEPARTMENT OF TRANSPORTATION

2012 International Trade Corridor Plan

Phil Wilson, Executive Director
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Texas International Trade Corridor Plan

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Contents

Contents.....	i
List of Figures.....	ii
List of Tables.....	iii
I. Introduction	1
Background	1
Outline of the 2012 ITCP	1
II. Texas International Transportation Infrastructure.....	2
Texas Roads	2
Texas Commercial Border Crossings	2
Texas Railroads.....	3
Texas Seaports	5
Texas Pipelines	6
III. International Trade—U.S. and Texas	7
U.S. International Trade.....	7
U.S. Main Trading Partners	7
Texas International Trade.....	9
Texas’ Main Trading Partners.....	9
Texas Trade with Mexico.....	10
Mexico’s Industry—Its Impact on Texas Trade	12
Texas International Trade by Transportation Mode	13
Surface Trade	13
Texas-Mexico Truck Trade.....	15
Texas-Mexico Rail Trade	17
Trade by Seaports.....	19
Trade by Pipeline	21
IV. Texas International Trade Corridors	22
Texas International Trade Corridor Ranking.....	22
Major Texas Truck Corridors	26
I-35.....	26
I-10.....	26
I-45.....	26
Other Corridors	26
Major Texas Rail Corridors	26
V. Border Trade Advisory Committee.....	28
VI. Concluding Remarks.....	29

List of Figures

Figure 1. Texas Road Network Used for the Assignment of Truck Freight Flows.....	2
Figure 2. Texas' Commercial Border Crossings in 2012.	3
Figure 3. Texas Railroads.	4
Figure 4. Texas Ports.	5
Figure 5. Texas Pipelines—Crude and Natural Gas.	6
Figure 6. U.S. Imports and Exports and Trade Balance.	7
Figure 7. U.S. Exports to Major Trading Partners.....	8
Figure 8. U.S. Imports from Major Trading Partners.....	8
Figure 9. 2011 U.S. International Trade and Exports by State (\$ Billions).....	9
Figure 10. 2011 Texas Imports and Exports (\$ Billions).	10
Figure 11. Total Texas-Mexico Trade.....	11
Figure 12. Percentage of the Total U.S.-Mexico Trade that Occurs through Texas.	11
Figure 13. Percentage Change in the Mexican Manufacturing Production.....	12
Figure 14. Texas-Only Trade with Mexico (Originating in Texas Only).....	13
Figure 15. Total Texas-Mexico Surface Trade and Main Ports of Entry.	14
Figure 16. Trucks Entering Texas from Mexico.	15
Figure 17. Total Texas Exports to Mexico—Value by Trucks.....	16
Figure 18. Texas Imports from Mexico—Value by Trucks.....	16
Figure 19. Texas-Mexico Northbound Rail Traffic.	17
Figure 20. Texas Exports to Mexico—Value by Rail.	18
Figure 22. Texas-Mexico Trade by Pipeline.	21
Figure 23. International Trade Tons by Truck 2011 (top) and 2040 (bottom)—Imports and Exports.....	23
Figure 24. International Trade Tons by Rail 2007 (top) and 2040 (bottom)—Imports and Exports.....	25
Figure 25. Texas-Mexico Trade by Truck, Rail, and Pipeline.	29

List of Tables

Table 1. U.S. International Surface Trade by Value and Weight–Net Change 2009-2011.....	14
Table 2. Top 10 U.S. Ports by Waterborne Tonnage, Imports, and Exports (2008-2010).....	19
Table 3. Texas Ports’ Foreign Trade (2010).....	20
Table 4. U.S. Seaborne Trade by Region 2008-2009 (Metric Tons in Thousands).	20
Table 5. Texas International Trade Corridors by Truck (Imports and Exports in Millions).	22
Table 6. Texas International Trade Corridors by Rail (Imports and Exports in Millions).	24
Table 7. Strategies Formulated to Address the BTAC Goals.	28

I. Introduction

Background

Section 201.6011, Texas Transportation Code, requires the Texas Department of Transportation (TxDOT) to update the International Trade Corridor Plan (ITCP) biennially and report on its implementation to the presiding officer of each house of the legislature in each even-numbered year.¹

The 2012 ITCP serves as an update to the 2010 version. Previous versions of the ITCP and the Border Trade Advisory Committee Report (BTAC), in addition to their pertinent updates, can be found at the TxDOT Library page on the Transportation Planning Publications website:

http://www.txdot.gov/txdot_library/publications/transportation_planning.htm.

Among the main changes for the 2012 ITCP, the downturn in the economy generated by the financial crisis seems behind us, and international truck traffic has recovered reaching pre-crisis levels and new highs in some cases. Truck traffic continues to be the dominant mode for trade between the U.S. and Mexico. Laredo remains the port of entry with the highest value of international trade, followed by El Paso. The I-35 corridor continues to be the backbone for international truck trade in Texas. After the recession, trade by rail recovered, reaching pre-crisis volumes. Eagle Pass keeps gaining significance in the level of trade by rail, showing impressive growth rates in the last few years.

Outline of the 2012 ITCP

The structure of the 2012 ITCP consists of six main sections:

- I. **Introduction.** Summarizes events at the international and national levels that could impact levels of trade in Texas.
- II. **Texas International Transportation Infrastructure.** Describes the highways, railroads, seaports, and pipelines serving international trade in Texas.
- III. **International Trade—U.S. and Texas.** Presents trade statistics highlighting the changes in recent years and their impact on commercial traffic by relevant modes.
- IV. **Texas International Trade Corridors.** Explores the assignment of freight flows (in tons) on Texas corridors serving international trade along with the forecasted volumes.
- V. **Border Trade Advisory Committee (BTAC).** Updates the efforts from multiple organizations to meet the BTAC goals developed in 2006.
- VI. **Concluding Remarks.** Conclusions of the ITCP 2012 update.

¹ Senate Bill No. 183, 79th Regular Session, 2005.



Source: Texas A&M Transportation Institute 2010.

Figure 2. Texas' Commercial Border Crossings in 2012.

The World Trade Bridge in Laredo handles the largest amount of commercial traffic between Mexico and the U.S., followed by the two international bridges in El Paso. Commercial traffic at the Pharr-Reynosa International Bridge is on the rise.

Texas Railroads

Texas has 44 freight railroads and 10,743 miles of operated rail lines.³ The major railroad companies include BNSF Railway, Kansas City Southern Railway (KCS), and Union Pacific Railroad (UP). Figure 3 shows the rail system serving Texas, including Class I railroads and short lines.

³ Texas Department of Transportation: http://www.dot.state.tx.us/public_involvement/rail_plan/trp.htm

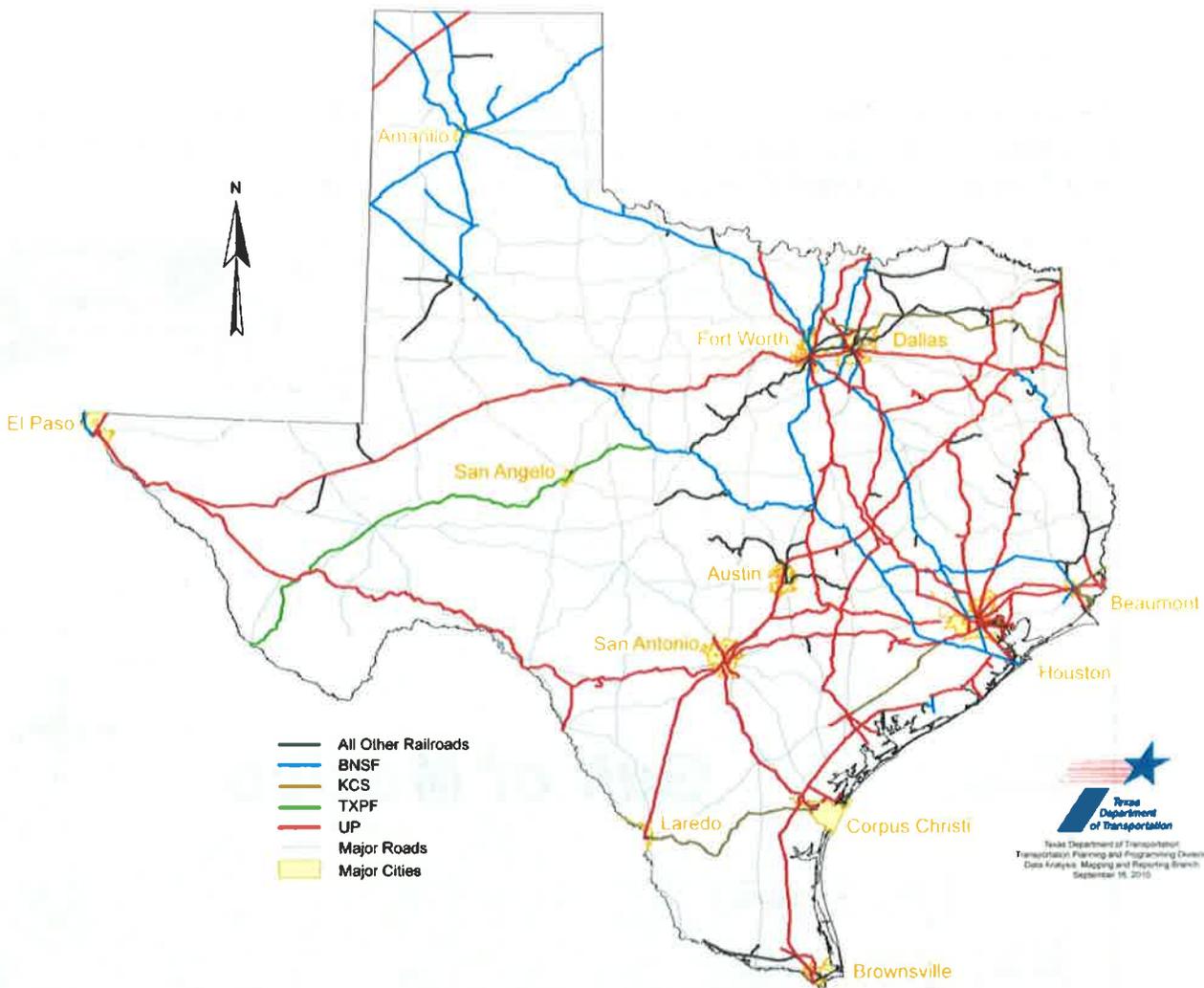


Figure 3. Texas Railroads.

The Kansas City Southern Railway has developed a new intermodal logistics park near Rosenberg, Texas. This terminal will provide rail service—carload and intermodal—along KCS’s international intermodal corridor between Houston and the Port of Lazaro Cardenas in Mexico. The terminal is currently handing container traffic to and from Lazaro Cardenas and finished vehicles for Nissan from Aguascalientes in Mexico.

Texas Seaports

Texas' deep draft ports are Orange, Beaumont, Port Arthur, Sabine Pass, Houston, Galveston, Texas City, Freeport, Port Lavaca-Point Comfort, Corpus Christi, Port Isabel, and Brownsville. Figure 4 shows the locations of the Texas' ports.



Figure 4. Texas Ports.

The Port of Houston Authority completed several major initiatives in 2011, including the beginning of the Barbour's Cut Master Plan Redevelopment Program which includes wharf rehabilitation, allowing for larger, more advanced wharf cranes. During 2011, the first 8,000 plus TEU (twenty foot equivalent units) vessels called at the Bayport container terminal.⁴

The Port of Corpus Christi is designing a new rail interchange yard that will be capable of more efficiently handling the increasing number of unit trains and cars loading and unloading at the Port.⁵

⁴ The Port of Houston Authority, Comprehensive Annual Financial Report for the Year Ended December 31, 2011.

⁵ Port of Corpus Christi Authority of Nueces County, Texas, Comprehensive Annual Financial Report for the Year Ended December 31, 2011

Texas Pipelines

Private industry operates pipelines in Texas and some carry international trade. The pipeline network in Texas is 366,275 mile long and more than 40% of it is used for gathering⁶. Figure 5 presents the crude oil and natural gas pipeline networks in Texas.

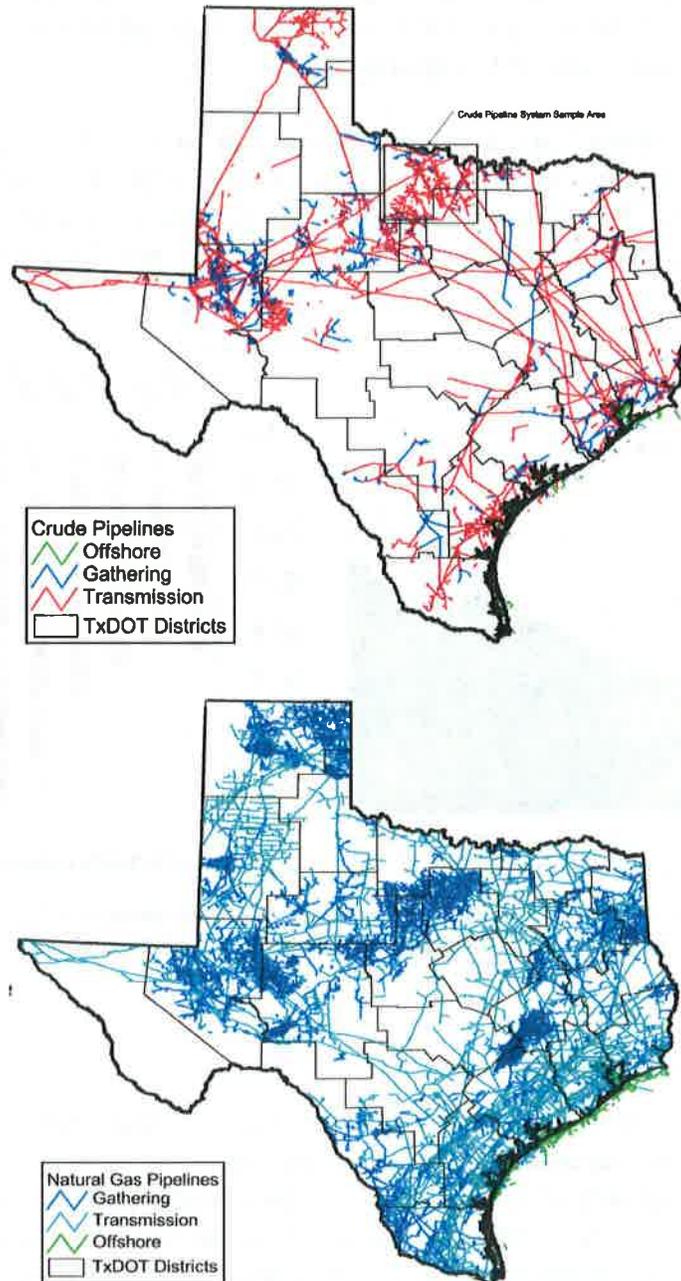


Figure 5. Texas Pipelines—Crude and Natural Gas.

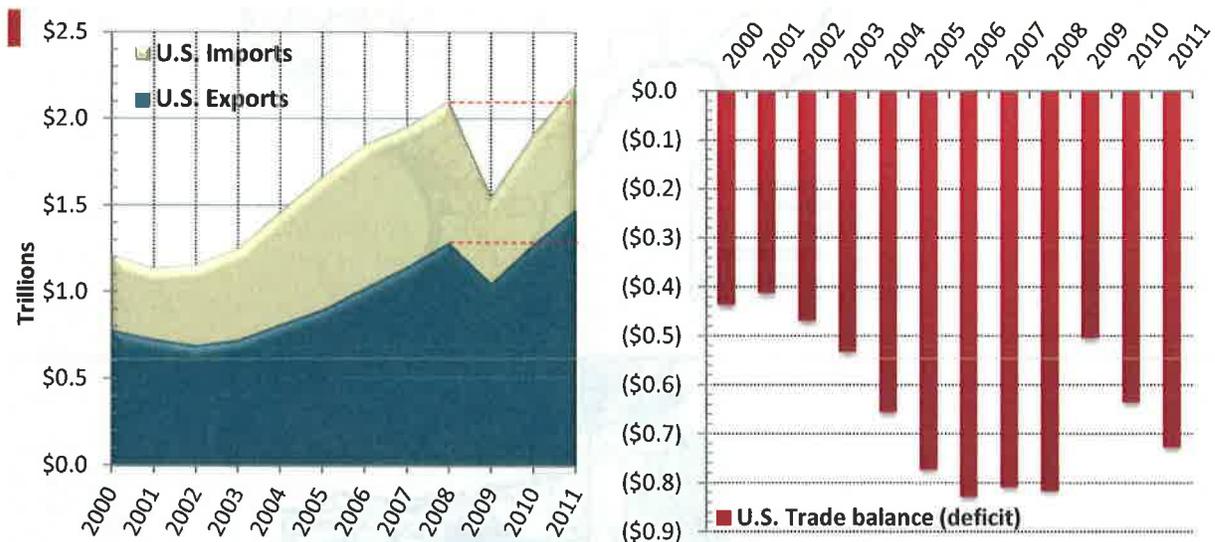
⁶ Texas Pipeline Association, Pipeline Significance in the Texas Oil and Gas Industry, May 2012

III. International Trade—U.S. and Texas

U.S. International Trade

The financial crisis severely impacted international trade. Between 2008 and 2009, U.S. exports fell 22 percent to \$1.06 trillion, and imports fell a dramatic 35 percent to \$1.56 trillion. In 2011, the recovery of U.S. imports and exports reached and surpassed pre-crisis levels (Figure 6, left).⁷ The U.S. trade balance deficit barely surpassed \$0.7 trillion dollars, given the increase in U.S. exports (Figure 6, right).

Recovery efforts started to lose momentum in the first quarter of 2012. High unemployment and unsustainable levels of federal debt are expected to slow down private consumption and industrial manufacturing. It is very likely that this will impact levels of trade around the world, and hence the U.S. and Texas freight transportation systems.



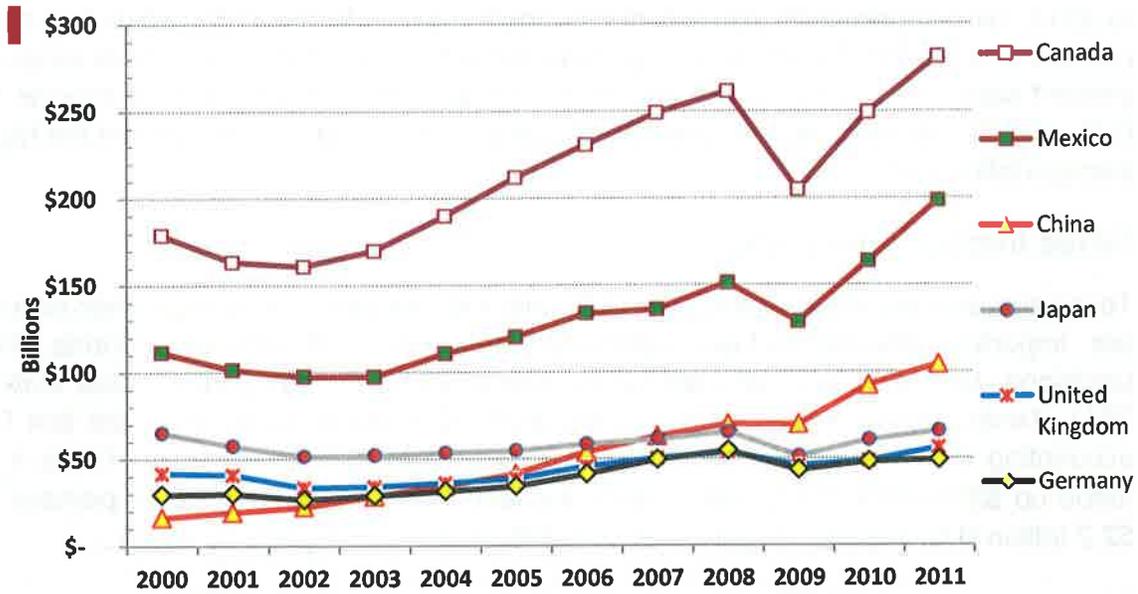
Source: Developed by TTI with data from the International Trade Administration, U.S. Department of Commerce.

Figure 6. U.S. Imports and Exports and Trade Balance.

U.S. Main Trading Partners

Canada and Mexico remain the main markets for U.S. exports. Even though the recession impacted exports to Canada more significantly than to Mexico, export levels to both countries have completely recovered and reached new historic highs. Exports to Mexico have grown at a faster pace. After surpassing Japan in 2007, China's new consumer class is becoming a more prominent market for U.S. exports. U.S. exports to China proved more resilient to the recession and continued to grow at a faster pace than Japan, the U.K., and Germany. China has consolidated its position as the third largest trading partner for U.S. exports (Figure 7).

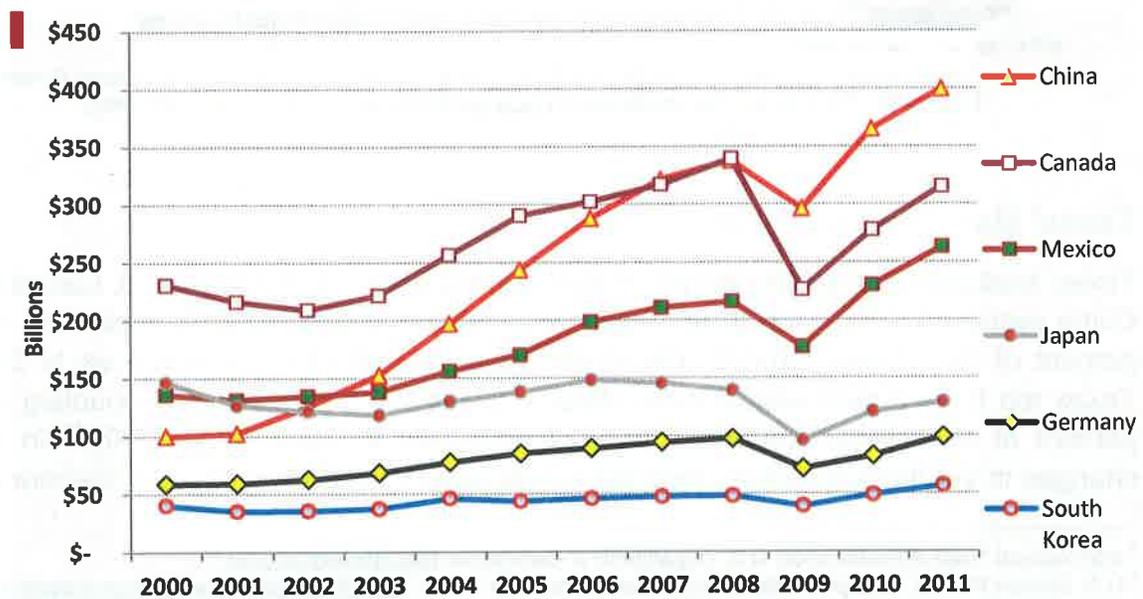
⁷ International Trade Administration, U.S. Department of Commerce: <http://tse.export.gov/>.



Source: Developed by TTI with data from the International Trade Administration, U.S. Department of Commerce.

Figure 7. U.S. Exports to Major Trading Partners.

Even during the crisis, imports from China remained significantly higher than those from Canada and Mexico. Imports from Canada were the most affected by the recession. Imports from China, Canada, and Mexico have completely recovered and reached new, historic highs. Imports from Mexico have grown at a faster pace, which directly impacts Texas corridors serving international freight. In this version of the ITCP, South Korea displaced the U.K. as the sixth top importer to the U.S. after 2010 (Figure 8, U.K. not shown).



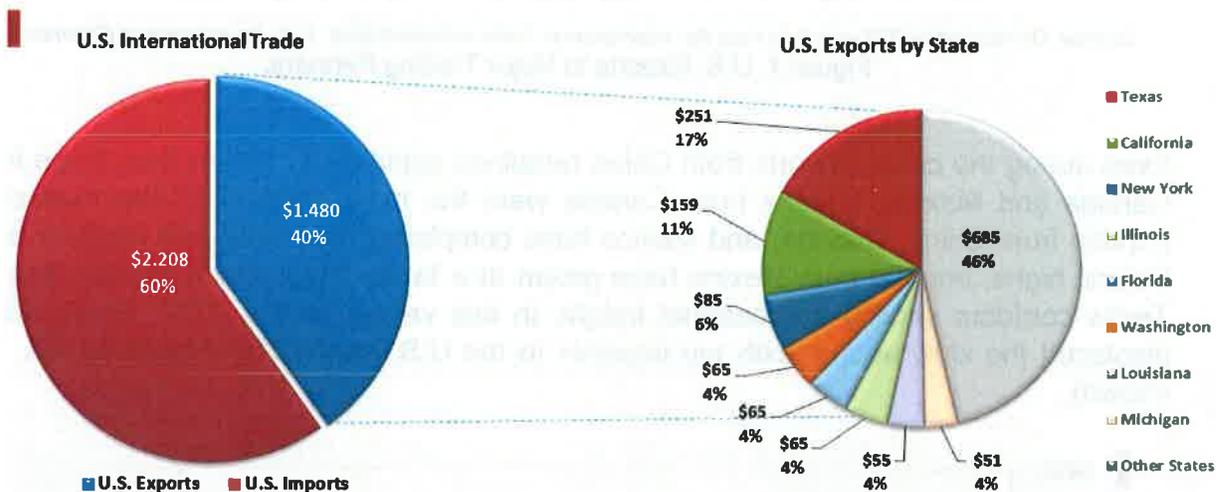
Source: Developed by TTI with data from the International Trade Administration, U.S. Department of Commerce.

Figure 8. U.S. Imports from Major Trading Partners.

In 2011, oil comprised 26 percent of Canada's exports to the U.S., which increased 3 percent since 2009. Mexico's oil exports to the U.S. were 15 percent, which increased 2 percent since the last version of the ITCP. Ocean-going vessels carry oil imports to the U.S., and usually oil is refined at the port; therefore, oil imports do not impact the highway transportation system.

Texas International Trade

Texas remains the main exporter in U.S. international trade by value. Other states that are important players include California, New York, Washington, Florida, Illinois, Louisiana, and Michigan, followed by the rest of the U.S. (grouped as other states). In 2011, Texas exported \$251 billion to the world (\$88 billion more since the last ITCP); accounting for 17 percent of total U.S. exports (Figure 9).⁸ Also in 2011, Texas imports made up \$360 billion (\$113 billion since the last ITCP); accounting for 14 percent of the \$2.2 trillion U.S. imports⁹ (Figure 9 does not illustrate U.S. imports by state).



Source: Developed by TTI with data from the U.S. Department of Commerce and the U.S. Census Bureau.

Figure 9. 2011 U.S. International Trade and Exports by State (\$ Billions).

Texas' Main Trading Partners

Texas' trading partners include over 30 different countries. In 2011, Mexico, Canada, and China remained Texas' top three export destinations, which together accounted for 48 percent of total Texas exports; export destinations remained the same as in 2009.¹⁰ Texas top three import origins were Mexico, China, and Venezuela, accounting for 60 percent of total Texas imports, 1 percent less than in 2009 (Figure 10).¹¹ In 2011, changes in the imports' origins included Saudi Arabia surpassing Nigeria; Germany and

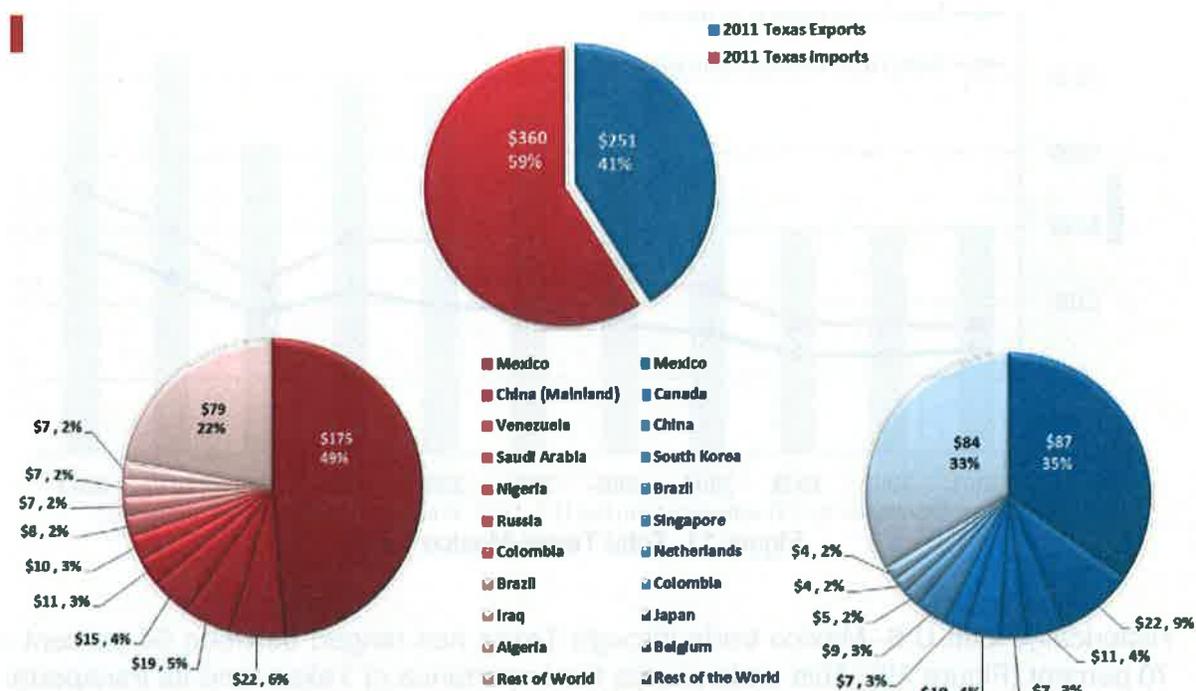
⁸ International Trade Administration, U.S. Department of Commerce: <http://tse.export.gov/>.

⁹ U.S. Census Bureau, Foreign Trade Division, State Imports for Texas: <http://www.census.gov/foreign-trade/statistics/state/data/imports/tx.html>

¹⁰ International Trade Administration, U.S. Department of Commerce: <http://tse.export.gov/>.

¹¹ U.S. Census Bureau, Foreign Trade Division: <http://www.census.gov/foreign-trade/reference/products/catalog/port.html>

the U.K. being displaced as top importers to Texas; and Colombia, Brazil, and Iraq entering the group of top Texas importers.



Source: Developed by TTI with data from the U.S. Department of Commerce, U.S. Census Bureau, and U.S. DOT.
Figure 10. 2011 Texas Imports and Exports (\$ Billions).

Texas Trade with Mexico

With a 1,255-mile border with Mexico that includes 13 commercial land ports of entry and 16 water ports along the Gulf of Mexico, Texas plays a critical part in U.S. international trade, particularly with Mexico. Mexico remains Texas’ largest trading partner and accounts for a large portion of its international commerce.

In 2011, U.S.-Mexico total trade was \$461 billion (exports and imports). The total Texas-Mexico trade (originating and in transit through Texas) accounted for \$314 billion—\$139 billion of exports and \$174 billion of imports—recovering and surpassing pre-crisis levels after 2010 (Figure 11).¹²

¹² U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data: http://www.bts.gov/programs/international/transborder/TBDR_QA.html

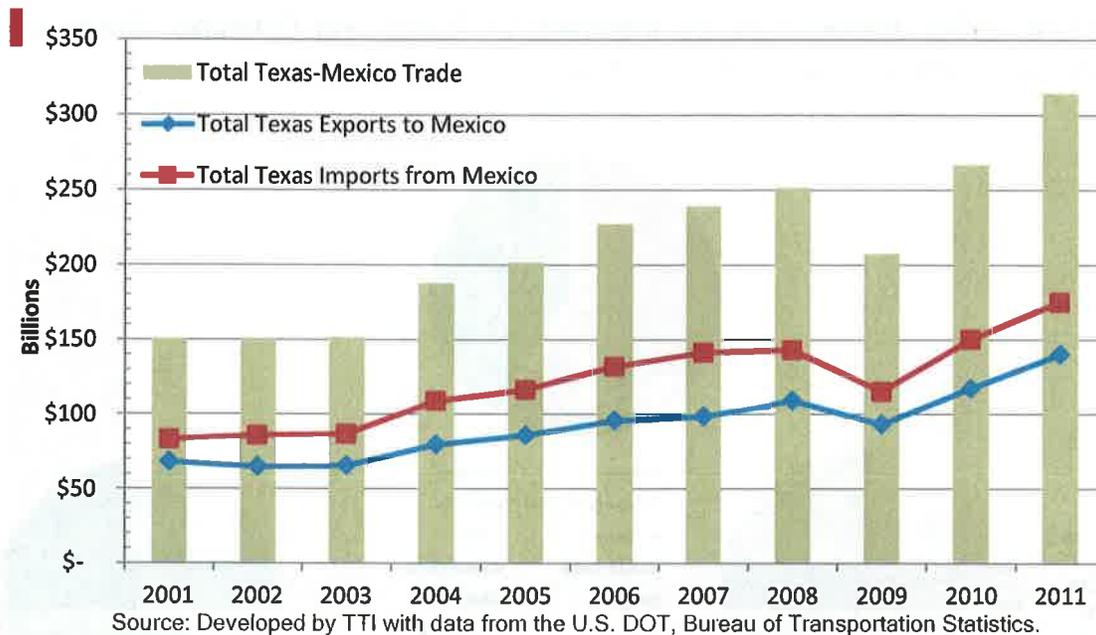


Figure 11. Total Texas-Mexico Trade.

Historically, total U.S.-Mexico trade through Texas has ranged between 64 percent and 70 percent (Figure 12). This underscores the importance of Texas—and its transportation infrastructure—in overall U.S.-Mexico trade.¹³

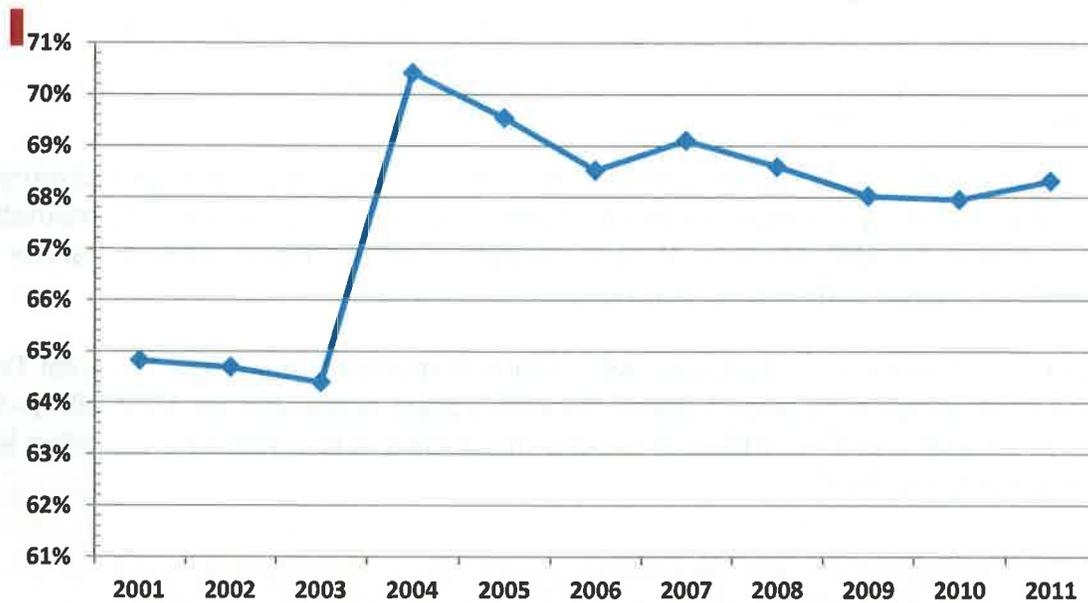


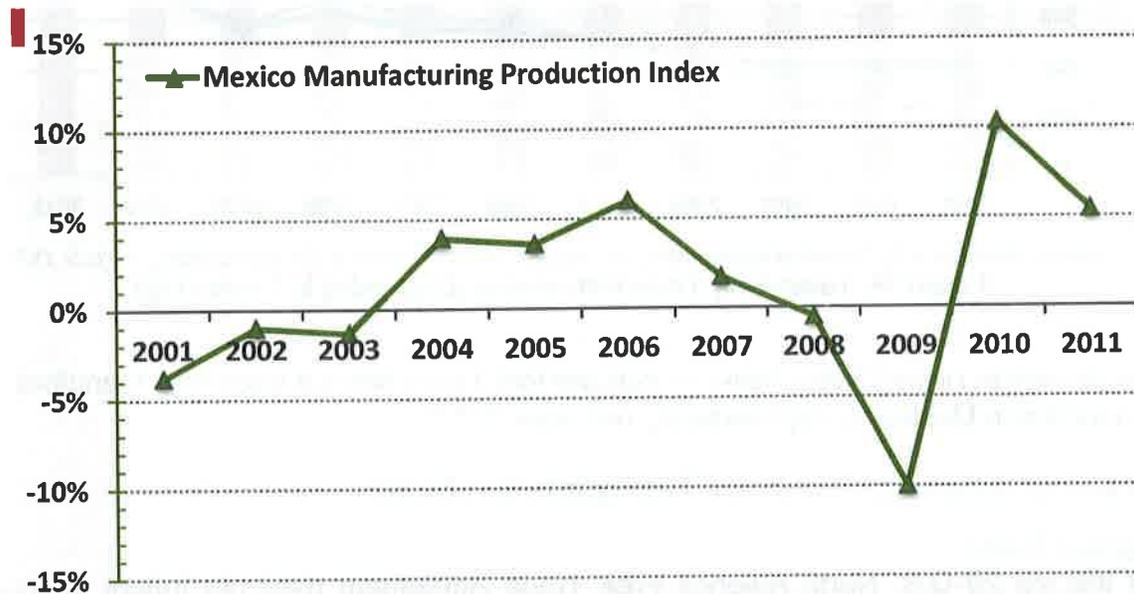
Figure 12. Percentage of the Total U.S.-Mexico Trade that Occurs through Texas.

¹³ Percentage estimated by dividing the annual value of total U.S.-Mexico trade by the Texas-Mexico trade.

The top commodities traded between Texas and Mexico were computers and electronics, chemicals, machinery and mechanical appliances, mineral fuels (i.e., coal, petroleum, and natural gas), and transportation equipment.

Mexico's Industry—Its Impact on Texas Trade

Many U.S. companies outsource to Mexico. The Mexican Manufacturing Production Index reached new highs in the second quarter of 2010; however, it contracted 5.4 percent to pre-crisis levels in late 2011 (Figure 13).

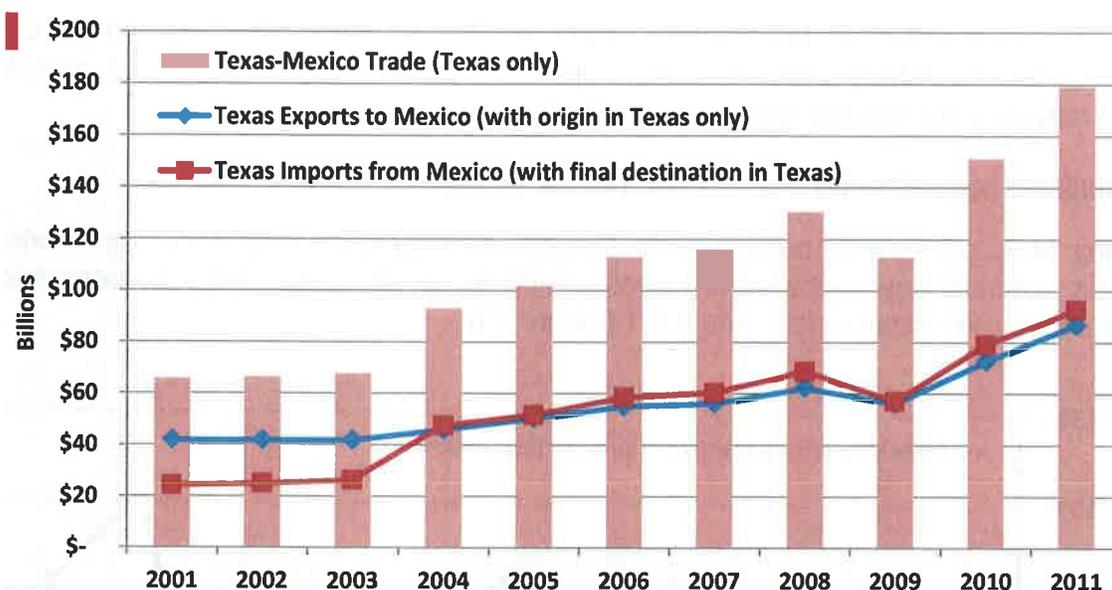


Source: Developed by TTI with data from Banxico.

Figure 13. Percentage Change in the Mexican Manufacturing Production.

Texas-Mexico trade—originated or with final destination within Texas—increased 58.6 percent from the last version of the ITCP, from \$113 billion in 2009 to \$179 in 2011, reflecting an impressive recovery that peaked in 2011. The 2011 Texas exports to Mexico increased 54.6 percent and Texas imports from Mexico were 62.5 percent more than in 2009 (Figure 14).¹⁴

¹⁴ U.S. Department of Transportation Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data: http://www.bts.gov/programs/international/transborder/TBDR_QA.html.



Source: Developed by TTI with data from the U.S. Department of Commerce, Census Bureau, and U.S. DOT.

Figure 14. Texas-Only Trade with Mexico (Originating in Texas Only).

Information in Figure 13 and Figure 14 indicate that Texas-Mexico trade lags manufacturing production in Mexico by approximately one year.^{15,16,17}

Texas International Trade by Transportation Mode

Surface Trade

Of the top 20 U.S. North America Free Trade Agreement (NAFTA) freight gateways, three are located in Texas: Houston (4th), Laredo (5th), and El Paso (14th). For international surface trade, Laredo remains the port of entry with the highest value of trade, followed by El Paso (Table 1 left).¹⁸ From 2009 to 2011, Laredo experienced a net increase in total trade measured by value of 34 percent—29 percent if measured by weight. Eagle Pass experienced significant growth measured by value of 38 percent—also 38 percent by weight. Del Rio, Rio Grande, and El Paso also experienced above-average growth rates.

¹⁵ Texas-Mexico trade data available from April 1994 to July 2010—including 1994 and 2010 as partial years.

¹⁶ Banxico, Manufacturing Production Index 1993-2009, consulted on October 2, 2010: <http://www.banxico.org.mx/politica-monetaria-e-inflacion/estadisticas/otros-indicadores/produccion.html>

¹⁷ U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Transborder Freight Data: http://www.bts.gov/programs/international/transborder/TBDR_QA.html

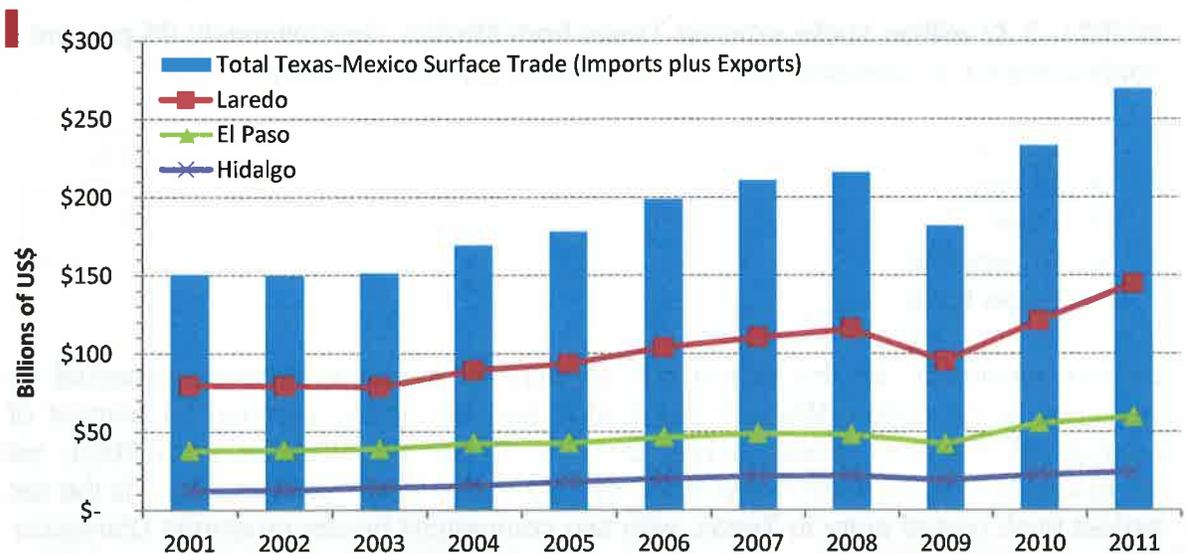
¹⁸ U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics: http://www.bts.gov/programs/international/transborder/TBDR_QA.html

Table 1. U.S. International Surface Trade by Value and Weight—Net Change 2009-2011.

International Trade Value: Imports and Exports (Millions \$)				International Trade Weight: Imports Only (U.S. Short Tons)			
Port of Entry	2009	2011	Net Change	Port of Entry	2009	2011	Net Change
Laredo	\$95,096	\$144,645	34%	Laredo	13,023,754	18,245,875	29%
El Paso	\$42,261	\$59,770	29%	Eagle Pass	3,274,464	5,256,187	38%
Hidalgo	\$19,087	\$24,483	22%	Hidalgo	4,033,081	4,463,689	10%
Eagle Pass	\$12,483	\$19,621	36%	El Paso	3,829,076	4,249,959	10%
Brownsville	\$9,738	\$13,414	27%	Brownsville	1,276,140	1,855,084	31%
Del Rio	\$2,284	\$ 3,696	38%	Rio Grande City	241,249	392,199	38%
Progreso	\$286	\$403	29%	Del Rio	212,424	308,154	31%
Presidio	\$268	\$343	22%	Progreso	232,059	270,922	14%
Rio Grande City	\$268	\$238	-13%	Presidio	54,836	72,251	24%
Total	\$181,771	\$266,613	32%	Total	26,177,083	35,114,320	25%

Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

After the slowdown in late 2007, total Texas-Mexico surface trade started to recover and reached new highs by the end of 2011. The top ports of entry for surface trade in Texas remain Laredo, El Paso, and Hidalgo, respectively. The total Texas-Mexico surface trade recovery was higher in Laredo followed by El Paso and Hidalgo (Figure 15).

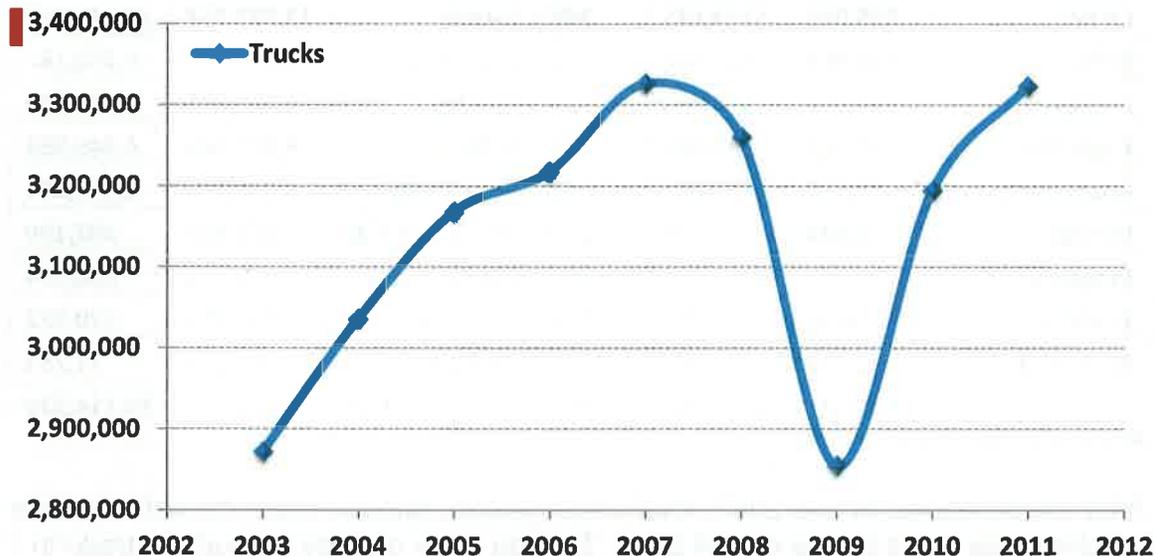


Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 15. Total Texas-Mexico Surface Trade and Main Ports of Entry.

Texas-Mexico Truck Trade

Truck traffic from Mexico into Texas dropped more than 14 percent between 2007 and 2009. From 2009 to 2010, international truck traffic recovered by increasing a significant 12 percent and another 4 percent from 2010 to 2011, reaching pre-crisis levels (Figure 16).¹⁹



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 16. Trucks Entering Texas from Mexico.

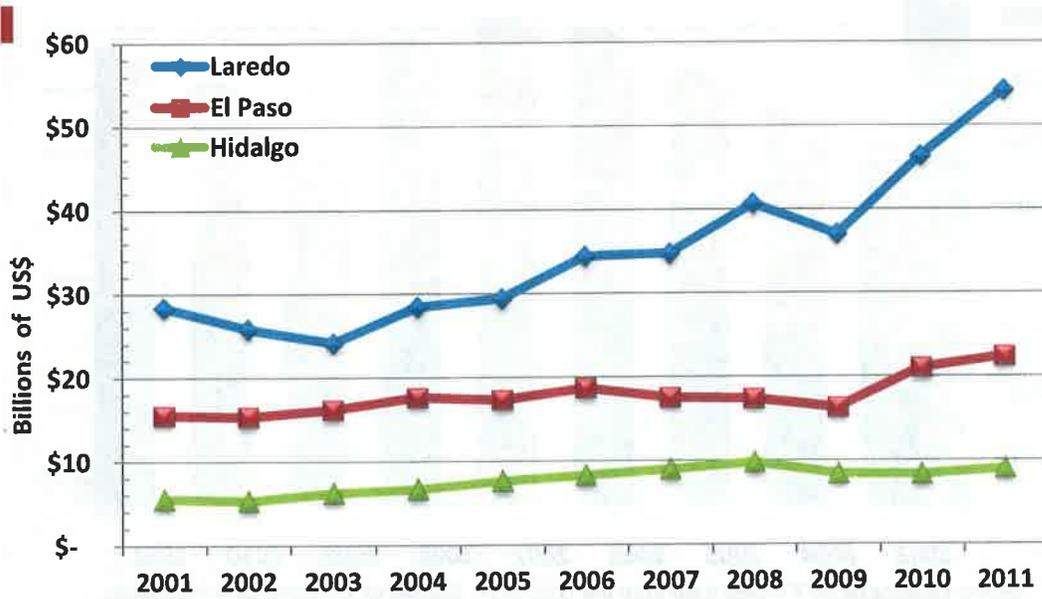
In 2011, 3.32 million trucks entered Texas from Mexico. Approximately 95 percent of all northbound trucks crossings are concentrated at five ports of entry:

1. Laredo
2. El Paso
3. Hidalgo
4. Brownsville
5. Eagle Pass

Laredo remains by far the largest port of entry for trucks, with two commercial border crossings in the region (World Trade Bridge and Colombia), carrying 54 percent of the northbound trucks in Texas during 2011, a 6 percent increase from 2009, with a compounded annual growth rate (CAGR) of 8.6 percent (1999-2011). El Paso is the second largest truck port of entry in Texas, with two commercial border crossings (Zaragoza and Bridge of the Americas), handling 24 percent of northbound traffic, a 4 percent increase from 2009, with a CAGR of 4.5 percent (1999-2011). The third largest truck port of entry in Texas is Hidalgo, handling approximately 12 percent of the total number of trucks entering from Mexico, a 3 percent decrease from 2009 (Figure 17 and Figure 18).

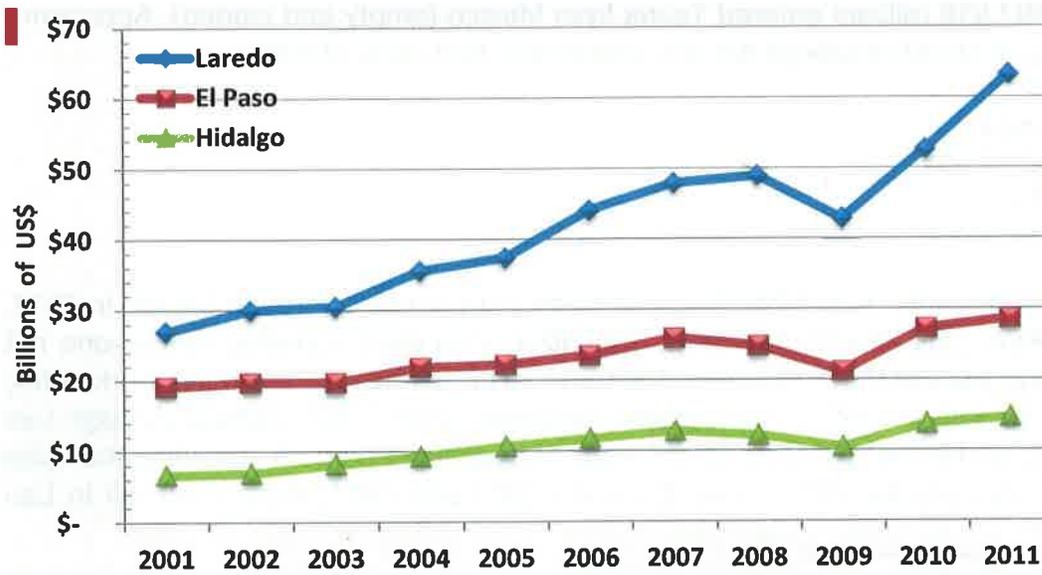
¹⁹ U.S. DOT, Research and Innovative Technology Administration, BTS. Latest available data from December 2009, consulted on October 10, 2010: http://www.bts.gov/programs/international/border_crossing_entry_data/.

In 2011, of the total \$144.6 billion of surface trade through Laredo, \$117 billion was transported by truck. Tonnage-wise, Laredo handled 15 million tons of the total 18 million tons imported by truck. From the total \$59.7 billion of surface trade through El Paso in 2011, \$51 billion was transported by truck, composed of \$22.4 billion in exports and \$28.6 billion in imports. El Paso imports by truck were 2.9 million tons, 29 percent more than in 2009. The 1999-2011 CAGR for trucks was 5 percent for exports and 4.5 percent for imports through El Paso. Truck trade at Hidalgo grew more slowly than El Paso and Laredo during the recovery.



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 17. Total Texas Exports to Mexico—Value by Trucks.

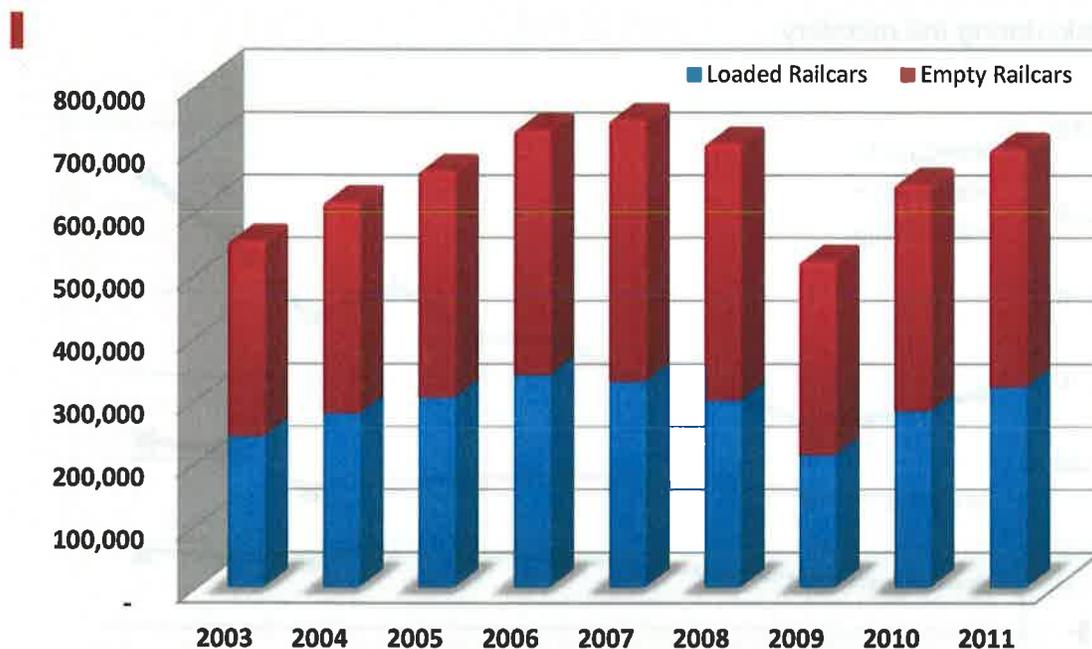


Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 18. Texas Imports from Mexico—Value by Trucks.

Texas-Mexico Rail Trade

Texas-Mexico trade by rail had a CAGR of 3 percent (2003-2011) including a 24.6 percent drop from 2008 to 2009 because of the recession. After the recession, Texas-Mexico trade by railcars recovered with a 17.1 percent growth from 2009 to 2010 and a 5 percent growth from 2010 to 2011, reaching pre-crisis levels of railcar volumes (Figure 19).²⁰



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 19. Texas-Mexico Northbound Rail Traffic.

In 2011, 697,916 railcars entered Texas from Mexico (empty and loaded). Approximately 99 percent of all rail crossings are concentrated at four ports of entry:

1. Laredo
2. Eagle Pass
3. El Paso
4. Brownsville

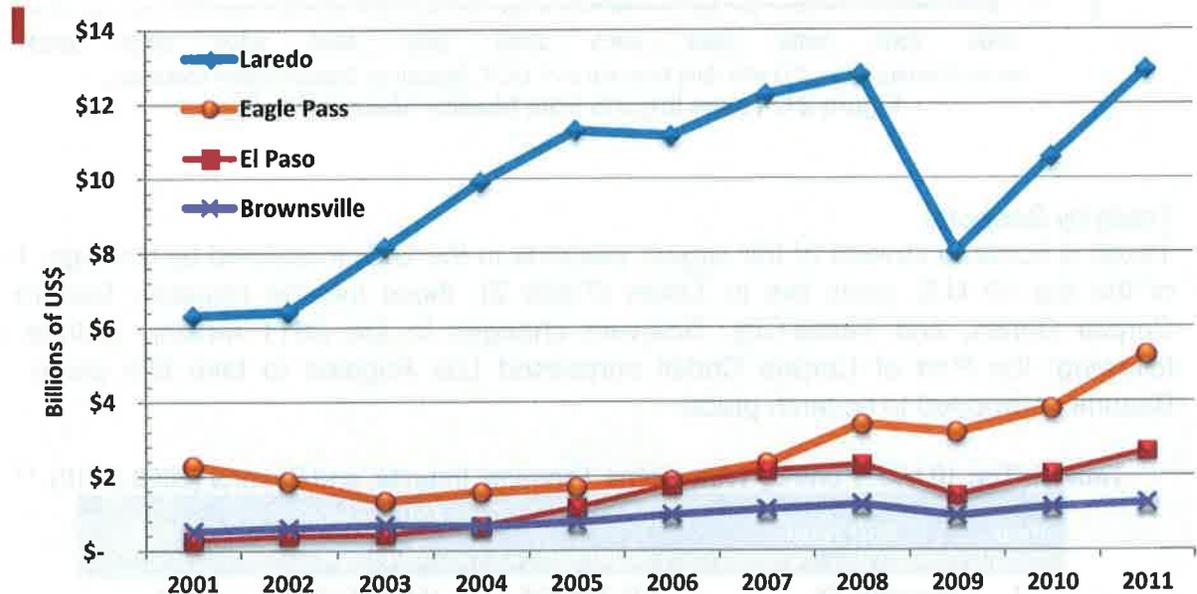
\$26.6 billion from the total \$144 billion of surface trade came through Laredo in 2011. Of the 18 million tons imported by land, 3.2 million tons were imported by rail—one million more than in the last ITCP. Between 2001 and 2011, rail exports through Laredo reflected solid growth with a CAGR of 7 percent; however, after 2002, imports through Laredo started a long downward trend with a CAGR of negative 3 percent—including the collapse and recovery from the 2007 crisis. Between 2009 and 2011, exports by rail in Laredo

²⁰ U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Border Crossing/Entry Data; based on data from U.S. Department of Homeland Security, Customs and Border Protection, OMR database: http://www.bts.gov/programs/international/border_crossing_entry_data/.

recovered by growing 38 percent, and imports grew 49 percent, reaching pre-crisis levels (blue line in Figure 20 and Figure 21, respectively).

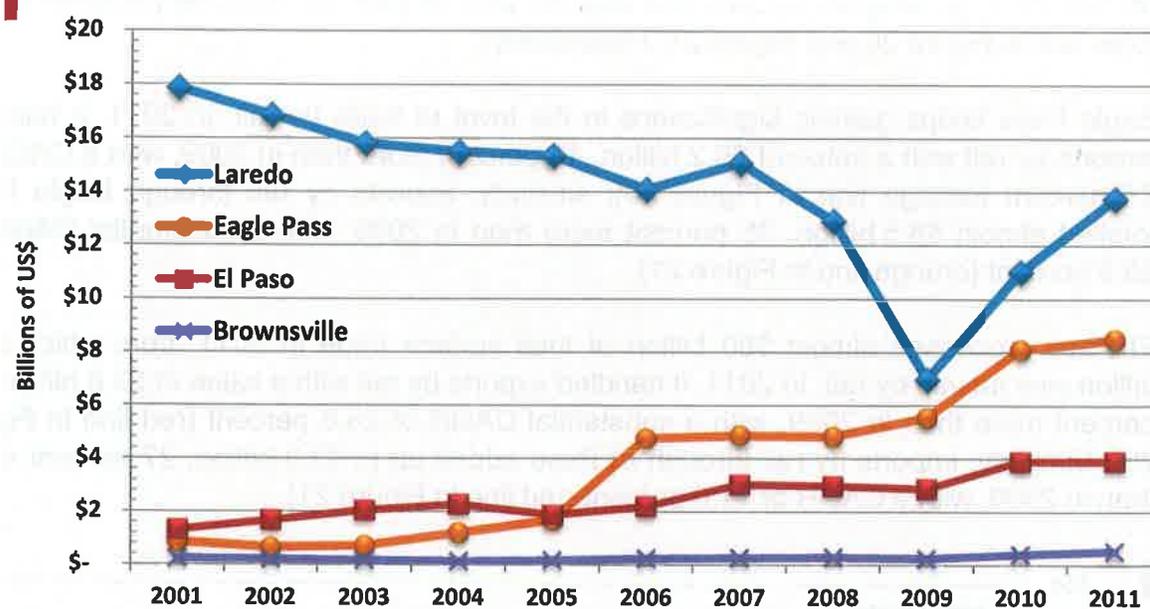
Eagle Pass keeps gaining significance in the level of trade by rail. In 2011, it handled exports by rail with a value of \$5.2 billion, 40 percent more than in 2009, with a CAGR of 8.7 percent (orange line in Figure 20); similarly, imports by rail through Eagle Pass totalled almost \$8.5 billion, 35 percent more than in 2009, with a substantial CAGR of 25.8 percent (orange line in Figure 21).

El Paso processed almost \$60 billion of total surface trade in 2011, from which \$6.6 billion was moved by rail. In 2011, it handled exports by rail with a value of \$2.6 billion, 45 percent more than in 2009, with a substantial CAGR of 25.6 percent (red line in Figure 20). Similarly, imports by rail through El Paso added up to \$3.9 billion, 27 percent more than in 2009, with a CAGR of 11.6 percent (red line in Figure 21).



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 20. Texas Exports to Mexico—Value by Rail.



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 21. Texas Imports from Mexico—Value by Rail.

Trade by Seaports

Texas is home to several of the largest seaports in the U.S. measured by tonnage. Four of the top 10 U.S. ports are in Texas (Table 2); these include Houston, Beaumont, Corpus Christi, and Texas City. Relevant changes in the 2011 ranking include the following: the Port of Corpus Christi surpassed Los Angeles to take fifth place and Beaumont dropped to seventh place.

Table 2. Top 10 U.S. Ports by Waterborne Tonnage, Imports, and Exports (2008-2010).²¹

Rank	Port Name	2008 Foreign Tonnage	2010 Foreign Tonnage	Net Change
1	Houston, TX	146,399,626	159,560,593	9%
2	South Louisiana, LA	111,437,304	115,151,087	3%
3	New York, NY and NJ	91,101,369	83,714,367	-8%
4	Long Beach, CA	67,271,019	62,564,823	-7%
5	Corpus Christi, TX	55,355,211	54,822,817	-1%
6	Los Angeles, CA	52,913,289	55,943,535	6%
7	Beaumont, TX	46,795,624	51,781,986	11%
8	Texas City, TX	38,710,435	40,075,782	3%
9	Mobile, AL	38,111,420	29,356,583	-23%
10	Norfolk Harbor, VA	36,886,374	35,389,134	-4%

Source: Developed by TTI with data from the U.S. Army Corps of Engineers, Waterborne Commerce Statistics.

²¹ U.S. Army Corps of Engineers, Waterborne Commerce Statistics, 2008 Waterborne Tonnage for Principal U.S. Ports: <http://www.ndc.iwr.usace.army.mil/wcsc/wcsc.htm>.

In 2011, Houston was the top-ranked port in the U.S. by import and export tonnage. Of its 159.5 million tons traded with foreign partners, 88 million tons were imports and 71 million were exports (Table 3). The Port of Corpus Christi traded 54.8 million tons internationally in 2010, with 41.6 million tons comprising imports; however, due to the downturn in the levels of trade at other ports, this port has gained more significance in Texas and the U.S. In 2010, the Port of Beaumont moved 51.7 million tons, reducing its downtrend from the 57.3 million tons handled in 2006 and the 46.7 million tons from 2008.

Table 3. Texas Ports' Foreign Trade (2010).

Rank	Port Name	Imports (tons)	Exports (tons)	Total
1	Houston, TX	88,507,605	71,052,988	159,561,593
2	South Louisiana, LA	41,167,427	73,983,660	115,151,087
3	New York, NY and NJ	63,884,008	19,830,359	83,714,367
4	Long Beach, CA	38,816,457	23,748,366	62,564,823
5	Corpus Christi, TX	41,654,989	13,167,828	54,822,817
6	Los Angeles, CA	34,943,535	21,294,727	56,238,262
7	Beaumont, TX	44,309,994	7,471,992	51,781,986
8	Texas City, TX	32,553,419	7,522,363	40,075,782
9	Mobile, AL	15,060,887	14,295,696	29,356,583
10	Norfolk Harbor, VA	8,794,958	26,594,176	35,389,134

Source: Developed by TTI with data from the U.S. Army Corps of Engineers, Waterborne Commerce Statistics.

Total U.S. seaborne trade with the world increased 8.5 percent between 2009 and 2010, ending a downward trend reflected in a 13 percent reduction the previous year. Asia is the trading region most significant to the U.S., while China was the top trader; seaborne trade with China is predominantly imports (Table 4).

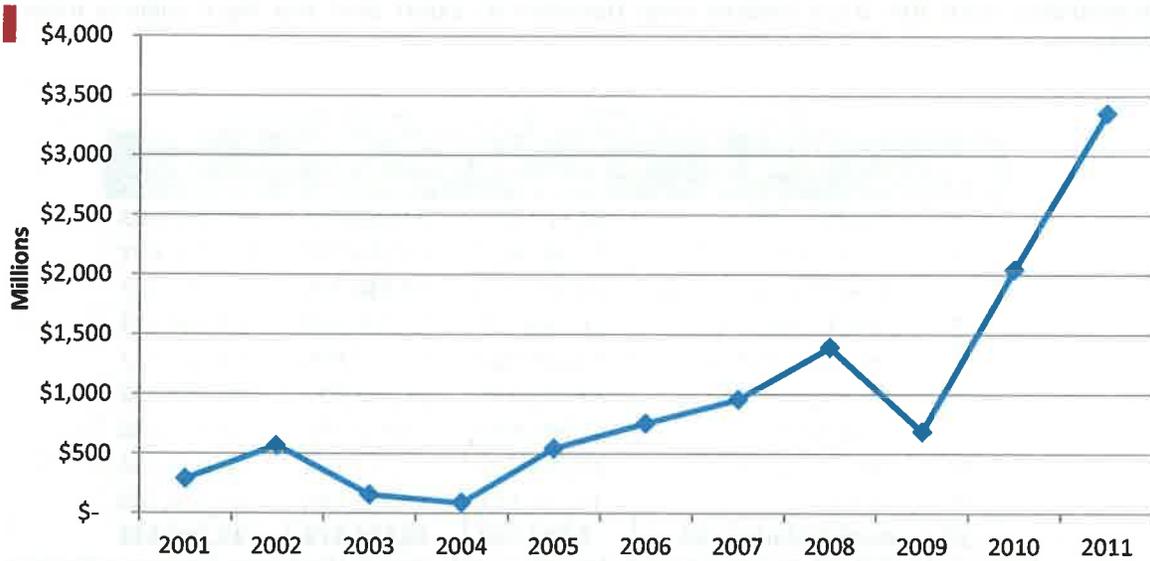
Table 4. U.S. Seaborne Trade by Region 2008-2009 (Metric Tons in Thousands).

Region/Country	Exports			Imports			Total Trade		
	2009	2010	Change	2009	2010	Change	2009	2010	Change
U.S. Global Total	451,822	521,679	15.4%	749,716	783,255	0.04%	1,201,538	1,304,538	8.5%
By Region									
Asia	189,198	208,834	10.3%	92,091	108,906	18.2%	281,289	317,740	12.9%
South America	47,366	59,828	26.4%	161,330	157,484	-2.6%	208,696	217,312	4.1%
North America	46,534	57,794	24.1%	125,237	132,336	5.6%	171,771	190,130	10%
Africa	23,505	28,992	23.3%	124,285	130,501	5.0%	147,790	159,493	7.9%
Europe	77,660	85,815	10.5%	63,791	71,193	11.6%	141,452	157,008	10.9%
European Union	72,621	81,051	11.6%	56,403	64,411	14.1%	129,024	145,462	12.7%
Near East	23,543	27,394	16.3%	94,605	84,561	-11.6%	118,148	121,955	3.2%
By Country									
China	65,610	73,347	11.8%	45,806	53,892	17.7%	111,416	127,240	14.2%
Mexico	25,033	30,830	23.2%	70,212	76,140	8.4%	95,245	95,245	12.3%
Venezuela	5,871	6,149	4.7%	70,928	65,558	-7.6%	76,798	71,706	-6.6%
Canada	21,501	26,963	25.4%	55,023	56,195	2.1%	76,524	83,158	8.7%
Saudi Arabia	2,587	2,911	12.5%	52,659	54,648	3%	55,246	57,559	4.1%

Source: Developed by TTI with data from the American Association of Port Authorities (AAPA).

Trade by Pipeline

While pipelines carry some international trade, they are part of private industry. The available value of commodities moved through Texas gateways via pipelines also reported a significant recovery in 2011 (Figure 22).



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 22. Texas-Mexico Trade by Pipeline.

IV. Texas International Trade Corridors

Based on data from the Federal Highway Administration (FHWA) Freight Analysis Framework (FAF³), freight flows (in tons) were assigned on Texas corridors serving international trade.

Texas International Trade Corridor Ranking

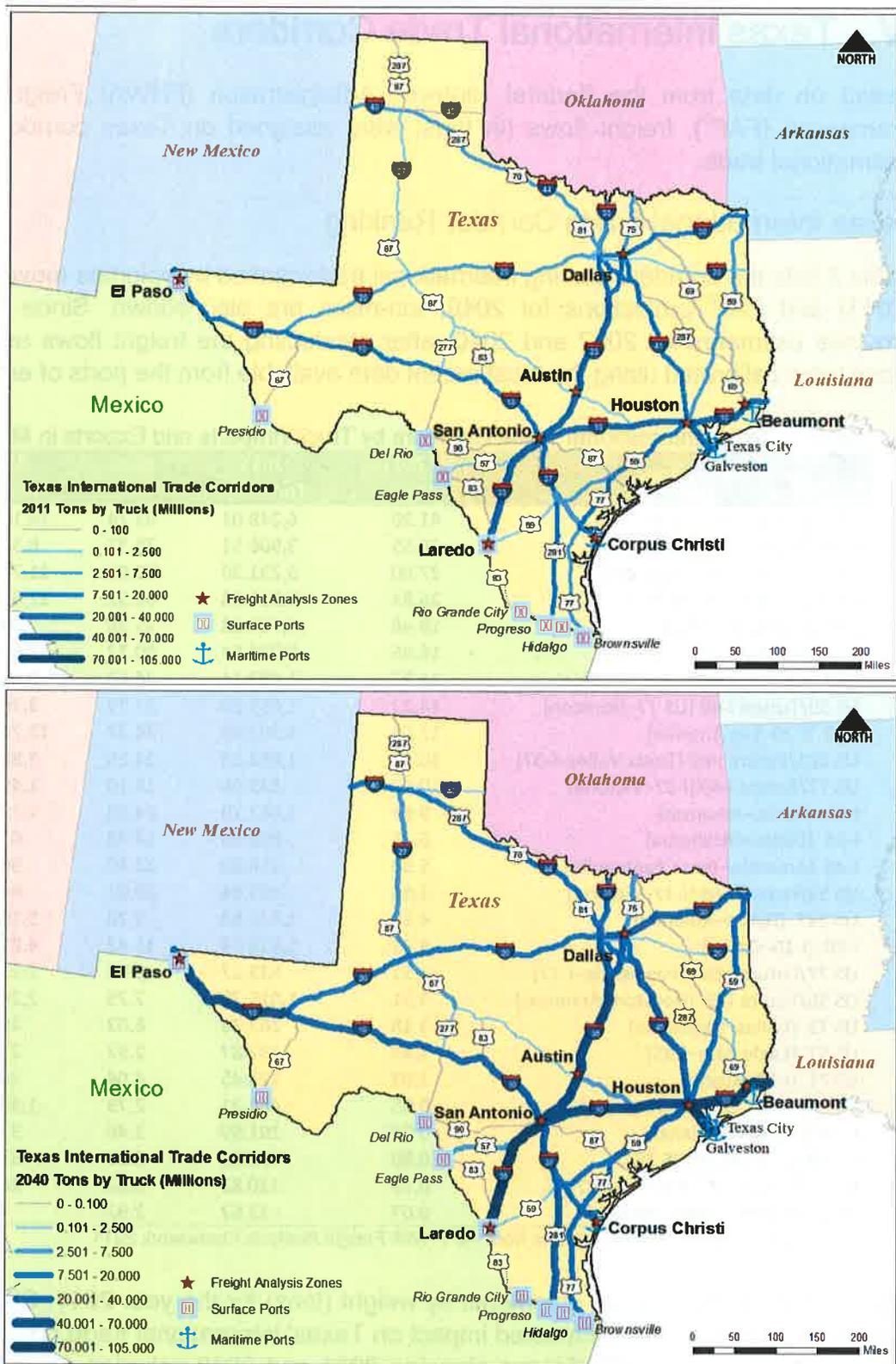
Table 5 lists the corridors serving international trade ranked by volumes moved by truck (2011) and FAF³ projections for 2040; ton-miles are also shown. Since FAF³ only provides estimates for 2007 and 2040, after conducting the freight flows assignment, these were calibrated using the most recent data available from the ports of entry.

Table 5. Texas International Trade Corridors by Truck (Imports and Exports in Millions).

Corridor	2011	2011	2040	2040
	Tons	Ton-Miles	Tons	Ton-Miles
I-35 [Laredo–San Antonio]	41.20	6,248.01	93.74	14,186.63
I-10 [Houston–Louisiana]	36.55	3,906.51	78.37	8,526.24
I-10 [San Antonio–Houston]	27.80	5,231.30	62.85	11,792.03
I-35 [San Antonio–Dallas]	26.83	5,515.18	61.52	12,586.51
I-45 [Houston–Dallas]	18.48	3,714.28	35.26	7,087.83
I-10 [El Paso–I-20]	16.95	3,071.64	40.22	2,616.24
I-37 [Corpus Christi–San Antonio]	14.37	1,907.11	24.68	2,812.92
US 59/Future I-69 [US 77–Houston]	14.22	1,659.20	27.79	3,265.77
I-10 [I-20–San Antonio]	12.69	4,702.46	34.22	12,707.76
US 281/Future I-69 [Texas Valley–I-37]	10.65	1,682.13	24.25	3,808.60
US 77/Future I-69 [I-37–Victoria]	10.03	825.96	18.10	1,490.19
I-30 [Dallas–Arkansas]	9.82	1,662.79	24.88	4,226.06
I-35 [Dallas–Oklahoma]	6.73	699.56	14.78	818.29
I-40 [Amarillo–Texas Panhandle]	5.33	356.89	13.49	904.03
US 59/Future I-69 [I-37–Victoria]	4.86	409.94	10.01	844.01
US 287 [Dallas–Amarillo]	4.50	1,433.83	9.78	3,161.86
I-20 [I-10–Dallas]	4.31	1,810.44	11.42	4,814.68
US 77/Future I-69 [Brownsville–I-37]	3.52	523.27	8.04	1,219.22
US 59/Future I-69 [Houston–Arkansas]	3.51	1,015.79	7.75	2,266.55
US 75 [Dallas–Oklahoma]	3.18	247.36	6.02	468.80
US 57 [Eagle Pass–I-35]	1.44	137.87	2.92	279.77
US 71 [I-10–Austin]	1.03	123.45	4.04	345.86
US 71/US 87 [Austin–Amarillo]	0.95	484.31	2.79	1,302.88
I-20 [Dallas–Louisiana]	0.94	191.99	1.46	370.18
US 69 [Beaumont–US 75]	0.80	400.02	7.69	376.10
US 59/Future I-69 [Laredo–I-37]	0.79	110.82	3.32	288.86
US 83 [Laredo–Texas Valley]	0.07	12.62	2.92	2366

Source: Developed by TTI with data from the FHWA Freight Analysis Framework 2011.

Figure 23 (top) shows truck shipments by weight (tons) for the year 2011. Similarly, the bottom map illustrates the expected impact on Texas' international trade corridors using the tons by truck for 2040 (figures showing 2011 and 2040 volumes share the same graphic classification scale to facilitate analysis). Volumes shown include only estimated international trade flows, not domestic movements.



Source: Developed by TTI with data from the FHWA, Freight Analysis Framework 2011.
Figure 23. International Trade Tons by Truck 2011 (top) and 2040 (bottom)—Imports and Exports.

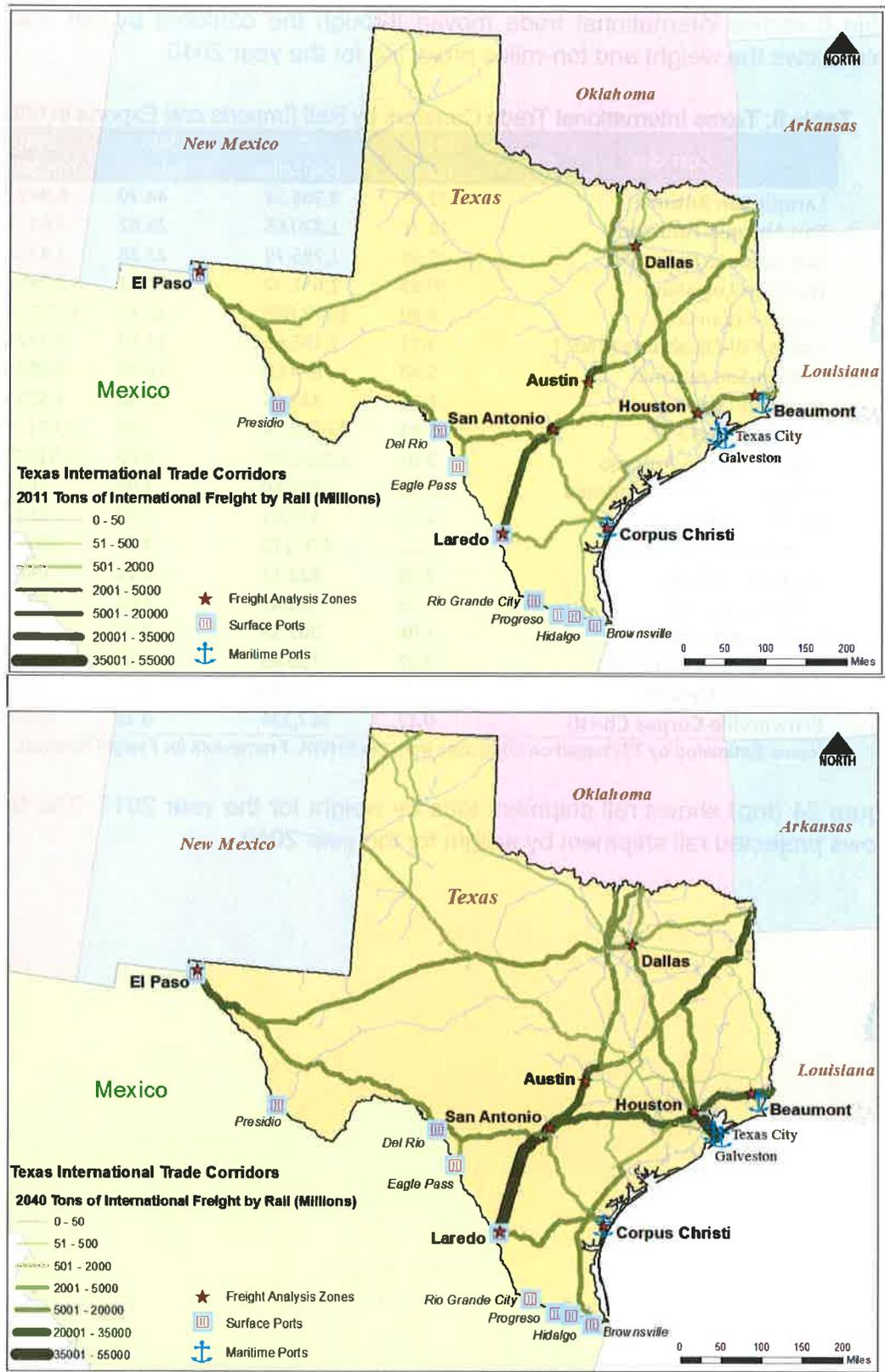
Table 6 shows international trade moved through the corridors by rail. Similarly, the table shows the weight and ton-miles projected for the year 2040.

Table 6. Texas International Trade Corridors by Rail (Imports and Exports in Millions).

Corridor	2011	2011	2040	2040
	Tons	Ton-Miles	Tons	Ton-Miles
Laredo-San Antonio	21.67	3,366.34	44.70	6,943.95
San Antonio-Houston	11.72	1,820.65	29.82	4,632.40
San Antonio-Dallas FW	11.56	1,795.79	22.38	3,476.63
Houston-Louisiana	10.63	1,651.32	24.11	3,745.38
Austin-Arkansas	8.80	3,772,006	18.43	6,752,653
Dallas FW-Oklahoma (BNSF)	7.51	1,166.65	14.02	2,177.94
El Paso-San Antonio	5.63	874.60	16.79	2,608.25
Houston-Dallas	5.36	832.65	10.66	1,655.98
El Paso-Dallas FW	3.81	2,659,976	7.99	4,821,100
Eagle Pass-San Antonio	2.91	1,529,532	4.82	2,916,034
Corpus Christi-San Antonio	2.90	450.50	4.94	767.41
El Paso-Dallas FW	2.70	419.43	5.50	854.40
Laredo-Corpus Christi	2.12	470,119	3.74	942,186
Houston-Victoria	2.08	323.12	4.16	646.24
Dallas-Arkansas	2.05	318.46	4.03	626.04
Dallas-Oklahoma (UP)	1.98	307.58	3.27	507.98
Amarillo-TX Panhandle	0.97	150.69	1.54	239.23
Dallas FW-Amarillo	0.43	66.80	0.72	111.85
Brownsville-Corpus Christi	0.17	267,234	0.18	560,736

Source: Estimated by TTI based on 2040 data from the FHWA, Framework for Freight Analysis.

Figure 24 (top) shows rail shipment tons by weight for the year 2011. The bottom map shows projected rail shipment by weight for the year 2040.



Source: Developed by TTI with data from the FHWA, Freight Analysis Framework 2011.

Figure 24. International Trade Tons by Rail 2007 (top) and 2040 (bottom)—Imports and Exports.

Major Texas Truck Corridors

I-35

The I-35 corridor links Laredo, the largest Texas port of entry, with San Antonio, Austin, Dallas, and north to the US-Canada border. Trade flows by truck between Laredo and San Antonio are expected to have a CAGR of 2.88% between 2011 and 2040. The link between San Antonio and Dallas is the fourth largest in the state, with an expected CAGR of 2.90% between 2011 and 2040. Finally, the I-35 segment between Dallas and Oklahoma handles significantly less international trade volume than other segments, and has an expected CAGR of 2.75% for the same time period.

I-10

The I-10 corridor connects El Paso, San Antonio, Houston, and Beaumont to Louisiana. Some shipments travel from Laredo along I-35 to San Antonio and then proceed to I-10 and travel east or west depending on their destinations. The I-10 segment between Houston to Louisiana ranks second in volumes of international freight by truck in Texas, and is expected to have a CAGR of 2.67% between 2011 and 2040. The link between San Antonio and Houston is the third largest in the state, with an expected CAGR of 2.85%. The I-10 segment connecting El Paso with I-20 ranks sixth, and is expected to have a CAGR of 3.02% for the same timeframe. The I-10 segment between San Antonio and I-20 (near El Paso) is expected to have a 3.48% CAGR (above average) during the same timeframe.

I-45

The I-45 corridor, ranked fifth in the state, connects the Port of Galveston to Houston and continues to Dallas. The Port of Houston provides the majority of trade that is shipped via I-45. The I-45 corridor is expected to have a CAGR of 2.25% between 2011 and 2040.

Other Corridors

The I-37 corridor between Corpus Christi and San Antonio ranks seventh and is expected to have a CAGR of 1.88%. In eighth place, US-59 between US-77 and Houston is expected to have a CAGR of 2.34%.

Major Texas Rail Corridors

The Union Pacific Railroad runs parallel to the Texas portion of I-35; on average, trade flows by rail are expected to have a CAGR of 2.53% between 2011 and 2040 between Laredo and San Antonio, and a CAGR of 2.30% between San Antonio and the Dallas Fort Worth region. The BNSF line that runs parallel to I-35 from Dallas to Oklahoma is expected to have a CAGR of 2.18% for the same time period.

The Union Pacific Railroad that runs parallel to I-10 is expected to have a CAGR of 3.27% between San Antonio and Houston; 2.87% between Houston and Louisiana; and 3.84% between El Paso and San Antonio. For the section that runs parallel to I-20 between I-10 and Dallas a 2.59% CAGR is expected. The line that runs parallel to US 57 between Eagle Pass and San Antonio, which had significant growth in the last two

years, is expected to grow only at a 1.76% CAGR from 2011 to 2040. However, the FAF model that was used to estimate growth rates does not take into account recent rail infrastructure investments in the region.

V. Border Trade Advisory Committee

Section 201.114, Transportation Code, established the Border Trade Advisory Committee and directed it to define and develop a strategy and make recommendations to the Transportation Commission and Texas governor for addressing the highest-priority border trade transportation challenges. The first BTAC report, dated November 16, 2006, documents the BTAC goals, which include:

- Promoting the development of ample and expandable trade transportation corridors.
- Developing coordination mechanisms to foster trade between Mexico and Texas.
- Leveraging safety and security measures to enhance trade efficiencies.
- Demonstrating the economic benefits of international trade at the national, state, and local levels.

Table 7 outlines the strategies the BTAC formulated to address these goals.

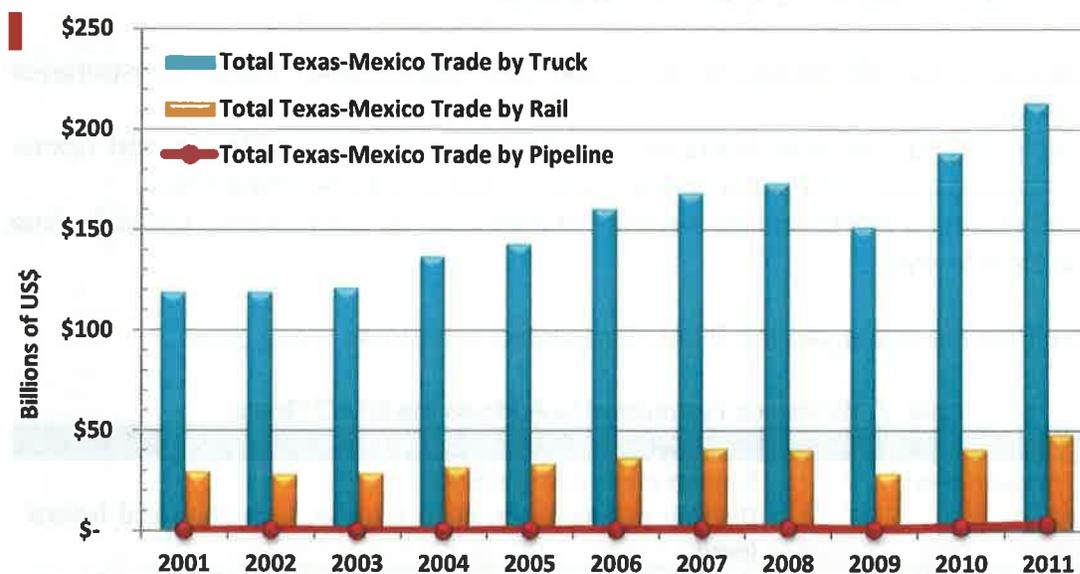
Table 7. Strategies Formulated to Address the BTAC Goals.

BTAC Goal	Strategy
1) Trade Transportation Corridors	<ul style="list-style-type: none"> • Support major trade corridors. • Develop policies to facilitate trade at both state and federal levels.
2) Coordination with Mexico	<ul style="list-style-type: none"> • Coordinate with Mexico to ensure proper planning of trade corridors. • Promote more efficient international border crossings. • Promote cooperation with and understanding of U.S. policies.
3) Safety and Security Measures	<ul style="list-style-type: none"> • Promote efficiencies at international border crossings. • Develop international border crossings that take advantage of the latest technologies and procedures. • Review the presidential permit policy to facilitate international bridge construction. • Provide a balance between required inspections and efficient trade flow.
4) Economic Benefits of International Trade	<ul style="list-style-type: none"> • Identify national, statewide, and international benefits of trade.

International trade must function within the parameters set at both the federal and state levels. These two levels, while separate, are not totally independent. While some of the strategies developed by the BTAC are designed to be carried out at the state level, some of the issues that the strategies address are beyond the control of the State of Texas and are the responsibility of various federal agencies. The BTAC report describes each specific proposal, along with its implementation actions, success measures, and responsible parties.

VI. Concluding Remarks

The downturn in the economy generated by the financial crisis that started in 2007 severely impacted international trade around the world. Between 2008 and 2009, U.S. exports fell 22 percent and imports fell a dramatic 35 percent. However, 2011 Texas' trade with Mexico by truck and rail surpassed pre-recession levels (Figure 25).



Source: Developed by TTI with data from the U.S. DOT, Bureau of Transportation Statistics.

Figure 25. Texas-Mexico Trade by Truck, Rail, and Pipeline.

Texas continues to be an important player in U.S. international trade, serving as the main gateway for trade with Mexico. Truck traffic continues to be the dominant mode for trade between the U.S. and Mexico. International truck traffic has recovered, reaching pre-crisis levels and, in some case, new highs. The I-35 corridor continues to be the backbone for international truck trade in Texas. This highway handles the largest volume of international trade by truck in all of Texas. Laredo remains by far the largest port of entry for trucks. Also, Laredo remains the port of entry with the highest value of trade, followed by El Paso. Commercial traffic at the Pharr-Reynosa International Bridge is on the rise.

After the recession, international trade by rail recovered, reaching pre-crisis volumes. Eagle Pass continues gaining significance in the level of trade by rail, showing impressive growth rates in the last few years.

Manufacturing production in Mexico reached new highs; however, most manufacturing centers still report excess capacity. Mexican levels of trade through Texas are at pre-crisis levels and are not expected to increase until capacity is reached at manufacturing facilities in Mexico.

As illustrated in this report, significant changes in international trade related freight flows are being realized throughout Texas as both domestic and international economic conditions improve. In addition, there are on-going changes related to the energy sector, and freight movements associated with the recent increase in oil and natural gas production in Texas are impacting our export activities. Additionally, oil and gas production in parts of the Midwestern United States and Canada are also beginning to affect our energy exports and imports. Future expansion of the Panama Canal, scheduled to be completed in 2014, will be a future factor that will affect trade along the Texas Gulf Coast.

In order to address these important developments, TxDOT has established special working groups for both the Energy Sector <http://www.roadstexasenergy.com/> and the Panama Canal <http://www.panamatexas.com/>. Additionally, statewide advisory committees for the Interstate 35 (<http://www.my35.org>) and Interstate 69 (<http://www.txdot.gov/drivenbytexas/>) corridors have been established to address the needs and priorities along these key international trade routes. Most of these committees are completing final reports that will be submitted to the Texas Transportation Commission in December of 2012.

The findings of these efforts will be reflected and incorporated in the department's upcoming planning efforts. Starting in 2013, TxDOT will begin a comprehensive effort to integrate the findings and recommendations of all these activities through the development of a Statewide Freight Plan and an update to the Statewide Long-Range Transportation Plan.

