Border Corridors and Trade Report

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Note: Trade and transportation data reported in this document are the most recently available as of December 2014 and reflects the lag in time required by all collecting agencies to complete the processing, quality control, and publication of their data.

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1 Introduction

Texas trade exceeds all other U.S. states in value and in 2013 accounted for 15.4% of U.S. total trade compared to its nearest competitors—California (14.3%) and New York (5.6%). Figure 1 tracks total trade data for these three states since 2009, separated into export and import values, and the data show that Texas reached a new high in 2013 when state total trade was valued at $591 billion.[1] Texas has remained the top exporting state since 2002 and in 2013 exports reached $279 billion, again substantially greater than its nearest competitors—over $111 billion more than California and $192 billion more than New York.[1] Imports have been led by California over the same period and in 2013, Texas imports were worth over $311 billion—$70 billion less than California—partially reflecting an $18 billion reduction in Texas mineral products and oil imports since 2012.[1]

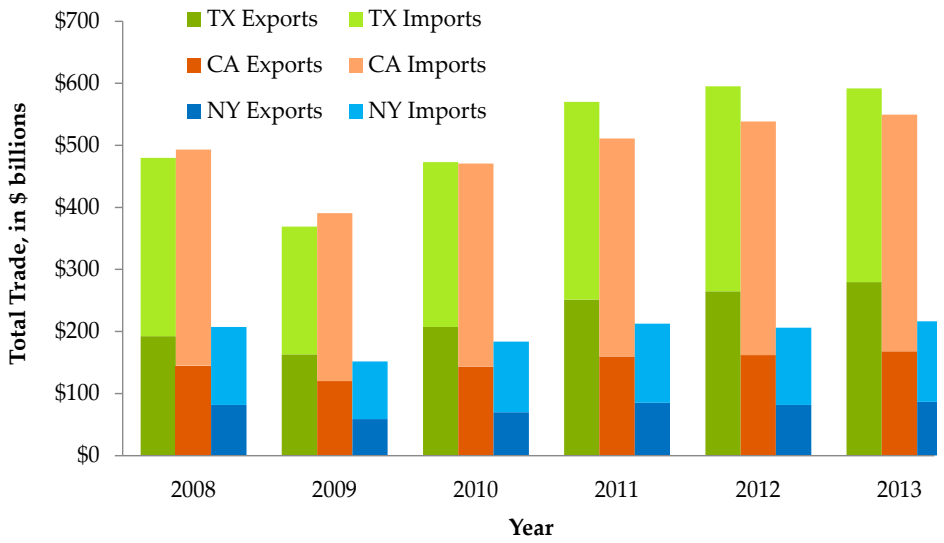

Figure 1: Top Three Trading States in the U.S.

U.S. total trade is at record levels for both imports and exports. In 2013, the U.S. imported about $2.2 trillion in goods and exported about $1.6 trillion, for a total of over $3.8 trillion. Though the global economic recession of 2009 caused a significant decrease in trade, as of 2011 the U.S. had reached pre-crisis values, as shown in Figure 2.[2] The U.S. trade deficit has been substantially reduced since 2012 as domestic oil and gas production output grew strongly and cut back oil import values. It is expected to have an even stronger impact when 2014 data become available.

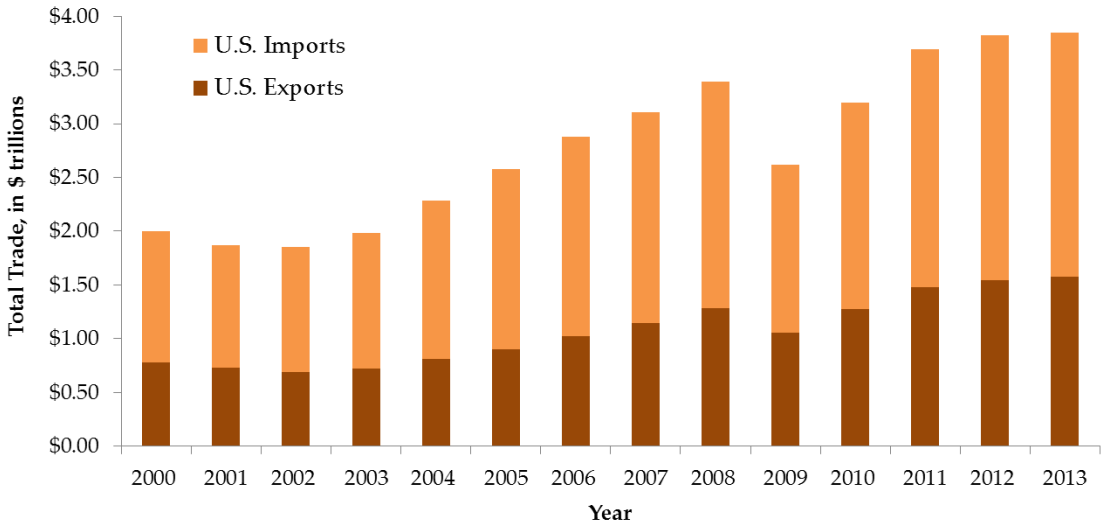

Figure 2: Total U.S. Trade by Imports and Exports

The Border Corridors and Trade Report provides an update of Texas's trade, infrastructural projects, funding sources, studies, programs and other planning activities and initiatives in compliance with requirements set forth in sections 201.114 and 201.6011 of the Texas Transportation Code and Rider 14(a) of the General Appropriations Act (83rd session – HB 1). This version of the report provides information on international trade numbers for Texas, including data on the main commodities traded, trading partners, and their respective modes of transportation. It also describes ongoing infrastructural projects along major trade corridors serving both Texas and Mexico and summarizes projects prioritized by the U.S.-Mexico border master plans. Finally, this report summarizes activities undertaken by the Border Trade Advisory Committee between 2013 and 2014.

2 Texas Trading Partners

As Table 1 shows, Texas's top exports, aggregated by commodity type, are (1) machinery and electrical products, (2) mineral products including oil, (3) chemicals and allied industries, (4) transportation, and (5) plastics and rubbers. Top imports are (1) mineral products including oil, (2) machinery and electrical products, (3) transportation, (4) metals, and (5) miscellaneous commodities.

Table 1: Texas Top 5 Export and Import Commodities by Value in 2013 [1]

	Exports			Imports		
Rank	*Commodity*	*Value ($ mil.)*	*% U.S.*	*Commodity*	*Value ($ mil.)*	*% U.S.*
1	Machinery, Electrical	$88,178	23.3%	Mineral products	$109,579	28.4%
2	Mineral products	$70,911	44.6%	Machinery, Electrical	$101,819	16.9%
3	Chemicals & Allied Industries	$32,943	20.1%	Transportation	$19,716	7.0%
4	Transportation	$20,676	8.1%	Metals	$15,261	13.5%
5	Plastics, Rubbers	$20,734	27.4%	Miscellaneous	$14,156	8.3%

Note: Commodity categories are aggregates of more detailed subcategories. See Appendix A for examples of commodities included in aggregated categories.

In comparison, the U.S.'s top exports are (1) machinery and electrical products, (2) transportation, (3) chemicals and allied industries, (4) mineral products including oil, and (5) miscellaneous. The top U.S. imports are (1) machinery and electrical products, (2) mineral products including oil, (3) transportation, (4) chemicals and allied industries, and (5) miscellaneous.

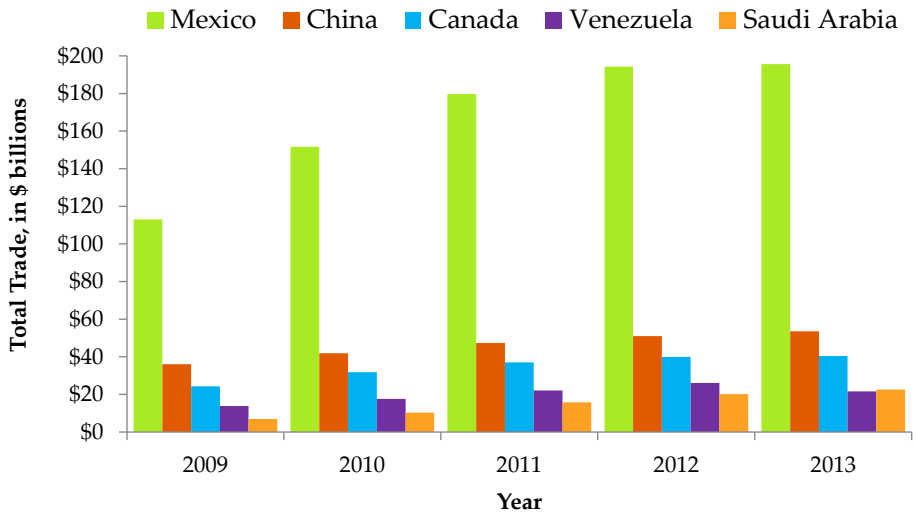

Figure 3: Top Texas Trading Partners[1]

Mexico plays a crucial role in Texas trade, substantially surpassing other trade partners (China, Canada, Venezuela, and Saudi Arabia), as shown in Figure 3. This high trade level is primarily due to Mexico's proximity and the passage of the North American Free Trade Agreement (NAFTA) in 1994.[3] This trade agreement stimulated a profound impact on border communities located along the Texas-Mexico border and on the transportation corridors, predominantly highway and rail.**Error! Bookmark not defined.**

2.1 Mexico

Texas's trade with Mexico is found to have the least variation in terms of the value of commodities exported and imported during the last six years, as shown in Figures 4 and 5. In 2013, top exports from Texas to Mexico in 2013 were machinery and electrical products ($40 billion) and mineral products including oil ($16 billion).[1] Top commodity imports from Mexico were also machinery and electrical products ($38 billion) and mineral products including oil ($25 billion).[1] Similar to the national trend, imports of mineral products (including oil) from Mexico is on a decline since 2012. This can be attributed to growing oil production in Texas.

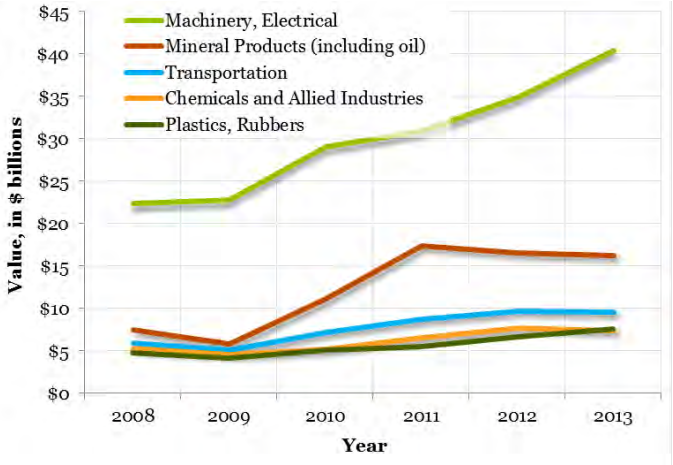

Figure 4. Exports to Mexico[1]

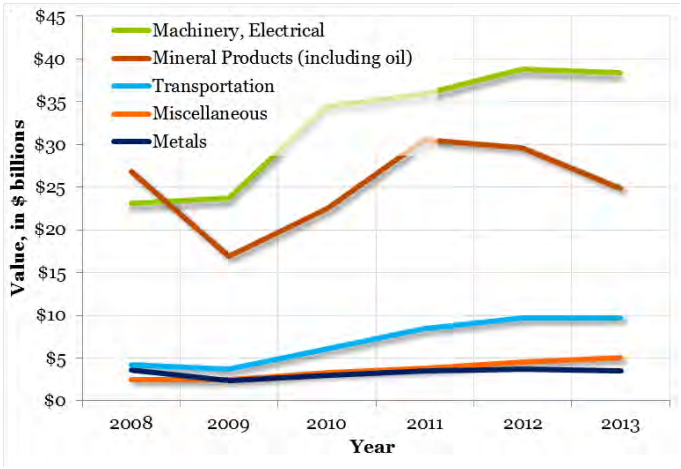

Figure 5: Imports from Mexico[1]

2.2 China

The total value of Texas exports to China is much less in comparison to imports and varies in terms of commodity type. The export values of most of the commodities were less than $3 billion dollars. Exports to China are also more volatile, with frequent variations from 2008 to 2013, as shown in Figure 6.[1] Figure 7 indicates that the top import commodity in 2013 from China to Texas was machinery and electrical products (almost $30 billion), the majority of which is highly concentrated in communication devices, such as phones. The values of other commodities imported were much less than the top commodity import. The import values of

most of these commodities were below $4 billion from 2008 to 2013 and include items such as miscellaneous products, metals, textiles, and plastics/rubber products.[1]

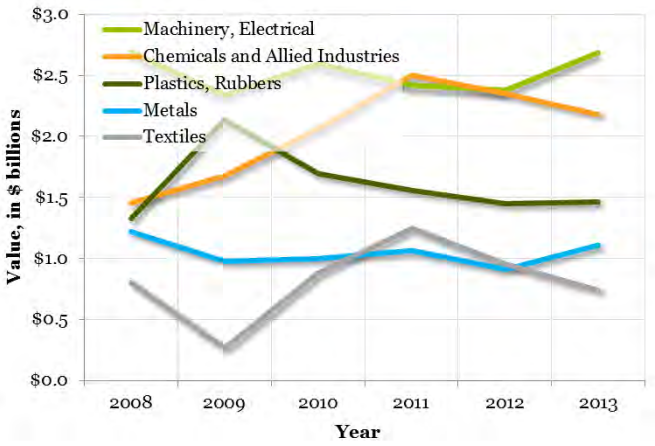

Figure 6. Exports to China[1]

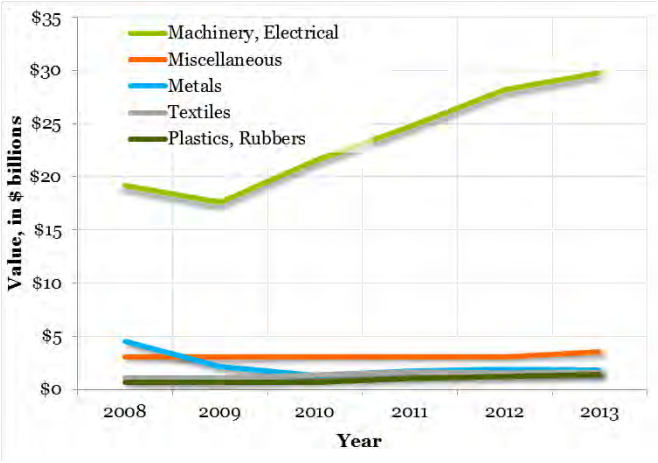

Figure 7: Imports from China[1]

2.3 Canada

The top exports to Canada from Texas in 2013 were machinery and electrical products ($7.4 billion) and mineral products including oil ($6 billion). As shown in Figure 8, since 2008 the value of mineral products (including oil) exported to Canada has grown 85%, and the value of machinery and electrical products has grown by 24% (see Figure 8).[1] Other top exports are worth under $3 billion each. Top imports by value from Canada to Texas in 2013 were machinery and electrical products (almost $3 billion) and mineral products including oil ($2.3 billion) as shown in Figure 9.[1] The value of machinery and electrical products imported from Canada decreased in 2008 and has since remained stable. Overall, Texas exports to Canada were of greater value than imports.[1]

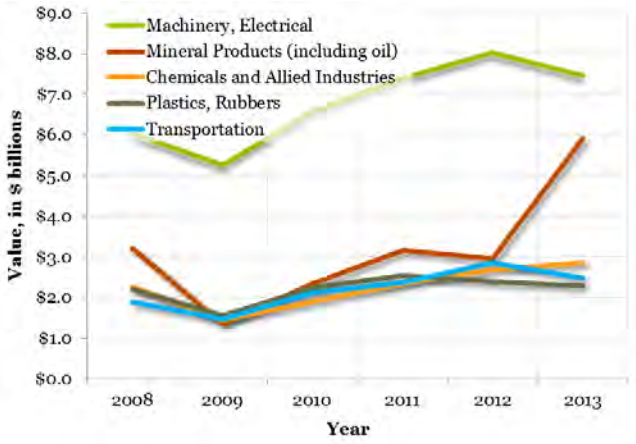

Figure 8. Exports to Canada[1]

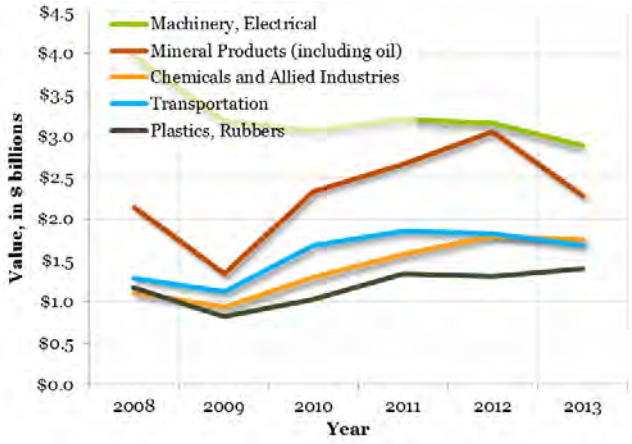

Figure 9: Imports from Canada[1]

2.4 Saudi Arabia

As shown in Figure 10, exports to Saudi Arabia are dominated by transportation goods ($1.7 billion), which is mostly made up of passenger vehicles. This category has increased by a dramatic 224% since 2008.[1] The top Texas import commodity from Saudi Arabia is mineral products, which includes oil. The value of mineral products imported from Saudi Arabia lost an immense 63% of its value from 2008 to 2009 due to a cut in production as a response to decreased demand during the global economic crisis.[4] Its value has since recovered and in 2013 surpassed $22 billion, as shown in Figure 11.[1]

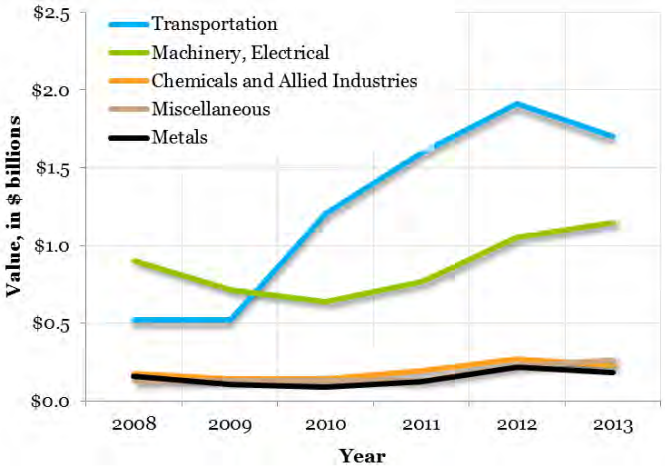

Figure 10. Exports to Saudi Arabia[1]

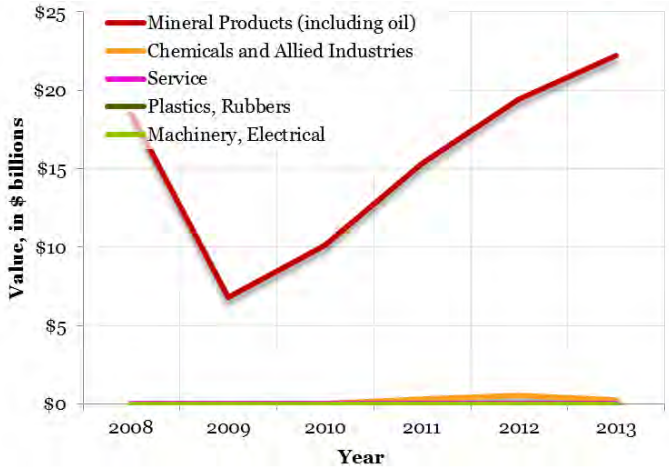

Figure 11: Imports from Saudi Arabia[1]

2.5 Venezuela

Similar to the Saudi Arabia trade profile, Texas trade with Venezuela is almost exclusively mineral products such as oil. Texas exports to Venezuela are quite volatile, with the top export of mineral products including oil ($2 billion), as shown in Figure 12.[1] Remarkably, the value of this export increased almost 500% from 2011 to 2012. Increased U.S. exports of petroleum products to Venezuela in 2012 have been attributed to reduced capacity at Venezuelan refineries.[5] Imported oil from Venezuela in 2013 ($16 billion) has yet to reach its 2008 value of $20 billion, as shown in Figure 13.[1]

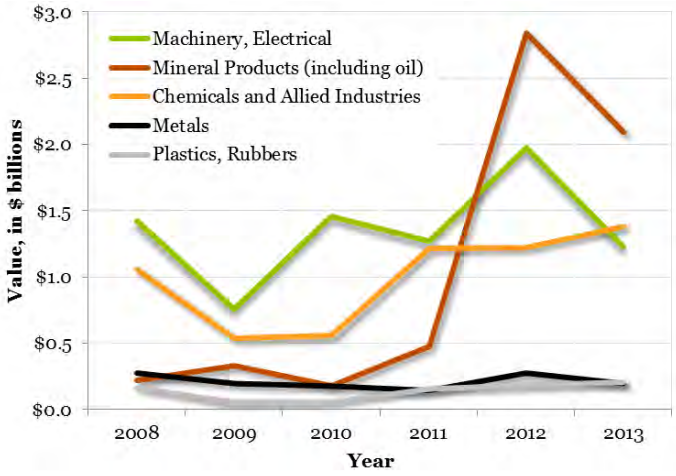

Figure 12. Exports to Venezuela[1]

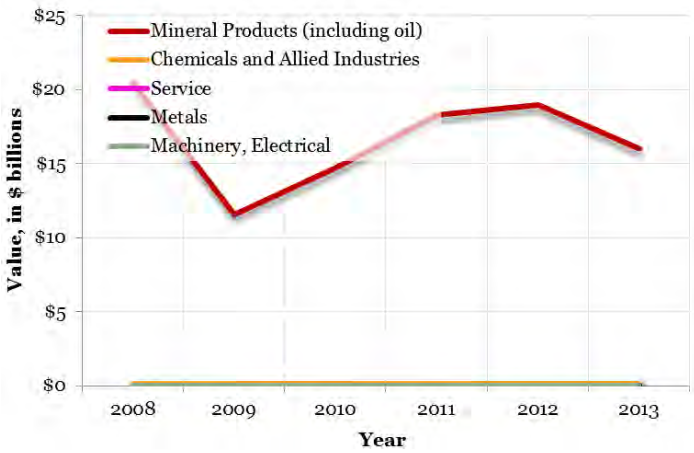

Figure 13: Imports from Venezuela[1]

3 Texas Trade by Mode

The U.S. has 328 official Customs and Border Protection (CBP) ports of entry (POE), with 29 in Texas, as shown in Figure 14. These POEs serve various freight modes of transport, including truck, rail, air, and marine gateways. CBP officers inspect goods, collect duties, and enforce the import/export laws and regulations of the U.S. federal government. In addition, various agencies, such as the CBP, U.S. Army Corps of Engineers, U.S. Census Bureau, and the Bureau for Transportation Statistics, collect data on the movement of goods.

Figure 14: CBP POE Cities in Texas[6]

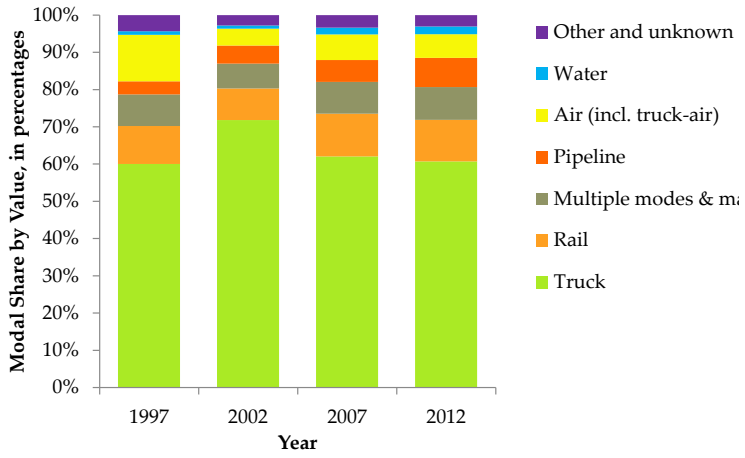

Figure 15: Texas Exports by Value and by Mode [7]

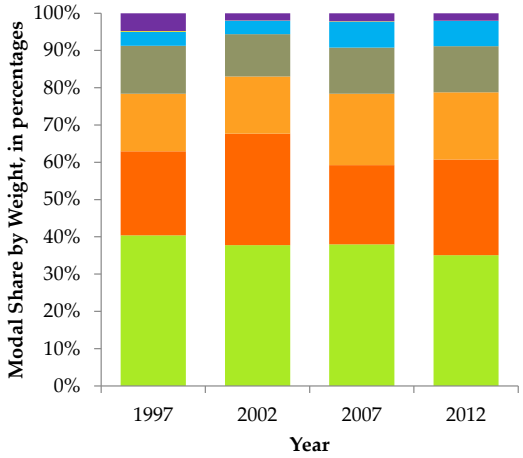

Figure 16: Texas Exports by Weight and by Mode [7]

As shown in Figures 15 and 16, the dominant mode of transport for moving trade to and from Texas is trucking, both by value and by tonnage. The term *truck movements*, as defined in the Freight Analysis Framework (FAF) database[7], includes private and for-hire trucks and excludes trucks that are part of multiple modes and mail or truck moves made in conjunction with the routing of domestic air cargo exports from Texas, as.

In 2012, trucks moved 60.7% by value and 35.1% by weight of compared to 62.1% by value and 38% by weight in 2007. The changes in modal share between 2007 and 2012 can mainly be attributed to pipeline movements increasing from 5.9% to 7.8% by value and from 21.3% to 25.7% by weight. Pipelines move crude petroleum and natural gas—commodities whose exports increased significantly from 2007 and 2012. Rail mode share by value was relatively the same at 11% in 2007 compared to 2012, but by weight decreased slightly from 19.1% in 2007 to 18% in 2012. Air modal share (including truck and air) also remained relatively unchanged from 2007 to 2012 both by value and weight. Air as categorized in the FAF includes shipments typically weighing more than 100 pounds that move by air or a combination of truck and air in commercial or private aircraft. Shipments typically weighing 100 pounds or less are classified as multiple modes and mail. This category also includes shipments by parcel delivery services, U.S. Postal Service, or couriers. The modal share of this category also remained relatively unchanged in 2007 compared to 2012 both by value and weight at approximately 9% and 12%, respectively. The "Other and unknown" modal category includes movements not elsewhere classified and shipments for which the mode cannot be determined.

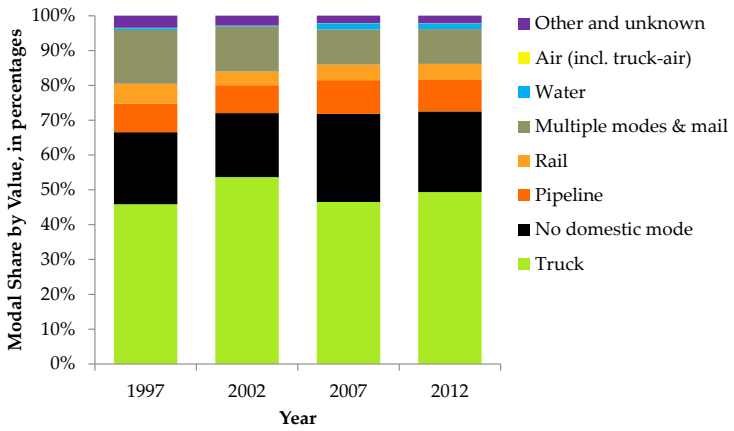

Figure 17: Texas Imports by Value and by Mode [7]

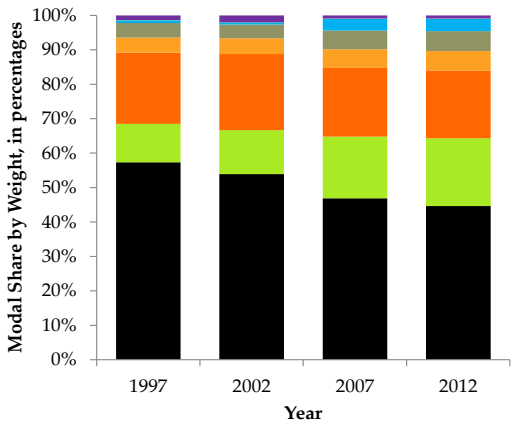

Figure 18: Texas Imports by Weight and by Mode [7]

As shown in Figures 17 and 18, modal share for the "No domestic mode" category is a significant percentage of freight imported into Texas in 2012 at 21.2% and 44.6% by value and weight, respectively. This category is used to capture petroleum imports that go directly from foreign, inbound ships to an on-shore U.S. refinery. Use of this category ensures a proper accounting when foreign and domestic flows are summed, while avoiding assigning flows to the domestic transportation networks that do not use it. For modes of transport utilizing the domestic transportation network, trucks moved 45.3% of Texas imports in 2012 by value, a slight increase from 42.9% in 2007. By weight, trucks moved 19.7% of imports in 2012 in comparison to 17.9% in 2007. Crude petroleum and natural gas moved on domestic pipelines accounted for 8.3% of imports by value but 19.7% of imports by weight in 2012. In the same year, rail also accounted for 4.2% of imports by value and approximately 5.6% by weight. There were marginal modal share changes for both domestic pipeline and rail movements in 2007 compared to 2012. Similarly, air freight and multiple modes and mail also experienced minimal modal share changes for the same years. In 2012, air freight accounted for 8.3% of imports by value and 0.1% of imports by weight. Multiple modes and mail also accounted for 9.2% by value and 5.8% by weight in 2012 as well.

3.1 Trade with Mexico and Canada by Mode

As reported in the North American Transborder Freight database[8] and shown in Figures 19 and 20, Texas trade with Mexico is dominated by truck movements, which accounted for 70.7% for exports and 65.9% for imports in 2013. Transporting goods by vessels to and from Mexico accounted for 16.4% of exports and 26% of imports in 2013.

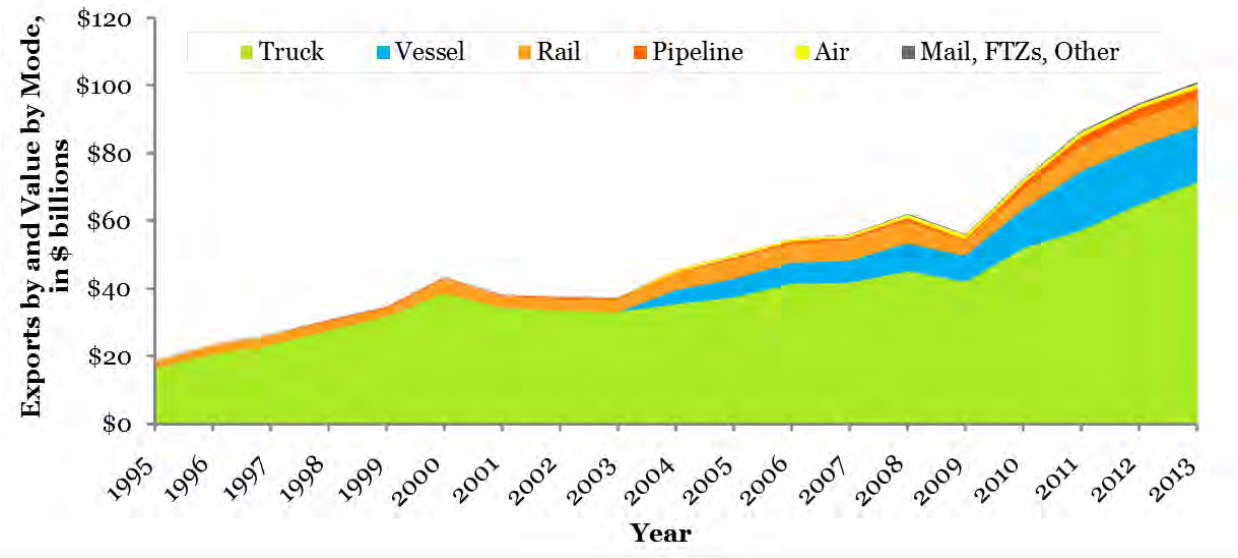

Figure 19: Texas Exports to Mexico by Mode and Value[8]

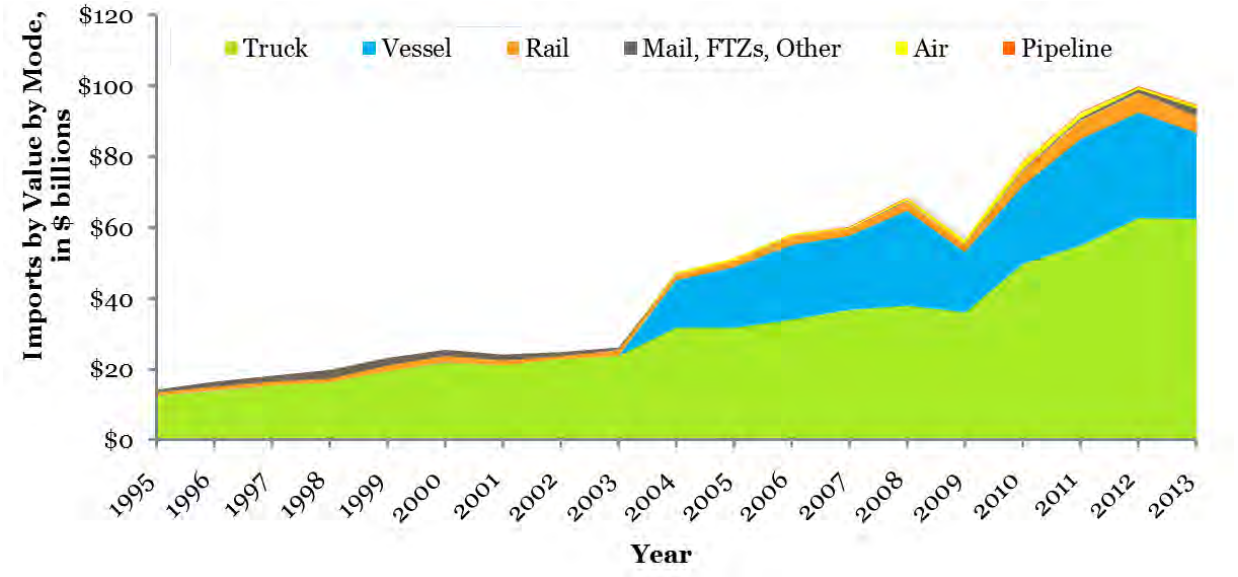

Figure 20: Texas Imports from Mexico by Mode and Value[8]

The remaining modes moving trade between Texas and Mexico in 2013 had the following shares: rail moved 8.1% of exports and 4.6% of imports; pipelines moved 3.1% for

exports and 0.2% for imports; air moved 1.1% for exports and 0.7% for imports; and commodities categorized as "Mail, Foreign Trade Zones (FTZs), and Other" moved 0.6% for exports and 2.5% for imports.

In comparison, truck movements to and from Canada accounted for 53.2% for exports and 50.5% for imports in 2013, as shown in Figures 21 and 22. Rail moved 18.3% of exports and 30.5% of imports in the same year. Vessel, air, and pipelines moved 19.5%, 7%, and 1.9% of exports, and 4.1%, 12.6%, and 2.4% of imports, respectively, in 2013. For exports, the modal share for vessels increased by 10.3% and that of trucks decreased by 7.8% from 2012 to 2013.

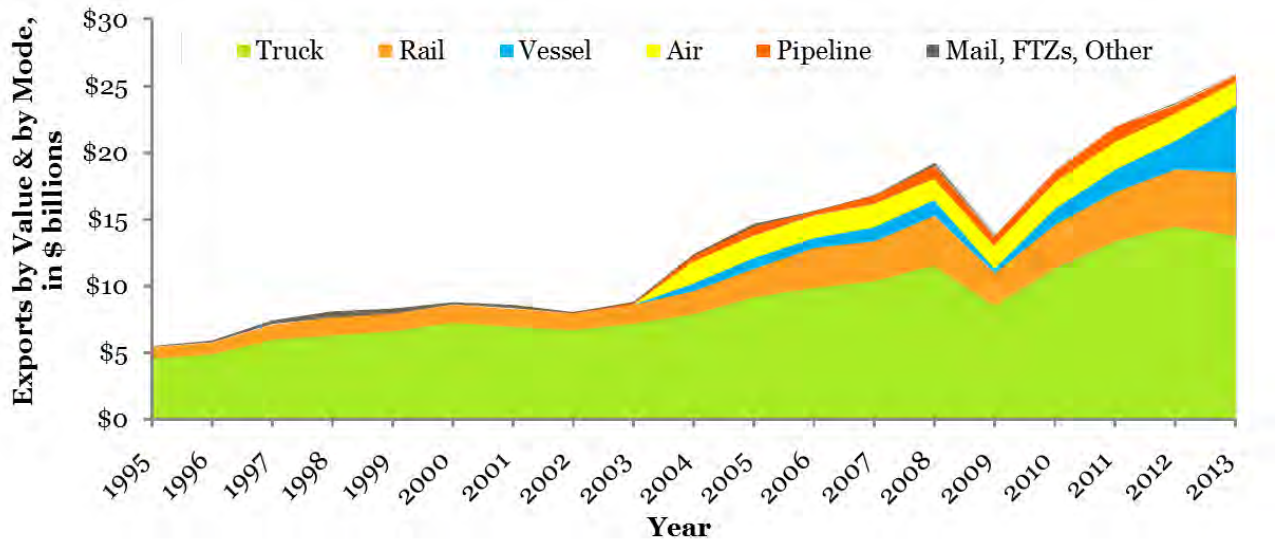

Figure 21: Texas Exports to Canada by Mode and Value[8]

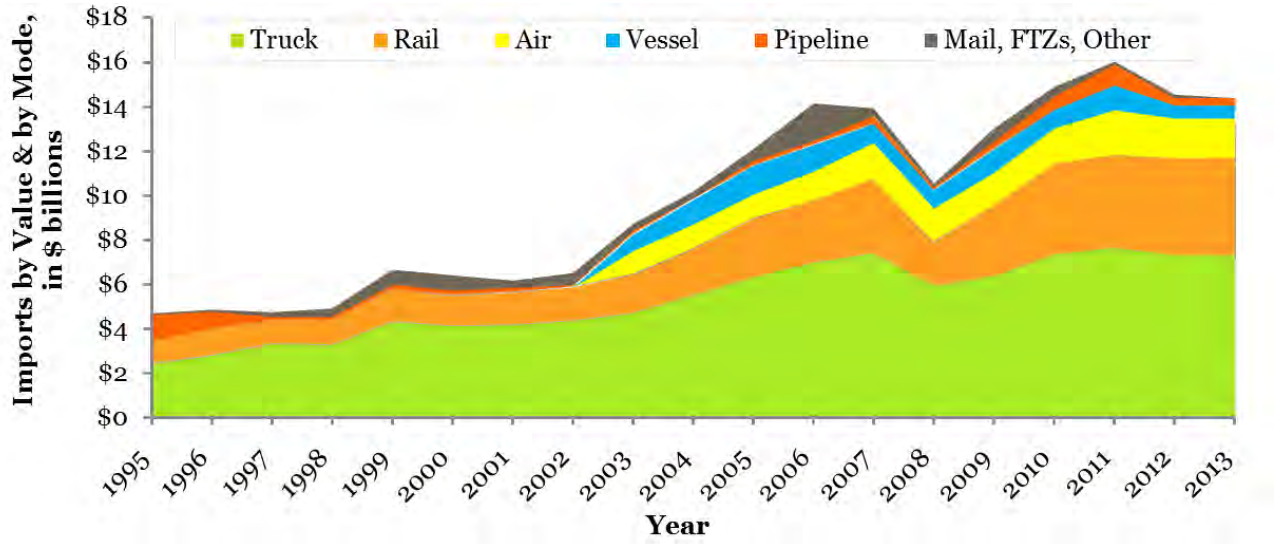

Figure 22: Texas Imports from Canada by Mode and Value[8]

3.2 Land Ports of Entry

3.2.1 Trucks

Texas has 29 ports of entry (POEs) of which thirteen are commercial as shown in Figure 23 . Commercial POEs differ from non-commercial POEs in that they process commercial trucks in addition to or instead of privately owned vehicles. Trucks volumes are dominated by six POE sites where Texas Department of Public Safety (DPS) have permanent inspection stations adjacent to the Federal CBE ports through which northbound trucks pass and can be selected to insure they meet state and federal safety standards. As shown in Figure 24, the World Trade Bridge in Laredo remains the busiest POE for truck crossings between Texas and Mexico.

Figure 23: Commercial Land POEs

In 2013, the World Trade Bridge accounted for 41.6% of total northbound truck crossings. In comparison, the Pharr-Reynosa International Bridge in the Lower Rio Grande Valley and the Ysleta-Zaragoza Bridge in El Paso accounted for 14.4% and 11.9% of total northbound truck crossings, respectively.

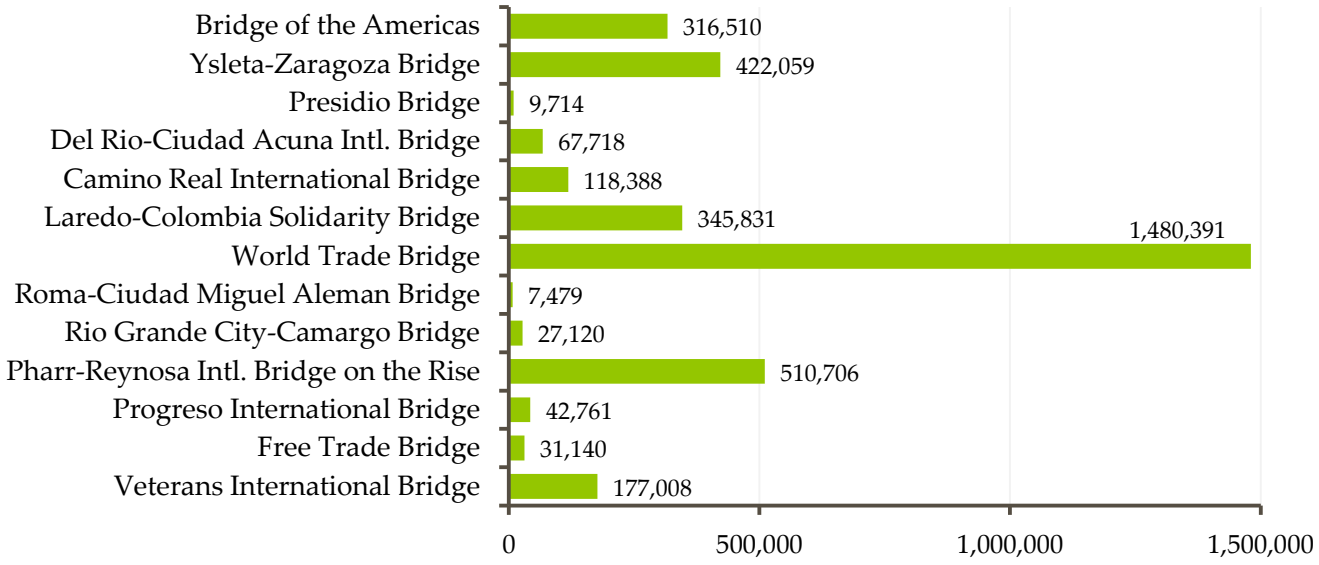

Figure 24: Northbound Truck Border Crossings in 2013[9]

Table 2 ranks bridges by number of truck crossings in 2013, and also shows percent changes in traffic across three different time ranges: percent change from 2000 to 2013; percent change from 2009 to 2013 (i.e., after the global economic recession); and percent change from 2012 to 2013, reflecting the most recent changes in truck traffic.

Table 2: Ranking of Busiest Northbound Commercial Bridges in 2013[9]

2013 Rank	POE	Location	% change 2000–2013*	% change 2009–2013	% change 2012–2013
1	World Trade Bridge	Laredo	-17.6%	10.1%	-6.9%
2	Pharr-Reynosa International Bridge	Hidalgo	-63.1%	8.3%	14.1%
3	Ysleta-Zaragoza Bridge	El Paso	273.1%	-7.0%	-3.5%
4	Laredo-Colombia Solidarity Bridge	Laredo	36.5%	21.8%	6.5%
5	Bridge of the Americas	El Paso	12.7%	2.0%	-7.0%
6	Veterans International Bridge	Brownsville	-41.7%	8.5%	4.9%
7	Camino Real International Bridge	Eagle Pass	103.1%	35.7%	5.8%
8	Del Rio-Ciudad Acuña International Bridge	Del Rio	-38.4%	18.7%	-9.6%
9	Progreso International Bridge	Progreso	10.8%	42.2%	1.3%
10	Rio Grande City-Camargo Bridge	Rio Grande City	12.3%	36.5%	3.8%
11	Free Trade Bridge (Los Indios Bridge)	Brownsville	11.2%	38.0%	-13.9%
12	Presidio Bridge	Presidio	15.5%	33.6%	3.0%
13	Roma-Ciudad Miguel Alemán Bridge	Roma	-10.8%	-0.1%	0.6%
All Bridges			22.3%	21.9%	2.3%

*Juarez-Lincoln Bridge, Lake Falcon Dam Crossing, and Fabens-Caseta Bridge were processing commercial truck traffic until May 2000, March 2009, and December 2001, respectively, and are excluded from this analysis.

Across all Texas bridges, truck traffic increased by 22.3% since 2000, 21.9% since 2009, and 2.3% between 2012 and 2013. The bridge that has shown the most significant growth since 2000 is the Ysleta-Zaragoza Bridge in El Paso, with an impressive 273.1% increase in traffic. In more recent growth, truck traffic at Pharr-Reynosa International Bridge grew by 14.1% from 2012 to 2013. Between 2012 and 2013 the World Trade Bridge, Ysleta-Zaragoza Bridge, Bridge of the Americas, Del Rio-Ciudad Acuña International Bridge, and the Free Trade Bridge all experienced decreases in truck traffic. Figure 25 also shows the trend in the number of northbound truck crossings by POE from 2000 to 2013 with the Laredo POE, comprising the World Trade Bridge and Laredo-Colombia Solidarity Bridge, being the busiest POE, followed by El Paso, Hidalgo, and Brownsville.

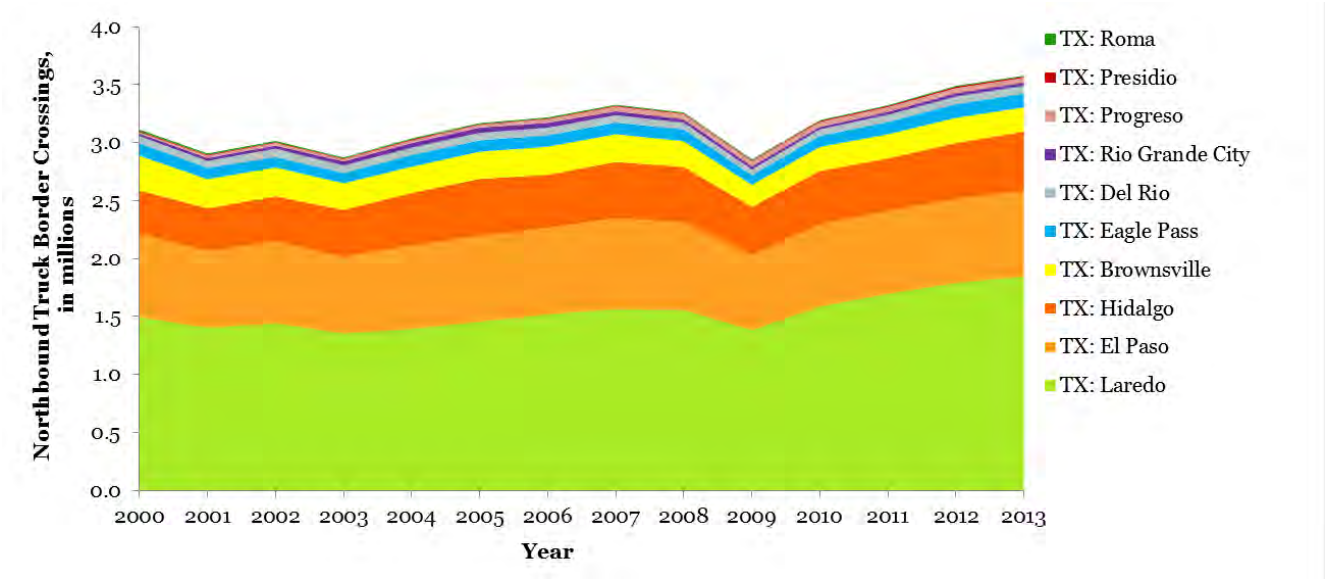

Figure 25: Northbound Trucks crossing through Texas Border POEs[10]

Table 3 shows limited 2012–2013 southbound truck crossing data by POE. Similar to northbound crossing data, bridges in Laredo ranked highest in terms of number of truck crossings. Pharr and El Paso also ranked second and third, a trend similar to northbound crossings. The remaining southbound locations differ slightly from northbound locations in terms of which bridges are included in each location. For example, Harlingen and McAllen are listed as POEs for the southbound traffic; however, these locations are not included in the northbound crossing delineations in Figure 25. An accurate comparison between northbound and southbound crossings can therefore not be made for these locations, as the dataset does not specify which bridges are included.

Table 3: Ranking of Busiest Southbound Commercial Bridges in 2013[11]

Rank	Location	2012	2013	% change 2012–2013
1	Laredo	1,800,788	1,859,383	3%
2	Pharr	470,716	493,105	5%
3	El Paso	353,555	361,560	2%
4	Brownsville	201,189	190,815	-5%
5	Eagle Pass	102,235	102,968	1%
6	Del Rio	-	61,656	-
7	Progreso	34,567	32,598	-6%
8	Harlingen	19,171	20,684	7%
NR	McAllen	3,695	-	-
NR	Roma	2,416	-	-

Another approach to examine truck traffic through land POEs is to examine the number of containers transported across the border. Some trucks may be empty, so measuring by the number of truck crossings alone is not always reflective of actual trade patterns. The total number of containers[a] (i.e., sum of empty plus loaded) is also not equal to the total number of truck crossings as not every truck will be carrying a container.[12] For example, some trucks will be crossing the border as a tractor (and no trailer) after making a delivery to Mexico.

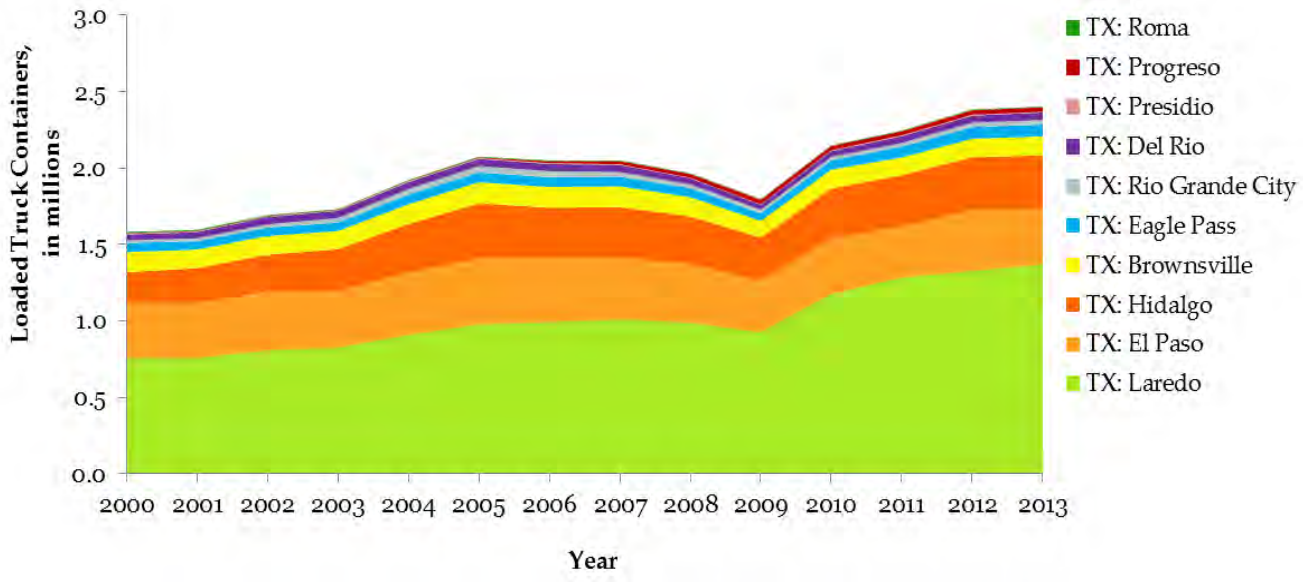

Figure 26: Northbound Loaded Truck Containers crossing through Texas Border POEs[10]

[a] BTS defines a container as "any conveyance entering the U.S. used for commercial purposes, loaded or empty" so it does not discriminate between truck semi-trailers and intermodal containers.

Figure 26 shows the number of loaded containers crossing at Texas border POEs. Similar to the number of trucks, Laredo (57%), El Paso (14.9%), Hidalgo (14.8%), Brownsville (5.2%), and Eagle Pass (3.2%) accounted for most of the loaded containers crossing into Texas from Mexico in 2013. The overall increasing trend of northbound loaded containers can be linked to increased imports into Texas and the U.S. as shown in Figure 27.

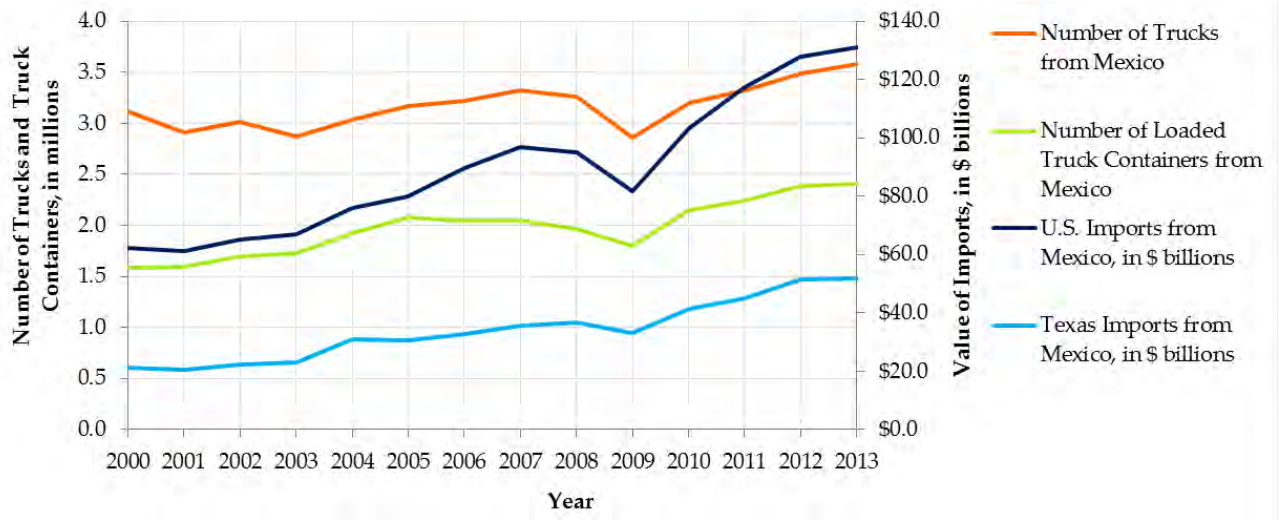

Figure 27: Comparison of Import Value to Truck and Container Movements from Mexico[8, 10]

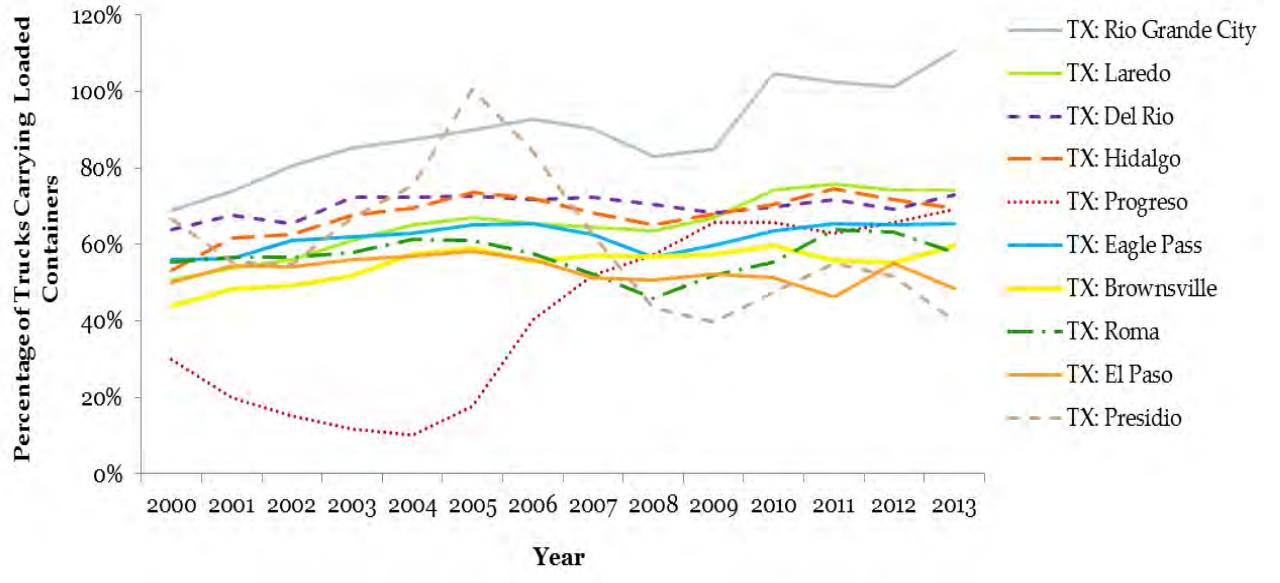

Figure 28: Percentage of Northbound Trucks with Loaded Containers through Texas Border POEs[10]

Figure 28 shows the percentage of trucks carrying loaded containers into Texas. Rio Grande City recorded the highest percentages, which is attributed to the way the data is

collected. A container, as defined in the Border Crossing/Entry Data, includes trucks with two linked trailers/containers. There exists a free trade zone at Rio Grande City where these types of vehicles from Mexico go to transload commodities, as the state of Texas does not allow the use of double trailers, except with a permit. In comparison, most of the other POEs recorded a 45% to 55% utilization ratio for trucks carrying containers into Texas.

Figure 29 shows the number of northbound empty truck containers entering Texas from Mexico. Overall, the number of empty containers is much lower than the number of full containers. The total number of loaded containers entering Texas in 2013 was approximately 2.4 million, whereas the total number of empties was 1 million. The decrease in empty containers indicates either increasing imports from Mexico or increased truck utilization where trucks are able to pick up commodities on both sides of the border.

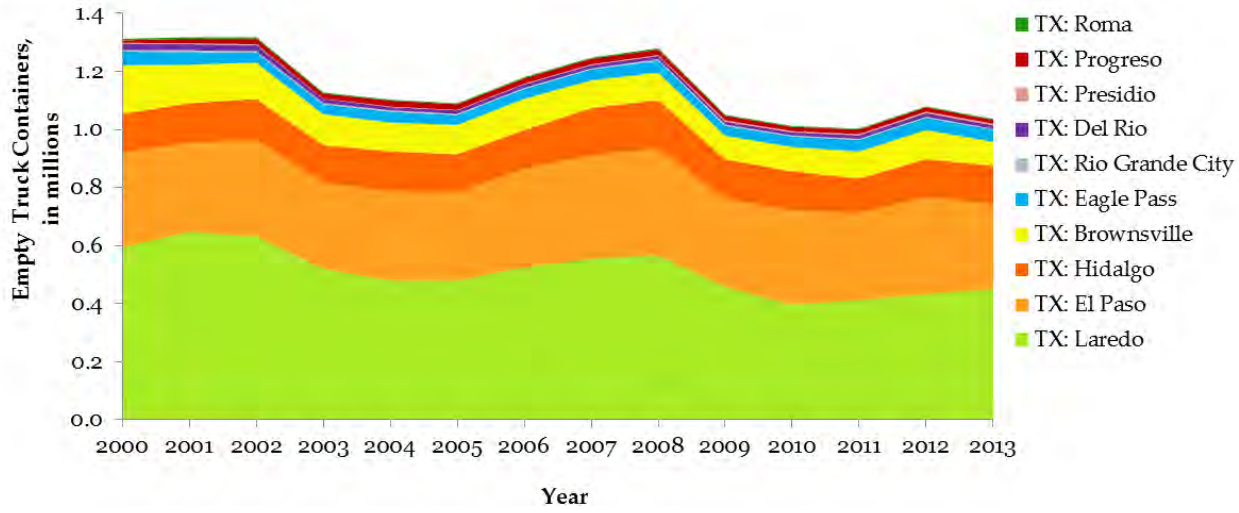

Figure 29: Northbound Empty Truck Containers crossing through Texas Border POEs[10]

Figures 30, 31, and 32 show northbound truck and container crossings through Texas in comparison to the other southern U.S. border states, namely, New Mexico, Arizona, and California. These figures also show annual total trade through all the states. In 2013, truck movements through Texas accounted for 68.9% of total southern border movements. California, Arizona, and New Mexico accounted for 22%, 7.3%, and 1.8%, respectively.

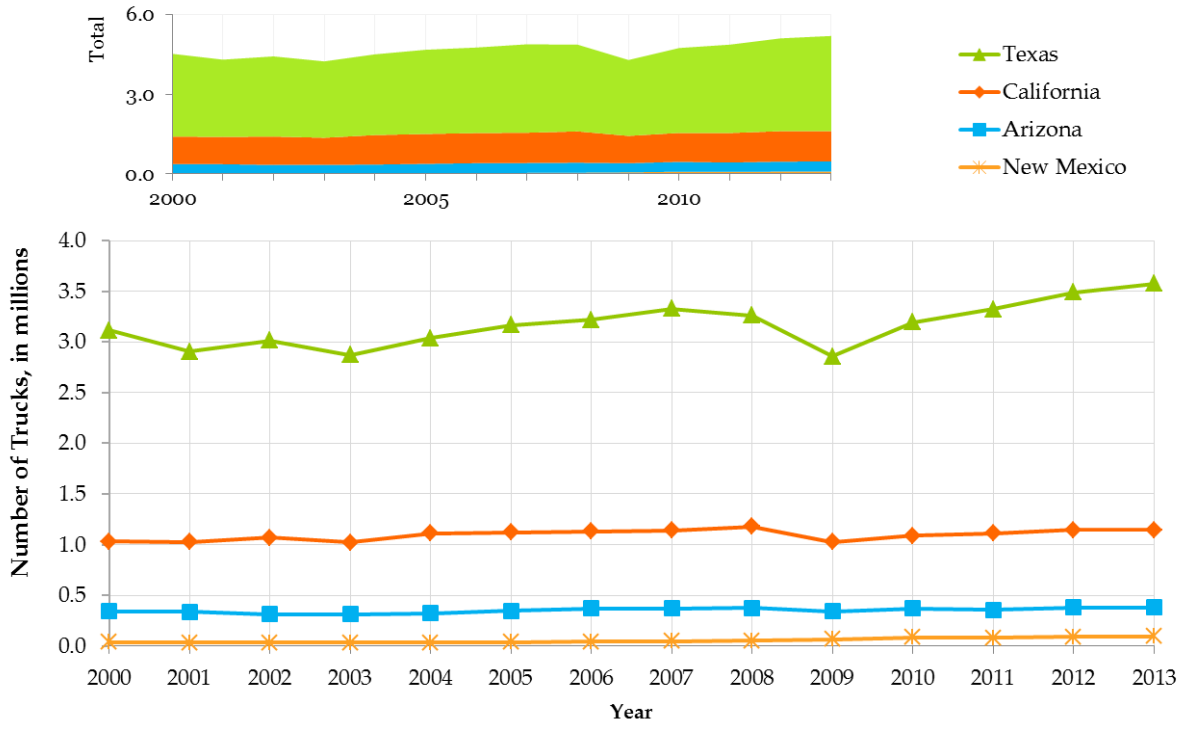

Figure 30: Northbound Trucks crossing through U.S. Southern Border POEs[10]

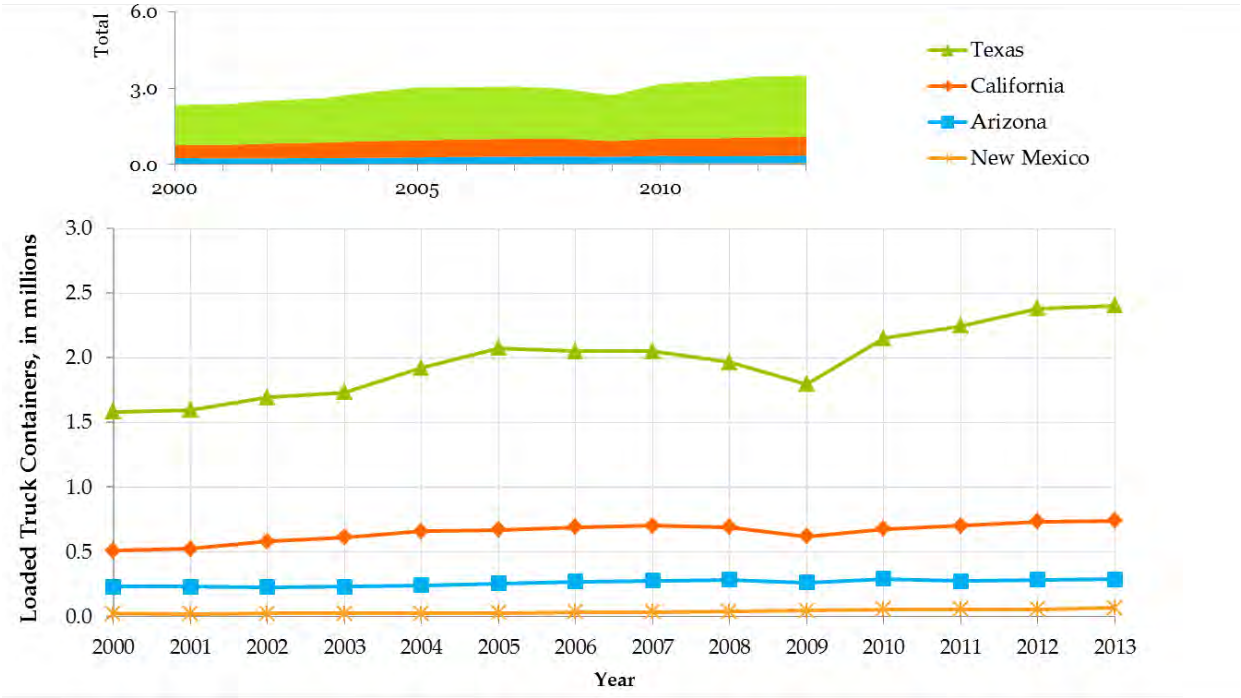

Figure 31: Northbound Loaded Truck Containers crossing through U.S. Southern Border POEs[10]

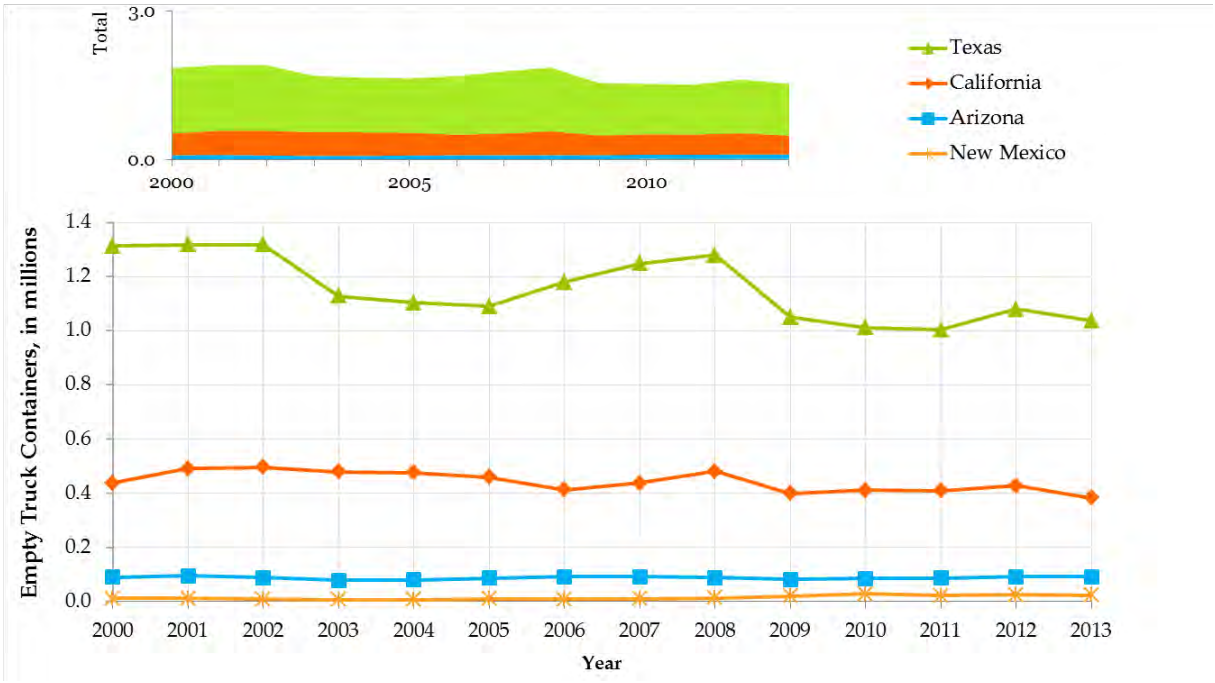

Figure 32: Northbound Empty Truck Containers crossing through U.S. Southern Border POEs[10]

3.2.2 *Rail*

Second to trucking, rail movement through Texas land POEs plays an essential role in the growth of U.S. and Mexico trade. Current rail crossings between Mexico and Texas are Brownsville (B&M Bridge, Brownsville West Rail Bypass International Bridge), Eagle Pass (Union Pacific International Railroad Bridge), El Paso (Santa Fe Railroad Bridge, Union Pacific Railroad Bridge), and Laredo (Texas-Mexican Railway International Bridge). Presidio also has a rail bridge (Presidio-Ojinaga Rail Bridge) which has not been rebuilt after a fire on 29 February 2008.[13] .

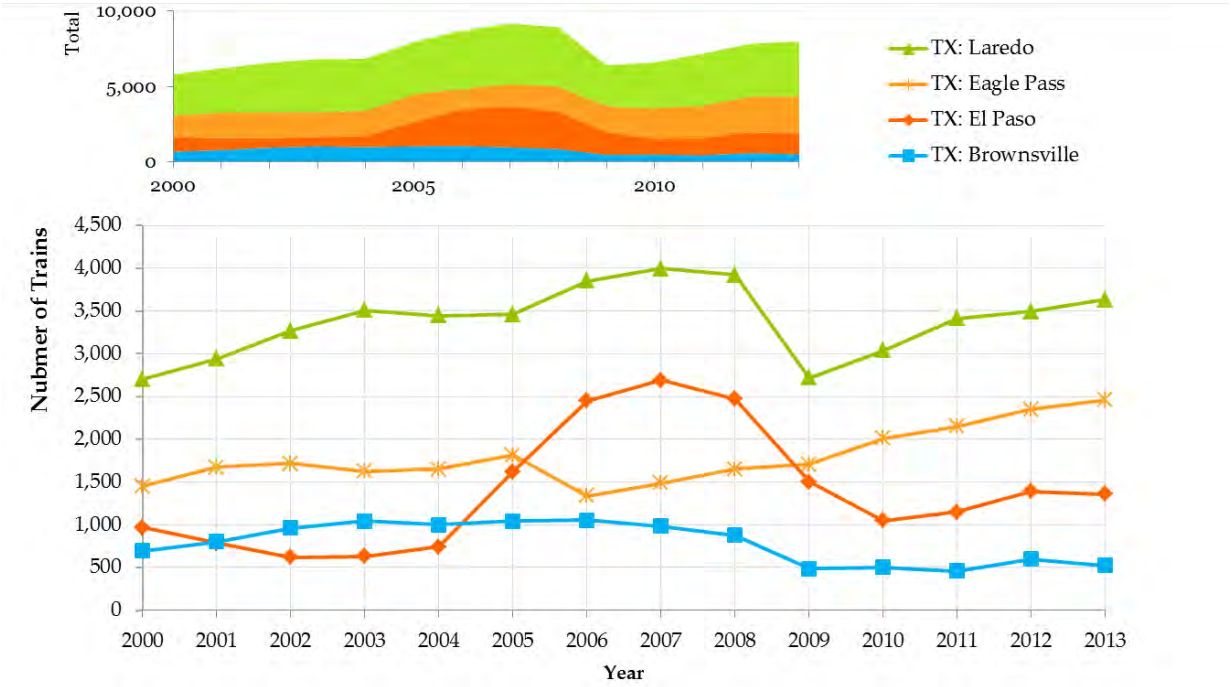

Figure 33: Northbound Trains crossing through Texas Border POEs[10]

As shown in Figure 33 and 34, Laredo handles the most trains and intermodal rail containers, followed by Eagle Pass, El Paso, and Brownsville. During the 2009 recession, El Paso and Laredo experienced sharp drops in rail container movements. Cargo movements through Eagle Pass continued to grow during the recession. However, since 2009 Laredo has experienced a much sharper growth rate compared to Eagle Pass. Average annual growth rate of northbound loaded rail traffic from 2009 to 2013 at Laredo is 20.15%, compared to 13.70% at Eagle Pass, as shown in Figure 34. El Paso, on the hand, never seemed to recover; its average annual growth rate is only 6.35% from 2009 to 2013, as shown in Figure 34.

Loaded rail containers follow a very similar pattern to the total number of rail containers (see Figure 34). The only difference is that Brownsville has stayed quite stable in number since 2000, which contrasts with the drops and subsequent increases in containers surrounding the

2009 global economic crisis. No decrease in number of loaded rail containers from 2012 to 2013 occurred at any of the rail crossings. For empty containers, the patterns are slightly different as shown in Figure 35. Though there was also growth in the number of empty rail containers after 2009, there was a decrease at all Texas rail crossings.

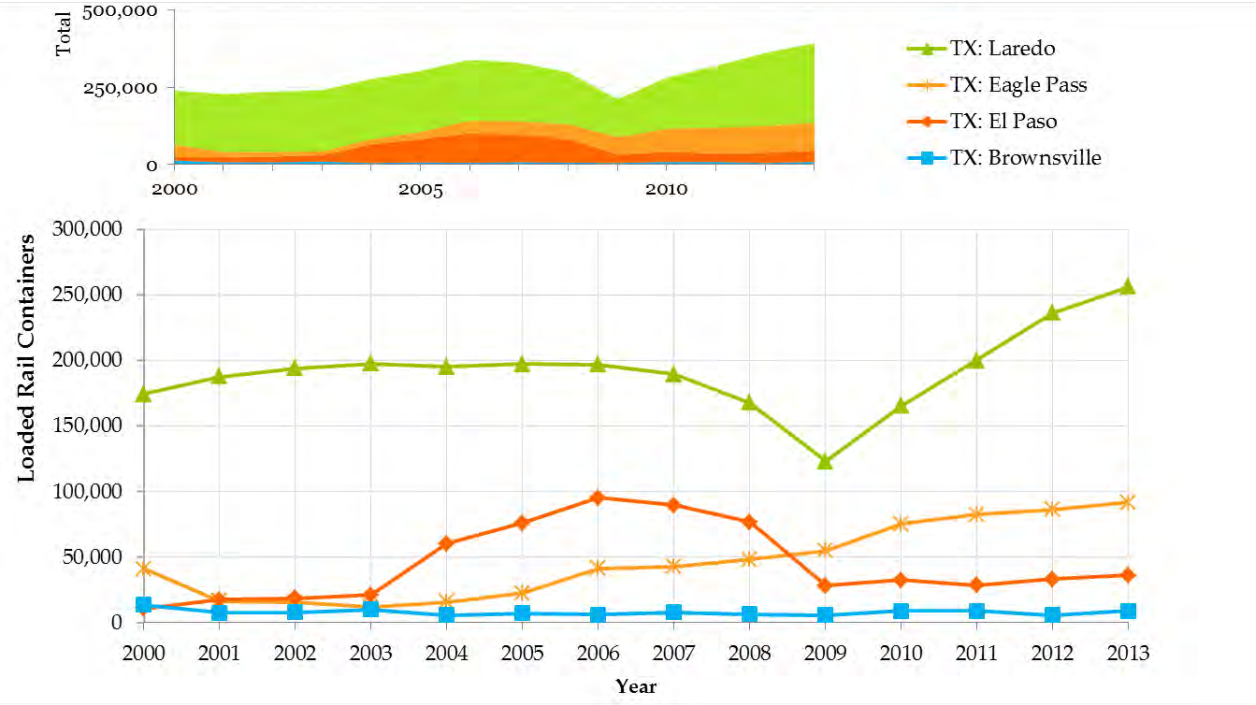

Figure 34: Northbound Loaded Rail Containers crossing through Texas Border POEs[10]

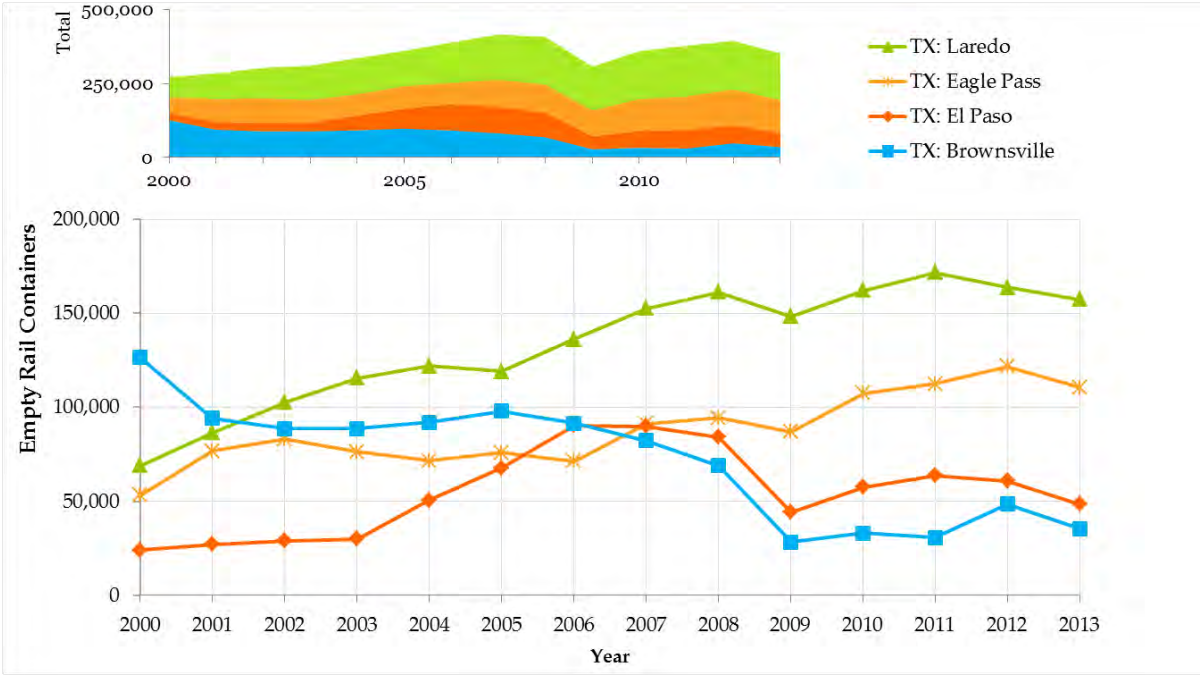

Figure 35: Northbound Empty Rail Containers crossing through Texas Border POEs[10]

As shown in Figure 36, 85.3% of all of the trains that entered the U.S. from Mexico in 2013 crossed into Texas. Of loaded and empty rail containers, 88.7% and 88.9%, respectively, also passed through Texas, as shown in Figures 37 and 38.

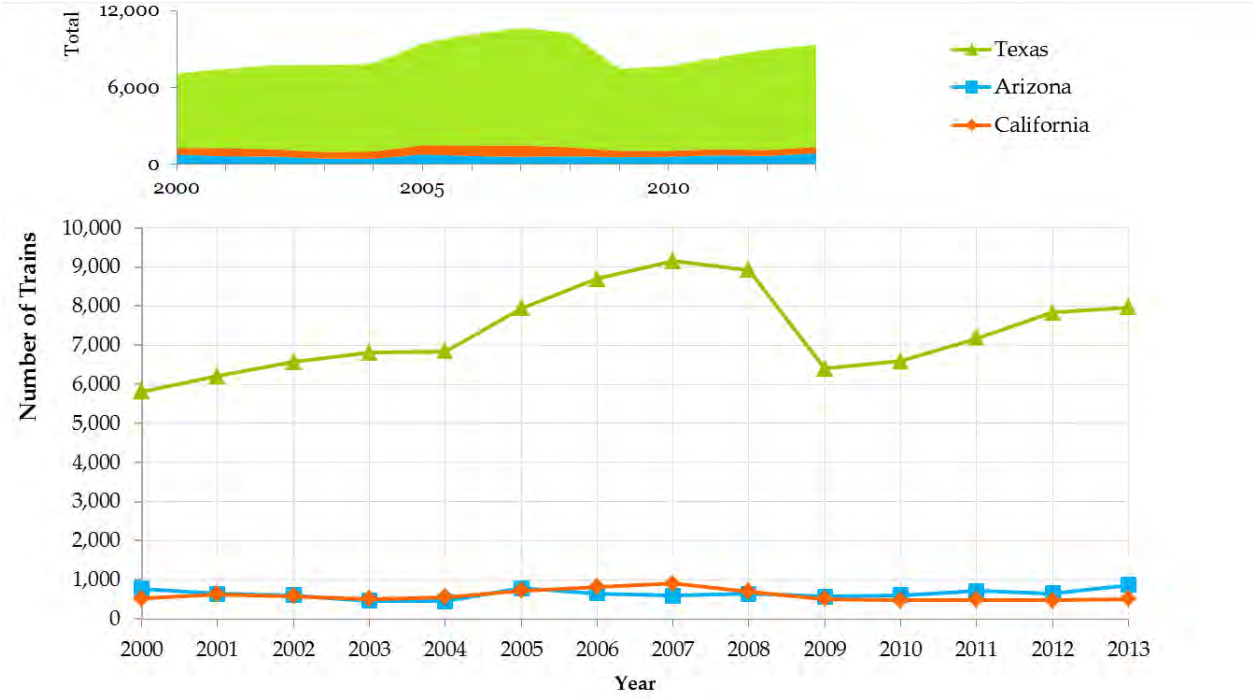

Figure 36: Northbound Trains crossing through U.S. Southern Border POEs[10]

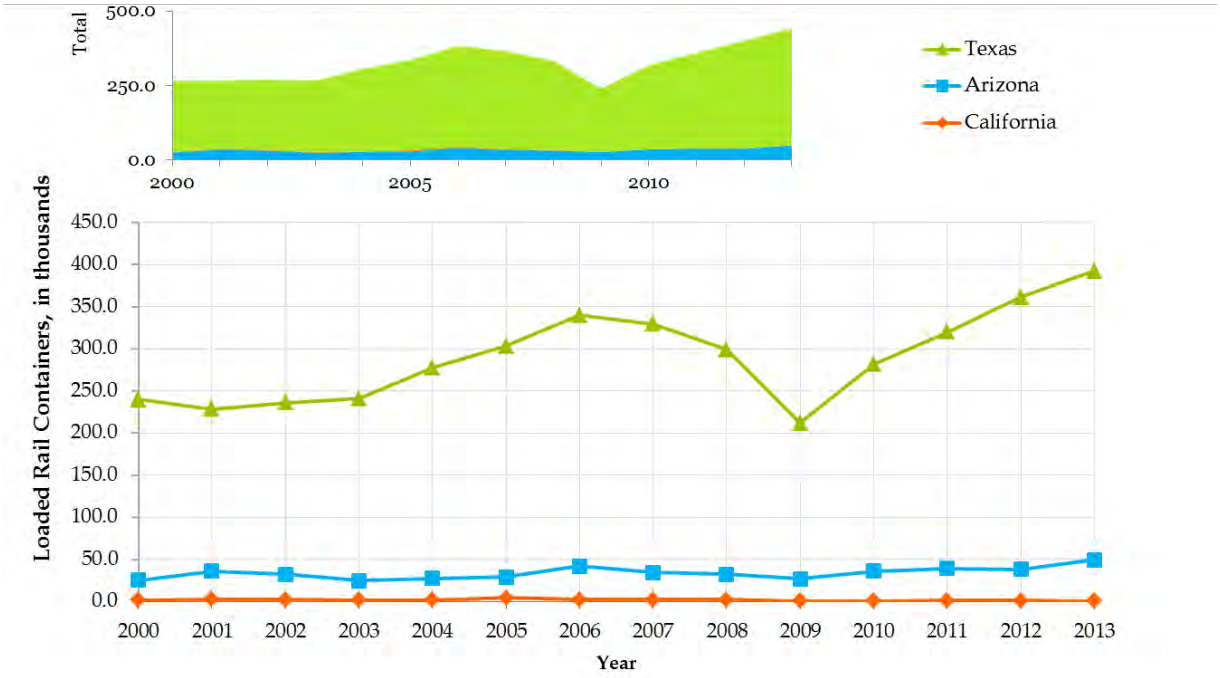

Figure 37: Northbound Loaded Rail Containers crossing through U.S. Southern Border POEs[10]

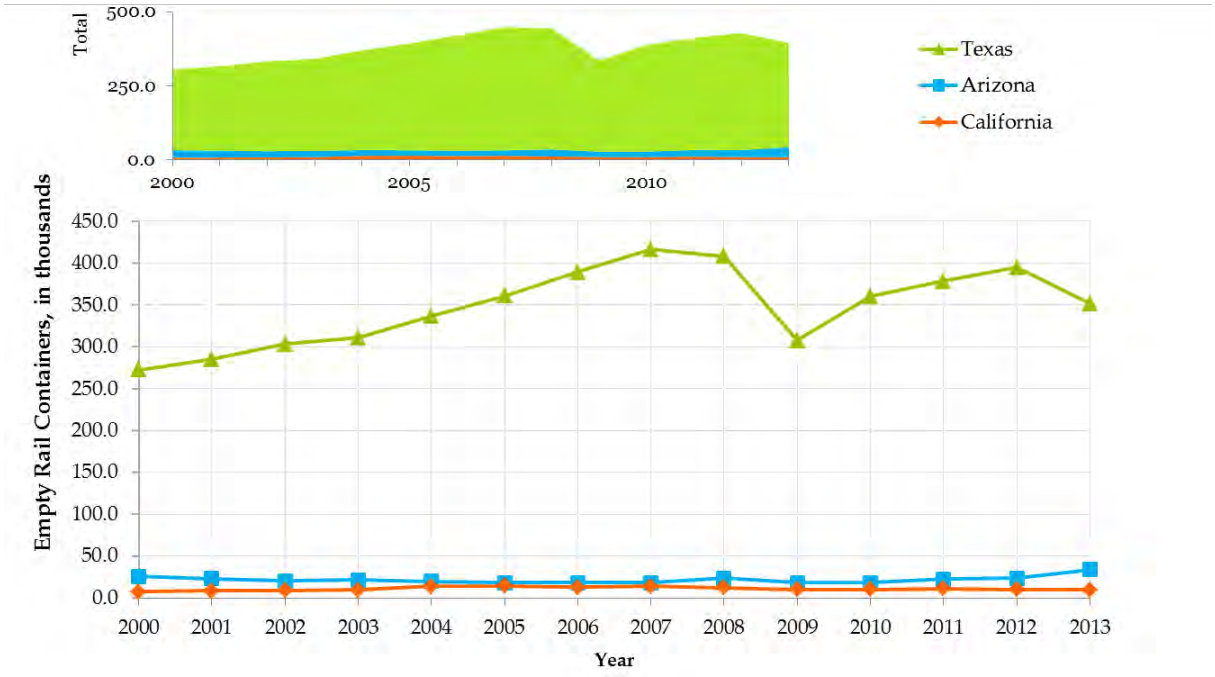

Figure 38: Northbound Empty Rail Containers crossing through U.S. Southern Border POEs[10]

3.3 Water Ports of Entry

The Port of Houston is by far Texas's busiest customs water port (Figure 39) and ranked second in the U.S. in terms of total tonnage moved through the port in 2012.[14] It ranked first in U.S. imports and second in exports by tonnage. In terms of total foreign trade tonnage, other high ranking ports in Texas in 2012 include the Port of Beaumont (6th), Port of Corpus Christi (7th), Port of Texas City (11th), and Port Arthur (19th).

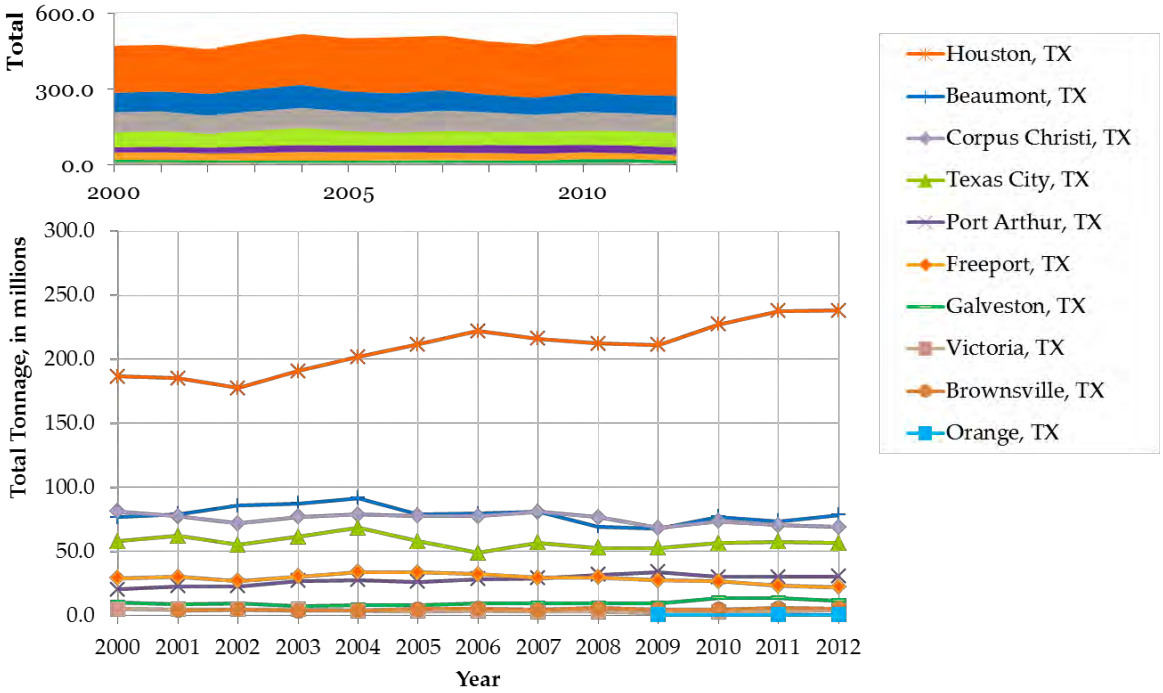

Figure 39: Total Tonnage Moved through Texas Marine Ports[14]

Figures 40 to 42 illustrate the tonnage of goods moved through Texas marine ports from 2000 to 2012. On average, the Port of Houston moved 41.6% of total tonnage, 43.2% of domestic tonnage, 34.8% of imports, and 59.5% of exports from 2000 to 2012. In comparison, the Port of Beaumont moved, on average, 15.7% of total, 14.1% of domestic, 19.5% of imports, and 7.2% of exports during the same time period. The Port of Corpus Christi recorded 15.0% of total, 14.3% of domestic, 16.3% of imports, and 12.4% of exports, and the Port of Texas City moved 11.4% of total, 10.9% of domestic, 13.5% of imports, and 5.9% of exports, on average, for the same time period. The Port of Houston also experienced sharp increase in exports (Figure 41) from 2002 to 2011, with an average annual growth rate of 9.3%.

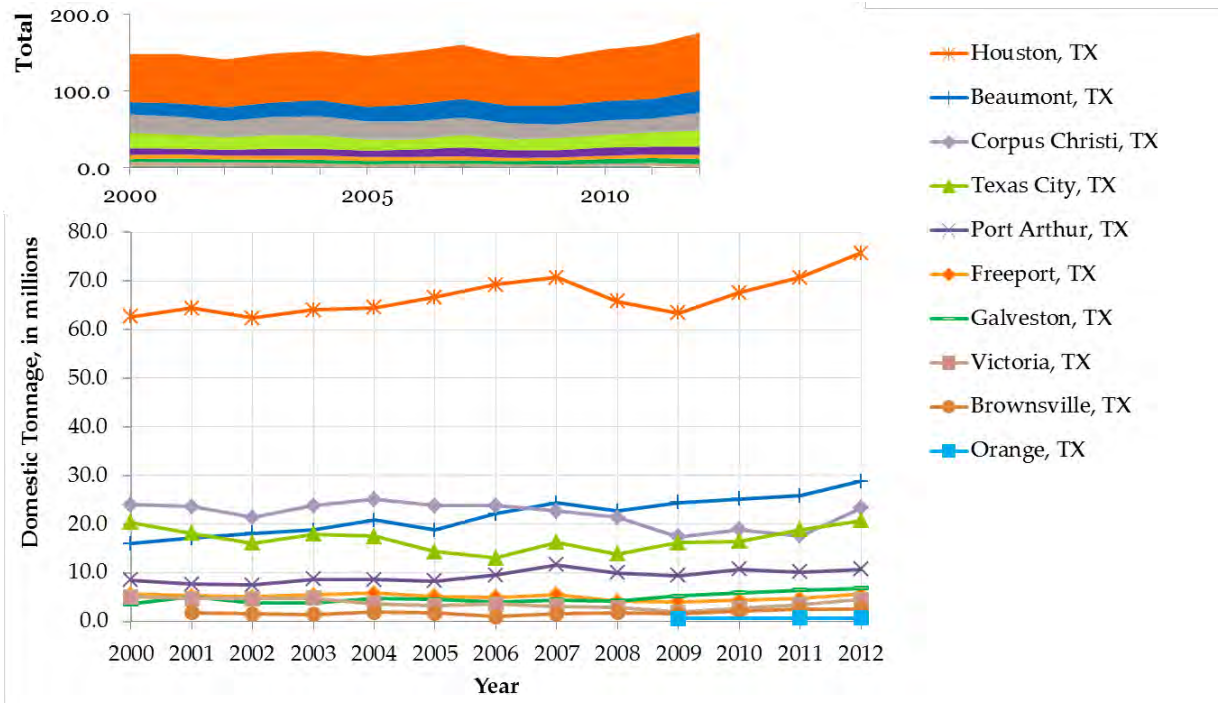

Figure 40: Domestic Tonnage Moved through Texas Marine Ports[14]

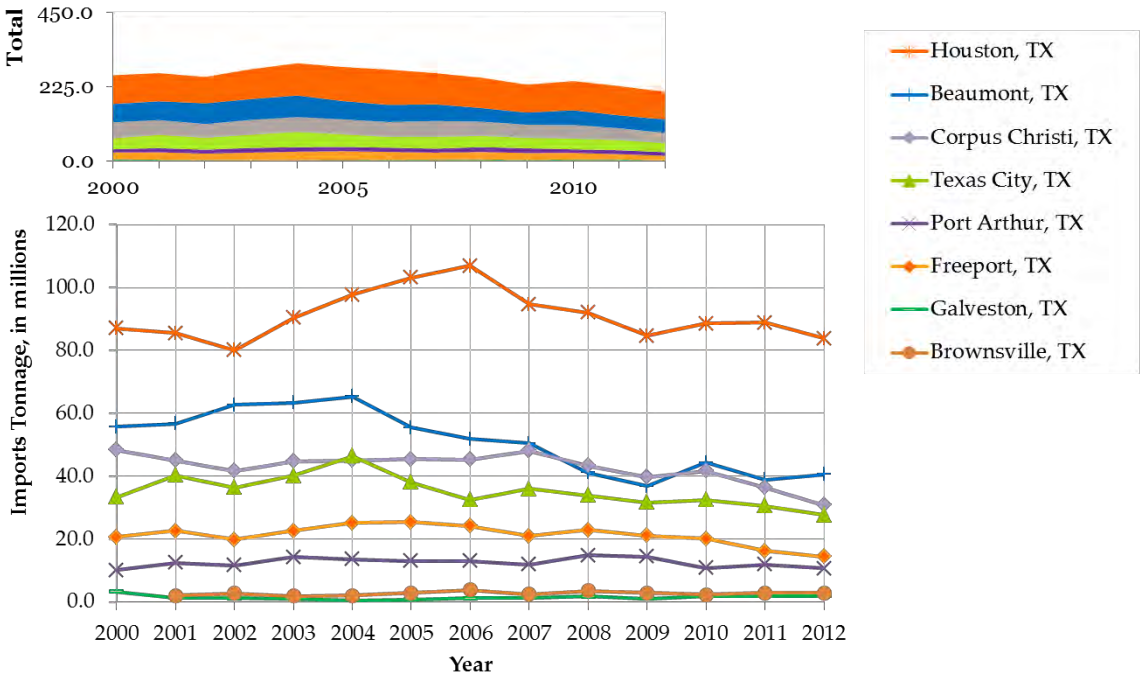

Figure 41: Imports Tonnage Moved through Texas Marine Ports[14]

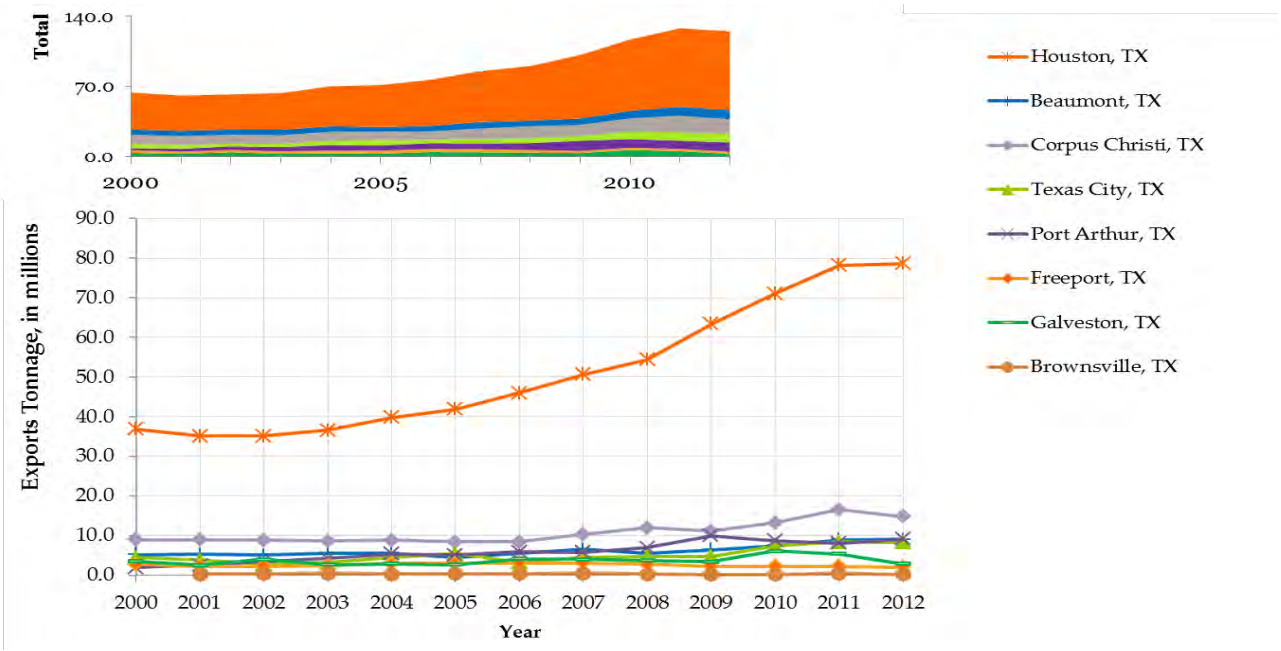

Figure 42: Exports Tonnage Moved through Texas Marine Ports[14]

In addition to tonnage, the state of Texas accounted for 5.3% of total container trade in twenty-equivalent units (TEUs) moved through U.S. marine ports in 2012, an increase of 0.2% compared to 2010 and 2011. The Port of Houston ranked 7th amongst U.S. ports for container trade in 2012, followed by the Port of Freeport (26th), Galveston (33rd), Beaumont (43rd), and Corpus Christi (44th) as shown in Table 3. Houston accounted for 95.1% of total TEUs moved through Texas marine ports in 2012.

Table 3: Total U.S. Container Trade in TEUs by Customs Port[14]

Customs Port	2007	2008	2009	2010	2011	2012	2012 U.S. Rank	2012 % TX
Houston	1,416,710	1,374,437	1,255,153	1,346,313	1,418,427	1,494,516	7	95.1
Freeport	59,837	56,201	57,689	57,250	51,533	60,818	26	3.9
Galveston	6,228	7,718	8,542	10,828	13,995	12,609	33	0.8
Beaumont	331	3,208	382	523	393	1,140	43	0.1
Corpus Christi	774	245	204	269	380	1,068	44	0.1
Sabine	0	0	0	0	187	455	49	0.0
Port Arthur	64	33	306	191	74	343	54	0.0
Brownsville	0	1	0	0	1	1	86	0.0
Port Lavaca	0	1	0	0	0	0	87	0.0
Texas City	0	0	0	0	3	0	88	0.0
Texas	1,483,944	1,441,844	1,322,277	1,415,374	1,484,993	1,570,953		
U.S.	29,228,177	28,453,588	24,903,898	27,866,377	29,029,577	29,477,025		

For exports and imports, Texas ports accounted for 7.6% and 3.8%, respectively, of TEUs exiting or entering U.S. marine ports, as shown in Tables 4 and 5. Houston ranked fifth in exports through all U.S. ports and accounted for 96.6% of TEUs moved in Texas. It also ranked 10th in imports.

Table 4: U.S. Container Exports in TEUs by Customs Port[14]

Customs Port	2007	2008	2009	2010	2011	2012	2012 U.S. Rank	2012 % TX
Houston	800,271	800,089	773,450	827,066	859,112	875,625	5	96.6
Freeport	28,511	25,087	22,319	25,648	21,924	26,583	26	2.9
Galveston	2,246	2,671	2,526	2,790	2,568	4,092	35	0.5
Sabine	0	0	0	0	187	455	44	0.1
Beaumont	35	2,920	0	51	6	40	51	0.0
Port Arthur	15	0	3	2	4	32	52	0.0
Corpus Christi	179	2	9	28	0	17	53	0.0
Texas	831,258	830,769	798,307	855,586	883,800	906,843		
U.S.	10,726,069	11,332,821	10,362,483	11,240,344	11,952,135	11,935,906		

Table 5: U.S. Container Imports in TEUs by Customs Port[14]

Customs Port	2007	2008	2009	2010	2011	2012	2012 U.S. Rank	2012 % TX
Houston	616,439	574,348	481,703	519,247	559,316	618,891	10	93.2
Freeport	31,326	31,114	35,370	31,601	29,609	34,235	26	5.2
Galveston	3,982	5,047	6,016	8,037	11,427	8,517	32	1.3
Beaumont	296	288	382	472	387	1,100	37	0.2
Corpus Christi	595	243	195	241	380	1,051	38	0.2
Port Arthur	49	33	303	189	70	312	45	0.0
Brownsville	0	1	0	0	1	1	81	0.0
Port Lavaca	0	1	0	0	0	0	82	0.0
Texas City	0	0	0	0	3	0	83	0.0
Texas	652,686	611,075	523,969	559,788	601,193	664,109		
U.S.	18,502,108	17,120,767	14,541,415	16,626,033	17,077,443	17,541,120		

3.3.1 Air Cargo

The Federal Aviation Administration reports data on the amount of cargo landing at each of the major airports in the U.S.[15] In 2013, airports in Texas moved a total of 8 billion tons of cargo, representing 5.9% of total U.S. air cargo tonnage, as shown in Figure 43. Dallas-Fort Worth International Airport ranked 10th amongst U.S. airports located in Texas, followed by George Bush Intercontinental (17th), San Antonio International (28th), and Fort Worth Alliance (35th). Figure 44 shows the annual trend in cargo movement through Texas airports. George Bush International experienced a gradual growth in air cargo movements from 2000 to 2013 at an annual average growth rate of 4.5%. Other airports experienced less steady growth within the same time period, except from 2009 when annual average growth rates greater than 1% were recorded for Brownsville (3.5%), Laredo (3.0%), Lubbock (2.6%), and El Paso (1.6%). All the other remaining airports had annual average growth rates of less than 1% from 2009 to 2013.

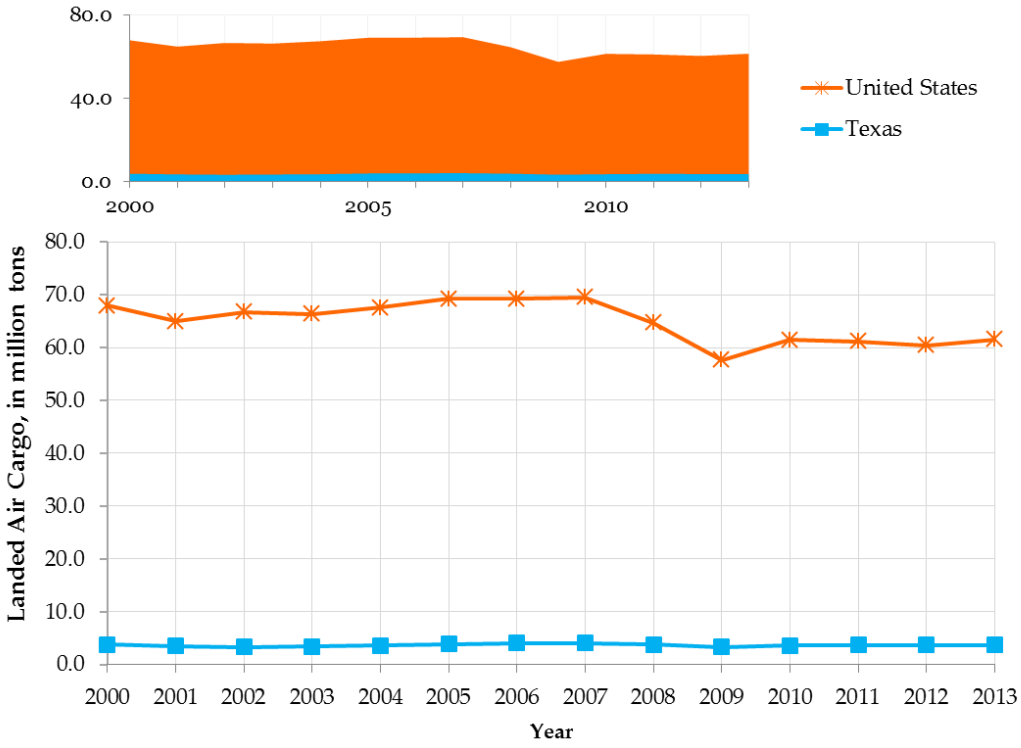

Figure 43: Landed Air Cargo – U.S. and Texas[15]

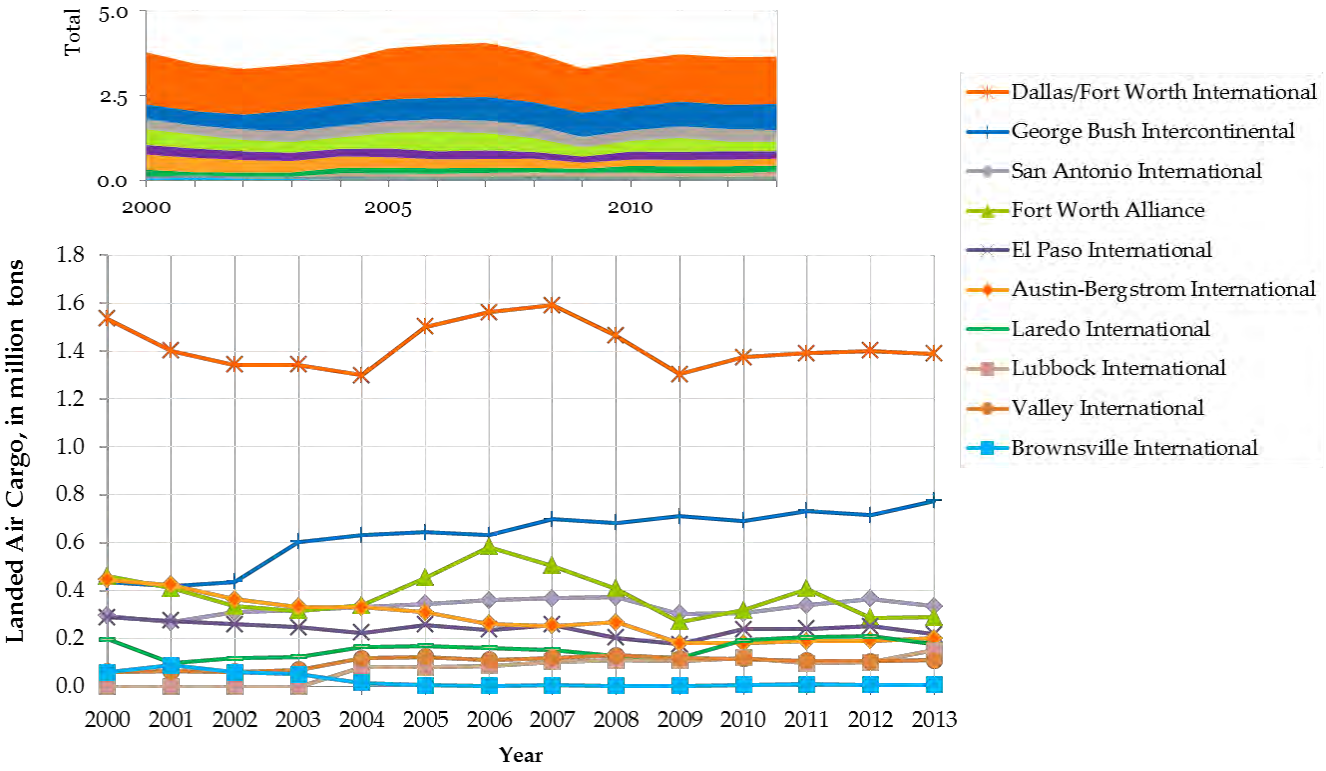

Figure 44: Landed Air Cargo at Texas Airports[15]

3.4 Pipelines

As Figure 45 indicates, Texas is located at the intersection of a number of major pipeline corridors in the U.S.[16] Natural gas from Texas travels to areas all across the country.

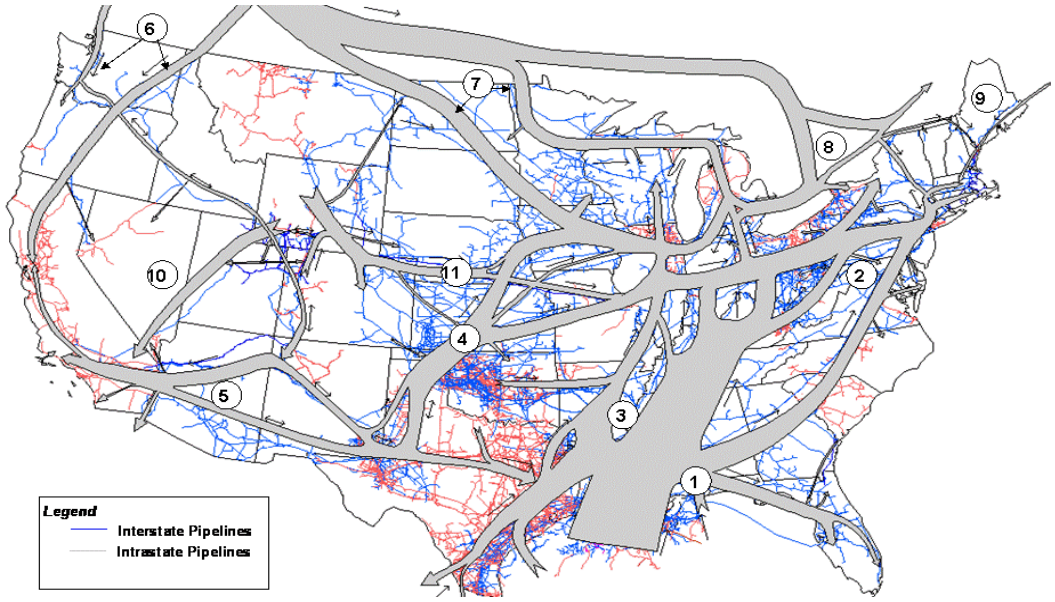

Figure 45: U.S. Major Natural Gas Transportation Corridors, 2008[17]

Texas is the top natural gas producer and consumer in the U.S. and has the most intrastate natural gas pipelines.[18] Demand for pipelines in Texas is high due in large part to natural gas fields found in areas such as the Eagle Ford Shale, the Barnett Shale, and the Permian Basin, as shown in Figure 46.

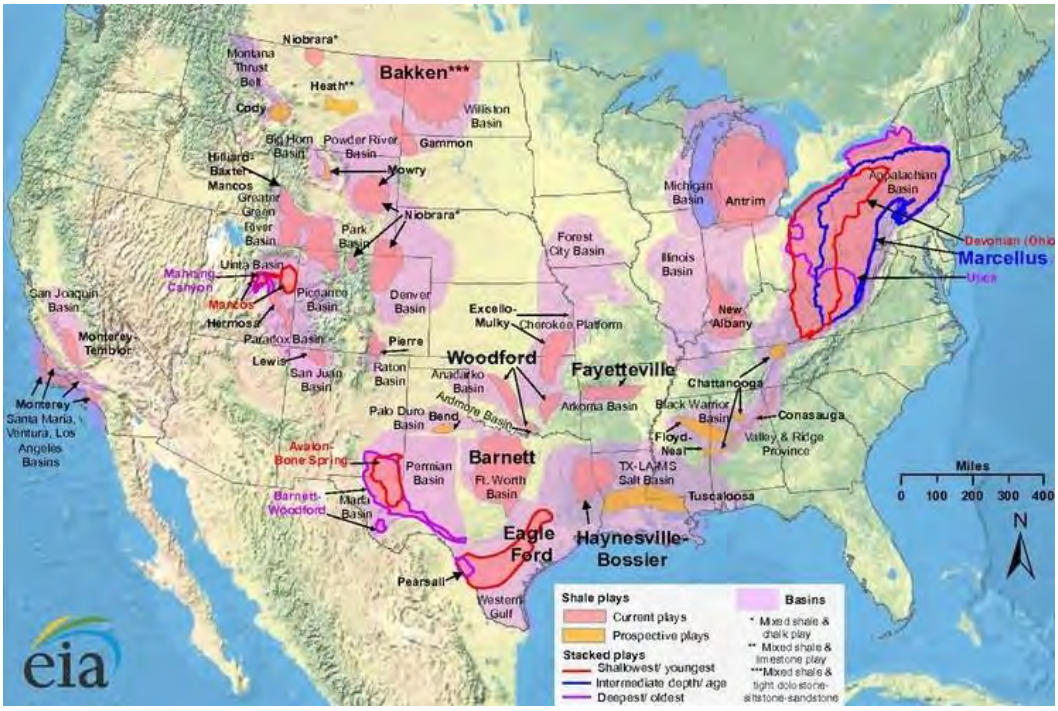

Figure 46: Lower 48 States Shale Plays[19]

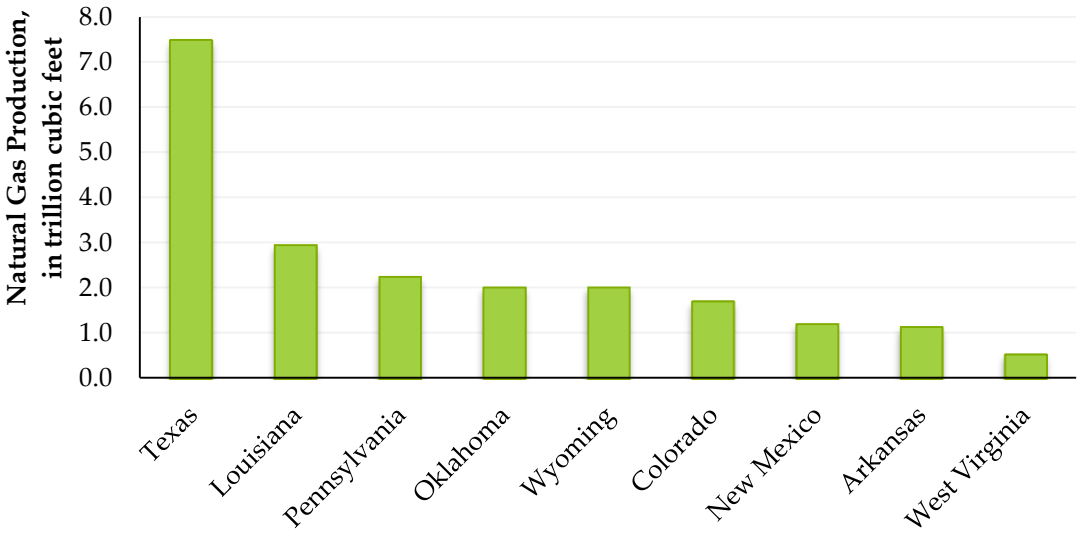

Figure 47: 2012 Top 10 Natural Gas Producing States in the U.S. [20]

In terms of production, in 2012, Texas produced almost 30% of the natural gas in the U.S. in trillions of cubic feet, as shown in Figure 47.[20] Louisiana, the second highest producer, produced less than half of Texas's over 7 trillion cubic feet. Based on the most recently available data, Texas also accounted for 31.8% of total U.S. natural gas exports in 2013 as shown in Figure 48.

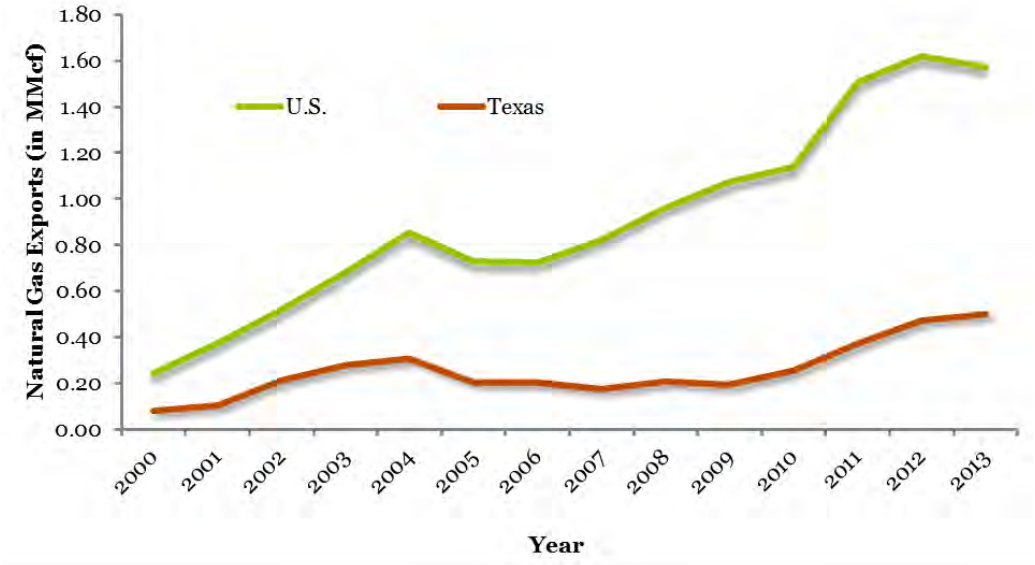

Figure 48: 2012 Top 10 Natural Gas Producing States in the U.S. ***Error! Bookmark not defined.***

As shown in Figure 49, Texas is also the U.S. leader in crude oil production. In 2012, Texas produced over 30% of the U.S.'s crude oil, and over three times as much as the next highest producer, North Dakota.

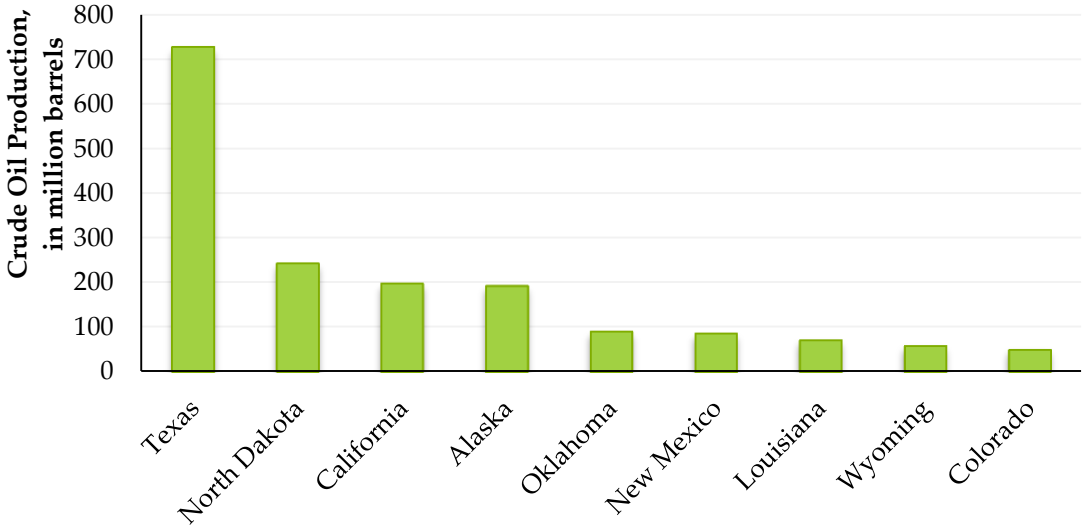

Figure 49: 2012 Top 10 Crude Oil Producing States in the U.S. [20]

A heated debate surrounds the transport of fuel by pipeline versus rail. Many environmentalists and landowners are against pipelines because of the risk of spills or leaks, but recent reports by the U.S. State Department have highlighted the danger of transporting fuel by rail.[21] Recently, a number of accidents involving oil transport by rail have occurred, some of them with fatalities. One of the most deadly was a derailment in Quebec in 2013 that killed 47 people.[22, 23]

In Texas and at the national level, the debate centers around the approval of the northern section of the Keystone XL pipeline as shown in Figure 50 which would transport oil from Canada to the Gulf Coast through Texas.[24]

Figure 50: Major Crude Oil Pipelines[25]

4 Texas Trade Corridors and Infrastructure Projects

4.1 International Trade Corridors Serving Texas

Texas is served by a number of international and national major trade corridors. Figure 51 shows the international trade corridors serving Texas companies through imports and exports. The dominant options are the Asia-West Coast trade corridor through the Port of Los Angeles[26] and the Asia-Panama Canal corridor.

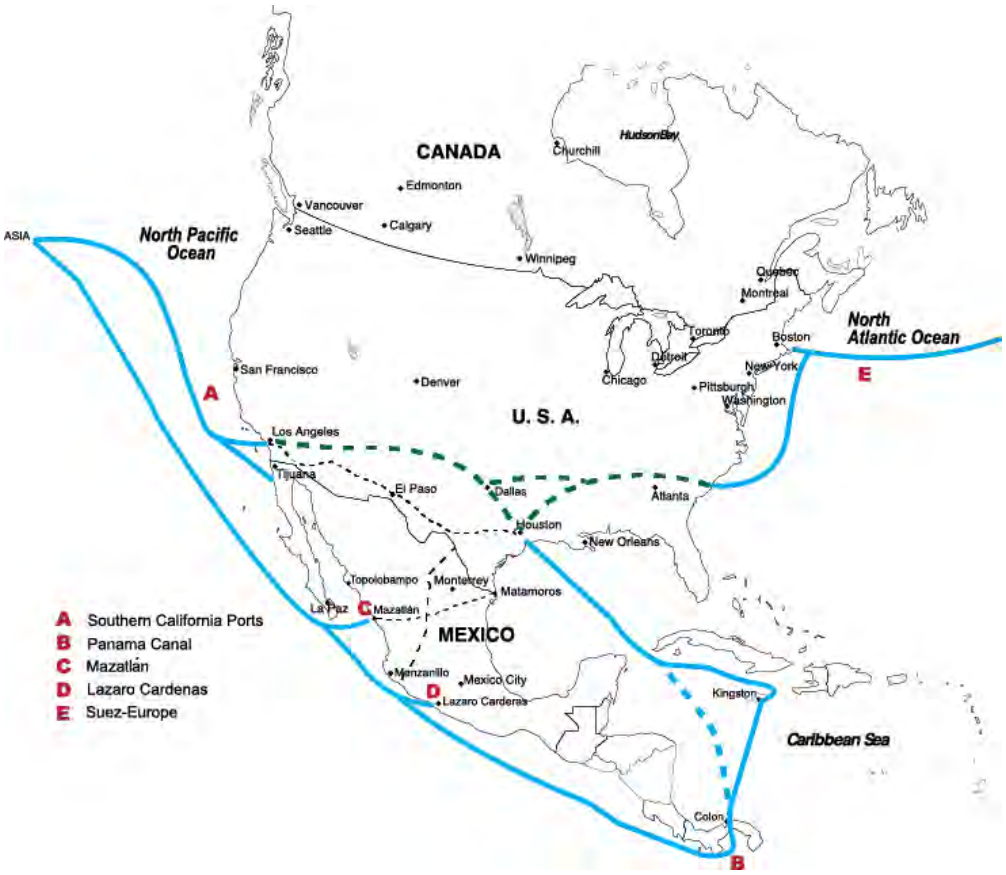

Figure 51: Global Corridors Serving Texas Trade[27]

The Asia-West Coast ports trade corridor is the dominant option for transporting containerized cargo from Asia to the Texas market. It is served by rail, which provides premium services to be competitive with trucking. The total transit time from Hong Kong to Houston is estimated to be 18–22 days, including at least 11 days sailing, 2 days port clearance and rail loading, and 4–6 days on rail[26].

The Asia-Panama Canal corridor is served by two main options: 1) direct calls between an Asian port and the Port of Houston, and 2) a hub-and-spoke network where large vessels dock at either the Panama Canal Zone (Port of Manzanillo or Port of Balboa) or a Caribbean

port, and cargo is transferred into smaller vessels that serve Gulf Coast and East Coast ports. Reported transit times for container deliveries from Hong Kong to Houston or most other destinations within Texas are 21 days under normal conditions. Potential delays of up to one day can occur at the Panama Canal locks, particularly if the vessel does not secure a reservation slot[26]. Though the construction of new locks to serve larger (post-Panamax) vessels will offer more choices to shippers, the direct impact of the Panama Canal expansion on Texas ports is uncertain. This uncertainty is due to a number of factors, such as global supply chain trends, consumer demand, access to existing and emerging markets, advancements in maritime-related technologies, transportation costs, and competition from western railroads, amongst others[28]. A major concern for Texas, however, is landside issues such as rail terminal and highway chokepoints. Researchers recommend that Texas continues to invest in its freight transportation infrastructure to make the state more attractive for shippers considering using Texas Gulf Coast ports to access the U.S. Midwest.

In addition to the Asia-West Coast and Asia-Panama Canal corridors, another key emerging international trade corridor is the Mazatlán-Matamoros Corridor. Mexico recently made a major investment in facilitating cargo movement in the form of the Durango-Mazatlán Highway. This $2.2 billion dollar highway traverses an area of the country so geographically treacherous it is known as the "Devil's Backbone" and will cut travel times between Mazatlán and the Lower Rio Grande Valley by six or more hours; transportation costs are expected to drop between $500 and $1,500 per truck [29,30]. The new corridor is expected to serve cargo marine ports along the northern Pacific coast of Mexico and industries such as the Sinaloa-based shippers of agricultural products[26].

Other alternative international shipping routes to Texas include Lazaro Cardenas in Mexico and the Suez Canal-East Coast corridor. The Port of Lazaro Cardenas is known to have both the space and a naturally deep channel capable of serving the largest containership currently in service. It is served by KCS de Mexico (KCSM), which controls a 1500-km (1000-mile) route from Lazaro Cardenas to Laredo. KCSM has invested in its infrastructure in the last three years to improve both speed and security and continues to grow its container traffic[31]. The Suez Canal-East Coast corridor also serves Texas through U.S. East Coast ports via rail and truck. Cargo vessels from Southeast Asia to the East Coast tend to use this route as the Suez Canal provides the capacity to handle Post-Panamax vessels[32]. The expansion of the Panama Canal is expected to strongly compete with this trade route once completed.

4.2 Major Trade Corridors in Texas

Texas boasts a number of trade routes that connect U.S. POEs to major urban areas in the state and other parts of the U.S. The major interstate corridors serving the state include Interstate Highways (IH) 10, 20, 35, 37, 45, and the newly designated 69, as shown in Figure 52. Other critical highways serving the state include U.S. Highway 54 and State Highway 67. The major rail corridors serving the state include the BNSF Midcon corridor, the Union Pacific (UP) Memphis-Oakland and Laredo-Chicago corridors, and the Kansas City Southern Railway Company (KCS)/KCSM Laredo corridor.

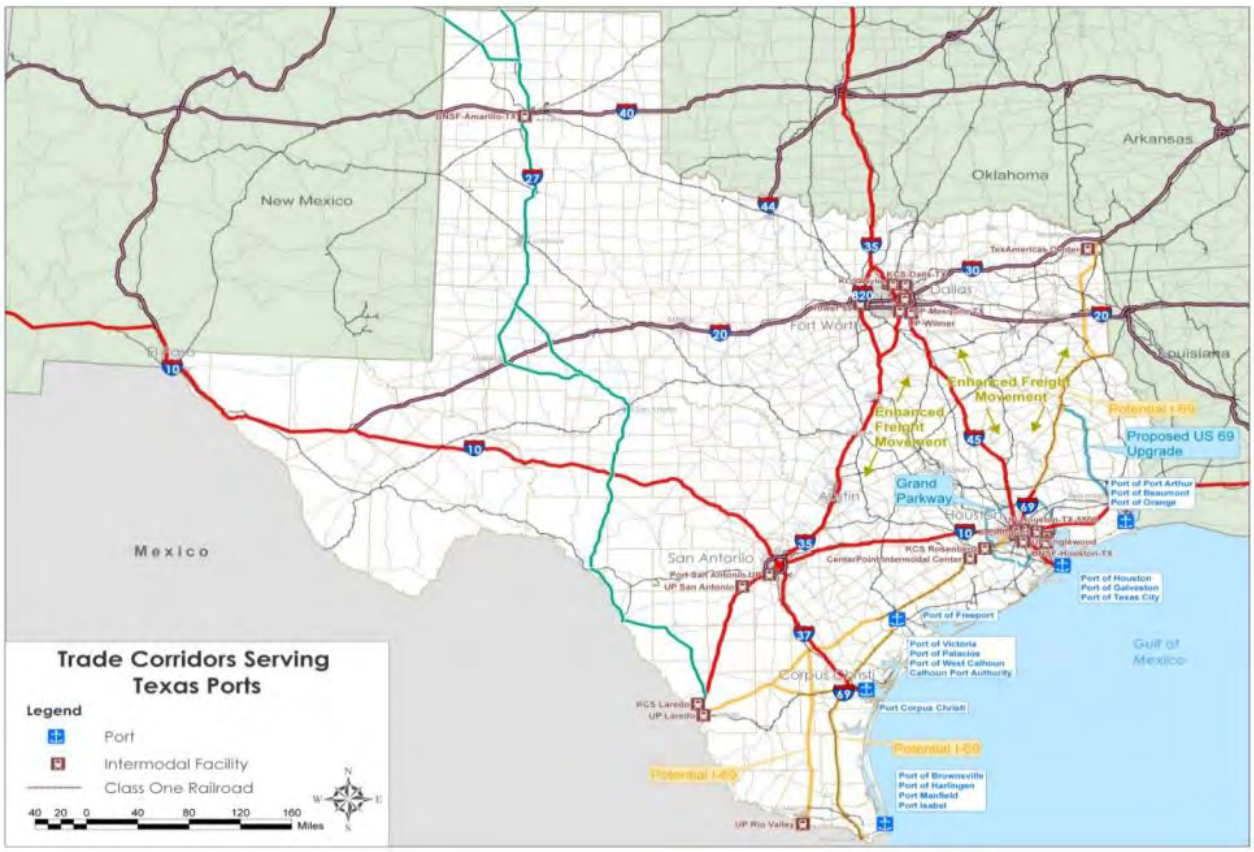

Figure 52: Major Interstate and State Highway Corridors Serving Texas Ports[33]

4.2.1 IH 35 Corridor

IH 35 extends from Laredo to the Oklahoma state line and directly connects the CBP land and sea POEs of Laredo, San Antonio, Austin, Dallas/Fort Worth (DFW), Addison Airport, Alliance Airport, and McKinney Airport. It traverses IH 10 at San Antonio and IH 20 at DFW as shown in Figure 53. It connects to the Ports of Corpus Christi, Brownsville, Harlingen, Port Isabel, and Port Mansfield via IH 37 and IH 69.[33]

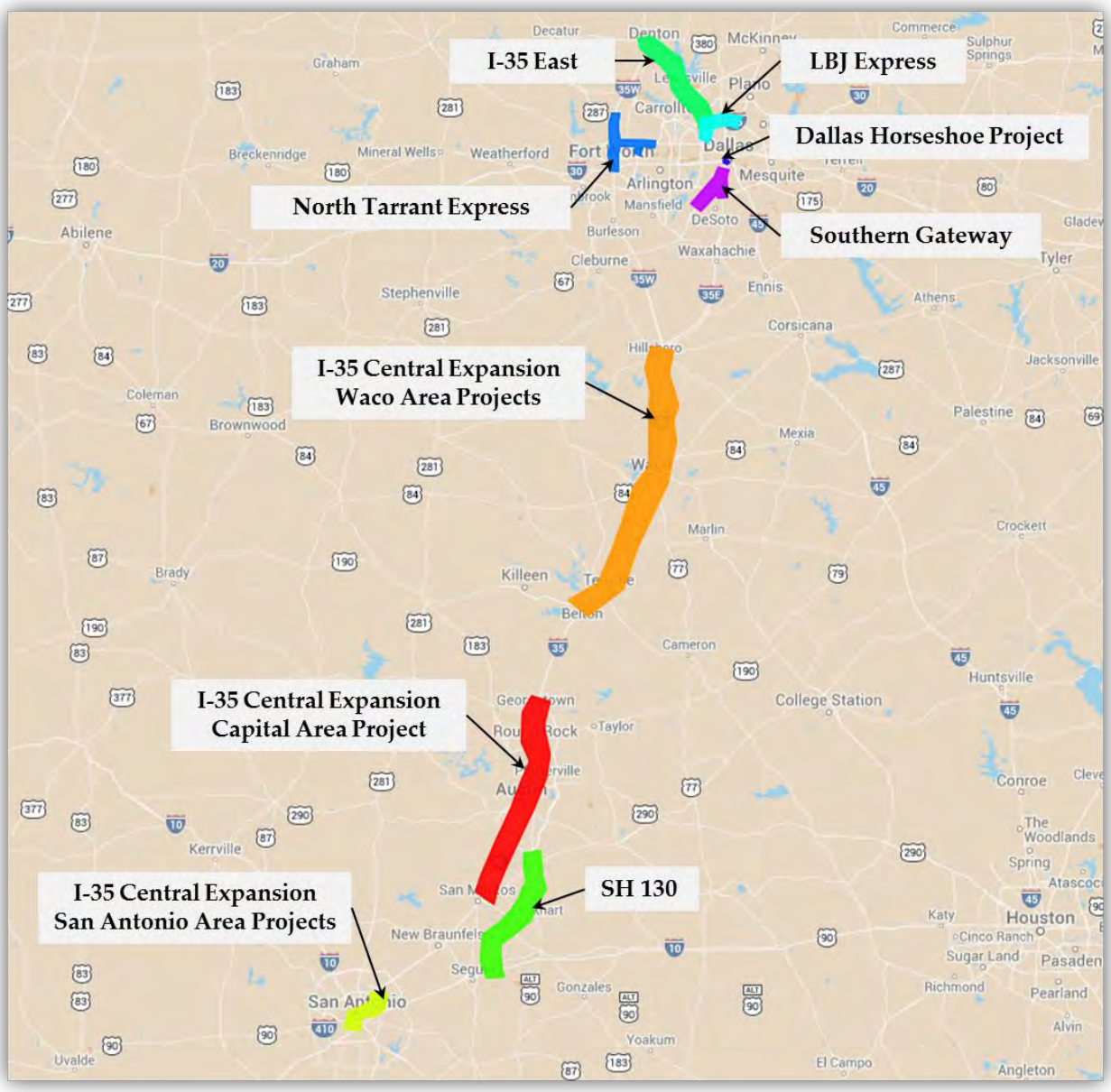

Figure 53: Projects on IH 35 Corridor

As shown in Figure 53, major infrastructure projects to support trade that have been recently completed or are currently underway along this corridor include the following:

IH 35 Central Expansion – Capital Area Project: The 66.5-mile project between SH 130 (north of Georgetown) and Centerpoint Road (south of San Marcos) will seek to identify the effect of short- and mid-term transportation improvement strategies to alleviate congestion and improve connectivity between all modes of transport (pedestrians, bicycles, automobiles, transit, trucks, and emergency vehicles). The project concepts include a future transportation corridor to accommodate an additional lane in each

direction, super streets, collector-distributor roads, innovative intersection solutions, bicycle/pedestrian accommodations, traffic incident management, transit, and ramp modifications. The project, which is divided into five segments, began in August 2011 with an expected completion date between 2018 and 2022 at a cost of $2.5 billion.[34]

IH 35 Central Expansion – Waco Area Projects: As part of a larger multijurisdictional project from San Antonio to DFW, the Waco Area Project from Hillsboro (IH 35E/W split) to the Bell/Williamson County Line will upgrade the existing IH 35 facility to a minimum of six lanes at an estimated cost of $2.2 billion. Sections of this project are currently under construction, completed, or have received bids for construction. Other sections are also ready for construction but are currently unfunded.[34]

IH 35 Central Expansion – San Antonio Area Projects: These projects include the following:

1) Operational improvements to add an additional lane to IH 35 between FM 3009 and Judson Road,
2) Interchange improvements on IH 35 between IH 410N and IH 410S to provide better access to Fort Sam Houston. Construction was anticipated to have begun in 2013,
3) Long-range planning studies to manage congestion on IH 35, and
4) An environmental study on improvements to IH 35 from FM 1103 to IH 410 south. [34]

SH 130 – The 91-mile state-owned toll road from Georgetown to IH 10 near Seguin was opened to traffic in November 2012. The roadway provides congestion relief for IH 35 through Central Texas and offers additional mobility options for motorists in the area. [35]

IH 35 East – This project involves the construction of managed lanes with dynamic tolling along IH 35E from IH 635 at Farmers Ranch to IH 35 at Denton. The proposed $4.8 billion project rebuilds the entire 28-mile corridor and involves two phases. Phase 1 will add one general purpose lane in each direction and two reversible managed lanes. In addition, it will create continuous two to three lane frontage roads in each direction. The estimated completion date for Phase 1 is 2017. Phase 2, which currently has no estimated completion data, proposes two or more concurrent managed lanes in each direction and rebuilding the highway and its respective bridges.[36]

LBJ Express - This 16.5-mile state-owned comprehensive development agreement (CDA) with LBJ Infrastructure Group (LBJIG) is in Dallas County and involves improvements on IH 35E from Loop 12 to IH 635. The estimated $3 billion project will construct four general-purpose lanes and three managed lanes in each direction on IH 635 from east of

Luna Road to Greenville Avenue. Additional two-lane elevated ramps on IH 35E from Loop 12 to north of IH 635 will also be constructed. The managed lanes will feature toll rates adjusted as traffic increases or decreases (dynamic pricing) to improve traffic flow. Construction of the project began in January 2011 and is scheduled to be opened by mid-2015[37]. Upon completion, LBJIG will be responsible for $500 million in operations and maintenance over the next 52 years.[38]

North Tarrant Express - The North Tarrant Express (NTE) is a multiphase project in Tarrant County that will provide six to 10 lanes on IH 35W, IH 820, SH 121, and SH 183. It is also the first project built under a CDA agreement in Tarrant County with NTE Mobility Partners (NTEMP). It is state owned, but financed, designed, and built by the NTEMP. NTEMP will also operate and maintain the facility for 52 years. Segments 1 (IH 820 from IH 35W to SH121) and 2 (SH 121/183 to FM 157/Industrial Boulevard) were completed in October 2014, nine months ahead of schedule. Segments 3A (IH 35W from north of IH 30 to south of IH 820) and 3B (IH 35W from north of IH 820 to US 81/ 287) are scheduled to be completed between 2017 and 2018[39]. Future Segments 3C (IH 35W from US 81/287 to SH 170/ SH 183) and 4 (IH-820 from SH 183 to Randol Mill Road) is pending CDA request[40].

Dallas Horseshoe Project – This is a $798 million design-build roadway construction to improve the IH 35E/IH 30 interchange. Construction improvements include the expansion, repaving, and addition of several new bridges and roadways along IH 30 and IH 35E; the widening of IH 30 and IH 35E to a total of 23 lanes, and the construction of a new signature bridge, the Margaret McDermott Bridge, over IH 30.[41]

Southern Gateway – This project involves the reconstruction and widening of 19 miles of IH 35E to include additional main lanes and reversible high-occupancy vehicle (HOV)/managed lanes from IH 20 to Eighth Street. It also involves the reconstruction and widening of 11 miles of US 67 to include additional main lanes and reversible HOV/managed lanes from FM 1382 to IH 35E. Phase 1 of the project is still in the preliminary engineering phase and an estimated completion date is not yet set. A CDA will be requested to fund the managed HOV lanes.[42]

4.2.2 IH 10 Corridor

IH 10 extends from the New Mexico state line west of El Paso to the Louisiana state line east of Beaumont. It directly connects the CBP POE cities of El Paso, Fabens, San Antonio, and

Houston. It connects to Midland and DFW via IH 20, Laredo and Austin via IH 35, and Corpus Christi via IH 35 in San Antonio. It also connects to the Port of Beaumont (US 90), Port Orange (US 90), Port Arthur (TX 73), Sabine Pass (TX 73), and Texas City (IH 45). One major infrastructure project in Houston with a relationship to IH 10 is the proposed 180-mile Grand Parkway (SH 99). The proposed loop, sections of which are currently under construction, will have two major interchanges with IH 10. The first interchange will connect IH 10 with US 290 and IH 69 on the west end of the loop. The second interchange will connect IH 10 with US 90 on the east end, as shown in Figure 53.[43]

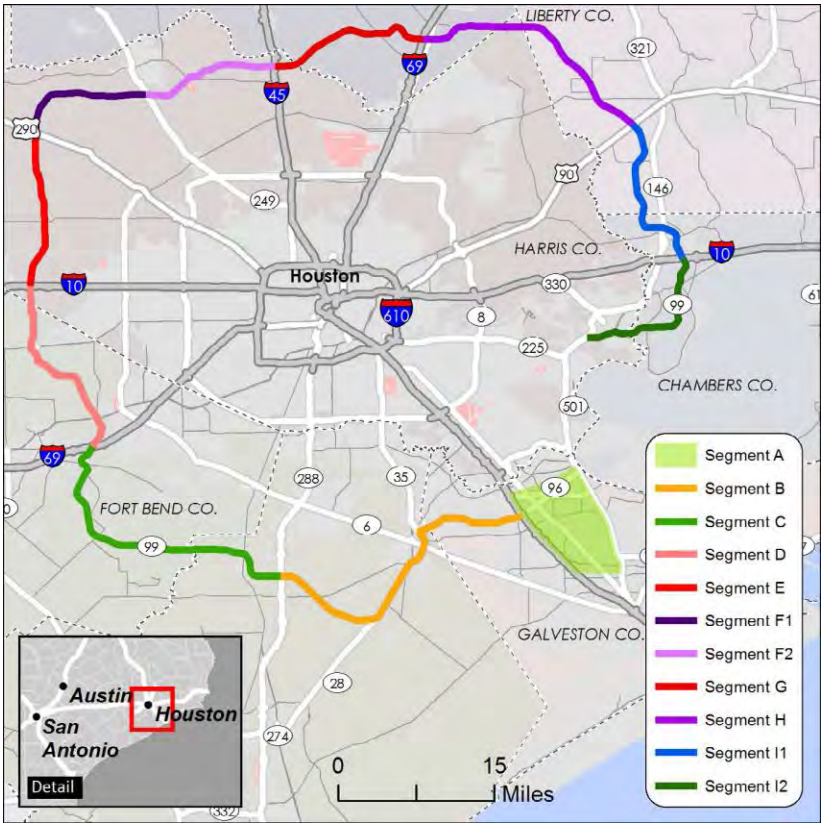

Figure 54: Grand Parkway (SH 99)[43]

4.2.3 IH 69 Corridor

IH 69 is a proposed 1,600-mile roadway from south Texas to the city of Texarkana, en route to the state of Michigan. The IH 69 route in Texas includes existing highways such as US 59, US 77, US 84, US 281, and SH 44, as shown in Figure 55. The roadway segments are identified through a Citizen Advisory and Segment Committee and are expected to benefit both passenger and freight movement. The first segment of IH 69 in Texas was designated in October 2011. It runs along US 77 from IH 37 in Corpus Christi to SH 44 in Robstown (approximately 6.2 miles). The second segment, designated in July 2012, runs concurrently with US 59 for 35 miles,

from approximately 0.2 mile north of the Liberty/Montgomery County line to IH 610 North in Houston. Additional designated segments include IH 369 from IH 30 to Loop 151 in Texarkana, IH 69 from IH 610 West in Houston to the limits of US 59 access control south of Rosenberg, IH 69E from the junction of Business 77 north of Raymondville to the limits of US 77 access control in Brownsville, and IH 69C from the junction of FM 2812 in Edinburg to IH 2 in Pharr. To date, a total of approximately 140 miles have been designated as part of the IH 69 system in Texas. The Texas Department of Transportation (TXDOT) is petitioning the American Association of State Highway Officials and Federal Highway Administration (FHWA) to recognize additional segments of IH 69, including US 59 inside IH 610 in the Houston area, US 59/Loop 20 in Laredo, and extending segments on US 281 and US 77. To date, approximately 31 projects have been funded along the IH 69 system with total development costs exceeding $850 million.[44]

Figure 55: IH 69 Corridor Designation[44]

4.2.4 IH 20 Corridor

IH 20 runs east to west from IH 10 near Kent, through Midland, Abilene, and DFW to the Texas-Louisiana border line near Waskom. In Fort Worth, it interchanges with IH 30, which heads east and IH 20 continues to the southeast. IH 20 intersects IH 35 in Fort Worth, IH 45 in Dallas, and US 69 in Lindale, east Texas.

4.2.5 *IH 45, 37, and 40*

IH 45 connects the Port of Galveston to Dallas through Houston. It is a major trade corridor for shipments from the Port of Houston and destined to the U.S. heartland. It intersects with IH 10 in Houston and connects to IH 35 via IH 20, IH 30, or US 77 in Dallas.

In addition, two other important trade corridors serving Texas trade are IH 37 and IH 40. IH 37 runs from Corpus Christi to San Antonio and IH 30 runs from IH 20 (west of Fort Worth) to IH 40 in North Little Rock (Arkansas) through Dallas and Texarkana. IH 37 connects to IH 10 and IH 35 in San Antonio.

4.2.6 *Other Major Infrastructure Projects Supporting Trade*

Border Highway West Extension – As shown in Figure 56, the Loop 375 Border Highway Extension Project is a 9-mile roadway from Racetrack Drive to US 54. It adds additional capacity to and upgrades the existing facility by providing a new four-lane, partially controlled access facility. Of the 9 miles, 7.1 miles are tolled. The project also closes the gap on existing Loop 375 that exists from downtown Santa Fe Street to US 85. Planning for the project was originally federally funded and began in September 2007. TXDOT restarted the planning studies in September 2011 with state funds. All segments of this $800 million project are expected to be completed by 2018.[45]

Figure 56: Border Highway West Extension[45]

DFW Connector – The DFW Connector project doubles the capacity of SH 114/121 around the north DFW International Airport entrance from FM 1709 to north of IH 635. The project adds four to seven northbound and three to six southbound lanes on SH 121 and six to eight lanes in each direction on SH 144, as shown in Figure 57. The SH 114/121 segment of project was completed in 2014 and segments of the 8.4-mile roadway is tolled using dynamic pricing. [46, 47] Construction of the FM 2499 section of the project began in August 2013 and is estimated to be completed by 2017 at a cost of $90 million.[48]

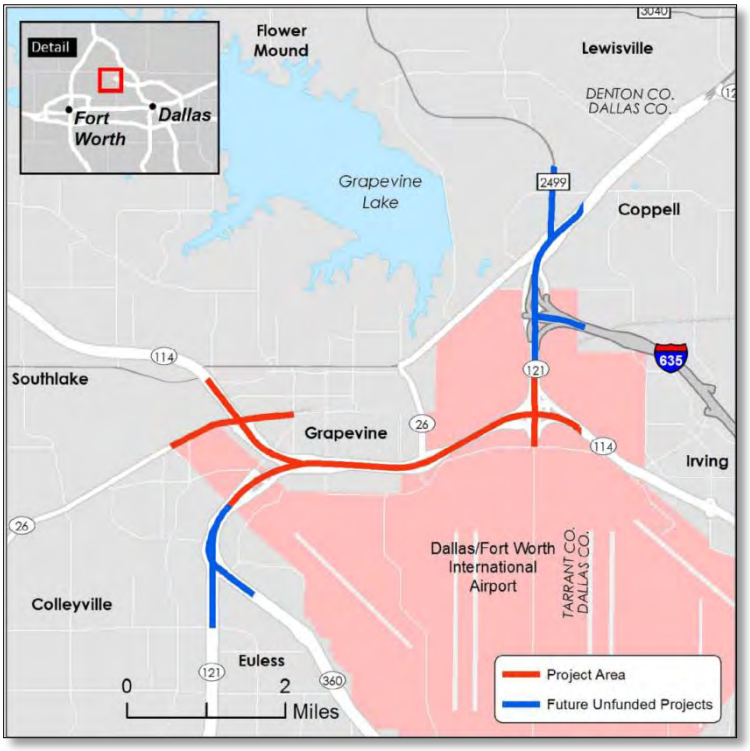

Figure 57: DFW Connector[48]

Harbor Bridge – As shown in Figure 58, the approximately $800 million project seeks to replace the existing Harbor Bridge over the Corpus Christi Ship Channel and reconstruct sections of US 181, IH 37, and the Crosstown Expressway in Corpus Christi. The Final Environmental Impact Statement identifies the recommended design to consist of a controlled-access facility and six lanes (three in each direction) within the right-of-way. The design includes a 10-foot bicycle and pedestrian shared-use path on the main span of the bridge and on the bridge approaches. The current construction start date is late 2015 with an estimated project completion date of 2019.[49]

Loop 9 – The estimated $1.3 billion Loop 9 expansion located southeast of Dallas will facilitate the movement of people and serve intermodal facilities in southern Dallas,

Ellis, and Kaufman Counties. As shown in Figure 59, the project extends 35 miles from IH 20 in Mesquite to US 67 and will provide mobility for increasing residential, industrial, and commercial development. The project consists of constructing three mixed auto and truck tolled lanes in each direction with an opportunity for separating auto and truck traffic in the future. Insufficient funding since 1995 has stalled project development. A draft environmental impact statement is currently underway and the current planning approach is to allow for portions of the project to be built incrementally.[50]

Figure 58: Harbor Bridge[49]

Figure 59: Loop 9 Project[50]

Loop 1604 – This project involves the development of a relief route along Loop 1604 between US 90 and IH 35, as shown in Figure 60. Phase I of the project involves the construction of a four-lane non-tolled expressway from FM 471 to SH 16 (Bandera Road). It is estimated to be completed in 2017. Phase II involves constructing a four-lane non-tolled expressway from FM 1957 to FM 471. It is planned for letting in FY 2015. Construction of additional capacity improvements between US 90 and IH 35 will be scheduled as the environmental studies progress and financial strategies develop.[51]

US 77 – A 10-mile upgrade of US 77 to interstate standards is planned between Kingsville and Driscoll as part of an overall US 77 upgrade from Corpus Christi to Harlingen, as shown in Figure 61. The upgraded US 77 is part of the IH 69 High Priority System. The project involves the construction of a four-lane divided highway with

frontage roads, new overpasses and interchanges at an estimated cost of $84.2 million. The project has an estimated completion date of 2016.[52]

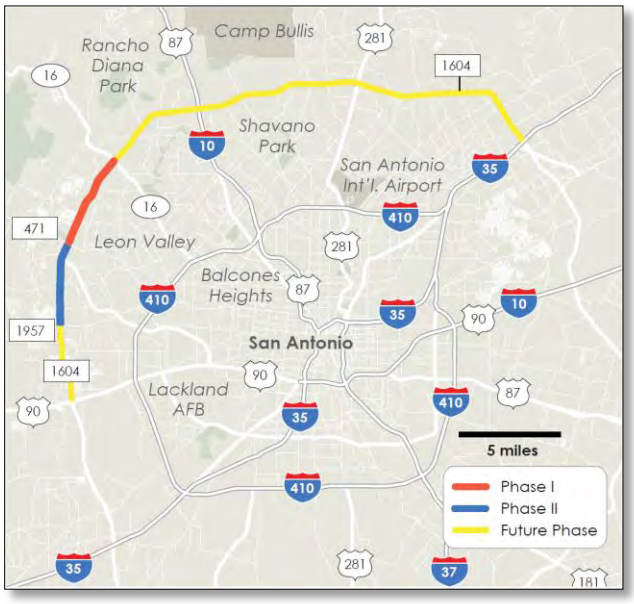

Figure 60: Loop 1604 Relief Route[51]

Figure 61: US 77 Upgrade[52]

5 Mexico Infrastructure Projects Related to Trade

The Mexican National Infrastructure Program has published data for their 2014–2018 planning period. [53] Projects are categorized by sector and state.[54] One of the major stated goals by the Secretaría de Comunicaciones y Transportes (SCT) for the 2014–2018 plan is to make Mexico a key global logistical center, reaching beyond NAFTA boundaries. Improved transportation systems will continue to benefit trade with Texas and for the purpose of this report, projects for the Communications and Transport sector for the states of Coahuila, Chihuahua, Nuevo León, and Tamaulipas are listed below. These four states share a border with Texas and are therefore assumed to have the most direct impact on facilitating trade with Texas. Below is a list of projects, brief descriptions, and their cost by region.[b]

5.1 Chihuahua

- East Chihuahua Bypass: Located in the municipalities of Aquiles Serdan, Chihuahua, and Aldama, the bypass will be approximately 42 kilometers long and 12 meters wide. It is projected to increase safety for the almost 1 million inhabitants, offer a faster way to travel through the area, and foster economic development.[55] Estimated cost: MEX$1.62 billion
- Guadalupe/Tornillo International Bridge and approach: This new 0.68-kilometer-long crossing will replace the Fabens-Caseta bridge and will accommodate both commercial trucks and private vehicles.[56] Estimated cost: MEX$188 million
- Expansion of Chihuahua Airport: Plans are to improve the security areas and the perimeter roads. Estimated cost: MEX$50 million
- Highway Parral (Vía Corta), Palomas-Satevo section: 44.5 kilometers of the highway between Palomas and Satevo will be widened to four lanes. This is expected to alleviate traffic for the over 111,000 inhabitants in the region and foster economic development.[57] Estimated cost: MEX$475 million
- Urban coexistence in Ciudad Juárez: 19 kilometers of train tracks are planned for Ciudad Juárez. Estimated cost: MEX$910 million
- Modernization of the Palomas-Parral Highway: From kilometer 92 to kilometer 18, widen the federal highway Palomas-Hidalgo of Parral to a section with two 3.5-meter lanes and 2.5-meter shoulders. Estimated cost: MEX$207 million

[b] It is unknown by the authors how many of these projects are included in the Regional Border Master Plans discussed in Section 6 of this report.

5.2 Coahuila

- La Laguna bypass: Construct a 21-kilometer bypass made up of four lanes. Estimated cost: MEX$1.33 billion
- Government Commitment-055: Build the Abasolo Peripheral Bridge in Saltillo. The bridge will be 890 meters long and is expected to be able to hold 4,500 vehicles. Currently 95,000 vehicles travel in this area.[58] Estimated cost: MEX$300 million
- Government Commitment-186: Modernize approximately 180 kilometers of the San Pedro-Cuatro Ciénagas highway. This highway is particularly important as a trade route, as it is part of the economic corridor that originates in Mazatlán, where many Asian goods are received. The connection of the Torreón, Coahuila region to the coast is known as the "Port to Plains" project.[59] Estimated cost: MEX$160 million
- Government Commitment-187: Modernize the San Buenaventura-Hermanas bypass. Estimated to be 47 kilometers long at its completion, the bypass will connect San Buenaventura to Highway 57, eliminating the need to pass through Ciudad Frontera to get to Highway 57 and reducing traffic in populated areas.[60] Estimated cost: MEX$66 million
- Government Commitment-115: Finish the modernization of the second Gomez-Palacio-Torreón ring road. The new four-lane road will begin in Matamoros, Coahuila and connect with Durango. Once the modernization is complete, commercial trucks will be able to avoid entering towns. Estimated cost: MEX$1.15 billion

5.3 Tamaulipas

- Expansion of the Port of Altamira: The Port of Altamira is the first Latin American port with enough depth for petroleum platforms. This work will consist of an expansion of the breakwaters and dredging the port. The dredging will allow the port to receive vessels with 50 foot depth.[61] The port will have significant access to rail and roadways and will have an area for natural gas compression. Estimated cost: MEX$10.7 billion
- Reynosa Bypass: Construction of two lanes from San Fernando to the Pharr-Reynosa International Bridge.[62] It is expected that this bypass will cut wait times from up to 2 hours to only 30 minutes. In 2013 it was estimated that the bypass is being used at only 56% of its capacity for commercial vehicles.[63] Estimated cost: MEX$644 million
- Multiple Use Terminal in Tampico: Construction of a new terminal to increase the capacity of general cargo handling, especially steel and mineral bulk. Estimated cost: MEX$922 million

- Second part of the International Bridge of Matamoros III "Los Tomates" and two vehicle crossings: Construction of a 14.4-meter-wide parallel bridge in order to increase capacity. Repaving of 1.8 kilometers and construction of two vehicle overpasses on the access road, which is expected to double the crossing capacity.[64] Estimated cost: MEX$154 million
- Matamoros bypass and border crossing: Construction of an international rail bridge and 11 kilometer bypass. This will move rail traffic away from the urban areas of Brownsville and Matamoros. The Mexican Association of Railroads estimates that in a few years a third of cargo in Mexico will be moved by rail.[65] Estimated cost: MEX$804 million
- International bridge and Matamoros-Brownsville bypass: New highway access to the Matamoros border crossing. Estimated cost: MEX$46.8 million
- Government Commitment-128: Modernize Monterrey Avenue in Tampico, Ciudad Madero, and Altamira. This project will greatly improve travel between the three areas.[66] Estimated cost: MEX$260 million
- Government Commitment-131: Modernize the Tampico- Ciudad Victoria Highway on the border with the state of Nuevo León, first phase. Estimated cost: MEX$991 million
- Government Commitment-180: Modernize the Reynosa-Río Bravo Highway and complete the Reynosa viaduct. The first phase of the modernization of the Reynosa- Río Bravo Highway will include expanding the highway to six lanes from the Pharr-Reynosa International Bridge to Anzaldúaz and is expected to have a traffic flow of almost 26,000 vehicles.[67] Estimated cost: MEX$486 million
- Government Commitment-182: Consolidate the development and operation of the Port of Matamoros. The port will principally deal with petroleum products.[68] Estimated cost: MEX$1.06 billion
- Government Commitment-183: Finalize and begin operation of the Nuevo Laredo cargo airport. Though it has been projected to handle 170,000 tons of cargo and be open 24 hours a day, construction on the airport started in 2008 and the project has struggled for completion.[69] Estimated cost: MEX$185 million

5.4 National

A number of national projects were also deemed relevant, such as the following:

- Urban signage package: Package to improve rail signage in the entire country. Estimated cost: MEX$2 billion

- National rural roads program: Project to modernize and conserve 12,500 kilometers of rural roads. Estimated cost: MEX$70.2 billion
- National program to conserve highways: Program to conserve the federal non-toll system of 43,800 kilometers. Estimated cost: MEX$102 billion
- Government Commitement-027: Strengthen air, maritime, and rail connectivity in the country to accelerate the growth of tourism. Estimated cost: MEX$775 million

5.5 Aduanas

The Administración General de Aduanas (the counterpart to the CBP in the U.S.) publishes its own list of high impact projects under the Secretaría de Hacienda y Crédito Público (SCHP, The Ministry of Finance and Public Credit).[70] The following list of cargo-related projects are included in the high impact projects slated for 2013–2018 along the Texas border.

- Nuevo Laredo, World Trade Bridge: Automate dispatch and reorganizations.
    - Projected benefits: Ease of operations; optimization of human resources, materials, and space
- Reynosa, Pharr International Bridge: Opening of cargo handling at Anzaldúaz and Río Bravo-Donna.
    - Projected benefits: Redistribution of cargo across bridge system; increased competitiveness
- Ciudad Juárez, Guadalupe-Tornillo: New border crossing for cargo, private vehicles, and pedestrians.
    - Projected benefits: New installations for the inspection of private vehicles and commercial cargo; opening of a commercial cargo crossing
- Ciudad Juárez, Zaragoza-Ysleta Bridge: Reorganization
    - Projected benefits: 50% increase in platform capacity, 66% increase in import exit lane capacity, and 25% increase in equipment capacity
- Colombia Solidarity: Highway connection to Aduanas
    - Projected benefits: Redistribution of cargo with Nuevo Laredo; optimization of current infrastructure

6 U.S.-Mexico Border Master Plans and Border Wait Time Studies

Border master plans are comprehensive, binational long-range plans to 1) inventory transportation and POE infrastructure that facilitates trade, 2) prioritize and promote planned POE and related transportation projects, 3) inform decision making, 4) allocate limited funding resources, and 5) ensure continued dialog and coordination on future POE and supporting transportation infrastructure needs and projects.[71]

With support from the U.S.-Mexico Joint Working Committee on Transportation Planning and Programming, the FHWA, and the U.S. Department of State, so far five major border master plans have been developed for the U.S.-Mexico border region. Three of these plans were developed for the Texas-Mexico border alone. A summary of prioritized projects for each of the Texas-Mexico border master plans, as presented in their respective reports, is provided below. The summary is limited only to the projects in Texas counties. It is unknown at this time how many of the Mexico projects discussed in Section 5 of this report are included in the Regional Border Master Plans.

6.1 El Paso/Santa Teresa-Chihuahua Border Master Plan

The *El Paso/Santa Teresa-Chihuahua Border Master Plan* was completed in October 2013. Its focused study area, as shown in Figure 62, ranged from the northwest (Las Cruces, New Mexico, on the U.S. side; and approximately Marker 28 on MEX 2 and Marker 305 on MEX 45 on the Mexican side) to the southeast (Sierra Blanca, Van Horn, and Casa Piedra on the U.S. side; and Coyame del Sotol and Ejido Potrero del Llano on the Mexican side).

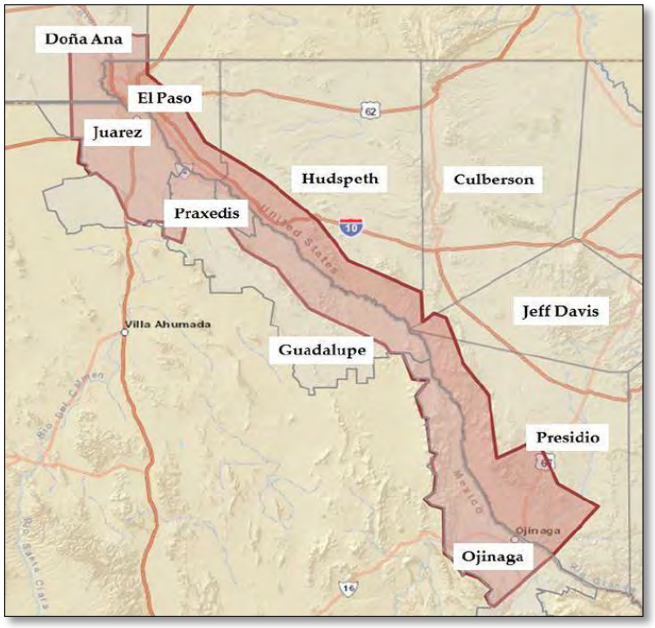

Figure 62: El Paso/Santa Teresa-Chihuahua Border Master Plan Focused Study Area[71]

On the U.S. side, 35 POE projects, 43 road and interchange projects, 5 transit projects, and 2 rail projects were identified. On the Mexican side, 23 POE projects, 51 road and interchange projects, 1 transit project, and 3 rail projects were identified. Projects were ranked by country, county, type of POE, road and interchange, transit, and rail. The complete ranking and descriptions of all projects, by type, in each country is provided in the *El Paso/Santa Teresa-Chihuahua Border Master Plan*.[71]

In El Paso County, the top ranked existing POE projects are i) constructing the Freight Shuttle System, ii) adding up to six primary inspection lanes to increase capacity on Ysleta-Zaragoza International Bridge, and iii) reconfiguring the passenger vehicle bridge, also on Ysleta-Zaragoza International Bridge, to increase the number of lanes from five to six.

The top ranked road and interchange projects in El Paso County include i) constructing a new commercial access road to the Ysleta-Zaragoza International Bridge, ii) interchange improvements on IH 10, and iii) expanding the capacity of US 62 between Global Reach/Yarbrough Drive and RR 659 (Zaragoza Road).

Four bus rapid transit (BRT) projects and one preliminary engineering study for a BRT system on US 62/180 were identified in El Paso County. The BRT system routes include SH 20 (Alameda Avenue) on Santa Fe Street at Fourth Avenue to Zaragoza Road, US 180 Montana Corridor Route, and SH 20 (Mesa Street) between Fourth Avenue and Remcon Circle.

A planned freight rail project in El Paso County involves various upgrades to 31 bridges on the BNSF El Paso Subdivision over the next 10 to 15 years. The project, which was ranked second in the U.S., is expected to have substantial impacts on rail freight movement between the United States and Mexico. [71]

In Presidio County, the highest ranked POE projects are the preparation of a Presidential Permit for the addition of a twin structure at the Presidio-Ojinaga International Bridge, the construction of a commercial and bus inspection facility, and the International Rail Bridge on South Orient. Planned improvements to install intelligent transportation system (ITS) technologies on US 67 between O'Reilly Street and the Presidio-Ojinaga International Bridge constitute the only road and interchange project in Presidio County that was identified and included in the Border Master Plan.[71]

6.2 Lower Rio Grande Valley-Tamaulipas Border Master Plan

The *Lower Rio Grande Valley-Tamaulipas Border Master Plan* was completed in October 2013. Its focused study area, as shown in Figure 63, comprised TXDOT's Pharr District (i.e., the counties of Cameron, Hidalgo, Starr, and Zapata) and the Mexican municipalities of Camargo, Guerrero, Gustavo Díaz Ordaz, Matamoros, Mier, Miguel Alemán, Reynosa, Río Bravo, and Valle Hermoso in the State of Tamaulipas.[72]

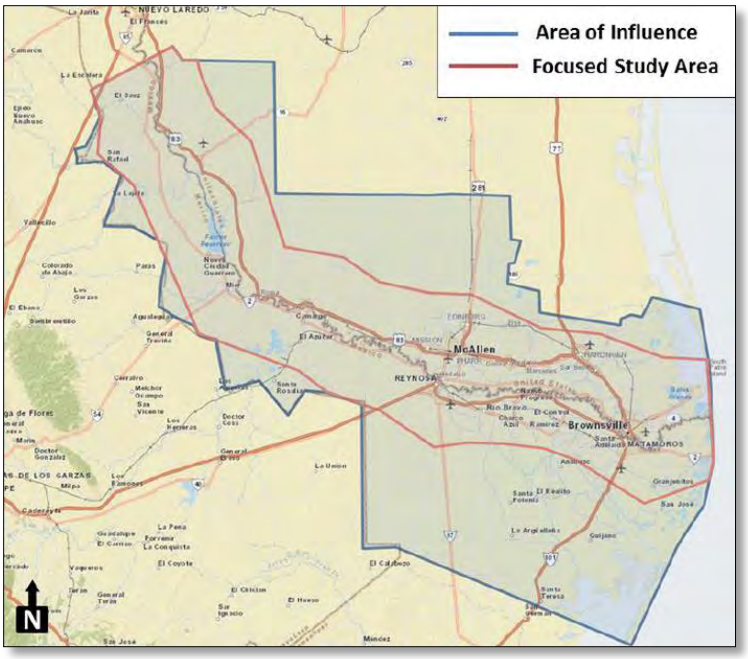

Figure 63: Lower Rio Grande Valley–Tamaulipas Border Master Plan Focused Study Area[72]

On the U.S. side, 38 POE projects, 18 road and interchange projects, and 2 marine port projects were identified in the focused study area. On the Mexican side, seven POE projects, seven road and interchange projects, and one marine port project were identified. Similar to the *El Paso/Santa Teresa-Chihuahua Border Master Plan*, projects were ranked by country, county, type of POE, road and interchange, and marine port. The complete ranking and descriptions of all projects, by type, in each country is provided in the *Lower Rio Grande Valley-Tamaulipas Border Master Plan* report.[72]

In Cameron County, the highest ranked POE projects are i) constructing two new causeway-style bridge spans to connect the Port of Brownsville directly with Mexico, ii) constructing a new bridge between FM 3248 and Avenida Flor de Mayo, and iii) reconfiguring and rebuilding the existing Gateway International Bridge to comply with current design standards and operational requirements.

Planned road and interchange projects also in Cameron County include i) widening FM 1925 from a two-lane undivided facility to a four-lane divided facility between FM 907 and US 77, ii) widening SH 32 to a four-lane divided facility, and iii) constructing overpasses on SH 32 at SH 4 and FM 3068. The two marine port projects, which are both located in Cameron County, involve widening and deepening the Brownsville Ship Channel to accommodate post-Panamax vessels and constructing a new general-purpose cargo dock along the Brownsville Ship Channel.[72]

In Hidalgo County, highest ranked POE projects involve i) constructing northbound and southbound Federal inspection facilities for empty commercial trucks at the Donna International Bridge, ii) adding four additional non-commercial lanes to the existing six non-commercial lanes at Anzaldúas International Bridge and constructing new northbound commercial import lot facilities, and iii) adding two additional northbound passenger-only-vehicle (POV) lanes to alleviate queuing also at Anzaldúas International Bridge and expanding the secondary vehicle inspection facility to accommodate southbound commercial truck traffic and buses.

The highest ranked road and interchange projects in Hidalgo County include i) constructing a new two-lane controlled-access tolled facility for the International Bridge Trade Corridor from US 281 at Spur 600 to FM 493, ii) constructing an overpass and modifying ramps at US 83 and Bicentennial Boulevard, and iii) constructing a new four-lane controlled-access facility on US 83 La Joya Loop from 2.3 miles west of the Hidalgo County line to 1 mile east of the Hidalgo County line.[72]

Three planned POE projects were identified in Starr County. These involve i) expanding the Río Grande City-Camargo Bridge by constructing two additional lane spans for southbound traffic, ii) conducting a feasibility study and constructing a new commercial bus inspection facility at Roma-Ciudad Miguel Alemán Bridge, and iii) constructing a new international border crossing. However, very limited data were received for the two latter projects in the county.

The ranked road and interchange projects in Starr County include i) constructing a new four-lane divided facility to connect Río Grande City-Camargo Bridge with FM 755 that provides direct access to Río Grande City between US 83/Loma Blanca and US 83/La Puerta, and ii) widening FM 755 to a four-lane divided facility from FM 755 (new realignment in Starr County) to US 281 in Brooks County.[72]

6.3 Laredo District Coahuila/Nuevo León/Tamaulipas Border Master Plan

The Laredo District Coahuila/Nuevo León/Tamaulipas Border Master Plan was the first of the Texas-Mexico Border Master Plans and was completed in June 2012. Its focused study area was 25 miles north and south of the Texas-Coahuila/Nuevo León/Tamaulipas international border, as shown in Figure 64.[73]

On the U.S. side, 14 POE projects, 88 road and interchange projects, and 3 rail projects were identified in the focused study area. On the Mexican side, 37 POE projects, 44 road and interchange projects, and 5 rail projects were identified. Similar to the previously discussed border master plans, projects were ranked by country, type, U.S. city, and Mexican state. The complete ranking and descriptions of all projects, by type, in each country is provided in the *Laredo District Coahuila/Nuevo León/Tamaulipas Border Master Plan* report.[73]

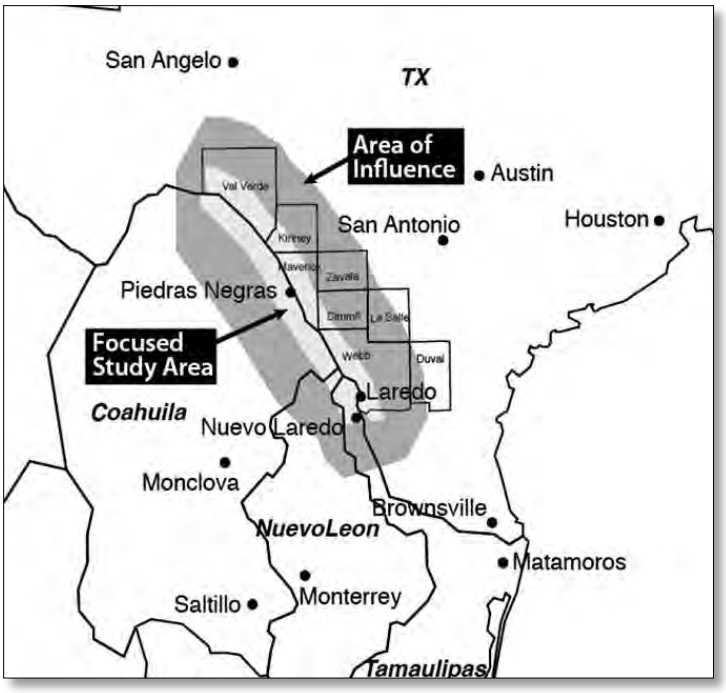

Figure 64: Laredo District Coahuila/Nuevo León/Tamaulipas Border Master Plan Focused Study Area[73]

In the city of Laredo, the highest ranked U.S. POE project in the study area was Project 4-5, a new bridge crossing located southeast of Laredo that will assist in diverting traffic from the city center to the outskirts. Two other POE projects that ranked high in the Laredo area are the conversion of eight temporary pedestrian booths at the Gateway to the Americas Bridge to eight permanent booths and a new bus processing facility at the Juárez-Lincoln Bridge.

The highest ranked road projects include constructing an access road that connects US 83 with the planned Project 4-5 and making various improvements to sections of Loop 20 and IH 35. These improvements (some of which may currently be ongoing) include increasing the number of lanes, widening of several sections, and construction of overpasses, ramps, and rail grade crossings. Planned rail projects in Laredo include the construction of rail tracks from the UP Port Laredo yard to the KCSM Sanchez Yard and the construction of a rail crossing adjacent to the newly proposed bridge (Project 4-5).[73]

In Eagle Pass, planned POE projects seek to provide additional infrastructure to increase security and throughput. Two projects, one on each bridge, involve constructing facilities to prevent port-running. A third project on only the Camino Real International Bridge involves the construction of a border safety inspection facility.

Identified planned road and interchange projects that serve Eagle Pass POEs include the reconstruction and widening of sections of US 277 from a two lane divided highway to a four lane divided highway and the restoration and addition of passing lanes. A planned rail project

in Eagle Pass was ranked second out of the three U.S. rail projects identified. The project includes double-tracking segments between the BNSF and UP sidings and between the UP siding and the rail tracks in the vicinity of the bridge to Piedras Negras.[73]

In the city of Del Rio, two planned POE projects were identified but lack of information prevented one the projects, a newly proposed bridge, from being ranked. The other project ranked involves the construction of a new CBP facility that will replace the current outdated facility at the Lake Amistad Dam crossing. Roadway and interchange projects identified in the area involve widening of several sections of US 277 from two to four lanes to increase capacity and level of service.

6.4 Border Wait Time Studies

The FHWA, in collaboration with TxDOT and the Texas A&M Transportation Institute, continued with its measurement of border wait times at the U.S.-Mexico border using radio-frequency identification (RFID) readers. According to the project website,[74] the following border bridges and POE are currently equipped with the technology: Pharr-Reynosa International Bridge, Veteran's Memorial Bridge, World Trade Bridge, Colombia Bridge, Camino Real International Bridge, Yselta Bridge, and Bridge of the Americas. "The readers gather information from RFID tags already placed on trucks crossing the border. The data reveal the time it takes a commercial vehicle to travel from [a point] on the Mexican side—through Mexican, U.S. and state customs inspections—to [another point] on the Texas side." [74] The data is publicly accessible via the "Border Crossing Information System" website.[74] Figure 65 is a screenshot showing wait times in the month of December on the Pharr-Reynosa International Bridge. This data is available for each of the other bridges.

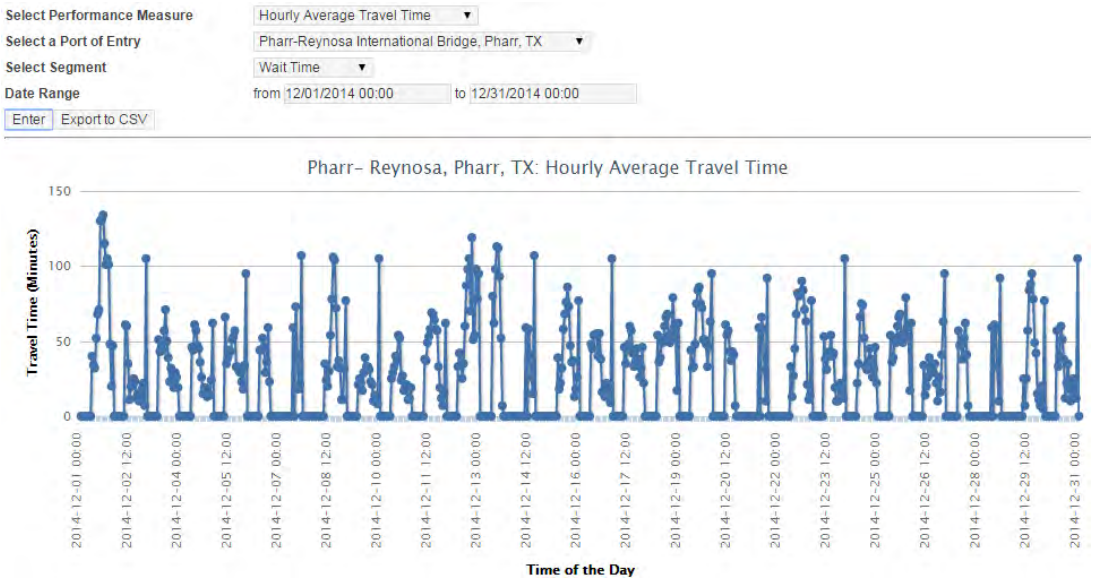

Figure 65: Pharr-Reynosa Bridge Hourly Average Wait Time in December 2014 [74]

7 Border Trade Advisory Committee

The Border Trade Advisory Committee (BTAC) was originally established in 2001 by the Texas Transportation Code, Sec. 201.114. Members of this committee are appointed by the Texas Transportation Commission. BTAC members represents a variety of interests—agencies, cities and bridges along the border with Mexico and since 2006 have contributed to both TXDOT and the Office of the Texas Secretary of State on their activities and success in meeting the BTAC goals. The current BTAC members can be found in Appendix A of this report. According to the Texas Transportation Code, "the committee shall define and develop a strategy and make recommendations to the commission and governor for addressing the highest priority border trade transportation challenges. In determining action to be taken on the recommendations, the commission shall consider the importance of trade with the United Mexican States, potential sources of infrastructure funding at border ports, and the value of trade activity in the department's districts adjacent to the border with the United Mexican States."

7.1 Goals and Strategies

Following its formation, the BTAC identified four main goals, documented in the first BTAC report dated November 16, 2006. The BTAC also identified strategies, implementation actions, measures, and responsible parties. These goals and implementation strategy summaries are listed below, while the implementation strategies, measures, and responsible parties are detailed in Appendix B:

1. Promote the development of ample and expandable trade transportation corridors.
    - Support major trade corridors.
    - Develop policies to facilitate trade at both state and federal levels.
2. Develop coordination mechanisms to foster trade between Mexico and Texas.
    - 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. Leverage safety and security measures to enhance trade efficiencies.
    - 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. Demonstrate the economic benefits of international trade at the national, state, and local levels.
    - Identify national, statewide, and international benefits of trade.

Strategies developed by the BTAC are designed to be carried out by the state of Texas but are not independent of the federal process. 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. Each specific proposal, along with its implementation actions, measures of success, and responsible party(ies), is presented in Appendix B of this report.

7.2 Update to BTAC Initiatives

Two BTAC meetings were organized from 2013 to 2014. The first was in December 11, 2013, and the second on July 16th, 2014. Key items and studies discussed during the meetings are outlined in the next sections.

7.2.1 Study Regarding International Trade: Economic Impacts of Border Wait Times

This study was developed in fulfilment of section 201.1145 of the Transportation Code (HB 1777 from the 83rd session) to examine the impacts of wait times on northbound international truck crossings at Mexico-Texas border POEs. The report includes i) a discussion of the border crossing process, ii) a literature review of recent studies on the economic impacts of border delays, iii) results from interviews with and a survey of U.S. and Mexican border stakeholders on the key issues determining delays, and iv) recommendations for improving northbound Texas border POE truck wait times. The following outline summarizes the recommendations for mitigating border wait times from the study as presented to the BTAC:

1. Improving inspection processes by:
    - expanding the Free and Secure Trade (FAST) and Customs-Trade Partnership Against Terrorism (C-TPAT) programs,
    - standardizing and streamlining the inspection process across POEs,
    - opening and manning all available primary and secondary inspection stations,
    - expediting the processing of empty trucks, and
    - speeding up the inspection process either through pre-screening cargo before it enters the customs yard or designating specialized ports to process specific commodities.
2. Improving coordination and management issues by:
    - improving binational cooperation and planning of infrastructure between the U.S. and Mexico,

- coordinating inspection processes,
- creating consistency among the rules and regulations between U.S. and Mexican customs, and
- improving communication and exchange of ideas between the industry and CBP.

3. Implementing infrastructural improvements by:
    - expanding, redesigning, or reconstructing current land POEs,
    - clearly separating commercial vehicle processing facilities from passenger vehicle processing facilities,
    - providing additional inspection facilities, and
    - constructing new POEs in low density areas.
4. Improving staffing by:
    - increasing the number of inspectors at all land POEs,
    - providing sufficient training to personnel, and
    - providing more flexible staffing schedules to respond to peak demand.
5. Implementing changes to operating hours by:
    - increasing POE operating hours to reduce peak demand volumes,
    - modifying staff hours to meet demand, and
    - implementing a phased and permanent rollout of the 24-hour commercial crossing program.
6. Adopting technology to achieve these ends:
    - speed up the document verification process,
    - implement an integrated travel information system to provide cross-border travel information for private and commercial travellers,
    - track trailers to avoid re-inspection by other agencies, and
    - develop and utilize a single electronic portal that provides all the agencies involved in the inspection processes with access to similar information.
7. Examining strategies for sharing information regarding wait times with drivers and the general public by:
    - improving the consistency and precision of the CBP's wait time collection,
    - providing an accurate measure of wait times and crossing times for industries to use for logistics decisions, and
    - examining alternative means of data collection and dissemination, such as real-time GIS maps of dynamic traffic conditions.

7.2.2 Texas Freight Mobility Plan

The Texas Freight Mobility Plan seeks to identify Texas's freight transportation needs and challenges, and define policies and investments that will enhance Texas's freight transportation system. The BTAC was briefed on the status of the Plan, including an extensive outreach program carried out in June 2013 that covered 11 cities, including the border gateways of El Paso, Laredo, and Brownsville. During the briefing, BTAC members were notified that border concerns were raised during outreach meetings in Dallas, Houston, and other cities like Lubbock, confirming the reach of NAFTA trade. The Texas Freight Mobility Plan also identifies the Texas Priority Freight Network, which describes how freight moves within the state boundaries, including connections to border gateways. Recommendations from the Plan will be circulated to the stakeholders, including members of the BTAC, in 2015.

7.2.3 GAO Report No. 13-603: U.S. Mexico Border—CBP Action Needed to Improve Wait Time Data and Measure Outcomes of Trade Facilitation Efforts

This report was presented to the BTAC with regards to CBP wait time data collection. The report establishes that CBP commercial vehicle wait time data (i.e., the time it takes to travel from the end of the queue to the CBP primary inspection point at land border crossings) "are unreliable for public reporting and CBP management decisions across border crossings." The problem arises because CBP officers inconsistently implement the approved data collection methodology and the methodologies used vary by crossing. The GAO report recommends that steps be taken to help overcome challenges to consistent implementation of existing methodologies—an example being the automated border wait time data collection program. Other recommendations from the report include documenting CBP staff allocation process and rationale, and developing outcome-oriented performance measures.[75]

The city of El Paso and the South Texas Assets Consortium, which includes Laredo, Cameron County, Brownsville, Pharr, McAllen, and Rio Grande City, are exploring new ways to fund CBP staffing at land POEs (although this effort currently does not address infrastructure improvements). Through the Consolidated and Further Continuing Appropriations Act of 2013, the cities gained the right to enter into a public-private partnership with the CBP to fund part of the bill for increased staffing.[76] In January, El Paso increased tolls at two bridges in order to fund overtime for additional CBP staff at POEs.[77,78] Using city funding for POEs has not been previously allowed; this is the first time that the federal government and a local community have partnered to encourage growth and trade across borders.[79]

8 Concluding Remarks

Texas continues to play a key role in growing U.S. international trade and serves as the main gateway for trade with Mexico and other overseas partners. In 2013, the U.S. exported about $1.6 trillion and imported about $2.2 trillion in goods, for a total of over $3.8 trillion in trade. Texas was the number one exporting state accounting for 17.4% of total U.S. exports and the number two importing state (second to California), accounting for 14.1% of total U.S. imports. Texas's top trading partners in 2013 were Mexico, China, Canada, Venezuela, and Saudi Arabia. The state's top commodity exports include machinery/electrical products, mineral products, chemicals, transportation equipment, and plastics/rubbers. Top commodity imports include mineral products, machinery/electrical products, transportation equipment, metals, and other miscellaneous commodities.

Truck traffic continues to be the dominant mode for trade between the U.S. and Mexico and exceeded pre-recession levels in 2011, 2012, and 2013. Laredo remains the number one port of entry (POE) with the highest value of trade, followed by El Paso and Hidalgo. Northbound commercial traffic at the Pharr-Reynosa International Bridge continues to increase, growing by 14.1% from 2012 to 2013. Between 2012 and 2013 the World Trade Bridge, Ysleta-Zaragoza Bridge, Bridge of the Americas, Del Rio-Ciudad Acuña International Bridge, and the Free Trade Bridge all experienced decreases in truck traffic.

The Laredo gateway continues to process the most trains and rail containers, followed by Eagle Pass, El Paso, and Brownsville. Average annual growth rate from 2009 to 2013 at Laredo is 20.15% compared to 13.70% at Eagle Pass. The Port of Houston is Texas's busiest water port and ranked second in the U.S. in terms of total tonnage moved through the port in 2012. It ranked first in U.S. imports and second in exports by tonnage. The state of Texas accounted for 5.3% of total container trade in twenty-equivalent units (TEUs) moved through U.S. marine ports in 2012, an increase of 0.2% compared to 2010 and 2011. Airports in Texas moved a total of 8 billion tons of cargo in 2013, representing 5.9% of total U.S. air cargo. Dallas-Fort Worth International Airport ranked 10th amongst U.S. airports located in Texas, followed by George Bush Intercontinental (17th), San Antonio International (28th), and Fort Worth Alliance (35th).

In 2013, 45% of the $158 billion worth of mineral fuel and oil exported from the U.S. originated from Texas and natural gas and oil exploration in the shale regions was a significant contributor. The impact of the recent drop in oil prices from fall 2014 to early 2015 on the Texas economy is still unknown. For example, 37 out of 38 U.S. shale oilfields have an operating break-even price greater than $50.00 a barrel and prices below this figure is already forcing companies to lay off workers and cut production.[80] It is already being reported that since the beginning of the oil price decline, an estimated 30,000 workers worldwide are at risk of being laid off at major energy companies such as Petróleos Mexicanos, Schlumberger, Baker Hughes,

and Halliburton.[81] However, many global companies using natural gas as a feedstock are evaluating investments in new facilities or extending capacity in Texas and Louisiana on the basis of cheap available energy.[82] In addition, global manufacturing companies—for example in the automobile sector—are examining the benefits of re-shoring in the U.S and near-shoring in Mexico to serve both NAFTA and global markets.[83]

A number of important infrastructure-related projects are also ongoing in some of the major trade corridors serving Texas trade, especially the IH 35 corridor. Studies such as the regional border master plans which help prioritize border infrastructure projects and the border wait time measurement initiative which provides more accurate commercial vehicle wait times are also relevant resources to facilitate U.S.-Mexico border trade. The completion of the Statewide Freight Plan and an update to the Statewide Long-Range Transportation Plan will also ensure that Texas's transportation system can support the continued success of the state's economy. Overall, Texas seems well positioned to retain its role in U.S trade and this requires investing in new transportation corridors, gateways and technologies—using federal, state and public-private partnerships—to remain efficient and competitive.

Appendix A: Border Trade Advisory Committee (BTAC) Members

Metropolitan Planning Organizations	
Brownsville MPO Mayor Tony Martinez City of Brownsville *Exp: 2014*	El Paso MPO Mayor Walter Miller City of Horizon *Exp: 2014*
Hidalgo County MPO Mayor Diana Martinez City of Alamo *Exp: 2014*	Laredo MPO Mayor Raul Salinas City of Laredo *Exp: 2014*
Harlingen-San Benito MPO Mayor Chris Boswell City of Harlingen *Exp: 2014*	

Ports of Entry	
B&M Bridge Julia Araujo Director of Operations Brownsville & Matamoros Bridge Company *Exp: 2016*	McAllen-Hidalgo & Anzalduas International Bridges Rigo Villarreal Superintendent McAllen-Hidalgo & Anzalduas Bridges *Exp: 2016*
Veterans International Bridge at Los Tomates Free Trade Bridge at Los Indios Gateway International Bridge Pete Sepulveda, Jr. Director International Bridge System Cameron County *Exp: 2016*	Presidio Bridge Michael O'Toole TxDOT Bridge Division *Exp: 2016*

Progreso International Bridge Julie Ramirez Bridge Manager B&P Bridge Company of Weslaco *Exp: 2016*	Yselta-Zaragoza Bridge Good Neighbor Bridge Paso del Norte Bridge Paul Stresow Bridge Director City of El Paso *Exp: 2016*
Port of Brownsville Eddie Campirano Port Director *Exp: 2014*	Lake Falcon Dam Crossing Lake Amistad Dam Crossing Fort Hancock-El Porvenir Bridge Fabens-Caseta Bridge Bridge of the Americas Commissioner Ed Drusina International Boundary and Water Commission *Exp: 2016*
Starr-Camargo Bridge Sam F. Vale President Starr-Camargo Bridge Company *Exp: 2016*	Pharr-Reynosa International Bridge on the Rise Juan Guerra Bridge Director City of Pharr *Exp:2016*

University Research Centers	
Center for International Intelligent Transportation Research Texas Transportation Institute Texas A&M University System, El Paso Rafael M. Aldrete, Ph.D. Program Manager *Exp: 2015*	Center for Transportation Research The University of Texas at Austin Rob Harrison Deputy Director *Exp: 2015*

City and County Officials	
Del Rio Mayor Roberto Fernandez *Exp: 2014*	Eagle Pass Mayor Ramsey English Cantu *Exp: 2015*

Regional Mobility Authority
Cameron County David Allex Chair *Exp: 2015*

Others	
International Bank of Commerce (IBC Bank) Eddie Aldrete Sr. Vice President *Exp: 2015*	Laredo Development Foundation Rolando Ortiz President *Exp: 2015*
Independent Consultant Jorge Canavati *Exp: 2015*	Union Pacific Ivan Jaime Director Border Policy & Community Affairs *Exp: 2016*
Port of Corpus Christi Judy Hawley Port Commissioner *Exp: 2015*	Borderplex Alliance Rolando Pablos CEO *Exp: 2016*

Appendix B: Border Trade Advisory Committee (BTAC) Strategies

A. Trade Transportation Corridors

Promote the development of ample and expandable trade transportation corridors.

1. Strategy: Support the development of major identified trade corridors to assist the expansion of Texas's international trade. Efficient multimodal trade corridors in Texas with connections to the Mexican transportation system will foster Texas trade with Mexico and other regions of the world.

Implementation Action 1.1: Develop consensus and support for international trade corridors.

- Measure 1.1: Local delegations demonstrate broad support through testimony at Texas Transportation Commission meetings/hearings.
- Responsible Parties 1.1: Local.

Implementation Action 1.2: Develop consensus and support for all major trade corridors.

- Measure 1.2: Local delegations demonstrate broad support for future Texas transportation projects.
- Responsible Parties 1.2: Local.

Implementation Action 1.3: Develop local support for public-private partnerships to fund international trade corridors.

- Measure 1.3: Sufficient financial support to accelerate international trade corridor development.
- Responsible Parties 1.3: Local, state.

2. Strategy: Develop policies to facilitate trade at both state and federal levels. Trade policies supported by adequate transportation infrastructure will stimulate the flow of goods in the state and improve existing commercial corridors.

Implementation Action 2.1: Develop common measures of efficiency to reflect trade throughput at all trade corridors to serve as a basis for establishing funding priorities.

- Measure 2.1: Completion and adoption of measures by state and federal entities.
- Responsible Parties 2.1: Local, state, federal.

B. Coordination with Mexico

Develop coordination mechanisms to foster trade between Texas and Mexico.

3. Strategy: Coordinate effectively with Mexico to ensure the planning and development of through trade corridors. Formal and informal coordination efforts with Mexican federal and state government agencies are important to ensure the development of efficient U.S.-Mexico trade corridors.

Implementation Action 3.1: Enhance bi-state multimodal corridor planning efforts through coordinated workshops

- Measure 3.1: Number of workshops held for high-level bi-state multimodal corridor planning.
- Responsible Parties 3.1: State, Mexico.

Implementation Action 3.2: Develop prioritized binational local improvement plans.

- Measure 3.2: Number of prioritized binational local improvement plans developed.
- Responsible Parties 3.2: Local, Mexico.

4. Strategy: Promote more efficient international border crossings. Existing international border crossing procedures and infrastructure should be examined on a continuing basis to identify efficiencies that can be gained by coordinating with Mexican stakeholders. Future international border crossing plans should be developed in close coordination with Mexican and U.S. stakeholders to promote the efficient use of the latest technologies, procedures, and infrastructure on both sides of the border.

Implementation Action 4.1: Harmonize private and public sector activities and schedules to achieve maximum effective use of available international border crossing infrastructure.

- Measure 4.1: Reduced average delay at all international border crossings.
- Responsible Parties 4.1: Federal.

5. Strategy: Promote cooperation with and understanding of U.S. policies. Constant changes in U.S. security and safety policies impact the international border crossing process and the overall trade between Texas and Mexico. It is important to support cooperation efforts with Mexican government agencies and the trade community so that new rules are understood and their impact on international trade is minimized.

Implementation Action 5.1: Organize and promote attendance to local workshops for presentations by federal and state regulatory bodies, to include extensive question and answer sessions with private sector and trade communities.

- Measure 5.1: Number of workshops and attendance.
- Responsible Parties 5.1: Federal.

C. Safety and Security Measures

Leverage safety and security measures to enhance trade efficiencies.

6. Strategy: Promote efficiencies at international border crossings. By evaluating, recommending, and implementing various procedures, efficiencies can be gained throughout international border crossings. Some of the efforts that have been discussed include eliminating the duplication of the vehicle safety inspections, combining security facilities, implementing interoperable technology, modifying hours of operation, increasing staffing levels, and applying demand management techniques like off-peak incentives and value pricing.

Implementation Action 6.1: Expand the use of the FAST (Free and Secure Trade) program, and the proposed express lane at the Department of Public Safety (DPS) inspection stations.

- Measure 6.1: Number of local stakeholders willing to participate in and promote FAST and DPS programs.
- Responsible Parties 6.1: Local.

Implementation Action 6.2: Evaluate the design of international border crossings and local access points to ensure efficient use of FAST lanes.

- Measure 6.2: Crossing time for FAST trucks compared to non-FAST trucks.
- Responsible Parties 6.2: Federal.

Implementation Action 6.3: Evaluate operations at existing international border crossings to ensure they are performing at optimum efficiencies.

- Measure 6.3: Commercial vehicle crossing time.
- Responsible Parties 6.3: Federal.

7. Strategy: Develop international border crossings that take advantage of the latest technologies and procedures. New procedures and technologies significantly impact the way international border crossing inspections are carried out and therefore the infrastructure needs at international border crossings. Planned international border crossings should be designed with enough flexibility to benefit from the latest technology and expedite the design and construction process, as well as to make it easy to change in the future when new technologies are implemented.

Implementation Action 7.1: Work with the General Services Administration and other U.S. federal agencies to develop flexible user-oriented configurations and practices for new or rehabilitated international border crossings.

- Measure 7.1: Conduct joint workshops with federal officials intended to achieve a modified approach to international border crossing design.
- Responsible Parties 7.1: Federal.

8. Strategy: Review Presidential Permit policy to facilitate international bridge construction. Current Presidential Permit procedures to construct or modify international bridges are lengthy and difficult to obtain. A streamlined procedure will

smooth the progress of any required modification to take advantage of new technologies or processes.

Implementation Action 8.1: Develop and coordinate with binational federal officials an approach to facilitate improvements to existing international border crossings.

- Measure 8.1: Revised procedures for national consideration.
- Responsible Parties 8.1: Local.

Implementation Action 8.2: Coordinate permitting process for new international border crossings.

- Measure 8.2: Time required obtaining permits.
- Responsible Parties 8.2: Local.

9. Strategy: Provide a balance between required inspections and efficient trade flow.

Implementation Action 9.1: Ensure proper staffing, resource management, and appropriations for new international border crossings or expansion of existing international border crossings that will allow for adequate inspections yet ensure efficient trade flow.

- Measure 9.1: Commercial vehicle crossing time and security level.
- Responsible Parties 9.1: State, federal.

D. Economic Benefits of International Trade

Demonstrate the economic benefits of international trade at the national, state, and local levels.

10. Strategy: Identify national, statewide, and international benefits of trade. Increased land commercial trade not only benefits the local international border crossing where the transaction takes place but also has a ripple effect that benefits the state and the nation as a whole. The Alameda Corridor Project in California is an example of how a trade corridor improvement can benefit not only the region but the whole nation.

Implementation Action 10.1: Review and implement previous recommendations to quantify local, regional, and national benefits of improved trade at the Texas-Mexico border.

- Measure 10.1: Identify which actions must occur at the state or federal level to provide trade benefits.
- Responsible Parties 10.1: State.

Implementation Action 10.2: Perform economic impact analysis of trade on local, state, and national levels.

- Measure 10.2: Complete economic impact analysis of trade.
- Responsible Parties 10.2: State.

Implementation Action 10.3: Establish an advocacy program led by the four U.S. border governors to promote the benefits of trade efficiencies at the state, national, and international level.

- Measure 10.3: Success of advocacy program in Washington, D.C.
- Responsible Parties 10.3: State

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