

# 2014 CIITR RESEARCH BRIEF — U.S.-Mexico Border Freight Traffic Trends



RESEARCH BRIEF SERIES, 2015



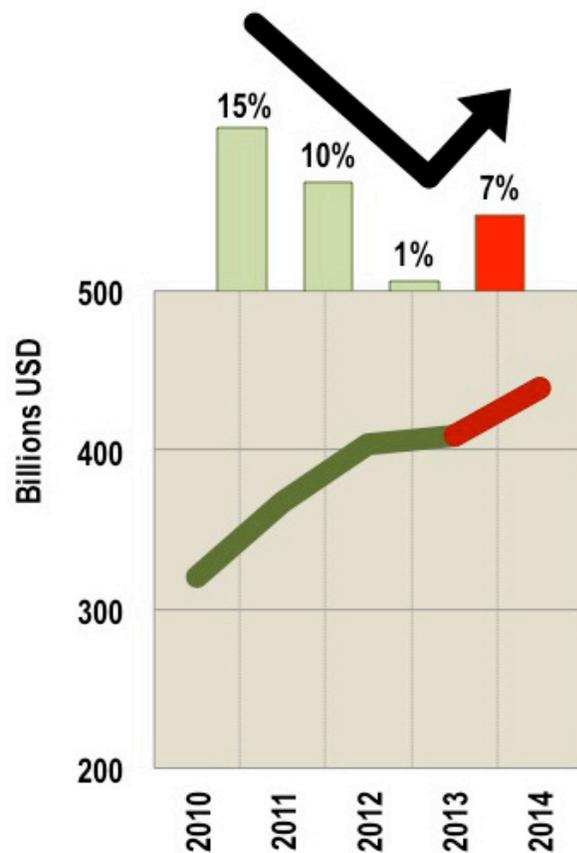
# U.S.-Mexico Border Freight Traffic Trends

## SUMMARY

This annual Center for International Intelligent Transportation Research publication primarily focuses on freight activities at land ports-of-entry (POEs) on the U.S.-Mexico border over the past 20 years. The 2015 issue of the research brief updates the statistics and trends found in previous years and identifies new relationships and potential anomalies in cross-border freight activities for 2014.

After slowing growth rates over the previous 3 years, surface trade between the United States and Mexico gained momentum in 2014 and grew by 7 percent. It is hopefully not a temporary change, but the beginning of a long-term positive trend.

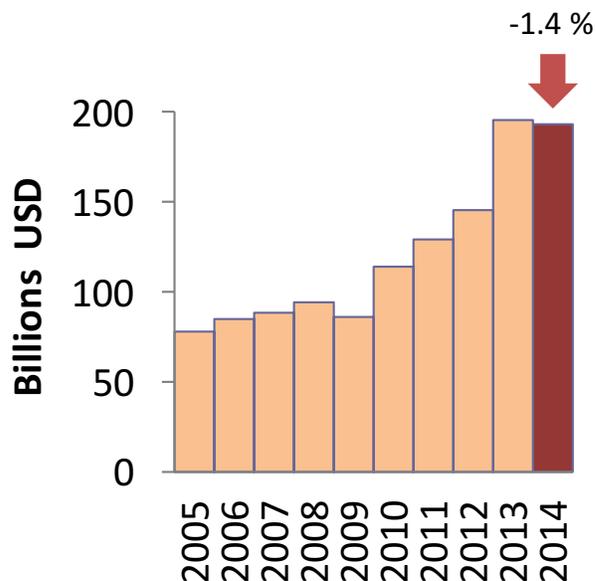
There was no change in the proportion of export and import in total trade in 2014. Just like in previous years, the value of import was about 25 to 30 percent higher than that of the export; 44 percent of the total surface trade with Mexico is export and 56 percent import. Freight moved on trucks remained the most important mode of cross-border surface transportation with 82 percent contribution to both import and export. Rail is also significant with 18 percent contribution to the value of export and 15 percent to import.



Manufactured goods remained the highest value commodities exported to and imported from Mexico in 2014. Laredo had the most significant increase in the value of this commodity group. Export and import grew by 11 percent from 2013 to 2014, which is about 2 percent higher than in previous year. Changes at other ports were less consistent.

After a sustained and rapid growth over the period of 2010 through 2013, Texas experienced a reduction of 1.4 percent in the value of its surface trade with Mexico in 2014. Regardless of this unexpected negative change, Texas still remains the number one trading partner of Mexico among all U.S. states.

New for this year is that wait times of commercial vehicles at six Texas border crossings from May 2013 through December 2014 were analyzed. On weekdays, commercial vehicles crossing the border in Pharr and at the World Trade Bridge in Laredo experienced the longest wait times, more than 60 minutes. Pharr had the longest wait times of 80 minutes on Saturdays and 60 minutes on Sundays, followed by Brownsville with 60 minutes, World Trade with 40–50 minutes, and Zaragoza with 40 minutes maximum wait times. The Columbia Bridge had the shortest wait times on weekdays and weekends. With a few exceptions, commercial vehicles experienced the longest average wait times on Saturdays.

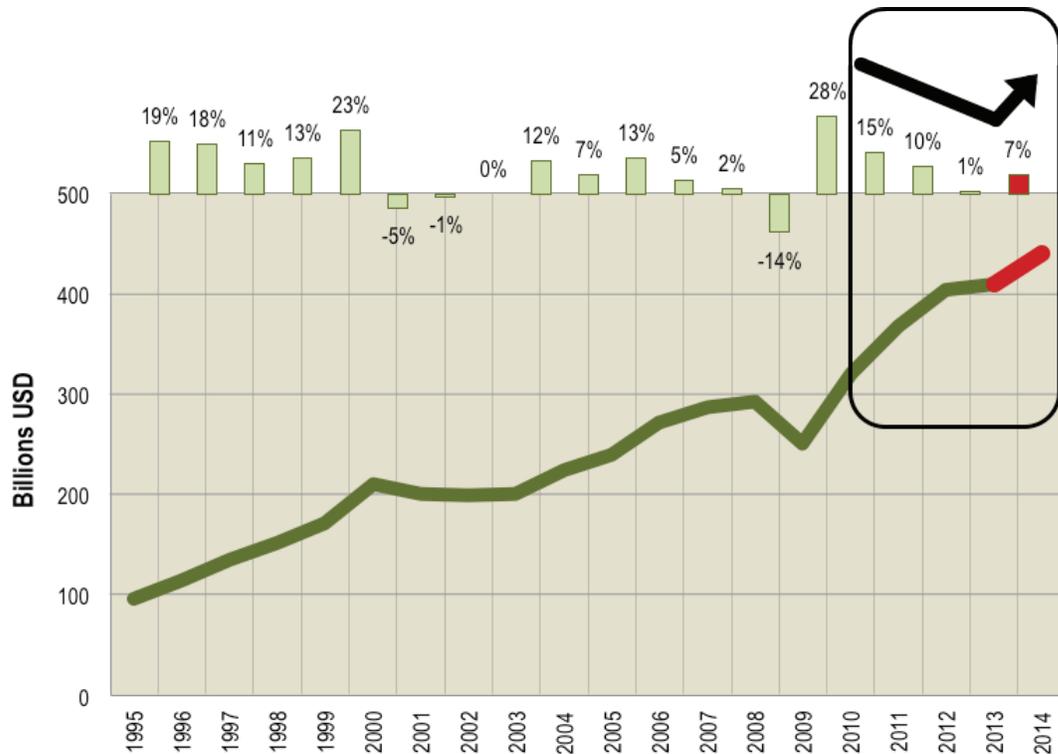


Texas still remains the number one trading partner of Mexico among all U.S. states.

# All Surface Trade

Figure 1 shows yearly values of all surface trade between the United States and Mexico from 1995 through 2014. The time series plot in the lower part of the figure is the sum of both import and export using all modes of surface transportation. The percent change in the value of trade from one year to the next is shown on the top of the figure. After four years of gradually slowing recovery from the 2008–2009 recession, surface trade between the United States and Mexico has gained new momentum in 2014 and grew by 7 percent. Although this

percent increase is still below the growth rates realized in 2010, 2011, and 2012, it indicates the beginning of a positive trend after the dip (1 percent growth) in 2013. In fact, it is almost the same as the average growth rate was during the five-year period before the 2008 global financial crisis, and it is not much below the average growth rate of 9 percent observed over the entire period of 1995 through 2014. It will be interesting to see if this positive change is temporary or a trend that will continue over the next several years.

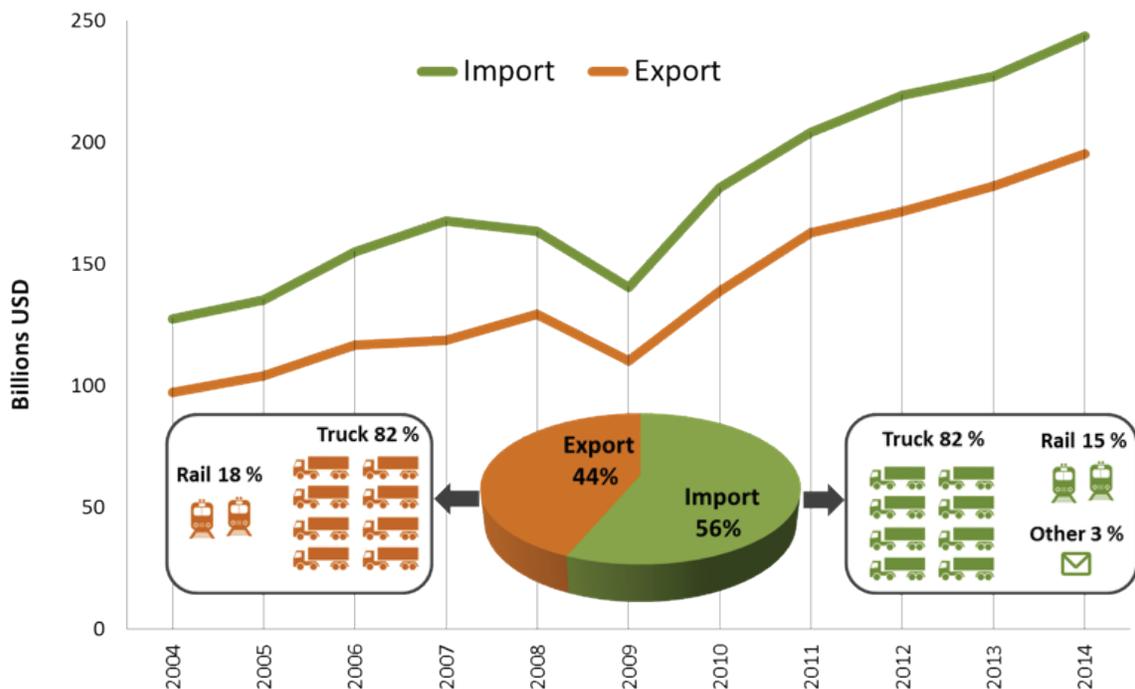


**Figure 1.**  
All Surface Trade between the United States and Mexico

# Import-Export by Mode of Surface Transportation

Figure 2 shows the share of imports and exports in the value of total surface trade with Mexico. Just like in previous years, the contribution of imports to the value total trade continued to exceed the exports by about

25 to 30 percent. In 2014, 44 percent of the total surface trade with Mexico was exports and 56 percent was imports, the same as the average distribution over the entire period of 2004 through 2014.



**Figure 2. Import-Export across the U.S.-Mexico Border Using All Modes of Surface Transportation**

Surface trade was also analyzed by different land modes of transport. The contribution of trucks, rail, and other modes of surface transportation has not changed in 2014. Trucks remained the most important with 82 percent

contribution to both imports and exports. Rail is also significant with 18 percent contribution to the value of exports and 15 percent to the imports.

# Commodities

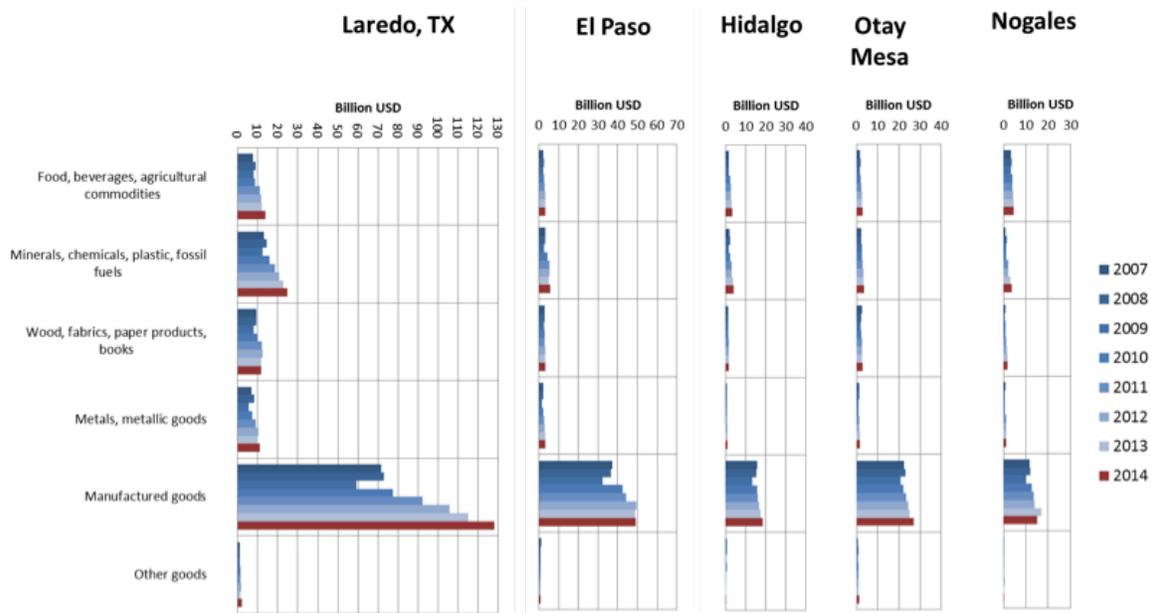
Composition of freight moved across the U.S.-Mexico border at the five most important border crossing locations, Laredo, Hidalgo, and El Paso in Texas; Otay Mesa Station in California; and Nogales in Arizona were also analyzed. Over 80 percent of cross-border trade between the United States and Mexico is concentrated at these five land ports.

Freight data are available for 99 commodity categories.

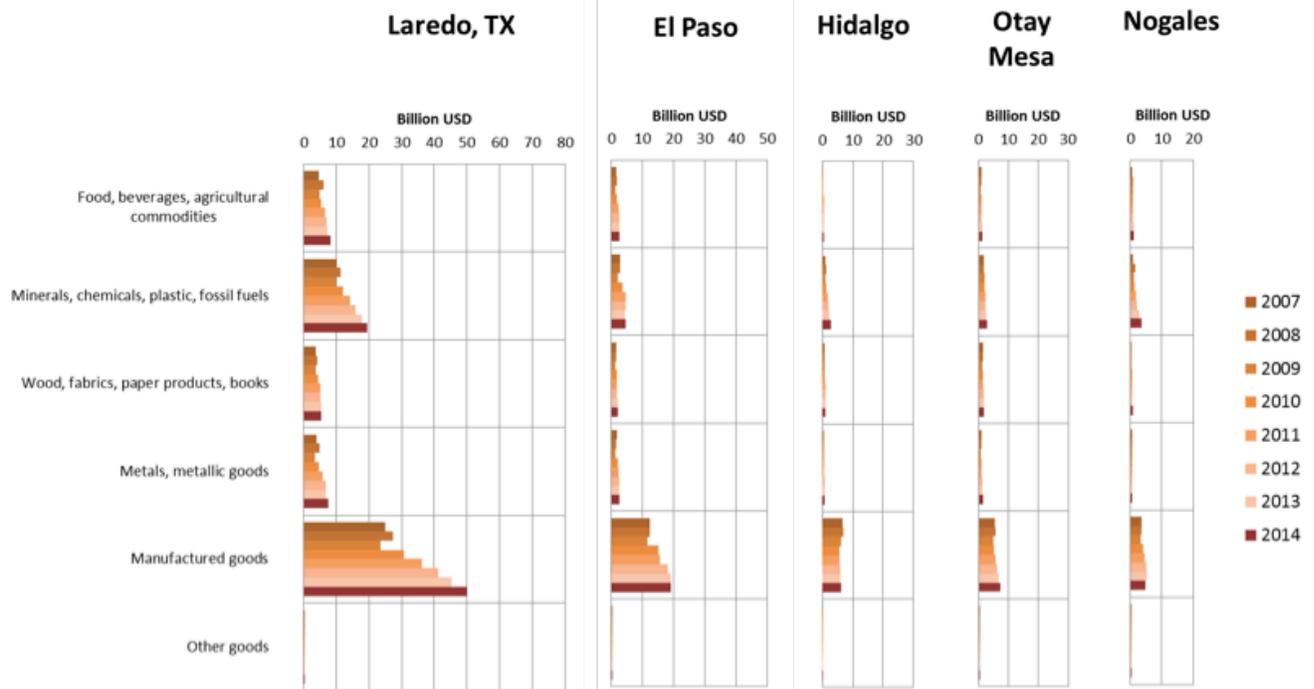
They were classified into six groups:

- **Commodity Group 1:** Food, beverages, agricultural commodities (HS-code: 1-24).
- **Commodity Group 2:** Minerals, chemicals, plastic, fossil fuels (HS-code: 25-40).
- **Commodity Group 3:** Wood, fabrics, paper products, books (HS-code: 41-71).
- **Commodity Group 4:** Metals, metallic materials (HS-code: 72-81).
- **Commodity Group 5:** Manufactured goods (HS-code: 82-96).
- **Commodity Group 6:** Other goods (HS-code: 97-99).

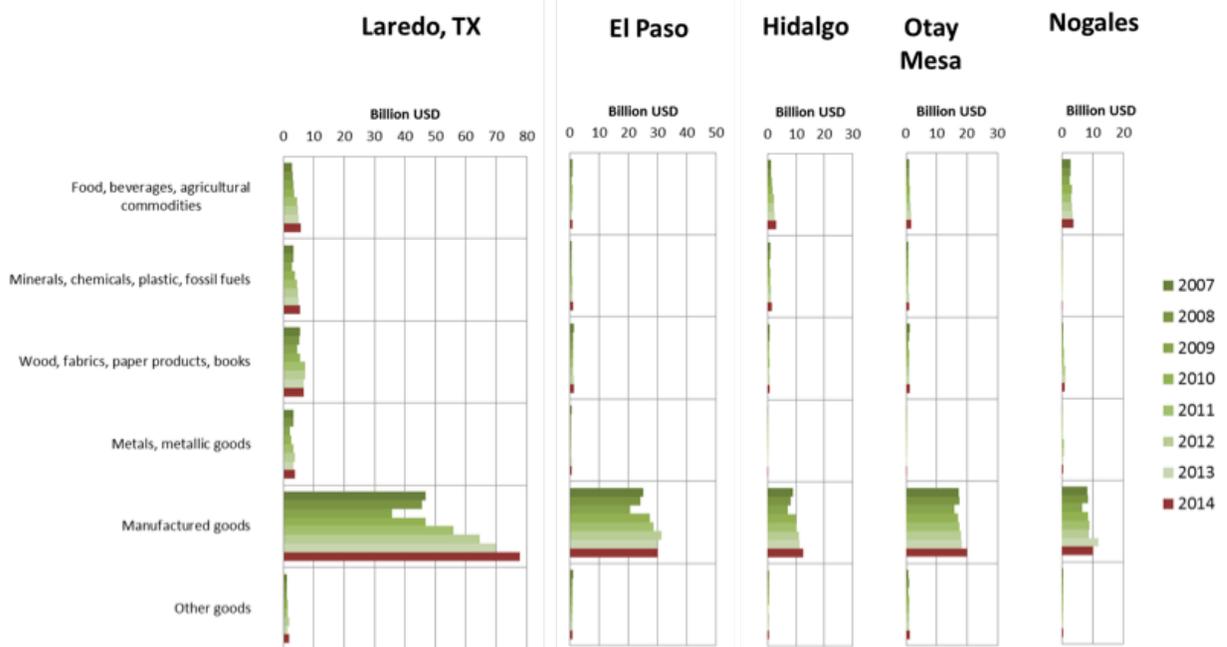
Figure 3, Figure 4, and Figure 5 show yearly variation of these commodity groups in total trade, exports, and imports.



**Figure 3. Value of All Traded Commodities (All Modes of Surface Transportation Combined)**



**Figure 4. Value of All Exported Commodities (All Modes of Surface Transportation Combined)**



**Figure 5. Value of All Imported Commodities (All Modes of Surface Transportation Combined)**

Manufactured goods (Group 5) represent the highest value commodities in total trade and in exports and imports. They are followed by minerals, chemicals, and fossil fuels (Group 2); food and agricultural products (Group 1); wood, fabric, and paper products (Group 3); and metals and metallic materials (Group 4).

Table 1 shows changes in the imports, exports, and total trade of manufactured goods (Group 5) over the last two years. Laredo had the most significant increase in the value of manufactured goods traded with Mexico. Exports and

imports have grown at the same rate of 11 percent from 2013 to 2014 and at just slightly lower rates (8 percent in imports and 10 percent in exports) in the previous year. Changes at other ports were less consistent. For example, the import of manufactured goods at Nogales decreased by 13 percent in 2014 compared to the 34 percent increase in previous year. However, regardless of some relatively large yearly variations at some of the ports, there is an increasing trend at each border crossing location after 2009.

**Table 1. Percent Change in Trading Manufactured Goods**

Year-to-Year		El Paso, TX	Hidalgo, TX	Laredo, TX	Nogales, AZ	Otay Mesa, CA
2012–2013	Import	–4%	4%	8%	34%	1%
	Export	5%	1%	10%	2%	10%
	Total Trade	–1%	3%	9%	22%	3%
2013–2014	Import	0%	10%	11%	–13%	9%
	Export	1%	3%	11%	–7%	8%
	Total Trade	1%	8%	11%	–11%	8%

**OVER 80%** of cross-border trade between the United States and Mexico is concentrated in:



- Laredo, TX**
- Hidalgo, TX**
- El Paso, TX**
- Otay Mesa Station, CA**
- Nogales, AZ**

# Cross-Border Surface Trade by U.S. States

Figure 6 shows those U.S. states that are ranked among the top 10 based on the value of their trade with Mexico using all modes of surface transportation. The bar graphs at the bottom of the figure show the value of surface trade in billions of U.S. dollars for the top 5 states over the last 10 years. The percent differences in trade from 2013 to 2014 are also given; green arrows pointing upward are positive and red arrows pointing downward are negative changes.

period (2010 through 2013) when the value of trade had doubled in Texas. Despite the small reduction in 2014, Texas still remains the number one trading partner with Mexico based on the value of its surface trade, which is more than the other four states (California, Michigan, Illinois, Arizona) combined. Michigan's surface trade with Mexico increased slightly (1.6 percent), while California, Illinois, and Arizona experienced over 10 percent growth from 2013 to 2014.

Out of the top five U.S. states, Texas was the only one where surface trade with Mexico decreased in 2014 compared to the trade values in previous year. Although the reduction was fairly small (-1.4 percent), it was unexpected after a sustained rapid growth over the previous four-year

Note that freight destination in the Bureau of Transportation Statistics database represents the state where a shipment is declared for customs purposes, not necessarily the true destination state.

## Top 5 US States Trading with Mexico All Modes of Surface Transportation (2005-2014)

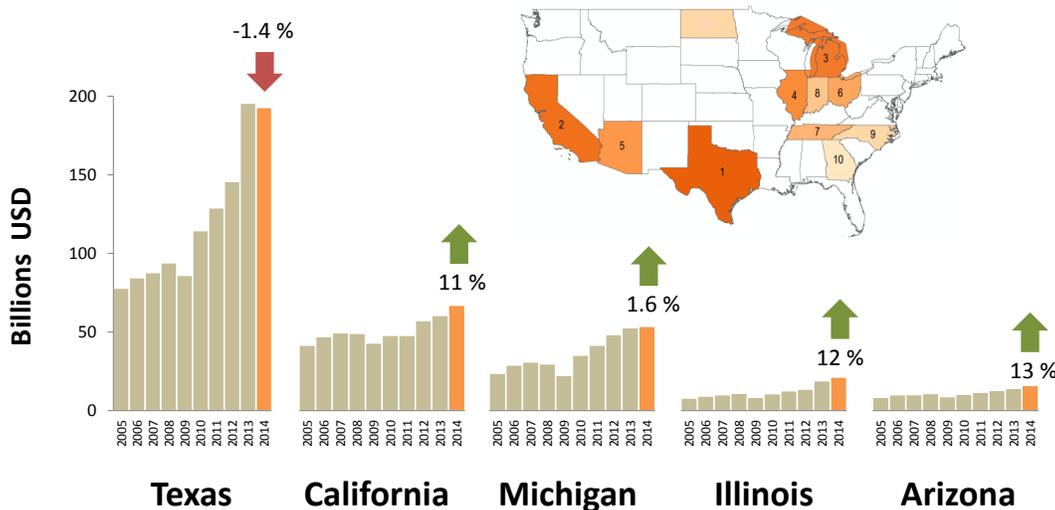


Figure 6. Trade between Different U.S. States and Mexico

# Border Crossing Wait Times for Trucks

The continuous growth in cross-border trade is expected to result in longer wait times for trucks at border crossing locations. Higher delays are unavoidable unless the capacities of border-crossing facilities are constantly improved/increased to meet the growing demand. This is particularly difficult for Texas ports where trucks have to cross the U.S.-Mexico border through bridges that have significant physical constraints and limitations for any capacity improvement.

Wait times of commercial vehicles at six Texas border crossings from May 2013 through December 2014 were analyzed using data available in the Border Crossing Information System database developed and maintained by the Texas A&M Transportation System. (See the Border Crossing Information System website <http://bcis.tamu.edu>.) Table 2 gives the hours of bridge operation, and Table 3 shows the hourly average wait times for weekdays, Saturdays, and Sundays.

**Table 2. Hours of Bridge Operation**

Port of Entry	Weekday	Weekend
Bridge of the Americas, El Paso, TX	6 AM–6 PM (MT)	6 AM–2 PM (MT) SAT
Colombia Bridge, Laredo, TX	8 AM–12 AM (CT)	8 AM–4 PM (CT) SAT, 12 PM–4 PM (CT) SUN
Pharr- Reynosa, Pharr, TX	7 AM–10 PM (CT)	8 AM–4 PM (CT) SAT and SUN
Veterans Memorial Bridge, Brownsville, TX	8 AM–12 AM (CT)	8 AM–4 PM (CT) SAT and SUN
World Trade Bridge, Laredo, TX	8 AM–12 AM (CT)	8 AM–4 PM (CT) SAT, 10 AM–2 PM (CT) SUN
Ysleta Bridge, El Paso, TX	6 AM–12 AM (MT)	8 AM–4 PM (MT) SAT

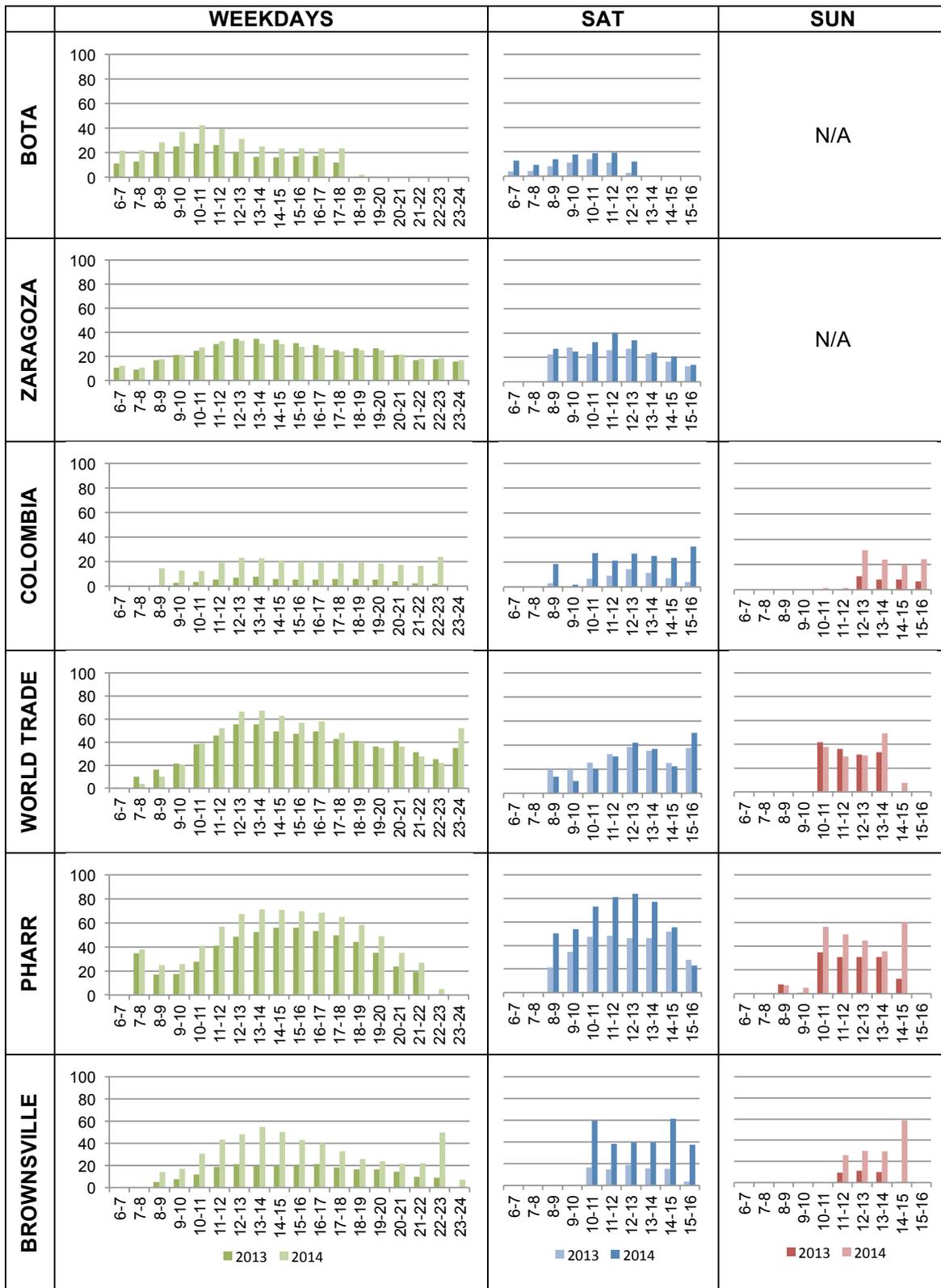


Table 3. Average Waiting Times of Trucks (Minutes)

On weekdays, commercial vehicles crossing the border in Pharr and at the World Trade Bridge in Laredo experienced the longest wait times, more than 60 minutes in early afternoon in 2014. The Veteran’s Memorial Bridge in Brownsville, the Bridge of the Americas (BOTA), and Ysleta/Zaragoza Bridge in El Paso had comparable average wait times on weekdays. Pharr had the longest wait times of 80 minutes on Saturdays and 60 minutes on Sundays, followed by Brownsville with 60 minutes, World Trade with 40–50 minutes, and Zaragoza with

40 minutes maximum wait times. The Colombia Bridge had the shortest wait times on weekdays and weekends.

Figure 7 shows the percent change in average wait times from 2013 to 2014. The most significant percent change in wait times can be observed at the Colombia Bridge in Laredo and Veterans Memorial Bridge, Brownsville. However, Colombia has still the lowest wait times among the six border crossings.

### Percent Change in Average Wait Times from 2013 to 2014

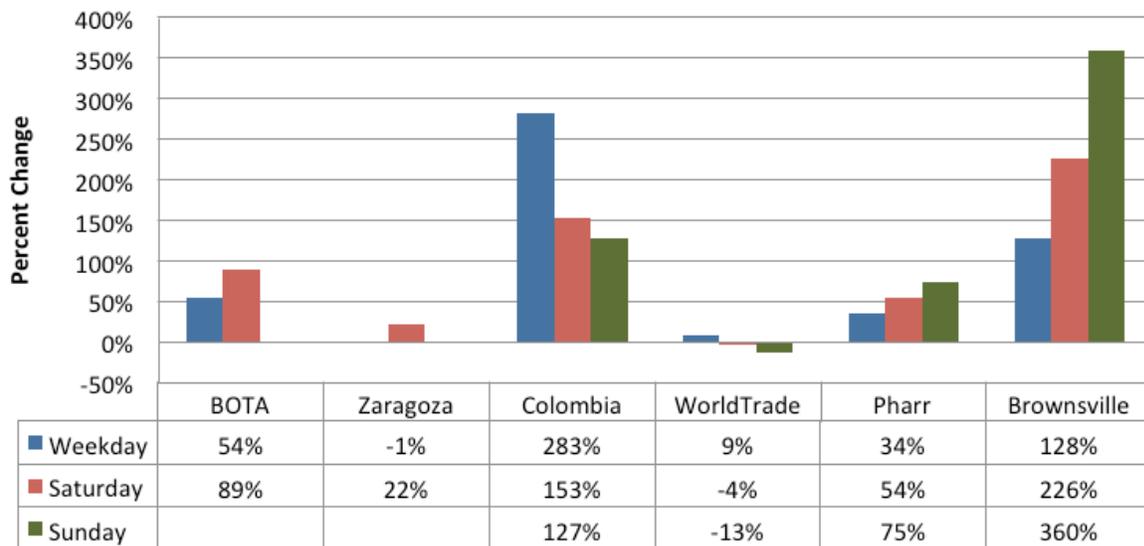


Figure 7. Change in Average Wait Times of Trucks at Major POEs in Texas from 2013 to 2014

Table 4 shows the days of the week with the longest average wait times. With a few exceptions, commercial vehicles experienced the longest average wait times on Saturdays.

**Table 4. Days of the Week with Longest Average Wait Times for Trucks at Texas Border Crossings**

Year	BOTA	Zaragoza	Colombia	World Trade	Pharr	Brownsville
2013	SAT	SAT	SAT	FRI	SAT	SAT
2014	WED	SAT	SAT	SAT	SAT	WED







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