2017 CIITR RESEARCH BRIEF —
U.S.-Mexico Border Freight Traffic Trends

RESEARCH BRIEF SERIES, 2017

Texas A&M Transportation Institute


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U.S.-Mexico Border Freight Traffic Trends

OVERVIEW

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 22 years. The 2017 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 2016.

After four years of gradually slowing recovery from the recession of 2008–2009, surface trade between the United States and Mexico gained some temporary new momentum in 2014, but the positive change did not last. Figure 1 shows that growth in total trade continued to slow and completely leveled off by the end of 2016. Although import from Mexico has still increased by about 1 percent from 2015 to 2016, it was annulled by an approximately 2 percent decrease in exports during the same period. There was no significant change in the proportion of export and import in total trade in 2016. In 2016, 42 percent of the total surface trade with Mexico was export and 58 percent was import. This is almost the same as the average distribution of 43 percent export and 57 percent import over the entire period of 2004 through 2016.

Though the value of goods transported by trucks slightly decreased in 2016, the average

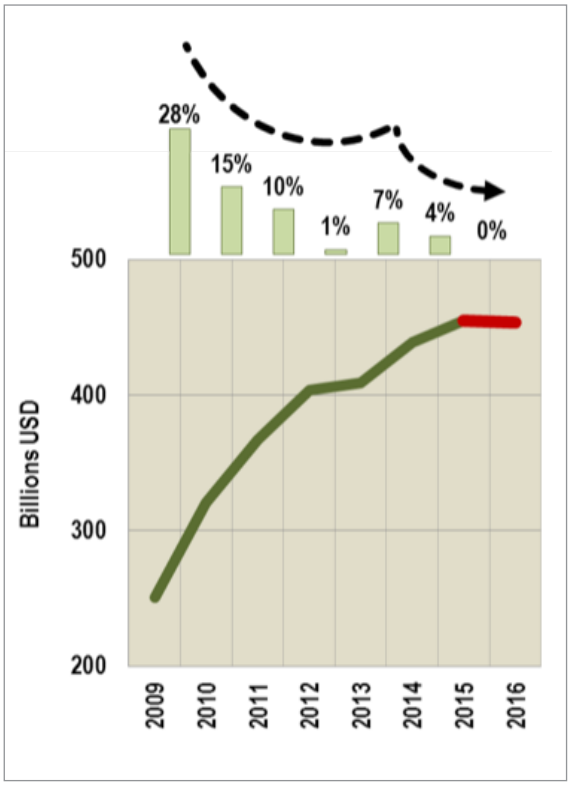

Figure 1. Surface Trade after 2009

contribution of trucks, rail, and other modes of surface transportation has not changed significantly. Figure 2 shows that trucks remained the most important mode, contributing by 82 percent to import and by 81 percent to export. Rail is also significant, contributing by 17 percent to the value of import and by 15 percent to the export.

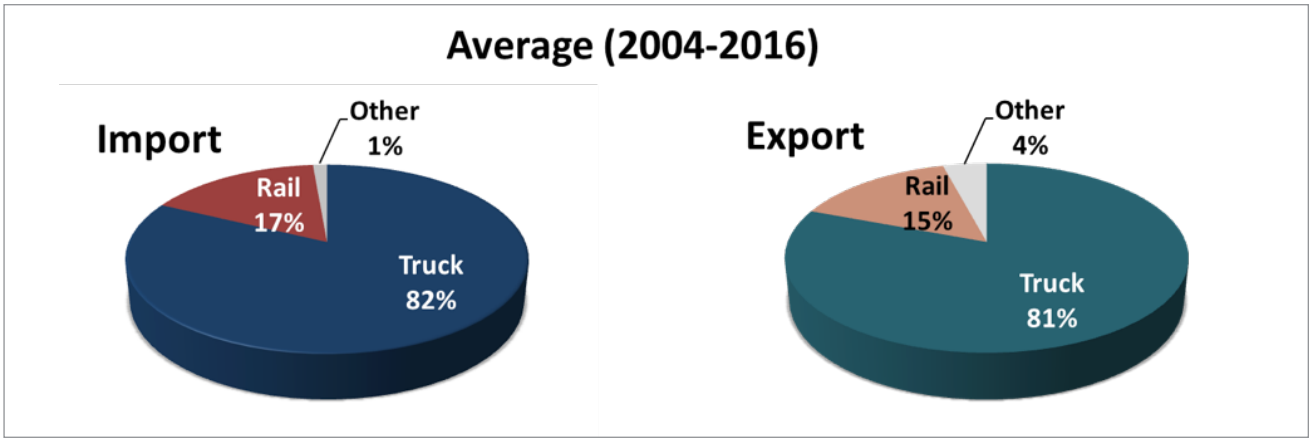

Figure 2. Contribution of Different Modes of Surface Transportation

Manufactured goods remained the highest value commodities exported to and imported from Mexico in 2016. El Paso was the only port with an increase in the value of traded manufactured goods over the past two years. In Hidalgo, export and total trade decreased in both 2015 and 2016. Laredo reached a turning point in 2016, when import, export, and total trade went into negative growth (import: -2 percent, export: -4 percent). This was the first time since 2009. The reduction was primarily caused by a significant drop in the import and export of vehicles, parts and accessories (HS-code: 87). The import of this commodity was reduced by over 4 billion USD (–11.4 percent) and export by 1.67 billion USD (–11 percent) compared to 2015.

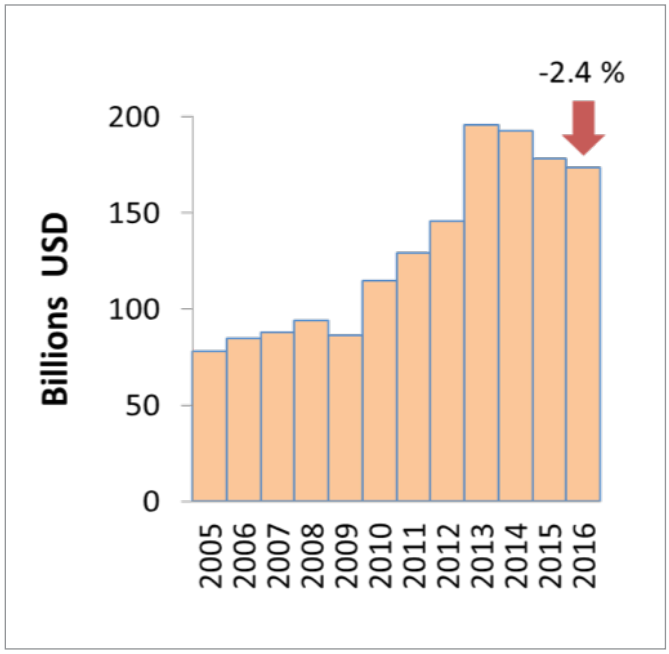

Figure 3. Surface Trade between Texas and Mexico

Out of the top five U.S. states, Michigan was the only one where surface trade with Mexico increased in 2016 compared to the trade values in the previous year. Arizona experienced the most significant reduction in its surface trade (–5.9 percent), followed by Illinois (–4.4. percent) and Texas (–2.4 percent). Despite the continued reduction, Texas still remains the number-one trading partner with Mexico based on the value of its surface trade, which is nearly as high as the other four states (California, Michigan, Illinois, and Arizona) combined.

All Surface Trade

Figure 4 shows yearly values of all surface trade between the United States and Mexico from 1995 through 2016. The time-series plot in the lower part of the figure is the sum of both imports and exports using all modes of surface transportation. The percent change in the value of trade from one year to the next is shown at the top of the figure. After four years of gradually slowing recovery from the recession of 2008–2009, surface trade between the United States and Mexico gained some temporary new momentum in 2014, but the positive change did not last. Growth in total trade continued to slow and completely leveled out by the end of 2016. Although imports from Mexico have still increased by about 1 percent from 2015 to 2016, that positive increase was annulled by an approximately 2 percent decrease in exports during the same period.

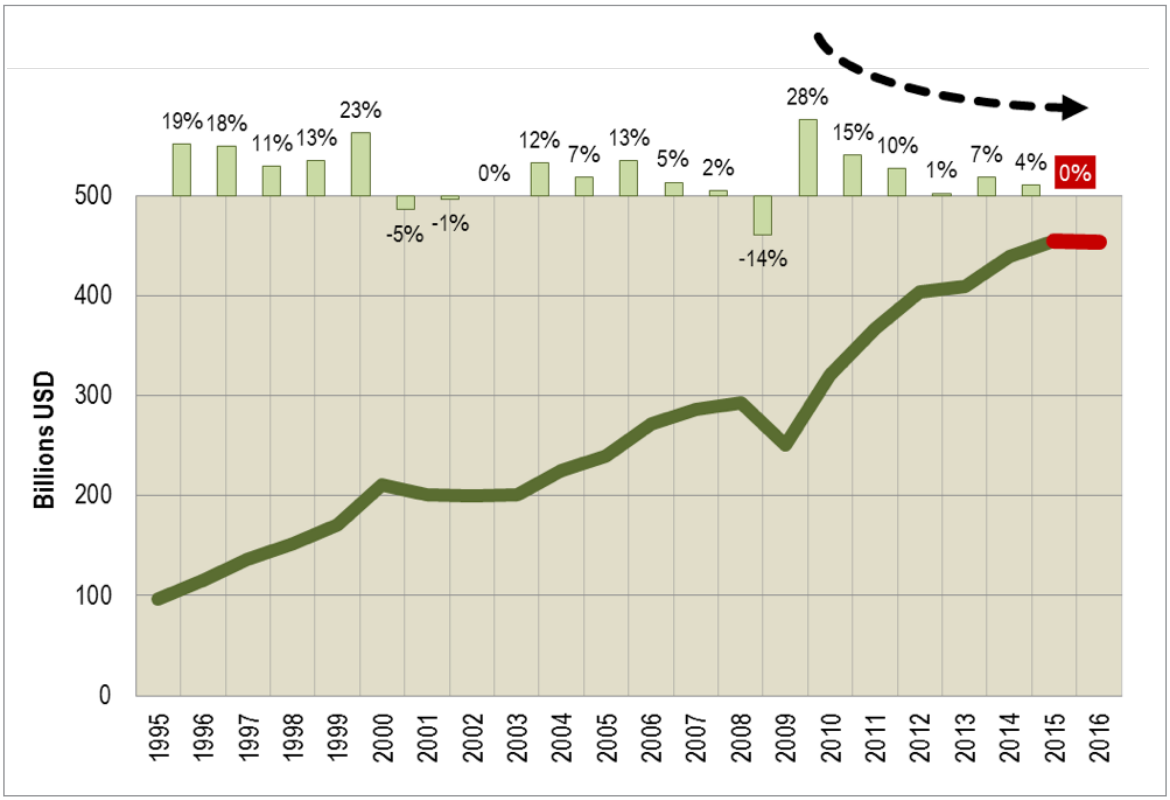

Figure 4. All Surface Trade between the U.S. and Mexico.

Import-Export by Mode of Surface Transportation

Figure 5 shows the share of imports and exports in the value of total surface trade with Mexico. Like in previous years, the contribution of imports to the value of total trade continued to exceed the exports by about 25 to 30 percent. In 2016, 42 percent of the total surface trade with Mexico was export and 58 percent was import, almost the same as the average distribution of 43 percent export and 57 percent import over the entire period of 2004

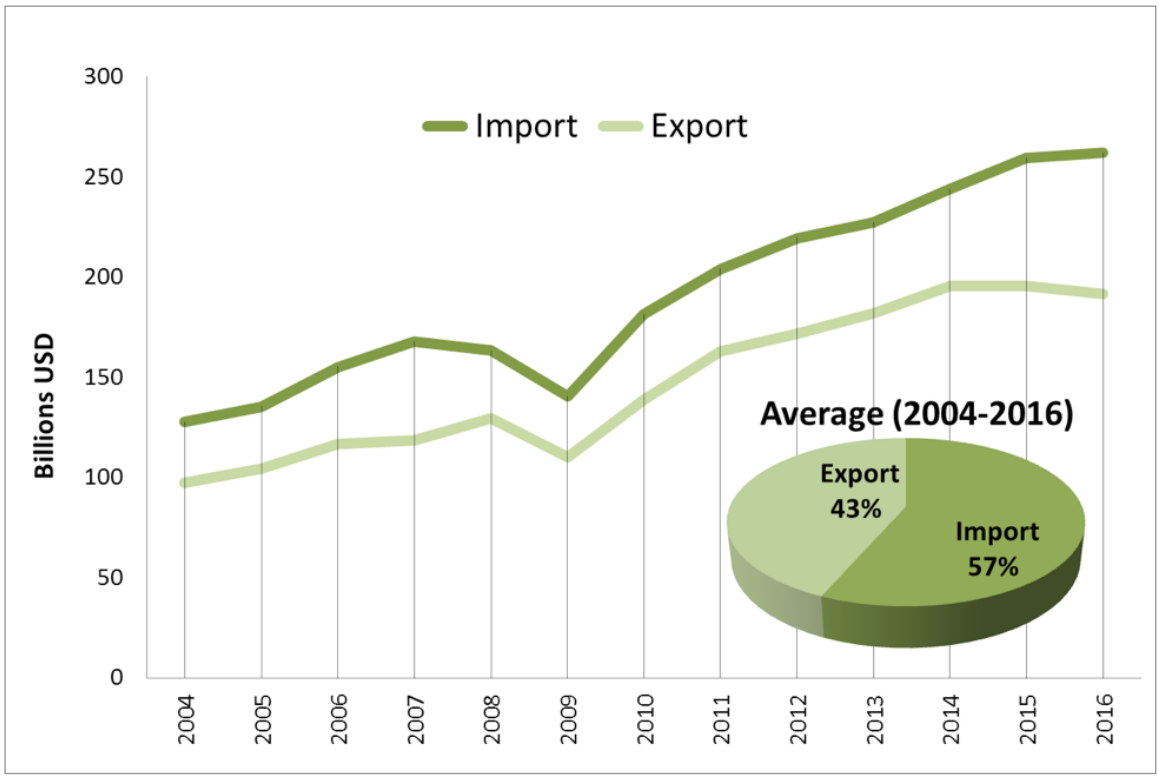

Figure 5. Import-Export across the U.S.-Mexico Border Using All Modes of Surface Transportations.

Surface trade was also analyzed by different land modes of transport. Figure 6 shows the yearly values of imported and exported goods transported by trucks and rail through land ports of entry across the U.S.-Mexico border. Although the value of goods transported by trucks slightly decreased in 2016, the average contribution of trucks, rail, and other modes of surface transportation has not changed significantly. Trucks remained the most important mode, contributing by 82 percent to imports and 81 percent to exports. Rail is also significant, contributing by 17 percent to the value of imports and 15 percent to the value of exports.

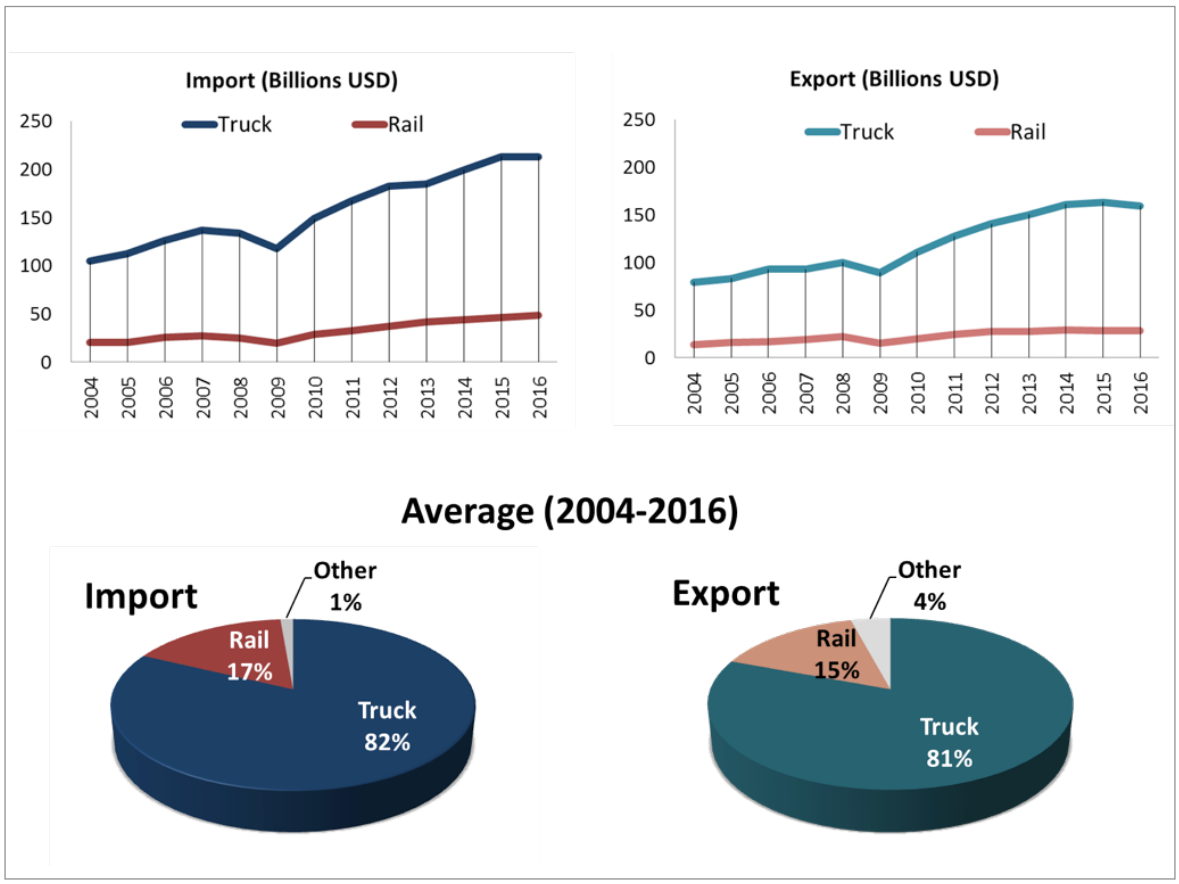

Figure 6. Value of Imported and Exported Goods by Different Modes of Surface Transportation.

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. As in previous years, commodity data available for 99 commodity categories were classified into the following six commodity 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)

Figures 7, 8, and 9 show yearly variation of these commodity groups in total trade, exports, and imports.

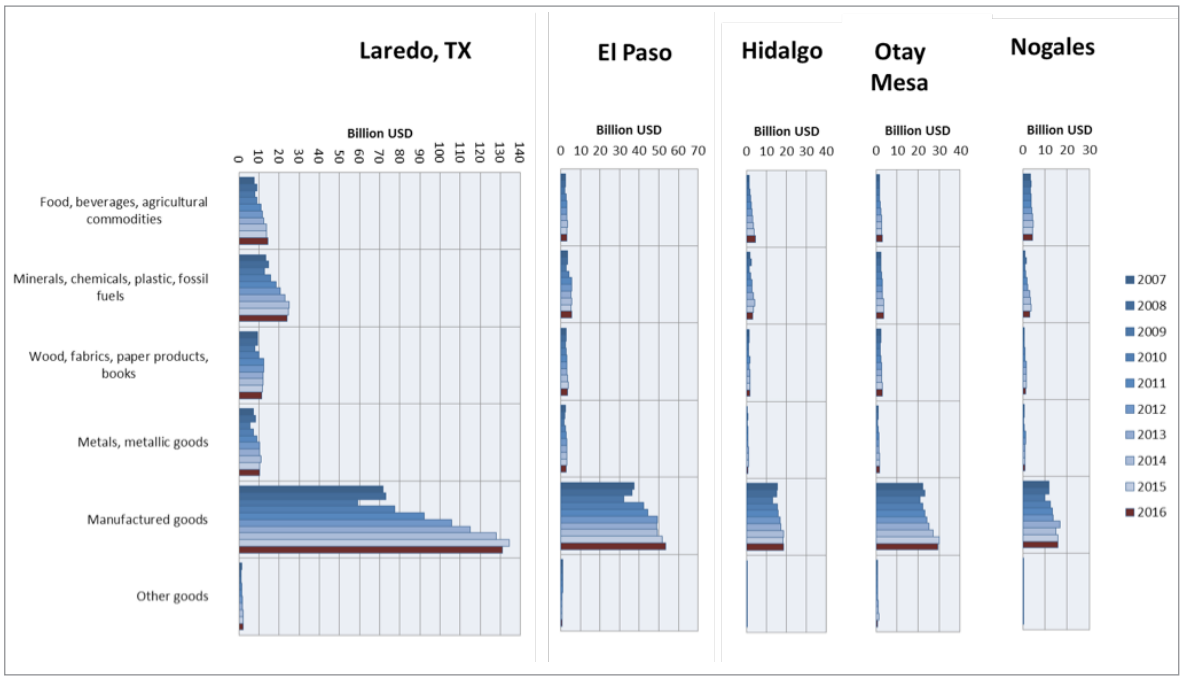

Figure 7. Value of All Traded Commodities (All Modes of Surface Transportation Combined).

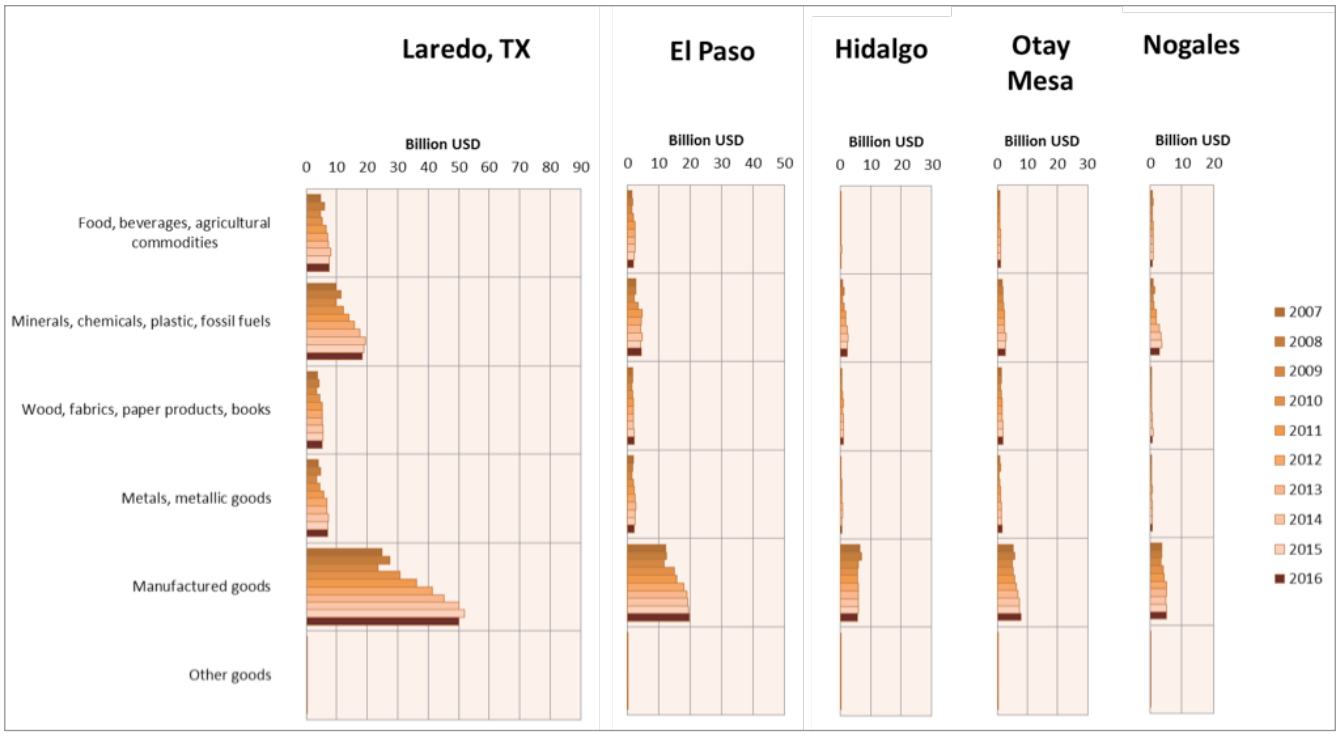

Figure 8. Value of All Exported Commodities (All Modes of Surface Transportation Combined).

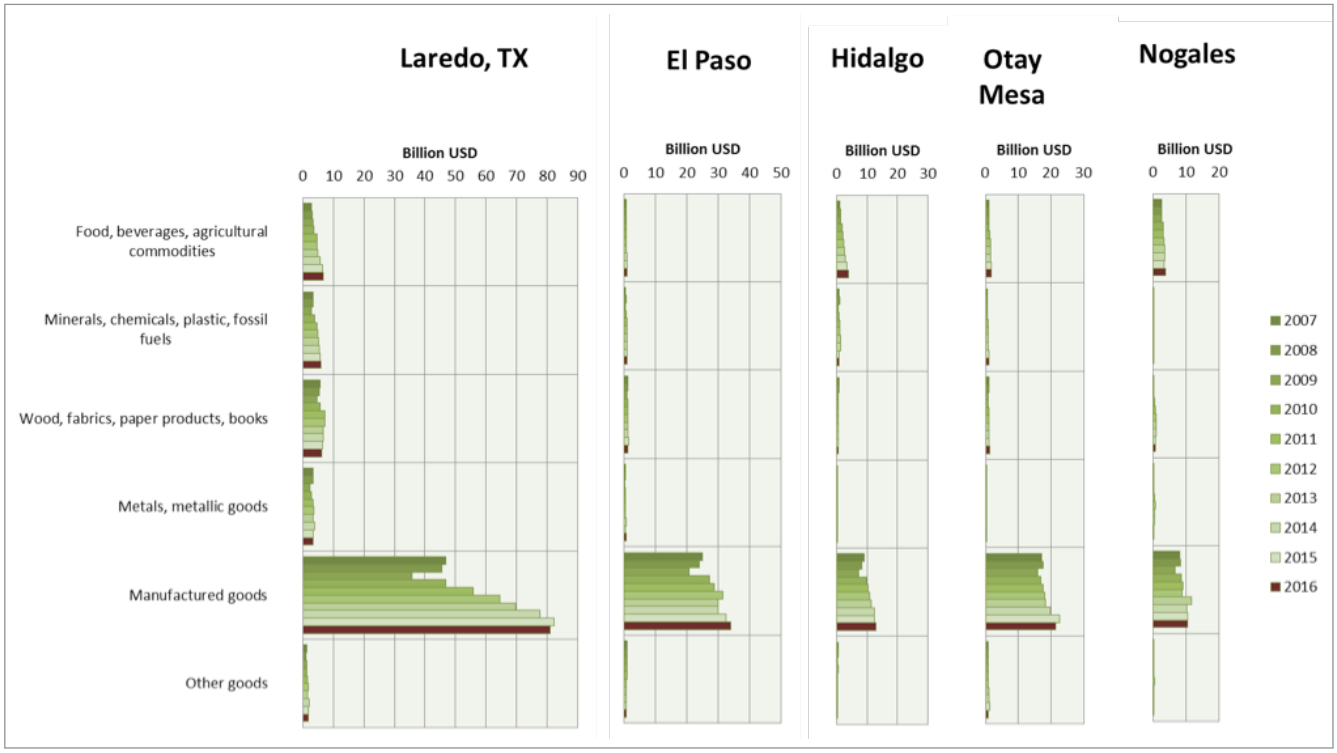

Figure 9. Value of All Imported Commodities (All Modes of Surface Transportation Combined).

Manufactured goods (Group 5) represent the highest-value commodities in total trade as well as in export and import. 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 import, export, and total trade of manufactured goods (Group 5) for the top five land ports over the last two years. El Paso was the only port with continuous increase in the value of traded manufactured goods over the past two years. In Hidalgo, export and total trade decreased in both 2015 and 2016. Laredo reached a turning point in 2016 when import, export, and total trade went into negative growth (import: –2 percent, export: –4 percent). Otay Mesa was somewhat similar with the exception of export that continued to grow.

Table 1. Percent Change in Trading Manufactured Goods.

Year-to-Year		El Paso, TX	Hidalgo, TX	Laredo, TX	Nogales, AZ	Otay Mesa, CA
2014–2015	Import	8%	0%	6%	4%	14%
	Export	1%	-4%	4%	9%	1%
	Total Trade	5%	-1%	5%	5%	11%
2015–2016	Import	5%	3%	-2%	0%	-5%
	Export	1%	-1%	-4%	0%	6%
	Total Trade	3%	2%	-2%	0%	-2%

Figure 10 shows yearly percent changes in the import, export, and total trade of manufactured goods for the three Texas ports (i.e., Laredo, El Paso, Hidalgo) over the period of 2007–2016. A similar pattern can be observed for each of the three ports. There was a rapid growth in trading manufacturing goods immediately after the recession of 2008–2009, but they continuously decreased over the following six years. For Laredo, the decrease in growth rate was fairly smooth and gradual. For the other two ports, the reduction followed an oscillating pattern. Laredo was the only port in Texas where import, export, and total trade of manufactured goods decreased in 2016 (for the first time since 2009).

A review of all commodities within the Manufactured Goods Category (Commodity Group 5) at Laredo revealed that the reductions in 2016 were primarily caused by a significant drop in the import and export of vehicles, parts, and accessories (HS-code: 87). Figure 11 shows that import of this commodity was reduced by over 4 billion USD and export by 1.67 billion USD compared to 2015. Figure 12 shows the value of import and export of vehicles, parts, and accessories over the period of 2007 through 2016. The 11 percent reduction in the import and export of this commodity was the first significant drop since the recession in 2008–2009.

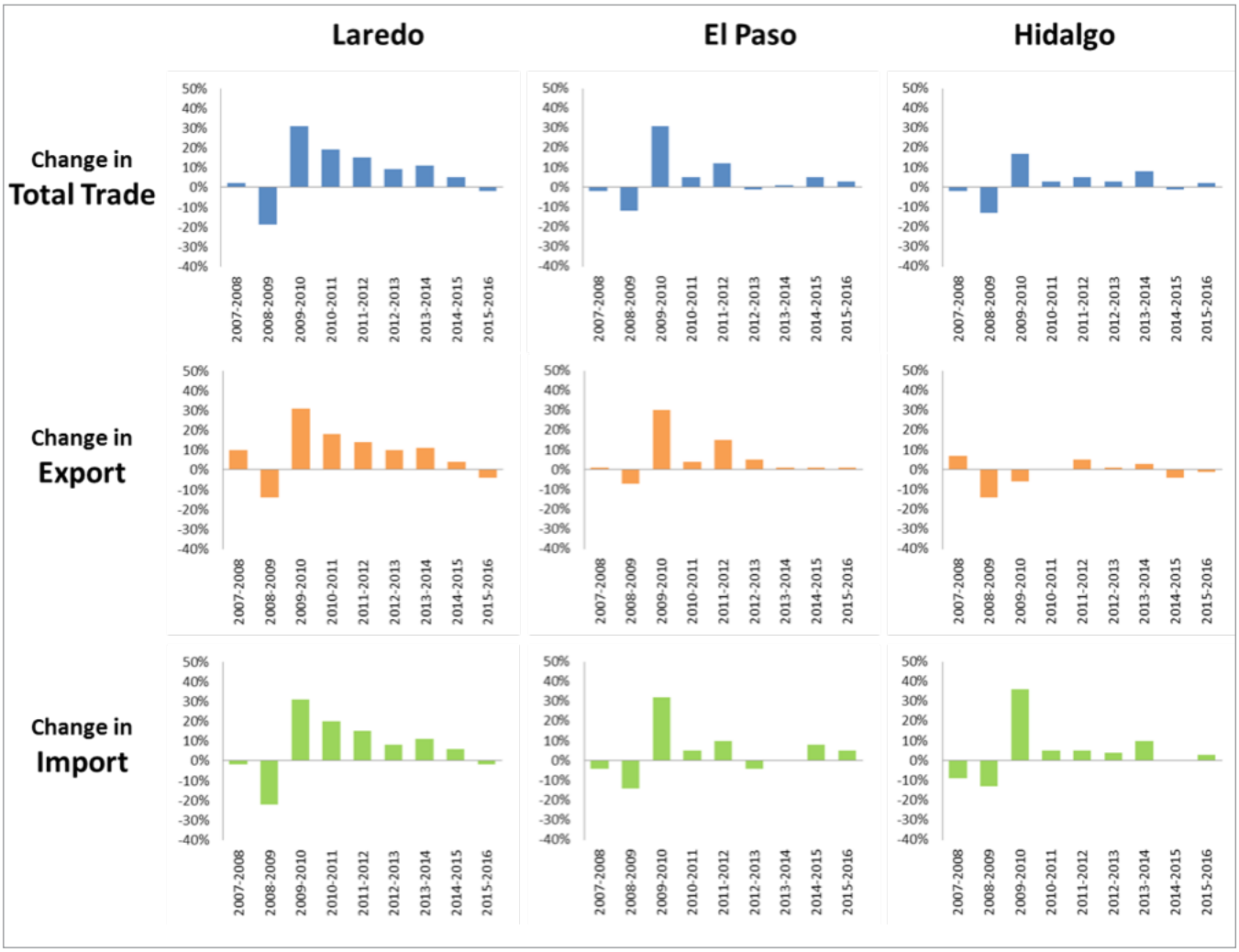

Figure 10. Percent Change in Total Trade, Export, and Import of Manufactured Goods.

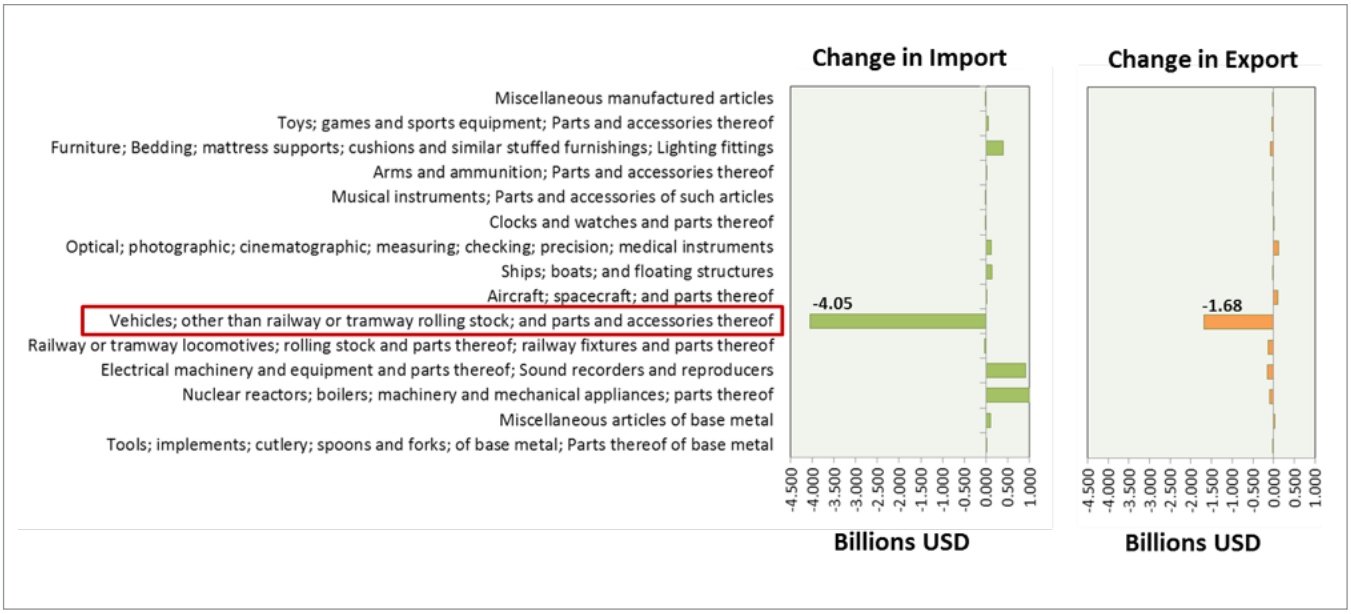

Figure 11. Change in Value of Import and Export of Different Commodities within the Manufactured Goods Group at Laredo (2015–2016).

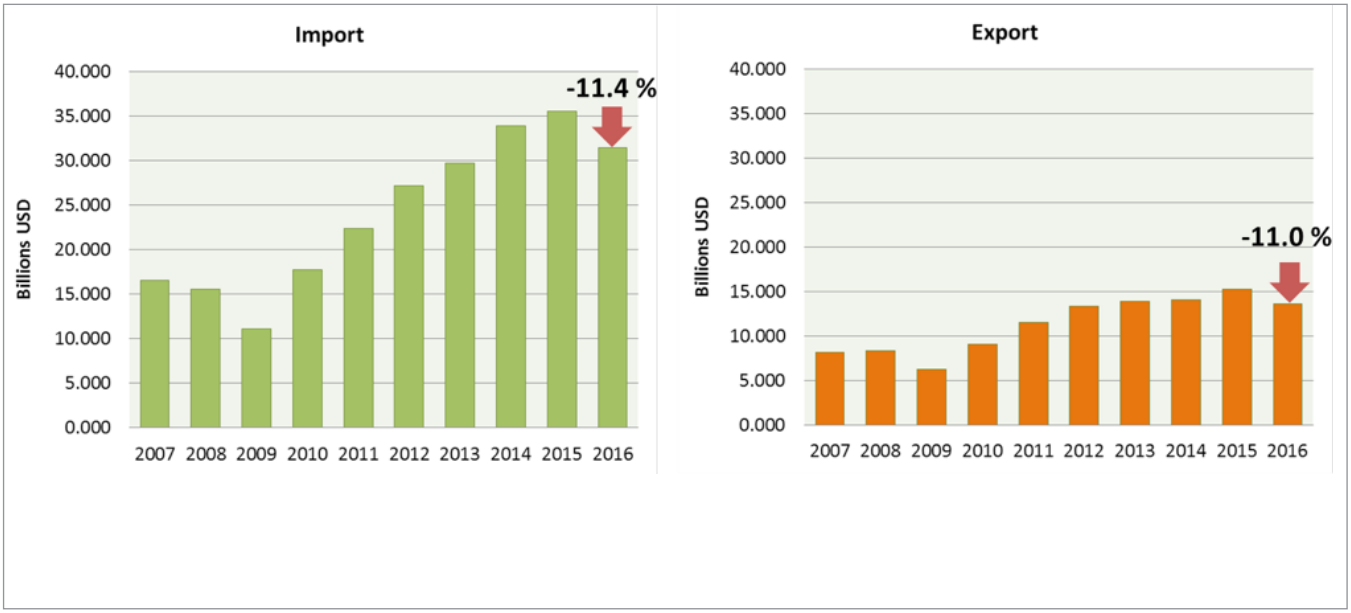

Figure 12. Import-Export of Vehicles (Other Than Railway), Parts, and Accessories (HS-code 87) at Laredo.

Cross-Border Surface Trade by U.S. States

Figure 13 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 12 years. The percent differences in trade from 2015 to 2016 are also given; green arrows pointing upward are positive and red arrows pointing downward are negative changes. Out of the top five U.S. states, Michigan was the only one where surface trade with Mexico increased in 2016 compared to the trade values in the previous year. Arizona experienced the most significant reduction in its surface trade (–5.9 percent), followed by Illinois (–4.4. percent) and Texas (–2.4 percent). Surface trade between Texas and Mexico has been decreasing for the past three years. Despite this continued reduction, Texas remains the number-one trading partner with Mexico based on the value of its surface trade (nearly as high as the other four states—California, Michigan, Illinois, and Arizona—combined).

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.

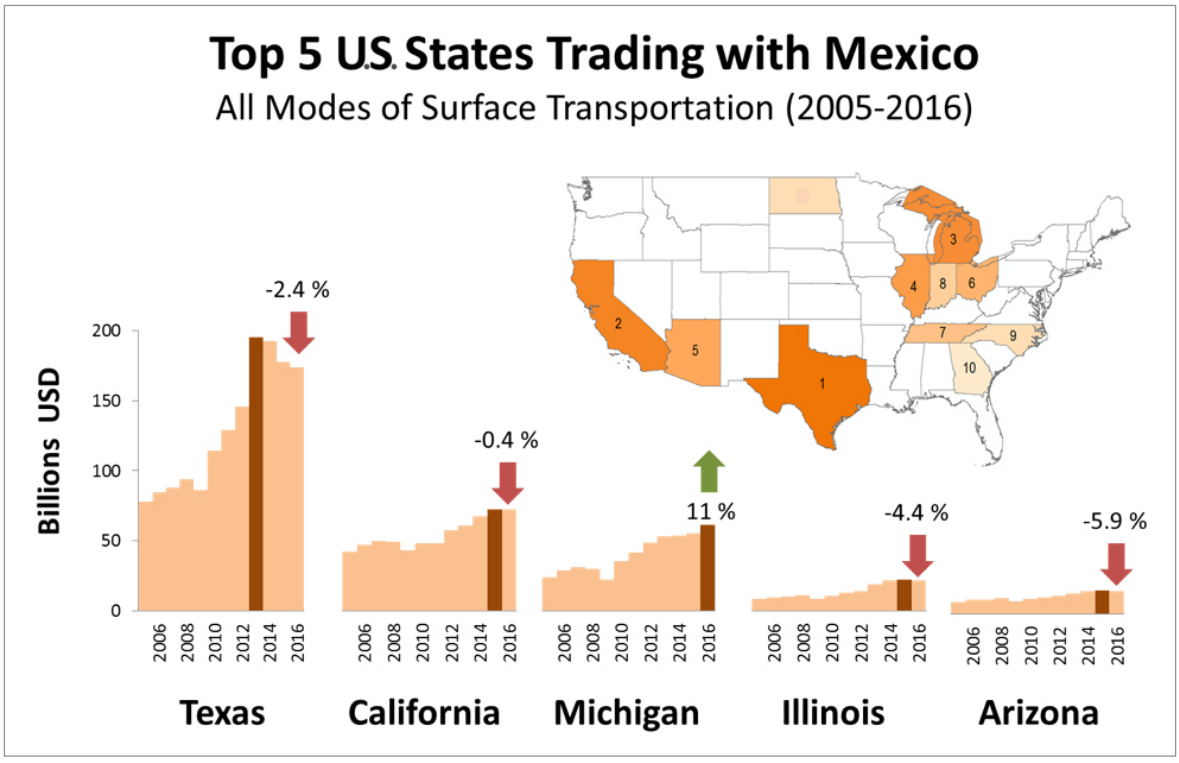

Figure 13. Trade between Different U.S. States and Mexico.

Summary of Findings

Growth in total trade continued to slow and leveled off by the end of 2016. There was no significant change in the proportion of exports and imports, and trucks remained the most important mode of transportation. An interesting finding for 2016 is that trade of manufactured goods, the highest value commodities, decreased at two major Texas ports, Laredo and Hidalgo. The reduction was primarily caused by a significant drop in the import and export of vehicles, parts, and accessories. However, despite these reductions, Texas still remains the number-one U.S. state trading with Mexico.

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Geza Pesti
System Reliability Division
Texas A&M Transportation Institute
The Texas A&M University System
3135 TAMU
College Station, TX 77843-3135
phone (979) 845-9878 | **fax** (979) 845-9873
email g-pesti@tamu.edu

Rafael M. Aldrete
Center for International Intelligent Transportation Research
TTI El Paso Office
4050 Rio Bravo Drive, Suite 151
El Paso, TX 79902
phone (915) 532-3759 | **fax** (915) 532-3762
email r-aldrete@tamu.edu

web http://tti.tamu.edu/group/ciitr/

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