

Advisory Committee on Supply Chain Competitiveness

Freight and Trade Transport Developments in North America

Juan Carlos Villa

January 14, 2015



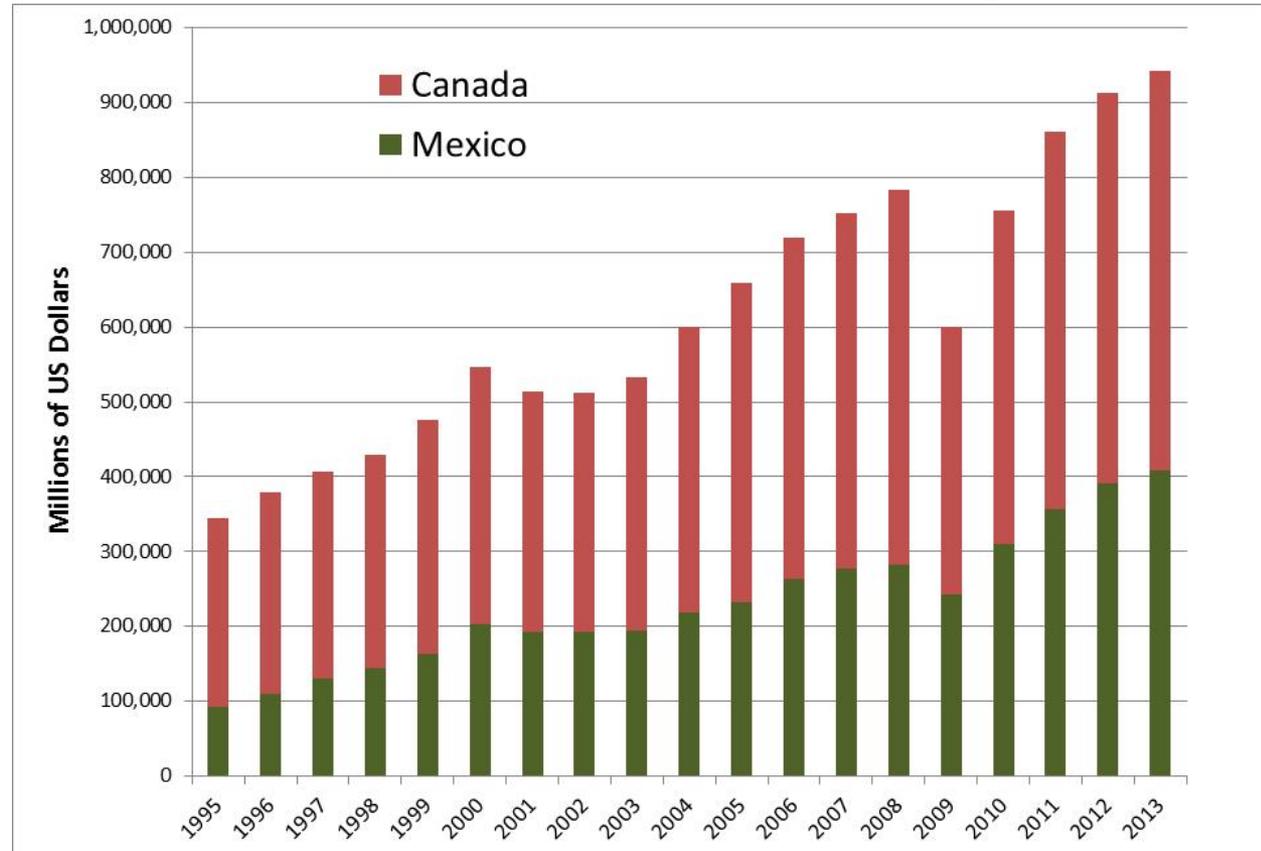
AGENDA

- North American Trade
- US – Mexico Trade and Transportation
- Developments in North America
 - Nearshoring
 - Mexico's energy reform

North American Trade

Surface Trade between USA and Canada/Mexico

- Total Surface trade between the US and NAFTA partners grew @ 5.7% AAGR in the period.
- Trade between the US and Canada grew @ 4.2, and US-Mexico 8.6 AAGR.



Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

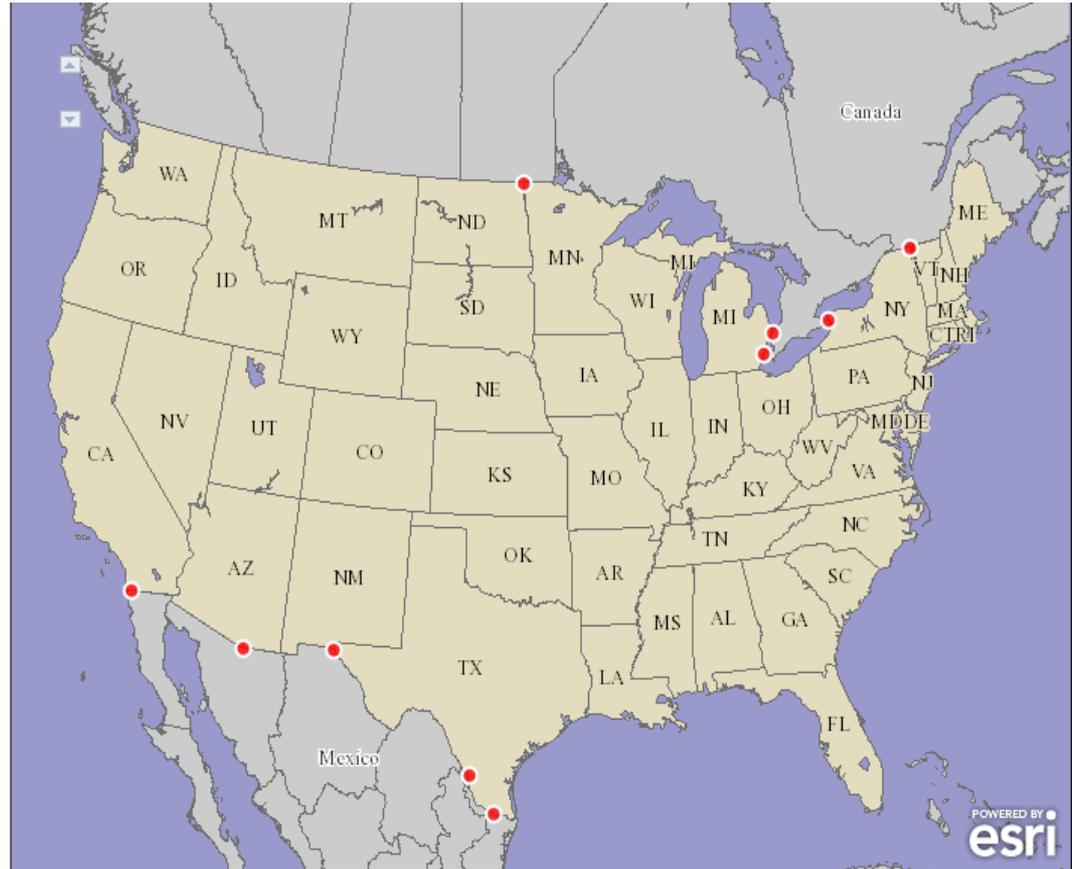
Surface modes are defined as truck, rail and pipeline.

North American Trade

Top 10 Surface Trade POE by Value

High trade concentration at few POEs

Top 10 POEs concentrate close to 70% of total surface trade.



Surface modes are defined as truck, rail and pipeline.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

North American Trade

2013 Top 10 Surface Trade POE by Value

Rank	Port Name	2013 Total Trade Value (Million US\$)	US Exports (Million)	US Imports (Million)	% of Total Trade	% of Exports	% of Imports
1	Laredo - Texas	173,999	82,393	91,606	18	19	18
2	Detroit - Michigan	122,940	64,011	58,929	13	15	12
3	Port Huron - Michigan	81,808	40,236	41,571	9	9	8
4	Buffalo-Niagara Falls - New York	80,898	43,355	37,543	9	10	7
5	El Paso - Texas	64,249	30,288	33,960	7	7	7
6	Otay Mesa - California	35,992	13,058	22,934	4	3	4
7	Nogales - Arizona	27,666	10,279	17,387	3	2	3
8	Hidalgo - Texas	27,309	10,695	16,613	3	2	3
9	Pembina - North Dakota	26,866	16,984	9,882	3	4	2
10	Champlain-Rouses Point - New York	21,853	9,336	12,517	2	2	2
	Top 10 Ports	663,579	320,636	342,944	70	74	67
	Other Ports	279,027	110,644	168,383	30	26	33
	Grand Total	942,606	431,280	511,326	100	100	100

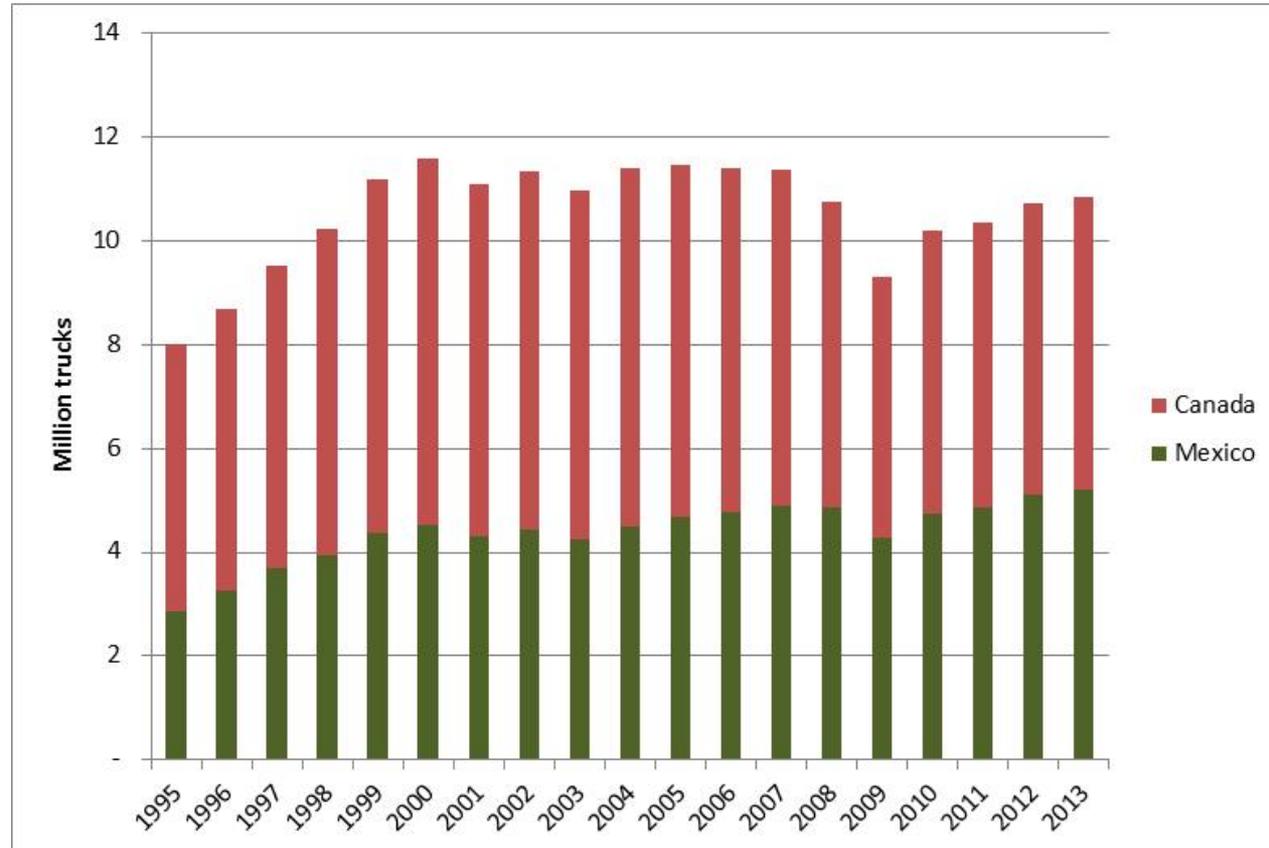
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

Surface modes are defined as truck, rail and pipeline.

North American Trade

Commercial Vehicle Crossings from Canada and Mexico into the US

- 10.9 million CVs crossed the border from Canada and Mexico into the US.
- More than 30% growth since 1995.
- Mexico-US truck traffic grew 82%.



Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

North American Trade

2013 Surface Trade with Canada Top 10 Commodities by Value (millions of US dollars)

Rank	Commodity	Exports	Imports	Total
1	Vehicles Other than Railway	49,336	55,651	104,987
2	Mineral Fuels; Oils and Waxes	13,742	81,447	95,189
3	Computer-Related Machinery and Parts	39,411	17,880	57,291
4	Electrical Machinery; Equipment and Parts	20,473	6,069	26,542
5	Plastics and Articles	12,135	10,561	22,696
6	Special Classification Provisions	6,377	7,762	14,139
7	Paper and Paperboard	4,822	6,627	11,449
8	Articles of Iron and Steel	6,866	3,823	10,689
9	Iron and Steel	5,921	4,639	10,560
10	Wood and Articles	2,089	7,816	9,905

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.
Surface modes are defined as truck, rail and pipeline.

North American Trade

2013 Surface Trade with Mexico Top 10 Commodities by Value (millions of US dollars)

Rank	Commodity	Exports	Imports	Total
1	Electrical Machinery; Equipment and Parts	33,756	52,836	86,592
2	Computer-Related Machinery and Parts	36,114	41,574	77,688
3	Vehicles Other than Railway	20,817	56,582	77,399
4	Plastics and Articles	15,109	3,947	19,056
5	Measuring and Testing Instruments	5,050	10,154	15,204
6	Furniture; Lamps and Prefabricated Buildings	1,872	8,469	10,341
7	Articles of Iron and Steel	4,755	3,311	8,066
8	Mineral Fuels; Oils and Waxes	6,527	956	7,483
9	Iron and Steel	3,661	1,478	5,139
10	Rubber and Articles	3,106	1,895	5,001

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.
Surface modes are defined as truck, rail and pipeline.

North American Trade

High concentration of trade in few industries

6 commodities concentrate two thirds of the total surface trade in North America

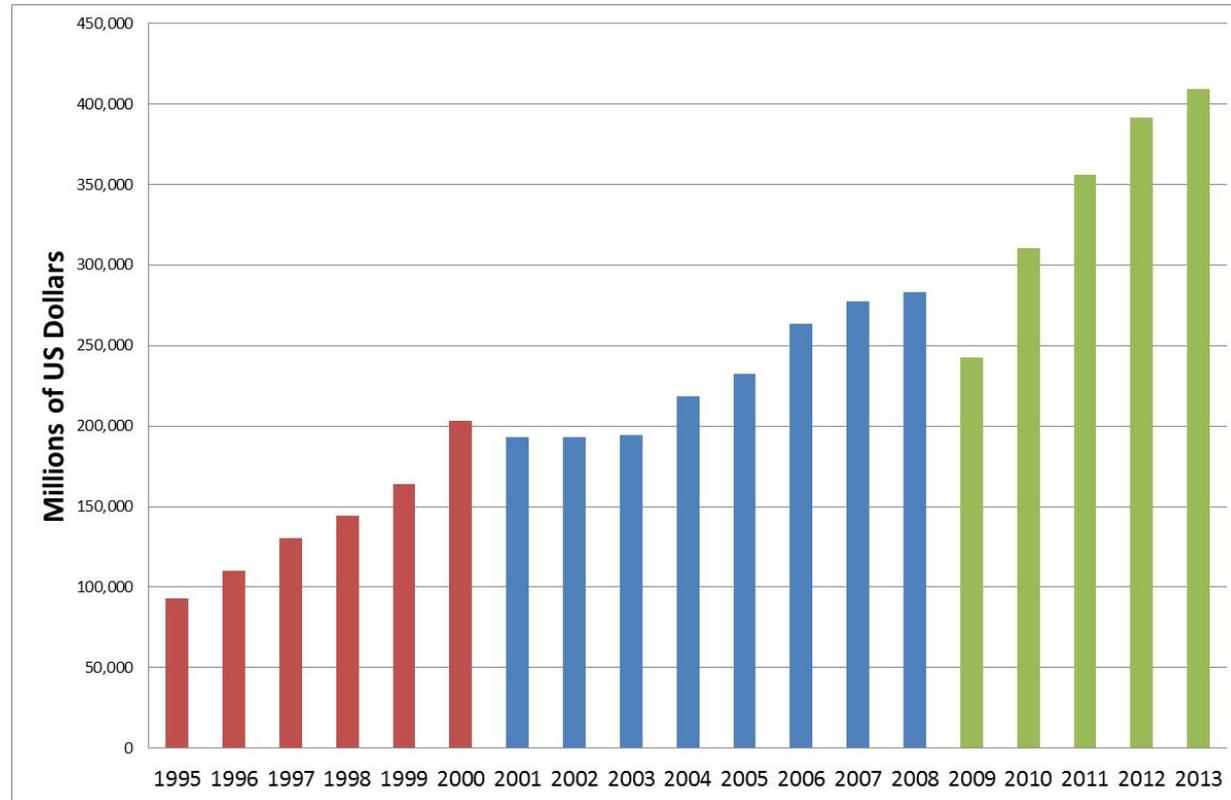
1	Vehicles Other than Railway
2	Computer-Related Machinery and Parts
3	Electrical Machinery; Equipment and Parts
4	Mineral Fuels; Oils and Waxes
5	Plastics and Articles
6	Measuring and Testing Instruments

US - Mexico Trade

Surface Trade between USA and Mexico

US - Mexico trade grew 400% since 1995.

- ✓ 1995-2000 post NAFTA -- 17% AAGR
- ✓ 2001-2008 increased security -- 6% AAGR
- ✓ 2009-2013 North American Competitiveness -- 14% AAGR



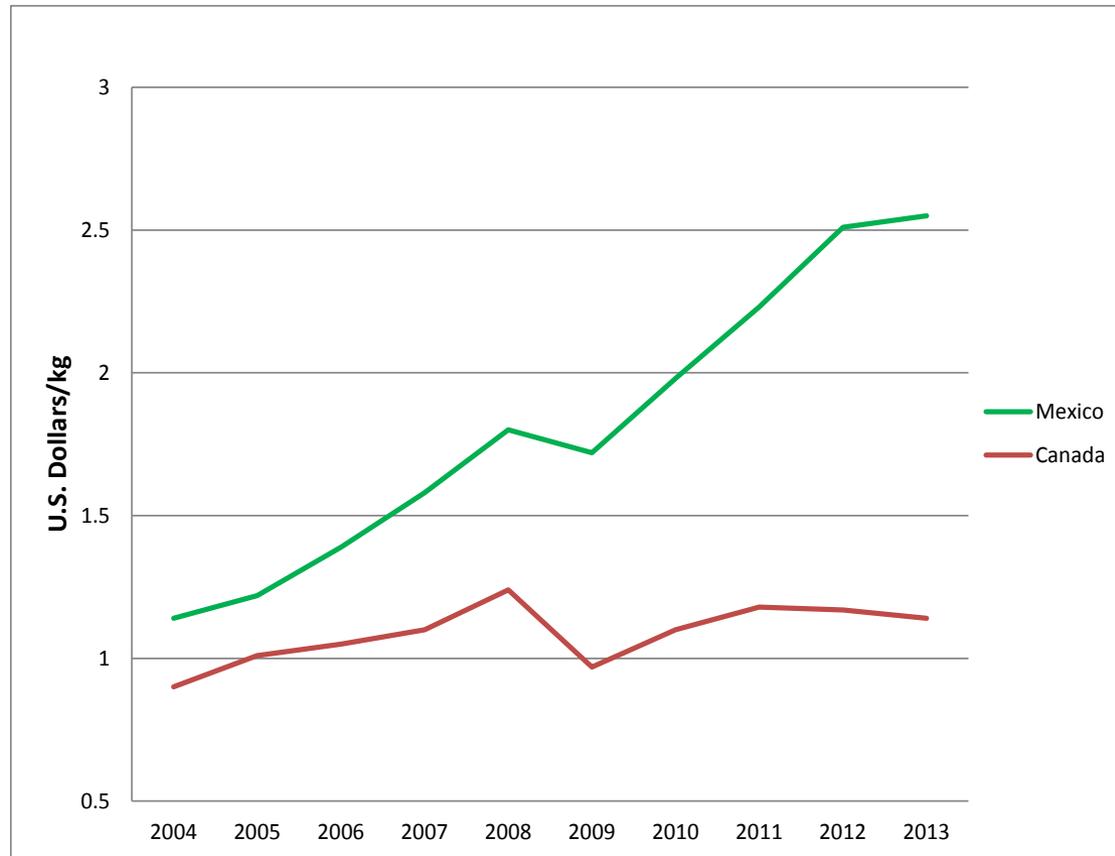
SOURCE: U.S. Department of Transportation TransBorder Freight Data.

US - Mexico Trade

From T-Shirts to vehicles and electronic equipment

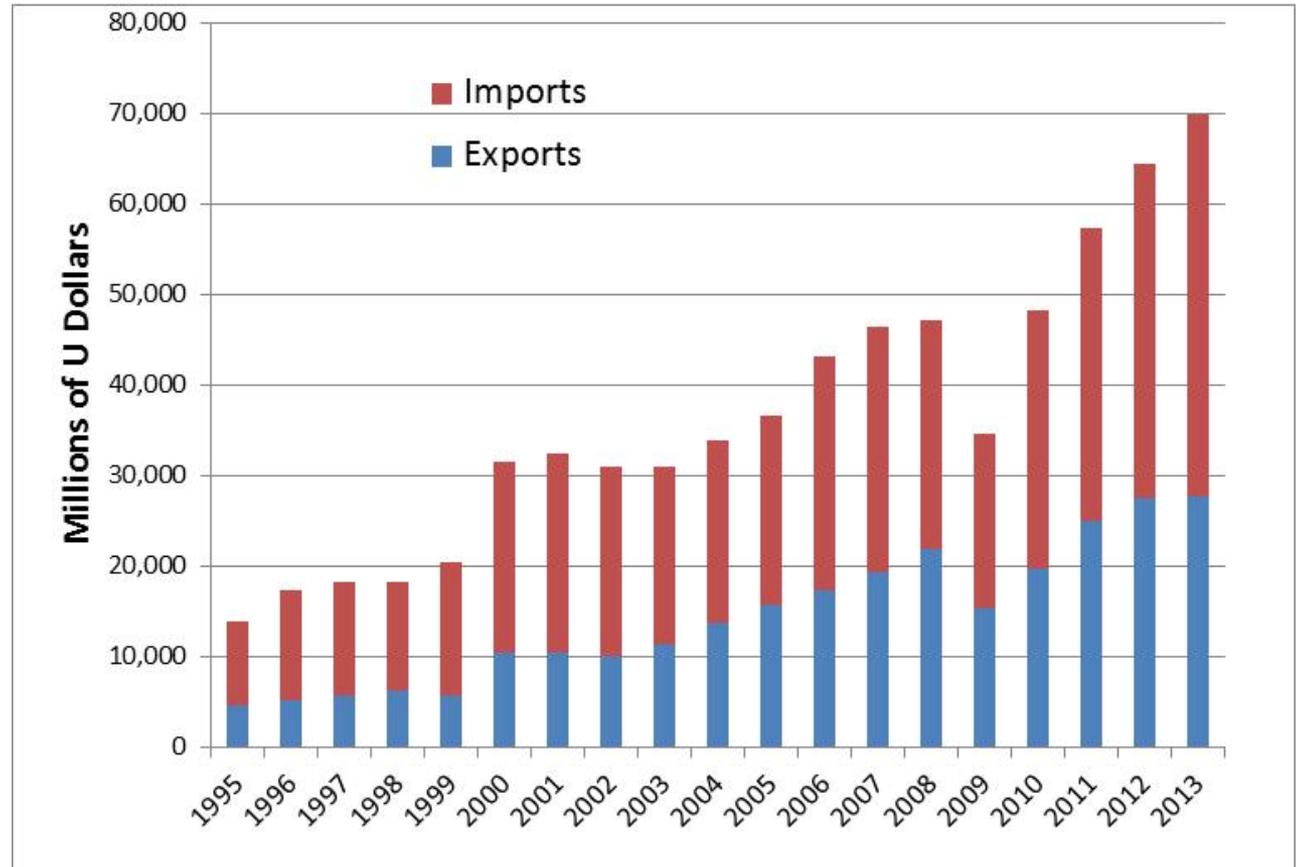
Value of Mexican exports to the US has increased at a much higher pace than Canada's.

Ratio of Value to Weight of U.S. Imports



US – Mexico Trade

US – Mexico Trade by Rail



Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

- Rail trade grew @ 9% AAGR, with US exports @ 10.4 %

Mexican Rail Network

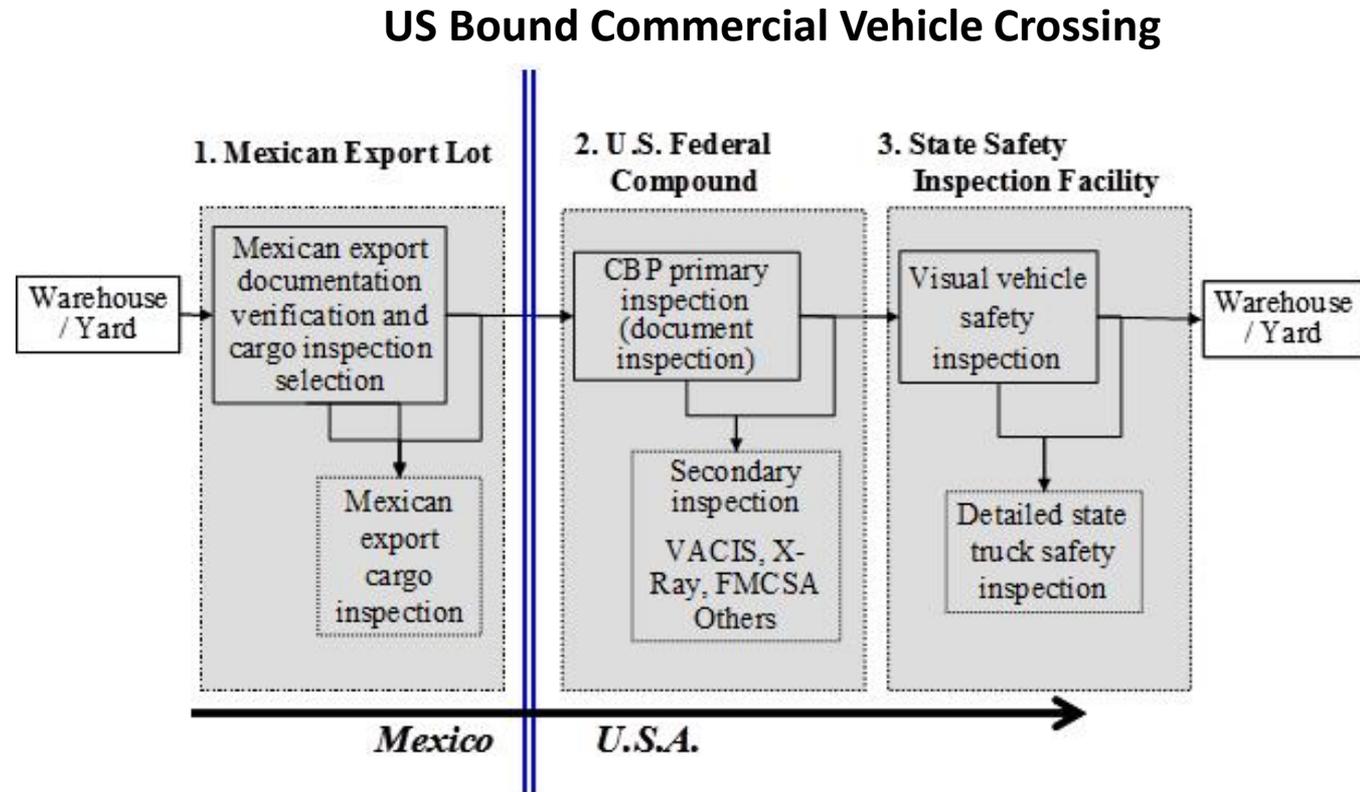


Mexican Highway Network

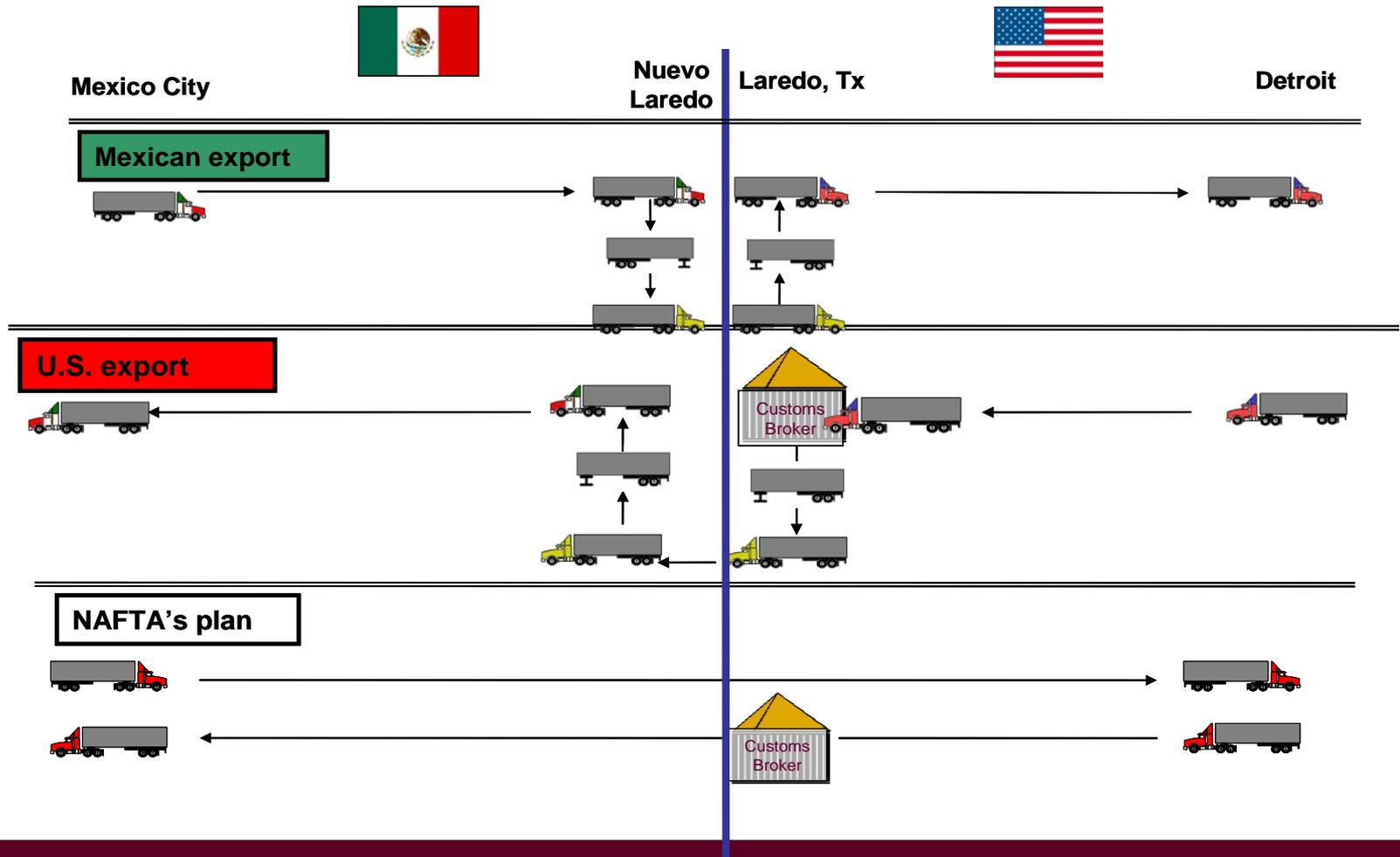


US- Mexico Truck Border Crossing Processes

- Three potential inspection points
- Multiple stakeholders:
 - 2 countries
 - Public and Private
 - Federal, state, local
- All need to be coordinated



US- Mexico Truck Crossing Processes



Developments in NA

Nearshoring /Reshoring

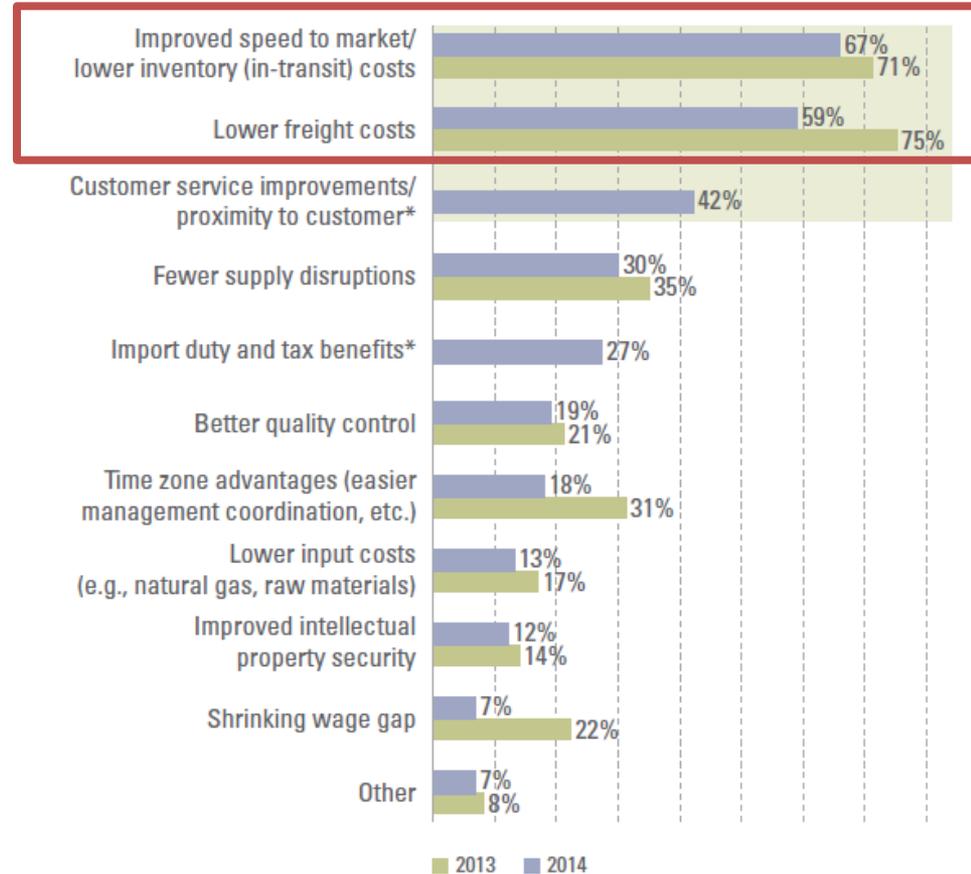
- Companies receive additional savings from working with NAFTA countries.
- Mexico offers lower labor costs
- Lower shipping costs.
- Transportation costs to oversee operations are also lower than Asia

Developments in NA

Nearshoring /Reshoring

Lower freight costs and improved speed to market remain the most attractive advantages from nearshoring

WHAT ARE THE BIGGEST ADVANTAGES YOU WOULD EXPECT FROM A NEARSHORING DECISION?



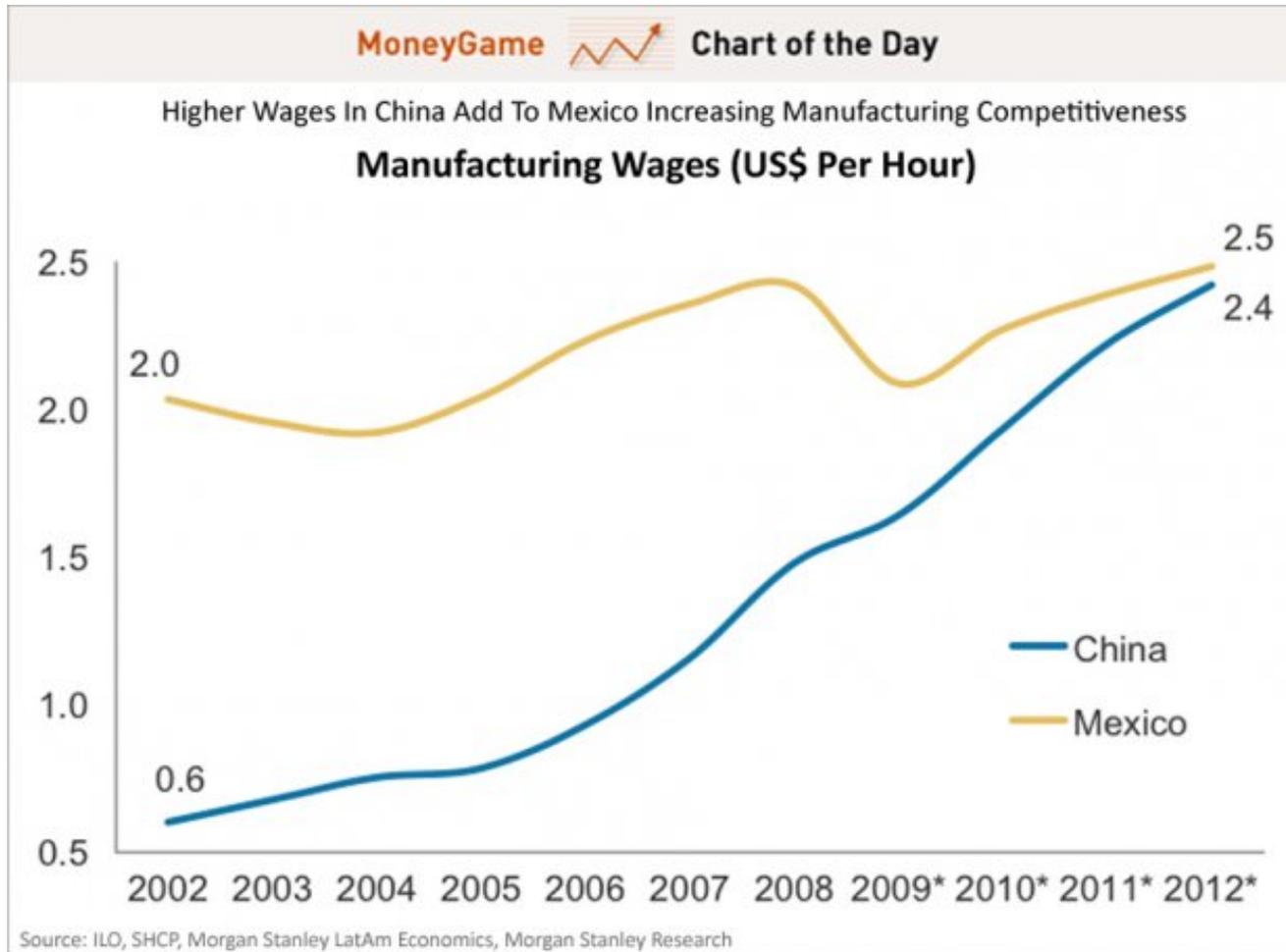
Respondents were asked to select top three choices; totals will add to more than 100%.
*Included as new categories in the 2014 version of the survey.

Source: Alix Partners 2014 Reshoring/Nearshoring Executive Survey and Outlook

Why Nearshoring Automobile Manufacturing?

- As infrastructure improves, Mexico is looking more attractive to Automobile companies because transportation costs are decreasing.
- Quality control is easier.
- Labor costs are favorable in Mexico over Asia

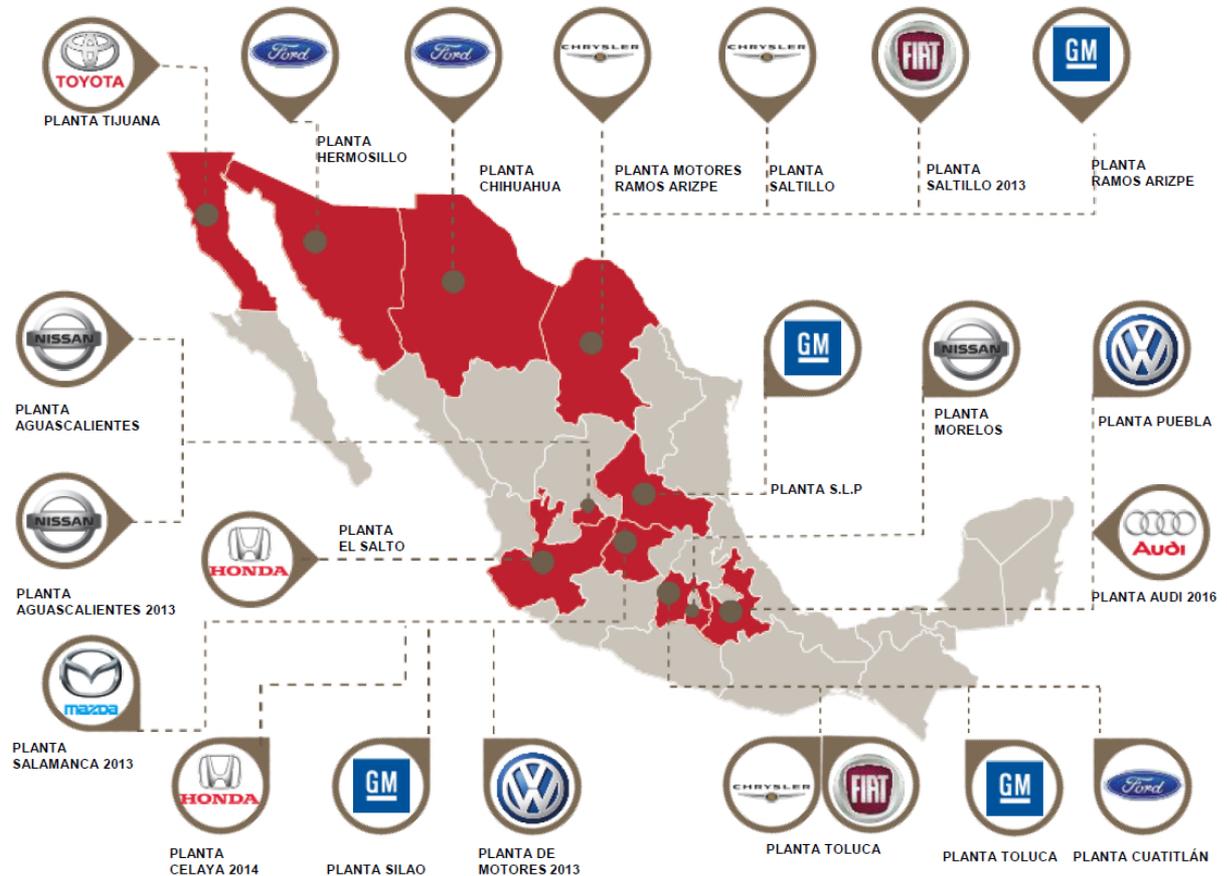
Labor in China vs. Mexico



Light Vehicles Plants in Mexico

Ubicación en México de Plantas de Vehículos Ligeros

- Light vehicle production grew by 1.7%, going from 2.88 million units in 2012, to 2.93 million in 2013
- Mexican vehicle exports in 2013 reached 2.4 million units, a 2.9% increase vs. 2012

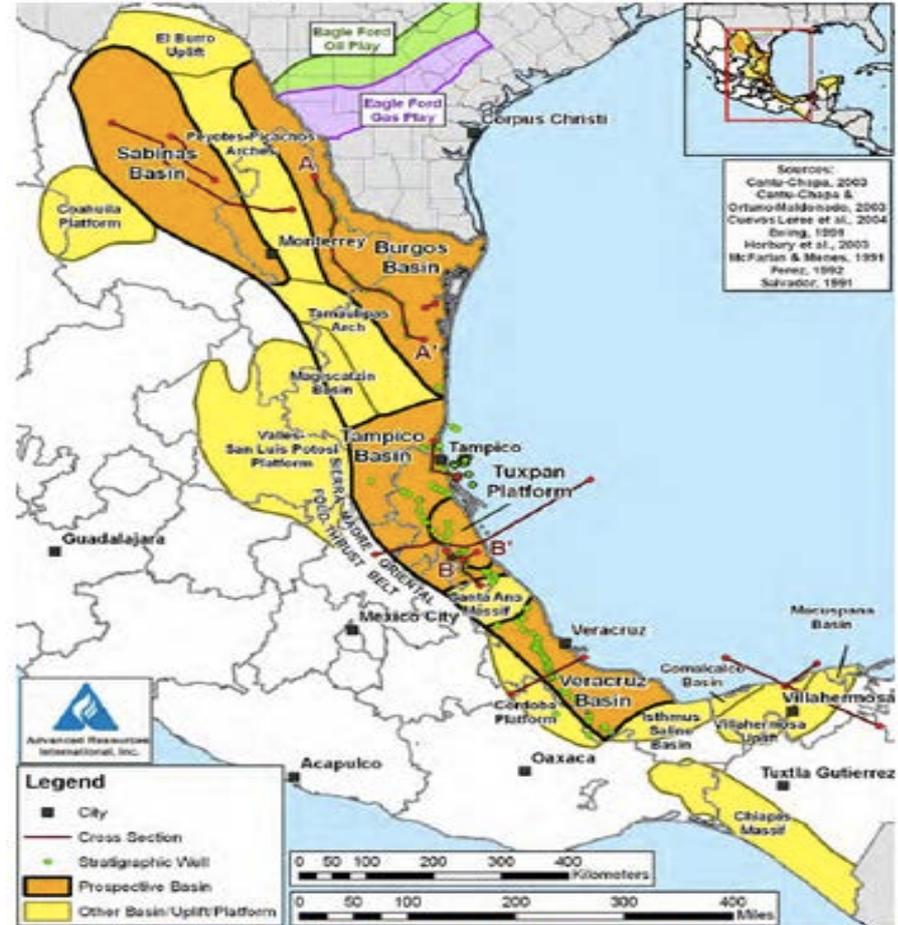


Mexico's Energy Reform

- Signed in December 2013
- Ends the monopoly of Pemex and opens energy market for foreign investments.
- Releases government control over Pemex.
- Private investments will now compete for contracts.

Mexico's Energy Reform

- The hydraulic fracturing boom along the Eagle Ford in Texas will likely expand south.
- The Burgos Basin is expected to receive increased investment for exploration and extraction



Potential impacts

- Mexican oil will have to be sent to US refineries.
- Increased demand for crude-by-rail transport
- Additional border crossing infrastructure might be required
- Safety concerns with crude-by-rail transport

Juan Carlos Villa
Texas A&M Transportation Institute
979-862-3382
j-villa@tamu.edu