



2023 Ports-to-Plains Alliance Conference

Dimensioning Nearshoring to Assess Cross-border Transportation and Logistics Needs

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Dimensioning Nearshoring to Assess Cross-border Transportation and Logistics Needs

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Study Objectives

For transportation planning and logistics purposes, it is essential to answer the following questions regarding Nearshoring:

- How much more transportation demand Nearshoring is creating?
- Where will the additional Nearshoring transportation demand occur?
- Which are the transportation corridors that will experience additional Nearshoring demand?
- What transportation modes are needed to carry the Nearshoring additional demand?
- Which are the border crossings that will experience the Nearshoring additional demand?

Offshoring, Nearshoring, and Ally-Shoring

Focus on the Manufacturing Sector

Offshoring

- Establish suppliers in other destinations, usually in Asia to reduce costs.

Nearshoring

- Strategy of outsourcing production to third parties in nearby countries with a similar time zone.
- Global production relocation process.

Ally-Shoring

- The process by which countries rework critical supply chains and source essential materials, goods, and services among and between trusted democratic partners and allies.



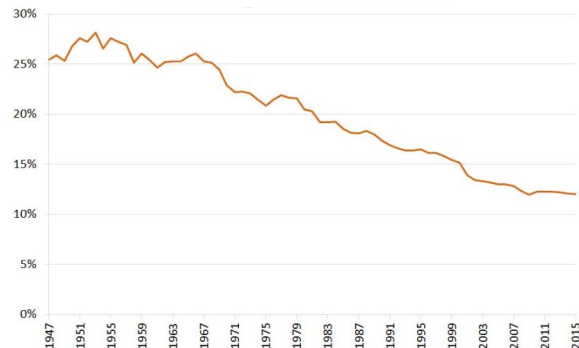
Source: MIT Sloan Management Review. Nearshoring: What it is and what are the benefits for companies. April 15I, 2023

Global Supply Chains

Offshoring:

Large corporations transferred production processes to countries with lower production costs. Tax and labor conditions with lower costs were sought.

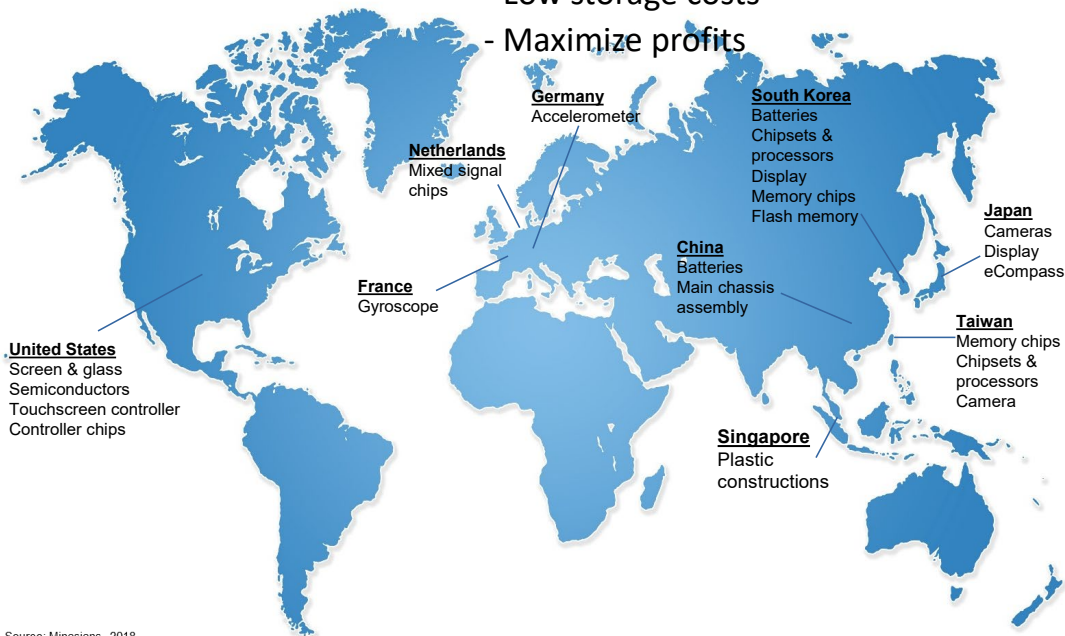
Share of US Manufacturing in Nominal GDP



Source: Bureau of Economic Analysis

Just-in-time, Super-Lean Supply Chains

- Low or no inventories
- Low storage costs
- Maximize profits



Source: Minasi, 2018.

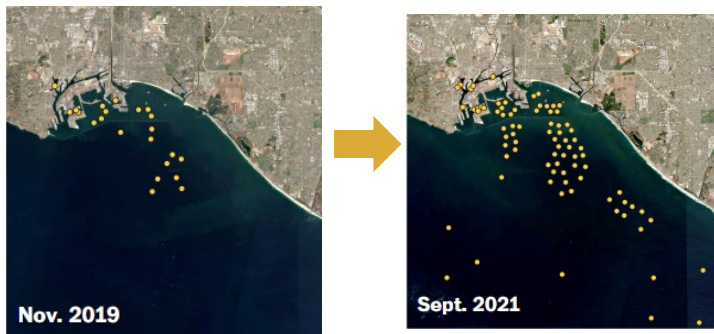
iPhone Component Source

Supply Chain Disruptions

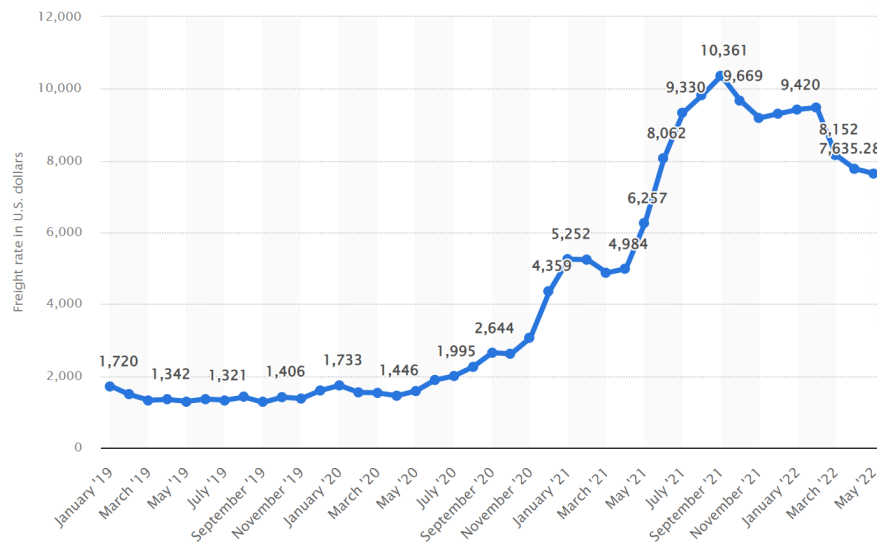
COVID shook the offshoring model with great global repercussions

- Congested ports
- Lost containers
- Exorbitant transportation fees
- Empty shelves

Ships on standby at the Port of Los Angeles



Global Container Rate Index.



Supply Chain Optimization

The manufacturing sector is constantly seeking to optimize its production processes.

Companies seek to change the supply of intermediate products from their original location, relocate them to countries close to their final destination, and restock from these new locations.



Photo: Toyota

Gartner survey found that 33% of supply chain leaders plan to move production from China by 2023

The main reasons are tariff costs and resilience

Advantages of Nearshoring in Mexico

Taking advantage
of USMCA

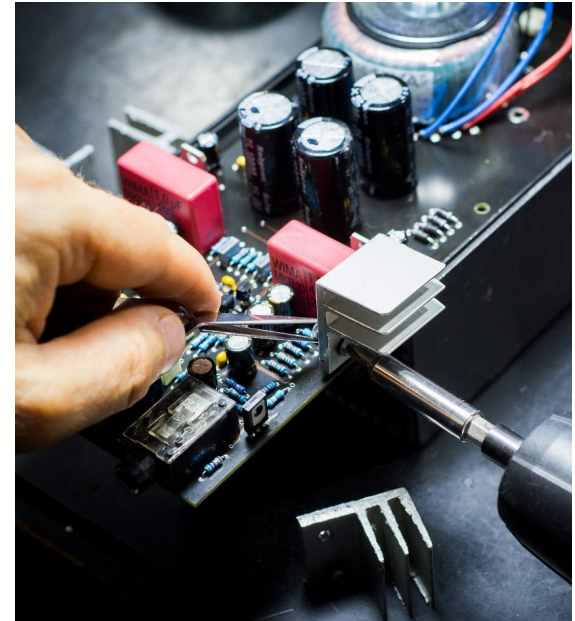
Low
transportation
costs

Rising labor costs
in China

High US tariffs on
Chinese products

Mitigating supply
chain risks

Socio-political
tensions between
the US and China



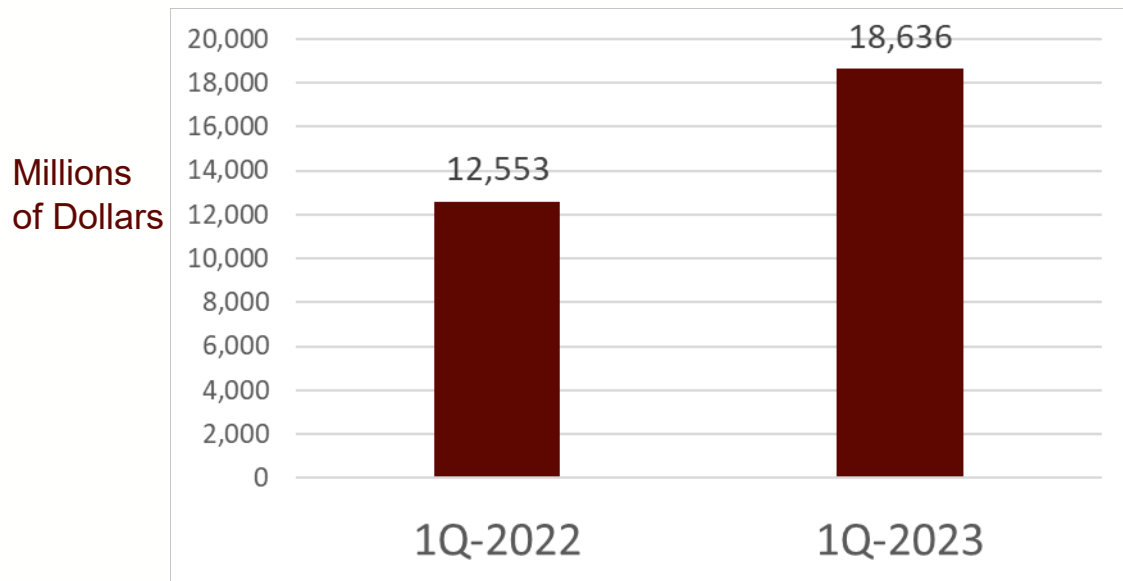
How to measure Nearshoring?

The two proxy variables to measure nearshoring :

- Foreign Direct Investment (FDI-US Dollars)
- US-Mexico Trade (Imports/Exports-US Dollars)

Focus on the Manufacturing Sector

Foreign Direct Investment (FDI) in Mexico is growing



FDI Increase 48%
6,083

FDI by Economic Sector 2023 (1Q)

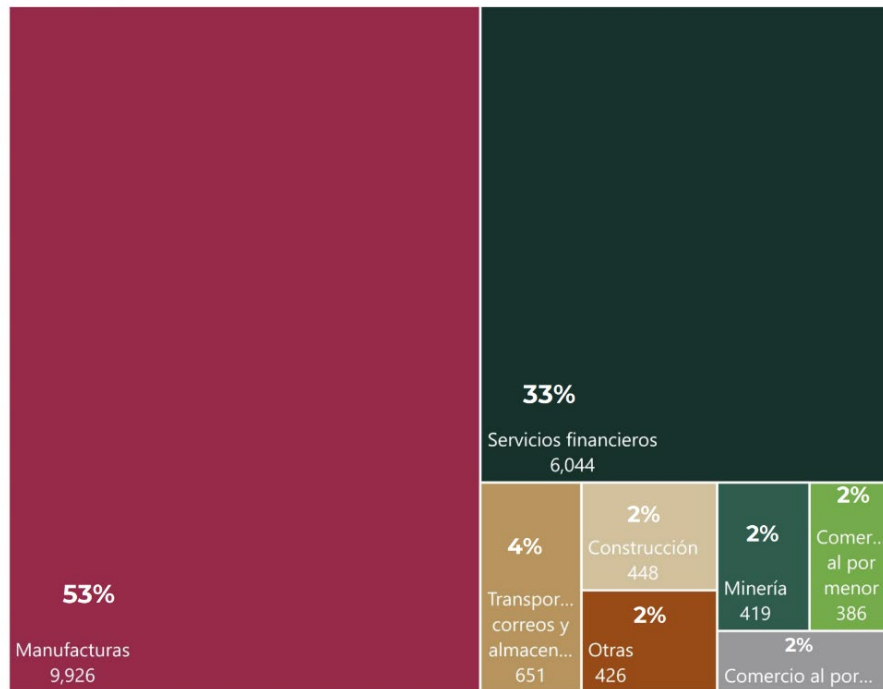
FDI 1Q 2023

18,636 Million Dollars

Manufacturing represents 53% of the FDI:

Top subsectors:

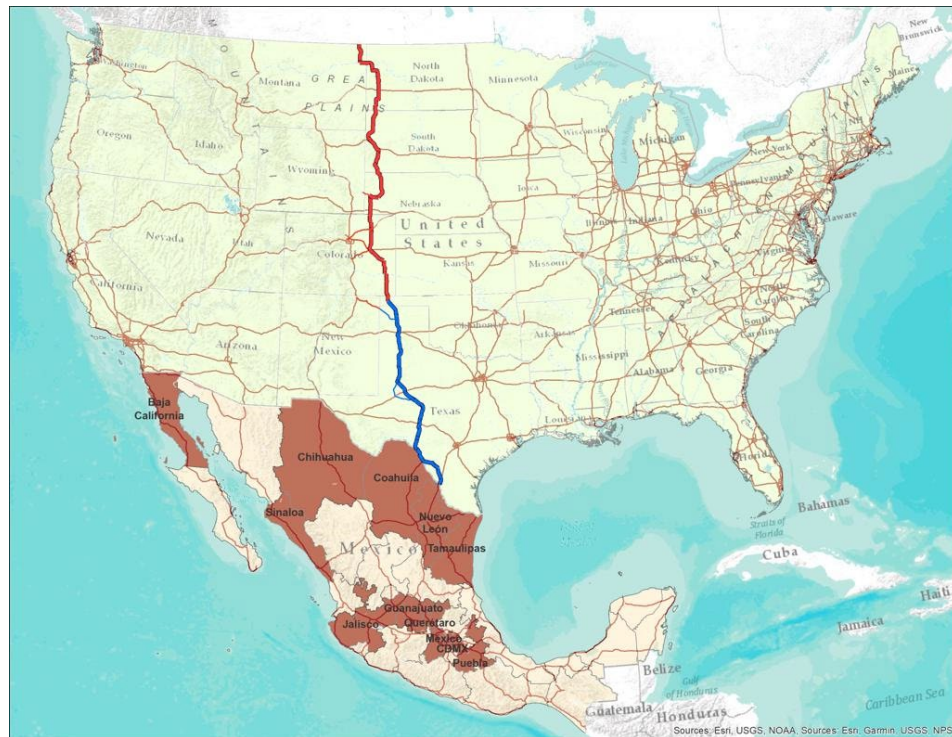
- ✓ Transportation Equipment
- ✓ Chemical Industry
- ✓ Food industry
- ✓ Computer Equipment
- ✓ Electric Power Generation Equipment
- ✓ Metals
- ✓ Beverage and Tobacco Industry



Source: Mexico's Secretaría de Economía

Top-12 Mexican States receiving FDI (2022)

Rank	State	FDI (md)	%
	TOTAL	35,291.6	100.0
1	Ciudad de México	10,923.3	31.0
2	Nuevo León	4,397.3	12.5
3	Jalisco	2,894.9	8.2
4	Baja California	1,877.3	5.3
5	Chihuahua	1,875.9	5.3
6	Estado de México	1,805.9	5.1
7	Guanajuato	1,564.5	4.4
8	Tamaulipas	982.5	2.8
9	Sinaloa	866.9	2.5
10	Puebla	798.1	2.3
11	Coahuila	792.4	2.2
12	Querétaro	753.2	2.1



4 Mexico-Texas border states = 22.8% of 2022 FDI

2023 Q1 FDI

FDI 2023 1Q 18,636 Million Dollars

State	FDI 2023-1Q
Top 10	15,419
Ciudad de México	7,039
Nuevo León	2,332
Jalisco	1,179
Puebla	920
Estado de México	892
Veracruz	831
Baja California	785
Chihuahua	562
Guanajuato	492
Sonora	387

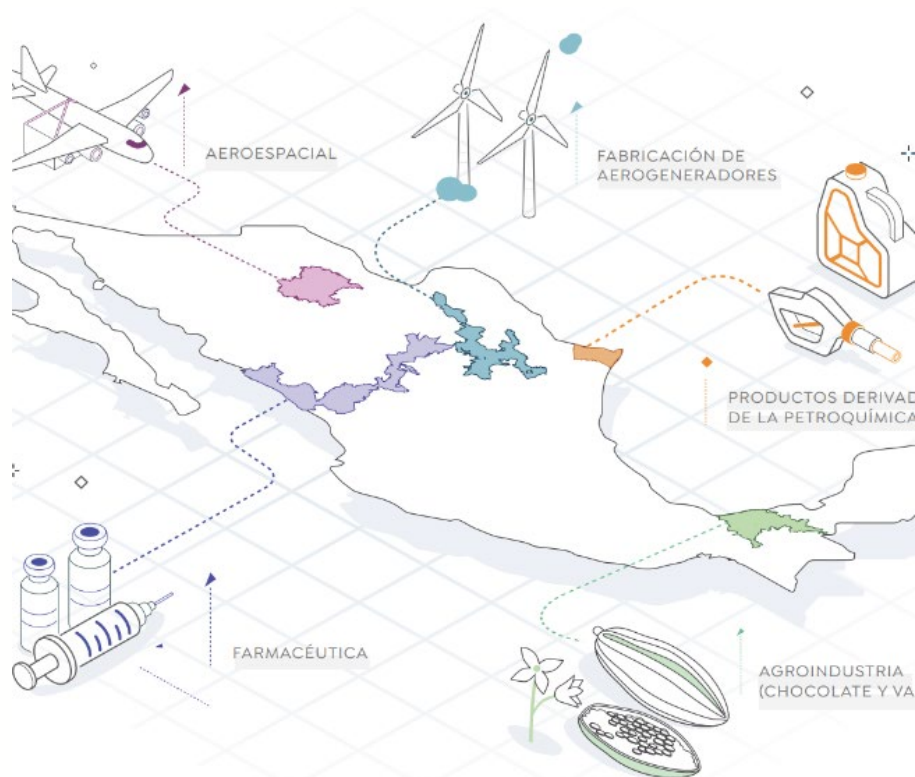


Source: Mexico's Secretaría de Economía

Territorial-Industrial Atlas for Investment Attraction

Key states and manufacturing sectors in 2022

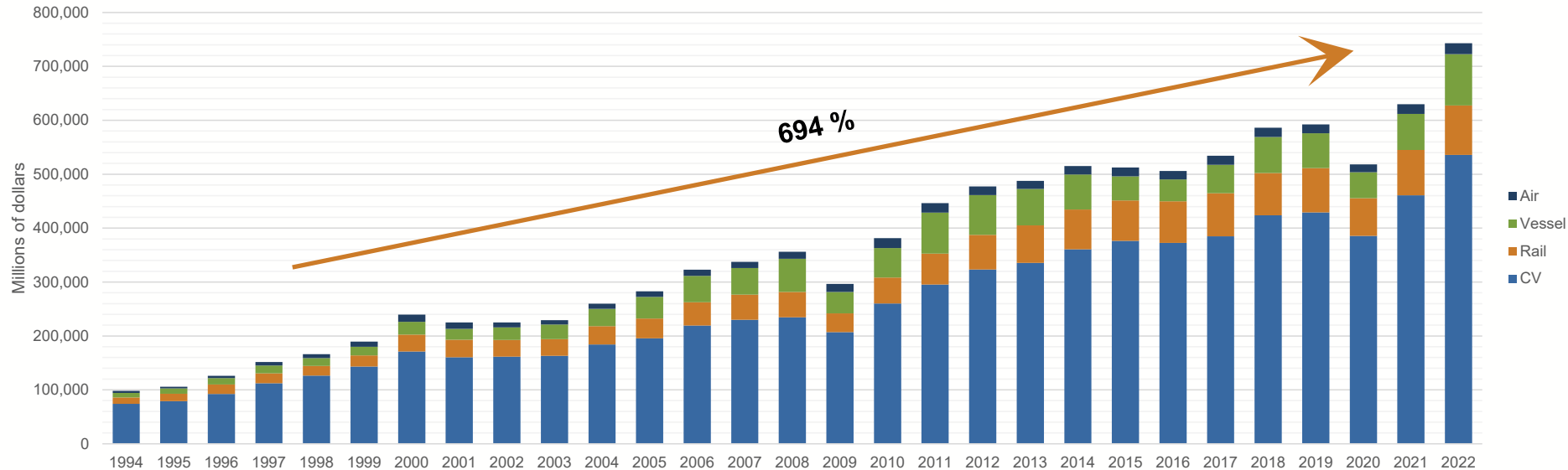
- Nuevo León
- Guanajuato
- Coahuila
- Jalisco
- Chihuahua
- Querétaro
- Estado y Ciudad de México





U.S.-Mexico Trade

- 1994 to 2022 - U.S.-Mexico goods trade **increased 694%** (from \$105.8 billion to \$779 billion).
- 70 % of US/Mexico trade (\$779 billion) crossed through a Texas land Port of entry (2022)



Source: *BTS Transborder Freight/Entry Data 2007-2022*. [TransBorder Freight Data](#) | [Bureau of Transportation Statistics \(bts.gov\)](#)

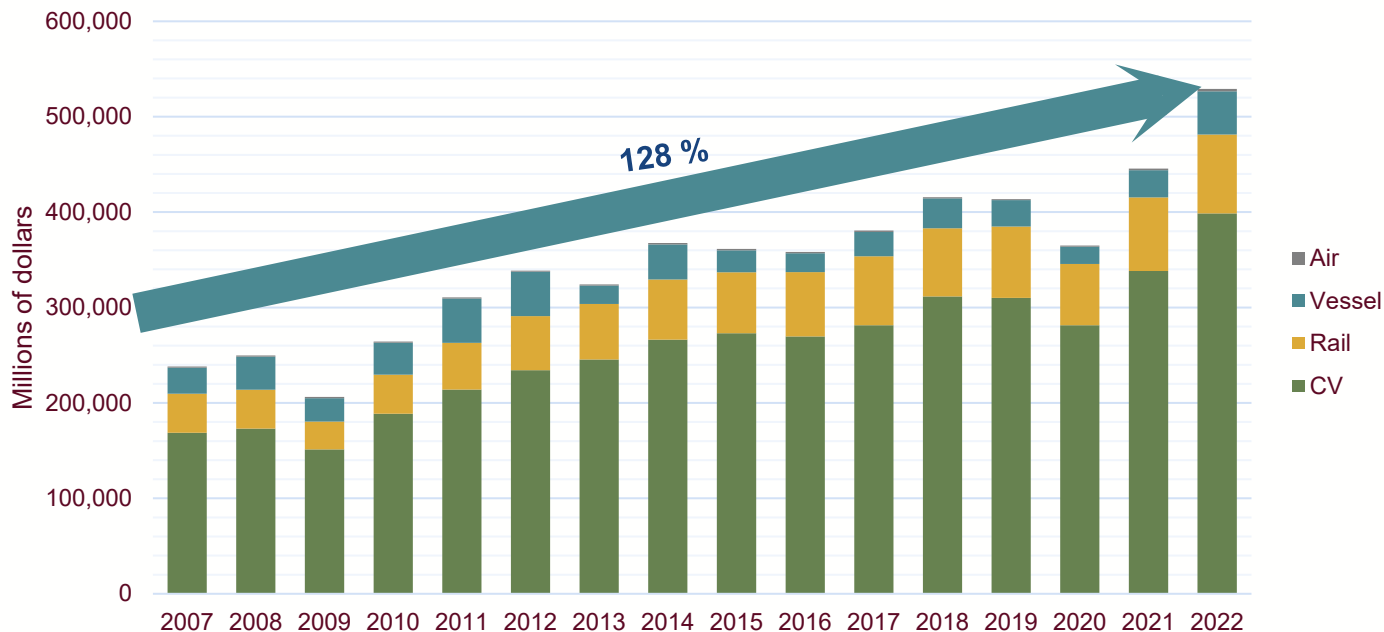
Texas-Mexico Trade

Most important border between Mexico and the U.S. when it comes to trade.

In 2022, Texas handled 70% of all trade between these two countries.

Between 2007 and 2022, U.S.-Mexico merchandise trade **increased in 128%** from \$240 billion to \$546 billion.

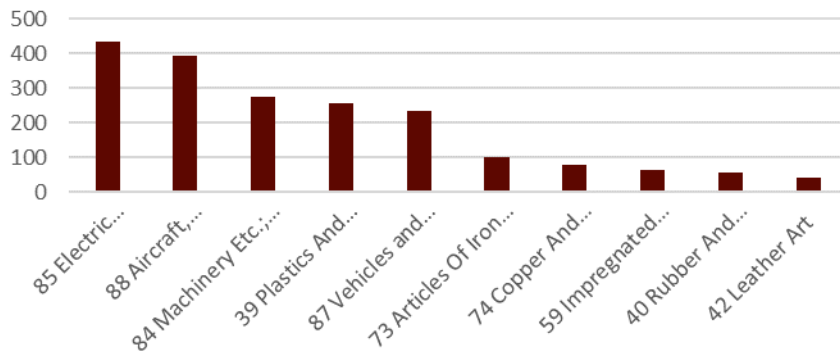
In 2022, total U.S.-Mexico trade **increased 18.9%** from the previous year.



Del Rio, Tx. Transborder Trade in 2022 (USD)

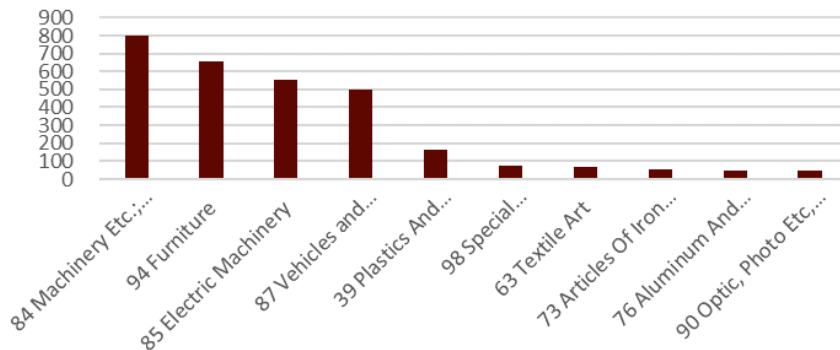
US Exports to Mexico through Del Rio, Tx.

Commodities	2022		
	Million Dollars	%	Cummulative
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	435	19%	19%
88 Aircraft, Spacecraft, And Parts Thereof	395	17%	36%
84 Machinery Etc.; Parts	277	12%	49%
39 Plastics And Articles Thereof	256	11%	60%
87 Vehicles and Parts Etc	235	10%	70%
73 Articles Of Iron Or Steel	102	4%	75%
74 Copper And Articles Thereof	79	3%	78%
59 Impregnated Etc Text Fabrics; Tex Art For Industry	63	3%	81%
40 Rubber And Articles Thereof	56	2%	83%
42 Leather Art	43	2%	85%



US Imports from Mexico through Del Rio, Tx.

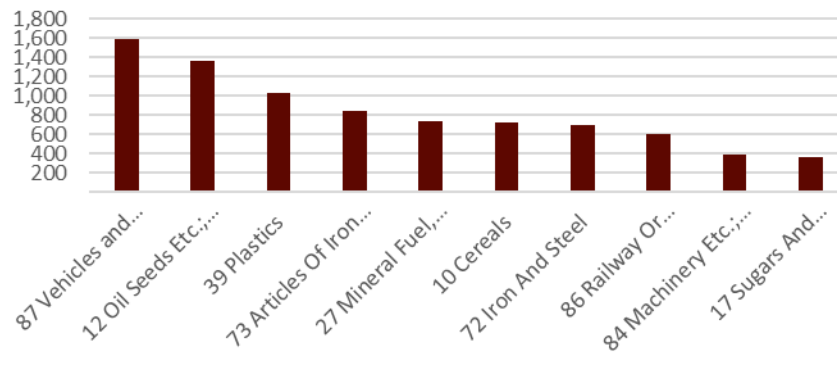
Commodities	2022		
	Million Dollars	%	Cummulative
84 Machinery Etc.; Parts	799	25%	25%
94 Furniture	659	21%	46%
85 Electric Machinery	552	17%	63%
87 Vehicles and Parts Etc	501	16%	79%
39 Plastics And Articles Thereof	165	5%	84%
98 Special Classification Provisions	73	2%	87%
63 Textile Art	68	2%	89%
73 Articles Of Iron Or Steel	57	2%	91%
76 Aluminum And Articles Thereof	49	2%	92%
90 Optic, Photo Etc, Medic Or Surgical Instrmnts Etc	48	2%	94%



Eagle Pass Transborder Trade in 2022 (USD)

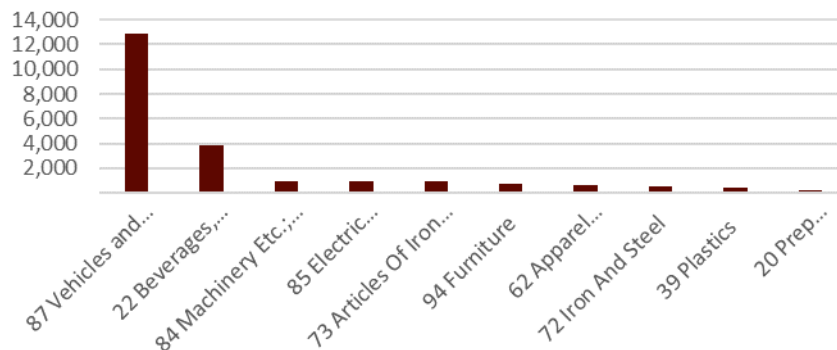
US Exports to Mexico through Eagle Pass, Tx.

Commodity	2022		
	Million Dollars	%	Cummulative
87 Vehicles and Parts Etc	1,584	15%	15%
12 Oil Seeds Etc.; Misc Grain, Seed, Fruit	1,366	13%	27%
39 Plastics	1,032	9%	37%
73 Articles Of Iron Or Steel	841	8%	44%
27 Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	738	7%	51%
10 Cereals	720	7%	58%
72 Iron And Steel	692	6%	64%
86 Railway Or Tramway Stock Etc; Traffic Signal Equip	598	5%	70%
84 Machinery Etc.; Parts	392	4%	73%
17 Sugars And Sugar Confectionary	359	3%	76%



US Imports from Mexico through Eagle Pass, Tx.

Commodity	2022		
	Million Dollars	%	Cummulative
87 Vehicles and Parts Etc	12,821	56%	56%
22 Beverages, Spirits And Vinegar	3,865	17%	72%
84 Machinery Etc.; Parts	997	4%	77%
85 Electric Machinery Etc	989	4%	81%
73 Articles Of Iron Or Steel	938	4%	85%
94 Furniture	706	3%	88%
62 Apparel Articles And Accessories	634	3%	91%
72 Iron And Steel	581	3%	93%
39 Plastics	447	2%	95%
20 Prep Vegetables, Fruit, Nuts	218	1%	96%



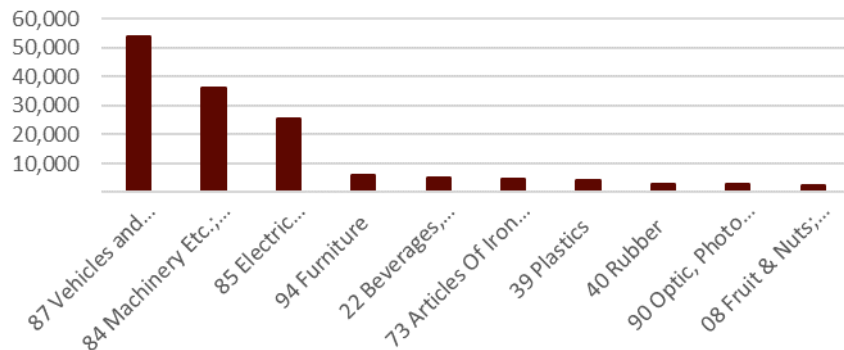
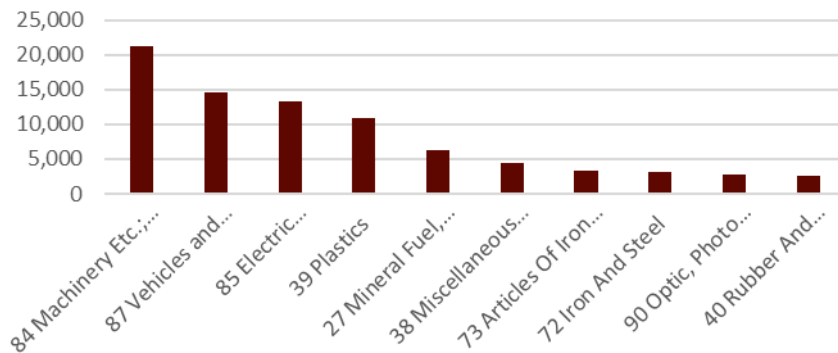
Laredo Transborder Trade in 2022 (USD)

US Exports to Mexico through Laredo, Tx.

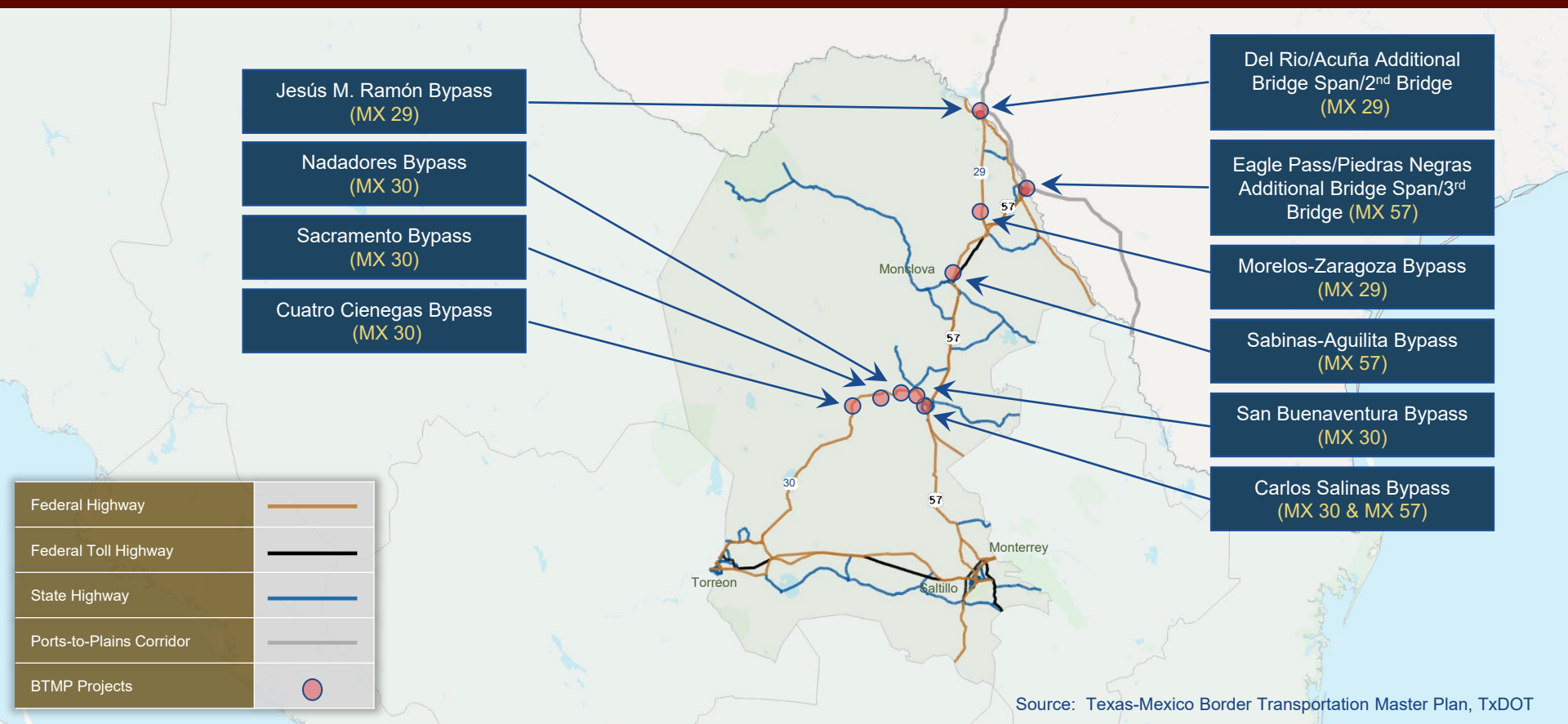
Commodities	2022		
	Million Dollars	%	Cummulative
84 Machinery Etc.; Parts	21,363	18%	18%
87 Vehicles and Parts Etc	14,538	13%	31%
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	13,281	11%	42%
39 Plastics	10,912	9%	52%
27 Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	6,210	5%	57%
38 Miscellaneous Chemical Products	4,444	4%	61%
73 Articles Of Iron Or Steel	3,237	3%	64%
72 Iron And Steel	3,204	3%	67%
90 Optic, Photo Etc, Medic Or Surgical Instrmnts Etc	2,847	2%	69%
40 Rubber And Articles Thereof	2,588	2%	71%

US Imports from Mexico through Laredo, Tx.

Commodities	2022		
	Million Dollars	%	Cummulative
87 Vehicles and Parts Etc	54,041	31%	31%
84 Machinery Etc.; Parts	35,965	20%	51%
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	25,550	15%	66%
94 Furniture	5,930	3%	69%
22 Beverages, Spirits And Vinegar	5,111	3%	72%
73 Articles Of Iron Or Steel	4,490	3%	75%
39 Plastics	4,187	2%	77%
40 Rubber	2,919	2%	79%
90 Optic, Photo Etc, Medic Or Surgical Instrmnts Etc	2,739	2%	80%
08 Fruit & Nuts; Citrus Fruit Or Melon Peel	2,414	1%	82%



Planned Investments in Coahuila Connecting to Eagle Pass/Del Rio, Tx.



Preliminary Findings

In 2022, 53% of FDI was in the manufacturing sector.

Top 10 - FDI in Mexico by sector



4,097 MD

Automobiles, trucks, and auto parts



2,098 MD

Iron and steel industry



1,152 MD

Manufacture of pulp, paper, and paperboard



883 MD

Manufacture of communication equipment



998 MD

Air conditioners and electrical power equipment



383 MD

Rubber products



379 MD

Pharmaceutical manufacturing



254 MD

Manufacture of other electrical equipment and accessories



239 MD

Manufacture of soaps, cleaners and toiletries



193 MD

Aerospace Equipment Manufacturing

Top 10 – Exports to the U.S. by truck



101,941 MD

Machinery related to computers and parts



80,316 MD

Electrical machinery and parts



76,077 MD

Automobiles, trucks, and auto parts



20,250 MD

Measuring instruments



19,629 MD

Special classification



18,436 MD

Furniture



17,532 MD

Plastics



12,086 MD

Articles of iron and steel



11,336 MD

Vegetables and edible roots



10,626 MD

Fruits and edible nuts

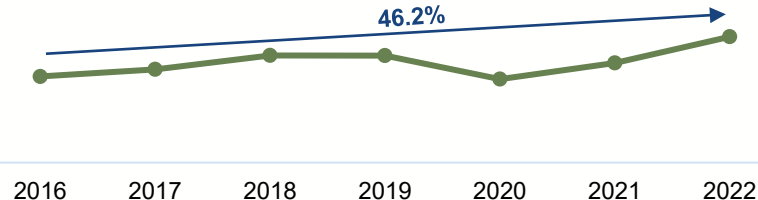
Preliminary Findings

- In four of the ten key industries that receive the highest FDI and at the same time register higher export volumes, we see continued growth since 2016 that was only interrupted by the 2020 pandemic.



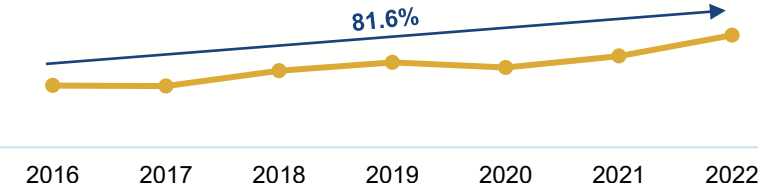
Automotive & Auto Parts Industry

60,000
40,000
20,000
-



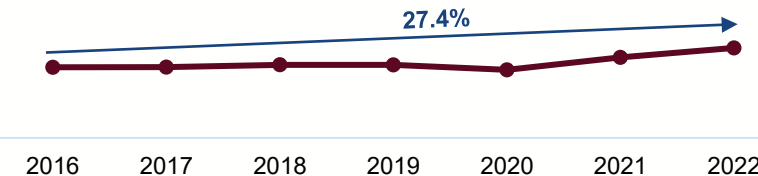
Machinery related to computers and parts

100,000
50,000
-



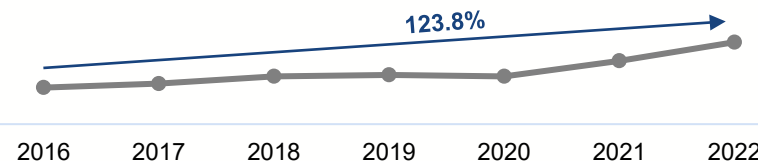
Electrical machinery and parts

100,000
50,000
-



Iron and steel industry

10,000
5,000
-



Preliminary Findings

- The process of relocating global production to Mexico is already impacting several aspects of the country's economic development.
- The trade surge due to nearshoring will exacerbate the already congested commercial border crossings and their serving roadways.
- The pace for adding capacity to the existing infrastructure is significantly slower than the ongoing nearshoring progress.
- The impacts on the transport and logistics system require innovative solutions to make the movement of goods more efficient – Technology, Data, AI, Human Resources.

Next steps

- Interviews with Mexico's State Economic Development Agencies and private sector stakeholders.
- Key targeted manufacturing industry online outlook survey.
- Analyze USMCA Rules of Origin.
- Determine the additional demand for trucks and rail cars along the identified highway and railway corridors and the corresponding border crossings.
- Conclusions and recommendations.

Questions?



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