

US-MEXICO ALL-WATER ROUTE STUDY



Message from Juan Kuryla, PortMiami Director and CEO

“Using PortMiami as a gateway for commerce from Mexico allows ocean carriers, shippers, and BCO’s significant saving in both transit time and transportation costs.”

“PortMiami is proud to release the attached study, which shows a saving of up to 3 days, and \$1,900 per container when customers choose to avoid the border congestion and re-route using the all-water route.”

The attached study was conducted for PortMiami by John Martin, a recognized expert in maritime trade and logistics, clearly shows the economic benefits of switching modes from truck to ocean.

“PORTMIAMI PUTS THE US MARKET CLOSER THAN EVER TO MEXICO.”

COMPETITIVE LOGISTICS ANALYSIS FOR PORTMIAMI TO SERVE THE MEXICAN MARKET



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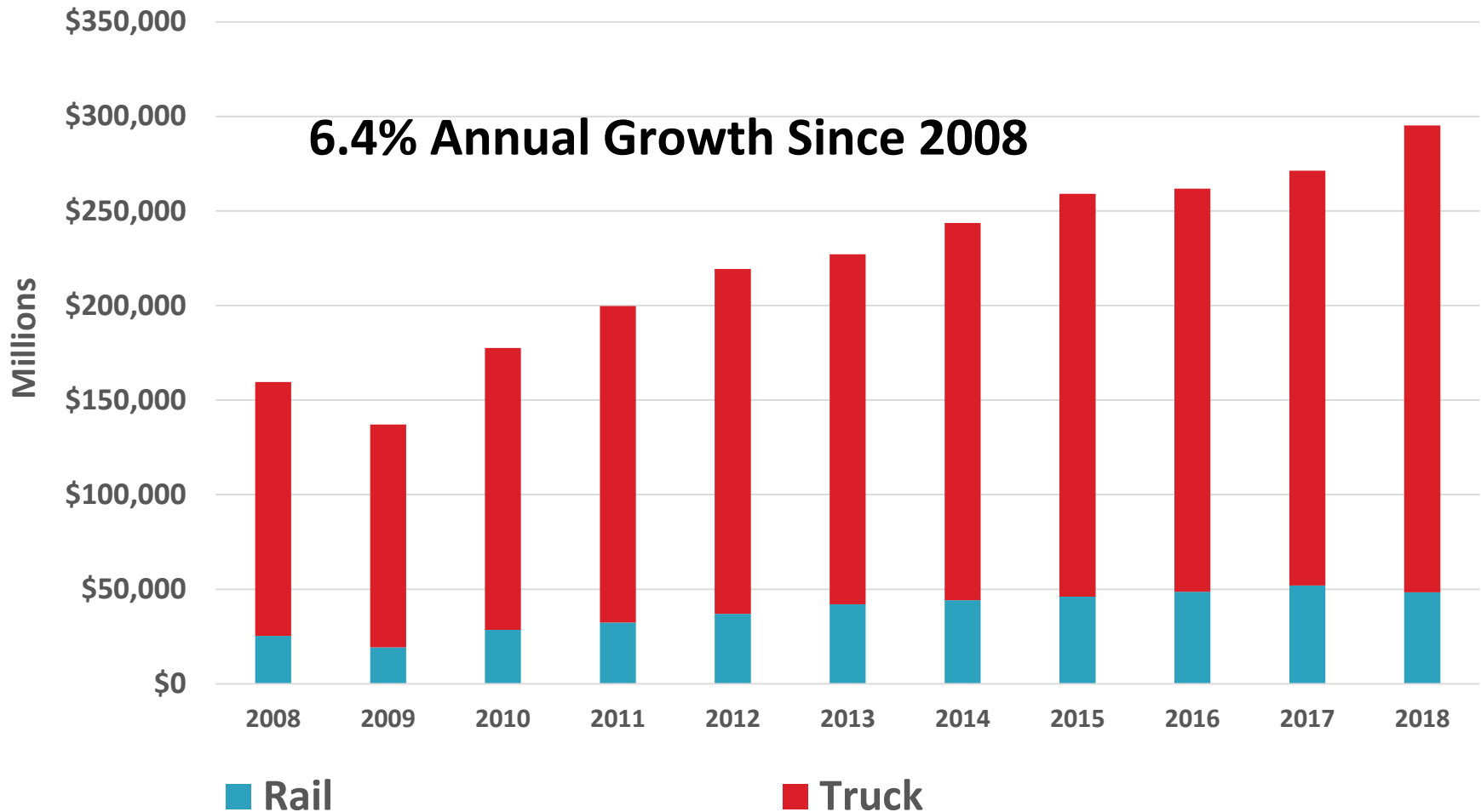
July 1, 2019

Purpose - Evaluate Competitive Position of PortMIAMI to Serve the Mexican Market into Florida

- **Florida Market is currently served by truck and rail, with truck carrying 97% of current imported value moving by land**
- **PortMIAMI has an opportunity to leverage new and expanding ocean carrier service from Mexico to serve the Florida Market.**
 - Time of transit savings
 - Security
 - Surface border congestion and costs, as well as documentation
 - Eliminate interchange of equipment at border crossings
 - Uncertainty as to timeliness of cross border transactions
 - Minimize impact of the ELD requirements on tuckers hauling containers from Texas border crossings to Florida consumption markets
 - Maximize FEC on-dock rail at PortMIAMI and relationship with GrupoMexico

Surface Transportation Between Mexico and U.S.

Value of Imports By Rail and Truck From Mexico

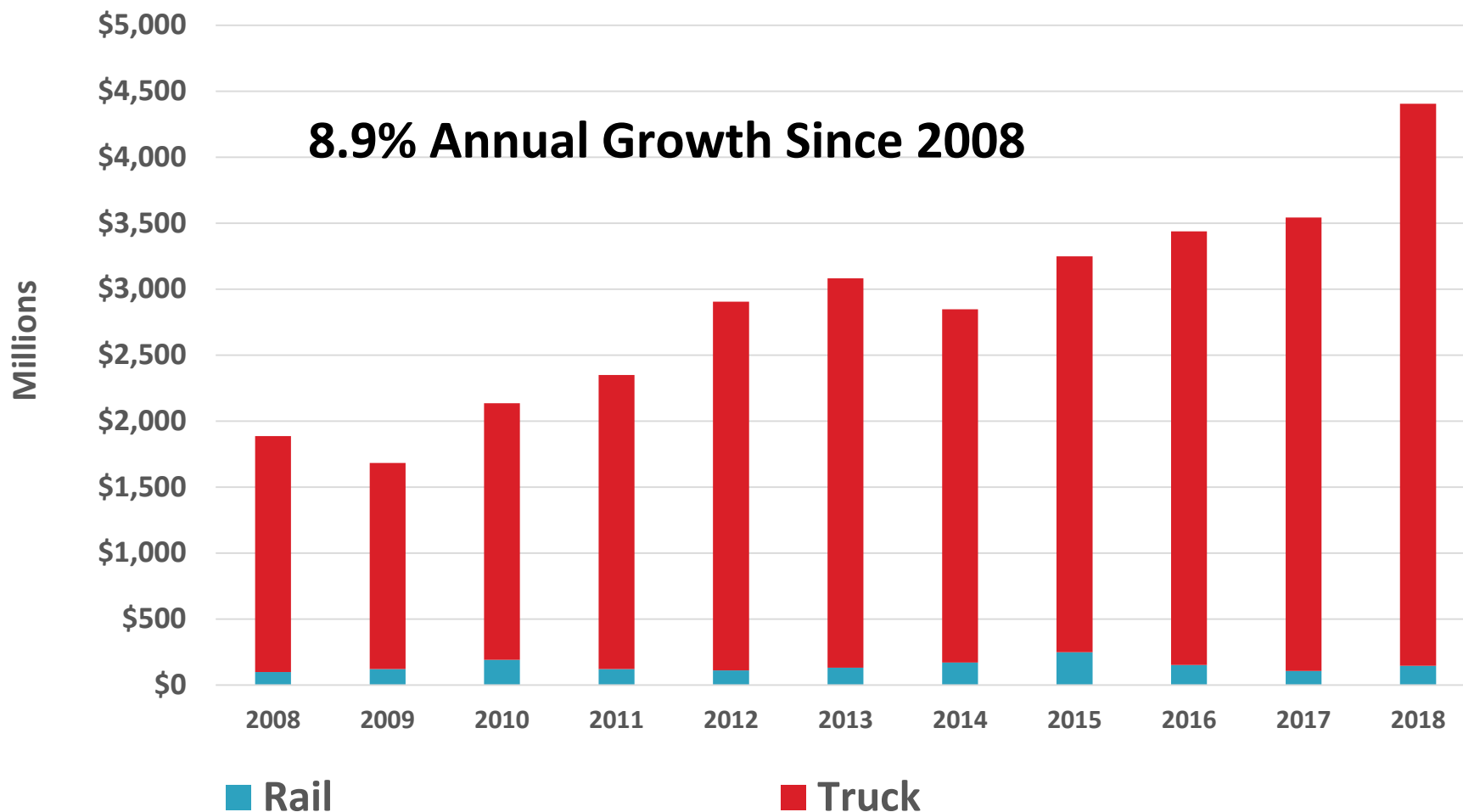


US DOT, BUREAU OF TRANSPORTATION STATISTICS, 2019

Surface Transportation Between Mexico and Florida

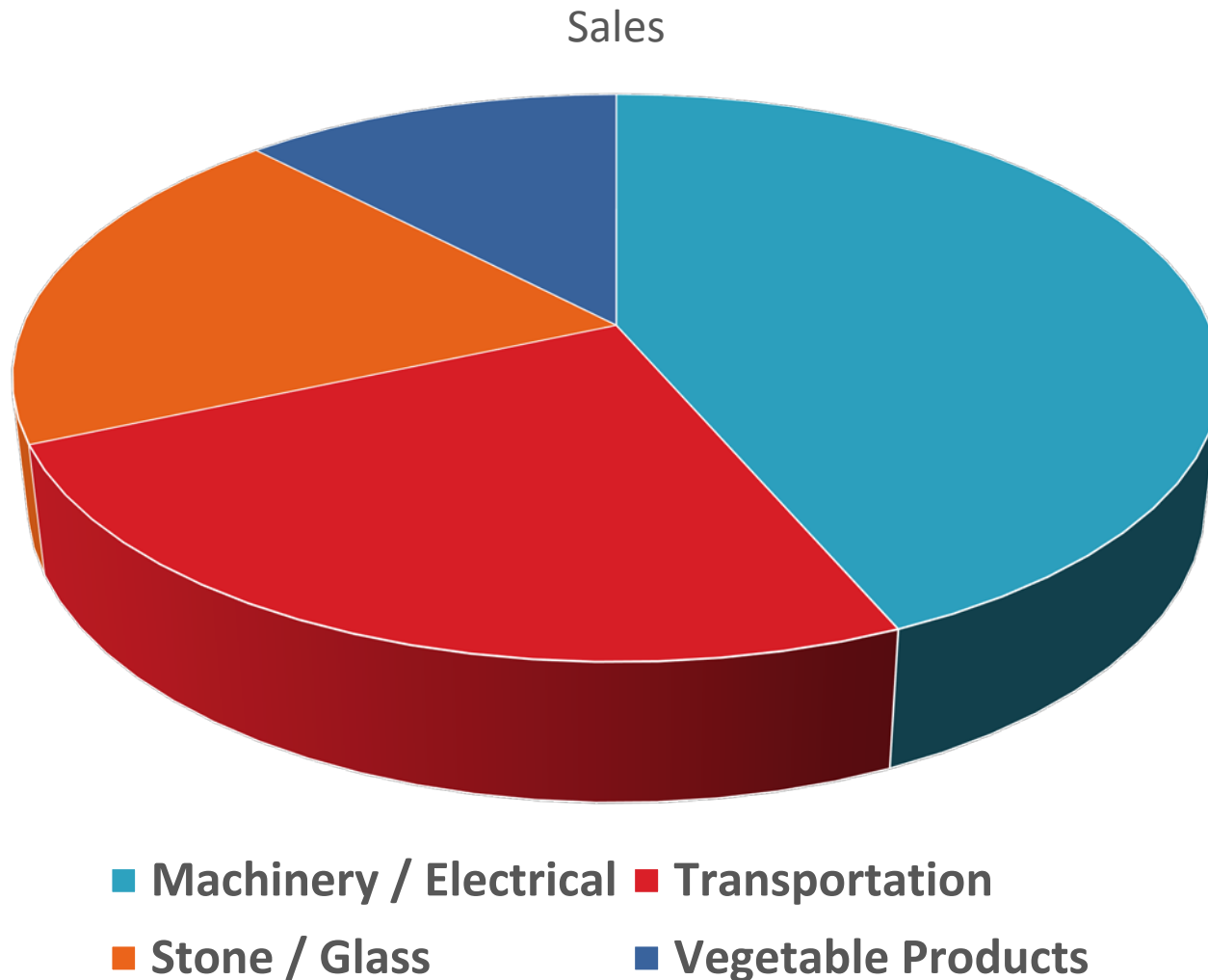
- Truck Carries 97% of the Value of Surface Imports

Value of Imports By Rail and Truck From Mexico



US DOT, BUREAU OF TRANSPORTATION STATISTICS, 2019

Four Commodity Groups Account for 78% of the Value of Mexican Imports Trucked Into Florida



The Competitive Logistics Cost Analysis Consists of:

- **Cost of trucking within Mexico to the primary border entry port, Laredo, which serves the Florida market**
 - Key origins of Mexican imports of interest to PortMIAMI are:
 - Jalisco
 - Queretaro
 - State of Mexico
 - Guanajuato
 - Trucking cost, mileage and transit time were computed to move cargo from each origin to Laredo and to the Altamira/Tampico port areas
 - GrupoMexico
 - “Top 6 differences in transportation costs between Mexico & U.S.A”, By Roxana Osuna | 11/04/2016 | DC Velocity
 - Border transfer costs for direct trucking to U.S. points - \$120 per truck
 - Documentation
 - Interchange of equipment
 - Security

The Competitive Logistics Cost Analysis

Consists of:

- **Voyage costs from Altamira/Tampico to Miami**
 - Martin Associates voyage costing model using a 1600 TEU vessel
 - Daily operating costs for:
 - Capital return
 - Crew
 - Stores/supplies
 - Maintenance
 - Insurance
 - Bunker prices
 - Fuel consumption at sea and at port
 - Speed -2.5 days sailing
 - 1 day at port for load and 1 day at port for discharge
 - Fuel surcharge as published
 - Terminal and stevedoring charges and miscellaneous port fees (tugs/pilots) at load and discharge ports
 - Assume 70% capacity outbound utilization
 - Scenario 1 assume 70% of returns are empties and Scenario 2 assumes 30% empties
 - Estimated per box rate within 5% of current shipping rates - blend of dry and reefer rates

The Competitive Logistics Cost Analysis

Consists of:

- **Inland truck costs estimated from PortMIAMI to each county seat in Florida and Atlanta**
 - Distances from the port estimated including 2-3 hour retrieval time
 - Truck costs based on hourly operating costs developed by Martin Associates from:
 - Interviews with local drayage firms
 - American Transportation Research Institute, “An Analysis of the Operational Costs of Trucking, 2018”
 - FEC Railway
 - Travel time based on 40MPH and 11 hour day for a trucker
 - Assume 2 additional hours for lunch, drop-off and search for overnight lodging
- **Inland truck costs also estimated between Laredo and each Florida county seat and Atlanta**
- **Rail costs for port to door for key consumption points provided by FEC**
- **PortMIAMI terminal charges included in ocean rate**

The Competitive Logistics Cost Analysis

Consists of:

- **Inventory carrying costs - measures the time value of the product, and reflects the time from pick up at origin to point of delivery**
 - For truck, average transit time from the four Mexican origins to Laredo and Altamira based on 30 MPH
 - Assume 16 hours at border crossing
 - Equipment exchange
 - Local warehousing
 - Documentation
 - Average delays
 - Congestion
 - Travel time from Laredo to each Florida County seat based on 40 MPH, 11 hour driver time per day based on ELD restrictions, plus 2 hours of drop/pickup and driver breaks
 - Port assumptions:
 - Live load at Altamira/Tampico
 - Live discharge and reload onto FEC Railway at PortMIAMI with overnight service to northbound destinations
 - Local dray assumes 1 day to local distribution center/transload operation, then local delivery
- **Average value of a trucked container from Mexico into Florida is \$107,424 based on US DOT/BTS data on transborder moves from Mexico to Florida (2018)**
 - 25% of value is inventory cost and converted to a daily carrying cost

Calculation of Total Logistics Costs:

- **Focus on four consumption markets in Florida**
 - Local delivery in South Florida
 - Orlando market
 - Lakeland market
 - NE Florida market
- **Total logistics costs per container include:**
 - Internal Mexican Truck Costs and Broder Crossing
 - Mexican truck cost (averaged over the four Mexican origin points) to Laredo, including border crossing costs and interchange/documentation fees
 - Mexican truck (averaged over the four Mexican origin points) to Altamira
 - Hours of transit associated with each internal Mexican truck move based on distance and speed
 - Voyage Costs from Altamira to Miami
 - Includes sailing time
 - Assumes live load and discharge
 - Based on Martin Associates Voyage Costing Model with inputs from Seaboard and Sealand

Calculation of Total Logistics Costs (continued)

- **Total logistics costs per container include (continued):**
 - Internal Florida truck and tail costs from Miami to each consumption point
 - FEC rates and Martin Associates Truck Costing Model
 - Time of delivery for local market based on truck retrieval time at PortMIAMI and local drayage cost
 - Direct truck costs from Laredo to each Florida consumption point
 - Martin Associates Truck Costin Model
 - Transit time based on 40 MPH, 11 hour trucker day, plus 2 hours of break and load and discharge at consumption point
 - Total Logistics Cost
 - For PortMIAMI Routing
 - Mexican truck costs to Altamira
 - Voyage cost
 - Inland cost from PortMIAMI to Florida consumption points
 - Inventory carrying cost –based on days of transit
 - For Direct Truck Routing
 - Mexican truck costs to Laredo plus border feels
 - Direct truck costs to Florida consumption points
 - Inventory carrying costs - based on days of transit

Routing via PortMIAMI Provides a More Cost Effective Routing for Mexican Imports Compared to Direct Trucking From Mexican Origins – Scenario 1 - 70% Empty Returns

	Mexican Routing	Voyage	Inland from PortMIAMI/Laredo	Total Cost
Via PortMIAMI/Local South Florida	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$2,467.71 2.3	Local Dray (Local Dray) Delivery Days \$350 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,757 5.20 \$383 \$5,140
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$3,416 3.60	\$5,757 7.97 \$587 \$6,343
Via PortMIAMI/Orlando	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$2,467.71 2.3	From Port MIAMI/Laredo Orlando(FEC Door Rate) Delivery Days \$550 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,957 5.20 \$383 \$5,340
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,939 3.09	\$5,279 7.47 \$550 \$5,829
Via PortMIAMI/Lakeland	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$2,467.71 2.3	From Port MIAMI/Laredo Lakeland (FEC Door Rate) Delivery Days \$600 1	Transportation Cost Total Days Inventory Total Logistics Cost \$5,007 5.20 \$383 \$5,390
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,993 3.15	\$5,333 7.53 \$554 \$5,887
Via PortMIAMI/Jacksonville/NE Florida	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$2,467.71 2.3	From Port MIAMI/Laredo Jacksonville (FEC plus local) Delivery Days \$598 1	Transportation Cost Total Days Inventory Total Logistics Cost \$5,005 5.20 \$383 \$5,388
Via Truck/Local	Truck Cost to Border Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,729 2.87	\$5,070 7.25 \$533 \$5,603

Routing via PortMIAMI Provides a More Cost Effective Routing for Mexican Imports Compared to Direct Trucking From Mexican Origins – Scenario 2 - 30% Empty Returns

	Mexican Routing	Voyage	Inland from PortMIAMI/Laredo	Total Cost
Via PortMIAMI/Local South Florida	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$1,734.06 2.3	Local Dray (Local Dray) Delivery Days \$350 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,024 5.20 \$383 \$4,406
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$3,416 3.60	\$5,757 7.97 \$587 \$6,343
Via PortMIAMI/Orlando	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$1,734.06 2.3	Orlando(FEC Door Rate) Delivery Days \$550 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,224 5.20 \$383 \$4,606
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,939 3.09	\$5,279 7.47 \$550 \$5,829
Via PortMIAMI/Lakeland	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$1,734.06 2.3	Lakeland (FEC Door Rate) Delivery Days \$600 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,274 5.20 \$383 \$4,656
Via Truck/Local	Truck Cost to Laredo Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,993 3.15	\$5,333 7.53 \$554 \$5,887
Via PortMIAMI/Jacksonville/NE Florida	Truck Cost to Altamira Truck Days \$1,939 1.90	Ocean Cost Ocean Days \$1,734.06 2.3	Jacksonville (FEC plus local) Delivery Days \$598 1	Transportation Cost Total Days Inventory Total Logistics Cost \$4,272 5.20 \$383 \$4,654
Via Truck/Local	Truck Cost to Border Truck Days \$2,341 2.38	Border Cost Border Days Included 2	Truck Cost via Laredo Truck days \$2,729 2.87	\$5,070 7.25 \$533 \$5,603

Summary

- **Use of PortMIAMI provides total logistics cost savings with 70% empties for backhaul:**
 - \$1,200 per container for the South Florida market
 - \$500 per container for the Orlando and Lakeland markets'
 - \$200 per container for the Jacksonville market
- **Use of PortMIAMI provides a transit time savings of:**
 - 3 days savings for the South Florida, Orlando and Lakeland markets
 - 2 day savings for the Northeast Florida markets

Summary

- **With increased waterborne volumes and the development of backhaul opportunities, ocean rates could be reduced significantly, further improving the cost effective position of the use of PortMIAMI to serve the Mexican market**
- **Use of PortMIAMI provides total logistics cost savings with 30% empties for backhaul:**
 - \$1,900 per container for the South Florida market
 - \$1,200 per container for the Orlando and Lakeland markets'
 - \$950 per container for the Jacksonville market