Assessing the Potential for Gulf Coast NAFTA Maritime Trade Corridors

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Overview

- Study significance
- NAFTA & transportation
- Short sea shipping literature
- Freight corridors
- Barriers
- Conclusions
Significance of Work

Increased freight traffic between NAFTA partners since 1994 has placed undue stress on North American roadways...

What can we do now with our available resources to mitigate transborder congestion?
Objective: To assess the potential for maritime shipping corridors in the Gulf of Mexico between the US, Mexico, and Cuba.

Tasks:
- document current trade patterns and infrastructure (PIERS data, US Commodity Flow Survey)
- analyze the policy barriers that need to be addressed to strengthen these trade corridors
- assess what role Cuba could play in north-south flows in the Americas
NAFTA & Transportation

NAFTA partners committed to trade liberalization but they ignored transportation, security, and immigration concerns.

- **Transportation system mismatch**
  - Pre-NAFTA, respective systems developed in isolation.
  - Canada and US developed infrastructure based on east-west flows while Mexico developed based on north-south flow patterns (Bradbury, 2002).
  - NAFTA forced Canada and US freight flows north-south.
  - Result has been increased transborder congestion.
What is Short Sea Shipping?

Short sea shipping (SSS) is the movement of cargo and passengers by sea between ports along a coastline (Morales-Fusco et al., 2013)

- Cabotage laws govern this movement...
  - **Canada**: 1992 Canada Coasting Trade Act
  - **US**: 1920 Merchant Marine Act or ‘Jones Act’
  - **Mexico**: 2006 Ley de Navigacion y Comercios Maritimos (Lopez, 2013)

- Broadly these laws restrict the operation of foreign flagged vessels to make multiple stops at ports within the same country
The Jones Act requires marine vessels carrying cargo between US ports be US flagged. It also requires:
- 98.5 % (by weight) of ship structure be American made
- SSS vessels must have US crews
- vessels must be US owned
- Tirschwell (2005) argued that the Jones Act makes American SSS uncompetitive due to high cost of vessels

Harbor Maintenance Tax
- All cargo loaded and unloaded from commercial vessels is subject to 0.125 % fee (Kennedy, 2008)

Potential benefits
- Roadway congestion reduction, environmental impact reduction, lower cost infrastructure maintenance, increased delivery reliability, specialized employees with good wages (Gratiela & Viorela-Georgiana, 2015)
Short Sea Shipping Literature

- Government highway spending is ineffective (Winston & Langer, 2004)
  - Highway spending used as a tool to reduce congestion
  - US $1 in spending = US $0.11 reduction in congestion costs
  - Ineffective due to lack of land to expand in urban areas where most congestion occurs
  - Highway spending is the most visible way politicians can reward constituents

- SSS may not be a ‘green’ as advertised (Hjelle, 2010)
  - Vessels emit greenhouse gases
  - Lacking maritime environmental regulations
  - Longer economic life of ships (12-15 years) vs trucks (4-5 years)
  - Increasing vessel size and speed could reduce operational efficiency
  - SSS is rational if your goal is to reduce roadway congestion
Binational US-Mexico Trade Corridors

Source: Barton-Aschman and La Empresa, 1998
Current SSS Corridors in the US

Source: Barami and Dyer, 2009
Mexico Freight Corridors

Source: FHWA, 2014
Port Infrastructure in Cuba

Source: Searates, 2015

- Havana
- Mariel
- Santiago de Cuba
Potential SSS Corridors in the Gulf of Mexico and Caribbean

Source: Daduna, 2013
Barriers to SSS in the US

- **Vessel restrictions**
  - High cost of construction, limits on foreign-flagged vessel movement, crew shortages, harbor maintenance tax

- **Performance**
  - Longer shipping times, vulnerability to weather changes, additional transshipment costs, non-unionized labor, complex administrative procedures

- **Lack of international strategy**
  - Poor data collection on binational freight corridors, Mexico’s lack of access to capital, disjointed border investment projects
Conclusions

More government cooperation on infrastructure and policy can encourage a modal shift.

More developed maritime shipping corridors support greater trade liberalization.

What is our motivation for increased SSS? Economic? Environmental?

What will be the impact on SSS from changing US-Cuban relations and the Panama Canal Expansion?
References

Thanks!

Bethany Stich
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## SWOT Analysis

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<th><strong>Strengths</strong></th>
<th><strong>Weaknesses</strong></th>
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<tr>
<td>° Relatively high energy efficiency</td>
<td>° Low speed</td>
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<td>° Low pollution (in comparison to other means of transport)</td>
<td>° Integration of additional ports (with partly insufficient technical equipment)</td>
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<td>° Capacitive relief on road (and rail) networks</td>
<td>° Additional handling costs (especially for container transport)</td>
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<td>° Reduction in expenditures for construction and maintenance of traffic infrastructure</td>
<td>° High coordination costs (planning, control and monitoring of load unit movements)</td>
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<tr>
<th><strong>Prospects</strong></th>
<th><strong>Risks</strong></th>
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<td>° (Transport) policy prioritization of SSS and RSS</td>
<td>° Possible bottlenecks in the ports at rising of the SSS and the RSS</td>
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<td>° Long-term growth in multi-modal freight transport</td>
<td>° Development of administrative cost structures (port taxes, bureaucracy, etc.)</td>
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<td>° Relief of central SCT</td>
<td>° Prioritization and subsidization of competing modes of transport (in particular rail freight transport)</td>
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<td>° Unfavorable cost developments in road transport (fuel costs, wages, road user fees, etc.)</td>
<td>° Tightening of environmental regulations in maritime transport (aiming at the use of low-emission fuel)</td>
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<td>° Foundation of diagonal cooperation in the transport and logistics sector</td>
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