Protecting the Prize
Rural Freight, Big Infrastructures and Their Importance to American Commerce

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THE BACKGROUND

1. This is a North American Conversation About Effective Participation in Global Markets

2. Rural-Based Commerce and Its Connectivity to Global Markets Remains Critical to North American Prosperity

3. The Infrastructure that Sustains Rural-Based Commerce Is Too Great a Prize to Leave Untended
This is a North American Conversation About Effective Participation in Global Markets

Rural-Based Commerce and Its Connectivity to These Markets Remains Critical to North American Prosperity

The Infrastructure that Sustains Rural-Based Commerce Is Too Great a Prize to Leave Untended
NORTH AMERICAN ISSUE
Forty Percent of U.S. Rail Traffic Is Tied to Trade

At Least One-Quarter of That Globally-Linked Traffic Involves Trade Between the U.S., Canada, and Mexico

The Majority of U.S. – Canada – Freight Tonnage Involves Rural-Based Commodities

(FARM PRODUCTS, FERTILIZERS, FOREST PRODUCTS, ORES, NON-METALLIC MINERALS PETROLEUM, COAL. . .)
## 2015 Percent of Total U.S. Sales

<table>
<thead>
<tr>
<th>Industry</th>
<th>2015 Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction (All)</td>
<td>4%</td>
</tr>
<tr>
<td>Agriculture and Mining</td>
<td>3%</td>
</tr>
<tr>
<td>Food, Beverage, and Tobacco</td>
<td>2%</td>
</tr>
<tr>
<td>Chemical Manufacturing</td>
<td>1%</td>
</tr>
<tr>
<td>Motor Vehicles, Parts, and And . . .</td>
<td>1%</td>
</tr>
<tr>
<td>Freight Transportation</td>
<td>0%</td>
</tr>
</tbody>
</table>
RURAL-BASED COMMERCE

2014 Percent of U.S. Exports

Agricultural and Mining
Transportation equipment
Electronic products
Chemicals and related products
Energy-related products
Machinery
Miscellaneous manufactures
Special provisions
Textiles and apparel
Footwear

0% 5% 10% 15% 20% 25%

SOME CAVEATS APPLY
TENDING THE INFRASTRUCTURE

1. National Waterways Foundation / MARAD Lock Outage Study
2. ARC Post-Coal Rail Studies
3. USDA Ag Corridors Study
The Impacts of Unscheduled Lock Outages

Prepared for:
The National Waterways Foundation and The U.S. Maritime Administration

The University of Tennessee
Vanderbilt Engineering Center for Transportation and Operational Resilience
Vanderbilt University

September 2017

- Relies on Existing Secondary Data and Modeling Techniques
- Develops Screening Tool and New Lock Metrics
- Estimates Economic Effects of Unplanned Closure at Four Locks
  - MARKLAND
  - LAGRANGE
  - CALCASIEU
  - UM L&D 25
- Provides Initial Discussion of Railroad and Terminal Capacity Issues
Waterway Corridor Concentration and Rail Capacity
3 ARC POST COAL STUDIES

• Comprehensive Discussion of Coal Production, Consumption and Transportation in the Eastern U.S.
• Separates Trends from Short-Run Disruptions
• Explores the Need for and Forms of Public Sector Response
• Identifies Specific Rail Corridors that Are Vulnerable to Future Declines in Coal Volumes

http://www.arc.gov/images/programs/transp/RailAccessinAppalachiaPartOneFinal.pdf
http://www.arc.gov/images/programs/transp/RailAccessinAppalachiaPartTwoFinal.pdf
Current Segment-Specific Traffic Volumes

To Future, Post-Coal Segment-Specific Traffic Volumes

ARC POST-COAL STUDIES

RailNet

Change In Annual Gross Tons

<table>
<thead>
<tr>
<th>Change Range</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000,000 to 10,000,000</td>
<td>Green</td>
</tr>
<tr>
<td>1 to 5,000,000</td>
<td>Light Yellow</td>
</tr>
<tr>
<td>−5,000,000 to 0</td>
<td>Yellow</td>
</tr>
<tr>
<td>−10,000,000 to −5,000,000</td>
<td>Orange</td>
</tr>
<tr>
<td>−20,000,000 to −10,000,000</td>
<td>Red</td>
</tr>
<tr>
<td>−50,000,000 to −20,000,000</td>
<td>Deep Red</td>
</tr>
<tr>
<td>&lt; −50,000,000</td>
<td>Deep Red</td>
</tr>
</tbody>
</table>
Where the modeling predicts threats is where we’ve already seen activity.

At it’s fullest, reduced coal traffic will eliminate the need for significant mainline routes in Appalachia.

Many of the most precipitous impacts seem to have been front-loaded.

Coal-dependent rail routes through Appalachia have few alternative network functions.

While the depth of many threats is significant, these threats, generally, do not extend beyond Appalachia.

What happens to Appalachian coal in Global export markets is critical to how this story ends.
USDA CORRIDORS STUDY

- Is to Examine Modal Capacity and Pricing in Three Critical Agriculture Freight Corridors
- Will Pay Specific Attention to Terminal Capacities
- Will Specifically Account for Barge Competitive Interactions
- Will Accommodate Scenario-Based Exploration of Various Changes to Traffic Demands.
3 USDA CORRIDORS STUDY
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