Freight Planning

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Freight and Freight Planning

- What is “Freight”
- Why is it a “Federal Case”
- What should I include in my state/local freight plan
IS THIS HOW MOST PEOPLE SEE TRUCKS AND TRAINS?
Planning- Putting National Goals at a local level

See any trucks, railcars, barges or planes?
What is Freight?
Local Deliveries
Train Movements, other modes...
Drayage
Truck Parking
Something Else?
Total Freight Transportation in Arkansas – 2011 (FHWA)

430,628 Thousand of Tons

284,874 Current Millions$
Arkansas Exports as Share of Total State GDP 1997 - 2012
Comparison of Freight Dependency: US, Southeast, Arkansas (2011)

Share Based on Estimated Industry Clusters, NIACS Code

- **US Average**
  - Consuming: 15%
  - Producing: 35%
- **Southeast Average**
  - Consuming: 15%
  - Producing: 35%
- **Arkansas**
  - Consuming: 20%
  - Producing: 40%
Freight Matters

Private Sector

Consumers

Public Sector
STATE GOVERNMENT VIEW OF TRUCKS

Police Officers: It's a dangerous weapon.
Bridge Engineers: It will cause the bridge to collapse.
Accountants: It's a source of revenue.
Weight Station Technicians: It weighs too much.
Design Engineers: It will never make the turn.
Permitting Officials: It's too big to make it under the bridge.
Freight Faces Unique Challenges – Political

• Land Use
• Gentrification
• Rent seeking behaviors
• City expansion (taxes)
• Beggar thy neighbor
• Freight generators
Freight Faces Unique Challenges - Ownership

- NHS Connectors
- Poor physical condition
- Poor geometrics
- “Orphan status”
- Inadequate coordination of investment strategies
- Functional Class
- Signage
Freight Faces Unique Challenges - Operations

- Operations
- Parking
- Night Delivery
- Intermodal Terminals
- Shipper expectations
- Dimensions
- Routing
- Automation
- Fleeting
- Congestion costs
Public Sector Planning for Freight - Today

More modal balance
Largest trading partners are neighbors
Need to move along corridors

To-From State

Within State

Through Freight

All Modes
All cargos
Discretionary routing

Mostly Trucks
Tend to be heavier products
Rural-urban flows
Urban-urban flows
Freight Planning Is Becoming a Federal Issue

- MAP-21
- PIIRA
- National Export Initiative
- Economic competitiveness push
- Trade policy
MAP-21 Freight Responsibilities

**State Actions**
- Sec 1118
  - Trends, needs and issues
  - Policies, strategies, performance measures
- Cost Sharing Formulas

**Federal Actions**
- Establishment of a National Freight Network
- Critical Rural Freight Corridors
- National Freight Strategic Plan
- Data programs
- Develop conditions and performance
National Freight Network

- Primary freight network
  - Designated within one year
  - Based on inventory of freight volume
  - 27,000 centerline miles, existing roadways
  - 3,000 additional miles possible
  - Redesignation every 10 years
- Other portions of the Interstate System
- Critical rural freight corridors.
What Does PRIIA focus on...

• Authorizes Amtrak
  • Funding for State of Good Repair
  • Funding for debt service

• Three main areas:
  • Intercity passenger rail
  • State sponsored corridors
  • High Speed Rail

• Sec 303
  • Develop Statewide plan
  • Freight and passenger rail
  • Establish priorities and implementation strategies
  • Basis for rail investment by Federal and State agencies
And What?

- What is the status of rural economies be in 10 years?
- What is future of natural resources?
- What is future of International Trade?
- More or less trucks? Trains? Waterways? Pipelines?
- Longer trucks or different truck configurations?
- Can we develop/expand advanced manufacturing?
- What about attracting Foreign Direct Investment?
- Where will people live in 20 years?
- How infrastructure needs are required to make OUR region competitive?
Congratulations…

You just started work on a freight plan.
Georgia’s Work Plan - different elements for different needs

**Final Full Report**
The plan development process was organized into the following five tasks:

<table>
<thead>
<tr>
<th>Task 1:</th>
<th>Plan Development and Stakeholder Outreach Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Click on <strong>Stakeholder</strong> tab above</td>
</tr>
<tr>
<td>Task 2:</td>
<td>Making the Business Case for Freight &amp; Logistics</td>
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<tr>
<td>Task 3:</td>
<td>Strategic Freight &amp; Logistics Framework</td>
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<tr>
<td></td>
<td>» Multimodal Summary</td>
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<tr>
<td></td>
<td>» Modal: Air Cargo</td>
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<tr>
<td>Task 4:</td>
<td>Economic Evaluation and Scenario Projection</td>
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<tr>
<td>Task 5:</td>
<td>Recommendations &amp; Project Evaluation</td>
</tr>
</tbody>
</table>
Resources on Freight Planning Templates

- Freight Quick Response Manual
- Freight Template
- MAP-21 Requirements
- Other Agency Reports
Performance Metrics – Describing the System to Show Efforts
Where is the priority?

10 days
4000 miles

2 days
No miles

2 days
1500 miles

4 hours
+/- 2 hours
20 miles
Corridor Data Based on March 19, 2003
From 12:00am - 4:00am PST
Truck Speed Calculation Based on 50-mile increments

Legend
Speed_MPH
- 0 - 15
- 15 - 30
- 30 - 45
- 45 - 65+

Corridor’s included in analysis are (I5, I10, I45, I65, I70)
• Interstate Routes
• Average Speed
• 4-6 PM Weekdays
• 2012
Interstate and Major Routes
Average Speed
4-6 PM
Weekdays
2012
• All Other Routes
• Average Speed
• 4-6 PM Weekdays
• 2012
2,000 Trucks After 24 Hours Passing Through Little Rock
Same 2,000 Trucks After 7 Days
Table 12: Freight TDM Strategy Impacts and Implementation Difficulty

<table>
<thead>
<tr>
<th>TDM Strategy</th>
<th>Externally Costs</th>
<th>Private Costs</th>
<th>Difficulty to Implement</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Congestion</td>
<td>Health</td>
<td>Safety</td>
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<tr>
<td>Anti-idling Policies</td>
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<td>+</td>
<td>0</td>
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<tr>
<td>Designation of Truck Routes</td>
<td>+</td>
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<tr>
<td>Modal Shift</td>
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<tr>
<td>Off-Peak Pickup and Delivery</td>
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<tr>
<td>Restrictions on Nighttime Delivery</td>
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<tr>
<td>ITS Solutions</td>
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<td>Land Use Strategies</td>
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<tr>
<td>Parking Policies</td>
<td>+</td>
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<td>+</td>
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<tr>
<td>Planning Information Strategies</td>
<td>+</td>
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</tbody>
</table>

Beneficial Impact: +
Detrimental Impact: -
No Impact: 0
Dependent upon other variables: ~
Putting Freight into the Process…

Plan – Freight Research

Manage – Performance Measures
Where is Good, Free, Timely Freight Data?
The Ideal Database?
(Based on TRB Reports)

• Time (date) associated with the shipment movement itself;
• Mode (truck, rail, water) and submode;
• Product origin and destination, including international shipments;
• Facility or equipment interchanges, including intermodalism;
• Type of equipment used to move the product;
• Product weight, density (measured in pounds per cubic foot) and value;
• Shipment size;
• Route used for domestic shipments.
• Shipper and receiver relationship (contractual);
• Transportation rates, fees, and costs;
• Time sensitivity (just in time, JIT) or perishability of the product;
• Equipment movements, including repositioning empties and backhauls;
• Other products moving on the same piece of equipment (multiple
reporting of the shipment event to others (the information is reported fairly quickly after the shipment occurred);
• Identifying the actual product that was shipped?

We Want Everything!!
Changing Values of Data and Information

- Data is everywhere
- Data is accessible
- Data will lead the way
- Data is cheap
- Data is timely

- Information is basis for decisions
- Information takes time, money and effort
- New Technologies for collection, visualization, and analysis changing acceptance of results
- Computer storage cheap
Data Sources

• Economic
  • BEA, CBP, MSA

• Operational
  • FAF, Trade Stats, CFS, Rail waybill, Corps of Engineers, BTS airplane
  • FHWA- vehicle flows
  • State Traffic Counts
  • Travel Time datasets

• Demographics
  • Census
  • Local and State economic development agencies
Some Basic Research and Data Gaps

• Economic Multipliers and Jobs
• Data/planning cross agency and cross modally
• Extreme Event response
• Corridor Research and access
• Land use decisions
• Program delivery and Transparency
So, if get data...still need processing
Summary… What to do next
Three Questions: freight plans and performance measures...

- Why are you doing the study?
- What do you have within your ongoing research program now to assists in this effort?
- What can you do to develop a consensus within Arkansas on the “freight” plan or “freight performance metrics”? 
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