Regional Freight Plan

Agenda

• Work Plan Overview
• Regional Freight Plan – Executive Summary
• Stakeholder Outreach and Surveys
• Freight Zones
• Regional Transportation Networks
• Technological Innovations
• Freight Performance Measures
• Global Logistics Hub
• Freight Plan Alignment
Regional Freight Plan

Work Plan

- Started June 2016
- Leveraging Previous Studies/Plans
- Urban and Rural alignment
- Land Use
- Management Strategies for through traffic
- Alignment with Arkansas
- Performance Metrics & Tracking
Executive Summary

• The air, road, rail, inland waterway and pipeline facilities in the Greater Memphis MPO Region are an integral part of the North American freight transportation networks and the global supply chains that travel across and between the modes.

• The Greater Memphis MPO Region is a “Hub City”

• Freight is dynamic, the investment and infrastructure landscape is always changing.
Executive Summary

- Industrial land use is clustered within the region
- Locations influenced by the river, roadways and airport
- New development along the I-269 Corridor
Stakeholder Outreach Meetings

- **MPO Committee Meetings** – Freight Advisory, Planning & Land Use Advisory, Engineering & Technical Committee and Transportation Policy Board – **11 meetings**

- **Public & Private Sector Meetings** – Greater Memphis Chamber of Commerce, Desoto County Chamber of Commerce, Economic Development Growth Engine (EDGE), Memphis Port Authority, Airport Authority, BNSF, NS, Trucking Industry, FedEx, West Memphis MPO, TDOT, MDOT, Developer/Real Estate – **12 meetings**

- **MPO Jurisdiction Meetings** – City of Memphis & Shelby County, Tennessee Suburban Municipalities, Fayette County (TN), Desoto & Marshall Counties in Mississippi – **5 meetings**

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**Key Questions**
- Transportation and infrastructure projects with a freight component
- Land use and development projects and plans that have a significant freight component
- Issues and challenges related to freight
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Freight Survey
- Released End of January 2017
- Truckers Survey - “Man on the Street” – 294 responses
- Public Online Survey – 400 responses

Survey Results

Surveys completed by Date

Number of Responses
0 50 100 150 200 250 300 350 400 450
2-Feb 9-Feb 16-Feb 23-Feb
Public Survey Questions and Responses

How often you shop online?

- Daily: 0%
- Weekly: 10%
- Few times a month: 20%
- Seasonally (around...): 30%
- Do not do online shopping: 40%

What type of delivery option do you select?

- Next Day: 0%
- 2 days: 10%
- 5 or more business days: 20%
- Not applicable: 30%

In future, do you foresee continuing to do:

- More online shopping than...: 0%
- About the same for both online and...: 10%
- Less online shopping than...: 20%

91.5% responded that freight is important for the local/regional economy.
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Truckers Survey Questions and Responses

Challenges

- Truck parking
- First mile/last mile
- Turning radius
- Road congestion
- Safety - accidents
- Incident clearance etc.
- Information (related to...)
- Regulations - work hours
- Delay at delivery (in...)
- Transportation costs
- Driver shortage
- Others

Potential solutions

- Flooding
- Winter weather (Ice, snow)
- Tornadoes
- No or not applicable

Extreme weather impact

Reducing incident
Rerouting options
Getting information
Automated systems
Better quality pavement
More truck rest areas
Others
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Freight Zones

• Industrial Zones across the Tri-State Area → 30+

• Based on Traffic Analysis Zones

• Identify factors to establish a unifying theme for the zone
  • Land use
  • Traffic
  • Employment
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Freight Zones
Looks at Zone proximity, characteristics and local transportation network configurations to identify Freight Areas

| Stateline Accessibility | | |
|-------------------------|-------------------|
| Interstate Access Points | 3                 |
| Rail Accessibility      | 0                 |
| Intermodal Accessibility | BNSF (Tennessee) – 5.1 miles |
|                         | CN/CSX (Gateway) – 7.6 miles |
|                         | UP (Marion) – 21.1 miles |
|                         | NS (Rossville) – 24.6 miles |
| Air Accessibility       | MEM – 4.6 miles    |
| Water Accessibility     | President’s Island – 9.7 miles |

| Airport Accessibility | | |
|-----------------------|-------------------|
| Interstate Access Points | 4                   |
| Rail Accessibility     | BNSF               |
| Intermodal Accessibility | BNSF (Tennessee) – 4.8 miles |
|                       | CN/CSX (Gateway) – 6.6 miles |
|                       | UP (Marion) – 19.0 miles |
|                       | NS (Rossville) – 24.0 miles |
| Air Accessibility      | MEM – 0.0 miles    |
| Water Accessibility    | President’s Island – 8.4 miles |
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Freight Zones
Individual zone information such as truck traffic, travel time, crash rates, etc. are included

Stateline Freight Zone

Airport Freight Zone
Freight Zones
Employment and other demographic is also included (educational attainment, earnings, etc.)

### Airport Freight Zone

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<tbody>
<tr>
<td>Basic Industries</td>
<td>1,462</td>
<td>1,300</td>
<td>5.2%</td>
<td>-2.3%</td>
<td>-162</td>
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<tr>
<td>Trade &amp; Transportation</td>
<td>20,359</td>
<td>19,458</td>
<td>77.9%</td>
<td>-0.9%</td>
<td>-901</td>
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<tr>
<td>Professional Services</td>
<td>2,073</td>
<td>2,653</td>
<td>10.6%</td>
<td>5.1%</td>
<td>580</td>
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<tr>
<td>Retail &amp; Transactions</td>
<td>1,112</td>
<td>1,283</td>
<td>5.1%</td>
<td>2.9%</td>
<td>171</td>
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<tr>
<td>Other Services</td>
<td>373</td>
<td>282</td>
<td>1.1%</td>
<td>-5.4%</td>
<td>-91</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25,379</strong></td>
<td><strong>24,976</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>-0.3%</strong></td>
<td><strong>-403</strong></td>
</tr>
</tbody>
</table>

### Stateline Freight Zone

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<tbody>
<tr>
<td>Basic Industries</td>
<td>283</td>
<td>153</td>
<td>7.3%</td>
<td>-11.6%</td>
<td>-130</td>
</tr>
<tr>
<td>Trade &amp; Transportation</td>
<td>896</td>
<td>1,102</td>
<td>52.6%</td>
<td>4.2%</td>
<td>206</td>
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<tr>
<td>Professional Services</td>
<td>238</td>
<td>246</td>
<td>11.7%</td>
<td>0.7%</td>
<td>8</td>
</tr>
<tr>
<td>Retail &amp; Transactions</td>
<td>397</td>
<td>524</td>
<td>25.0%</td>
<td>5.7%</td>
<td>127</td>
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<tr>
<td>Other Services</td>
<td>41</td>
<td>71</td>
<td>3.4%</td>
<td>11.6%</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,855</strong></td>
<td><strong>2,096</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>2.5%</strong></td>
<td><strong>241</strong></td>
</tr>
</tbody>
</table>

Source: US Census
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Freight Zones
Retail Space Information

Airport Freight Zone

Stateline Freight Zone

Source: Costar
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Regional Transportation Networks

- Industrial land use, and intermodal terminals, frame the origins and destinations of regional freight movement

- The regional freight traffic + through traffic, shape the connections across North America
Regional Transportation Networks
- Regional Connections across North America
- Peer Regions and Cities:
  - Regional economic features
  - Transportation network connections
  - Potential for regional connections
- Gateway Cities: El Paso, Oklahoma City, Tulsa, Kansas City, St. Louis, Minneapolis, Louisville, Cincinnati and Nashville
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Regional Transportation Networks

• Enhance intermodal connections, often affected by external factors

• The Greater Memphis MPO Region hosts a unique combination of modal connections
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Regional Transportation Networks

• The port is designated as a Port of Entry and Foreign Trade Zone and consists of the Port of Memphis, in Tennessee, and the Port of West Memphis, in Arkansas.

• Large organizations shipping over a long distance on the landside can leverage the rail and roadway networks to increase efficiency.

• Navigational Structure Conditions

\[\text{Map showing regional transportation networks}\]
Regional Transportation Networks

• The Memphis international Airport is an anchor for freight in the Memphis area.

• The Memphis International Airport is located among many major freight corridors.

• Some improvements to the roadways are needed

• Support Airport’s master planning efforts
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Technological Innovations

- Advanced technology will change the freight industry such as autonomous vehicles and truck platooning
- Over twenty states, including Tennessee, have currently passed some form of legislation related to autonomous vehicles.
- Policy guideline developed by USDOT
- Coordinated efforts between Federal, State, Local, and Private Sector would be needed
Freight Performance Measures

- Increasing role for direct private sector participation
- Peer programs and increasing use of “Big data” will keep changing
- Investment and operating outcomes will be more closely tracked
- State programs and performance metrics reflect local, state and national priorities

Top 25 Key Corridors using FAF Commodity Tonnage data (all commodities)
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Global Logistics Hub

- Livability 2040 RTP for the Greater Memphis MPO Region
- Track continuous system performance, enabling an integrated management approach
- Multimodal access, involves infrastructure and land use
- Multimodal expansion
- Mitigate barriers to freight movement
Plan Alignment
• LRTP is the Region’s framework

• Industrial land use, and intermodal terminals, frame the regional freight movement origins and destinations

• Efforts to enhance the alignment of the Region’s workforce and workplaces

• Balance within & across project categories, e.g., Non-Interstate Road Projects

• Factors
  ◦ Safety
  ◦ Congestion
  ◦ State of Good Repair
  ◦ Sustainability / Quality of Life
  ◦ Resiliency