Pop Quiz

Who is credited as being the inventor of the shipping container?

Malcom McLean in 1956
Outline

• Introductions
• Overview of Regional Freight Plan
• Plan Metrics
  • Regional Industrial Areas
  • Industrial Area Indicators
• Application of the Travel Demand Model
  • Truck Model Function and Capability
  • Truck Volume, Delay, and Travel Time
• Operational and Geometric Deficiencies
• Development of Recommendations
Overview

- Address the freight competitiveness of industrial sites served by transportation
- Recommend near- and medium-term projects, policies and programs
Overview

• 14 Chapters
  
  Chapter 1 - Executive Summary  
  Chapter 2 - Regional Overview  
  Chapter 3 - Stakeholder Outreach  
  Chapter 4 - Workforce and Community  
  Chapter 5 - Road Network Connections  
  Chapter 6 - Railroad Network  
  Chapter 7 - Inland Waterways  
  Chapter 8 - Air Cargo  
  Chapter 9 - Emerging Zone Development  
  Chapter 10 - Environmental  
  Chapter 11 - Technology  
  Chapter 12 - Freight Performance Measures  
  Chapter 13 - Greater Memphis Region as a Global Logistics Hub  
  Chapter 14 - Plan Alignment  

• 7 Appendices
  
  Appendix 1 – Freight Trade Tables  
  Appendix 2 - National Highway Freight Network in the Memphis MPO Area  
  Appendix 3 - Regional Industrial Area Descriptions  
  Appendix 4 - Listing of Projects  
  Appendix 5 - Freight Funding Programs  
  Appendix 6 - Outreach Survey  
  Appendix 7 – Public Comments
Pop Quiz

What country produces the most shipping containers?

97% of shipping containers are made in China
Plan Metrics

- Study Area
- Focus on Regional Freight Corridors
- Focus on Regional Industrial Areas
- Industrial Area Indicators
Study Area
Regional Freight Corridors

• Facilities most critical to:
  • the Regional Industrial Areas
  • support of through movements
• 585.9 miles
• 15.8% of regional roadway miles
• 56.6% of regional truck VMT
Regional Freight Corridors

• Freight Mobility Corridors
  • Interstate
  • Non-Interstate
• Freight Accessibility Corridors
• Mobility & Accessibility Corridors
Regional Freight Corridors
Regional Industrial Areas

- Freight Zones (35)
- Freight Areas (8)
- Functional Freight Area (1)
- Freight Points of Interest (19)
Regional Industrial Areas
Freight Zones
Freight Areas
Freight Points of Interest
Pop Quiz

How many shipping containers are currently in service?

23 million containers or 38.5 million TEU
Industrial Area Indicators

- Infrastructure and Access
- Truck Traffic
- Travel Times
- Safety
- Workforce
- Land Use
- Real Estate
- Industrial Health
 Infrastructure Access
- Access points
- Freight Corridors
- Rail service
- Proximity to intermodal
- Deficiencies

Lamar South Accessibility

<table>
<thead>
<tr>
<th>Interstate Access Points</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail Accessibility</td>
<td>BNSF, Fick</td>
</tr>
</tbody>
</table>
| Intermodal Accessibility | BNSF (Tennessee) – 1 mile  
 | CN/CSX (Gateway) – 11.6 miles  
 | UP (Marion) – 24.3 miles  
 | NS (Rossville) – 19.7 miles |
| Air Accessibility        | MEM – 5.7 miles |
| Water Accessibility      | President’s Island – 13.8 miles |
Truck Traffic

- Volumes
- Level of Service
- Time of Day
- Delay
Travel Times
- 20 minutes
- PM peak
Safety

- Crashes
- Scaled to traffic
- By functional classification
Workforce

- Basic Industries
- Trade & Transportation
- Professional Services
- Retail & Transactions
- Other Services

Freight Area Employees by Industry Sector (2009-2014)
Land Use

- Relationship of industrial land to surrounding area
- Determines build-out with building footprints
Real Estate
- Industrial inventory
- Square footage
- Occupancy
- Net absorption
Industrial Health

- Workforce
- Land use
- Real estate characteristics

Note: Location quotient (LQ) indicates the concentration of a particular industry sector relative to the nation. Industries with higher LQ’s and job totals typically form the economic base for the zone and sometimes region. The size of charts within the grid is proportional to number of employees within each zone (shown above).
Pop Quiz

What percentage of shipping containers get inspected?

Only 2%-10%
Operational and Geometric Deficiencies

- Horizontal and vertical clearance issues
- Structurally deficient structures
- Posted weight limits locations
- Bottleneck locations
Operational & Geometric Deficiencies

- Bottleneck Identification
- Stakeholder interviews with freight community, state and local roadway agencies, and previous studies
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How many incidents of piracy have been reported in 2017?

According to the International Maritime Bureau, 121
Development of Recommendations

- Groupings
  - Corridor
    - Interstate Corridors
    - Non-Interstate Corridors
  - Project Type
    - Interstate Interchanges
    - Construction and/or Widening of Interstate
    - Widening and Interchange Improvements/Modifications on Non-Interstate
    - Improving Freight Mobility around Airport (MEM)
    - Intelligent Transportation Systems (ITS)
Development of Recommendations

• Assessment Metrics
  • Safety
  • Congestion
  • State of Good Repair
  • Economic Competitiveness
  • Sustainability/Quality of Life
  • Resiliency
Development of Recommendations

• Recommended Strategies
  • Potential Programs of Work
  • Potential Policies

• Prioritization
  • Near Term focus on Lamar Avenue (US 78)
  • Increase Capacity on East-West Routes
  • Leverage Private Sector Investment
  • Improve ITS on Freight Corridors
  • Strategy for Big Ticket Projects
  • Address Truck Parking
Pop Quiz

Who is your favorite pirate?