Researching Urban Freight

Bruce Lambert
Freight matters

Daily –
• 48.3 million tons of goods worth $46 billion

Annually –
• 57 tons per person

Annually –
• 9% of economy is spent on logistics
What Drink Can’t You Live Without?

• When do you expect to get this?
• Where do you expect to get this?
• How much are you willing to pay in time or money to get it?
• What are your expectations?
What is Urban Freight?
Trucks on the Interstate
Local Deliveries
Train Movements, other modes...
Drayage
Truck Parking
Something Else?
Freight Goes Everywhere
I don’t care about deliveries when I go to local Sam’s Club
Domestic Freight Mode Share by Distance
Urban Freight

- Different vehicles
- Different user expectations
- Different modes
- Different operational zones, routes, etc.
- Different schedules
Will Freight Generate Economic Growth...
KY – top 200 firms - Intermodal facilities

Yellow – Top 200 Firm
Green – Intermodal Facility
“What is the Message”

It's about me... Really?
Logistics Parks and Economic Development

• What type of facility?
• Trackage and Terminals
• Develop densities
  • Drayage and equipment issues
  • Domestic and international
  • Shippers bear costs?
• Don’t cannibalize other facilities
Who Are the Players?

**Private**
- Shippers – International
- Shippers – Domestic
- Carriers – Intermodal
- Carriers – Drayage, Regional

**Public**
- State
- Local
- Federal
- National
Who is Responsible for What?

Vision
Education
Partnerships

Public Sector
Transportation
Utilities
Workforce Development
Business Climate
Incentives

Private Sector
Cargo Density
Business Clusters
Intermediaries
Transportation services
Terminal Operations
Freight advisory councils

**State/Federal**
- LADOTD Activities
- Freight Advisory Councils – MAP21
- Other State models

**Local Initiatives**
- Columbus Chamber of Commerce Logistics Council
- DVRPC
What Must We Do- Transportation/ Economic Development?

- What may change existing flows or create new markets?
- Can (will) WE/I get a piece of the pie?
- What can WE/I do to create opportunities?
Without Planning This Would Have Been a Mess
Who benefits from transportation improvements?

• Carriers
• Ports
• Governments and other local industries
• Shippers
• Economic Development Agencies

• Who does not benefit?
STATE GOVERNMENT VIEW OF TRUCKS

Police Officers
- It’s a dangerous weapon.
- It will never make the turn.

Bridge Engineers
- It will cause the bridge to collapse.

Design Engineers
- It’s too big to make it under the bridge.

Accountants
- It’s a source of revenue.

Weight Station Technicians
- It weighs too much.

Permitting Officials
- It weighs too much.
Public Sector Planning for Freight - Today

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

To-From State

Through Freight

Within State

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
Putting National Goals at a local level

See any trucks, railcars, barges or planes?
Freight Movements Not Going Away!! So…

Three Options Exist at local level:

- Build (improve) freight system capacity
- Increase Efficiencies and Operations
- Create or Support emerging transportation options (thinking outside the box)
Urban Freight Faces Unique Challenges - Ownership

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

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

- Operations
- Parking
- Night Delivery
- Intermodal Terminals
- Shipper expectations
- Dimensions
- Routing
- Automation
- Fleeting
- Congestion costs
If I gave you one dollar... What would you buy?
• 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
Strategies Recommended By LATTS

• Utilization of Existing Infrastructure
• Add Physical Infrastructure
• Increase Operating Throughput
• Corridor Approach for Investing
• Develop Agile Freight Operations
• Improve Clearance at Gateways
• Attention to Connectors

• Encourage Technology
• Integration of Information
• ITS Applications
• Increase Public Awareness
• Improve Institutional Relationships
• Improve Freight Profile
• Partnerships
Table 12: Freight TDM Strategy Impacts and Implementation Difficulty

<table>
<thead>
<tr>
<th>TDM Strategy</th>
<th>External Costs</th>
<th>Private Costs</th>
<th>Difficulty to Implement</th>
</tr>
</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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<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>0</td>
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<tr>
<td>Land Use Strategies</td>
<td>+</td>
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<tr>
<td>Parking Policies</td>
<td>+</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Planning Information Strategies</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Beneficial Impact | +
Detrimental Impact | -
No Impact | 0
Dependent upon other variables | ~
Okay, we need a freight plan...
Does Understanding The Big Picture Matter?

• Will imports/exports go up or down in 10 years?
• Where will people live in twenty years?
• Where will the state see more truck traffic?
• What if we go to heavier/longer trucks?
• What if the State attracts more manufacturing, energy jobs?
• Truck parking issues?
• What is my neighbor doing?
• What will this change and where?
Congratulations
You just worked on a freight plan.
PLANNING

No matter how detailed you make it, you are still trusting that others can understand it.
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 products from either the same or different shippers);
- The economic multipliers associated with the shipment (tied to other modeling efforts);
- Cargo ownership, including the names and addresses of the shipper, receiver, and carriage provider;
- Tax and fuel payments tied to shipment;
- The relationship between goods movement to the economy and jobs;
- Timely data collection and reporting of the shipment event to others (the information is reported fairly quickly after the shipment occurred);
- Identifying the actual product that was shipped?
Data Sources

• Economic
  • BEA, CBP, MSA

• Operational
  • FAF, Trade Stats, CFS, Rail waybill, Corps of Engineers, BTS airplane

• 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
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
Everyone is surrounded by reports, studies, models, but...

We Want People To Make Better Decisions
I Need Your Help...
Georgia’s Work Plan—different study 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>
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</thead>
<tbody>
<tr>
<td>Task 2:</td>
<td>Making the Business Case for Freight &amp; Logistics</td>
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<td>Task 3:</td>
<td>Strategic Freight &amp; Logistics Framework</td>
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<td></td>
<td>» Multimodal Summary</td>
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<td></td>
<td>» Modal: Air Cargo</td>
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<tr>
<td>Task 4:</td>
<td>Economic Evaluation and Scenario Projection</td>
</tr>
<tr>
<td>Task 5:</td>
<td>Recommendations &amp; Project Evaluation</td>
</tr>
</tbody>
</table>
ITTS Website and materials

- Word clouds
- State data
- Reports
- Newsletter
- Conference
- Network
Freight Template Elements

- Local Perspective
  - Top Industries
  - Interviews with 3 relevant groups
- Tell the Story - Data and analysis
  - Transportation Data from MSA, CBP, FAF (where appropriate)
  - Economic data
  - Demographic data
- Graphics
  - Map of inventory and key facilities
  - Lots of local pictures
- Challenges and Future Efforts
  - SWOT Analysis
  - Long Range plan
Challenges to improving urban freight

- **Hard Assets - Physical**
  - Cost increases
  - ROW issues
  - Existing Capital Stock
  - Increased maintenance needs
  - Realigning roadways

- **Soft Assets - Operations**
  - Private, quasi public sector leadership
  - Integrate with other programs
  - Work zones
  - Information Sharing

- **Tell me why...**
  - Funding needs for capacity and operations
  - Role of public and private sector actions
  - not clearly identified
  - Expectations for promised projects remain
What are you drinking next?

- It came from somewhere
- It was packaged ready for your needs
- It was available when you wanted it
- It should meet your expectations concerning price and quality
- Did it generate any jobs in your area?
- You helped make this happen…