Industry Impacts of Urban Area Freight Access

Paul Bingham, EDR Group

October 19, 2017

I-NUF Conference
Long Beach CA
Reduced Urban Freight Access Impacts

- Increased Delay and Reduced Reliability for all Traffic
- Operations Overtime Cost
  - Additional drivers
  - Inventory costs
- Extended Operating Hours
  - Shifts and cut-off times
- Dispersion of DC / Warehousing and Operation Locations
- Diversion of Shipments to Facilities Outside the Urban Area
- Increased Outsourcing of Transportation Services
Reduced Freight Market Access Impacts
*Trends Due to Urban Congestion & Operating Constraints*

- More freight-dependent businesses operating at night
  - Higher density of operations in “off-off-peak”
  - Issues of driver safety and regulatory limits on hours of service
- Delivery receiving hours still limit distribution “off-peak” options, sometimes by regulation
- Businesses still pay for loss of productivity as fewer “turns” for regional runs possible
- Staggered shifts nearing implementation limits
Coping with Access Limitations

Emerging Issues with Cost Implications

- Increasingly complex logistics practices
  - Medium sized businesses, especially trade-oriented, heavily reliant
  - Omni-channel demands for eCommerce distribution/delivery
  - Specialization in DC/warehousing technology, functions and sizes
- Shift to 3rd party logistics and for-hire services
  - Limiting private operations to core services, unless you are Amazon
  - Reduce operating risks of capital tie-up and labor costs
  - Smaller firms are greater users for both domestic and international
- Focus on exports and out-of-region markets
  - Increases role of urban transportation freight infrastructure
  - More extensive use of larger trade gateway ports / airports
- Hours of Service / ELDs limit driver deployment
Reduced access reduces the advantages of a location by raising costs or equivalently, reducing the size of the customer and supplier (including workforce) markets for the same cost / time.

Factors in

- Business Retention
- Expansion
- Attraction

- Freight Delivery Routes & Markets
- Warehousing and Distribution Logistics
- Labor Markets: Cost & Skill Availability
- Land and Operations Costs
- Quality of Life
Example Economic Impact of Potential Transportation Access Improvement Investments
Network Improvements Reduce Impacts

Example Improvement vs. Baseline by 2040

Source: Portland Metro; Oregon DOT
Comparing the Impacts of Improvements

EXAMPLE PORTLAND IMPROVEMENT IMPACTS

Without Improvements

69 Hours / yr

Spent in congestion per driver

IMPROVED

37 Hours / year

TRAVEL DEMAND MODELED REDUCTION IN ANNUAL DRIVER TIME IN THE URBAN AREA SPENT ON ROADS WITH A VOLUME / CAPACITY RATIO OF 0.9 OR GREATER
## Economic Benefits of Improved Access: Value of Time and Reliability Basis

### Economic Benefits, Annually, by year 2040

\[ \text{Benefits} = \text{Value Added} + \text{Travel Time & Safety} + \text{Health (emissions)} \]

<table>
<thead>
<tr>
<th>Portland Area</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Benefits*</td>
<td>$822 Million</td>
</tr>
<tr>
<td>Jobs**</td>
<td>5,897</td>
</tr>
</tbody>
</table>

* Includes GRP, traveler non-monetary benefits, and societal benefits

** Change to average annual employment level

Source: EDR Group modeled using TREDIS
Access Impacts by Industry

Congestion access impacts affect all industries

Source: EDR Group.
Thank You

pbingham@edrgroup.com
Urban Freight Access Impacts on Industry

- How do limitations on urban freight access due to congestion and operating constraints affect business transportation decisions and operations?
- How is urban freight access changing?
- What are the impacts of urban freight access on economic performance of industry?
- What are the effects of transportation investments to improve urban freight access for the economy?