Ohio Statewide Freight Strategy

Ohio Transportation Planning Conference

July 15, 2014
Strategic Challenges

- Trucking Productivity
  - Hours of service, fuel cost

- Rail Adaptation for Growth
  - Developing intermodal partnerships

- Inadequate federal waterways investment
  - Dredging on lakes, locks and dams on river

- Changed air cargo landscape
Through and OH-based shipping use different roads
- I-71 is the most important route for intra-state trucks
Principal Roadway Network

Principal network:

- Balances Ohio’s needs
- Concentrates Ohio’s resources
Trucking Bottlenecks

- Trucking bottlenecks mainly urban, mainly interstates
  - Capital program generally is addressing
- Bottlenecks affect OH target industries - but not alike
- Regional system needs are different

OH Automotive Products by Truck, with Bottlenecks

OH Chemical Products by Truck, with Bottlenecks
<table>
<thead>
<tr>
<th>County Name</th>
<th>Route</th>
<th>Location</th>
<th>Project Status</th>
<th>Construction Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summit</td>
<td>I-76</td>
<td>I-76/I-77 at SR 8 Interchange</td>
<td>Preliminary development</td>
<td>N/A</td>
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<tr>
<td>Montgomery</td>
<td>I-75</td>
<td>I-75 at US 35 Interchange</td>
<td>In Construction</td>
<td>2014</td>
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<tr>
<td>Lucas</td>
<td>I-75</td>
<td>I-75/Lewis Ave/I-280 Interchange</td>
<td>In development</td>
<td>2015</td>
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<tr>
<td>Hamilton</td>
<td>I-75</td>
<td>I-75 at W 7th /W 9th St. Interchange (Brent Spence Bridge)</td>
<td>In development</td>
<td>Pending innovative finance</td>
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<tr>
<td>Hamilton</td>
<td>I-75</td>
<td>I-75 at US 27 Interchange (Mill Creek Expressway)</td>
<td>In development</td>
<td>2017</td>
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<tr>
<td>Hamilton</td>
<td>I-74</td>
<td>I-74/US 52 at I-75 Interchange (Mill Creek Expressway)</td>
<td>In development</td>
<td>2017</td>
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<tr>
<td>Hamilton</td>
<td>I-71</td>
<td>I-71 at I-275 Interchange</td>
<td>Not programmed</td>
<td>N/A</td>
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<tr>
<td>Franklin</td>
<td>I-70</td>
<td>I-70 at I-71 Interchange (East Interchange)</td>
<td>In development</td>
<td>2017</td>
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<tr>
<td>Franklin</td>
<td>I-71</td>
<td>I-71 at I-670 Interchange (Columbus Crossroads)</td>
<td>Construction Complete</td>
<td>2010</td>
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<tr>
<td>Franklin</td>
<td>I-71</td>
<td>I-71 (South Trench)</td>
<td>In development</td>
<td>2023</td>
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<tr>
<td>Franklin</td>
<td>I-71</td>
<td>I-71 S Freeway at I-70 Interchange (70/71/315 Interchange)</td>
<td>In development</td>
<td>2017, 2022</td>
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<tr>
<td>Franklin</td>
<td>I-270</td>
<td>I-270 (Trabue Road to Hilliard-Cemetery Road)</td>
<td>In development</td>
<td>2017</td>
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<tr>
<td>Franklin</td>
<td>I-70</td>
<td>I-70 at I-270 Interchange (east side; Far East Freeway Study)</td>
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<tr>
<td>Franklin</td>
<td>I-70</td>
<td>I-70 at I-270 Interchange (west side)</td>
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<tr>
<td>Franklin</td>
<td>I-270</td>
<td>I-270 (Easton Way/Morse Rd Collector-Distributor)</td>
<td>Construction Complete</td>
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<td>Erie</td>
<td>US 250</td>
<td>US 250</td>
<td>In development</td>
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<td>Cuyahoga</td>
<td>I-77</td>
<td>I-77 at I-90 Interchange (CCG3)</td>
<td>In development</td>
<td>2025</td>
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<td>Cuyahoga</td>
<td>I-77</td>
<td>I-77 at SR 14/SR 43 Interchange (CCG6A)</td>
<td>In development</td>
<td>2023</td>
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<td>Cuyahoga</td>
<td>I-480</td>
<td>I-480 at I-77 Interchange</td>
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<tr>
<td>Cuyahoga</td>
<td>I-480</td>
<td>I-480 at US 422 Interchange</td>
<td>Not programmed</td>
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</table>
### Truck Weight

- **What if Ohio could increase truck weights by 10,000 pounds?**

<table>
<thead>
<tr>
<th>Ohio Truck Volumes</th>
<th>Truck Traffic Type</th>
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<tbody>
<tr>
<td></td>
<td>Intrastate</td>
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<tr>
<td>Current Truck Count (80k pounds)</td>
<td>63,491,368</td>
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<tr>
<td>Truck Count (90k pounds)</td>
<td>62,272,117</td>
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<tr>
<td>Difference</td>
<td>(1,219,251)</td>
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<tr>
<td>Percentage Difference</td>
<td>-1.9%</td>
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</tbody>
</table>

- **Answer:** minimal impact, because
  - Limited to intra-state and Ohio-Michigan trips only
  - Most commodities don’t max out at 80,000 pounds
Truck Speed Limits

- In 2013 the Ohio General Assembly increased truck speed limits from 65 to 70MPH on rural interstates

- Using the Statewide Travel Demand Model, analysis found:
  - Truck VHT predicted to decrease by 2.5%
  - Truck VMT predicted to increase modestly due to route changes
Regional System Management

- The two-lane U.S. and State Route systems are critical to the supply chain
- Regional system disruptions not chronic, but have ramifications
- Performance risks require operational management
  - Statewide ITS coverage: speeds, closures, etc.
  - Incident management response
  - Ability to reroute through the system

Kenton
Natural Gas Fuel Conversion

- Natural gas is much lower cost freight fuel
  - Half the cost of diesel; sustainable difference
  - Hugely important to supply chain costs
  - Justifies equipment investment

- Cleaner fuel for NOx, particulates (carbon mixed)

- Industry taking natural gas seriously
  - P&G target: 20% of truck shipping in 2 years
  - All UPS 2014 Class 8 (large) truck purchases will be NG
  - Half of large truck fleets evaluating

Source: Forbes
Development Strategy

- **Natural gas is Ohio fuel**
  - OH shale, OH truck manufacture, OH supply chains

- **Truck operating ranges reasonable, significant**
  - CNG 300-400 miles: regional
  - LNG 500-600 miles: interstate

- **Strategic steps with industry:**
  - Increase fueling stations
  - Expand LNG stations in non-attainment areas
  - Incentivize fleet conversion

- **MAP-21 supports fuel station expansion in STP, CMAQ**

Source: Altfuelsources.com
Strategies – Rail Freight
Improvements & Expansion

- Bring full system up to industry standard 286K lbs.
  - 204 miles, roughly $36 million required
- Support network development in shale country
  - Transload facilities, spurs, upgrades and possible reactivation of line
Intermodal Rail Shifts

- Domestic growth, shorter distances
  - Due motor carrier fuel costs, asset utilization, transloading
  - Eastern roads leading: “550+ Mile Market”

- New cranes & operating model
  - Sorting efficiency allows hub
  - Greater terminal capacity – and green
  - New terminals in bigger network
  - More markets in play, OH is epicenter
Rail/Highway Impact

- Case Study: North Baltimore Ohio to Atlanta, GA
- 400,000 tons of “divertable” truck freight (shipment size, distance)
- Equates to about 60 trucks per day, or 1.5% of truck traffic on I-75
Water Challenges

- Federal funding is inadequate for long term dredging and maintenance of Lake Erie Ports
- Similar investment shortfalls exist for the inland waterway system
- Private terminals, and competitive issues, hinder public investment programs
Port Strategies

- Advocate for more federal funding for waterway maintenance:
  - Lake Harbor Dredging
  - Think of the alternative: lower drafts? Barges? Port closures?
  - River Locks and Dams
  - Alternative: shifts to truck and rail?

- Assure waterway access
  - Road and rail

- Develop Opportunities
  - Oil/natural gas
  - Heavy lift and project cargo

New rail spur at the Port of Toledo
Air Cargo Challenges

- Extremely tight margins for competitors
- Recession of 2008 – 2009 eliminated the weak
  - “Mode shift” to two-day trucking service
- Next-day parcel service is now dominated by FedEx and UPS
- International cargo lands in major population centers: New York, Chicago, Los Angeles.
  - Belly cargo in passenger planes
  - Redundant schedules if a shipment misses a certain flight
Air Strategies

- Each former air cargo hub needs a unique strategy, e.g.,
  - Rickenbacker charter service
  - Toledo truck logistics center
  - Other niches unique to the geography