Freight Planning Update

October 24, 2019
Responding to the Growth of E-Commerce
Goals

Understand the impacts that growing e-commerce may have on transportation, land use, fiscal condition, the environment, and the workforce

Develop local, regional, and state policies, investment strategies, and other responses to direct impacts and take advantage of opportunities
E-Commerce Retail Sales as a Percent of Total Sales

Source: Federal Reserve Bank of St. Louis
Transportation Impacts

Urban VMT

Roadway congestion

Wear and tear on roads

Curb congestion and use conflicts
Annual Urban Truck VMT, Illinois

Source: Illinois Travel Statistics, Table TVT-1
### Uncertain Land Use Impacts

**How Much Real Estate Does a $1B Retailer Need?**

<table>
<thead>
<tr>
<th>Brick &amp; Mortar Real Estate Footprint: 2.8 MSF</th>
<th>E-commerce Real Estate Footprint: 1.0 MSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail: 2,500,000 SF</td>
<td>Logistics: 325,000 SF</td>
</tr>
</tbody>
</table>

Source: Prologis Research
Other impacts:

Communities
Environment
Workforce
The industry is changing

Increased omnichannel approaches (mix of physical and online outlets)

Adaptation by traditional brick and mortar retailers

Shifting distribution strategies and the addition of urban delivery hubs

Changing regulatory environment (sales taxes)
Water Transportation Planning
Illinois International Port District (IIPD) Master Plan
IIPD Master Plan

IIPD properties
- Iroquois Landing
- Lake Calumet

Identify strategies to better utilize existing facilities.

Position the port to realize its full economic potential.

Provide workforce, community, recreational, and environmental benefits.
IIPD Master Plan

Phase I
- Examine existing conditions
- Perform market assessments
- Visioning

Phase II
- Scenarios for improvements and developments
- Identify key initiatives
- Identify a series of near- and long-term implementable actions

https://www.cmap.illinois.gov/programs/lta/iipd-master-plan
Motorist Delay at Grade Crossings

Purpose of analyses
Estimating crossing delay
Prioritization of crossings
Feasibility studies
Purpose of analyses
There are 1,646 highway-rail grade crossings in the 7-county Chicago region.
Regional Indicator

Indicator:
Motorist delay at highway-rail grade crossings

Key:
- Actual
- Target

Source: CMAP analysis of Illinois Commerce Commission data
How to Reduce Crossing Delay

Improve rail-system performance (speed up trains).
- CREATE Program, e.g., WA-11 on Dolton and Riverdale
- Additional track (e.g., UP West Line), sidings, and crossovers
- Terminal improvements (reduce switching and dead-heads)

Consolidate problematic crossings

Reroute highway traffic to better-performing crossings

Grade separations
Estimating Crossing Delay
New Method for Estimating Delay

Estimating grade crossing delay

Note: VPH means “vehicles per hour.”
Data was collected over two summers at 40 sites, primarily by summer interns.
New estimates of daily freight trains were required. CMAP compiled industry data supplemented by field data collection.
Freight trains are slower than expected.

Queue-clearance times are substantial.

At this crossing, ICC-estimated average gate-down times were 1:00 for Metra trains and 2:24 for freight trains.
Results: Motorist Delay per Crossing

Average of Old Estimates of Delay:
- 46 hours per weekday
- Range 2 - 182

Average of New Estimates of Delay:
- 120 hours per weekday
- Range 2 - 430

Percent Change: 160%
Prioritization of Crossings
Grade Separation Prioritization

Based on:
- estimate of crossing delay
- estimate of crash risk
- truck exposure
- transit impact
- initial analysis of likely impacts
- status of project development
Feasibility Studies
Grade Crossing Feasibility Studies

- Up to 5 crossings to be studied
- Outreach and engagement
- Existing conditions analysis
- Purpose and need
- Alternatives Screening and Feasibility Study
- Employing FHWA’s Planning and Environmental Linkages process to prepare a purpose and need statement and screened alternatives for the preliminary engineering and environmental studies process.
Truck Studies

- Truck Bottlenecks
- Truck Route Studies
Truck Bottlenecks
- Results from 2015 and 2018
- Identified using NPMRDS
Hours of truck congestion per day, 2015
Hours of truck congestion per day, 2018
Truck Route Studies
- O’Hare (2017)
- Western Will County (just under way)
- Southwest Chicago Communities (planned)
- South Suburban (planned)
### Conceptual framework

<table>
<thead>
<tr>
<th>Road Level</th>
<th>Proposed Level A</th>
<th>Proposed Level B</th>
<th>Proposed Level C</th>
<th>Proposed Level D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designate a Class I Truck Route?</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Designate a Class II Truck Route?</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Designate a Locally Preferred Truck Route?</td>
<td>No</td>
<td>No</td>
<td>Maybe (if allowed under IL law)</td>
<td>No</td>
</tr>
<tr>
<td>Undesignated Roads and Streets?</td>
<td>No</td>
<td>No</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td>Truck Route Sign?</td>
<td>Yes</td>
<td>Yes</td>
<td>Maybe</td>
<td>No</td>
</tr>
<tr>
<td>Truck Restriction?</td>
<td>No</td>
<td>No</td>
<td>Maybe (if allowed under IL law)</td>
<td>Yes</td>
</tr>
<tr>
<td>Truck Investment?</td>
<td>Yes (Prioritized)</td>
<td>Yes (Balanced)</td>
<td>Maybe (focus on small trucks)</td>
<td>No</td>
</tr>
<tr>
<td>Primary Investment Guidelines</td>
<td>AASHTO</td>
<td>AASHTO</td>
<td>AASHTO/NACTO</td>
<td>NACTO / AASHTO</td>
</tr>
<tr>
<td>Included in a Truck Route Map?</td>
<td>Yes</td>
<td>Yes</td>
<td>Maybe (if allowed under IL law)</td>
<td>No</td>
</tr>
</tbody>
</table>
Level A
Level A
Level B
Level A
Level B
Level C
Level D
Recommended CMAP actions

- Assist local agency truck route designations.

✓ Collect and maintain truck restriction data (SB 1381 now PA 101-0328).
Address highway designation law
Changes in highway designation law

Public Act 100-0343

625 ILCS 5/15-107(b) On all non-State highways, the maximum length of vehicles in combinations is as follows:
(1) A truck tractor in combination with a semitrailer may not exceed 65 feet overall dimension. An agency or instrumentality of the State of Illinois or any unit of local government shall not be required to widen or otherwise alter a non-State highway constructed before [January 1, 2018] to accommodate truck tractors under this paragraph (1).
Changes in highway designation law

Public Act 101-0328

- 5-mile access for the largest vehicles to all roads not otherwise restricted
- Access can be for food, fuel, loading, unloading, repairs, or rest
- Eliminates Class 3 truck routes
- Class II truck routes reported to IDOT, but signs are no longer necessary
- Truck restrictions may be reported to IDOT
- IDOT must post local truck restrictions to its web site
Changes in highway designation law

Key takeaways:
- New laws better align with municipal practice
- New laws will place greater importance on getting restrictions right
- With greater legal access for large trucks on local roads, there will be more importance on assuring those roads are structurally suitable for large trucks
- New investments for trucks may be increasingly important

Will need to revisit specific O’Hare study recommendations. Will need to consider new law in the course of upcoming studies.
www.cmap.illinois.gov/onto2050
Tom Murtha
312.386.8649
tmurtha@cmap.illinois.gov