Wisconsin’s Multimodal Freight Network Project

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Presentation Overview

- Wisconsin’s Focus on Freight
- WisDOT’s Multimodal Freight Network Project Overview
- WisDOT’s Process for Developing/Implementing the Freight Factor Tool
- Next Steps
Wisconsin’s Focus on Freight
State of Wisconsin Freight Activities

- Governor’s Freight Industry Summit
- Freight Mobility Action Agenda
- Transportation Finance & Policy Commission
Freight Policy in the Statewide Long-Range Multimodal Plan

- **Freight Focus**: WisDOT’s strategy for incorporating freight planning in its day-to-day activities
- **Facilitate & Advocate**: Bring stakeholders together
- **Data**: Capture new data in different ways
- **All-mode freight study**: Provide the structure to determine WisDOT’s freight mission, goals, objectives
Improving Data Quality: Leveraging Interagency Partnerships & Region Knowledge
WisDOT’s Multimodal Freight Network Project Overview
To better address freight-related issues, and be more responsive to freight industry concerns, WisDOT set out to:

- Develop a prioritized transportation network that targets freight mobility needs
- Establish a dynamic process that defines a short term program of potential activities, including ongoing data updates
- Evaluate how to encourage increased integration of freight data into WisDOT program and policy decisions
- Create an investment and decision support tool, rather than a long range plan or State Freight Plan
WisDOT needs a decision support tool to incorporate freight needs into planning, programming and project design decisions.

Freight will then take its place among other long-standing WisDOT decision support tools, including:

- Pavement Condition Index – tool for evaluating where pavement needs exist
- Crash Rate/Crash Severity – tool for evaluating where safety needs exist
- Highway Level of Service (LOS) – tool for evaluating congestion on highways and identifying locations where capacity needs exist
Commodity-based Approach

- Unique supply chains for specific sectors of the economy have unique needs
- Commodity research identified the top Wisconsin freight commodities driving economic output
- Selection of mode choice by shippers relates to the nature of the commodity
- Some commodities require specific equipment
Commodity Profiles

- Top Wisconsin freight commodities by tonnage, value and regional economic importance
- Profiles contain descriptive statistics, commodity flows and forecasts
- Profile data helped identify critical freight highway routes and facilities
Highway Freight Factor Data & Criteria

- Commodity flow characteristics (from TRANSEARCH)
  - Originating, Terminating, Internal and Overhead
  - Commodities have different flow characteristics and supply chains

- High Truck Volume on routes not designated Corridors 2030 Backbone or Connector

- Higher than average daily trucks per lane and segments with high percentages of trucks (compared to all highway traffic)

- WisDOT’s Oversize/Overweight Highway Freight Routes
Highway segments are scored according to how important that segment is to freight movement in Wisconsin - defined by tonnage, value or economic importance.

The Freight Factor scores can be used to evaluate where critical freight links are located, and their relative importance to freight in Wisconsin.

WisDOT is in the process of developing policies for how the Freight Factor data will be used in corridor planning, corridor management, programming, project scoping and project designs.

Upon completion of this cooperative process, WisDOT will then be able to use the Freight Network data as a decision support tool for multimodal freight transportation investments.
Weighted Groups of Criteria above Thresholds Combine to Produce Total Scores

- **Commodity Flow**: 55%
- **Truck ADT**: 33%
- **Special Designation**: 12%

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### Criteria

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<thead>
<tr>
<th>Criteria</th>
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<tbody>
<tr>
<td>Originating Tons – Top 30%</td>
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<td>Originating Value – Top 30%</td>
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<tr>
<td>Internal Value – Top 30%</td>
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<td>Internal Tons – Top 30%</td>
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<td>Terminating Tons – Top 30%</td>
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<td>Total Tons – Top 40%</td>
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<td>Total Value – Top 30%</td>
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<tr>
<td>Non BB Truck Route ADT – Top 30%</td>
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<tr>
<td>Truck ADT Per Lane – Top 30%</td>
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<tr>
<td>WisDOT’s OSOW Freight Network (All)</td>
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<td>Non-Interstate STRAHNET (All)</td>
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**Total Score**
WisDOT’s Process for Developing and Implementing the Freight Factor Tool
Key Multimodal Freight Network Outreach Events:

- **External Stakeholder Focus Group Meetings (2012)**
  - Held focus-group style meetings to discuss preliminary statewide data analysis
  - Gathered feedback during meetings and from follow-up comments/completed questionnaires
  - Helped WisDOT refine the project scope and validate data assumptions

- **Internal Stakeholder Meetings with Region Staff (2013)**
  - Multimodal Freight Network Staff met with all 5 WisDOT Regions
  - Draft Highway Freight Factor analysis and maps presented to Region Staff
  - Region Staff provided comments on the Highway Freight data and discussed potential uses for the Highway Freight Factor Tool
Completed in 2012

- Gathered and expanded freight data used by WisDOT
- Held external stakeholder meetings with private and public sector freight users and advocates
- Analyzed how commodities move from, to, within and through Wisconsin
- Defined a Draft State Freight Network and Multimodal Freight Corridors
- Set up the Multimodal Freight Network Web-site to disseminate freight data and analysis across WisDOT: www.dot.wisconsin.gov/business/freight/network.htm
- Began draft development of a “Freight Factor” tool to capture a highway’s importance to freight movement
Underway in 2013

Activities during Spring and Summer:

- Incorporated updated TRANSEARCH, Metamanager and Oversize/Overweight Network Data
  - Data update and scoring
  - Mapping

- Regional verification of statewide results & data needs
  - Region overview presentations
  - Regions provide comments/suggestions for improvements; additional data needs
  - Next step: Make final adjustments to highway freight factor
Freight Data Improvements

- WisDOT purchased TRANSEARCH 2011 data to improve commodity-flow data (from 2007)

- Acquired refreshed highway system condition data and latest version of WisDOT’s OSOW Network

- Draft Highway Freight Factor Maps updated with new freight data for Regional Meetings in June
Meetings with interdisciplinary teams at WisDOT’s Region Offices were conducted to validate data, review methodologies and discuss implementation possibilities
Region Outreach

- Region Outreach Meetings Targeted Potential Users:
  - Planning staff responsible for corridor management, local coordination, multimodal assistance and programming
  - Members of region scoping teams, including planning engineers, scoping/design engineers, and traffic engineers
  - Project development and operations staff with freight-related duties
  - Region Planning, Programming and Operations Supervisors, Project Development Supervisors and senior management, including Region Director or Deputy Director
Ideas/Comments from Region Meetings

- Commodity flow and business location data is very helpful for Interstate Conversion projects and other efforts that have an economic development component (TIGER grants, for example)

- The highway Freight Factor tool and data should be widely accessible within WisDOT at first (Internet linked Interactive Web-maps preferred over GIS files)

- WisDOT should update the data annually in Spring to align with other data update cycles used in Regions

- Charter a Freight Network Users Group comprised of Central Office and Region Staff that work on freight projects; this forum can be used for training, communicating policies and procedures, and for statewide sharing of information and expertise
Enhanced Accessibility for Freight Data

- Interactive Web-mapping application is under development to share and visualize freight data and project priorities.
- Contains detailed information on commodity flows moving through WisDOT regions, counties, multimodal corridors and urban areas.
- Searchable point data showing locations of major freight generating businesses and motor carriers.
Screen shot from WisDOT’s Interactive Corridor Maps Application Tool for Planning & Programming Staff
Activities Planned for Fall 2013

- Place finalized Freight Factor data into Interactive Web-Mapping Application and Freight Data Warehouse
  - Interactive Tool roll-out and testing by WisDOT staff
- Governor’s Freight Industry Summit: November 2013
- Implement highway freight factor tool
  - Use Highway Freight Factor Scores for prioritization
  - Map-21 Freight Provisions:
    - National Freight Network
    - Critical Rural Freight Corridors
Next Steps in 2014

- Continue data analysis and develop freight factors for non-highway freight modes

- Address intermodal connectivity: identified early-on as an area where WisDOT could improve data, processes and programs

- Address private ownership issues that impact data development for railroads, ports and harbors; increased public-private coordination to conceptualize and fund projects

- Adapt air freight recommendations to address changing air cargo traffic patterns
Thank You!