Integrating Freight in Statewide Planning and Programming Study

Steering Committee Meeting #2
May 3, 2013
Meeting Agenda

- Meeting overview and introductions
- Introduce companion effort with Olsson and Associates
- White Paper #1 - Freight Goals and Objectives
- Update on District Planner, MPO, and Central Office Surveys
- Discussion Topic – “What is a Freight Project?”
- Next Steps/Action Items
Companion Effort with Olsson and Associates

- Overview Olsson scope and coordination with SRF
- Freight Scenario Planning
- Discuss selected scenarios
Olsson Associates Scope

1. Assemble Relevant Issues and Trends
2. Develop a Regional Freight Planning Framework
3. Develop a Freight Data Plan
4. Conduct a Freight Scenario Planning Workshop
Freight Scenario Planning

Point Forecast
Today

Risk Management
Today

Scenario Planning
Today

- Naftastique'
- Global Marketplace
- One World Order
- Million Markets

MIT Future Freight Flows Project.
Adapted from Dr. Mahender Singh SC2020 & NCHRP 20-83-01
Future Scenarios

• Highly competitive, volatile world
• Open, vigorous trade (global trade on “steroids”)
• Market-based approaches to most contemporary challenges
Future Scenarios

- Key global resources become scarce
- Nations establish strict international rules to guide sustainable development
- Global trade continues but is highly regulated
Future Scenarios

- Advanced technology replaces economies of scale for lowering the costs of production
- The U.S. becomes highly self-reliant in terms of energy, agriculture, and manufacturing
- Population migrates toward smaller urban areas supported by regional innovation hubs that manufacture highly customized goods locally
Future Scenarios

- Major shift in geo-political alliances
- Regional trading blocs emerge, including a North American economic community
Freight Scenario Planning Workshop

- Validate the plausibility of each scenario
- Explore each scenario across three dimensions:
  - National / Global Trends
  - Regional Industry Trends
  - Multimodal Policies and Projects
White Paper #1: Comparing National Freight Policies and MnDOT Planning Documents

“How do MAP-21 and National Freight Goals line up with MnDOT policy?”
Key elements

• Look at national policy: MAP-21 and national strategic freight goals
• Compare with MnDOT’s statewide policies
• Explore how MnDOT should satisfy MAP-21 Freight Provisions
MAP-21 Summary: Freight Elements

• Establishes a national freight policy to improve condition and performance of the national freight network

• Encourages development of State Freight Plans and State Freight Advisory Committees

• Identifies national strategic freight goals
### MnDOT Policy

#### Minnesota Go (Vision)
Sets a 50-year vision and guiding principles for transportation in the state

#### Minnesota Statewide Multimodal Transportation Plan
- Based on the vision and guiding principles established in Minnesota Go
- Establishes transportation objectives and strategies for the next 20 years

#### Minnesota State Highway Investment Plan
- Based on the objectives and strategies in the Minnesota Statewide Multimodal Transportation Plan
- Identifies specific state highway projects for construction and describes investment priorities for the next 20 years
- The future Minnesota Comprehensive Statewide Freight Plan and other modal plans will also fall under the Minnesota Statewide Multimodal Transportation Plan
MnSHIP Freight-Related Investment Categories

<table>
<thead>
<tr>
<th>Investment Category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pavement Condition</td>
<td>Investments in pavement condition are designed to meet targets set in MAP-21 for the Interstate and NHS systems.</td>
</tr>
<tr>
<td>Bridge Condition</td>
<td>MAP-21 has set a target of 10 percent poor for the bridge deck area condition on NHS roads.</td>
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<tr>
<td>Roadside Infrastructure</td>
<td>This category typically involves the repair/replacement of existing elements such as culverts, guardrails, signals, rest areas, signs, and pavement markings.</td>
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<tr>
<td>Traveler Safety</td>
<td>The Statewide Performance Program includes investments identified as part of the Highway Safety Improvement Program (HSIP).</td>
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<tr>
<td>Twin Cities Mobility</td>
<td>MAP-21 emphasizes reliability of movement on major state highways that move the majority of freight throughout the country. The Twin Cities have the most extensive congestion issues and carry the largest volumes as well as the most freight.</td>
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<tr>
<td>Critical Connections (Interregional Corridor Mobility)</td>
<td>This category focuses on reducing delay and travel time on routes between regional trade centers. The NHS system is a priority in MAP-21 and the IRC system overlaps the NHS system.</td>
</tr>
<tr>
<td>Regional Community Improvement Priorities (RCIP)</td>
<td>Investments that respond to regional concerns and collaboration opportunities, opportunities to deliver innovative and creative proposals (destination innovation), Transportation and Economic Development Program (TED), and the Corridor Investment Management Strategy (CIMS) Solicitation.</td>
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Communicating Freight Benefits

• Freight benefits are associated with different MnDOT investment categories
  – Large share of MnDOT’s capital investments benefit freight
  – Most of these investments aren’t identified as “freight projects”

• Financing and funding freight specific projects
  – Communicating freight benefits may help applicants for competitive transportation solicitations
# Freight Benefits from State Highway Investments

<table>
<thead>
<tr>
<th>Asset Management</th>
<th>Investment Category</th>
<th>Years 1-10</th>
<th>Years 11-20</th>
<th>Type of Improvement</th>
<th>Type of Freight Benefits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement</td>
<td>54% 24%</td>
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<td></td>
<td>Better Pavement Condition</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<tr>
<td>Bridges</td>
<td>17% 22%</td>
<td></td>
<td></td>
<td>10-Ton Routes (Strengthening of Pavements)</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
<td></td>
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<tr>
<td>Roadside Infrastructure</td>
<td>5% 3%</td>
<td></td>
<td></td>
<td>Bridge Replacements (No Posting on Structures)</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Improved Signage/Visibility</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Replacing Guardrails &amp; Barriers</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Rest Area Improvements/Upgrades</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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<table>
<thead>
<tr>
<th>Critical Connections</th>
<th>Investment Category</th>
<th>Years 0% 0%</th>
<th>Type of Improvement</th>
<th>Type of Freight Benefits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermodal Corridor (IRC) Mobility</td>
<td>0% 0%</td>
<td>Improved Capacity on Critical Connections (e.g., 2-3 new carriageways on IRCs, interchanges, etc.)</td>
<td>✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓</td>
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</table>

| Twin Cities Mobility | 10% 0% | MNUanes | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |
|                      |       | Metro Congestion Management Safety Program | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |
| Bicycle              | 3% 0% | Bicycle (Filling gaps, paved shoulders, wider bridges) | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |
| Pedestrian           | 2% 2% | Pedestrian (ADA infrastructure, sidewalks, etc.) | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |

| Regional Community Improvement Program (RCIP) | 0% 0% | RCIPs - Turn lanes, interchanges, intersection upgrades, etc. | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |

| Safety | 5% 3% | Intersection upgrades, improved lighting, signage, etc. | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |

*Redirects add to approximately 89.92% project support requires the remaining 8.11%.
**Improved flow in MoTAS lanes results in improved flow for mixed lanes.
Other Findings

• The Primary Freight Network may impact MnDOT’s level of federal funding
• USDOT will release freight performance measures as early as fall 2013
• MAP-21 expands the types of projects eligible for federal funding
Other Findings

• The next Statewide Freight Plan should:
  – Incorporate the National Strategic Freight Goals
  – Respond to the six required elements in MAP-21
  – Increase stakeholder input into the freight planning process
District Planner, MPO, and Central Office Freight Surveys

Project Prioritization and Selection Process
Survey purpose:

• Explore issues related to how freight projects are prioritized and selected in Districts, MPOs and CO
• Identify information that is used in freight planning at MnDOT and in the MPOs
• Identify additional information that could contribute to the freight planning process
District Planner Survey

Main takeaways:

• Planners are generally aware of freight issues in each District; these issues can vary by District.

• Freight data and information are often considered after a project is selected — not as much in selecting projects.

• MnDOT investments focus on priorities that include freight as well as other needs (asset management, traveler safety, mobility, etc.)
District Planner Survey: Q1

“What are the most important freight-related issues in your district?”

• Different districts face different issues
  – Agricultural, mining, timber movements
  – Access to ports, intermodal facilities
  – Weight limits in adjacent states or districts; spring weight restrictions
  – Last-mile connections
  – Rest areas
  – Roundabouts
  – OSOW movements
  – At-grade railroad crossings
  – Culvert failures/flooding
  – ITS/Emergency alternate routes
  – Need for additional river crossings
“Based on freight movements in your District, what type of transportation improvements would benefit these movements the most?”

• Responses focused on issues presented in Q1
• Responses identified improvements from each of MnDOT’s highway investment areas:
  – Asset condition, safety, critical connections, regional & community improvement priorities
District Planner Survey: Q3

Do you feel freight is adequately represented in your project identification and prioritization process? Have you heard complaints from stakeholders in your District?

• Districts feel that freight could be better represented
• MnDOT’s investment priorities emphasize projects that manage a broad set of risks, including (but not limited to) freight
• Competing interests negatively affect freight movements – people discourage trucks through town, bike/ped accommodations compete with freight movements, etc.
“Does your District take into account freight when identifying and prioritizing future projects in the STIP and HIP? How much weight are these factors given?”

- Districts often have difficulties balancing investment priorities – there are many competing needs.
- Some freight-related data is used, but Districts generally know what their priority freight investments are.
- Districts expressed interest in obtaining a variety of freight data based on specific needs; however, the data oftentimes is not used in the project development process.
“How do you communicate the benefits of projects to stakeholders? Do you distinguish “freight” projects in this process? Do you think this is necessary?”

- Projects are generally not distinguished as “freight” projects.
- A project’s freight benefits are usually only communicated if the project is very large.
- Districts could publish freight benefits in construction pamphlets or other marketing materials.
District Planner Survey: Q6

“What kinds of metrics or freight performance measures do you think should be tracked over time to determine how Minnesota is doing with respect to accommodating/moving freight?”

• Districts proposed a variety of different freight measures:
  – Volume/value of goods shipped, delays on freight bottlenecks, reliability, expanded IRC travel time delay measures, distance between rest areas.

• Focus on mobility, reliability, and restrictions
Main takeaways:

• Communication with stakeholders is an important and evolving issue in freight planning at MPOs
• Freight concerns vary substantially among MPOs
• As major origins/destinations of freight movements, MPOs’ role in freight planning merits additional consideration
MPO Survey: Q1

“What are the most important freight-related issues in your MPO?”

• Different MPOs face different issues:
  – At-grade rail crossings, frequency/duration of daily freight trains
  – Agricultural freight movements
  – Rail-freight intermodal connections
  – Truck turning radii at intersections
  – Interregional highway connections
  – Systemwide freeway congestion
  – Trunk highway mobility
  – Air and rail freight mobility
  – Truck safety
  – Shortage of overnight truck parking facilities
  – Specific highway improvement projects, etc.
MPO Survey: Q2

“Based on freight movements in your MPO, what type of transportation improvements would benefit these improvements the most?”

- Responses focused on issues presented in Q1
- Focus was more on mobility and RCIP improvements than asset condition
MPO Survey: Q3

“Do you feel freight is adequately represented in your project identification and prioritization process? Have you heard complaints from stakeholders in your MPO?”

- Freight receives varying degrees of consideration within the MPO planning process
- Varying degrees of stakeholder feedback is received among MPOs
- There is interest among MPOs in strengthening relationships with freight stakeholders
MPO Survey: Q4

“Does your MPO take into account freight when identifying and prioritizing projects in the TIP and STIP? How much weight are these factors given? How is it different for state-owned roadways compared to county roads or other local roads?”

- Freight is a concern but is not necessarily a top priority in identifying and prioritizing TIP/STIP projects.
- There is a limited amount of freight data that is used.
- MPOs expressed some interest in additional measures, including:
  - HCADTs, time-of-day specific truck volumes, and better rail data.
MPO Survey: Q5

How do you communicate the benefits of projects to stakeholders? Do you distinguish “freight” projects in this process?”

- Projects are generally not distinguished as “freight” projects
  - Freight benefits are one of many possible outcomes from a given highway investment.
- Outreach efforts such as committees could be better used to bring in discussion of freight projects
MPO Survey: Q6

“What kinds of metrics or freight performance measures do you think should be tracked over time by MPOs and/or MnDOT to determine how Minnesota is doing with respect to accommodating/moving freight?”

• Similar to Districts, MPOs also focused on mobility and reliability
• Qualitative assessments (e.g., shipper surveys) may have value in improving freight planning in Minnesota
Central Office Survey

• Outreach with Central Office staff upcoming
• Seek input to identify how various CO Offices encounter and contribute to freight planning
  – Understand interaction with Districts and MPOs
  – Data needs
  – Opportunities to improve freight planning
• Offices to be contacted include – Pavement, Bridge, Geometrics, Safety, Statewide Multi-modal, Capital Programs and Performance Measures
What is a Freight Project?

Defining and Communicating Freight Benefits
Defining freight projects

- Freight projects are difficult to define
  - Freight benefits often get lost or blurred amongst other benefits of the project

- Better understanding of freight benefits would:
  - Improve MnDOT’s ability to meet freight performance targets and manage risks related to economic goals
How MnDOT Policy Discusses Freight Projects

• Freight and general users are distinguished at various policy levels
  – Minnesota GO, Statewide Multimodal Transportation Plan, MnSHIP

• Freight is connected to different MnSHIP investment categories (usually in terms of mobility and reliability)
Key Questions

• What are the benefits of a freight project?
• What are some elements that would indicate a project is not a freight project?
• Which benefits are most important to be considered a freight project?
• How could these benefits be captured in the next Minnesota Statewide Freight Plan?
• Are there performance measures or indicators that would help identify these benefits?
Investment Categories and Freight Benefits

• Each highway investment category has some freight benefit

• General roadway projects sometimes significantly enhance freight movements

• Performance measures could confirm these benefits
District Planner, MPO, and Central Office Surveys

• Surveys affirm that the distinction between freight and general users is blurry
• Stakeholder feedback plays a role in defining a “freight project”
• Projects are usually driven by non-freight criteria
Key takeaways

- There are clear freight benefits from most highway investments
- Defining freight benefits could improve planning processes
- Performance measures are useful in defining freight projects
- Improved definition of “freight project” could improve funding probability
- Improvement projects that benefit all roadway users may still be warranted based on its freight impacts
Next Steps/Action Items
# Integrating Freight in Statewide Planning and Programming Study

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<tr>
<th>TASKS</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
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<td><strong>1. Project Management</strong></td>
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<td>PMT - Project Management Team Meetings</td>
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<td><strong>2. Develop Goals and Objectives</strong></td>
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<td><strong>3. Assemble and Review Freight Related Data and Previous Studies</strong></td>
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<td><strong>4. Freight Scenario Planning</strong></td>
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<td><strong>5. Project Development and Prioritization Process</strong></td>
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<td><strong>6. Identify Freight Performance Measures</strong></td>
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**Schedule Key:**

- **Steering Committee Meetings**
  - March 15, 2013
  - May 3, 2013
  - June 18, 2013

- **Freight Scenario Planning**
  - June 7, 2013

**Project Management Team Meetings**

- February 15, 2013
- March 1, 2013
- March 15, 2013
- March 29, 2013
- April 12, 2013
- April 26, 2013
- May 10, 2013
- May 24, 2013
- June 7, 2013
- June 21, 2013

**Deliverables**

- **Task 2**: Major Freight Policies and Objectives
  - Due: March 1, 2013

- **Task 3**: Key Freight Data and Information
  - Due: April 15, 2013

- **Task 4**: Scenario Planning Summary
  - Due: June 30, 2013

- **Task 5**: Key Information for Project Development
  - Due: June 30, 2013

- **Task 6**: Freight Performance Measures
  - Due: June 30, 2013

Updated: March 11, 2013
Upcoming Activities

- Planning Managers Group Meeting (5/13)
- Freight Scenarios Planning/MFAC (6/14)
- Next Steering Committee Meeting (6/18)
- Task: Project Development and Prioritization Process
- Task: Freight Performance Measures