Freight Rail Demand

- What drives demand for freight: Minnesota’s economic structure and future industry prospects
- Minnesota’s multimodal freight system
- Future trends
Economic Size of Leading Minnesota Metros Jobs and Gross Product

Source: Bureau of Economic Analysis; *Moorhead component of Fargo-Moorhead included in “Rest of Minnesota”.
Key Minnesota Industries
Jobs and Contribution to Gross State Product

GDP (Dollars in Billions)  Jobs (in Thousands)

Distribution, Warehousing, and Retail
Manufacturing
Construction
Agriculture and Food
Paper and Wood
Life Sciences
Energy
Mining

Sources: Bureau of Economic Analysis and Bureau of Labor Statistics.
### Key Minnesota Industries
#### Long-term Trends

<table>
<thead>
<tr>
<th>Industry</th>
<th>Outlook</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution, Warehousing, Retail</td>
<td></td>
<td>State remains excellent location for North-Central logistics; Retail to recover with economy</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td>Output steady as jobs decline; technically-advanced players will compete successfully</td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td>Industry will recover with economy, but not to 2004-2006 levels</td>
</tr>
<tr>
<td>Agriculture and Food</td>
<td></td>
<td>E15 decisions to affect corn production; soybeans stable; uncertainties for dairy</td>
</tr>
<tr>
<td>Paper and Wood</td>
<td></td>
<td>Expansions at existing paper facilities; Exports balancing low domestic demand</td>
</tr>
<tr>
<td>Life Sciences</td>
<td>↑</td>
<td>Recognized world leader in medical equipment and advanced healthcare</td>
</tr>
<tr>
<td>Energy</td>
<td></td>
<td>Population and jobs to increase energy demand; fuel types and origins may change</td>
</tr>
<tr>
<td>Mining</td>
<td></td>
<td>Growing interest in Iron Range; expanding to steel; new markets for taconite tailings</td>
</tr>
</tbody>
</table>
U.S. and Minnesota Modal Usage

Overall U.S.

- Truck: 44%
- Rail: 30%
- Water: 7%
- Other: 19%

Minnesota

- Truck: 49%
- Rail: 38%
- Water: 6%
- Other: 7%

Tonnage

Value

Truck: 88%
Rail: 4%
Water: 1%
Air: 2%
Other: 5%

Truck: 81%
Rail: 18%
Water: 0%
Air: 0%
Other: 1%
Traffic Characteristics Vary Greatly Between Rail and Other Modes

10% of rail versus almost 50% of truck tonnage moves intrastate

Only 13% of all truck tonnage moves through the state
Trucking Will Continue to Dominate

Modes by Tonnage 2007-2030

Intermodal Units Constituted 1/3 of Rail Traffic in 2007

Split by Tonnage

- Intermodal: 7%
- Carload: 93%

Split by Units

- Intermodal: 35%
- Carload: 65%

Top Rail Commodities by Tons

Intra-Minnesota Rail Traffic

- Tons dominated by ores, commodities diverse by value

Rail Trading Partners by Tonnage

Top BEA Origins

Tons (in Millions)


Top BEA Destinations

Tons (in Millions)

Rail Traffic Originations and Terminations

Source: STB Waybill
Future Growth in Tonnage on Minnesota’s Rail Network – 2007 and 2030

Future Growth in Tonnage on Minnesota’s Highway Network – 2007 and 2030

Smaller Railroads are Important to Minnesota

<table>
<thead>
<tr>
<th>Traffic Type</th>
<th>Non-Class I Carloads (2007)</th>
<th>All Railroads</th>
<th>% of Total Carloads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound</td>
<td>17,615</td>
<td>412,594</td>
<td>4.3%</td>
</tr>
<tr>
<td>Outbound</td>
<td>46,724</td>
<td>567,736</td>
<td>8.2%</td>
</tr>
<tr>
<td>Through</td>
<td>38,601</td>
<td>1,083,600</td>
<td>3.6%</td>
</tr>
<tr>
<td>Intrastate</td>
<td>7,266</td>
<td>316,727</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Smaller railroads handled 4.6% of all traffic, 5.5% of traffic that has a Minnesota origin or destination.
A Few Conclusions for Freight

As in most regions, at 81% of value and 49% of tonnage, highways handled the majority freight traffic.

But, at 19% for value and 38% of tonnage, rail is a very important component of Minnesota’s multimodal freight system.

Mix of industries and geography play to railroad’s strengths of handling high volumes over long distances.

IHS-Global Insight forecast predicts 25% growth in rail tonnage through 2030. However, while it attributes substantial growth to intermodal, anticipated growth in coal is questionable.

Cross-border traffic with Canada is significant, accounting for 18% of all tonnage in 2007, and expected growth of 61% by value through 2030.

8.2% of originated carloads start their trip on a short line.
Passenger/Freight Integration
Passenger/Freight Integration
Track Capacity

Legend
Track Capacity
In Trains Per Day
Less Than 20
20 - 29
30 - 39
40 - 49
50 - 88

Minnesota Rail Plan:
Current Track Capacity
Passenger/Freight Integration
Current LOS
Passenger/Freight Integration
Future LOS

Legend
Level of Service (LOS) 2030
Based on Volume-to-Capacity Ratio
- A (0.0 - 0.2)
- B (0.2 - 0.4)
- C (0.4 - 0.7)
- D (0.7 - 1.0)
- E (1.0 - 1.5)
- F (>1.5)

Minnesota Rail Plan:
Future LOS With Projected 2030 Freight Volumes
The Rail Safety Improvement Act of 2008 requires widespread installation of Positive Train Control (PTC) systems by 2015 for all Class I railroads and those entities providing regularly scheduled intercity or commuter rail passenger service.

PTC systems utilize integrated command, control, communications, and information systems technologies to prevent train-to-train collisions, casualties to roadway workers and damage to their equipment, and overspeed derailments.

The systems can vary in complexity and sophistication.
## Passenger/Freight Integration

### Corridor Conditions - Tier I

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Potential Ridership</th>
<th>Track Condition</th>
<th>Available Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coon Rapids – Big Lake</td>
<td>High</td>
<td>Good</td>
<td>Medium</td>
</tr>
<tr>
<td>Big Lake – St. Cloud</td>
<td>High</td>
<td>Good</td>
<td>Low</td>
</tr>
<tr>
<td>Minneapolis – Willmar</td>
<td>Medium</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>Minneapolis – St. Paul (BNSF)</td>
<td>High</td>
<td>Fair</td>
<td>Medium</td>
</tr>
<tr>
<td>Minneapolis – St. Paul (CP)</td>
<td>High</td>
<td>Fair</td>
<td>Medium</td>
</tr>
<tr>
<td>St. Paul – Hastings</td>
<td>High</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>Hastings – Winona</td>
<td>High</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>St. Paul – Northfield</td>
<td>Medium</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>Northfield – Albert Lea (Kansas City)</td>
<td>Low</td>
<td>Good</td>
<td>High</td>
</tr>
<tr>
<td>Minneapolis – Mankato</td>
<td>Medium</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>St. Paul – Eau Claire, WI</td>
<td>Medium</td>
<td>Fair</td>
<td>High</td>
</tr>
</tbody>
</table>
## Passenger/Freight Integration
### Corridor Conditions - Tier II

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Potential Ridership</th>
<th>Track Condition</th>
<th>Available Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minneapolis – Coon Rapids</td>
<td>High</td>
<td>Fair</td>
<td>Low</td>
</tr>
<tr>
<td>St. Cloud – Fargo/Moorhead</td>
<td>Medium</td>
<td>Good</td>
<td>Low</td>
</tr>
<tr>
<td>Coon Rapids – Cambridge</td>
<td>Medium</td>
<td>Good</td>
<td>Low</td>
</tr>
<tr>
<td>Willmar – Fargo/Moorhead</td>
<td>Low</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>Willmar – Sioux Falls, SD</td>
<td>Low</td>
<td>Good</td>
<td>Medium</td>
</tr>
<tr>
<td>Mankato – Worthington (Sioux City)</td>
<td>Low</td>
<td>Fair</td>
<td>High</td>
</tr>
</tbody>
</table>
## Passenger/Freight Integration

### Corridor Conditions - Tier III

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Potential Ridership</th>
<th>Track Condition</th>
<th>Available Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambridge – Duluth</td>
<td>Medium</td>
<td>Fair</td>
<td>Low</td>
</tr>
<tr>
<td>Rochester – Owatonna – St. Paul</td>
<td>Low</td>
<td>Fair</td>
<td>High</td>
</tr>
<tr>
<td>Rochester – Owatonna – Minneapolis</td>
<td>Low</td>
<td>Poor</td>
<td>High</td>
</tr>
<tr>
<td>Rochester – Winona</td>
<td>Low</td>
<td>Poor</td>
<td>High</td>
</tr>
<tr>
<td>Minneapolis – Norwood/Young America</td>
<td>Low</td>
<td>Poor</td>
<td>High</td>
</tr>
<tr>
<td>Norwood/Young America – Montevideo</td>
<td>Low</td>
<td>Poor</td>
<td>High</td>
</tr>
</tbody>
</table>
Performance Measures
Rail Performance Measures

- **System Performance**  
  capacity, speed, annual production of ton/miles, ridership

- **System Condition**  
  track, bridges, crossings

- **Connectivity/Accessibility**  
  proximity to users, commercial terms, modes

- **Safety & Security**  
  at-grade crossings, hazmat

- **Environmental**  
  positive and negative impacts of construction and operations

- **Financial/Economic**  
  Capital costs, operations, taxes, jobs, economic development, cost/benefit comparisons
Developing Criteria for Public Rail Investment

- Ability of private sector to contribute to project funding
- Acceptable Cost versus Public Benefits
- **Significant Utility** - Good Ridership, New Service Access
- **Addresses a Verified Need** - Accommodates new passenger service, freight growth, or corrects bottleneck
- **Exhibits Multiple Benefits** - combination of intercity passenger, local/commuter, and freight operations and capacity
- **Contributes to State’s Priorities** - Environmental and green growth goals, reduced energy use, safety, enhanced land use, improved travel options, life style and competitiveness
- Timeliness of Implementation
Next Steps
Plan Implementation - Freight

- Expand MRSI Program; Grant Component, Flexibility
- Focus on System Preservation and Emergency Aid
- Grade Crossing Safety Program Expansion
- Grade Separations incorporated as Project Category
- Convene Rail Freight Advisory Committee
- Identify Interest and Sites for Intermodal Expansion