

Minnesota Comprehensive Statewide Freight and Passenger Rail Plan

Policy Advisory Committee

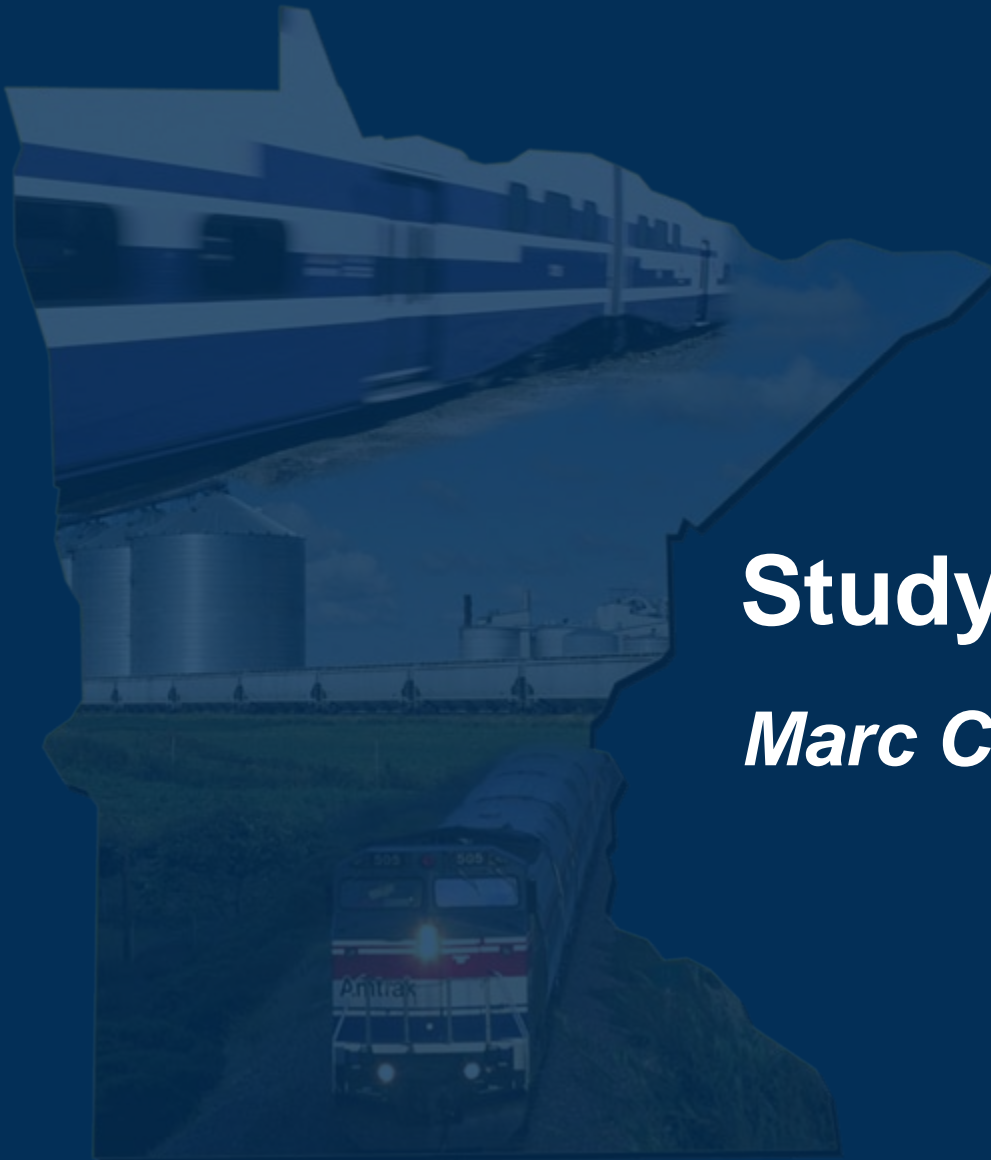
August 14, 2009

presented by
Cambridge Systematics, Inc.
Kimley-Horn and Associates, Inc.
TKDA, Inc.



Agenda

- **Introductions and Opening Comments**
 - Dave Christianson – Project Manager, MnDOT
 - Tim Henkel – Division Director, MnDOT
- **Presentation on State Rail Plan, Cambridge Systematics, Inc.**
 - Study Overview, Marc Cutler
 - Outreach Update, Randy Halvorson
 - Freight Rail Demand, Andreas Aeppli
 - Passenger Rail Demand, Marc Cutler
 - Passenger/Freight Integration, Paul Danielson
 - Performance Measures, Erika Witzke
 - Next Steps, Marc Cutler
- **Discussion – Randy Halvorson**



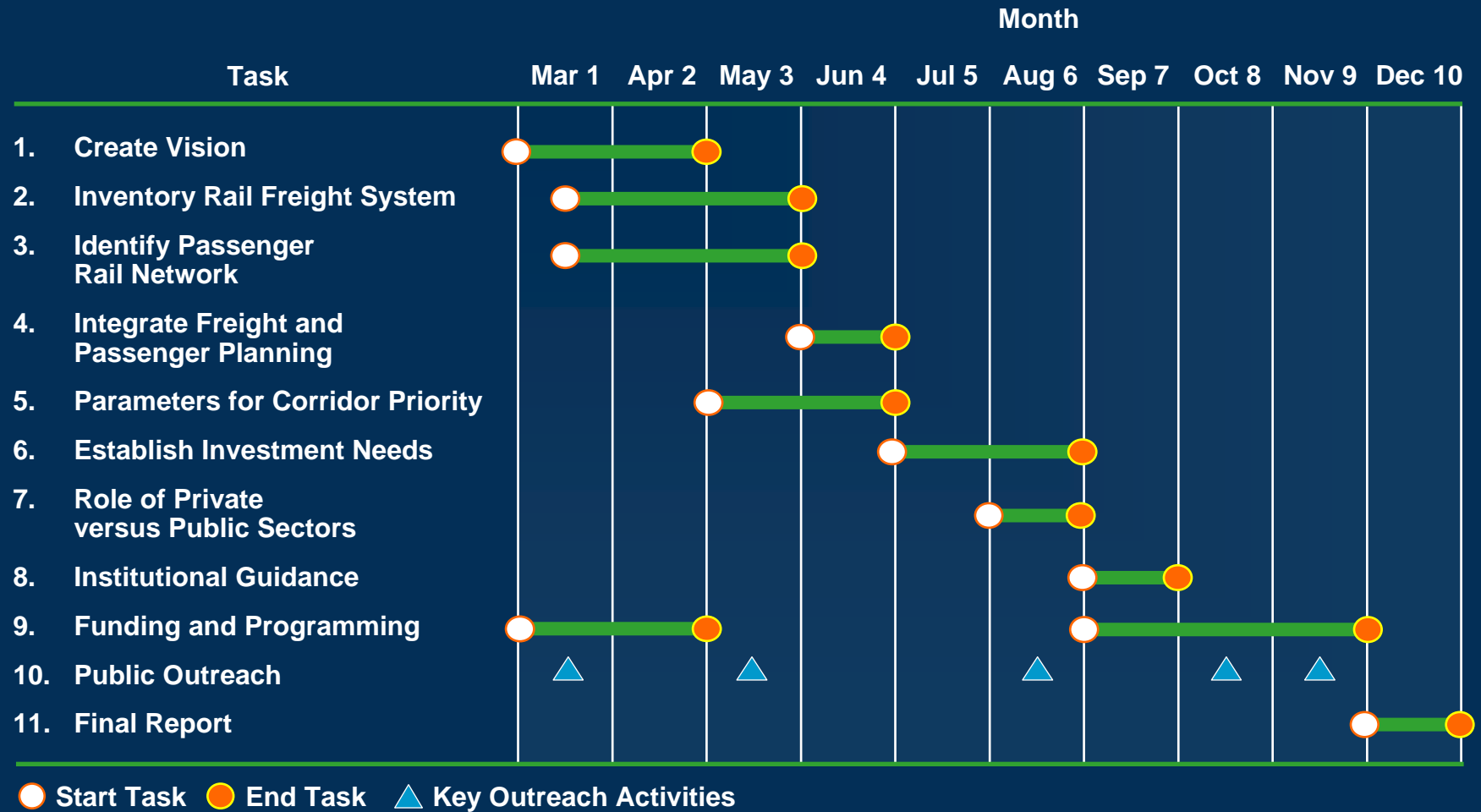
Study Overview

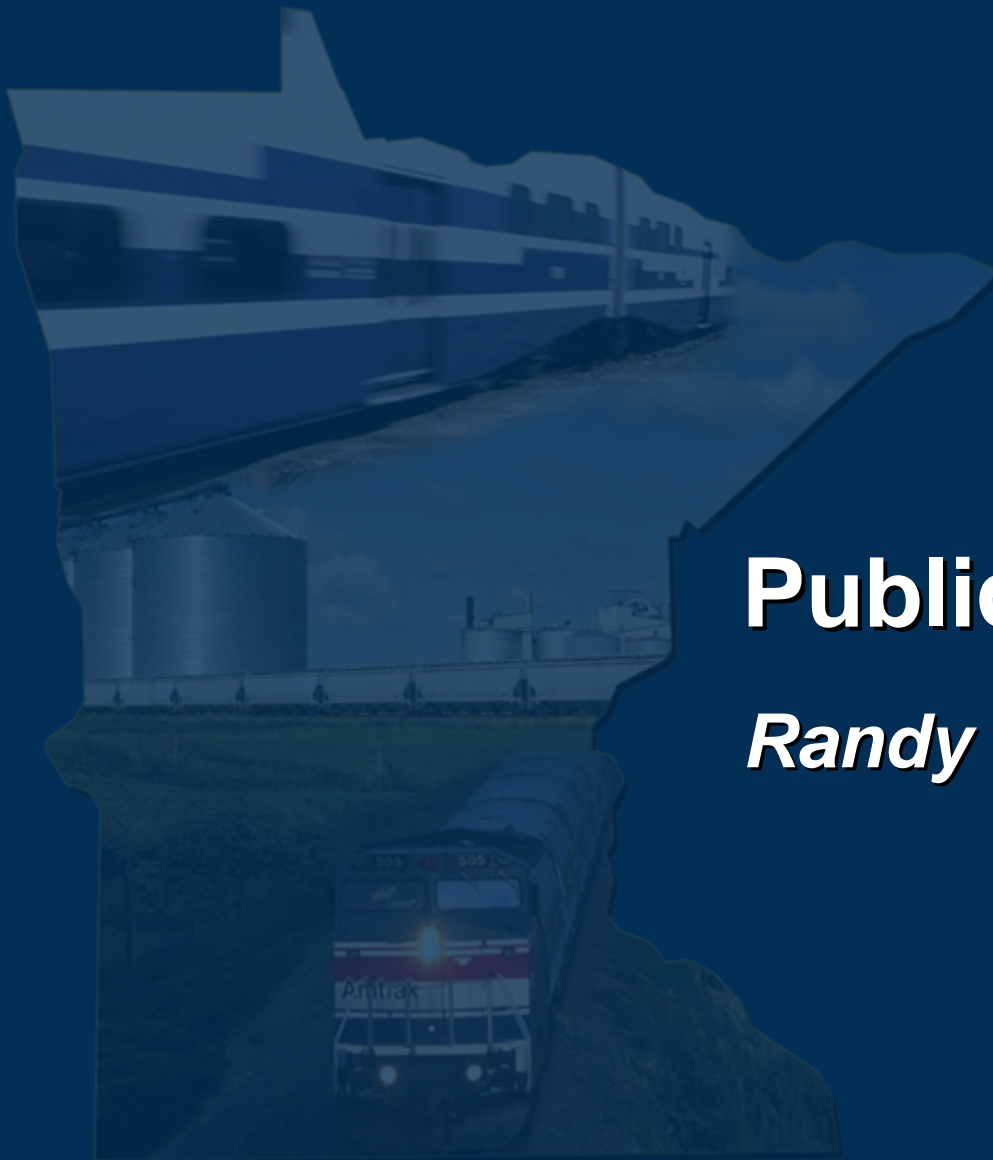
Marc Cutler

Project Phases

Project Phase	Description	Task
Phase I	Rail Vision	Task 1
Phase II	Inventory Freight System and Passenger Rail Plans	Tasks 2 and 3
Phase III	Integration of passenger and freight planning, and development of performance criteria	Tasks 4 and 5
Phase IV	Plan Development – Needs, Institutional Arrangements, Programs, Financing	Tasks 6-9
Continuous Public Outreach		Task 10
Final Report		Task 11

Schedule





Public Outreach

Randy Halvorson, Facilitator

Outreach Activities Since Open Houses and Last PAC/TAC Meetings

- **Minnesota HSR Commission – June, July, August**
- **Joint Meeting – St. Paul, June 26**
 - Fresh Energy
 - Growth and Justice
 - Housing Preservation Project
 - Sierra Club
 - Transit for Livable Communities
 - 1,000 Friends of Minnesota
- **Minnesota Regional and Shortline Railroads Annual Conference – Grand Rapids, July 12-14**
- **United Transportation Union (UTU) – St. Paul, July 15**
- **Twin Cities and Western RR – Glencoe, July 15**
- **Railroad shippers – West Central MN, August**
- **Individual stakeholder meetings**

Upcoming Meeting Dates

- PAC meeting
 - November 13
- Freight and passenger TAC meetings
 - November 12
- Open houses – second round
 - October 5-15





Freight Rail Demand

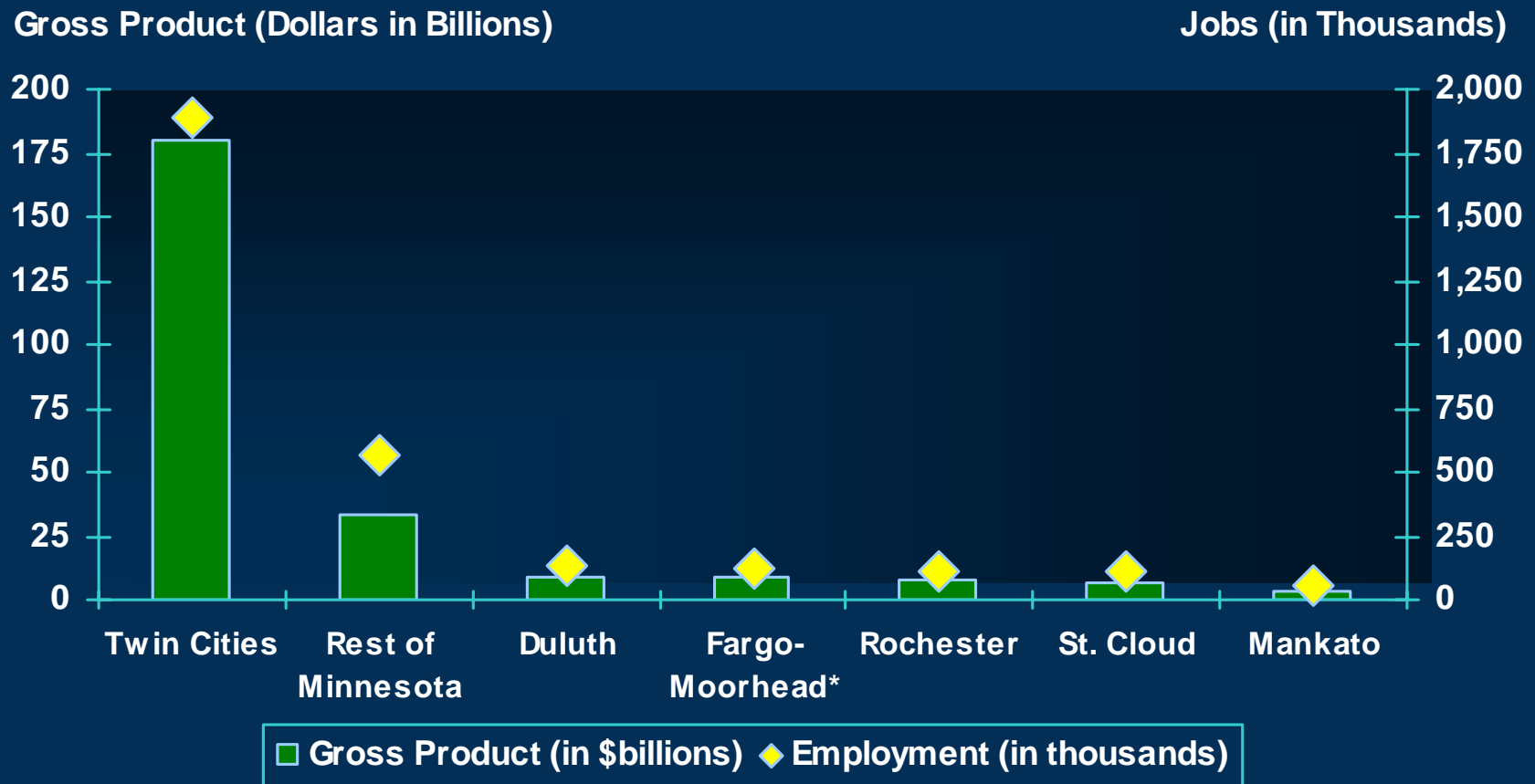
Andreas Aeppli

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

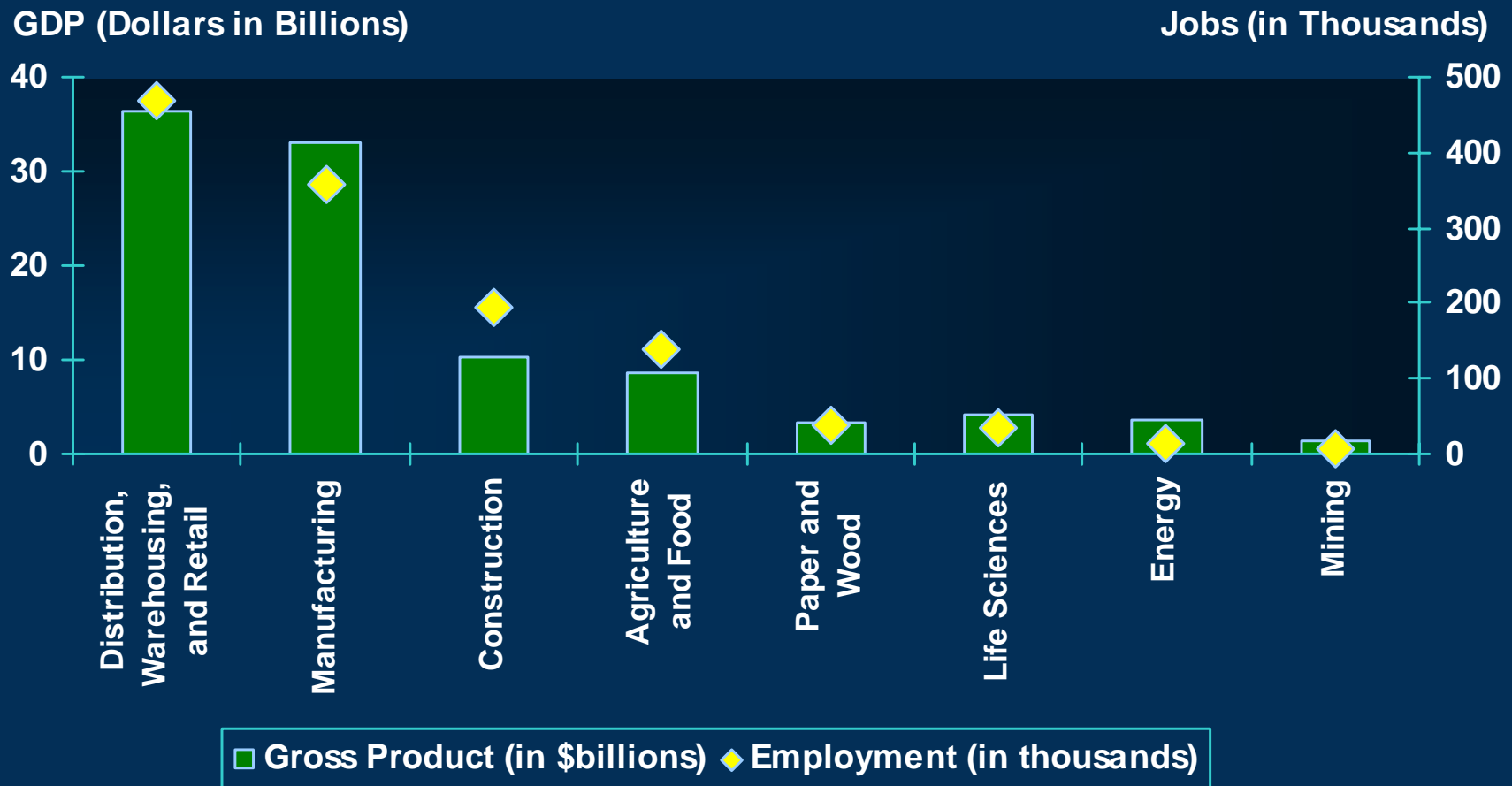
Jobs and Gross Product



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

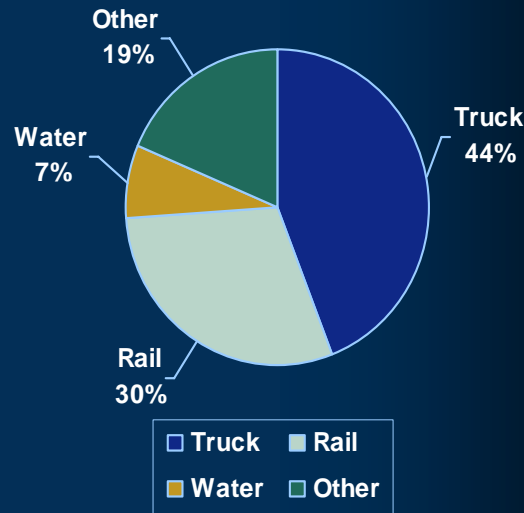


Sources: Bureau of Economic Analysis and Bureau of Labor Statistics.

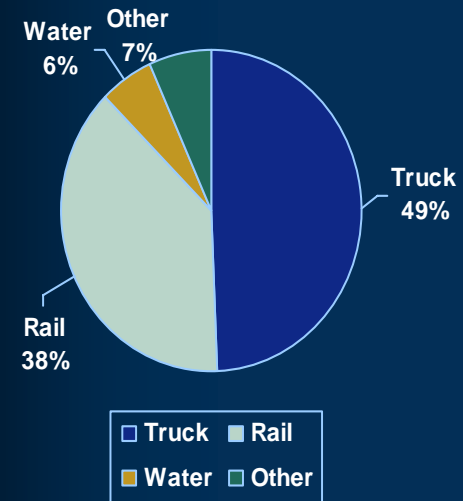
U.S. and Minnesota Modal Usage

Tonnage

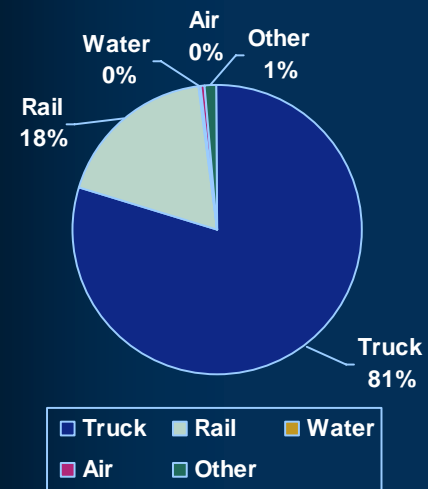
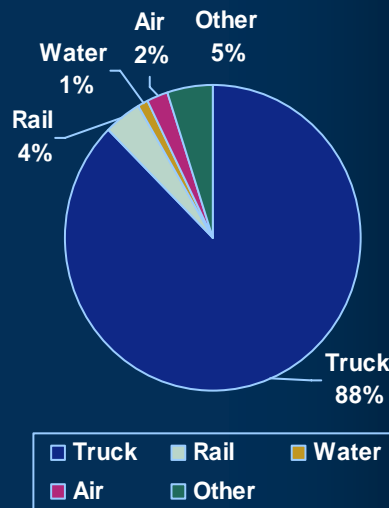
Overall U.S.



Minnesota

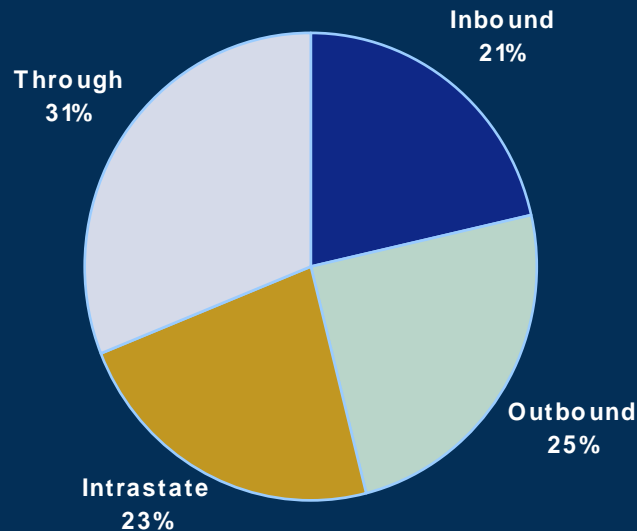


Value



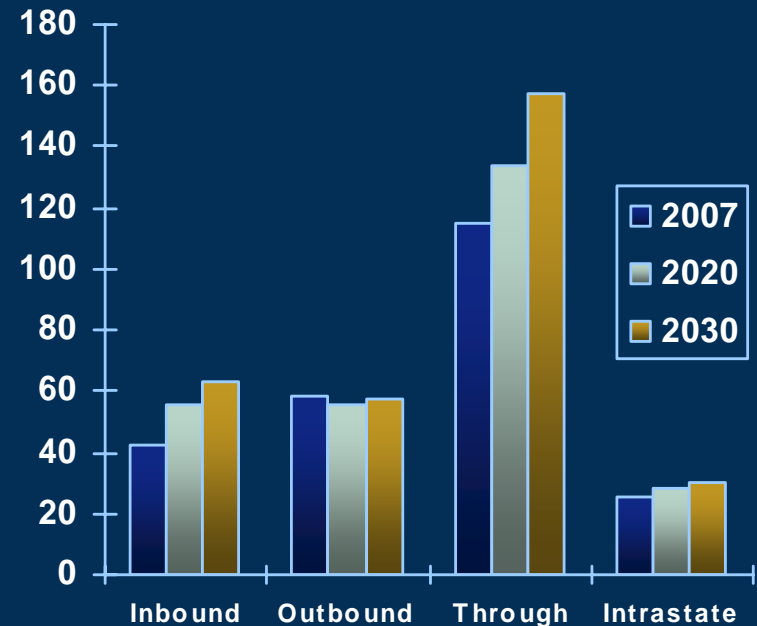
Traffic Characteristics Vary Greatly Between Rail and Other Modes

All Modes – 2007



Rail

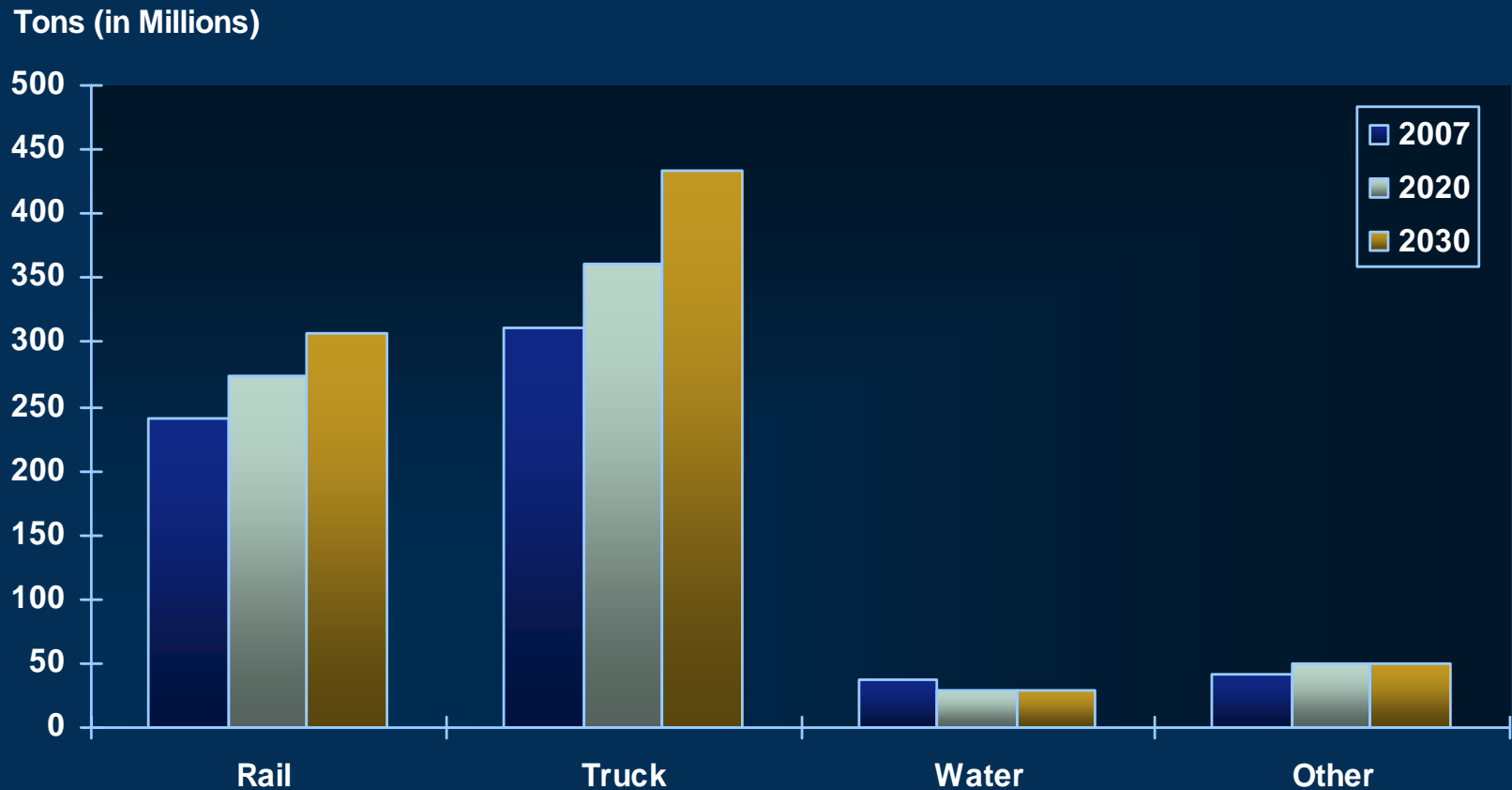
Tons (in Millions)



- 10% of rail versus almost 50% of truck tonnage moves intrastate
- Only 13% of all truck tonnage moves through the state

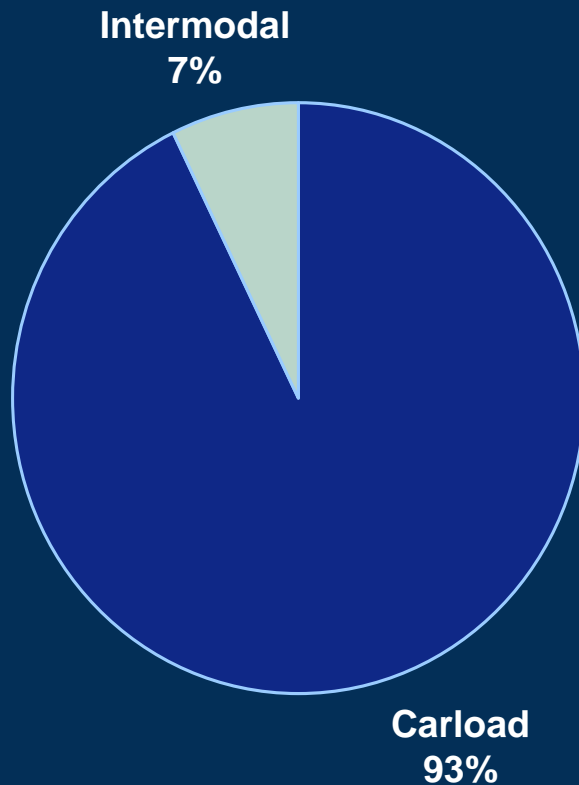
Trucking Will Continue to Dominate

Modes by Tonnage 2007-2030

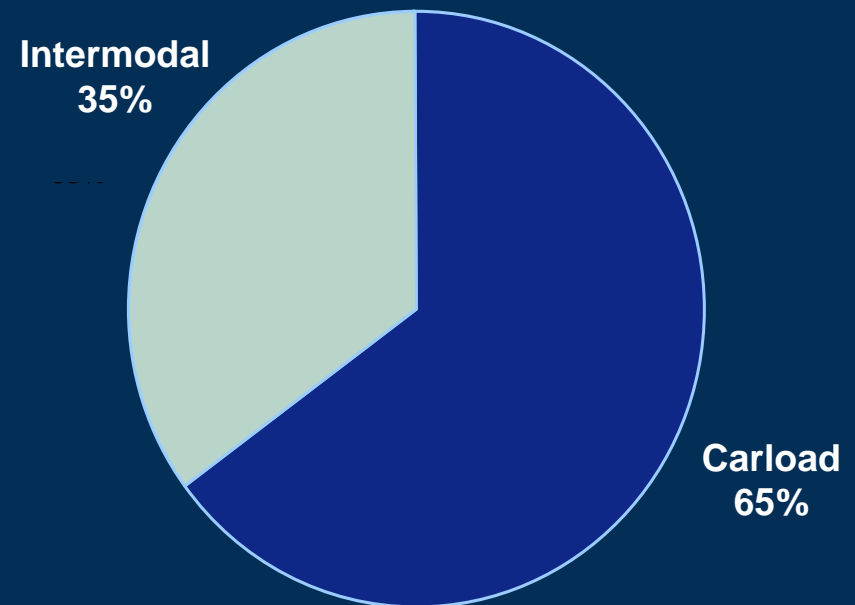


2007 Intermodal Units Constituted 1/3 of Rail Traffic

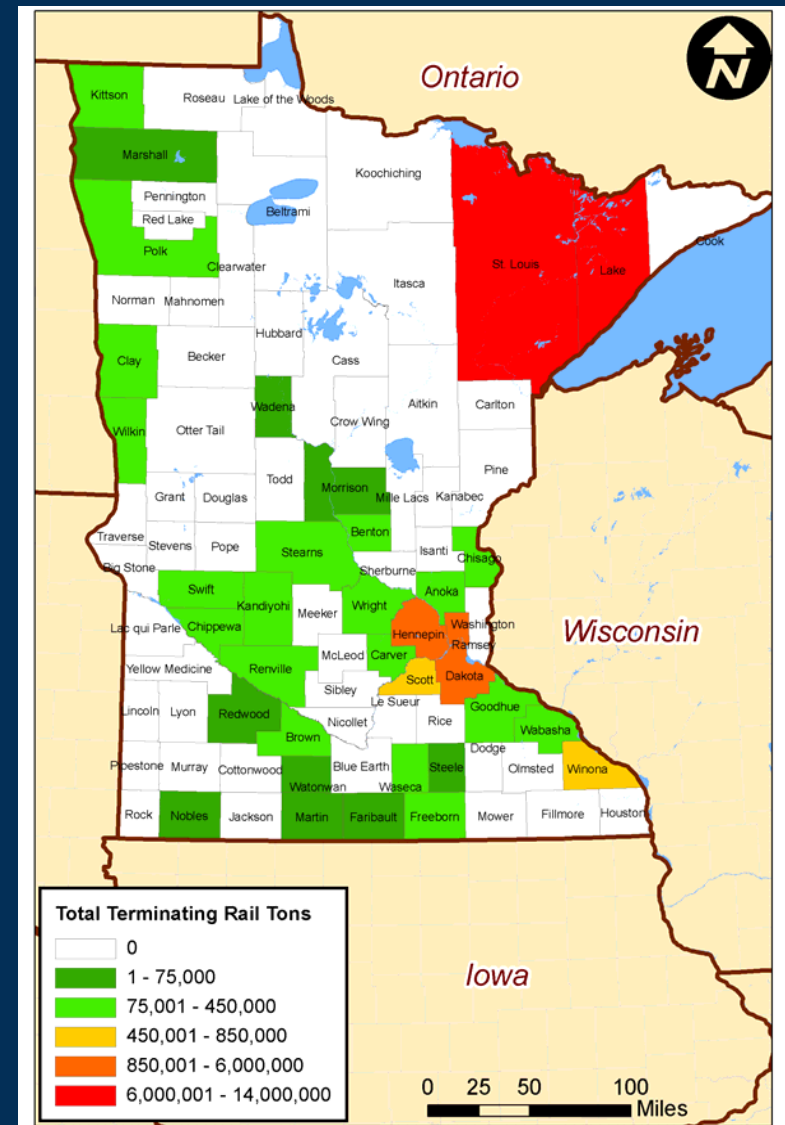
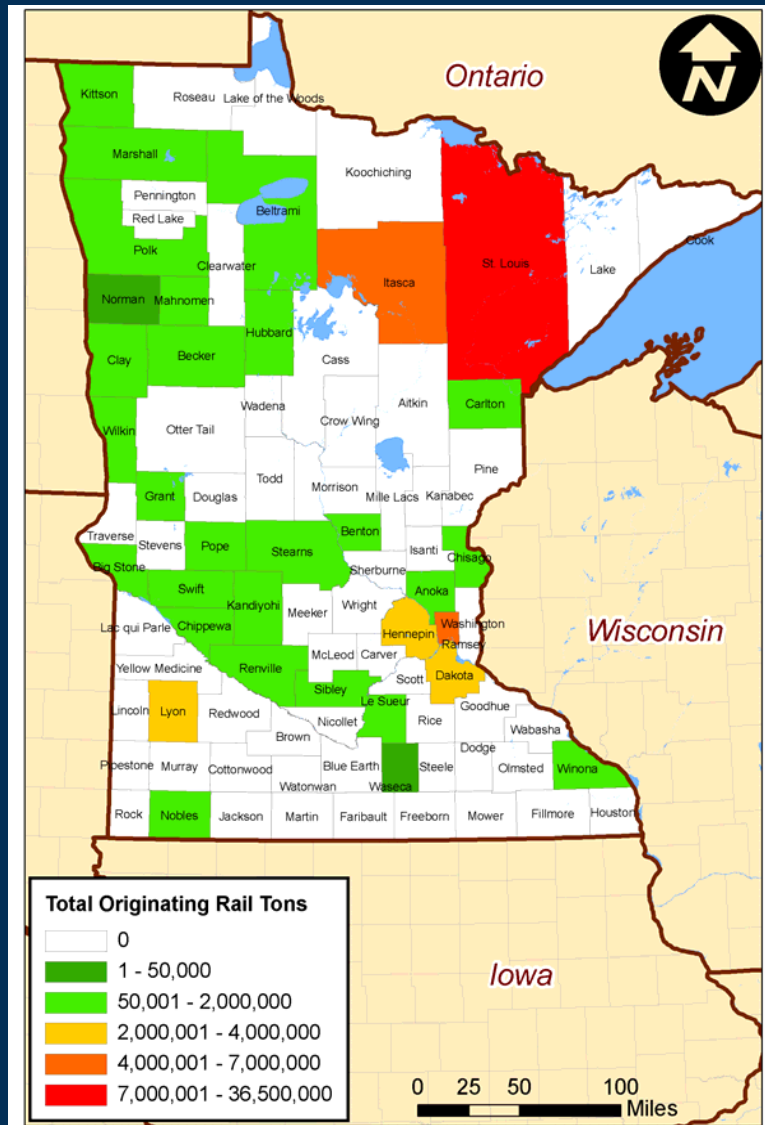
Split by Tonnage



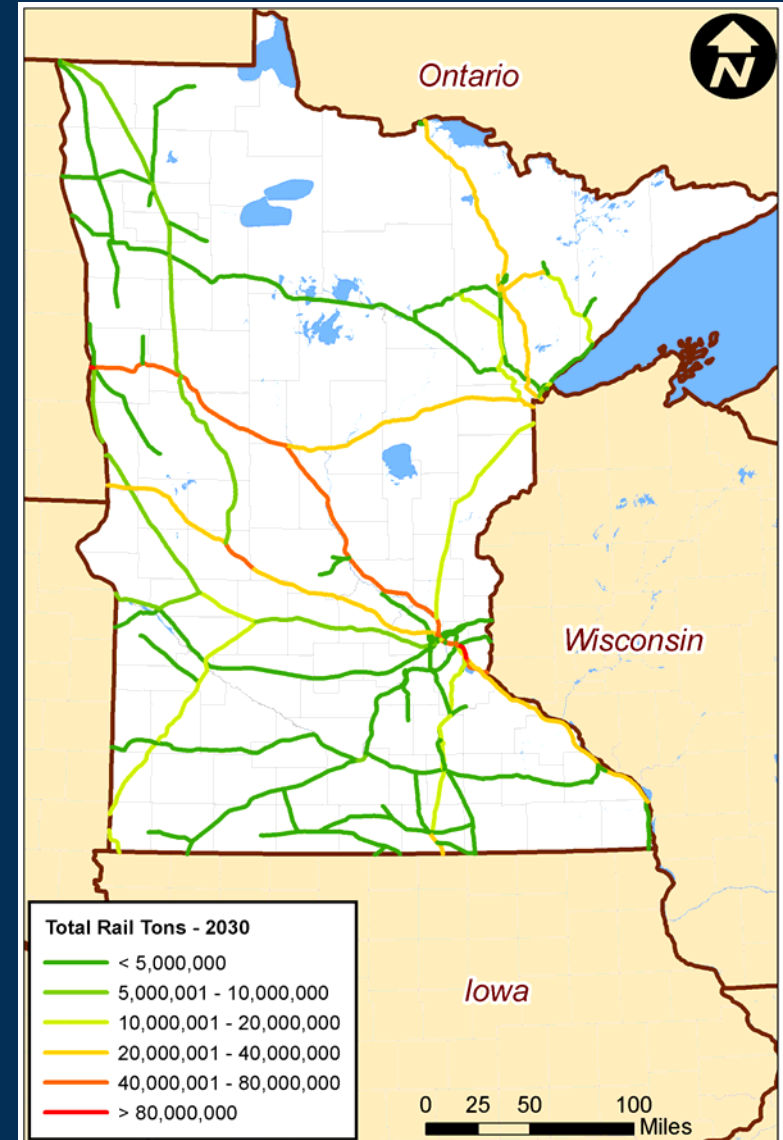
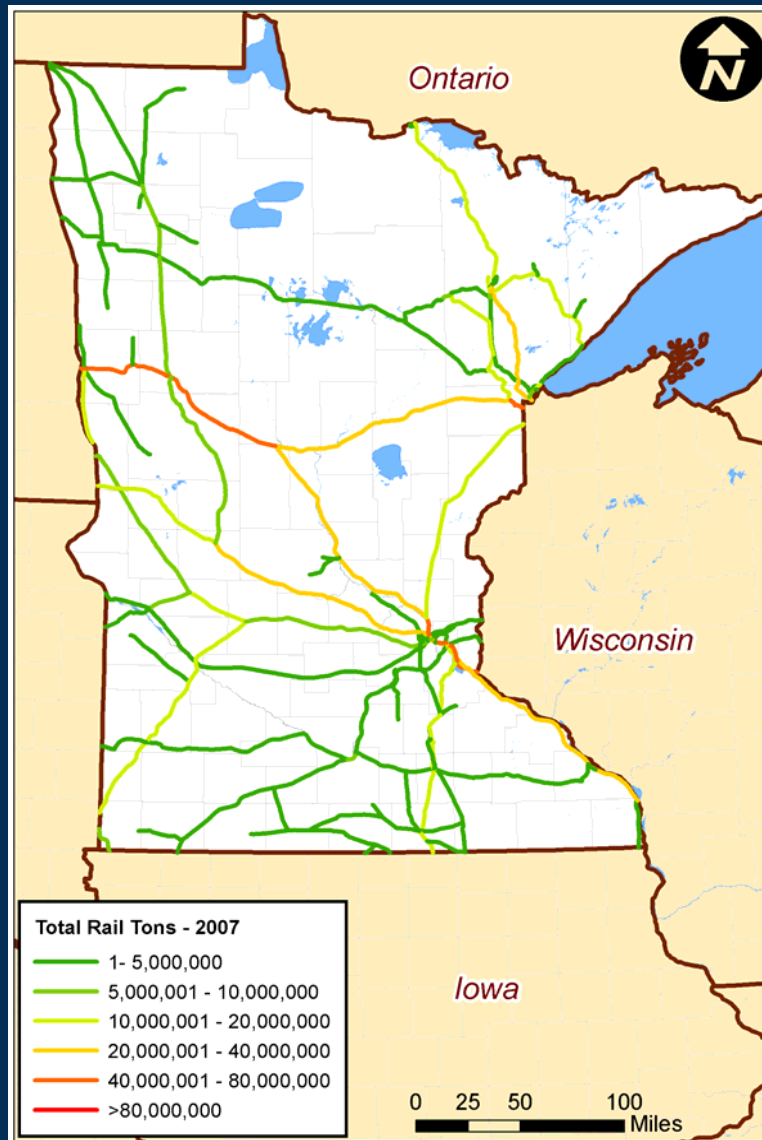
Split by Units



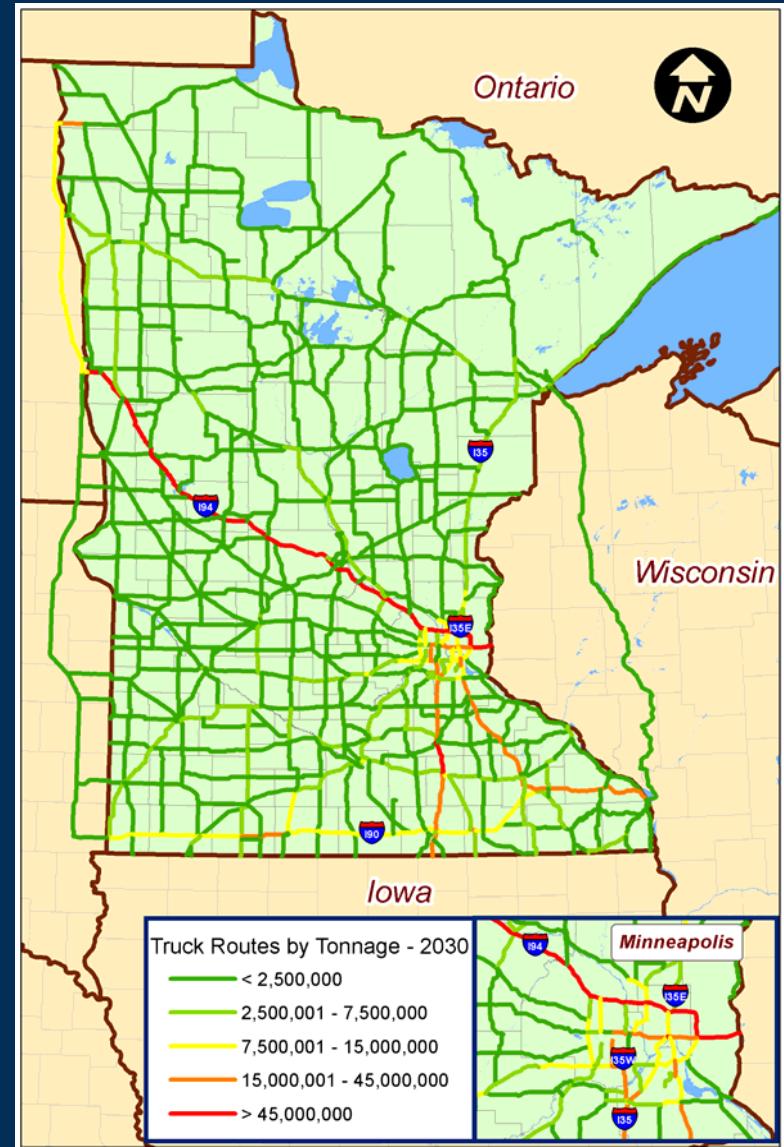
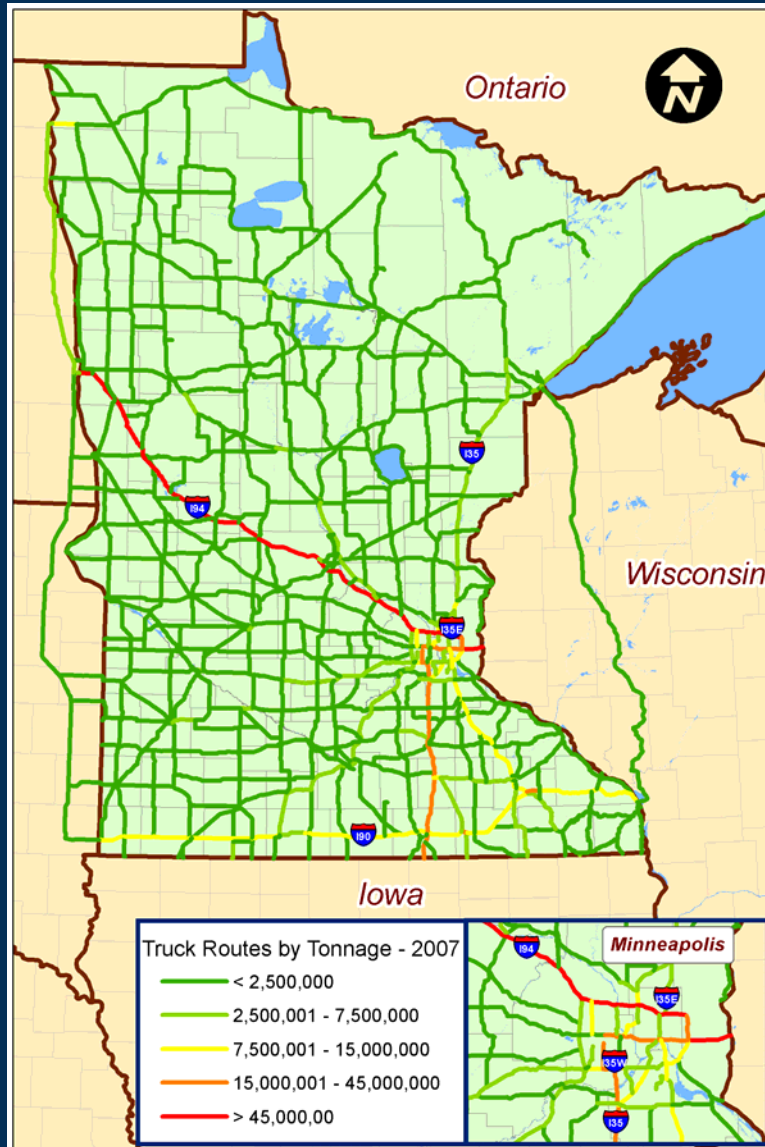
Rail Traffic Originations and Terminations



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

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

- **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.



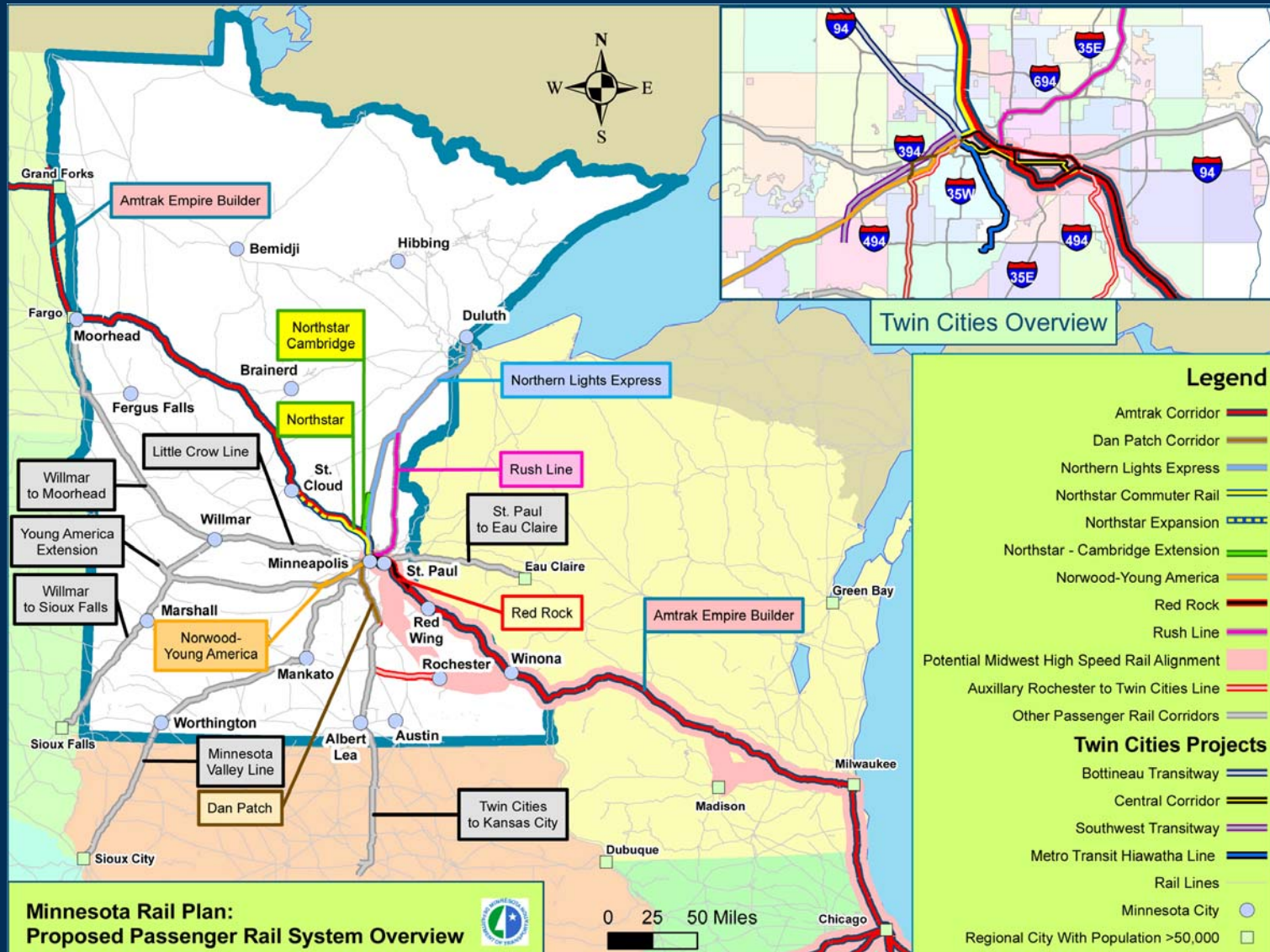
Passenger Rail Demand

Marc Cutler

Passenger Rail Corridors Studied

- Corridors that connect to the Twin Cities
- Some corridors begin with commuter rail studies
- Other corridors have been the subject of intercity passenger rail and high speed rail studies
- Still others have been suggested

Intercity Passenger Rail Corridors



Ridership Forecasting Scope

- **Synthesize available information about the railroad network and passenger rail demand**
- **Developed spreadsheet model to analyze future (2030) baseline**
 - Consistent demand analysis to integrate with other factors such as cost and capacity
 - Conservative demand assumptions
 - Apples to apples comparison
- **What this is NOT**
 - A substitute for full regional demand modeling
 - The last word on ridership forecasts
 - Policy direction

Estimated Total Annual Trips (in Millions) 2005

In-State	
St. Cloud	11.0
Hinckley	5.8
Rochester	4.8
Duluth	4.3
Mankato	3.7
Willmar	1.6
Red Wing	1.0

Out of State	
Chicago	9.7
Eau Claire	5.8
Milwaukee	4.4
Madison	4.2
Fargo	3.9
Des Moines	2.9

Forecast Annual Rail Demand – In State 2030

	Ridership (in Thousands)	Mode Share
St. Cloud	713	5.5%
Hinckley	283	4.4%
Mankato	228	5.6%
Rochester	224	3.7%
Northfield	111	5.5%
Duluth	101	2.6%

Forecast Annual Rail Demand – Out of State 2030

	Ridership (in Thousands)	Mode Share
Chicago	299	2.6%
Eau Claire	257	3.9%
Madison	83	1.7%
LaCrosse	43	1.3%

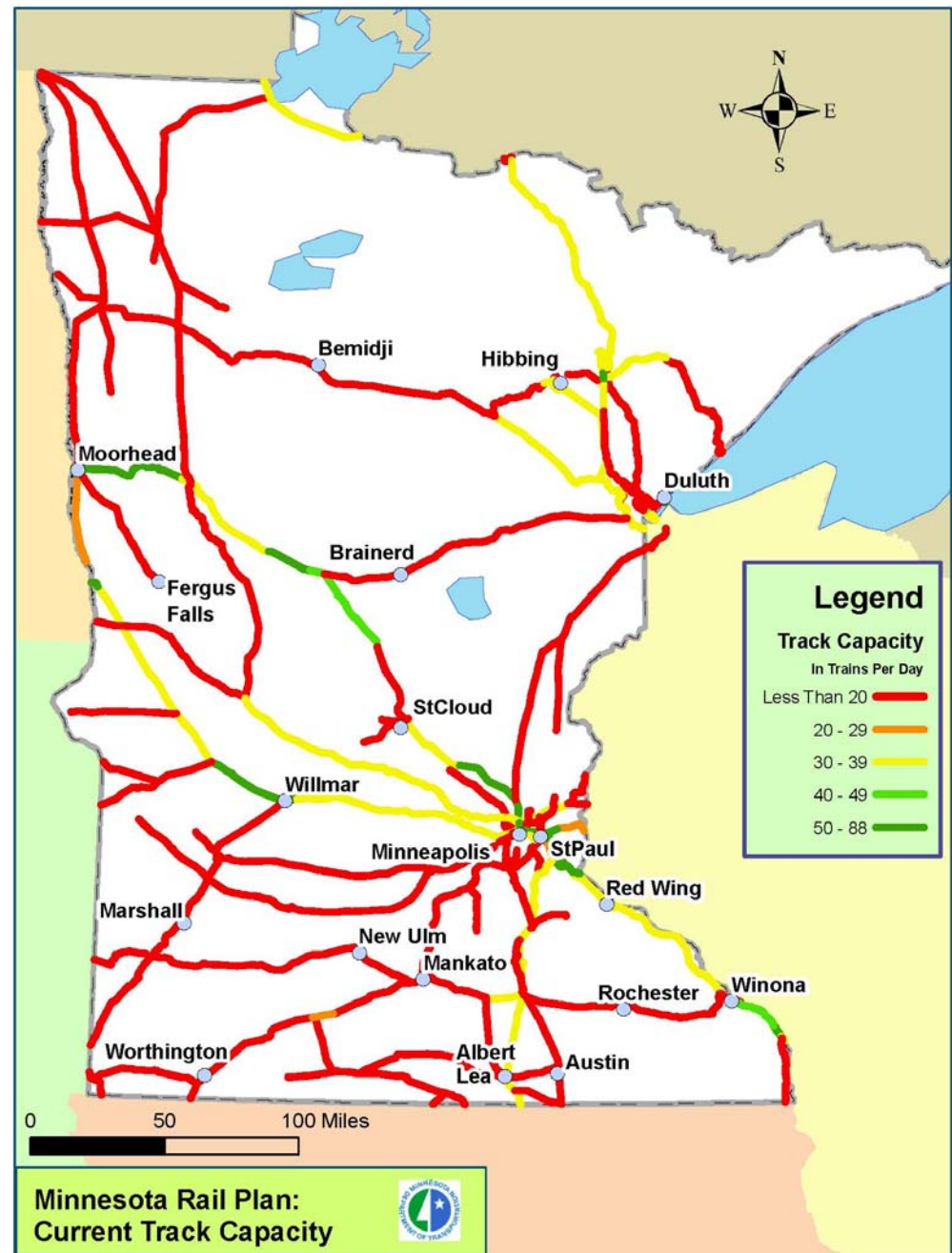
Sensitivity Tests

- Multicentered growth – does not significantly impact conclusions
- Higher overall state growth (+10%) – same as above
- Diversion of all Rochester air trips to HSR via MSP – adds 450,000 trips for a total of 700,000
- Inclusion of Superior adds 28,000 to Duluth ridership for a total of 129,000
- MWRRI via Rochester = 524,000 versus 387,000 via River Route
- Doubling of gas prices = doubling of ridership

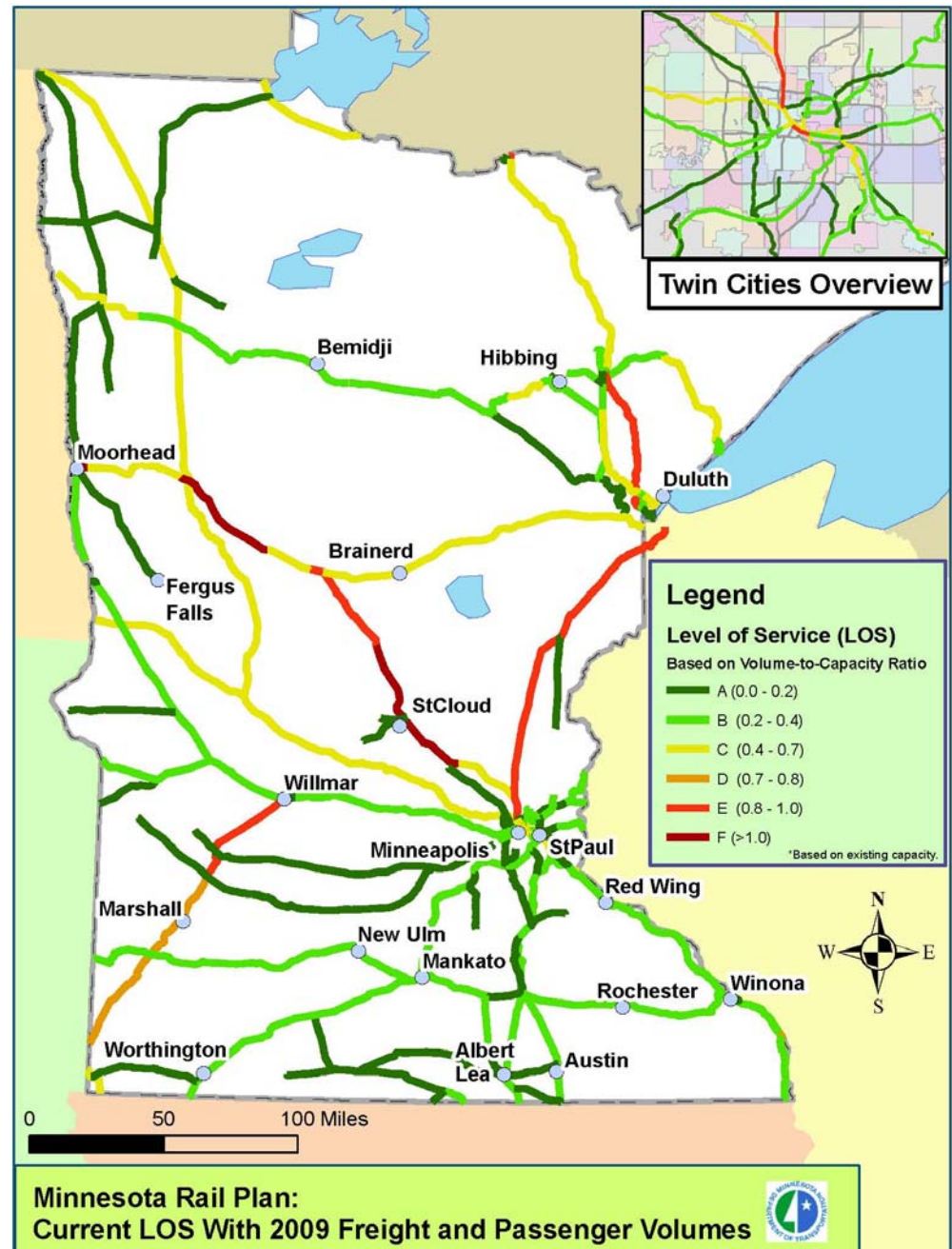
Passenger/Freight Integration

Paul Danielson

Passenger/ Freight Integration Track Capacity



Passenger/ Freight Integration Current LOS



Passenger/ Freight Integration Future LOS



Passenger/Freight Integration

PTC

- **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

Corridor	Potential Ridership	Track Condition	Available Capacity
Coon Rapids – Big Lake	High	Good	Medium
Big Lake – St. Cloud	High	Good	Low
Minneapolis – Willmar	Medium	Fair	High
Minneapolis – St. Paul (BNSF)	High	Fair	Medium
Minneapolis – St. Paul (CP)	High	Fair	Medium
St. Paul – Hastings	High	Fair	High
Hastings – Winona	High	Fair	High
St. Paul – Northfield	Medium	Fair	High
Northfield – Albert Lea (Kansas City)	Low	Good	High
Minneapolis – Mankato	Medium	Fair	High
St. Paul – Eau Claire, WI	Medium	Fair	High

Passenger/Freight Integration

Corridor Conditions – Tier II

Corridor	Potential Ridership	Track Condition	Available Capacity
Minneapolis – Coon Rapids	High	Fair	Low
St. Cloud – Fargo/Moorhead	Medium	Good	Low
Coon Rapids – Cambridge	Medium	Good	Low
Willmar – Fargo/Moorhead	Low	Fair	High
Willmar – Sioux Falls, SD	Low	Good	Medium
Mankato – Worthington (Sioux City)	Low	Fair	High

Passenger/Freight Integration

Corridor Conditions – Tier III

Corridor	Potential Ridership	Track Condition	Available Capacity
Cambridge – Duluth	Medium	Fair	Low
Rochester – Owatonna – St. Paul	Low	Fair	High
Rochester – Owatonna – Minneapolis	Low	Poor	High
Rochester – Winona	Low	Poor	High
Minneapolis – Norwood/Young America	Low	Poor	High
Norwood/Young America – Montevideo	Low	Poor	High

Performance Measures

Erika Witzke

Performance Measures Methodology

- Identified relevant topics/issues for evaluation
- Reviewed planning efforts by MnDOT
- Literature search on other DOTs, Amtrak, other rail operators, FRA efforts
- Assembled separate measures for freight and passenger rail
- Developed common list of 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

- **Acceptable Cost versus Public Benefits**
- **Ability of private sector to contribute to project funding**
- **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

Marc Cutler

Phase IV Tasks

- **Task 6 – Establish Investment Needs**
 - Estimate benefits versus performance measures
 - Estimate high-level costs
- **Task 7 – Determine Public versus Private Sector Roles**
- **Task 8 – Provide Public Sector Institutional Guidance**
- **Task 9 – Funding and Programming**
- **Task 10 – Outreach**
 - Second round of Open Houses – Oct
 - Final PAC/TAC meetings – Nov



Discussion

Randy Halvorson, Facilitator