

NORTHEAST MINNESOTA FREIGHT RAIL OPPORTUNITY STUDY

LAURENTIAN VISION PARTNERSHIP

Chisolm, MN

October 16th, 2019

**KRECH
OJARD**
& ASSOCIATES, INC.

QUANDEL
CONSULTANTS

WHAT IS GOING TO BE COVERED



- NEMFROS Background
 - Why
 - Who
 - Where
- Action Plan/ Timeline
 - When
 - How
- Results
 - What
- Next Steps & Opportunities

How Did NEMFROS Come About



- Sponsor: St. Louis & Lake County Regional Railroad Authority (RRA)
- Funding: Minnesota Department of Transportation (MnDOT)
 - \$1.0 million MnDOT Appropriation to City of Grand Rapids, MN for West Range: (\$960k remained, available for the Central and East Range)
- NEMFROS Study Team: RRA, Krech Ojard & Assoc. & Quandel Consultants

January 28th, 2019

START



FINISH

June 30th, 2019

WHY NEMFROS?



- Iron Range rail shippers are vital to the state's economic success
- Iron Range shippers have limited rail infrastructure
- Rail shippers have virtually no competitive access to more than one Class I railroad
- During the 24 months ending October 2018, lack of competitive rail access had led to perception of
 - Reduction in rail service quality to the Iron Range
 - Unfavorable rates for the largely captive Iron Range rail shippers
 - An impediment to economic development in the region
 - Traffic congestion and safety issues in local communities

NEMFROS GOALS

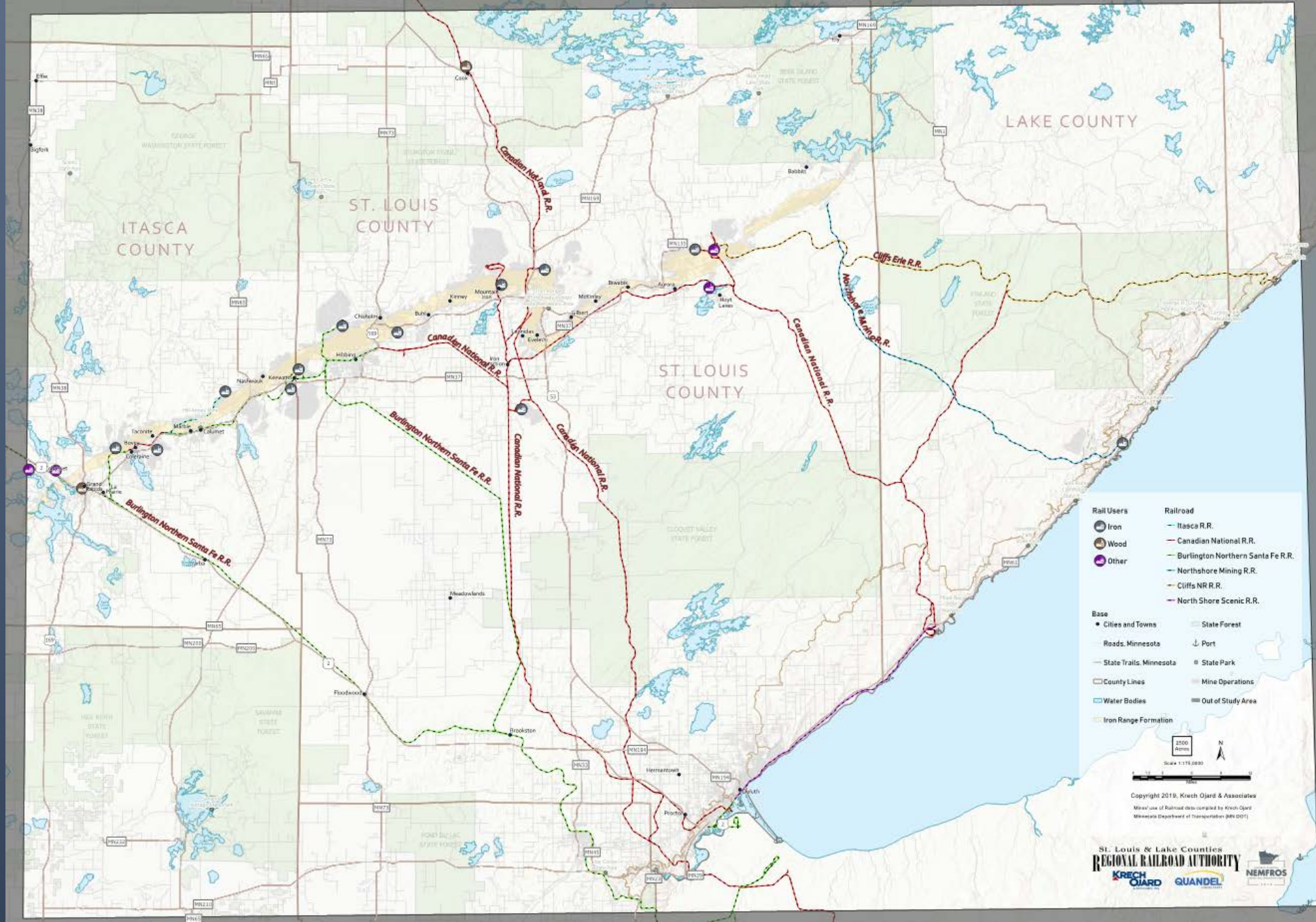


- Improve the competitiveness of the industries in the NEMFROS area in domestic and global economy by identifying:
 - Alternatives that increase the efficiency and competitiveness of rail service to Iron Range rail customers
 - Alternatives that increase the resiliency of the Iron Range production facilities thru rail-related capacity enhancements
 - Existing operational bottlenecks in the Iron Range rail system and developing alternatives to reduce or eliminate them
- Position alternatives for Federal grant funding applications

Northeast Minnesota Freight Rail Opportunity Study



STUDY AREA



NEMFROS ACTION PLAN



- Kick-off meeting – Feb 2019
- Introduction of stakeholders/ industrial rail users to NEMFROS – Feb 2019
- Engineering Planning Workshop for Stakeholders – Feb 2019
 - Stakeholders/ industrial rail users ID'd
 - Study Team explained Engineering Planning:
 - Process to integrate: planning, engineering, environment, transportation, finance and governmental relations into a transportation study
 - Proactive and systematic to prepare for scrutiny
 - Collaborative approach to build consensus among disparate stakeholders and facilitates approval
 - EP Phases: Information, Speculation, Evaluation, Implementation
- Differentiate between Needs and Wants

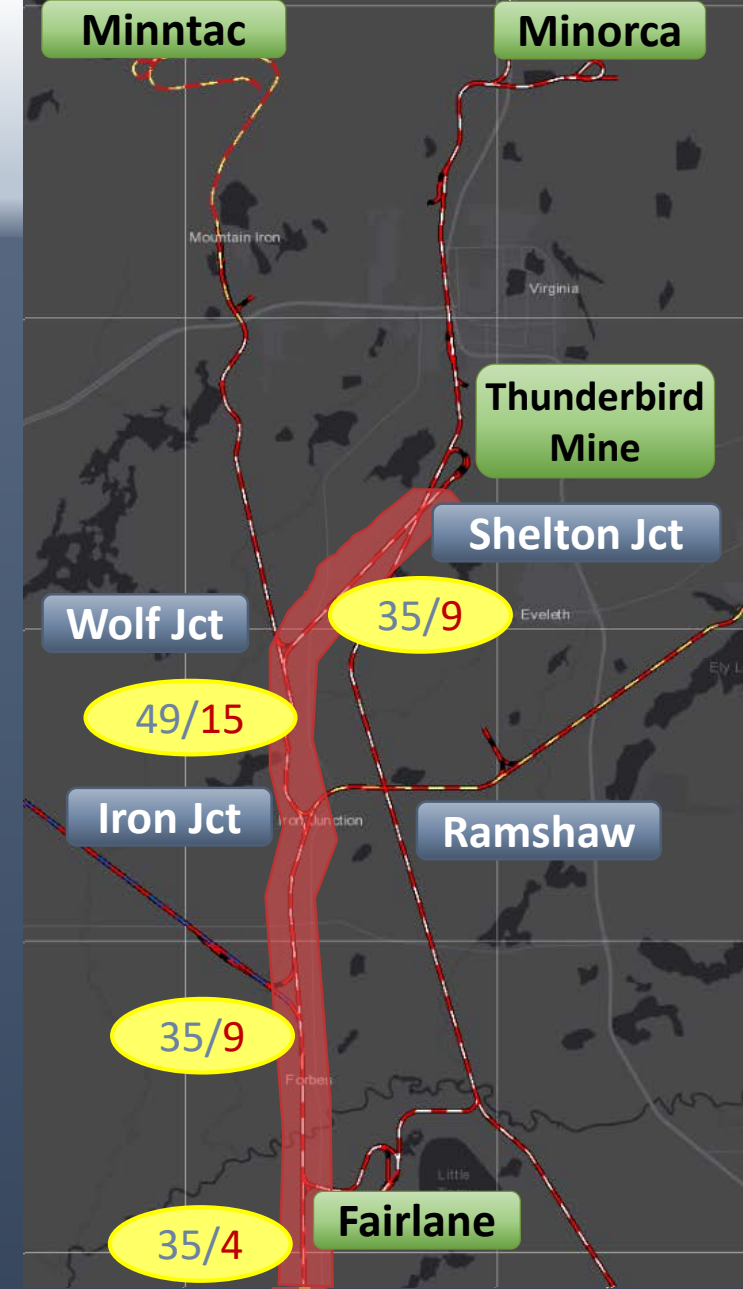
NEMFROS ACTION PLAN (CONTINUED)



- After Engineering Planning Workshop:
 - Coordination with existing and potential industrial rail users ➔ site visits
 - ID potential projects ➔ gathering cost & benefit data from rail users
 - Coordination with Class I railroads BNSF and CN ➔ gathering project cost & benefit data
 - Development of Universe of Alternatives: 36 projects ID/ developed
 - Categorized projects ➔ high (15) or low (18) potential benefits
 - High potential projects, the study team:
 - Developed conceptual engineering, capital costs, operational analyses, benefits, BCA
 - Categorized High Potential projects into:
 - Tiers I (5)
 - Tier II (5)
 - Tier III (4)
 - Selected 5 Tier 1 projects for potential advancement for federal grant funding
- Suggested remaining lower-potential projects be monitored:
 - Changes that increase potential benefit and increase chance of successful grant funding
- Final Report Delivered June 30, 2019

NEMFROS VALIDATED A SIGNIFICANT CN OPERATIONAL BOTTLENECK

- Rail users cited train delays, service failures, crew shortages, increased cycle times, etc.
- Coordination between rail users, CN and the Study Team validated a bottleneck area on CN's Missabe Subdivision between Eveleth and Forbes, MN
- Occurs at the convergence of CN's Missabe, Minntac, Iron Range and Rainy Subdivisions
- Study Team's Rail Traffic Controller (RTC) analysis confirmed causes/effects of bottleneck
- Bottleneck adversely affects Iron Range rail users:
 - Minntac, Minorca, Thunderbird Mine, Fairlane pellet plant and CN's core transcontinental traffic-CN concurs with assessment



ADDRESSING CAUSES OF THE BOTTLENECK

- Several projects were proposed to mitigate delays in the bottleneck area
 - Some concentrated on the bottleneck junction areas
 - Others proposed improvements between Fairlane and Proctor
 - New track connections needed at several locations to change rail traffic flows
- CN has actively participated in the bottleneck analysis and has suggested solutions
- CN withdrew one project stating it plans to fund and construct the improvement itself
- Team's RTC operational analysis showed that:
 - Proposed projects do reduce network delays
 - Combining several projects compounds the operational benefits
- 3 of the 5 Tier 1 projects had a positive Benefit Cost Ratio better than 1.0

BENEFITS FOR IRON RANGE RAIL USERS



- Four Tier I projects benefit USS's Minntac, Arcelor-Mittal's Minorca, United Taconite's Thunderbird Mine and Fairlane Pellet Plant and CN's core traffic through bottleneck delay reduction.
- The fifth project benefits both the Iron Range and the 7-county Minneapolis-St. Paul area.
- Projects with lower potential benefits were addressed in the full report. Generally, these:
 - Do not now have sufficient benefits to justify the required capital expense;
 - Only benefit one customer and do not have public benefits;
 - Are a plant maintenance item; or
 - Can be resolved with improved communications between plant and railroad
- Hibbing Taconite and Keewatin Taconite are served by BNSF and their trains:
 - Do not operate through the CN bottleneck area
 - Are not affected by CN bottleneck delays
 - Are normally not affected by BNSF network delays

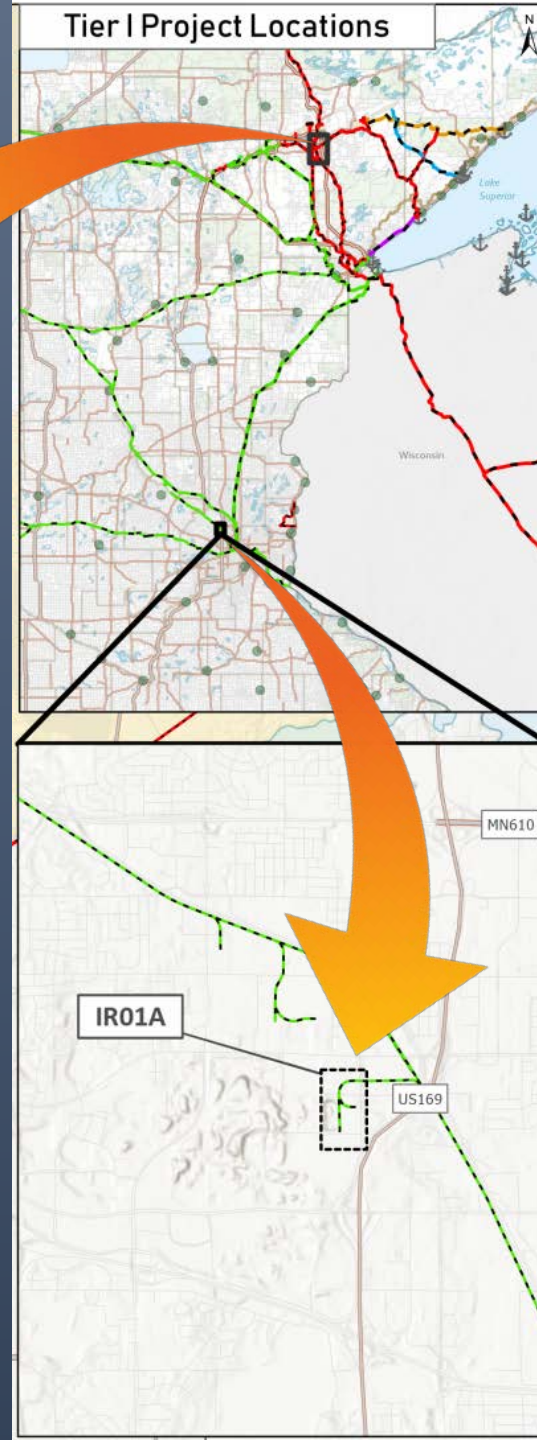
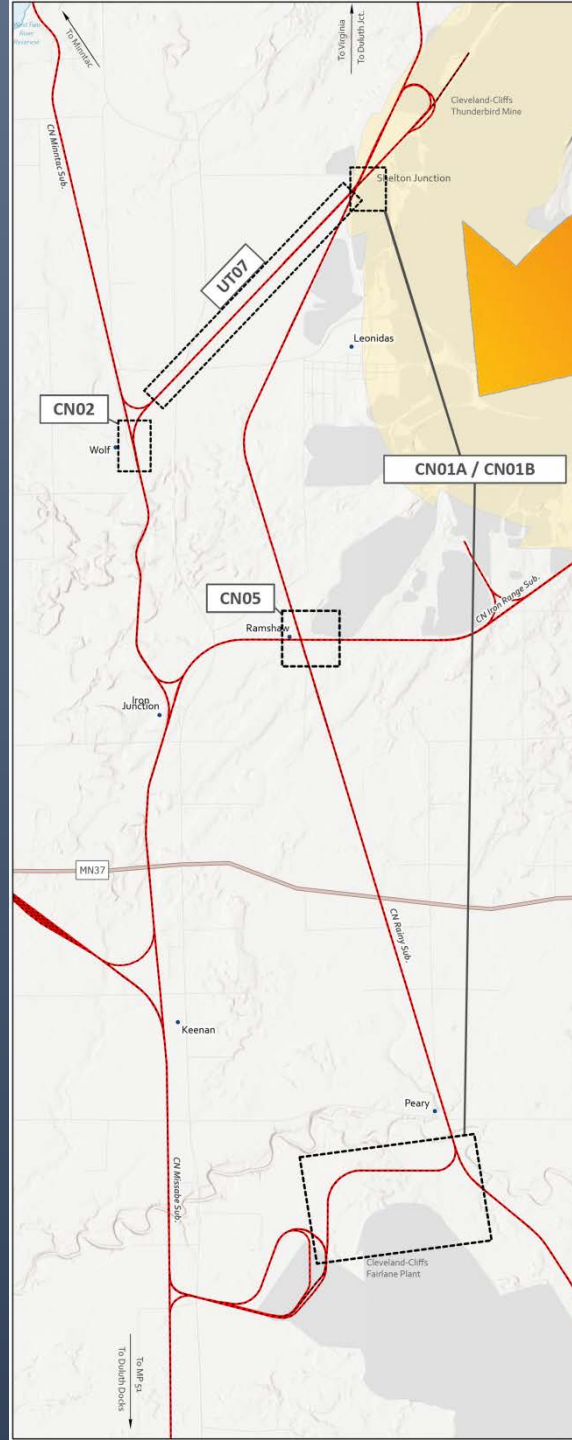
RECOMMENDED TIER I PROJECTS



Project ID	Project Title	Location	Estimated Cost	BCR
CN01A	Re-Establish Peary Access for Directional Crude Ore Service	Eveleth - Forbes, St. Louis County, MN	\$12,497,000	1.17
CN01B	Re-Establish Peary Access For Directional Crude Ore Service and Shelton Junction Diamond Elimination	Eveleth - Forbes, St. Louis County, MN	\$14,375,000	3.24
CN02	Wolf Crossover Upgrades	Wolf, St. Louis County, MN	\$4,770,000	1.47
CN05	Install Wye on Northeast Quadrant of the Ramshaw Diamond	Ramshaw, St. Louis County, MN	\$7,382,000	0.21
IR01A	Range Rock to Twin Cities (Phase 1) Manifest Train Service	St. Louis County/ Hennepin County, MN	\$366,000	Not Available


Note: CN01A and CN01B are different solutions to the same problem; however, CN01B has a more favorable BCR which makes it more favorable than CN01A.

TIER I PROJECT LOCATIONS



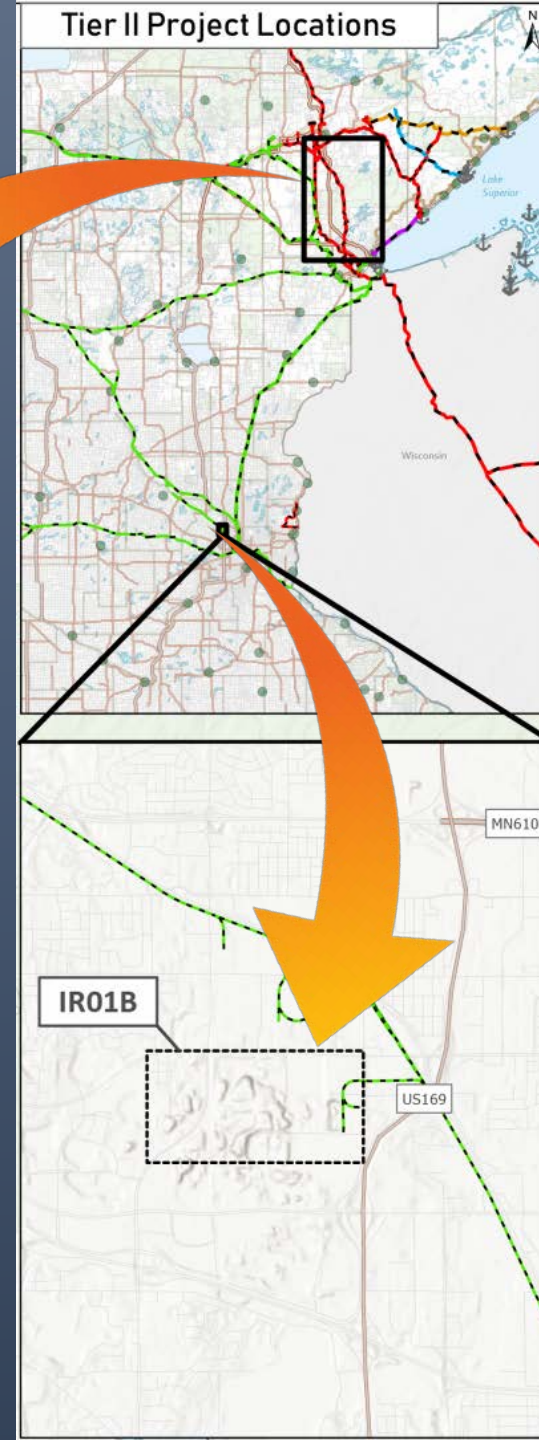
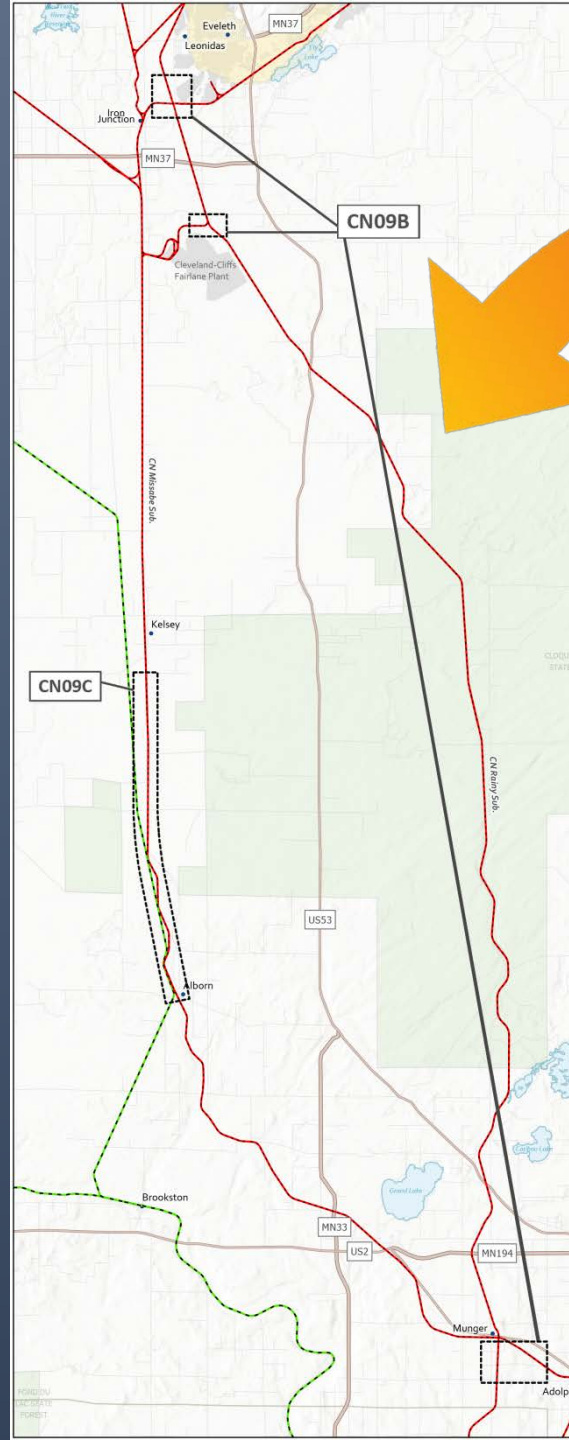
Legend

- Project Limits**
- Railroad**
 - Itasca R.R.
 - Canadian National R.R.
 - Burlington Northern Santa Fe R.R.
 - Northshore Mining R.R.
 - Cliffs NR R.R.
 - North Shore Scenic R.R.
- State Park
- Port
- County Lines
- Water Bodies
- Iron Range Formation
- Mine Operations
- State Forest
















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TIER II PROJECT LOCATIONS



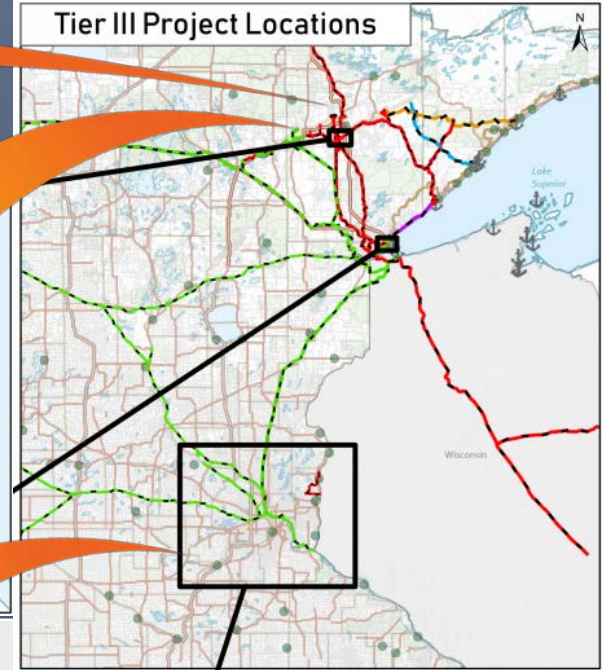
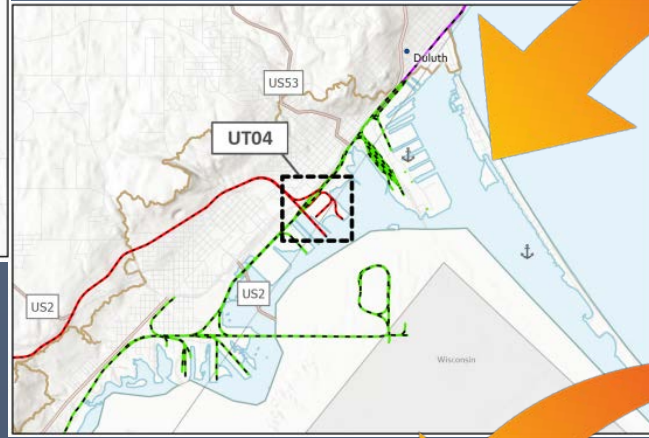
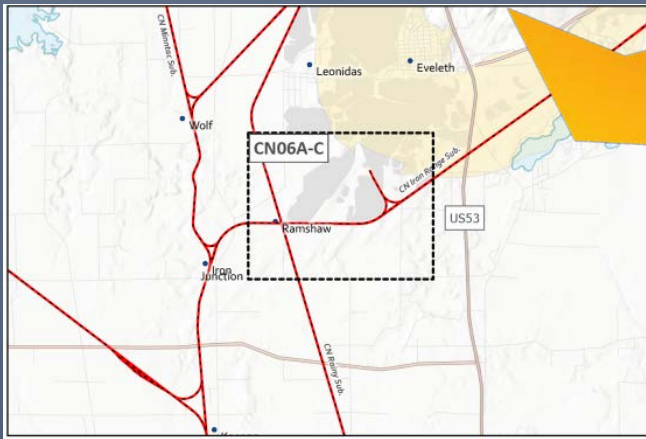
Project Limits

Railroad

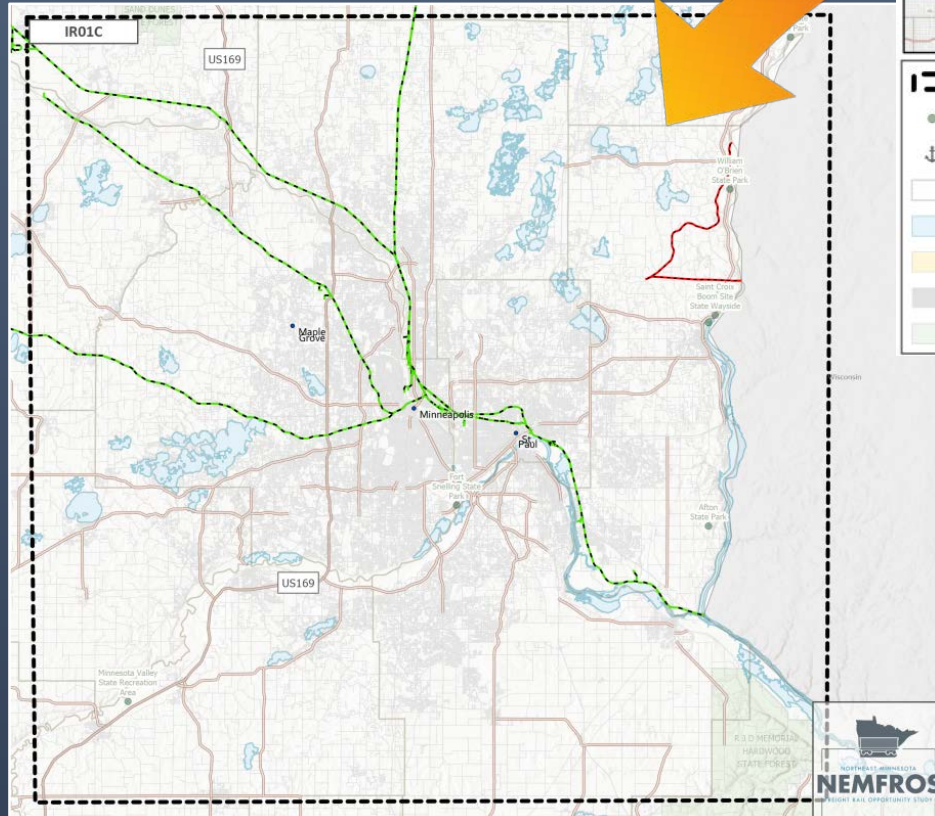
-  Itasca R.R.
-  Canadian National R.R.
-  Burlington Northern Santa Fe R.R.
-  Northshore Mining R.R.
-  Cliffs NR R.R.
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













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TIER III PROJECT LOCATIONS



 Project Limits	 Itasca R.R.
 State Park	 Canadian National R.R.
 Port	 Burlington Northern Santa Fe R.R.
 County Lines	 Northshore Mining R.R.
 Water Bodies	 Cliffs NR R.R.
 Iron Range Formation	 North Shore Scenic R.R.
 Mine Operations	
 State Forest	

NEMFROS CONCLUSIONS



- NEMFROS identified 36 projects which could potentially satisfy study's goals
- Of the 36, five had the highest potential benefits to the region
- Three of the five had a Benefit Cost Ratio of greater than 1.0
- Projects CN01A and CN01B are two solutions to the same problem: CN01B has a higher Benefit Cost Ratio
- Two of the five are expected to have a high likelihood of qualifying for federal funding
- CN intends to pursue CN01B in its Capital Spending Program – Sept 2019

PROJECT IR01C: RANGE ROCK TRANSLOADING



Purpose & Need:

- Establish a supply of Iron Range tailings for use in the Seven County Metropolitan area surrounding Minneapolis/St Paul (MSP).
- Forecasted aggregate resource base in the Seven County Metropolitan (MSP) exhausted by 2029.

Project Scope:

- Conduct market study in the Seven County Region to determine future demand for high grade aggregate imports.
- Conduct a study to determine potential transload facility locations adjacent to CN and BNSF railways in/near the Seven County Metropolitan area.
- Design Transload facility(s) based on potential volume of range rock to be received.
- Develop capital expenditure and operational expenditure cost estimates

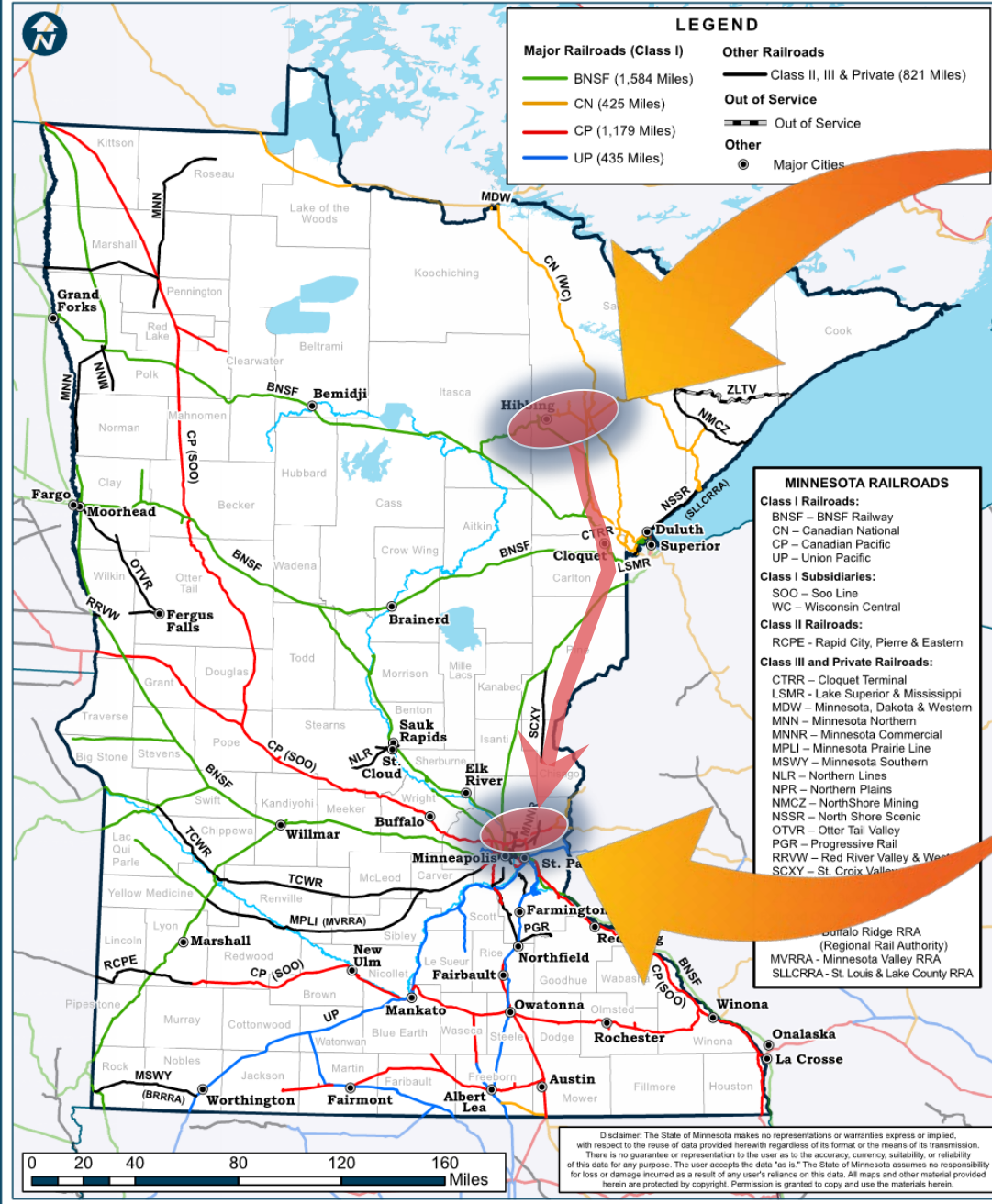
Project Benefits:

- Reduced trucking from distant aggregate sources
- Potential to reduce truck traffic/emissions
- Utilization of waste product
- Allows multiple users access to a needed resource in a high consumption area
- Advantageous to use range rock for concrete aggregate vs limestone, produces higher silica concrete.
- Range rock is a higher quality, longer lasting aggregate
- Job retention in the Twin Cities area
- Job creation in the Iron Range area
- Cost savings to MnDOT for equivalent product



MINNESOTA FREIGHT RAILROAD MAP

Office of Freight and Commercial Vehicle Operations
September 2015



Origination

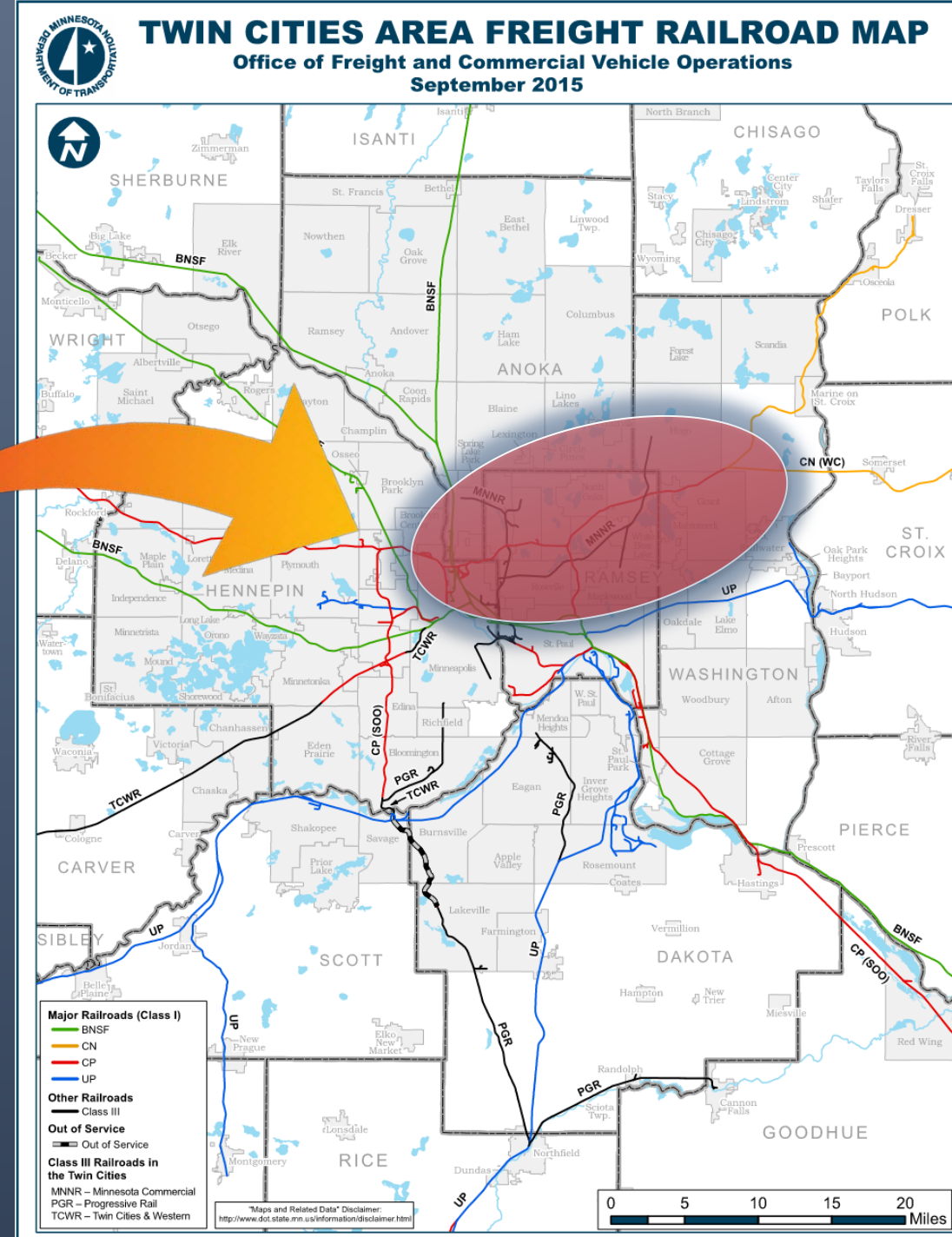
Destination

IR01C:
PROJECT
LOCATION



POTENTIAL DESTINATION: METRO NORTH

- North End:
 - Track for unit trains
 - Loadout for unit trains
- South End
 - Track for receiving unit trains
 - Unloading Facility
 - Storage Footprint
 - Loadout to Truck
 - Third-party Operator??



NEXT STEPS

- Tier 1 projects:
 - CN01B and CN02 advance applications for grant funding – CN PROGRESSING PRIVATELY
- Develop/ Revisit Tier II or III Projects:
 - IR01C – Range Rock Transload
- Considered for federal grant funding, requires at least 20% of the project's cost must be committed by either:
 - State
 - Railroad or
 - Private Industry
- 20% min stake, FRA has given past preference to projects with 50% or greater stake
- Additional preference for projects funding from multiple stakeholders and projects with match of greater than 50%.

QUESTIONS?

