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**

June 30th, 2019  

**FINISH**
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
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

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

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 III PROJECT LOCATIONS
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
IR01C: PROJECT LOCATION

Origination

Destination
**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?