



MnDOT District 1 Freight Plan

Advisory Committee

September 5, 2019

Welcome back to the Advisory Committee

Help us keep the “Big Picture” in mind

Please introduce yourself:

- Name, organization
- What was the most important thing you learned during development of the plan?




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The Final Advisory Committee Meeting

<p style="text-align: center;">Meeting 1 Agenda (Month 3)</p> <ul style="list-style-type: none">• Review Work Plan• Confirm Plan Goals• Freight system profile <p style="text-align: center; color: green; font-size: 2em;">✓</p>	<p style="text-align: center;">Meeting 2 Agenda (Month 5)</p> <ul style="list-style-type: none">• System condition and performance eval.• Stakeholder findings – needs, issues & opportunities <p style="text-align: center; color: green; font-size: 2em;">✓</p>	<p style="text-align: center;">Bonus Meeting (Month 8)</p> <ul style="list-style-type: none">• Discuss needs/issues and project “gaps”• Approach to project pre-feasibility – receive feedback <p style="text-align: center; color: green; font-size: 2em;">✓</p>	<p style="text-align: center;">Meeting 3 Agenda (Month 11)</p> <ul style="list-style-type: none">• Present major findings and Plan deliverables• Receive feedback
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Presentation Map




Freight Plan Development Process and Key Products

Key Needs and Issues Addressed by Freight Plan

Results of Project Pre-Feasibility Analysis

Action Plan and Recommendations

Questions & Discussion

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Project Motivations

Need to provide a clear understanding of the multimodal freight system, how local industries use the system and their needs and issues, so MnDOT's policy and programming decisions can be better informed in the District



Image sources: Minnesota Department of Transportation, CPCS Transcom.



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Plan Development Process



State Freight Plan Goals

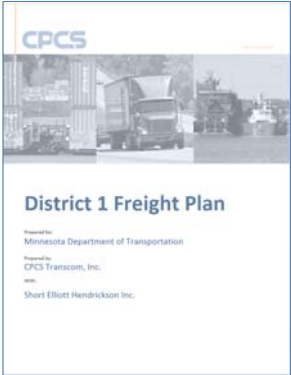
- Support Minnesota's Economy
- Improve Minnesota's Mobility
- Preserve Minnesota's Infrastructure
- Safeguard Minnesotans
- Protect Minnesota's Environment and Communities



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Work Products

- 5** Working Papers
- 1** Executive Level Final Report
- 1** GIS Database
- 1** Stakeholder Outreach Program



Guidance to aid in project implementation

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Discussion

Questions

- What elements of the planning process did you participate in most, or were most useful to you?
- What elements of the plan are you most likely to use or refer to in the future?

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Presentation Map

- Freight Plan Development Process and Key Products
- Key Needs and Issues Addressed by Freight Plan**
- Results of Project Pre-Feasibility Analysis
- Action Plan and Recommendations
- Questions & Discussion

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Need and Issue Organization

Road- and trucking-related needs and issues make up the majority of District 1's freight needs and issues

Needs and issues are broken down by mode:

Roadways	Railroads	Ports
<ul style="list-style-type: none">• Safety• Mobility• Condition	<ul style="list-style-type: none">• Safety• Mobility• Condition	<ul style="list-style-type: none">• Mobility• Condition

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Freight System Needs and Issues: Road Safety

Many safety needs and issues relate to trucks' slow speed relative fast-moving traffic when turning or entering traffic, and trucks' need for greater space to accelerate, decelerate, and turn.

- Passenger and freight traffic conflicts
- Intersections
 - Adequate space for stopping, turning, accelerating.
 - Impaired or short sight lines.
 - Examples: I-35/MN-35 interchange, Swan Lake Road and US-53, US-2 in Grand Rapids.
- Corridors
 - Wider, harder shoulders on less-traveled trunk highways and county roads.
 - Additional passing lanes. Examples: MN-37 near Hibbing, US-169 around Aitkin.
- Weigh Station and Commercial Vehicle Enforcement
 - Improved enforcement for the Blatnik Bridge.

Freight System Needs and Issues: Road Mobility

Traffic congestion is not a mobility concern for most of District 1.

- Intersections
 - Proper design of future roundabouts for a variety of trucks.
 - Adding traffic lights, changing traffic light timings in urban areas.
- Corridors:
 - Congestion is generally not a problem.
- Regional Connectivity
 - Lack of redundancy for major trunk highways: US-2, US-53, MN-61
 - Weight restriction differences between MN, WI, ND, SD.
- Route Restrictions
 - Low vertical clearances: select few bridges.
 - Spring load restrictions
 - 10-Ton route gaps on county and local roads
- Communication about conditions and construction

Freight System Needs and Issues: Road Condition

Road Condition is generally not a concern for most of District 1.

Condition

- Pavement Condition: all identified needs and issues are already programmed for improvement.
- Bridge Condition: issues concentrated on local roads.

Freight System Needs and Issues: Rail

Many rail needs and issues lie outside of MnDOT's immediate control.

Safety

- Grade crossings on high-traffic lines.

Mobility

- Competitive and reliable rail service.

Condition

- Grassy Point Bridge
- BNSF Hinckley Subdivision bridges.

Freight System Needs and Issues: Ports

Mobility

- Improve access to Port of Duluth.

Condition

- Harbor and channel dredging.
- Preservation of working waterfront properties.

Discussion

Question

- During conduct of the study was the quantitative and qualitative assessment clear and easy to understand?

Presentation Map

Freight Plan Development Process and Key Products

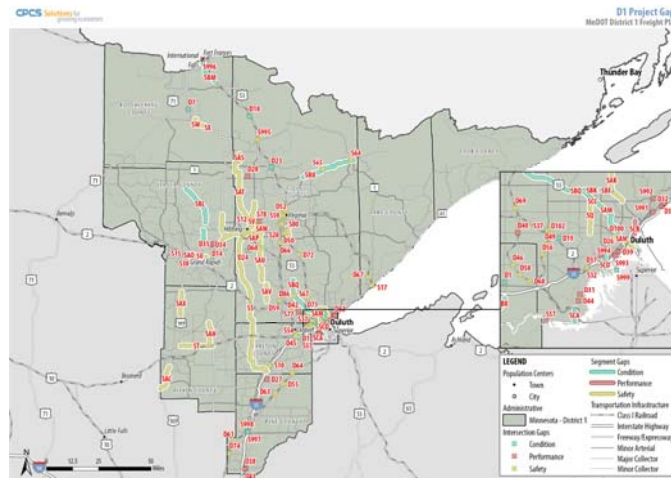
Key Needs and Issues Addressed by Freight Plan

Results of Project Pre-Feasibility Analysis

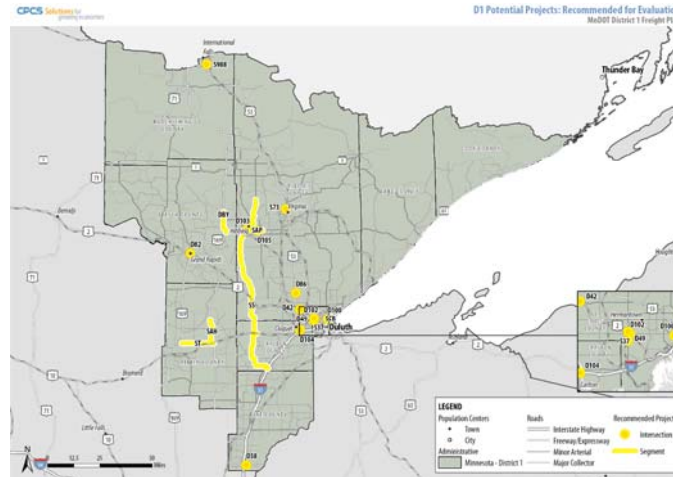
Action Plan and Recommendations

Questions & Discussion

Gaps between Funded Projects and Needs



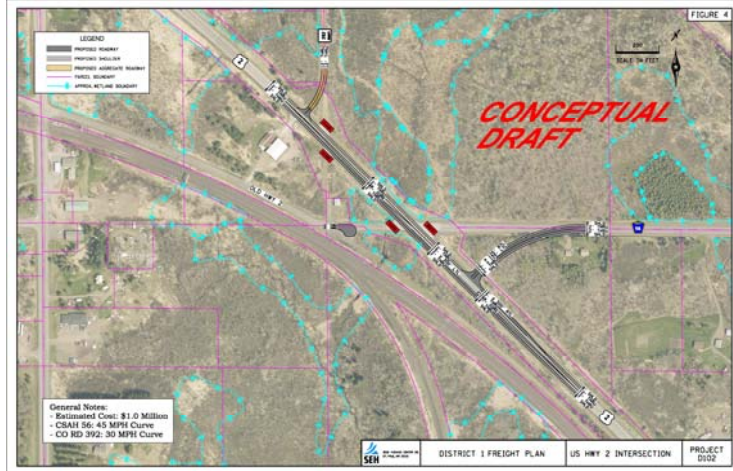
Project Concepts with Pre-Feasibility Assessment



18 Projects were Advanced to Pre-feasibility

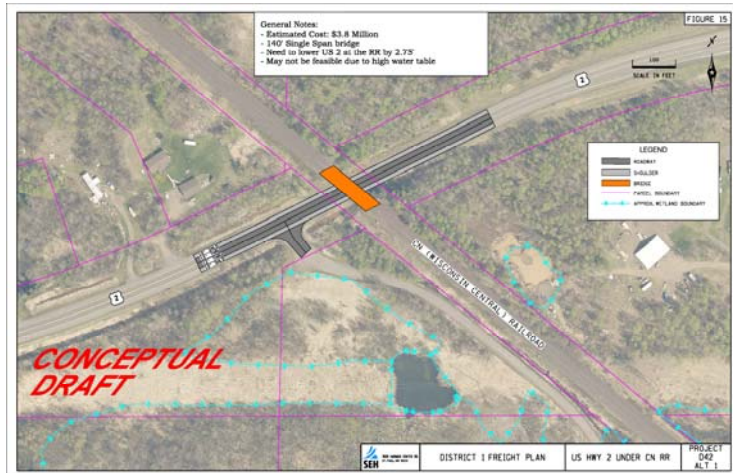
Project ID	Location	Need or Issue
D104	I-35/CSAH 45 interchange near Cloquet	Safety
D102	CSAH 56 and CR 392	Safety
S37	US 2 at Midway Road	Safety
D86	US 53/TH 33	Safety
D82	US 2 and US 169 in Grand Rapids	Safety
D100	US 53 and Piedmont Avenue	Safety
S73	US 53/P&H Road intersection north of Virginia	Safety
D38	TH 70 east of I-35 between Rush City and Pine City	Mobility
DCR/SAP/D105	TH 37 from Hibbing to CSAH 5	Safety
D103	US 169 and TH 73 in Hibbing	Safety
D42	CN railroad bridge over US 2	Mobility
SAH	TH 65 between McGregor and Big Sandy Lake	Safety
ST	TH 210 between US 169 and McGregor	Safety
SS	TH 73 between Moose Lake and Hibbing	Safety
SCB	Mesaba Avenue between I-35 and TH 19	Mobility
DBY	TH 65 between Nashwauk and County Road 540	Safety
D49	Midway Road and St. Louis River Road	Safety
S988	US 53 and CSAH 332 near International Falls	Safety

D102 – CSAH 56 and CR 392



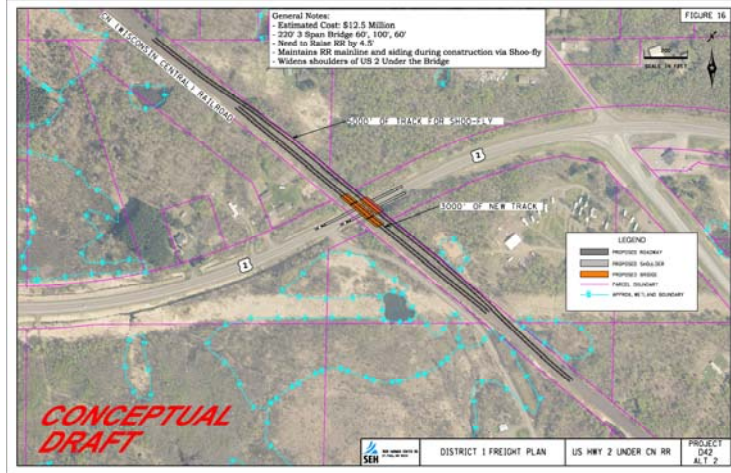
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D42 – CN railroad bridge over US 2



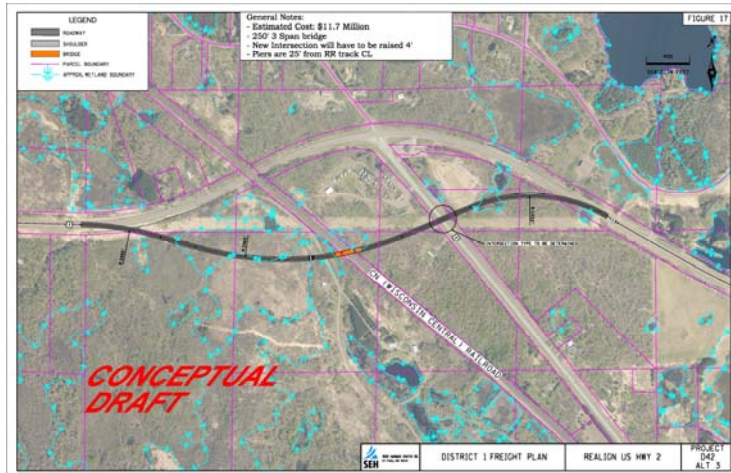
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D42 – CN railroad bridge over US 2



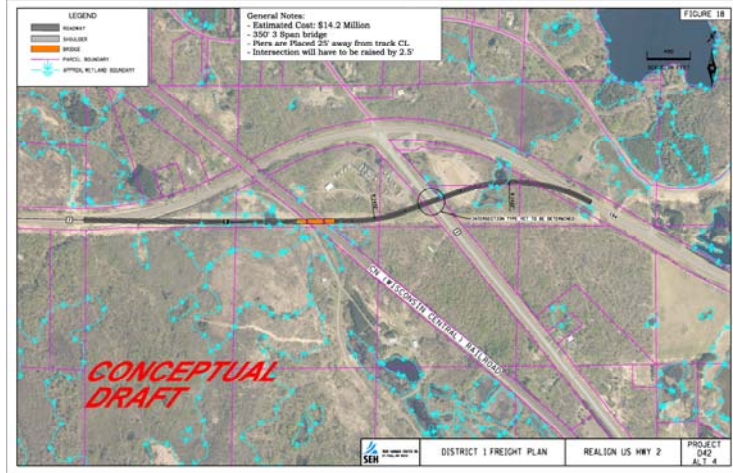
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D42 – CN railroad bridge over US 2



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D42 – CN railroad bridge over US 2



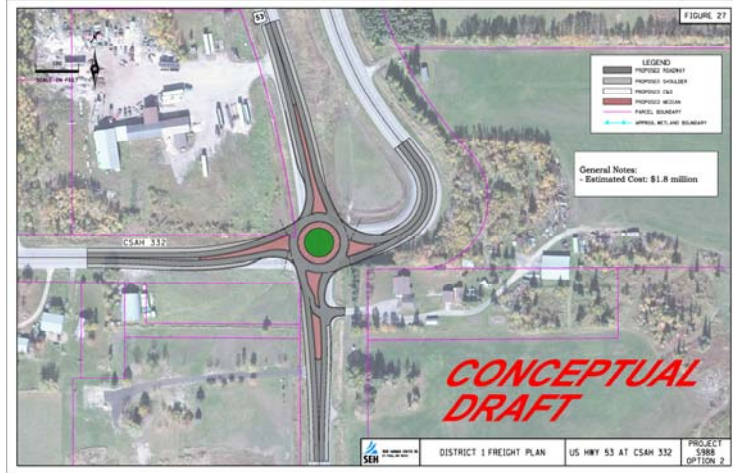
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S988 – US 53 and CSAH 332 near International Falls



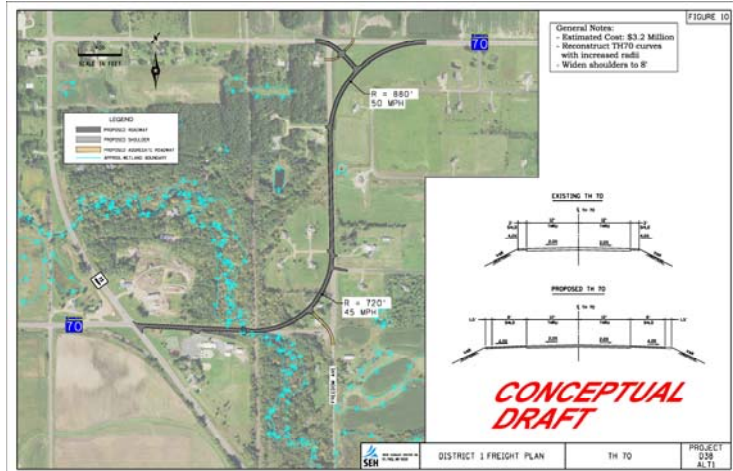
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S988 – US 53 and CSAH 332 near International Falls



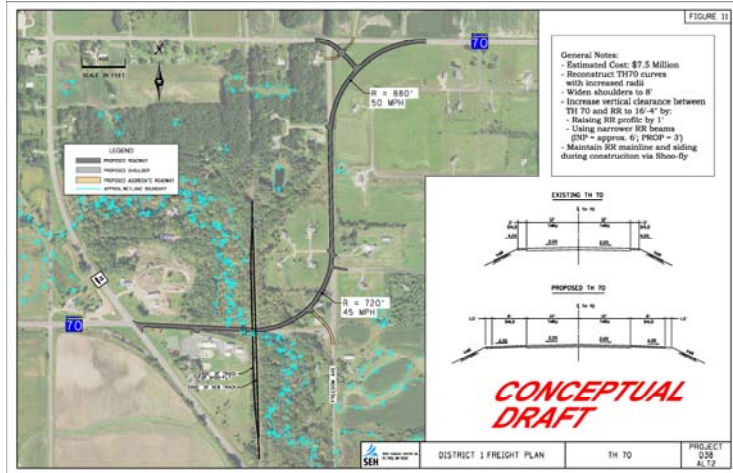
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D38 – TH 70 east of I-35 between Rush City and Pine City



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D38 – TH 70 east of I-35 between Rush City and Pine City



S73 – US 53/P&H Road intersection north of Virginia



Discussion

Questions

- Was the method of selecting projects for pre-feasibility analysis clear and easy to understand?
- Does this pre-feasibility analysis provide a useful level of detail for your planning and grant application efforts?

Presentation Map

Freight Plan Development Process and Key Products

Key Needs and Issues Addressed by Freight Plan

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Action Plan and Recommendations

Questions & Discussion


District 1 Freight Planning “Report Card”	
Goal Area	Progress
Support Minnesota's Economy	<ul style="list-style-type: none"> The Duluth Cargo Connect road-rail intermodal terminal began service in 2017.
Improve Minnesota's Mobility	<ul style="list-style-type: none"> Construction of an improved Twin Ports Interchange is scheduled to begin in 2020. Addressed congestion near Fortune Bay Casino. Programmed adjustments to the timing of traffic signals in International Falls.
Preserve Minnesota's Infrastructure	<ul style="list-style-type: none"> Removal of large “hump” on MN-37 railroad crossing causing trucks to bottom out.
Safeguard Minnesotans	<ul style="list-style-type: none"> Improved traffic signals and turn lanes on MN-61 in Two Harbors Programmed improvements for US-169 Bridge near Nashwauk. Funded safety improvements for US-2 and MN-65 at Swan River. Shoulder improvements programmed for US-169 between Aitkin and Mississippi River. Grade crossing improvements on Scenic 61 studied in recent NW Minnesota Rail study.
Protect Minnesota's Environment and Communities	<ul style="list-style-type: none"> DSMIC Truck Route Study completed in 2019. Studying improvements for Central Entrance in Duluth. Studying improvements for US-169 in Grand Rapids

Recommendations


Projects are one of the “4 P’s” that MnDOT and local partners can use to improve the freight system




Projects




Policies

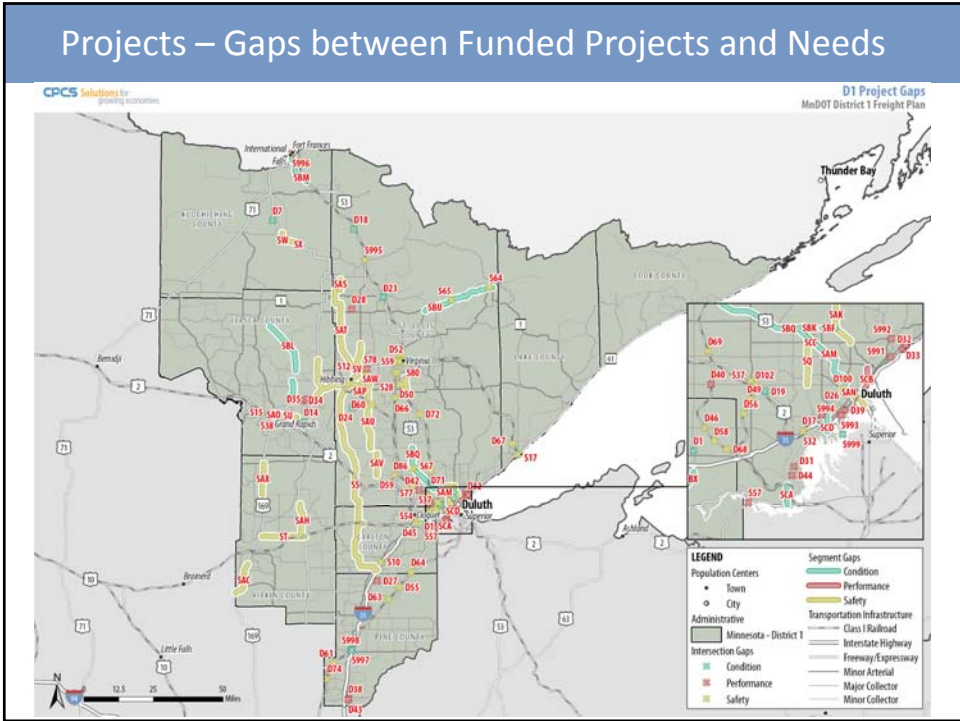


Programs




Partnerships


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Support Minnesota's Economy

Type	Description
Policies	N/A
Programs	<ul style="list-style-type: none"> Update or "refresh" the Manufacturers' Perspectives study on a 5 or 10-year basis, to gather relevant feedback and evaluate how freight needs and issues are changing over time.
Partnerships	<ul style="list-style-type: none"> Collaborate with local economic development agencies to market the region's competitive location and assets: attract new business by emphasizing the presence of four Class I railroads and access to St. Lawrence Seaway as major competitive assets. Collaborate with local economic development agencies and (if possible) railroads to explore the potential to expand or improve rail service in communities outside of Duluth.


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Improve Minnesota's Mobility	
Type	Description
Policies	<ul style="list-style-type: none"> Identify, create, or designate super-heavy oversize/overweight corridors, focused on cargo traveling to or from the Port of Duluth. Harmonize Minnesota's truck weight policies to more closely match Ontario and Wisconsin's policies, which has the potential to make interstate and international trucking operations more efficient.
Programs	<ul style="list-style-type: none"> Develop a freight mobility program in District 1 to systematically address the mobility (performance) issues identified as "unaddressed" (focus on vertical clearance restrictions and support "closing gaps" on county portions of the 10-ton network.) Improve incident/construction management systems to include freight (trucker)-specific information so that that advance notice of disruptions to critical routes is provided.
Partnerships	<ul style="list-style-type: none"> Engage with neighbor state and provincial transportation agencies to ensure that highways critical to freight in District 1 (US-2, US-53 in Wisconsin) are adequately maintained, weight limits harmonized, and the creation or preservation of oversize/overweight truck corridors.

Preserve Minnesota's Infrastructure	
Type	Description
Policies	<ul style="list-style-type: none"> Incorporate freight considerations into existing MnDOT funding programs. Focus on maintaining the good condition of existing assets, rather than expanding capacity of the system (primarily roads).
Programs	<ul style="list-style-type: none"> Develop a freight infrastructure program in District 1 to systematically address the condition issues identified as "unaddressed" (with emphasis on improving bridge condition on the local network).
Partnerships	<ul style="list-style-type: none"> Encourage state and federal lawmakers to develop stable funding policies and sources for freight transportation. Continue to follow-up on Manufacturers' Perspectives study findings, working to improve existing planning processes and maintenance programs. Engage with federal lawmakers and the US Army Corps of Engineers to advocate for reducing the harbor and channel dredging backlog.

Safeguard Minnesotans

Type	Description
Policies	N/A
Programs	<ul style="list-style-type: none"> Develop a freight safety program in District 1 to systematically address the safety issues identified as “unaddressed”. This could effectively be incorporated in existing District safety activities, with an emphasis on addressing those most pressing freight-related needs (e.g., adding turning, accelerating and passing lanes; improving sight lines and warnings for shot stopping distances; widening and strengthening shoulders). Re-activate I-35 weigh station in Carlton to help screen traffic using the Blatnik Bridge.
Partnerships	<ul style="list-style-type: none"> Partner with local communities and railroads to advance grade crossing improvements at key locations.

Protect Minnesota’s Environment and Communities

Type	Description
Policies	N/A
Programs	<ul style="list-style-type: none"> Improve incident management systems and collaborate with local first responders to ensure that disruptions to critical routes without redundancies are minimized.
Partnerships	<ul style="list-style-type: none"> Offer assistance to county and local governments with long-range planning to solve first- and last-mile freight movement needs and issues. Continue port land use planning efforts and engagement with the Duluth-Superior Harbor Technical Advisory Committee.

Discussion

Questions

- What actions and recommendations can be realistically implemented in the near term?
- Are there any actions or recommendations that are missing, or should be added?

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Questions & Discussion

Thank you!

Thank you for your participation and assistance!

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Questions & Discussion

 <p>Erika Witzke, PE Project Manager ewitzke@cpctrans.com</p>	 <p>Chris Hiniker, AICP Pre-Feasibility chiniker@sehinc.com</p>
 <p>Eric Oberhart Project Coordinator eoberhart@cpctrans.com</p>	 <p>Matt Bolf, PE Local Coordination & Outreach mbolf@sehinc.com</p>

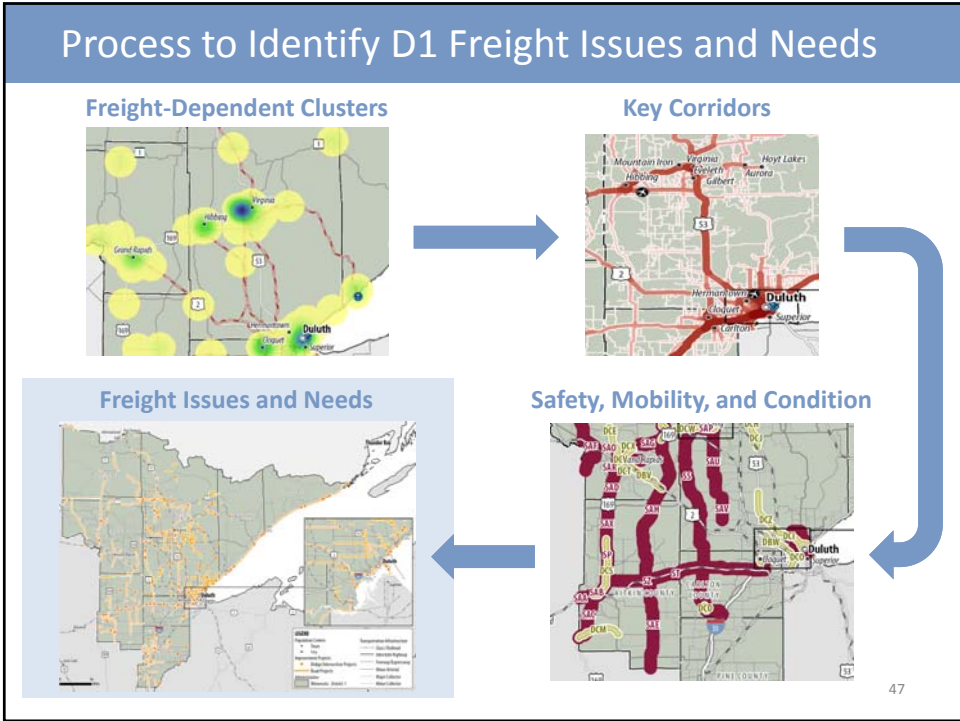
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EXTRA SLIDES

Approach to Identifying Investment Priorities

Process/Steps

1. Identify issues and needs
 - Combination of quantitative and qualitative issues
2. Determine (generally) if projects are being advanced to address issues
3. Where data is available, screen issues against modified MN State Freight Investment Plan criteria
4. Develop scores and rank projects/concepts
5. Advance projects/concepts to pre-feasibility



Comparing needs, issues, and investments

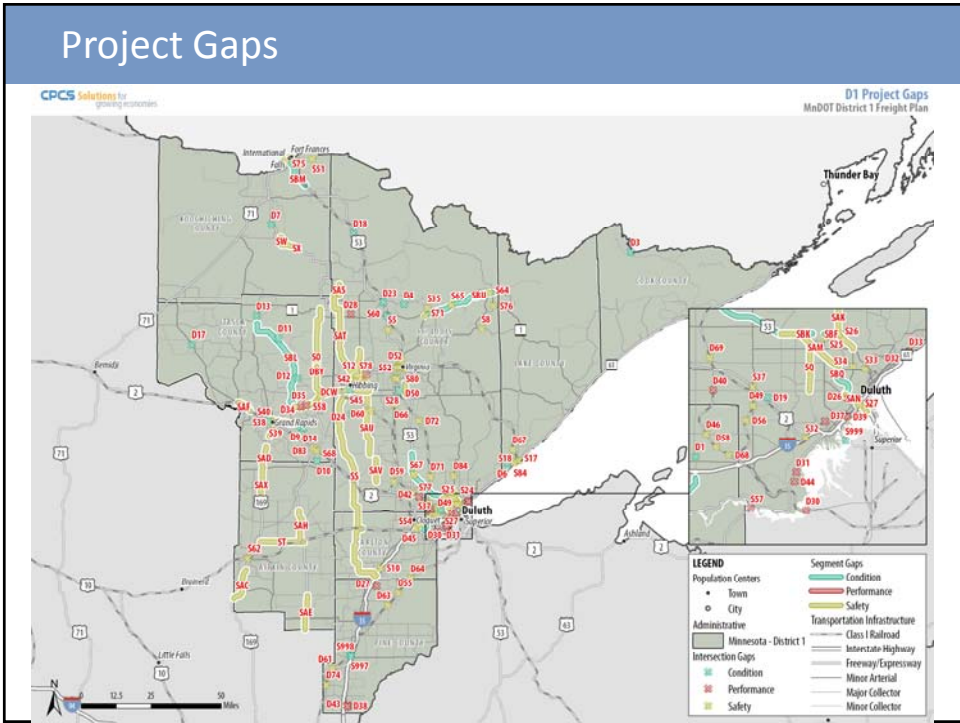
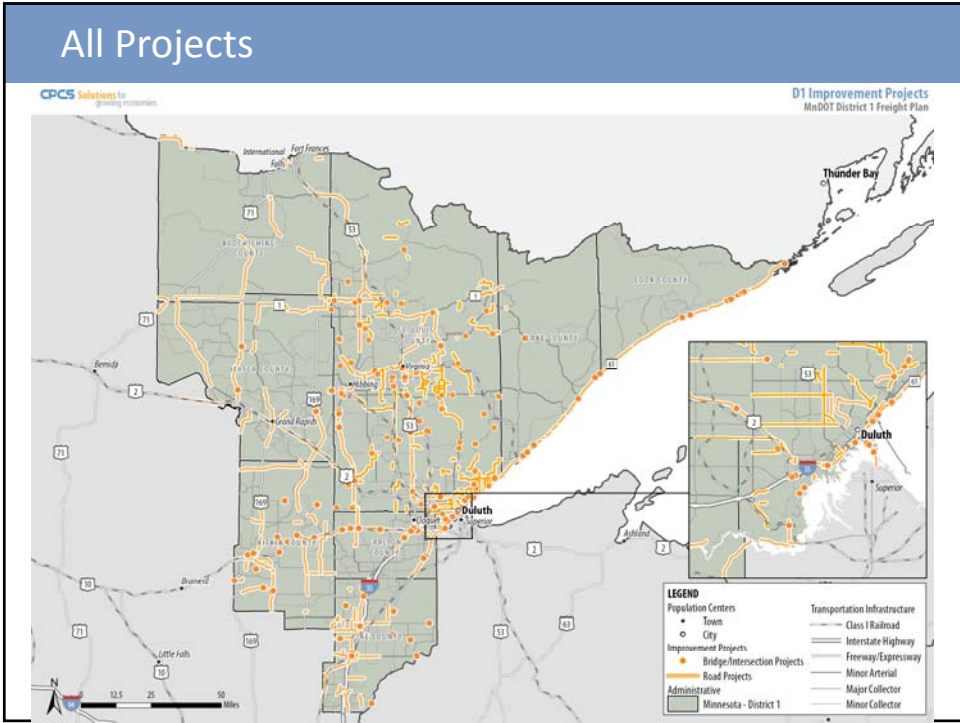
How many of the identified needs and issues may be addressed by already programmed projects?

Examined Programs:

- State Transportation Investment Plan (STIP)
- Capital Highway Investment Plan (CHIP)
- DSMIC Transportation Improvement Plan (TIP)
- County investment plans (Aitkin, Itasca, Lake, Pine, St. Louis)

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The Starting Point...

Criteria	Measures	Category: Safety	Category: Freight Congestion/ Efficiency	Category: First/Last Mile
Truck Volume	HCAADT	250	250	250
Safety	<ul style="list-style-type: none"> Crash rate reduction Addresses a sustained crash location (Y/N) OR Not sustained crash location, but addresses a safety issue identified in a district or county safety plan (Y/N). If so, provide risk rating. (+) For truck parking projects: truck parking utilization at existing rest stops 	350	100	100
Freight Mobility	<ul style="list-style-type: none"> Truck Travel Time Reliability Removes a geometric or temporary (e.g. flooding) barrier or avoids future load restriction on an OSOW route (Y/N) (+) Upgrades a roadway to 10-ton standards (+) 	100	350	150
Freight Facility Access	Daily truckload equivalents entering and exiting a freight facility or facilities	+50	+50	200
Cost Effectiveness	Divide amount of points awarded above by amount of requested funds divided by 1000	150	150	150
Project Readiness	<ul style="list-style-type: none"> Environmental Documentation Review of Sec 106 Historic Resources Review of Sec 4f/6f Resources Right-of-Way Construction Plans/Documentation Railroad Involvement Funding 	150	150	150


Source: Adapted from Minnesota State Freight Investment Plan for State Fiscal Years 2016-2027, November 2017


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Some Differences Between Prior Process and Today


- There is currently **no available funding** that the approach will select projects for.
- The approach is being developed to screen **freight system needs** that could eventually become projects.
- The evaluation is intended to establish a “ranking,” and it is expected that MnDOT District Staff and local stakeholders will have the opportunity to **advance projects based on their judgement.**

Project ranking is intended to be used as a decision-making tool, not the decider


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Proposed Freight Categories and Measures

Category	Measures
Truck Activity	HCAADT
	Truck percent (%) of total vehicles
Safety	Addresses a sustained crash location
	A safety issue identified in a district or county safety plan
	Addresses at-grade crossing safety risk
Freight Mobility	Truck Travel Time Reliability
	Addresses a vertical clearance restriction
	Addresses a weight limited bridge
Condition	Bridge condition rating
Stakeholder Need	Y/N if this issue overlaps with a stakeholder identified need


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The Rankings

“Pure” Ranking
This ranking will form the rank order list that MnDOT requires

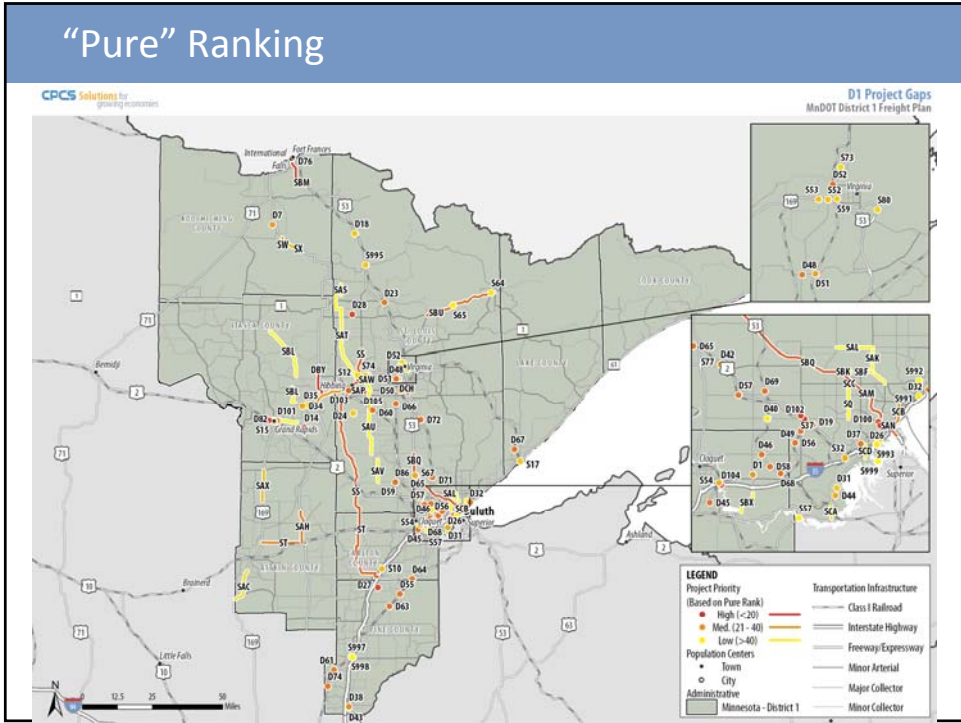
- The total of all scores, for each measure, for each gap/project concept.
- Provides some indication of what gap/project concepts have the highest score, considering all measures.

Ranking by Type of Project or Expected Benefit

- Safety
- Condition
- Mobility


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"Pure" Ranking



Safety Gaps Scored and Ranked

