



Minnesota Statewide Freight System Plan

Minnesota's Multimodal Freight Network (MFN)
Ad Hoc Working Group Meeting #2
January 27, 2015

We all have a stake in **A  B**



Agenda

- ▶ Welcome and Introductions
- ▶ Recap of Meeting #1
 - Detailed Review of Freight Networks
 - Proximity to Freight-Related Businesses
 - Proximity to Intermodal Freight Facilities
- ▶ Linking Highway and Non-Highway Modes
 - ▶ FHWA Intermodal Connector Criteria
 - ▶ Current “Last-Mile Connectivity” in Minnesota
- ▶ Non-Highway Freight Network Components
- ▶ Next Steps and Questions



Recap of Meeting #1



Networks Analyzed

- ▶ FHWA Primary Freight Network
- ▶ National Highway System (Enhanced)
- ▶ Interregional Corridor System + Supplemental Freight Routes
- ▶ National Truck Network + Twin Trailer Network
- ▶ Conceptual 10-Ton Network
- ▶ Oversize/Overweight Network



Meeting #1 Takeaways

- ▶ Minnesota's Multimodal Freight Network (MFN) should emphasize connections to freight facilities and access points
- ▶ Using an existing network as the MFN will be easier to manage than a new network
- ▶ Purpose of the MFN will guide application
 - Funding, Maintenance, etc.
- ▶ Map of major manufacturers and facilities will help guide discussion
- ▶ Preliminary discussions favored Enhanced NHS



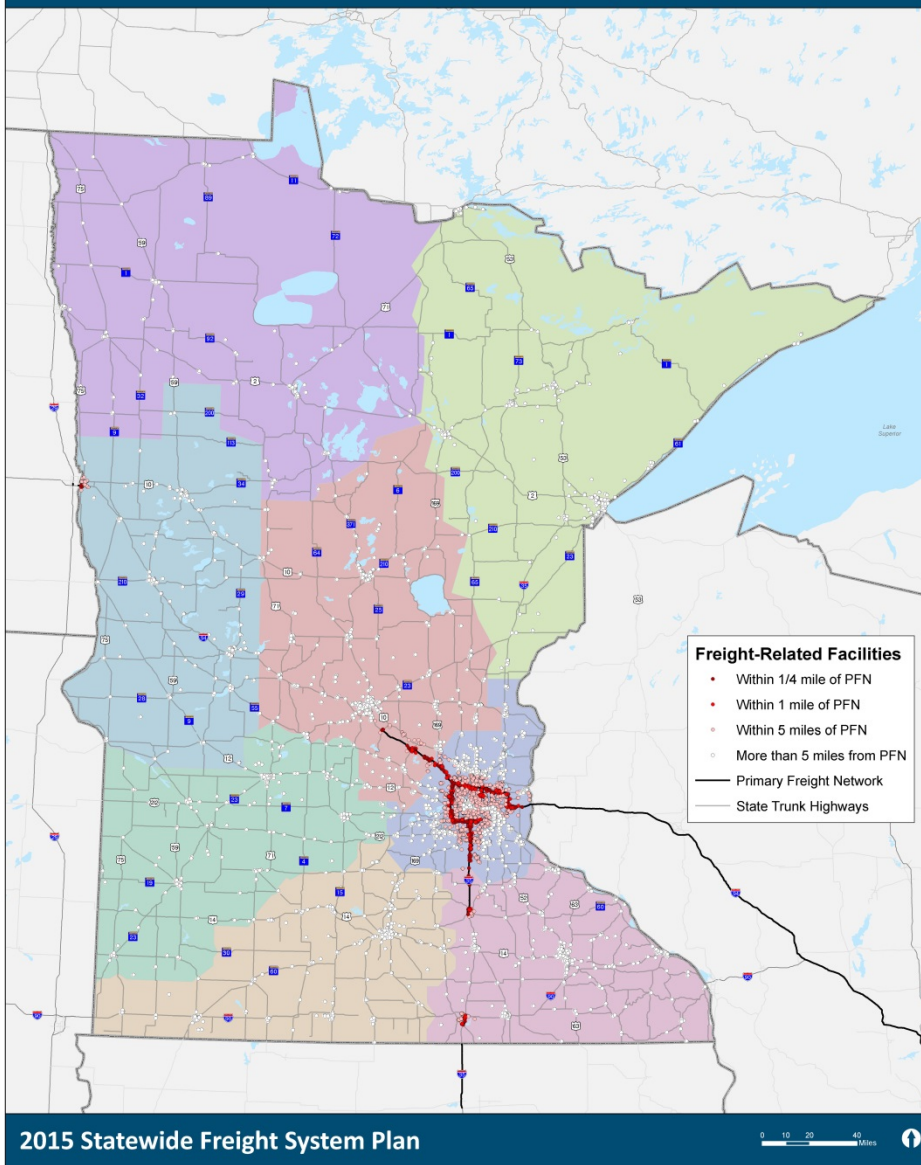
Detailed Review of Freight Networks



Proximity of MFN to MN's Freight-Related Businesses

- ▶ Data from InfoUSA
- ▶ Businesses with 20 employees or more
- ▶ Freight-Related Industries
 - Agriculture, Forestry, Fishing, and Hunting
 - Mining
 - Utilities
 - Construction
 - Manufacturing
 - Wholesale Trade
 - Retail Trade
 - Transportation and Warehousing
- ▶ 6,889 Businesses Statewide
- ▶ \$287 Billion Sales

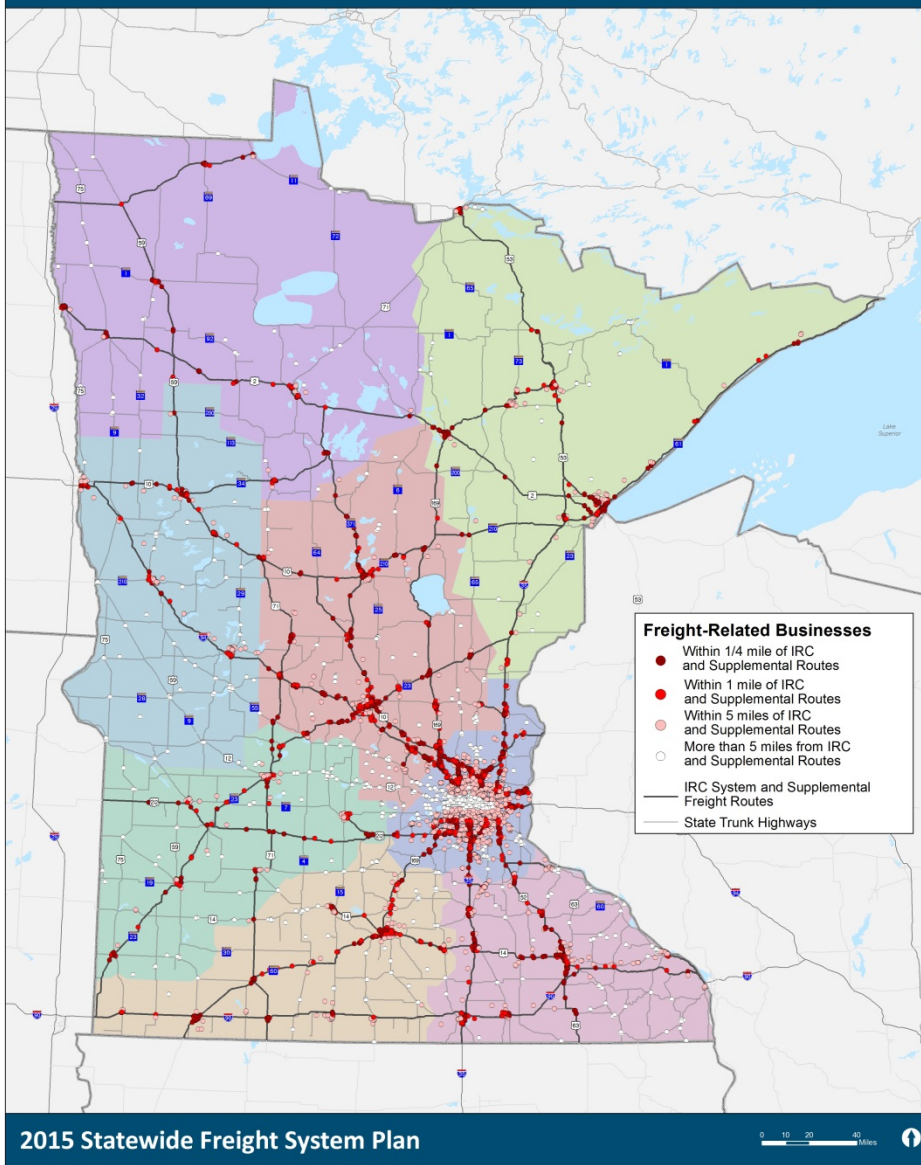




Freight-Related Businesses: Primary Freight Network

- ▶ Within ¼ Mile
 - 7% of businesses
 - 10% of sales volume
- ▶ Within 1 Mile
 - 18% of businesses
 - 19% of sales volume
- ▶ Within 5 Miles
 - 45% of businesses
 - 50% of sales volume
- ▶ 155 Miles

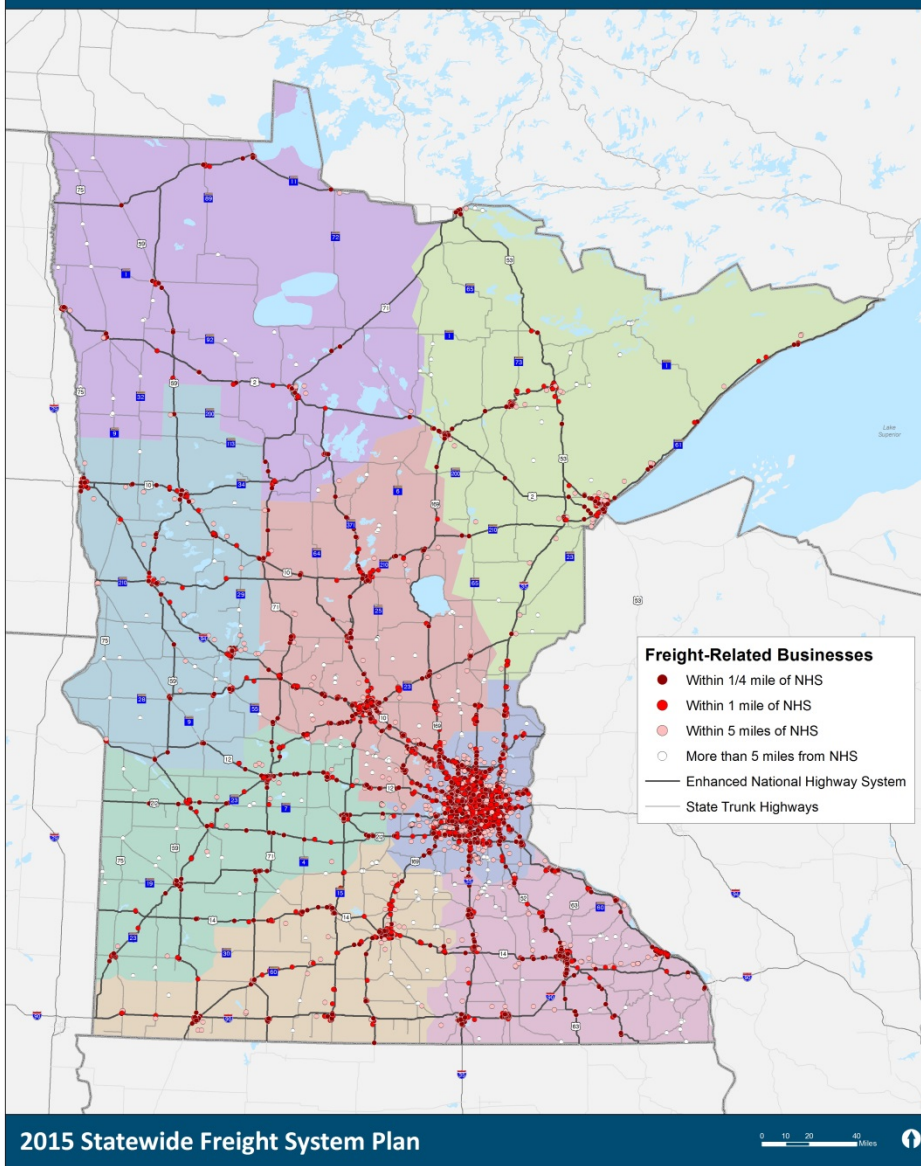




Freight-Related Businesses: IRC and Supplemental Freight Routes

- ▶ Within ¼ Mile
 - 21% of businesses
 - 19% of sales volume
- ▶ Within 1 Mile
 - 43% of businesses
 - 40% of sales volume
- ▶ Within 5 Miles
 - 78% of businesses
 - 78% of sales volume
- ▶ 3,486 Miles





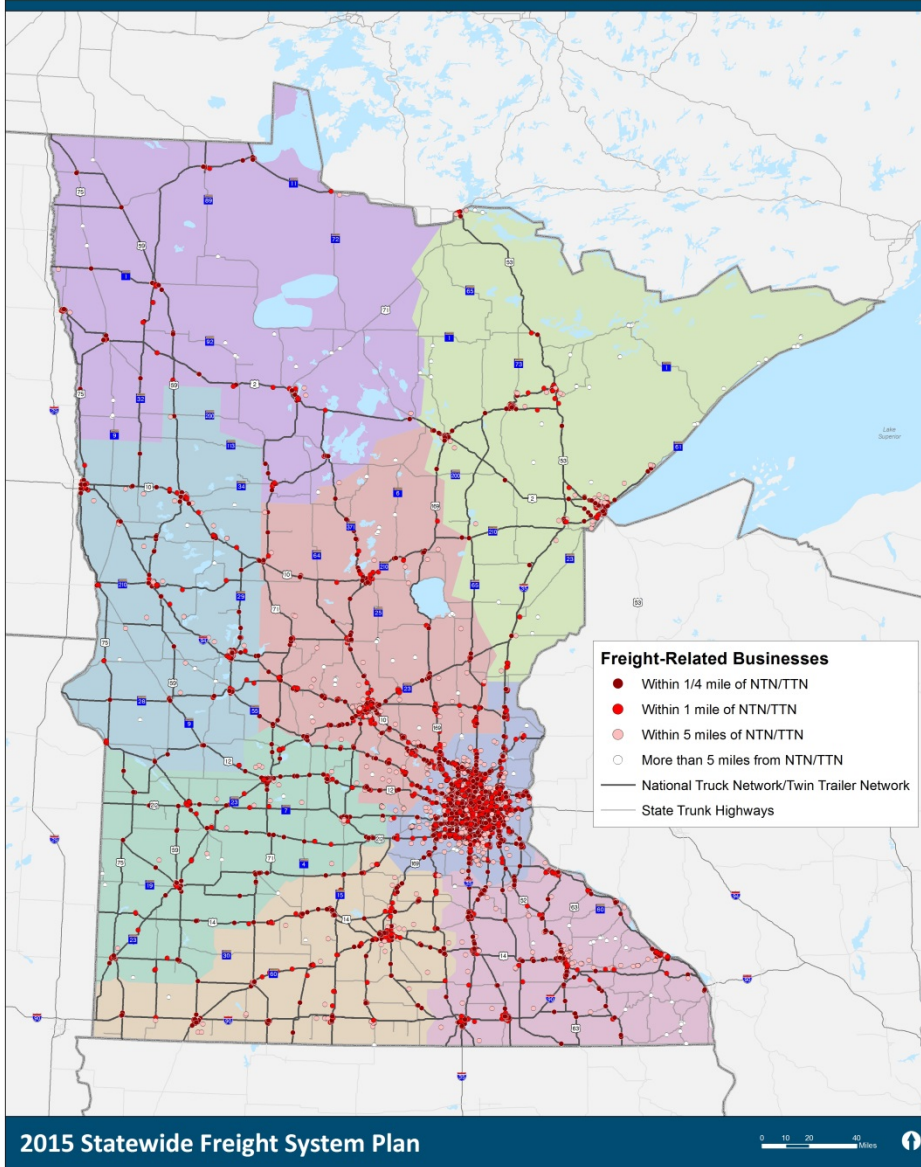
Freight-Related Businesses: National Highway System

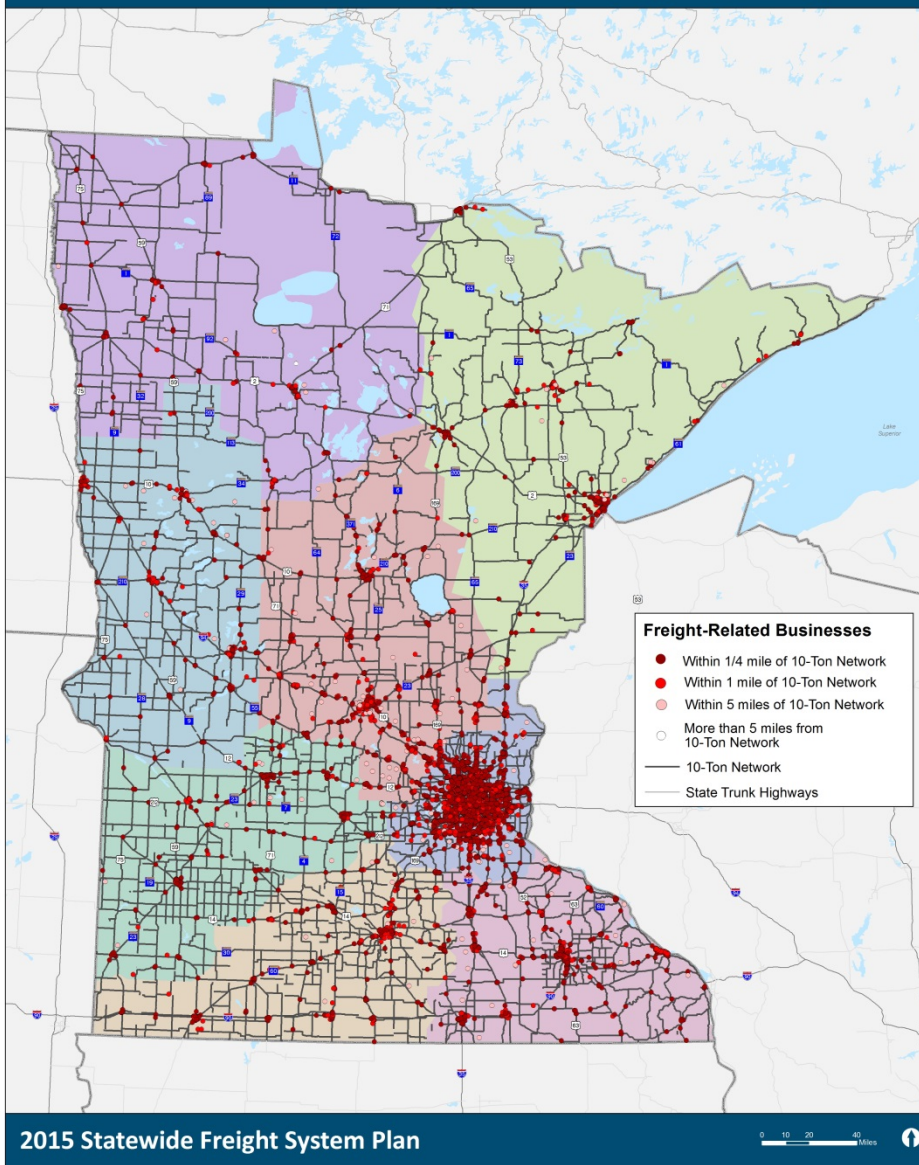
- ▶ Within ¼ Mile
 - 50% of businesses
 - 52% of sales volume
- ▶ Within 1 Mile
 - 84% of businesses
 - 87% of sales volume
- ▶ Within 5 Miles
 - 96% of businesses
 - 97% of sales volume
- ▶ 5,242 Miles



Freight-Related Businesses: National Truck Network and Twin Trailer Network

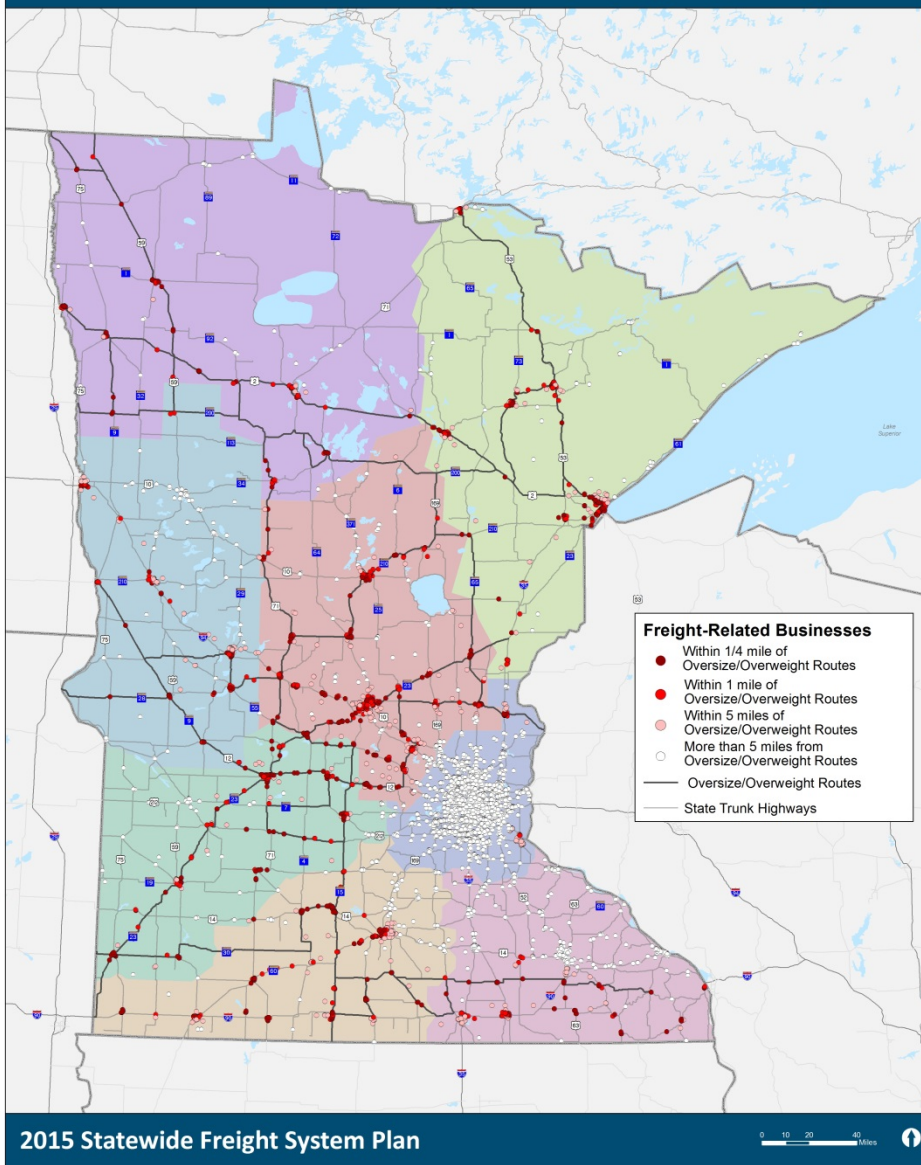
- ▶ Within ¼ Mile
 - 53% of businesses
 - 56% of sales volume
- ▶ Within 1 Mile
 - 86% of businesses
 - 90% of sales volume
- ▶ Within 5 Miles
 - 98% of businesses
 - 99% of sales volume
- ▶ 6,700 Miles





Freight-Related Businesses: 10-Ton Network

- ▶ Within ¼ Mile
 - 75% of businesses
 - 71% of sales volume
- ▶ Within 1 Mile
 - 97% of businesses
 - 97% of sales volume
- ▶ Within 5 Miles
 - 100% of businesses
 - 100% of sales volume
- ▶ 20,000+ Miles



Freight-Related Businesses: Oversize/Overweight

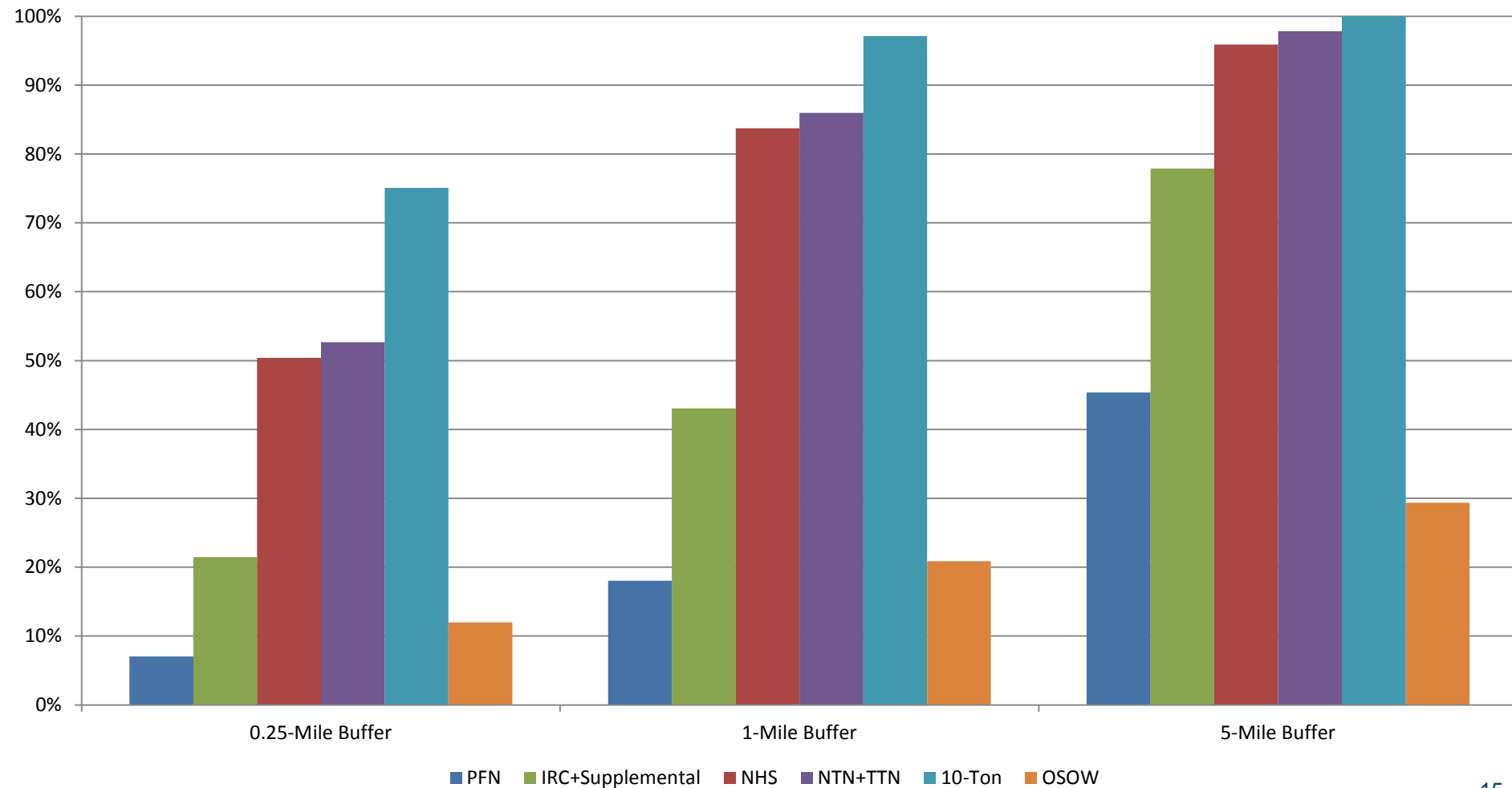
- ▶ Within ¼ Mile
 - 12% of businesses
 - 10% of sales volume
- ▶ Within 1 Mile
 - 21% of businesses
 - 19% of sales volume
- ▶ Within 5 Miles
 - 29% of businesses
 - 26% of sales volume
- ▶ 2,000+ Miles

Proximity to Freight-Related Businesses

Network	Miles	0.25-Mile Buffer				1-Mile Buffer				5-Mile Buffer			
		Facilities		Sales Volume		Facilities		Sales Volume		Facilities		Sales Volume	
		#	%	Total (Billions)	%	#	%	Total (Billions)	%	#	%	Total (Billions)	%
PFN	155	484	7%	\$ 28.4	10%	1,241	18%	\$ 54.7	19%	3,124	45%	\$ 143.0	50%
IRC + Supp. Freight	3,486	1,479	21%	\$ 55.9	19%	2,966	43%	\$ 114.0	40%	5,365	78%	\$ 224.9	78%
NHS	5,242	3,472	50%	\$ 150.8	52%	5,767	84%	\$ 250.2	87%	6,605	96%	\$ 279.6	97%
NTN+TTN	6,700	3,629	53%	\$ 159.8	56%	5,921	86%	\$ 260.1	90%	6,740	98%	\$ 284.9	99%
10-Ton	20,000+	5,171	75%	\$ 202.8	71%	6,691	97%	\$ 280.2	97%	6,888	100%	\$ 287.4	100%
OSOW	2,000+	825	12%	\$ 30.2	10%	1,437	21%	\$ 54.4	19%	2,022	29%	\$ 73.8	26%



Proximity to Freight-Related Businesses



Proximity to Freight-Related Businesses

Network	Miles	Freight-Related Businesses per Mile (1-Mile Buffer)	Sales Volume per Mile (\$Millions; 1-Mile Buffer)
PFN	155	8.0	\$352.9
IRC + Supp. Freight	3,486	0.9	\$32.7
NHS	5,242	1.1	\$47.7
NTN+TTN	6,700	0.9	\$38.8
10-Ton	20,000+	0.3	\$14.0
OSOW	2,000+	0.7	\$27.2



Proximity to Freight-Related Businesses by MnDOT District

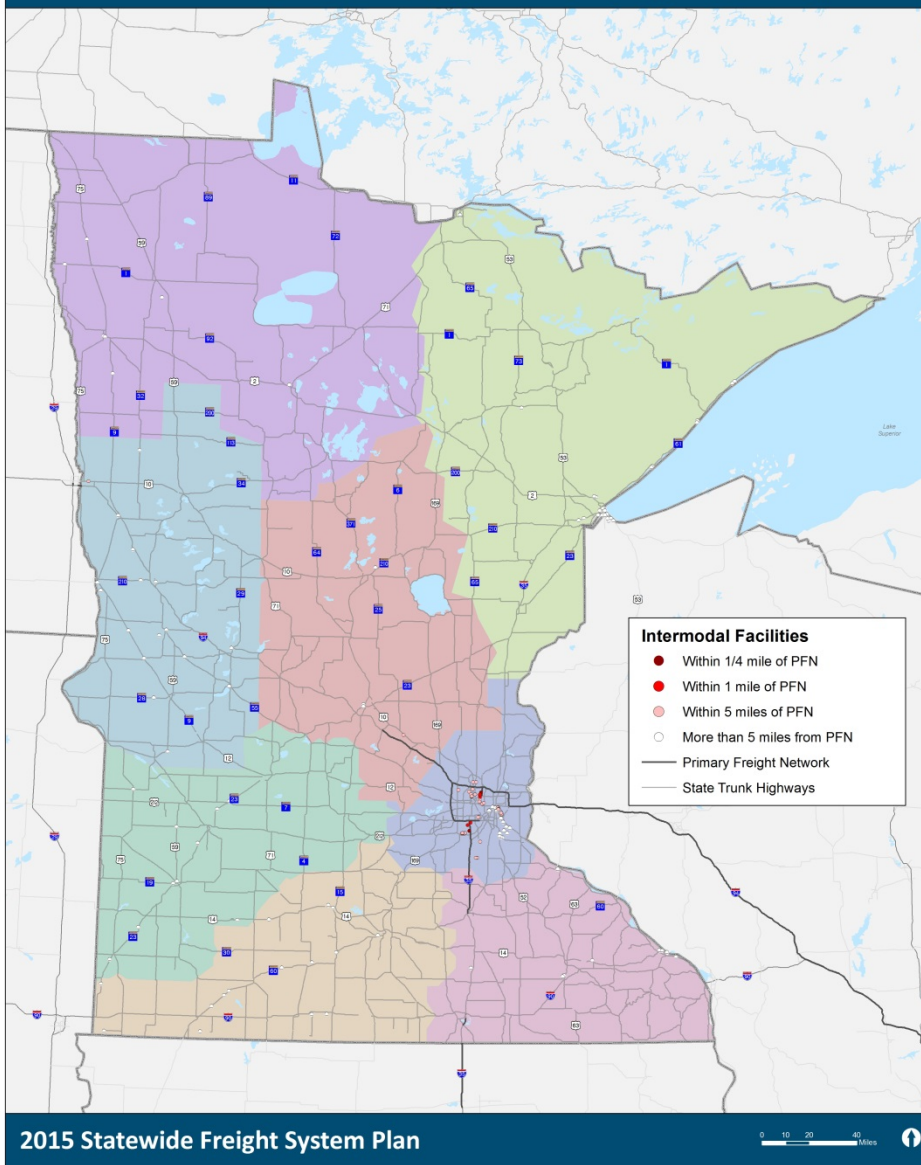
Network	Businesses in District	Within 0.25 Miles		Within 1 Mile		Within 5 Miles	
		#	%	#	%	#	%
District 1	361	214	59%	281	78%	331	92%
District 2	177	99	56%	138	78%	152	86%
District 3	756	439	58%	643	85%	700	93%
District 4	295	148	50%	223	76%	277	94%
Metro District	3,929	1,833	47%	3,373	86%	3,901	99%
District 6	628	369	59%	508	81%	567	90%
District 7	424	226	53%	342	81%	384	91%
District 8	319	191	60%	264	83%	293	92%



Proximity of MFN to MN's Intermodal Freight Facilities

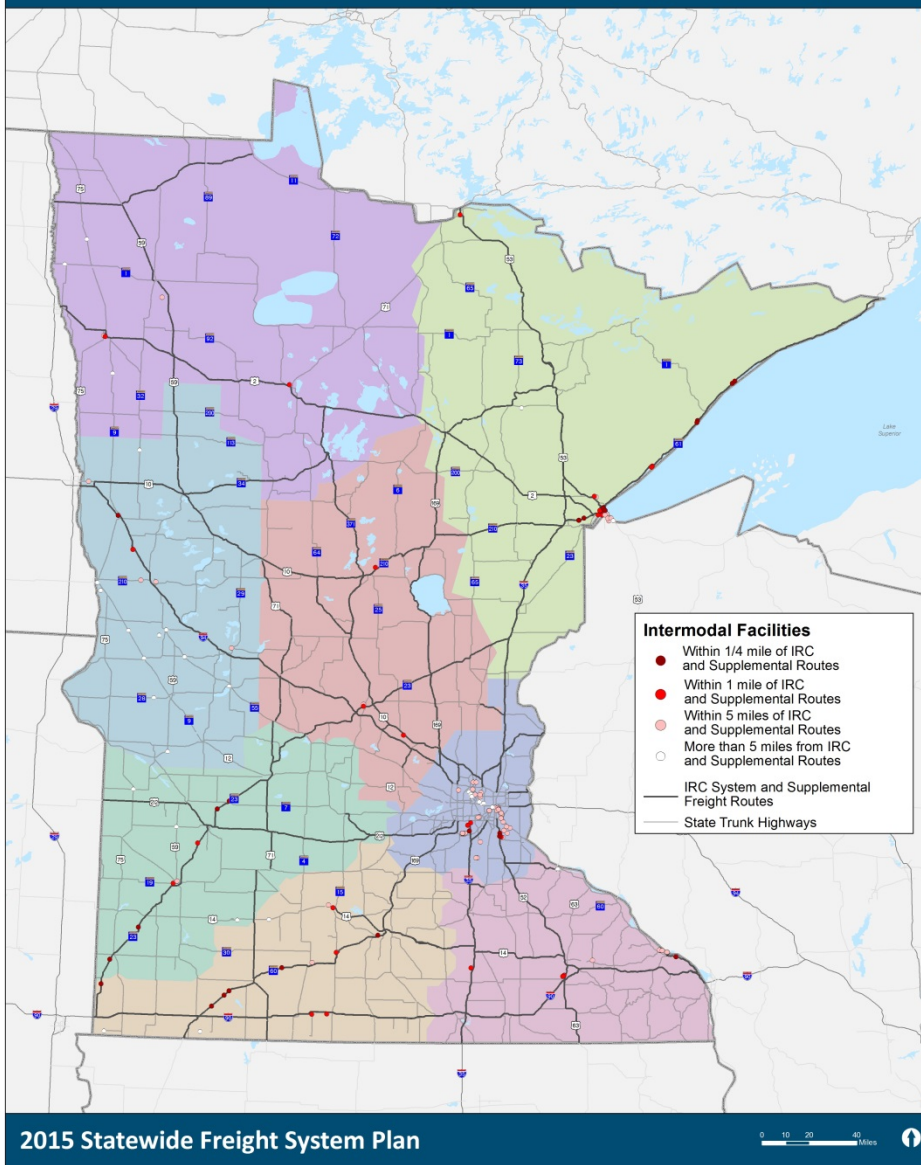
- ▶ Truck/Rail Terminal
- ▶ Container Terminal
- ▶ Pipeline Terminal
- ▶ Air Cargo Terminal
- ▶ Grain Shuttle Terminal
- ▶ Lake Terminal
- ▶ River Terminal





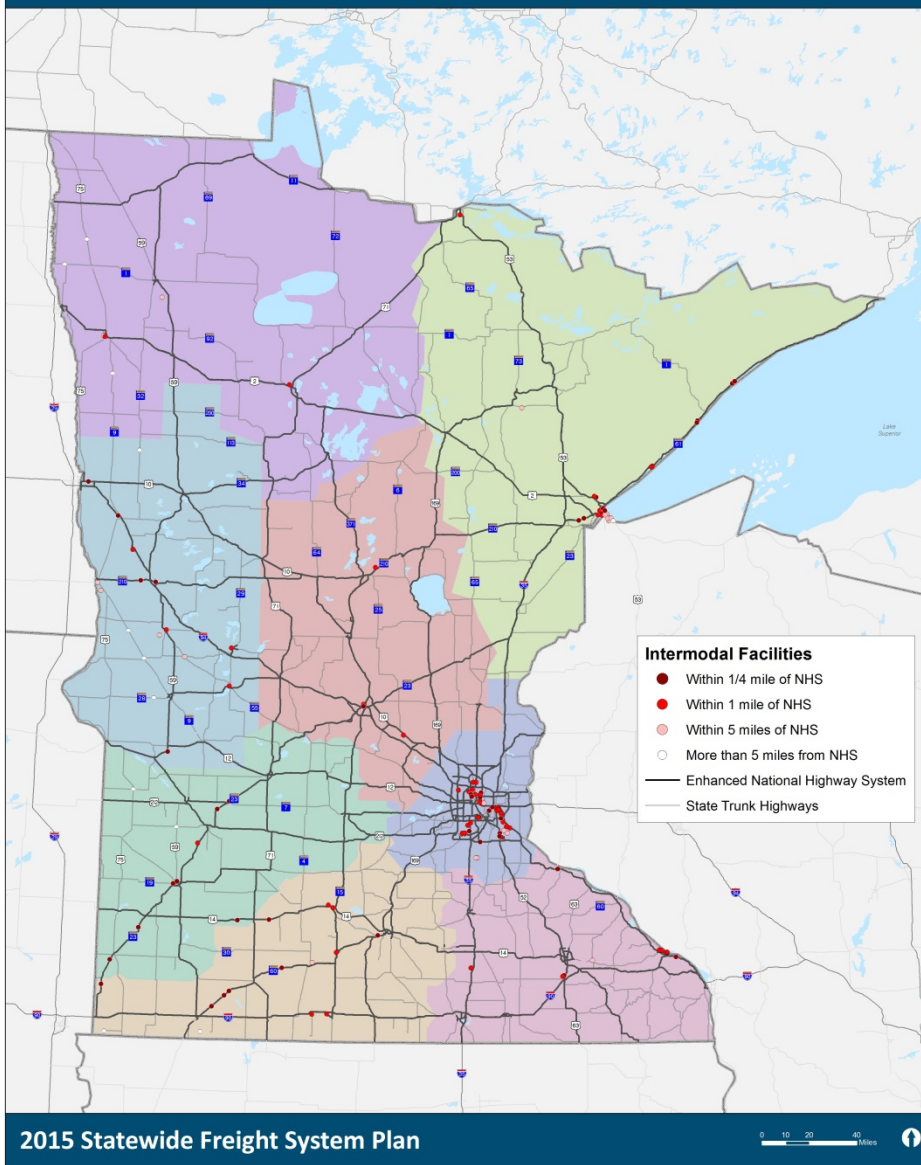
Intermodal Facilities: Primary Freight Network

- ▶ Within ¼ Mile
 - 1 facility
 - 1% of total
- ▶ Within 1 Mile
 - 7 facilities
 - 4% of total
- ▶ Within 5 Miles
 - 52 facilities
 - 29% of total
- ▶ 155 Miles



Intermodal Facilities: IRC and Supplemental Freight Routes

- ▶ Within ¼ Mile
 - 34 facilities
 - 19% of total
- ▶ Within 1 Mile
 - 62 facilities
 - 35% of total
- ▶ Within 5 Miles
 - 139 facilities
 - 78% of total
- ▶ 3,486 Miles

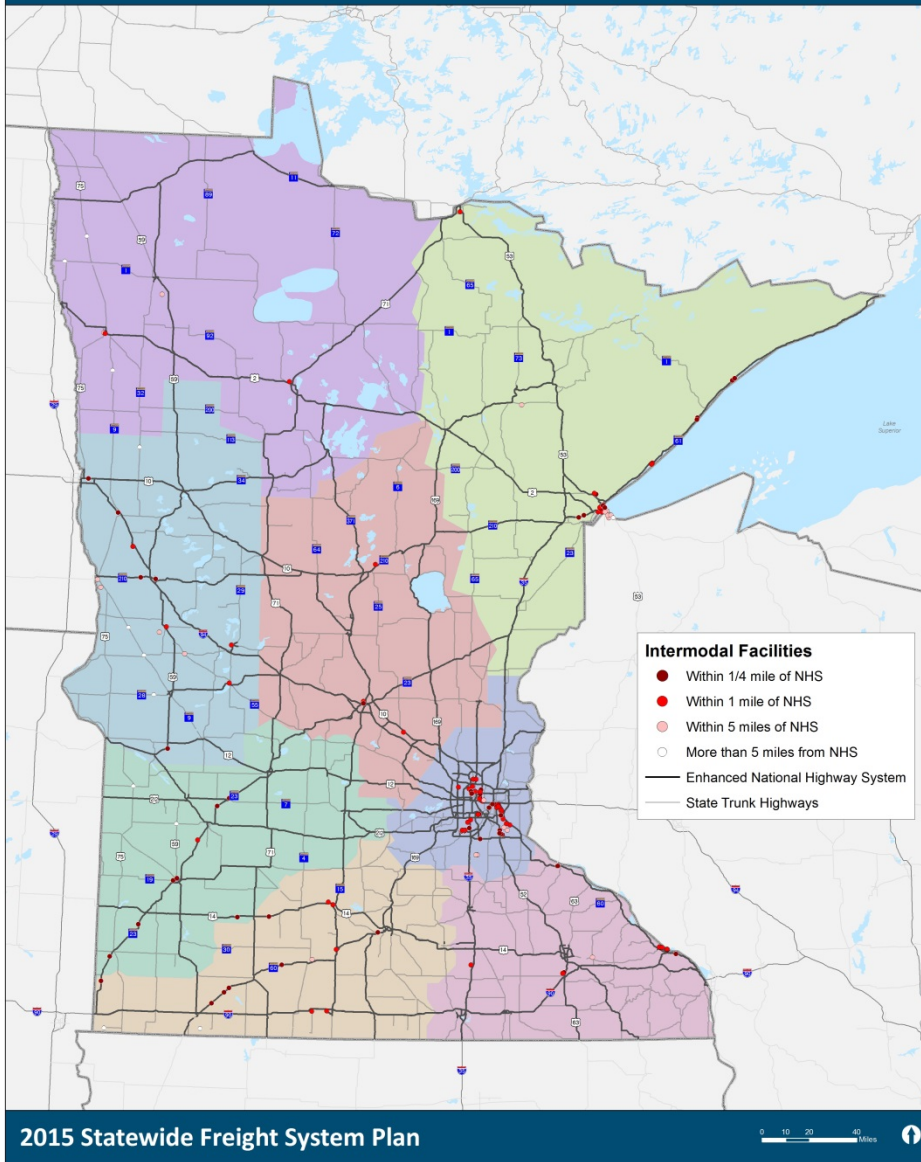


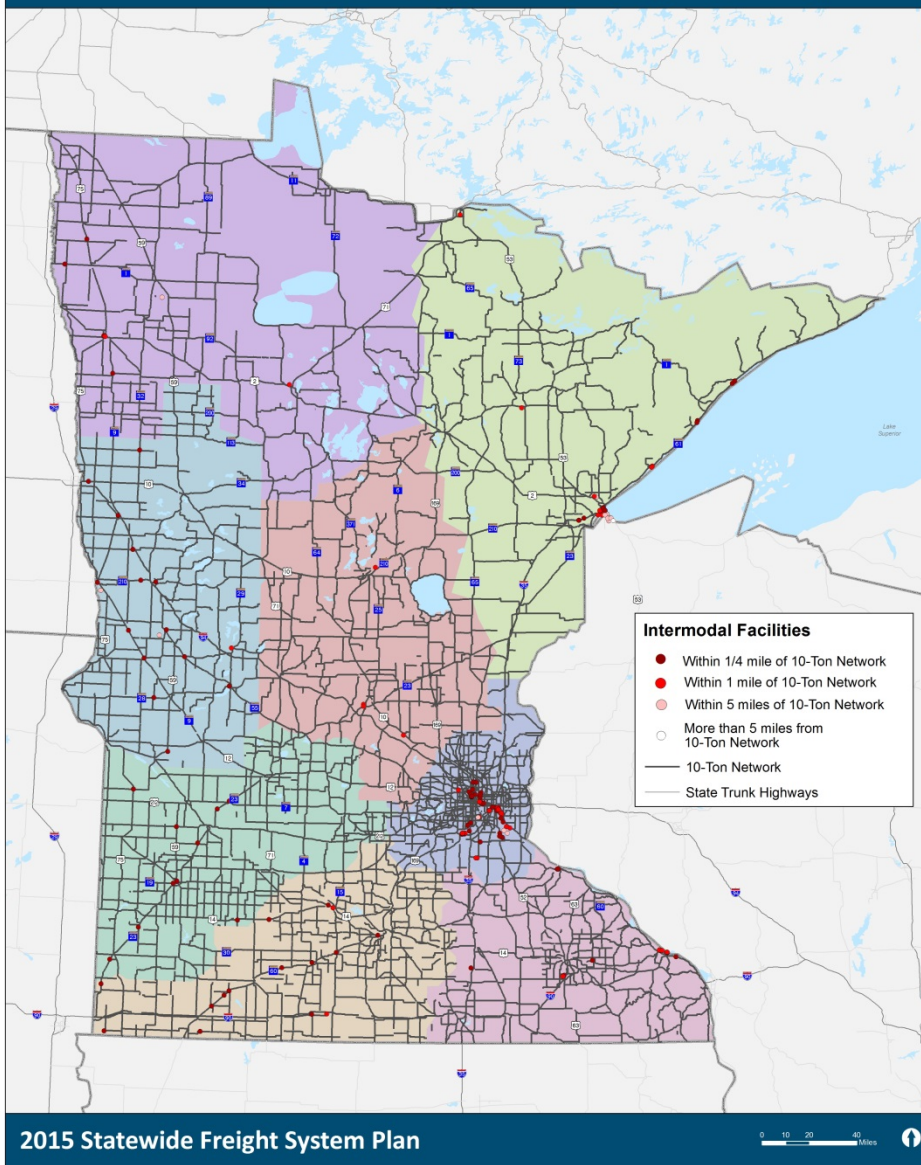
Intermodal Facilities: National Highway System

- ▶ Within ¼ Mile
 - 71 facilities
 - 40% of total
- ▶ Within 1 Mile
 - 144 facilities
 - 80% of total
- ▶ Within 5 Miles
 - 166 facilities
 - 93% of total
- ▶ 5,242 Miles

Intermodal Facilities: National Truck Network and Twin Trailer Network

- ▶ Within ¼ Mile
 - 73 facilities
 - 41% of total
- ▶ Within 1 Mile
 - 142 facilities
 - 79% of total
- ▶ Within 5 Miles
 - 168 facilities
 - 94% of total
- ▶ 6,700 Miles

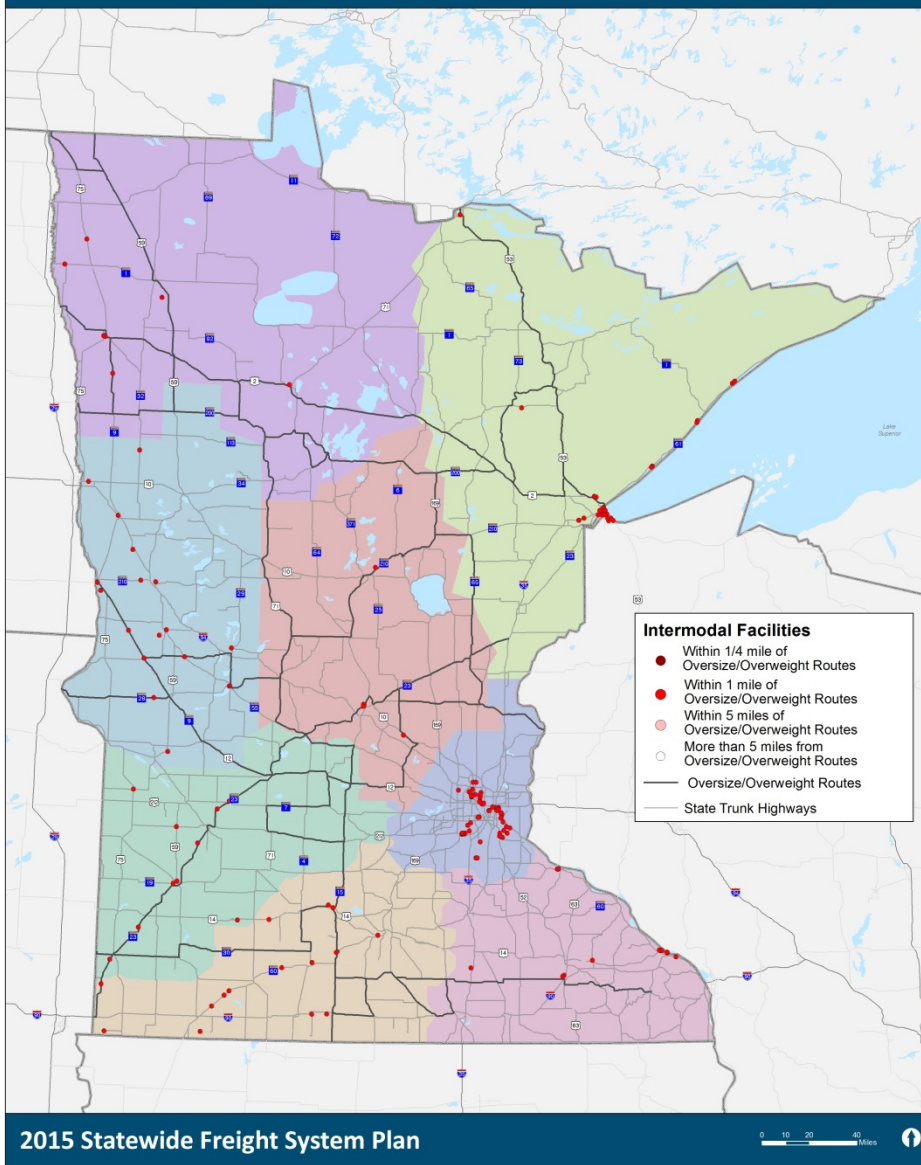




Intermodal Facilities: 10-Ton Network

- ▶ Within ¼ Mile
 - 108 facilities
 - 60% of total
- ▶ Within 1 Mile
 - 162 facilities
 - 91% of total
- ▶ Within 5 Miles
 - 177 facilities
 - 99% of total
- ▶ 20,000+ Miles





Intermodal Facilities: Oversize/Overweight

- ▶ Within ¼ Mile
 - 31 facilities
 - 17% of total
- ▶ Within 1 Mile
 - 52 facilities
 - 29% of total
- ▶ Within 5 Miles
 - 74 facilities
 - 41% of total
- ▶ 2,000+ Miles

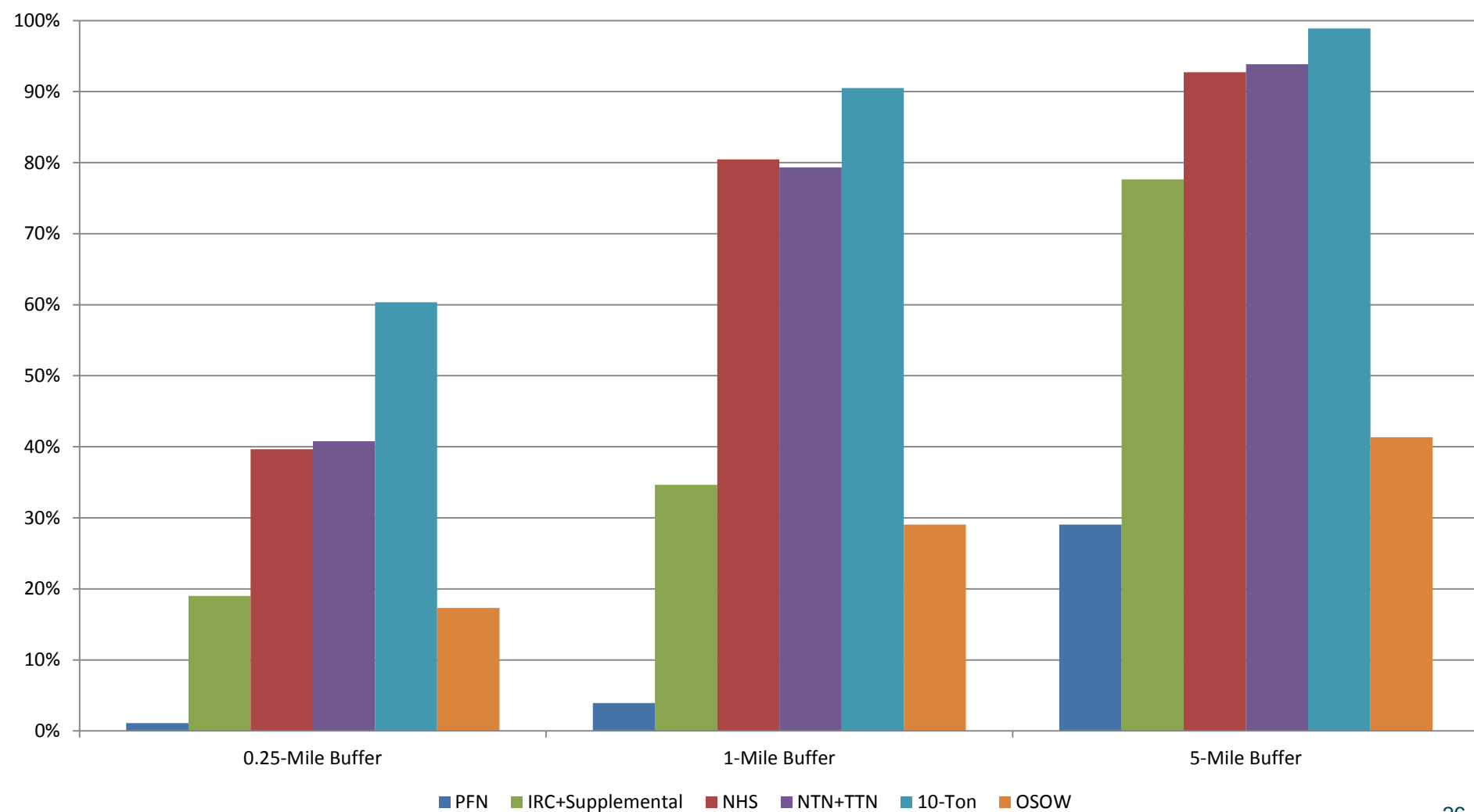


Proximity to Intermodal Facilities

Network	0.25-Mile Buffer		1-Mile Buffer		5-Mile Buffer	
	Facilities		Facilities		Facilities	
	#	%	#	%	#	%
PFN	2	1%	7	4%	52	29%
IRC + Supplemental	34	19%	62	35%	139	78%
NHS	71	40%	144	80%	166	93%
NTN + TTN	73	41%	142	79%	168	94%
10-Ton	108	60%	162	91%	177	99%
OSOW	31	17%	52	29%	74	41%



Proximity to Intermodal Facilities



Feedback

- ▶ Is the Enhanced NHS the network that should move forward as the representative network for the highway system?



Linking Highway and Non-Highway Modes



NHS Intermodal Connectors

- ▶ Definition and Purpose
 - “Roads that provide access between major intermodal facilities and the other four subsystems making up the National Highway System.”
- ▶ Changes to the NHS intermodal system are submitted to FHWA
 - Evaluated using a process of Primary and Secondary Criteria (handout)



Process for Changing NHS Intermodal Connector Designation

Requests must be initiated by the State, in writing, to the FHWA Division Office.

The FHWA Division will review and summarize the request and send to FHWA headquarters.

Approved changes will be noted in a memo to the FHWA Division Office.

The FHWA Division Office will inform the State, in writing, of the approved changes.

Source: FHWA, February 2014

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Minnesota's 11 Designated NHS Intermodal Connectors

► 2 Freight

- Port of Duluth M. Clure Public Terminal
- Minneapolis Shoreham Rail Yard (CP)

► 9 Passenger*

- Co. Rd. 73 Park & Ride Lot, Minnetonka
- Duluth Airport
- Duluth Transit Authority Pulse Transit Hub
- Louisiana Ave Transit Cntr, St Louis Pk
- Minneapolis Amtrak Station
- Minneapolis Intercity Bus Station
- Minneapolis/St. Paul Airport
- Mn/DOT Park & Ride Lot, St. Louis Park
- Rochester International Airport

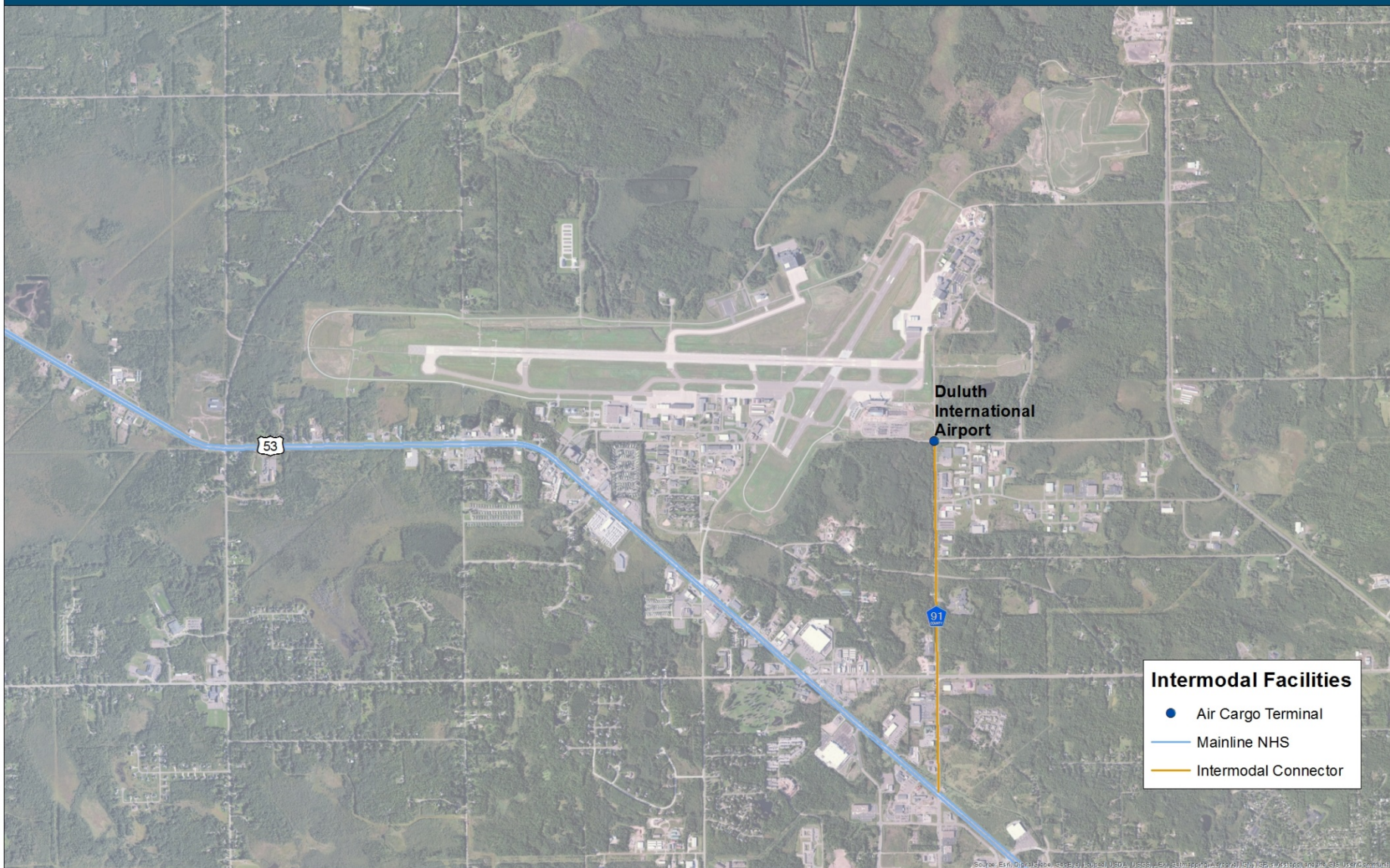
* airports designated due to passenger traffic, but some can also serve freight



Intermodal Connector: Duluth Ports



Intermodal Connector: Duluth International Airport

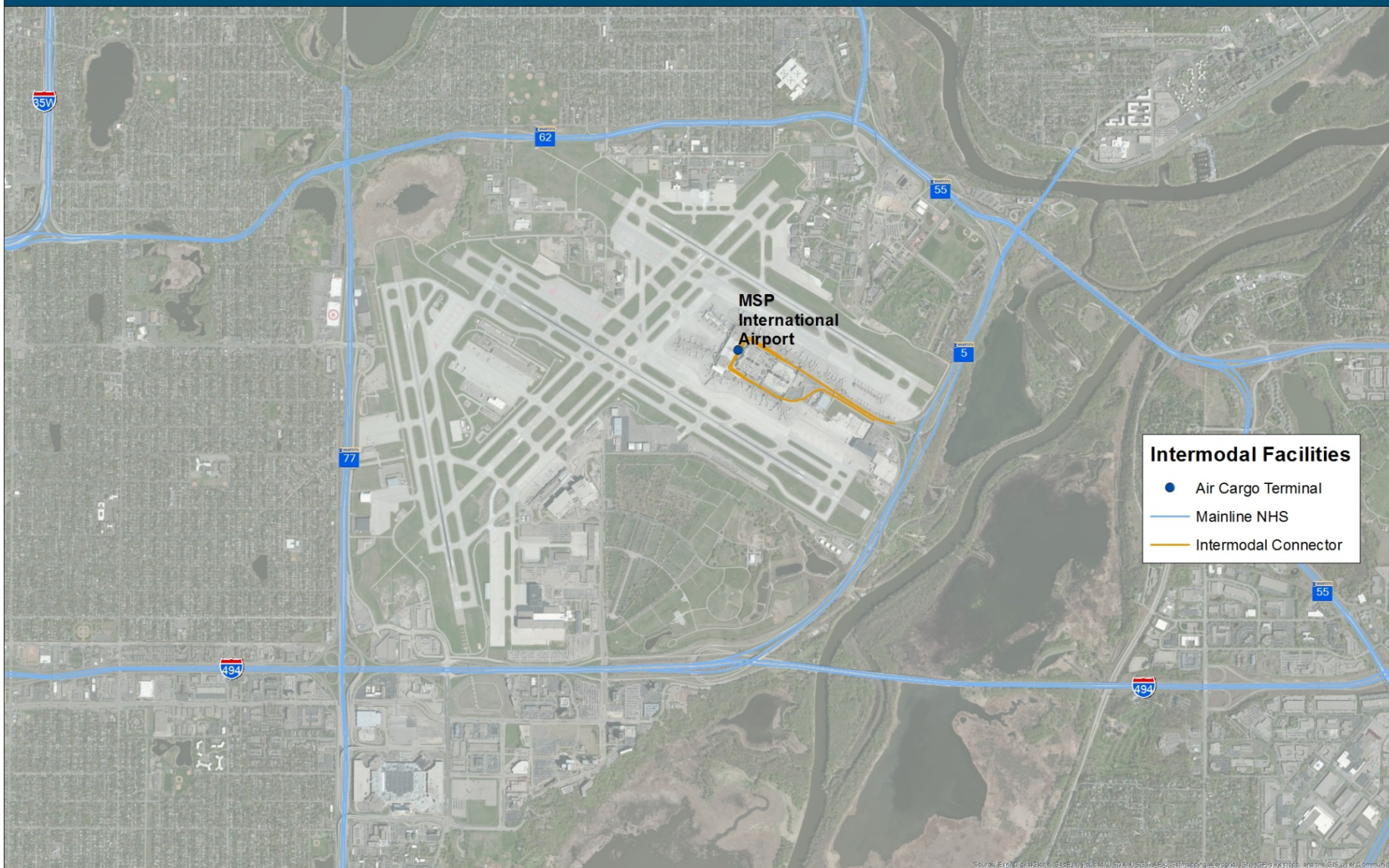


Intermodal Facilities

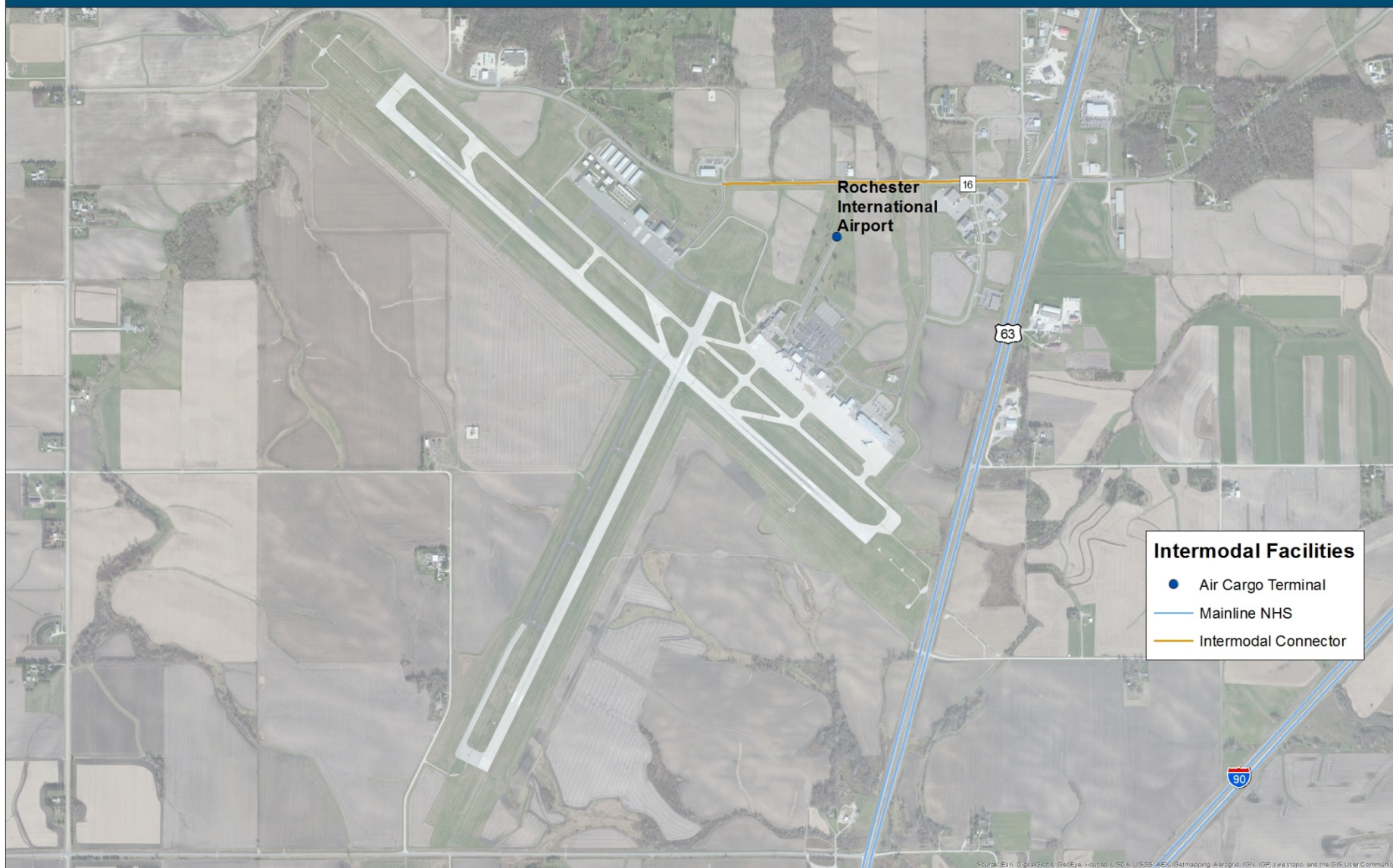
- Air Cargo Terminal
- Mainline NHS
- Intermodal Connector



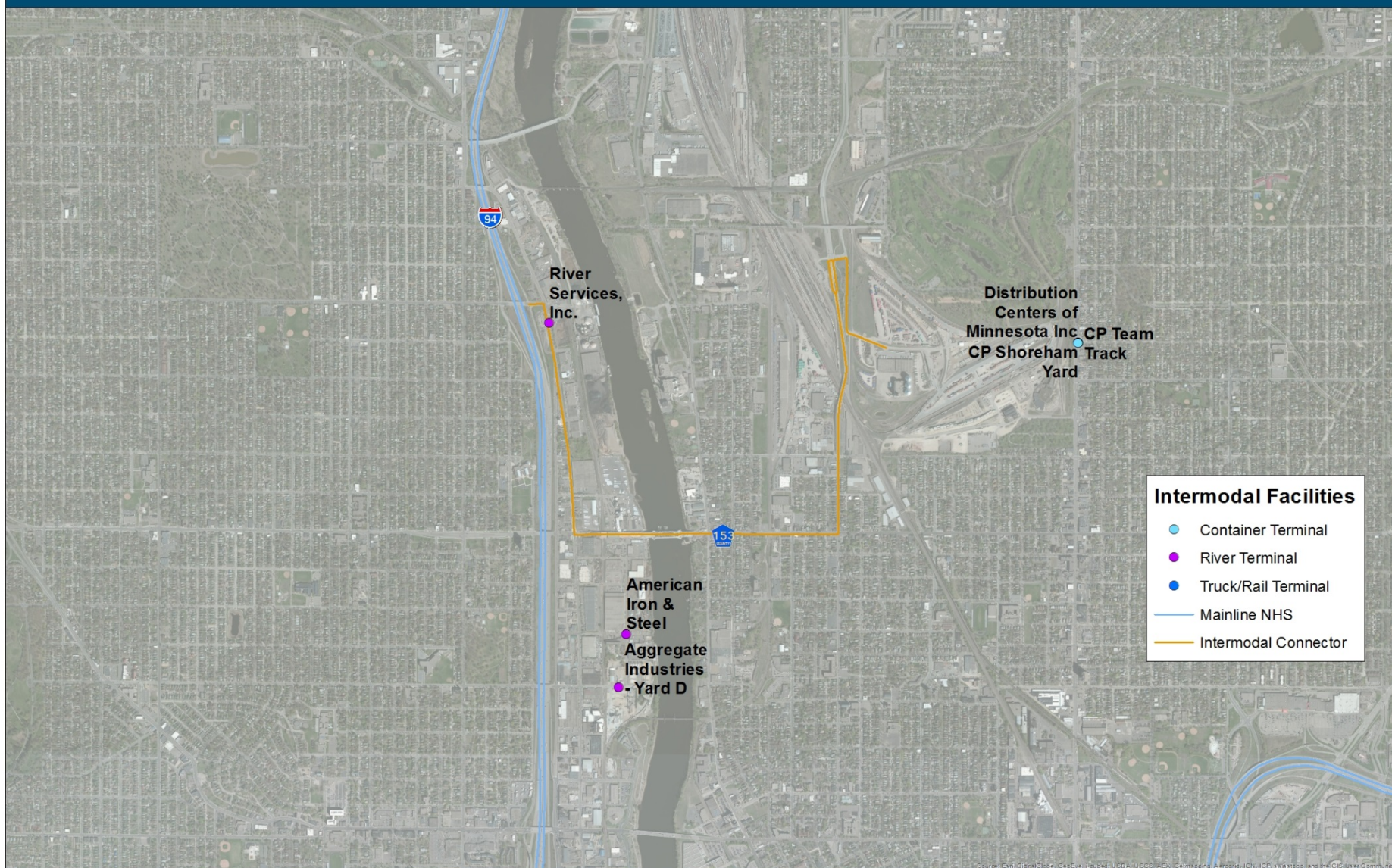
Intermodal Connector: MSP International Airport



Intermodal Connector: Rochester International Airport



Intermodal Connector: Shoreham Railyard



Non-Highway Freight Network Components

Focus on nodes of activity



MN's Multimodal Freight Network

- ▶ Which **rail, airport, port facilities** should be designated as part of the MFN?
 - Consider NHS intermodal connector criteria for level of activity
 - Should we consider facilities that do not meet the criteria?
- ▶ Should **roadway connections** between multimodal facilities and the NHS be designated as part of the MFN?
 - Should they be submitted for additions to the FHWA Intermodal Connectors network?



MN's Freight Railroads

- ▶ **Four (4) Class I railroads** – 80% of traffic handled
 - BNSF (1,686 miles of track)
 - Key Markets: Duluth, Grand Forks, Fargo, Metro
 - UP (665 miles of track)
 - Key Markets: Metro, Mankato, Worthington
 - CP (1,804 miles of track)
 - Key Markets: Metro, Rochester, Manitoba
 - CN (479 miles of track)
 - Key Markets: Duluth, Metro, Ontario
- ▶ **Short lines (15)**
 - 1,126 miles of track, industrial connections throughout state
 - Key class I connections in Twin Cities, Duluth, Fargo, and Tracy, Minnesota



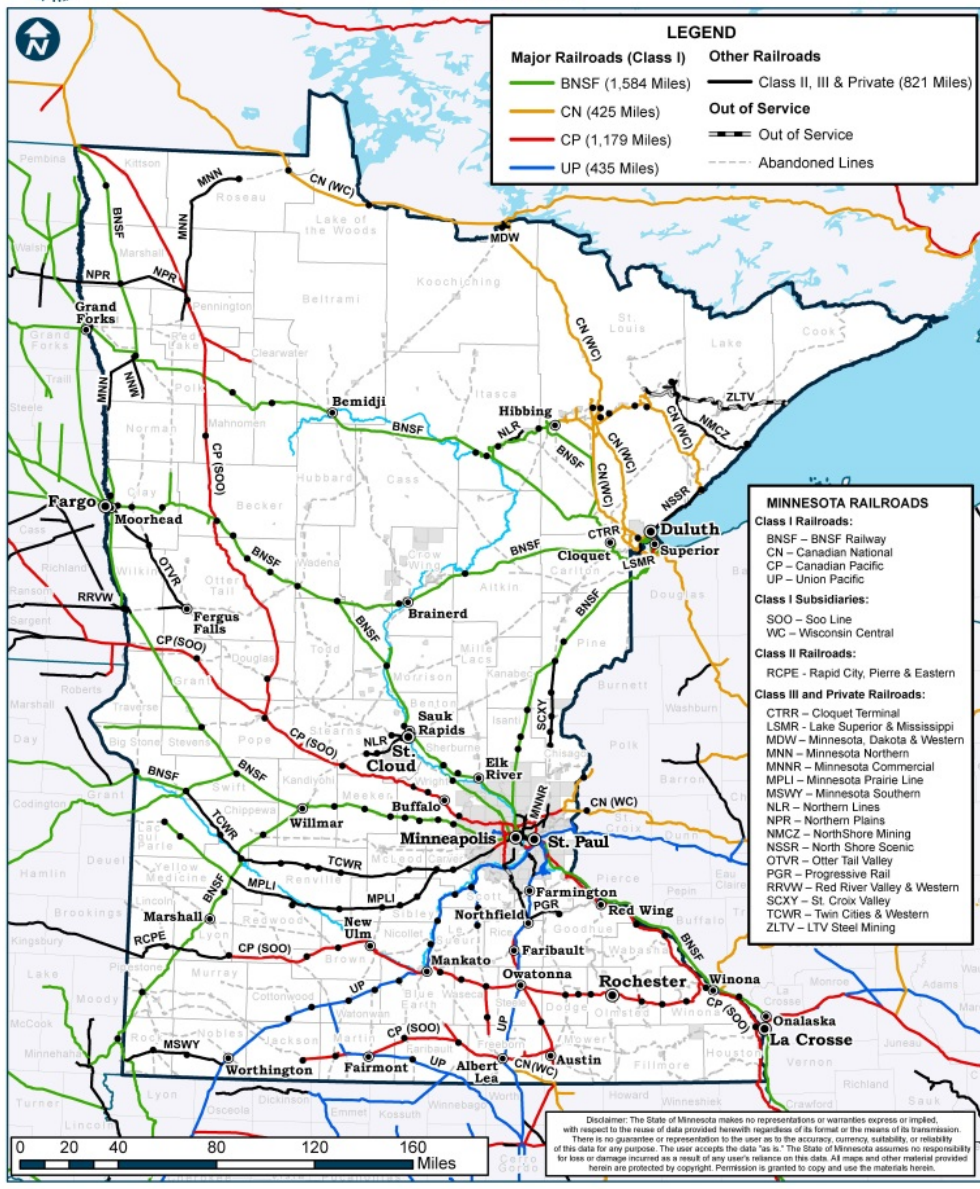


MINNESOTA FREIGHT RAILROAD MAP

Office of Freight and Commercial Vehicle Operations

December 2014

MN's Freight Railroads – Class I



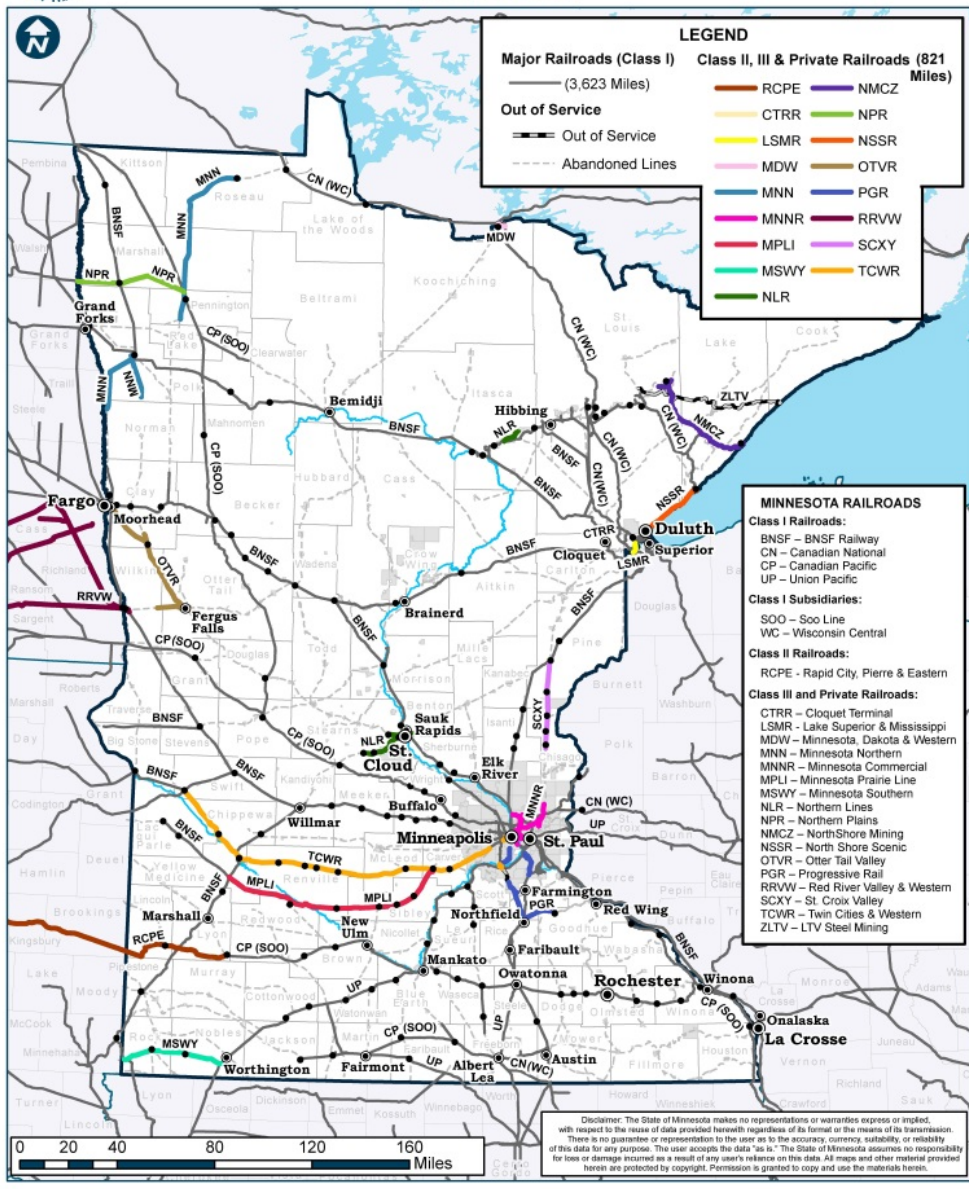


MINNESOTA FREIGHT RAILROAD MAP

Office of Freight and Commercial Vehicle Operations

December 2014

MN's Freight Railroads – Short Lines



Freight Rail Intermodal Facilities

► Current Rail Intermodal Facilities

- Dilworth (BNSF) ¹²³
- Glenwood Yard (CP) ³
- Midway Yard (BNSF) ¹²³
- Northtown Yards (BNSF) ¹²³
- Rice's Point Yard (BNSF/CP) ²³
- Shoreham Yard (CP)*
- Twin Ports Yard (CP) ²³

► Potential NHS Connector Eligibility

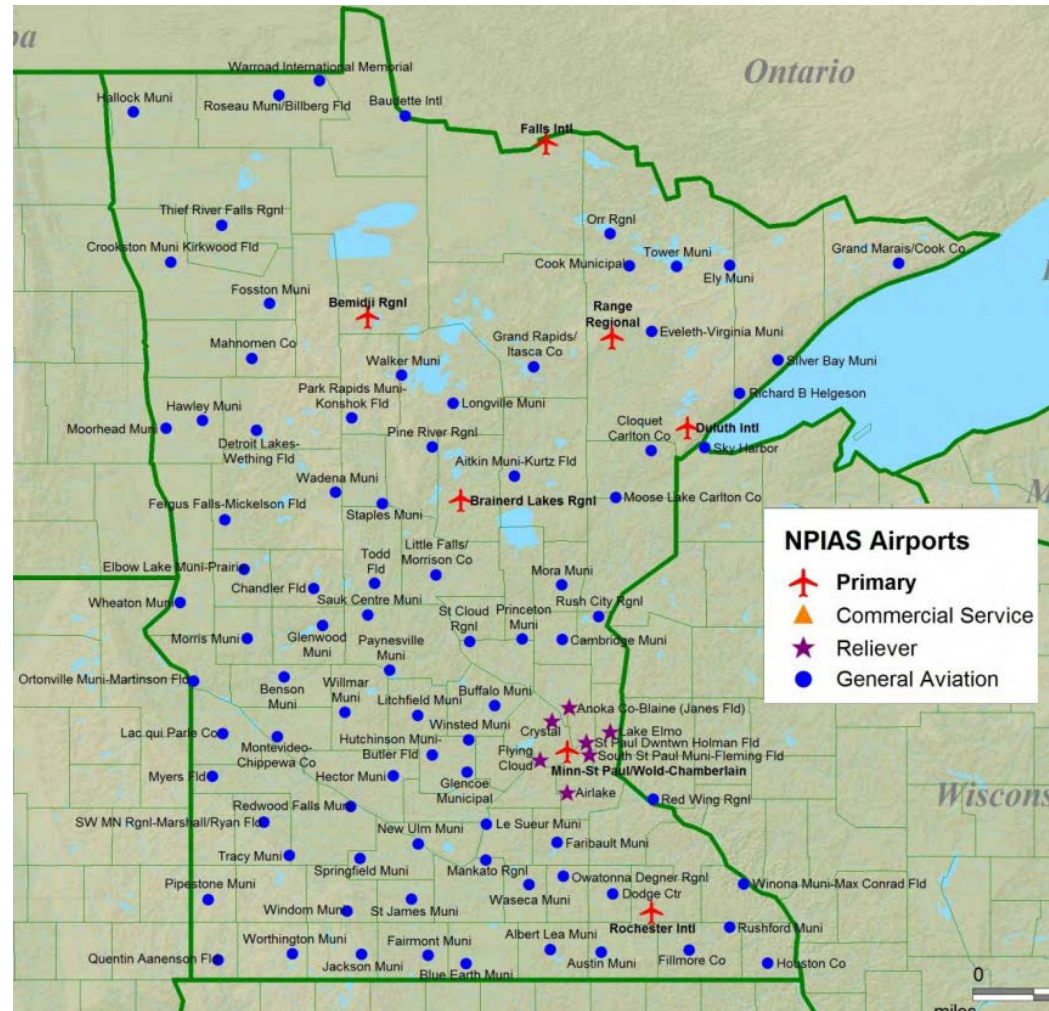
- ¹ Primary Criteria
- ² Secondary Criteria
- ³ Proximate Connections
- * Designated



Airports

- ▶ Seven (7) Primary Airports
 - Bemidji Regional Airport (BJI)
 - Brainerd Lakes Regional Airport (BRD)
 - ***Duluth International Airport (DLH)***
 - Falls International Airport (INL)
 - ***Minneapolis – St. Paul International Airport (MSP)***
 - Range Regional Airport (HIB)
 - ***Rochester International Airport (RST)***

Italics indicate NHS intermodal connector to the airport



Airports

Airport	Passenger		Cargo	
	Enplanements	Aircraft Departures	Tonnage	All-Cargo Operations
Bemidji	21,563	1,294	628	743
Brainerd Lakes	15,583	880	1	4
Duluth	155,955	4,434	1,626	693
Falls International	13,924	820	1	-
Minneapolis - St. Paul	16,267,639	197,255	246,903	13,642
Range Regional				
Rochester	124,601	4,315	8,144	547
Total	16,599,265	208,998	257,303	15,629
<i>Percent of all Traffic which is at MSP</i>	98%	94%	96%	87%
	Meets Primary Criteria for Intermodal Connector Designation		Meets Secondary Criteria – Identified as a Major Facility in the 2005 Freight Plan	



Lake / River Ports

► Four Great Lakes Ports

- Taconite Bay
- Silver Bay
- Two Harbors
- ***Duluth-Superior***

► Four* Mississippi River Ports

- St. Paul
- Savage
- Red Wing
- Winona

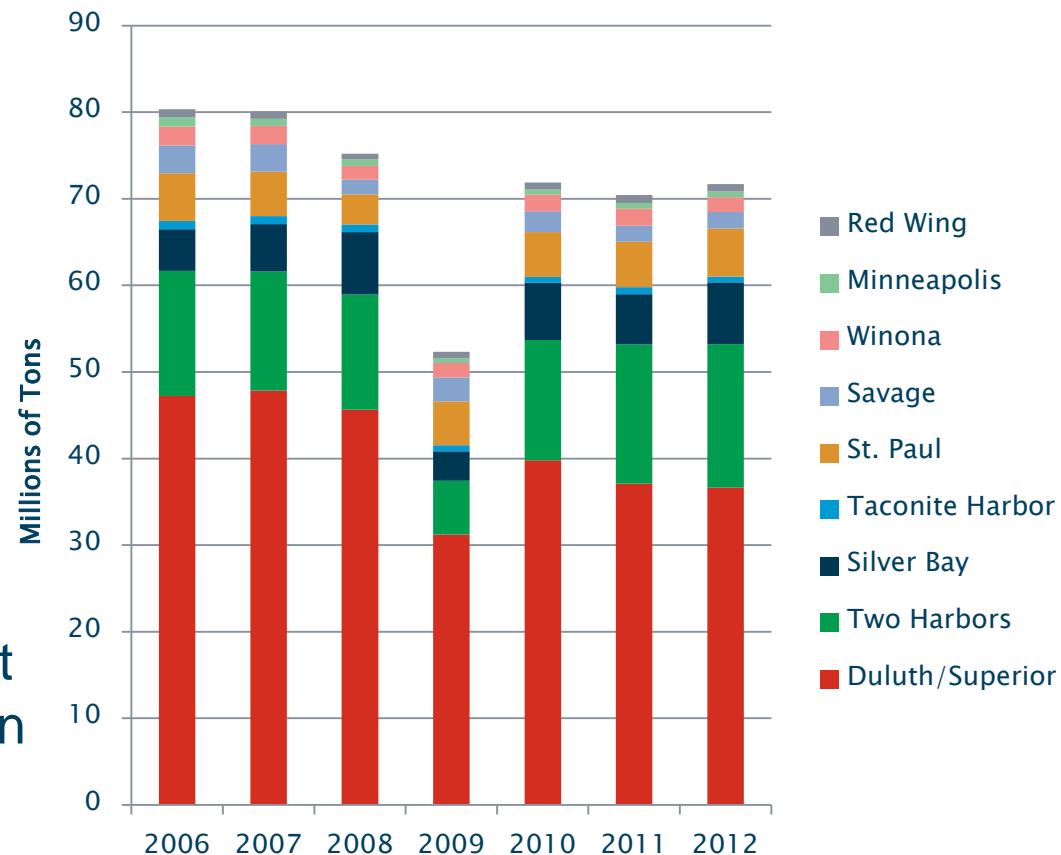
Italics indicate NHS intermodal connector access

*Minneapolis Upper Falls Port no longer active due to permanent lock closure in 2014



Lake / River Ports

- ▶ Great Lakes ports handle 85% of State Tonnage
 - Taconite and Iron Ore
 - Bulk Materials
 - Grain
- ▶ Mississippi River Ports
 - Agricultural products
 - Construction and raw materials
- ▶ Each port serves at least 500,000 tons/year, but most are served by a combination of highway and rail traffic



Feedback

- ▶ Should local roads be designated as part of the MN MFN?
- ▶ Should we consider “closing the gap” for facilities that appear to meet NHS intermodal designation criteria?



Feedback

- ▶ How might Minnesota's MFN be used?
- ▶ Based on what's "on the table" should Minnesota's MFN be regularly maintained and updated? How frequently?
- ▶ Where should Minnesota's MFN reside, and who should regularly maintain and update it?



Next Steps



Next Steps

- ▶ Meeting #3 will summarize findings and provide a slate of strategic freight network components
- ▶ Discuss other types of facilities that are/may be significant (e.g. rail and waterway corridors, grain elevators or other major generators, etc.)
- ▶ Next meeting – March TBD



Questions?

