MOVEMENT OF FREIGHT

Duluth-Superior’s location at the western most point of Lake Superior make it a natural transshipment point for natural resource based commodities to transfer from rail and truck to ships. The ports of Duluth and Superior act as a transportation hub connecting highways and rail lines to Great Lakes and maritime shipping.

The movement of freight is especially important to the economic vitality of the Duluth-Superior metropolitan area and greater region. Providing for an efficient transportation system reduces costs, increases productivity, and is a key site location factor for new businesses. As domestic companies continue to operate in a competitive global environment, there will be more pressure on local decision-makers to improve the productivity and reliability of the transportation system in order to attract and retain successful businesses.

During the development of this plan, supporting the local shipping and freight industries was identified as a major transportation goal for the area, and subsequent objectives of the plan reflect a desire by area stakeholders to more fully incorporate needs of freight movement in the regional transportation system. See Chapter 1 for the Long Range Plan Goals relevant to freight movements.

Freight movement can be described in terms of the freight service cost continuum below (Figure 4.46). Transportation modes listed at the left of the continuum, such as air and truck, tend to move freight with a higher value by weight, or freight that is more time sensitive. Modes toward the right typically move the lower-value bulk commodities. The following pages discuss the presence of these freight modes within the Duluth-Superior metro area, and identify areas where potential strengths and weakness related to mobility, safety, security, operations and maintenance may be addressed with future planning.

Figure 4.44: The Freight Service Cost Continuum

<table>
<thead>
<tr>
<th>Higher cost</th>
<th>Lower cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>Truck</td>
</tr>
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</table>

Moving freight in Duluth-Superior:
The movement of freight is an important part of the Duluth-Superior economy. This section of Connections 2040 addresses issues of accessibility & mobility, operations & maintenance, and safety & security related to the following modes of transportation:

- Air ........................ page 4-54
- Rail ........................ page 4-56
- Truck ........................ page 4-60
- Maritime ...................... page 4-65
- Pipeline ..................... page 4-71
- Northern Minnesota/Northwest Wisconsin Freight Plan ........ page 4-72
- Conclusion .................. page 4-74
**MOVEMENT OF FREIGHT: AIR**

Air transportation is mostly known for moving people long distances in a short amount of time. That concept can also be applied to the movement of freight by air. Air freight by nature falls into the end of the freight service cost continuum (see Figure 4.44 on page 4-53) that is high value, low weight, time sensitive goods. Air freight carriers use integrated networks of aircraft and trucks to provide a door to door service. Air freight also is carried in the belly of passenger aircraft on a space available basis. Air freight movements through the Duluth International Airport (DLH) provide local business the ability to ship freight throughout the country very quickly.

**Accessibility and Mobility**

The air cargo area of DLH is served by an access road that has two access points onto Trunk Highway 53/194. The access points are at Stebner Road and Cirrus Drive. It is approximately 7 miles from the air cargo terminal to Interstate 35 via Trunk Highway 53. Over the past 10 years, this route has had upgrades in roadway and intersection capacity from I-35 to Haines Road. The MIC will continue to work with the Duluth Airport Authority and local road jurisdictions to maintain and improve roadway connectivity to the freight area of DLH.

**Operations and Maintenance**

Currently, air cargo service at DLH is performed by Bemidji Air Service for UPS and Mountain Air Cargo for FedEx. These routes are flown with small regional aircraft and are feeders to larger “conduit” routes flown from their regional hubs. As the cost of fuel skyrocketed, the network cargo carriers have shifted their operations away from air cargo to ground transportation. FedEx and UPS have developed intricate and efficient ground networks that have provided similar responsiveness at a fraction of the cost of air freight. Mountain Air and Bemidji Air are flying routes as solely determined by FedEx and UPS and are paid for performance. They have no input into the routes flown, rates, destinations, or the amount of product that would be transported.

One feature DLH does have when it comes to cargo potential is location as a processing point for international freight. DLH has a sufficiently sized runway to support large freighters, a staffed customs function that would translate into a quick turn, and a central location that would prove beneficial to distribution into the United States.

**Safety and Security**

The Transportation Security Administration (TSA) has developed the Freight Assessment System (FAS) to identify methods and procedures
for screening air freight for security risks.

Screening, in the case of air cargo, includes TSA-recognized known shipper programs. Screening may include inspection of a percentage of cargo through Explosives Detection System, Explosive Trace Detection, TSA certified canine, manual inspection, or other method of evaluation. Any or all of these components may be part of a known shipper program.

Land use safety zones surrounding airports also contribute to the safety of air freight movements. See Movement of People: Air for a description of the safety zone information.

Moving Towards 2040

The air freight industry is important to support the competiveness of the Duluth-Superior area economy. The ability to quickly move freight throughout the country supports the productivity and efficiency of local businesses. The MIC will continue to work with the Duluth Airport Authority and jurisdictions surrounding the airport on compatible land use issues and implementing relevant recommendations from the Duluth Airport Land Use Plan.

Air Freight: General Recommendations Moving Forward

- Support land use decisions that increase the economic productivity and do not negatively impact the operations of the airport.
- Support efforts to increase options for the movement of freight by air.
- Look for opportunities to increase safety and security in all air freight movements.
- Make sure comprehensive plans for jurisdictions surrounding the airport consider the land use safety zones and other related issues such as noise when developing future land use scenarios near the airport.
- Maintain and improve roadway connectivity to the airport.
**Movement of Freight: Rail**

The Duluth-Superior area relies heavily on the rail industry for the movement of resource based commodities and the Duluth-Superior rail system offers flexible and efficient low cost transportation for various commodities to markets throughout North America. Railroads move massive quantities of bulk goods such as coal, grain, and iron ore to the port of Duluth-Superior. According to the Duluth Seaway Port Authority up to 20 million tons of coal and 18 million tons of iron ore move through the port annually. Given the nature of northeast Minnesota’s resource based economy, rail is the vital link in moving these commodities to their destinations. The location of the Duluth-Superior port provides a transshipment point that is efficiently served by rail. Rail lines serving the port carry iron ore from the Minnesota Iron Range, grain from western Minnesota and the Dakotas, and coal from Montana and Wyoming to the Duluth-Superior port. These rail connections allow the port of Duluth-Superior to be nationally competitive.

**Accessibility and Mobility**

Accessibility to rail service is determined by trackage ownership and trackage rights agreements between rail companies. This provides individual rail companies with competitive advantages and freight rates often result from how many rail companies a particular shipper has access to. If shippers have access to only one rail company, rates tend to be higher because of the lack of competition. This can cause certain commodities to shift to truck transportation where rail transportation may be more efficient.

**Operations and Maintenance**

There are four Class I rail companies operating in the MIC area (see sidebar at right). The primary rail companies are BNSF and CN with smaller operations for CPR and UP. CN has purchased two smaller regional rail companies over the past 15 years which have allowed it to control a track network that runs east and west across Canada and north and south across the United States and runs through Duluth and Superior.

The majority of local track is owned by BNSF and CN but complex trackage rights agreements allow competing rail companies access to other company’s track. Each rail company also has at least one rail yard and maintenance facilities. See the Duluth-Superior Rail Map. Rail movement between Duluth and Superior is over the Grassy Point Draw Bridge near the Bong Bridge (U.S. Hwy 2) and the Oliver Bridge at the terminus of MN Hwy 39. The Oliver Bridge is a two tiered bridge with trains on top and vehicles below.

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“Class 1 Railroad” defined:

The Surface Transportation Board (STB) defines a **Class I Railroad** in the United States as “having annual carrier operating revenues of $250 million or more.”

**Class I Railroads Operating in Duluth-Superior:**

- Burlington Northern and Santa Fe Railway (BNSF)
- Canadian Pacific Railway (CPR)
- Canadian National (CN)
- Union Pacific (UP)
The Duluth-Superior rail systems major connections to the national rail system are by BNSF lines from the Twin Cities and western Minnesota and also by a north/south rail line owned by CN. This rail line passes through Duluth-Superior from Canada to Wisconsin eventually connecting to Chicago. See the Minnesota Freight Rail Map and the Wisconsin Rail Map.

The amount of freight moving by rail and other performance related data is proprietary in nature and difficult to collect in a timely fashion. The MIC will continue to seek appropriate ways of assessing and monitoring operations and maintenance data regarding movement of freight to and from Duluth-Superior using rail.

Safety and Security

Concerns over transporting hazardous materials by rail has been recently discussed at the state level in both Minnesota and Wisconsin. Hazardous materials rules are enforced by the Federal Rail Administration (FRA) of the U.S. DOT. Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. Both states are working with the FRA to update and implement new safety measures that include improvements in rail tanker cars carrying crude oil as well as better reporting measures to help emergency response.

Rail crossings with public roadways is one area where rail safety falls into the public realm. State and federal guidelines dictate what type of rail crossing safety device is present. The amount of rail traffic and vehicle traffic along with crossing geometrics such as sight distances are the major factors in determining the type of safety device. The general types of safety devices include crossbucks, warning lights and safety arms blocking the roadway.

Examining total train crashes at crossings in the MIC area over the 16 year period from 1998 to 2013 show 2 or less crashes each year except 2002 and 2009 when there was four (see Figure 4.46 on the following page). Looking at crash rates over the three year period from 2010 to 2012 show the MIC area to be under the state averages for Minnesota and Wisconsin (see Figure 4.47).

Currently rail crossing safety improvements are prioritized in Minnesota on a regional basis by MnDOT’s Office of Freight and Commercial Vehicle Operations, Rail Administration Section. All rail crossings in the eight county Northeast Minnesota Area Transportation Partnership (NE ATP) area are reviewed for crashes and prioritized for safety upgrades. The NE ATP has dedicated funding targeted for rail crossing safety and
MIC area rail crossings in Minnesota are included in these prioritized safety upgrades.

In Wisconsin, the Office of the Commissioner of Railroads (OCR) enforces regulations related to railway safety and rail crossing safety. Any local road authority or rail company that wants to make any improvements or changes to a rail crossing must have OCR approval. The OCR also determines what warning devices are needed. WisDOT has dedicated funding for rail crossing safety upgrades on the Wisconsin side of the MIC planning area. The MIC has worked with the OCR and City of Superior in the past to upgrade the condition of rail crossings in the city.

Moving Toward 2040

Access to rail service is good for the MIC area as a whole but many area businesses only have access to one rail company which may result in higher rates. Rail infrastructure is privately owned by rail companies and upgrades and maintenance decisions are made privately. Public agencies like the MIC should engage the rail companies as decisions are made on the transportation system. Public/private partnerships can benefit the region as we develop freight moving systems to support increased economic development.
Rail Freight: General Recommendations Moving Forward

- Continue to examine rail crossings to identify if the proper safety devices are present.
- Monitor rail crashes to identify potential problem rail crossings.
- Promote development of an intermodal terminal. Potential locations include the port area for a truck/rail/maritime users or a local rail yard for truck/rail operations.
- Identify opportunities for moving freight by rail instead of truck.
- Promote access to multiple rail companies for businesses dependent on rail service.
- Identify opportunities to integrate rail freight infrastructure with road and port facilities to improve intermodal freight movements.
- Develop an MPO-wide rail crossing data base to inventory current crossing safety devices, daily train trips, ADT at crossings and crash data.
- Adopt use of new technologies that would help quantify rail freight movements.
MOVEMENT OF FREIGHT: TRUCK

Freight handled by truck includes manufactured products, primary materials, intermodal freight delivered door to door, and drayage movements between modes of transportation. Freight carried by trucks tends to fall into the end of the freight service cost continuum (see Figure 4.44 on page 453) that is higher value, lower weight, and time sensitive. Moving freight by truck offers access to most freight terminals and is very flexible in terms of access and mobility. The trucking industry has evolved into a very important component of the freight logistics system.

Maintaining an efficient truck routing system is important to the local and regional economy to allow reasonable access to inputs and markets. MIC staff works with state, county and city road authorities to ensure the truck routing system is operating efficiently. This includes reviewing functional classification, state aid designations, crash data, truck counts, signage, port access, and oversize load routing.

Accessibility & Mobility

The major truck routes in the Duluth-Superior area include the Interstate Highway System, Trunk Highways (TH), county state aid highways (CSAH), municipal state aid (MSA) highways and other major roadways (Figure 4.48). These roadways, all functionally classified, are designed and maintained to carry large amounts of traffic including trucks. Many of these functionally classified roads are also part of the

Types of Truck Carriers:

- **Truckload carriers**: dedicate an entire trailer to a single shipper’s cargo
- **Less than truckload carriers**: consolidate cargo from several shippers and make multiple deliveries.
- **Private fleets**: trucks owned by large retailers that move goods to retail outlets.
- **Delivery trucks**: companies like UPS and Fed Ex that pick-up and deliver packages.

Figure 4.48: MIC Area Designated Truck Routes

Trailer use for moving oversize-overweight loads from Duluth-Superior Port
National Highway System (NHS) shown in Figure 4.49 below.

The National Highway System is approximately 160,000 miles of roadway important to the nation’s economy, defense, and mobility. The NHS, developed by the U.S. Department of Transportation in cooperation with the states, local officials, and MPOs, reaches virtually every part of our country. About 90 percent of America's population lives within five miles of an NHS road. All urban areas with a population of more than 50,000 and 93 percent of urban areas with a population of between 5,000 and 50,000 are within five miles of an NHS road.

**Figure 4.49: MIC Area National Highway System (NHS) Routes**

Our transportation infrastructure no longer can be a collection of individual modes competing with one another. Instead, it must be a unified system with each mode complementing the others. Increasingly, intermodal carriers rely on all forms of transportation to deliver goods and services to consumers in the most efficient manner possible. The NHS fulfills that goal by serving ports, airports, Amtrak stations, rail/truck terminals, intercity bus terminals, public transit stations, ferry terminals, pipeline terminals, and multipurpose passenger terminals. By providing these essential linkages to other modes, NHS creates a seamless transportation system for the rapid movement of people and products.
Over the years, trucks have become longer and wider while most highway dimensions have remained the same. This creates a problem, as some highways can no longer accommodate modern trucks while other highways, such as interstates and some expressways, are designed for the larger vehicles. To mitigate the problem, larger trucks are now required to travel on a network of highways that can physically accommodate them. In 1982, the Federal Surface Transportation Assistance Act (STAA) authorized the establishment of the National Network of Truck Routes. This is a system of highways composed of interstate highways and other primary highways on which trucks are authorized to travel. Optional signing of the National Network Routes is also available. The sign symbols are a rear view of a semi trailer with a green circle around it. In the Duluth-Superior area, the National Network Routes mirrors the NHS.

**Operations and Maintenance**

The amount of truck traffic moving in and through the Duluth-Superior area is forecast by each state’s DOT. It is described by classifying a percentage of Average Daily Traffic (ADT) as Heavy Commercial Average Daily Traffic (HCADT). HCADT is an estimate of the total number of vehicles with at least two axles and six tires, using a specific segment of roadway (both directions) on any given day of the year. These

*Figure 4.50: MIC Area Heavy Commercial Average Daily Traffic 2009*
estimates, shown for the MIC area in Figure 4.50, are helpful to get an idea of which roadways are carrying larger amounts of truck traffic.

By examining HCADT information, the reader can see the areas of heaviest truck traffic are the core areas of Duluth and Superior. This reflects that in areas of the highest economic activities, such as central business districts, will be also areas of high truck traffic.

The truck route system in the Duluth-Superior area is comprised of the major roadways previously described in this section. Maintenance of these roadways is the responsibility of state, county and city road authorities. Bridges are another component of the area roadway system that must be maintained.

Much of the freight moving by truck through the MIC area passes through and may use either the Blatnik (Hwy 53 / I-535) of the Bong Bridge (Hwy 2) between Duluth and Superior. The Bong Bridge is the preferred bridge between Duluth and Superior for moving oversize/overweight loads.

**Safety and Security**

In examining truck related crashes in the MIC area from 1998 to 2013, it appears that truck crashes have risen very slowly during that time averaging about 0.4% per year. (see Figure 4.51). When crash rates are examined, the MIC area has a lower rate than state levels in both Wisconsin and Minnesota (see Figure 4.52). A closer analysis may be necessary to identify contributing factors such as weather conditions or site specific issues. This analysis can take place during regular TSM assessments of the roadway network.

Recent efforts to reduce weather related crashes include the installation

**Figure 4.51 Heavy truck crashes in the MIC area (1998-2013)**

Source: MnDOT Crash Mapping Analysis Tool (CMAT), 2014; Wisconsin MV4000 Crash Database, 2014.

**Figure 4.52 Heavy truck crashes per capita (3-year average 2010-2012)**

Sources: MnDOT Crash Mapping Analysis Tool, 2014; Wisconsin MV4000 Crash Database, 2014
of changeable message signage on the local bridges and Interstate system and other ITS improvements.

Moving Toward 2040

Moving freight efficiently by truck is fundamental to the healthy functioning of the regional economy. Truck routes should be reliable for businesses to be able to move inputs to manufacturing facilities and to move goods to markets. Many companies manage their inventories through the movement of goods across a reliable freight movement system and truck routes are a key component of that system. From a community perspective truck routes should be compatible with adjacent land uses where feasible.

Truck: General Recommendations Moving Forward

- Route through truck traffic away from downtown Superior by using National Network Truck Route signage to encourage through truck movements to use the Blatnik Bridge and East 2nd Street in Superior (I-535 & Hwy 53).
- Work toward getting an exemption for I-35 from Duluth to Cloquet for forest products trucks with permits to carry over 80,000 lbs.
- Continue to improve turning radii in areas of high truck traffic and low pedestrian movements.
- Incorporate over dimension load considerations in any roadway design.
- Work with local freight movers and public agencies to identify potential routes through Duluth-Superior to move over-dimension and over-weight loads.
- Focus on access management principles as a tool to reduce congestion, increase safety and enhance system reliability that freight movers want.
- Look for opportunities to develop intermodal facilities to make a more seamless connection between trucking and rail and maritime freight movements.
**Movement of Freight: Maritime**

The movement of freight by water is the most efficient and environmentally friendly means of moving bulk commodities. The Duluth-Superior port is the premier bulk port on the Great Lakes, annually shipping approximately 40 million tons (see Figure 4.53). The primary commodities include iron ore, coal and grain. The regional economy relies heavily on the efficiency of these bulk materials moving through the port. According to The ECONOMIC IMPACTS of the GREAT LAKES - ST. LAWRENCE SEAWAY SYSTEM compiled by Martin Associates of Lancaster, Pennsylvania for the Duluth Seaway Port Authority in 2011, the port generated a total economic impact of over $1.5 billion and a direct employment impact of 2,985 jobs. Adding in induced and indirect jobs bring the total jobs related to the port to 11,510. A total of $156.3 million in state and federal taxes were generated by cargo and vessel activity at the Port of Duluth-Superior. This study highlighted how important the port is to the local and regional economies.

**Accessibility and Mobility**

The port of Duluth-Superior serves as one of North America's major links to world markets. The port is located only hours away from the commodity centers of the nation's breadbasket and about fourteen days sailing time to prime world markets. The proximity of the Duluth-Superior port to the Minnesota iron mines, the Minnesota-Dakota Red River Valley, Powder River Basin coal and Canadian grain and lumber products, makes it among the busiest ports in the United States. Water movement of freight falls on the end of the freight cost continuum (see Figure 4.44 on page 4-53) where the commodities moved are high weight, low value, and not as time sensitive.

The port of Duluth-Superior is primarily a transshipment harbor,
handling goods produced and consumed in areas far from the immediate confines of the port. Duluth-Superior is recognized worldwide as the designated route for shippers of heavy-lift and oversized cargo to and from North America. The geographic location of the Duluth-Superior port also provides direct benefits. Rail lines funnel into the area from Canada and major highways such as Interstate Highway 35, and Trunk Highways 2, 61, and 53 provide direct access to and from the rest of the United States. Recent access improvements include the addition of Helberg Drive which provided a second roadway access to the port terminal area (see Figure 4.54). This road has been valuable for moving over dimension pieces out of the port. The improved geometrics have allowed easier access to the regional highway system. As part of the project, rail improvements were also included.

**Operations and Maintenance**

The U.S. Coast Guard along with its security and search and rescue duties is also responsible for maintaining aids to navigation throughout the Duluth-Superior port. The Coast Guard Cutter Alder is stationed in Duluth and performs numerous duties: oil spill recovery, aids to navigation, icebreaking, law enforcement, and marine environmental protection. One of the primary tasks of the Alder is tending the large amount of buoys in the Duluth-Superior harbor. The Alder was built in 2004 and is one of the most advanced vessels afloat, equipped with the latest technological developments in computers, navigation, environmental protection, and remote monitoring systems.

Operations and maintenance of the federally designated shipping channel (see Figure 4.55) is the responsibility of the Army Corps of Engineers. Within the Corps, the Detroit District Office is responsible for the Duluth-Superior port. The Corps regularly dredges the shipping channel to maintain a St Lawrence Seaway standard depth of 27 feet. This permits vessels to safely navigate the harbor with up to 78,000 tons of bulk cargo aboard. A major challenge for the Corps is managing the dredged materials removed from the harbor. Across the Great Lakes, confined disposal facilities (CDF) were developed to place dredged materials. These facilities have a limited life span and are difficult to replace given environmental and social concerns as well as the need for large tracts of waterfront land. A strategy developed by local port stakeholders has converted Erie Pier, the CDF in the Duluth-Superior port, to a processing and reuse facility. This strategy is outlined in the [Erie Pier Management Plan](#) developed by the MIC working through the HTAC and its Dredging Subcommittee. Beneficial reuse of dredged materials is also outlined in the Corps Dredged Material Management Plan (DMMP) which is a planning document required in every port the Corps maintains. The DMMP is required to outline how dredged materials are to be managed over a 20 year planning horizon.

**Erie Pier Management Plan:**

The purpose of the plan is to facilitate a dredged material reuse program at Erie Pier and convert it to a processing and reuse facility. This will ensure that dredged materials from the maintenance of the federal shipping channel will be beneficially reused, saving taxpayers the cost of building a new CDF.
Land use along the working waterfronts of Duluth and Superior is controlled by local land use and zoning laws from each city. To assist each city in protecting its waterfront resources, the MIC worked with port stakeholders to develop the **Duluth-Superior Port Land Use Plans**. Through this planning process it was recognized that land along the federally designated shipping channel has a higher value in relation to its intended use for maritime freight movement. The public has invested and continues to invest in maintaining the shipping channel. As a result, these lands should be preserved for maritime uses. Once land previously used for maritime uses is converted to residential and commercial uses, it rarely reverts back. To ensure that a sufficient supply of land is preserved for maritime freight movements, **Future Land Use maps** were developed during the compilation of the Port Land Use Plan. This map outlines how the working waterfront land will be utilized in the future. Each city has either adopted the Port Land Use Plan or used the information in development of their Comprehensive Plans. The Port Plan is currently in the process of being updated.

The Duluth Seaway Port Authority owns and leases out facilities at the Clure Public Marine Terminal located on Rices Point in Duluth. The terminal is home to 16 businesses that employ almost 400 people. The operator at the Port Terminal is Lake Superior Warehousing Company, Incorporated (LSWCI), an independently owned company that contracts with the Port Authority. LSWCI is known world wide for the ability to unload and move heavy equipment. In the past decade they have conducted movement of large pieces of industrial equipment to the Oil Sands in Alberta, paper making machinery in Minnesota, mining equipment for the Minnesota Iron range and more recently wind energy equipment to destinations throughout the Midwest and Western Plains.

The majority of the port facilities in the Duluth-Superior port are privately owned and operated. Some are subsidiaries of large national companies. Midwest Energy Resources Company is a subsidiary of Detroit Edison and moves up to 20 million tons of low sulfur coal each year from the Powder River Basin in Wyoming and Montana to destinations throughout the Great Lakes. Other facilities such as the Canadian National (CN) Ore Docks (formerly known as the DM&IR Ore Docks) and the Burlington Northern Sante Fe (BNSF) Ore Docks are owned by national and international rail companies. The CN Railway Company and BNSF ship taconite from the Minnesota Iron Range to the lower Great Lakes steel mills by utilizing their ore docks in the Duluth-Superior port. There are also a number of other port facility operators in the port that move a variety of bulk materials to and from Duluth and Superior. The maintenance of the docks and slips adjacent to these facilities are the responsibility of the private operators.
Safety and Security

Port security is the responsibility of the U.S. Coast Guard which is now part of the Department of Homeland Security. The local Coast Guard office, Marine Safety Unit Duluth, works with port stakeholders in developing three levels of security plans: Port Security Plan, facility security plans, and vessel security plans.

The Port Security Plan was developed as a guideline for the formation of port security committees and delineates the process for security procedures to be followed in response to a recognized threat. This effort led to the creation of an area maritime security committee that has led to increased communication among law enforcement, emergency responders and the maritime community.

Each port facility in the Duluth-Superior harbor is required to have a facility security plan. These plans address employee training, drills, communications, access control, restricted areas and cargo handling as it relates to security. The facility plans must be submitted and approved by the U.S. Coast Guard. All port facilities in the Duluth-Superior harbor have completed their facility security plans. The Duluth Seaway Port Authority has secured grants and other federal funding to obtain new perimeter fencing at many waterfront businesses.

Vessel security plans are required for all vessels operating in U.S. waters and address topics such as personnel training, drills and exercises, procedures for interfacing with facilities and other vessels, communications, security systems and maintenance, access control, identification of restricted areas, cargo handling, and security incident response.

Figure 4.56: Area Covered by Marine Safety Unit—Duluth

The Coast Guard Cutter, Alder
procedures. One vessel security plan can be used by a shipping company for more than one vessel if they are similar in design and function.

The Department of Homeland Security has also instituted the Transportation Worker Identification Credential (TWIC) Operations and Maintenance program. TWIC is a common identification credential for all personnel requiring unescorted access to secure areas of MTSA-regulated facilities and vessels, and all mariners holding Coast Guard-issued credentials. According to U.S. Coast Guard officials the Duluth-Superior port workers have a very high compliance rate with the program.

Moving Toward 2040

New Iron Range mining and steel making initiatives, the strong presence of the timber and agriculture industries, and development of the energy industry create future challenges for the freight transportation system. Whether it’s getting natural resource based materials to manufacturing facilities or finished products to markets, the port will play a vital role in moving these materials.

Proposed new operations on the Iron Range include Essar Steel Minnesota whose plans may include constructing and operating an integrated steel plant on the western edge of the Mesabi iron range in northeast Minnesota. To be located north of Nashwauk, the taconite-to-steel facility will have an annual capacity of 1.5 million tons in steel-making capability when completed. Once operational, it will be the only facility in North America to include open pit iron ore mining, ore processing, direct reduced iron processing, and steel slab casting on a single site. Steel slabs may be transported by rail to the port of Duluth/Superior for national and international distribution.

Recent developments in the Bakken oil fields in North Dakota and Montana have produced pressure to move oil by maritime means. Historically oil has moved across the Great Lakes and currently pipeline and rail infrastructure are limited in getting this oil to refineries.

Maritime Freight: General Recommendations Moving Forward

- Continue to facilitate HTAC (see pages 2-7 & 2-8) and its Subcommittees on all issues relevant to freight movements in the port.
- Continue to work towards beneficially reusing all dredged materials from maintenance dredging the federally designated shipping channel.
- Continue to maintain and improve road and rail access to port facilities.
• Expand port facilities to accommodate new shipping trends and commodities currently under development.
• Preserve land adjacent to the federally designated shipping channel for maritime freight uses.
• Work with local resource agencies to preserve and enhance valuable habitat in the lower St. Louis River Estuary.
• Work with port stakeholders to educate the public on the importance of the Duluth-Superior port to the regional and local economies.
• Identify opportunities for private, public or public/private partnerships to rehabilitate and reuse under-utilized dock structures for additional maritime commerce uses.
**Movement of Freight: Pipeline**

Pipeline movement of freight through the MIC area is the mode of transportation that the MIC has the least impact on. The pipeline infrastructure is privately owned and its location is proprietary. The following information was compiled for the Northeast Minnesota/Northwest Wisconsin Freight Plan (see following section about the plan).

*Figure 4.57: Pipelines in Northern Minnesota and Northwest Wisconsin*

Figure 4.57 shows the extent of the pipeline network throughout Northern Minnesota and Northern Wisconsin. The system moves a significant tonnage of gas and hazardous liquids to and throughout the region, including the transportation of more than 75 different types of crude oil and natural gas. The end users range from power plants to private residences.

Several power and transmission companies account for the ownership and operation of regional pipeline. Magellan Midstream Partners L.P.
operates two terminals within Minnesota including one in Duluth. Additional pipelines are operated by the Great Lakes Gas Transmission L.P., Enbridge Energy, and Calumet, which transport gas as well as crude and refined petroleum products from Canada and the Dakotas to Duluth and Superior. Calumet’s Superior Refinery is connected to Enbridge’s Lakehead System of liquids pipelines, which transport crude oil from Western Canada to the region.

**NORTHERN MINNESOTA / NORTHWEST WISCONSIN FREIGHT PLAN**

Freight movements are rarely contained within an MPO but are regional, national and many times international in origins and destinations. To get a better understanding of freight movements within the MIC area, we needed to understand the regional freight system. To accomplish this, we developed strategic partnerships with regional and state stakeholders in both Minnesota and Wisconsin and developed the Northeast Minnesota/Northwest Wisconsin Freight Plan.

The partners included MIC, Arrowhead Regional Development Commission, Minnesota Department of Transportation, Wisconsin Department of Transportation and the University of Wisconsin Superior Transportation and Logistics Program. We also broadened the partnership to include other state, regional, and local stakeholders (see Study Committee). The study area encompassed 29 counties, 19 in northern Minnesota (MnDOT Districts 1 & 2) and 10 in Northwest Wisconsin. The plan was completed in November 2009.

**Freight Plan Recommendations**

- Duluth-Superior Intermodal Container Terminal: Develop a new Truck/Rail/Water container terminal at the port. Potential MnDOT planning, investment participation.

- Duluth-Superior Port Capacity Expansion: New berths, dock space, backlands needed for existing and new moves (slab steel, wind equipment, pulp). Support the TIGER grant implementation by the Duluth Seaway Port Authority and/or MnDOT for the capacity expansion of Garfield C&D Dock.

- Duluth-Superior Port Coordination: Create a working agreement between the Duluth Seaway Port Authority and the Superior Harbor Commission, encourage continued participation in HTAC planning activities by port stakeholders.

- Designate Super-Haul Truck Corridors: Preserve routes for wind and oil sands equipment and others from further degradation (turning radii, low bridges). MnDOT coordination with construction
and permitting to preserve oversize and overweight routes, including Wisconsin routes.

- Advance Strategies to Improve Regional Truck Size and Weight Uniformity: Develop regional consistency with WI permitting practices, Canadian limits, and configurations.

- Quick Starts Projects (less than $50,000): Regional marketing campaign, bridge and intersection geometrics, signage and markings.

**CONCLUSION: MOVEMENT OF FREIGHT**

The Duluth-Superior area has a large amount of transportation assets: the largest bulk port on the Great Lakes, four Class 1 railroads, access to the Interstate Highway system, an airport that can handle any size aircraft, and many miles of arterial highways. The challenge is to integrate these assets into a system that maximizes their economic development value and while minimizing their impact on the environment and other community values.

In working with freight stakeholders throughout the years, it is evident that the freight moving industry is very dynamic and flexibility is important with all public agency partners as we address needs and meet future challenges.

To meet the goals spelled out in this plan, we must continue to engage freight stakeholders in our planning processes and make sure freight needs are considered in mainstream transportation planning.

**Interagency Involvement in Development of the Freight Plan:**

- MnDOT District 1
- MnDOT District 2
- WisDOT
- MIC
- Arrowhead Regional Development Commission (ARDC)
- Northwest Wisconsin Regional Planning Commission (NWRPC)
- MnDOT Freight Office
- MnDOT Office Investment Management
- St. Louis Co. MN, Engineering
- Polk Co., WI Engineering
- Douglas Co., WI Engineer
- MN Department of Economic Development (DEED)
- WI DNR
- MN DNR
- Duluth Seaway Port Authority
- University of Wisconsin, Superior
- University of Minnesota, Duluth
- FHWA