Introduction

The DMATS region is at the heart of major US manufacturing and agricultural activity, and relies on the multimodal transportation system of roads, rails, airports, pipelines, and waterways to supply the inputs needed for production and to transport goods to consumers inside and outside of the region.

Freight transportation refers to the movement of goods, commodities, and materials using one or more modes of transportation. The efficient movement of freight is one of the keys to effective competition in the global economy. The efficiency of the transportation system affects the economic competitiveness and growth potential of the region. To support existing industry and attract business, DMATS must understand the linkages between the freight transportation system and local economy, identify needs on the transportation system, and define opportunities to improve freight transportation in local planning and policy decisions.

Freight and the Regional Economy

The DMATS area's economy depends on regional and national freight networks. Freight-dependent (or goods-dependent) industries are those that rely on transportation to receive raw materials or manufactured goods and then transport the finished products or goods to their intended market and eventual end users.

Gross Domestic Product (GDP) is the value of the final goods and services produced in an area and is used as a measure of regional economic activity. The United States Bureau of Economic Analysis (BEA) produces GDP estimates at national, state, and county levels. County estimates are released annually, with the most recent release including data for 2024.

Figure 1 includes a chart of total combined GDP by industry for Dubuque, Grant, and Daviess Counties. In 2024, the three counties combined for a GDP of $13.3 billion. Of that total, 50% was produced by goods-dependent industries. Service industries accounted for 42% with government and government enterprises producing the remaining 8%.

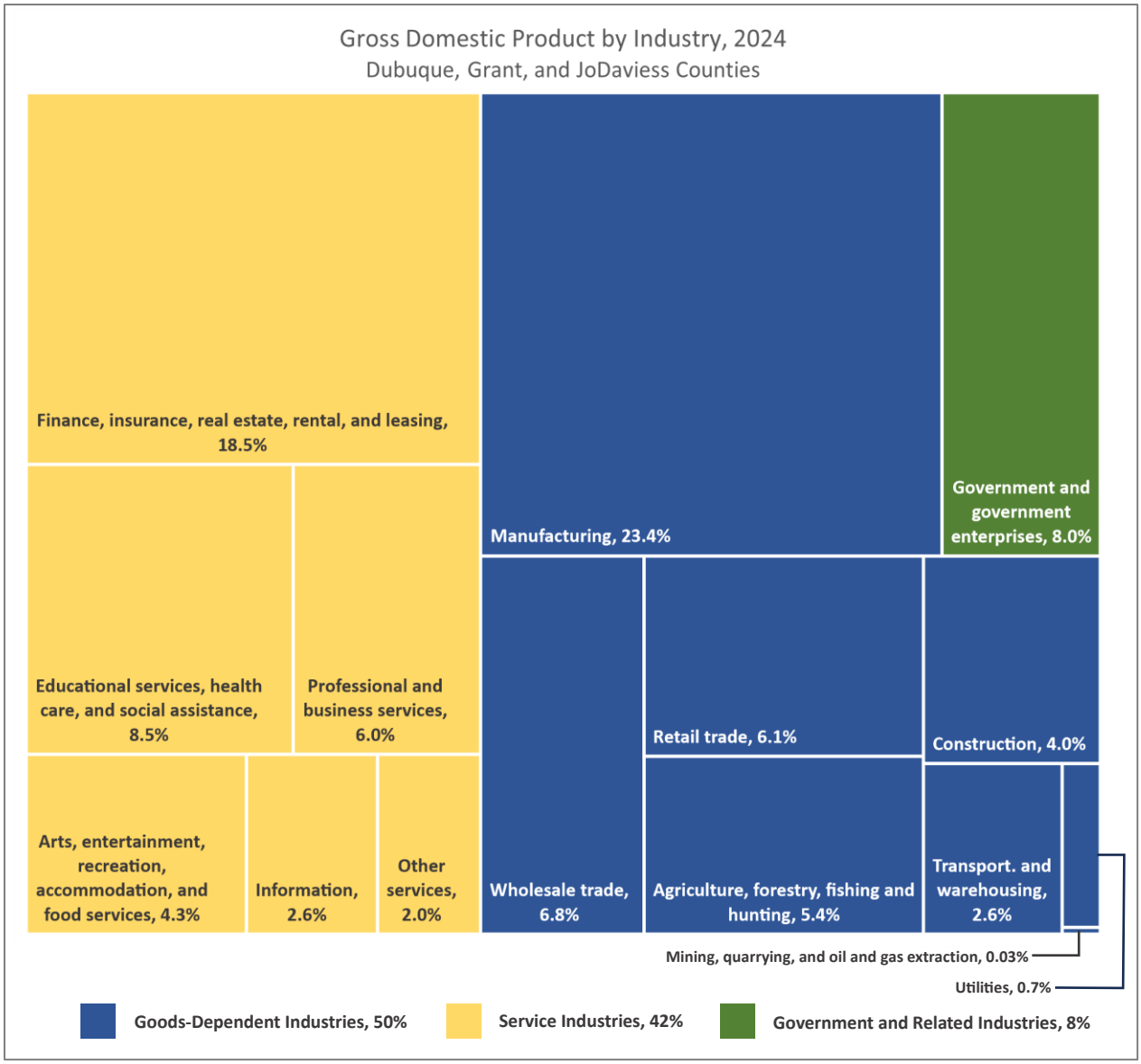

Figure 1. Gross Domestic Product by Industry, 2024.
Source: U.S. Bureau of Economic Analysis.

Freight Plans and Studies

In developing this chapter, DMATS has drawn on several plans and studies that address freight transportation in the DMATS area and surrounding communities. Findings and recommendations from state freight plans and the 2018 *Eight-County Freight Study* are incorporated to provide regional context and inform long-range planning decisions.

State Freight Plans

State Departments of Transportation (DOTs) are required under federal law to develop statewide freight transportation plans that address freight trends, system needs, and investment priorities. These plans guide freight policy and programming decisions and support eligibility for federal freight funding programs.

As a tri-state metropolitan planning organization, the DMATS area is covered by freight plans developed by the Iowa, Illinois, and Wisconsin DOTs. Coordination with multiple state freight planning efforts is an important consideration for regional freight planning within the DMATS area.

The Iowa DOT adopted its most recent state freight plan in 2022 and is currently preparing an update. The *2026 Iowa State Freight Plan* is available in draft form and is expected to be adopted later in 2026.

The Illinois DOT has developed two freight planning documents that apply to the DMATS area. The *Illinois State Freight Plan* was adopted in 2023 and *the Illinois DOT District 2 Freight Plan* was adopted in 2024. The *Wisconsin State Freight Plan* was also adopted in 2023 and provides statewide guidance for freight planning and investment priorities affecting Wisconsin communities within the DMATS region.

Eight-County Freight Study

The *Eight-County Freight Study*, prepared for the East Central Intergovernmental Association (ECIA) and Blackhawk Hills Regional Council (BHRC), provides a comprehensive assessment of the multimodal freight system serving a bi-state region that includes the Iowa and Illinois portions of the DMATS area. The study evaluates freight system performance, identifies key needs and constraints, and establishes recommendations to improve freight mobility, safety, and economic competitiveness.

The findings of the *Eight-County Freight Study* provide important regional context for freight planning in the DMATS area. The study emphasizes the importance of maintaining and improving major freight corridors, addressing safety and infrastructure condition issues, enhancing multimodal connections, and improving coordination across jurisdictions. The study also highlights the critical role of freight in supporting the regional economy and the need for ongoing collaboration between public agencies and private sector stakeholders.

Multimodal Freight Network

Moving a product or commodity from its origin to final destination often requires multiple modes of transportation. For example, corn harvested in the DMATS area could be taken by truck to a grain elevator where it is transferred to rail cars or a barge and shipped out to national or international destinations. The DMATS freight network is comprised of several transportation modes. Each mode can carry various types of freight, but each mode has its own unique attributes that can make it better suited for different types of freight movements.

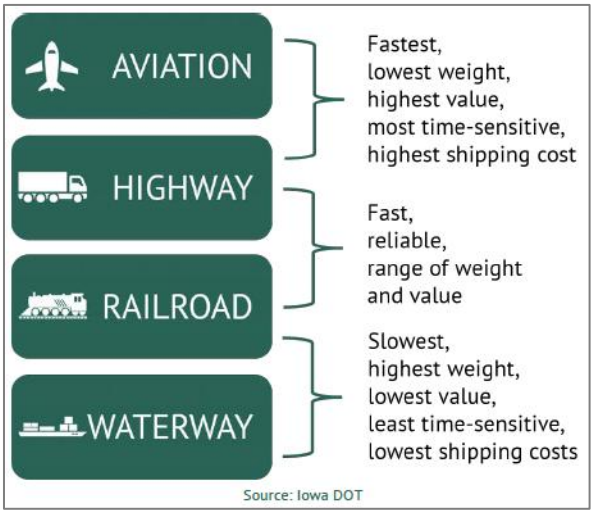

Figure 2. Freight Price Comparisons
Source: Iowa DOT, State Freight Plan, 2026.

Aviation is generally the fastest, but is also the most expensive, making it best suited for high-value and time sensitive shipments. By comparison, waterway transportation is the slowest but is also the least expensive. This makes barge transportation the most effective mode for high weight and low value commodities such as grain, fertilizer, and coal. Highway

and railroad modes are in the middle, both are relatively fast and reliable and can transport a wide range of values and weights. Figure 2 provides a price comparison of the four major freight modes. Figure 3 maps the DMATS area's multimodal freight network. The following section provides a summary of the freight modes that are active in the DMATS region.

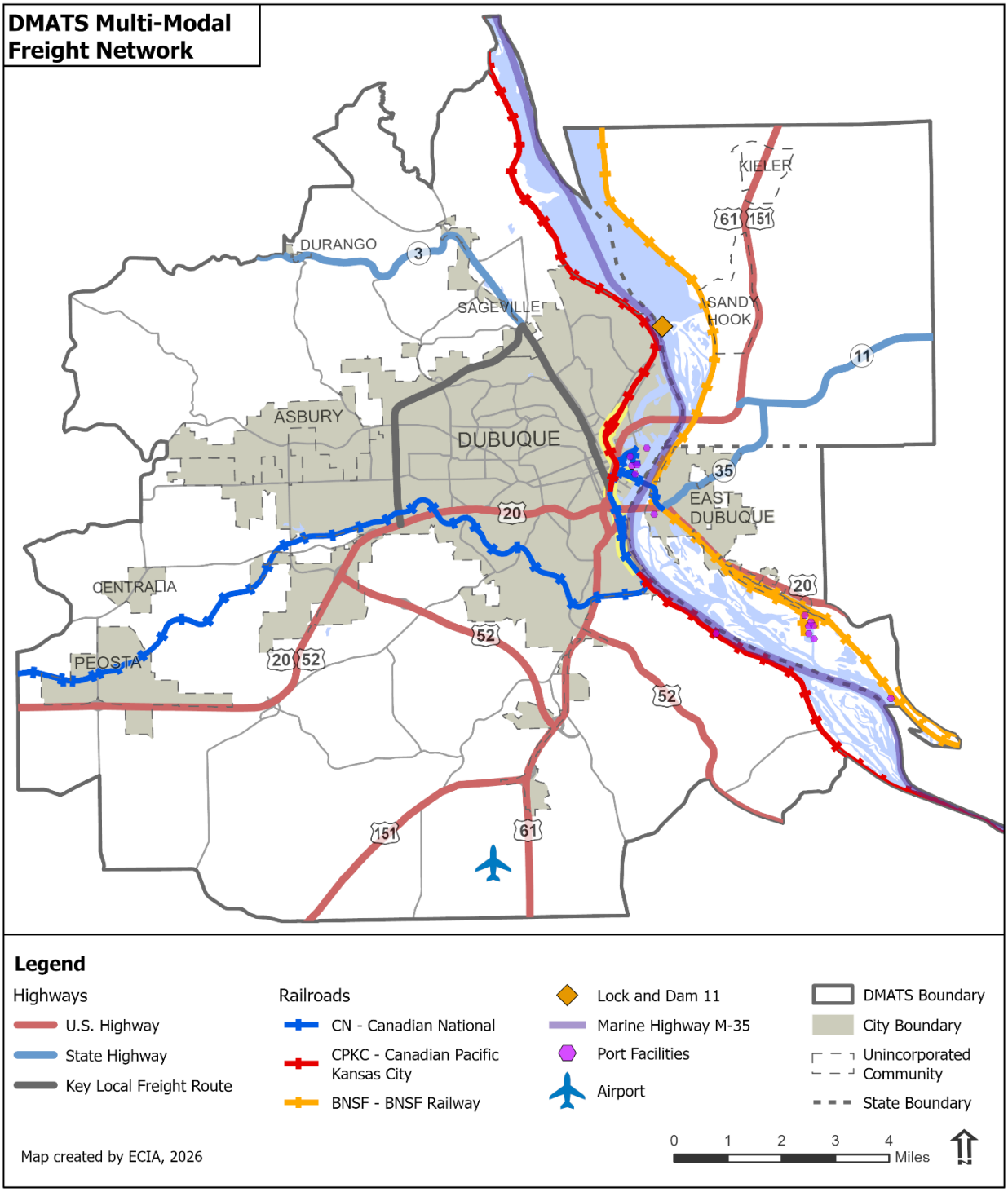

Figure 3. Multimodal Freight Network Map
Source: U.S. DOT, National Transportation Atlas Database

Highway

Highway freight is the most visible and flexible component of the regional freight transportation system and plays a central role in moving goods into, out of, and within the DMATS region. Trucks are used at nearly every stage of the supply chain and are particularly important for short-distance movements, time-sensitive deliveries, and the first- and last-mile connections between production sites, rail terminals, river ports, warehouses, and end users. As a result, the performance of the highway system directly affects the efficiency, reliability, and cost of freight movement for regional businesses and industries.

The highway freight network serving the DMATS area includes U.S. highways and state and local roadways that provide connectivity to regional and national markets. These facilities support the movement of a wide variety of commodities and goods, and they link local producers and distributors to rail lines, Mississippi River ports, and distribution centers located both within and outside the region. Maintaining reliable highway access for freight is especially important for agricultural producers and industrial users that depend on trucking to reach processing facilities and intermodal transfer points.

Highways are largely planned, operated, and maintained by public agencies, giving MPOs and local governments an active role in highway freight planning. Within the DMATS region, long-range highway freight planning emphasizes managing pavement and bridge conditions, improving system reliability, minimizing conflicts between freight traffic and local community travel needs, and coordinating with local governments and state DOTs on freight mobility and safety issues.

Careful consideration of access to industrial areas, roadway constraints, and connections to other freight modes helps support economic activity while reducing impacts on residential areas. These responsibilities make highway freight a key focus of the long-range transportation plan. Recognizing highway freight as part of a broader multimodal freight system allows the region to balance mobility, safety, economic development, and quality-of-life objectives over the long term.

Key freight routes in the DMATS area include:

- US Highway 20
- US Highway 52
- US Highway 61
- US Highway 151
- Iowa Highway 3
- Iowa Highway 946 (South Locust St)
- Illinois/Wisconsin Highway 35
- Wisconsin Highway 11
- Northwest Arterial
- Central Avenue and White Street Corridor

Highway Needs

The *Eight County Freight Study* and state DOT freight plans have identified several freight-related needs on the DMATS area's highway network. These needs are summarized in Table 1.

Table 1. Highway Freight Needs

Type	Location	Plan/ Study	Issues
Safety	US Hwy 20 – Freeport to Galena	Eight County Freight Study	Limited capacity, geometry, lack of shoulders
Bottleneck	US Hwy 20 in Dubuque	Iowa State Freight Plan 2026 Illinois District 2 Freight Plan	Forecast congestion
Safety	US Hwy 20 and NW Arterial Intersection	East Central Iowa Transportation Safety Plan	High Crash History
Bottleneck	Julien Dubuque Bridge & Dubuque-Wisconsin Bridge	Eight County Freight Study	Potential congestion during incidents and construction. With only two lanes JD Bridge has limited capacity.
Bottleneck	Downtown Dubuque	Eight County Freight Study	Traffic signals cause congestion that impacts truck movement.

Highway Freight Project Highlights

Highways provide versatile transportation that accommodates a wide range of vehicle types and trip purposes. As a result, most highway projects included in the DMATS Long Range Transportation Plan can be considered freight-related improvements to some degree. Rather than duplicating the full list of projects presented in the Projects chapter, this section highlights key upcoming highway projects that are most critical to supporting freight movement, improving system performance, and enhancing regional connectivity within the DMATS area.

US Highway 20 and Northwest Arterial Intersection

Over the past several years, DMATS has worked with the Iowa DOT and the City of Dubuque to plan for improvements at the intersection of US Highway 20 and the Northwest Arterial. This intersection, which carries approximately 29,200 vehicles per day, experiences operational and safety issues that affect both passenger and freight traffic.

The *East Central Iowa Transportation Safety Plan* identified this intersection as a priority location for improvement, noting that approximately 319 crashes occurred in the area between 2018 and 2022. Addressing these safety and operational challenges will improve traffic flow, reduce delays, and enhance reliability for freight movement along this important corridor.

As part of the area's primary east–west freight route, improvements at this intersection will reduce bottlenecks and improve travel time reliability for trucks moving through the regional highway network.

Julien Dubuque Bridge

The Julien Dubuque Bridge has carried US Highway 20 over the Mississippi River between Dubuque and East Dubuque since 1943. The bridge provides a critical regional connection between Iowa and Illinois for both passenger and freight traffic.

The Iowa and Illinois DOTs are planning for the long-term future of the bridge which could include its potential replacement within the next 10 to 20 years. As an early step in this process, the Iowa DOT recently released a Request for Proposals (RFP) for a consultant to conduct a Planning and Environmental Linkages (PEL) and National Environmental Policy Act

(NEPA) study. This effort represents an important initial phase in the planning and design process, which is expected to take several years to complete.

Throughout this process, DMATS will work closely with the Iowa and Illinois DOTs, consultant teams, and local jurisdictions to ensure that the bridge continues to support regional mobility and meet the current and future freight needs of the area. As a key Mississippi River crossing on US Highway 20, the bridge plays a vital role in regional and interstate freight movement, making its long-term replacement critical to maintaining system reliability and connectivity.

US Highway 20 in Illinois

DMATS and its local partners have worked over many years to support improvements to the US Highway 20 corridor in Illinois. While most of this corridor is outside the DMATS planning area, this route serves as a key east-west freight corridor connecting the DMATS area to major regional and national markets, including connections to major freight hubs in the Chicago area.

The *Eight County Freight Study* identified the Illinois segment of US Highway 20 as a critical area of concern for freight movement. While most of the corridor is four lanes, a 47-mile segment between Galena and Freeport remains two lanes, creating capacity constraints. Stakeholder feedback consistently highlighted limited capacity, outdated roadway geometry, narrow or poorly maintained shoulders, and reduced visibility along curves and hills as key issues affecting safety and efficiency. *The Illinois District 2 Freight Plan* identifies this corridor as having high safety needs through the entire corridor in Jo Daviess County. The plan also lists areas near the city of Galena and the Galena Territory as having high reliability needs.

Safety is also a major concern along the corridor. *The Eight County Freight Study* noted that between 2010 and 2015, US Highway 20 experienced 2,534 crashes, including 324 truck-involved crashes, with a significant share occurring on the Illinois portion of the route. In addition to the human toll, these conditions contribute to higher operating costs, routing inefficiencies, and reduced reliability for freight operators.

The study identifies improvements to the US Highway 20 corridor as a high priority, particularly focused on targeted safety and operational enhancements such as shoulder widening, geometric improvements, and intersection upgrades. While long-term plans for full four-lane expansion are under development, near-term investments in spot improvements are recommended to address critical safety and performance issues.

As a primary connection between the DMATS area and major freight hubs in northern Illinois and the Chicago region, improvements to the US Highway 20 corridor in Illinois are critical to reducing safety risks, improving travel time reliability, and supporting efficient freight movement across the regional and national highway network.

STREETS Project

The Smart Traffic Routing with Efficient & Effective Traffic System (STREETS) project represents a transformational approach to managing traffic operations in the Dubuque metropolitan area. Developed through a partnership between the City of Dubuque, DMATS, and the Iowa Department of Transportation, the project is designed to create a next-generation, technology-driven traffic management system that enhances mobility, safety, and system efficiency.

The STREETS system builds on the City’s existing traffic signal and intelligent transportation system infrastructure by integrating real-time data, advanced modeling, and adaptive signal

control. The system combines travel demand modeling, microsimulation traffic modeling, adaptive signal control technology, and a centralized decision support system to dynamically manage traffic flow across the network.

The STREETS project is expected to deliver a range of transportation system benefits, including reduced congestion, improved travel time reliability, enhanced safety, and improved traveler information. By enabling dynamic routing and adaptive traffic control, the system also helps maximize the use of existing infrastructure, reducing the need for roadway expansions while supporting more efficient goods and commuter movement.

As an integrated intelligent transportation system, STREETS is a critical component of the region's strategy to improve system reliability, enhance multimodal operations, and support efficient movement of people and freight through proactive, data-driven traffic management.

Rail

Rail freight is a critical component of the regional and national freight transportation system, providing an efficient means to move large volumes of bulk commodities and manufactured goods over long distances. Freight rail is particularly well-suited for commodities such as agricultural products, grain, fertilizer, processed food products, industrial materials, and consumer goods moving between regional production centers and national or international markets. By offering high capacity and relatively low per-unit transportation costs, rail freight supports the competitiveness of agricultural producers and industrial firms.

The rail network includes a mix of Class I, Class II, Class III railroads. Class I railroads operate the primary long-distance corridors, carrying most of the freight, while Class II and III railroads primarily provide feeder service to the Class I carriers. The following three Class I carriers are active in the DMATS area.

- BNSF Railway (BNSF)
- Canadian National Railway (CN)
- Canadian Pacific Kansas City Southern (CPKS)

In some cases, railroads operate via a subsidiary. In the DMATS area Canadian National Operates via subsidiary Chicago Central and Pacific (CCP) and CPKS operates via subsidiary Dakota, Minnesota, and Eastern (DME).

Rail operations are largely governed by federal law and operated by private companies. However, MPOs and local governments play a significant role in addressing rail-related issues, particularly where rail lines interact with roadways and adjacent land uses. Long-range planning efforts in the DMATS area focus on maintaining safe and efficient highway-rail grade crossings, supporting intermodal connections, and coordinating roadway and land-use investments near rail infrastructure.

Within the DMATS region, rail infrastructure is a foundational element of the multimodal freight system. Continued coordination with rail operators, state departments of transportation, and regional economic development partners helps ensure that rail access remains available to support agricultural and industrial activity.

Railroad Quiet Zone

In 2023, the Surface Transportation Board approved a merger between Canadian Pacific Railway and Kansas City Southern, resulting in the formation of the Canadian Pacific Kansas City (CPKC) railroad, which operates across a large portion of North America. (See Figure 4) As

part of this merger, CPKC estimated that daily train traffic through the Dubuque area could at least double and possibly triple. To help mitigate the community impacts associated with increased train traffic, DMATS partnered with the City of Dubuque, the City of Peosta, the City of East Dubuque, and Dubuque County to develop a railroad quiet zone study.

Federal regulations require locomotive horns to sound in advance of public roadway-rail grade crossings. While train horns provide an important safety function, they can also create significant noise impacts for nearby communities. In areas with multiple closely spaced crossings, these impacts can be substantial and will likely increase with higher train volumes.

Federal regulations allow communities to establish railroad quiet zones to reduce noise while maintaining safety. To qualify, crossings must meet minimum safety requirements established by the Federal Railroad Administration (FRA). The additional safety measures offset the increased risk associated with silencing train horns. These improvements typically include enhanced warning devices and physical safety features that alert motorists and pedestrians to approaching trains.

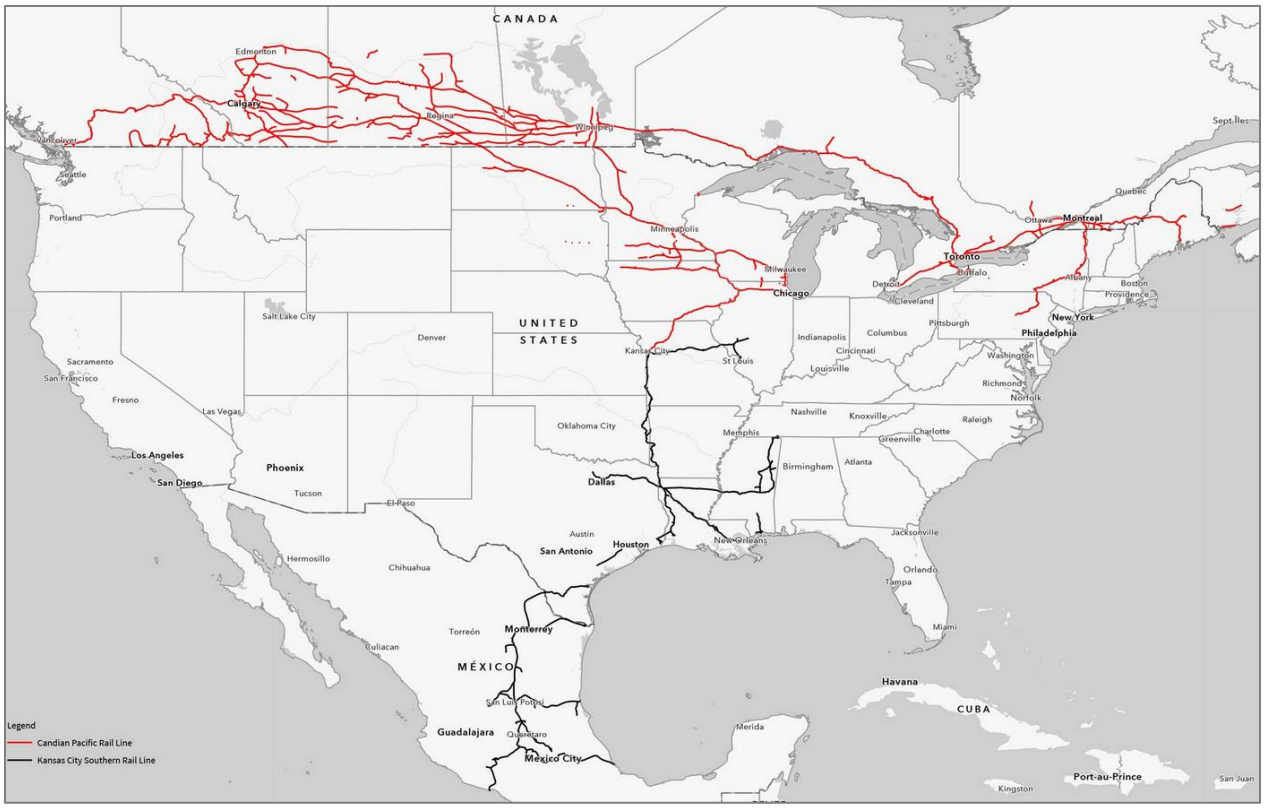

Figure 4: Canadian Pacific Kansas City Sothern Project Area Map
Source: United States Surface Transportation Board

The *DMATS Railroad Quiet Zone Study*, completed in 2024, evaluated roughly 30 roadway-rail crossings in the DMATS area and identified improvements needed for each crossing to meet federal requirements for quiet zone designation. Since the completion of the study, DMATS has been working with local jurisdictions to pursue funding and advance implementation of the recommended improvements.

DMATS is leading an effort, in partnership with the City of Dubuque and Dubuque County in Iowa and the City of East Dubuque and Jo Daviess County in Illinois, to develop a rail crossing

safety improvement project. The proposed *Dubuque-East Dubuque SafeTrack Project* includes a combination of 2- and 4-quadrant gates, constant warning time (CWT) and presence detection systems, medians, signs, fencing, and closure of one at-grade rail crossing. The proposed project aims to address safety issues and reducing the risk of serious injury and fatalities at the designated crossings. Figure 5 provides a diagram of the proposed project locations.

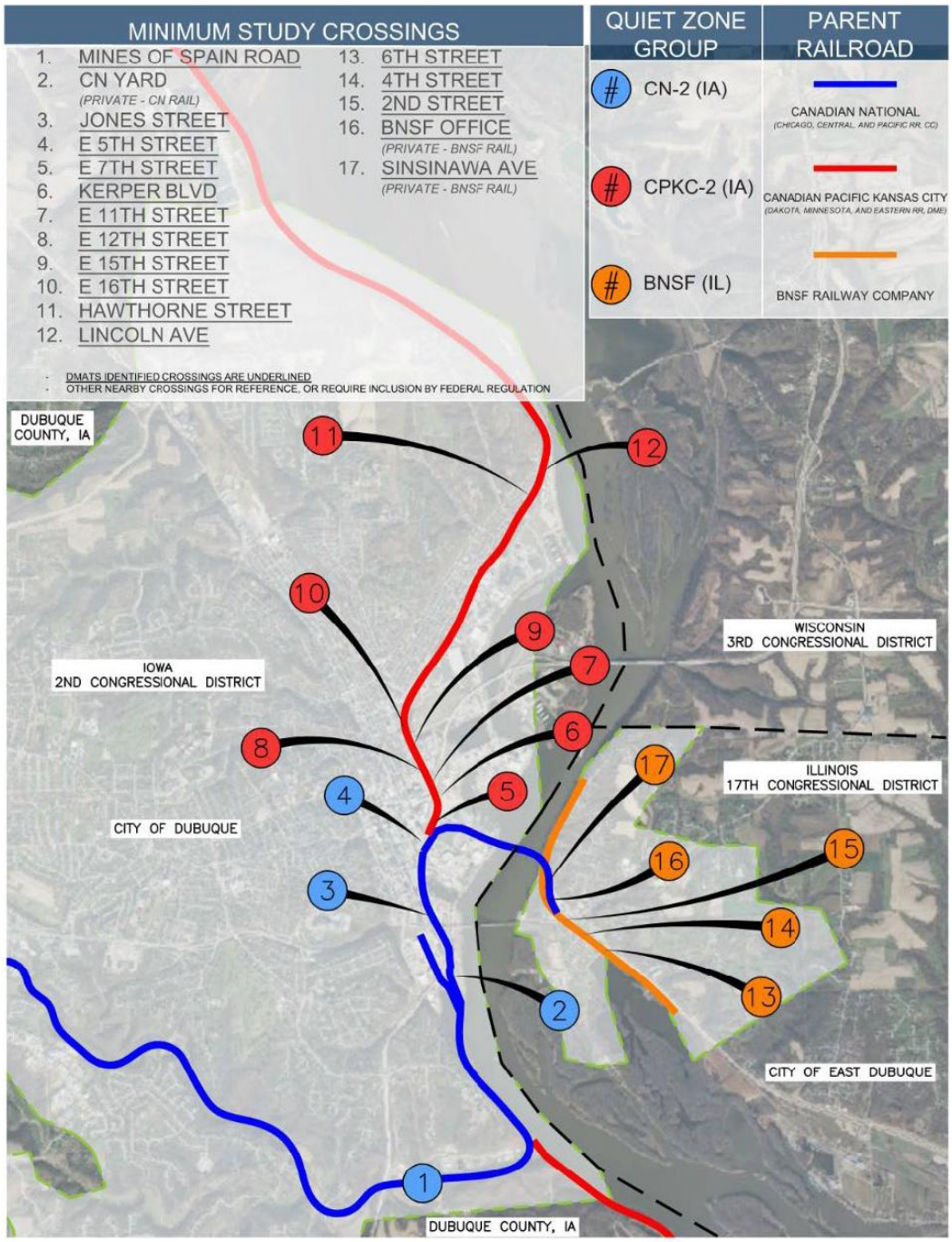

Figure 5. Dubuque-East Dubuque SafeTrack Proposed Project Locations
Source: DMATS

Rail Needs

DMATS has developed a list of rail freight needs based on information collected from plans, studies, and stakeholder input. Rail needs for the DMATS area are summarized in Table 2.

Table 2. Railroad Freight Needs

Railroad(s)	Location	Plan/ Study	Freight Mobility Issue
CN	CN rail bridge at Dubuque*	Iowa State Freight Plan and Eight County Freight Study	Swing-span bridge over Mississippi River closes to rail traffic to accommodate barge passage on the river during navigation season. The time required to stop trains, open the bridge for river traffic, return the bridge to its original position, and restore normal railroad operations causes delays.
CN and CPKC	South Port at Dubuque	Iowa State Freight Plan	Lack of rail yard capacity. Busy line due to multiple rail lines intersection.
All	Rail Crossings	Eight County Freight Study and DMATS Railroad Quiet Zone Study	Many crossings lack active protection. Potential delays and safety conflicts between passenger cars, trucks, and trains.

**Location also listed as a waterway bottleneck.*

Waterway Freight

Inland waterway freight plays a vital role in the regional and national freight transportation system by efficiently moving large volumes of bulk commodities, such as agricultural products, raw materials, energy inputs, and construction materials. River transportation is typically more fuel-efficient and cost-effective for bulk goods and can help reduce congestion and wear on highway and rail infrastructure.

The DMATS region is served by the M-35 Upper Mississippi River Marine Highway Route, a federally designated marine highway that runs through the planning area. The M-35 Route, commonly referred to as the "Waterway of the Saints," connects the Upper Mississippi River to the M-55 Marine Highway Route. The M-35 Route extends from river mile 1 near Minneapolis–St. Paul, Minnesota, to the confluence of the Mississippi and Illinois Rivers in Grafton, Illinois, where the M-55 Route begins. The M-55 route includes the Mississippi and Illinois Rivers, running from Chicago to New Orleans, connecting to global export markets. Figure 7 provides a map of the United States Marine Highway System.

Navigation along the Upper Mississippi River is made possible through a system of locks and dams operated and maintained by the U.S. Army Corps of Engineers (USACE). USACE divides responsibility for river operations among several districts, and the DMATS area is located within the Rock Island District, headquartered in Rock Island, Illinois. The Rock Island District is responsible for maintaining the federally authorized navigation channel and managing lock and dam operations that support commercial navigation through this portion of the river. Lock and Dam 11 is located in the DMATS area and has been in service since 1937. Figure 6 provides a map of the lock and dam system along the Upper Mississippi and Illinois River Waterways.

Passing through a lock can be a source of delay. USACE data presented in the *Wisconsin State Freight Plan* showed that 63% of the 3,541 vessels that passed through Lock and Dam 11 in 2021 experienced delays, with an average delay of 1.2 hours.

The Mississippi River serves as a critical multimodal freight corridor for the DMATS region that complements highway and rail systems. Proximity to the M-35 Marine Highway provides

regional industries with access to national and international waterborne freight markets. Long-range transportation planning should continue to recognize the importance of maintaining reliable access to the river and supporting coordination between waterway, highway, and rail freight systems.

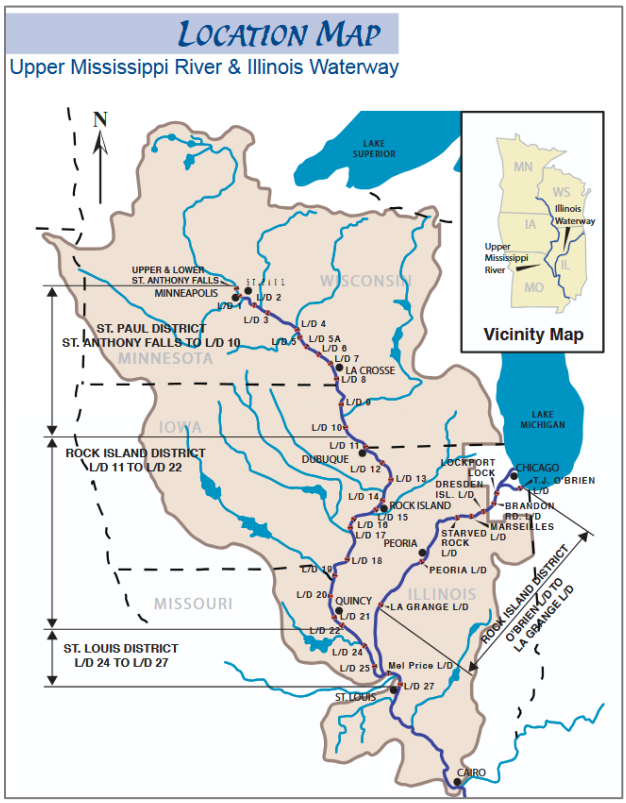

Figure 6: Upper Mississippi River and Illinois River Lock and Dam Map
Source: U.S. Army Corps of Engineers

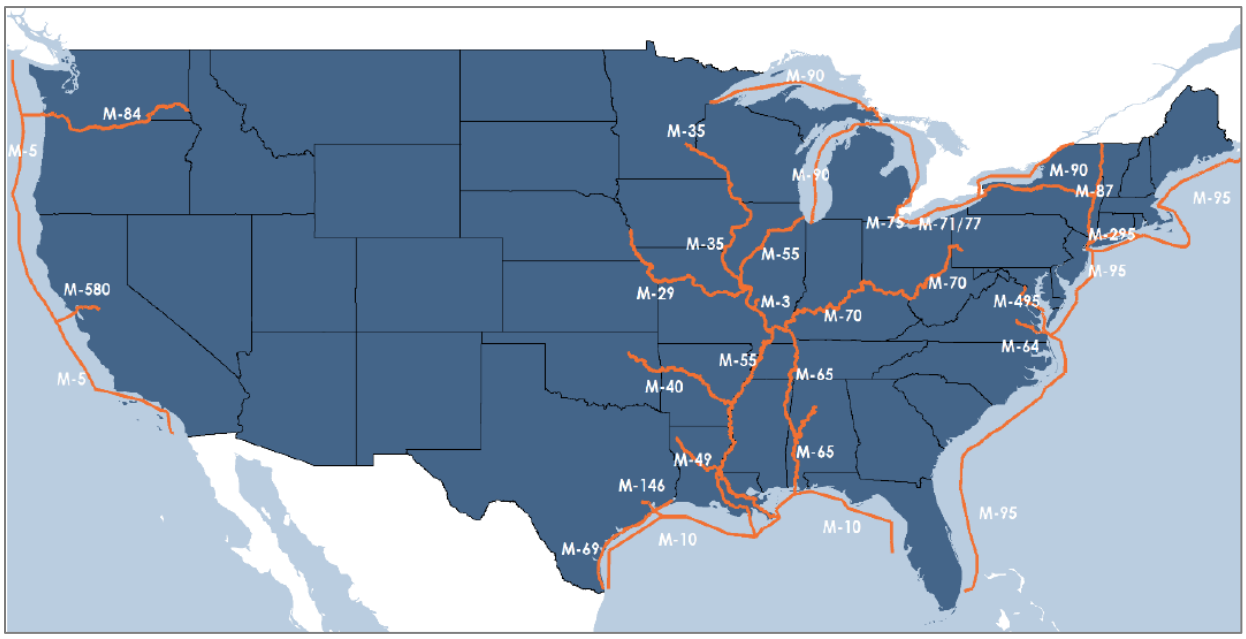

Figure 7. United States Marine Highway System Map
Source: U.S. DOT Maritime Administration and Illinois DOT

Waterway Freight Needs

DMATS has developed a list of waterway freight needs based on information collected from plans, studies, and stakeholder input. Waterway needs are summarized in Table 3 below.

Table 3. Waterway Freight Needs

Location	Plan/ Study	Freight Mobility Issue
Lock and Dam 11	Eight County Freight Plan and Iowa State Freight Plan	Aging infrastructure. Risk of shutdowns and delays. Seasonal closures (winter)
Swing Span Railroad Bridge*	Eight County Freight Plan and Iowa State Freight Plan	Single points of conflict between barge and rail traffic. Bridges must rotate for barge passage causing delays. Narrow navigation channels → hazard for barges. Aging infrastructure

**Location also listed as a railroad bottleneck*

Port Statistical Area and Port Authority

The DMATS area is located within a federally recognized Port Statistical Area (PSA) known as the Mississippi River Ports of Eastern Iowa and Western Illinois, doing business as the Upper Mississippi River Ports PSA. Designated in 2020, the PSA encompasses existing ports and terminals in Dubuque, Jackson, Clinton, Scott, Muscatine, and Louisa counties in Iowa, as well as additional river ports in Jo Daviess, Carroll, Whiteside and Rock Island counties in Illinois. Port Statistical Areas provide a framework for grouping ports and terminals with similar geographic, economic, and transportation characteristics, allowing for improved freight data collection, coordinated planning, and greater national visibility for inland waterway ports.

Building upon this designation, six eastern Iowa counties jointly adopted a resolution in 2024 to form the Ports of Eastern Iowa Authority. The Authority serves Clinton, Dubuque, Jackson, Louisa, Muscatine, and Scott counties and operates within the Mississippi River Ports of Eastern Iowa and Western Illinois PSA. The creation of the port authority provides a formal mechanism for regional collaboration, enabling participating communities to coordinate infrastructure planning efforts, engage industry partners, pursue federal and state funding opportunities, and promote the strategic importance of the Mississippi River as a freight corridor.

For the DMATS region, participation in both the PSA and the Ports of Eastern Iowa Authority helps elevate the role of river-related freight activity within the regional transportation system. This coordinated approach recognizes the production and movement of freight along the Mississippi River as a vital economic driver for eastern Iowa and western Illinois and supports long-term multimodal freight planning efforts across jurisdictional boundaries.

Airport

Air freight plays a critical role in national and regional freight systems by allowing for the rapid movement of high-value, time-sensitive, and specialized goods. While air cargo represents a relatively small portion of total freight tonnage, it accounts for a disproportionate share of freight value and is essential for industries such as advanced manufacturing, electronics, pharmaceuticals, and e-commerce. Air freight is also important for emergency shipments that require reliable and expedited delivery.

The Dubuque Regional Airport is a commercial service airport operated by the City of Dubuque. Located approximately eight miles southwest of downtown Dubuque, the airport primarily serves passenger travel and general aviation, with limited on-site air freight activity compared to larger regional and hub airports.

In 2024, more than 111 million pounds of air cargo were moved through Iowa airports, with approximately 85 percent handled by the Des Moines and Cedar Rapids airports. In Illinois, Chicago Rockford International Airport (RFD) is an important regional freight facility, serving as a major hub for UPS and Amazon and handling approximately 16 percent of statewide air cargo tonnage, according to the Illinois Department of Transportation. Chicago O'Hare International Airport handles approximately 82 percent of Illinois' air cargo tonnage and serves as the primary hub for international air freight traffic for the broader Midwest region.

In the context of the DMATS regional freight network, the Dubuque Regional Airport functions primarily as a supporting freight asset, enhancing multimodal connectivity rather than serving as a primary freight facility. As supply chains continue to evolve and demand for time-sensitive shipments persists, regional airports will remain an important element of a multimodal freight system. Long-range planning efforts should therefore focus on preserving the airport's ability to accommodate potential future freight-related needs.

Pipeline

Pipeline transportation is an important but often less visible component of the regional freight system. Pipelines are the dominant mode for moving large volumes of liquid and gaseous energy products such as crude oil, refined petroleum products, and natural gas, as well as certain chemical commodities. Because pipelines operate continuously and are largely independent of surface transportation networks, they provide a reliable and efficient means of moving bulk energy commodities and play a critical role in supporting industrial activity, agriculture, and residential energy needs.

Siting, safety standards, operations, and maintenance of pipeline infrastructure are overseen primarily by federal and state governments, and local governments generally have limited authority over pipeline routing or operations. As a result, metropolitan planning organizations and local jurisdictions have minimal direct influence on pipeline infrastructure investment decisions compared to other freight modes.

However, because some materials transported through pipelines can be hazardous to human health and the environment, local governments are directly involved in pipeline-related hazard mitigation planning. Through local multi-jurisdictional hazard mitigation plans, local agencies assess potential risks and vulnerabilities and identify response strategies that can be implemented should an incident occur.

Within the DMATS region, pipeline infrastructure is a supporting component of the freight system that serves the broader regional economy. Long-range planning considerations related to pipelines include coordination with other infrastructure and land uses, awareness of pipeline locations during roadway or utility projects, and consideration of safety, environmental protection, and emergency response needs. Recognizing the role of pipelines alongside highway, rail, waterway, and air freight helps ensure a complete understanding of the region's multimodal freight system. Figure 8 illustrates the location of existing pipeline infrastructure within the DMATS area counties.

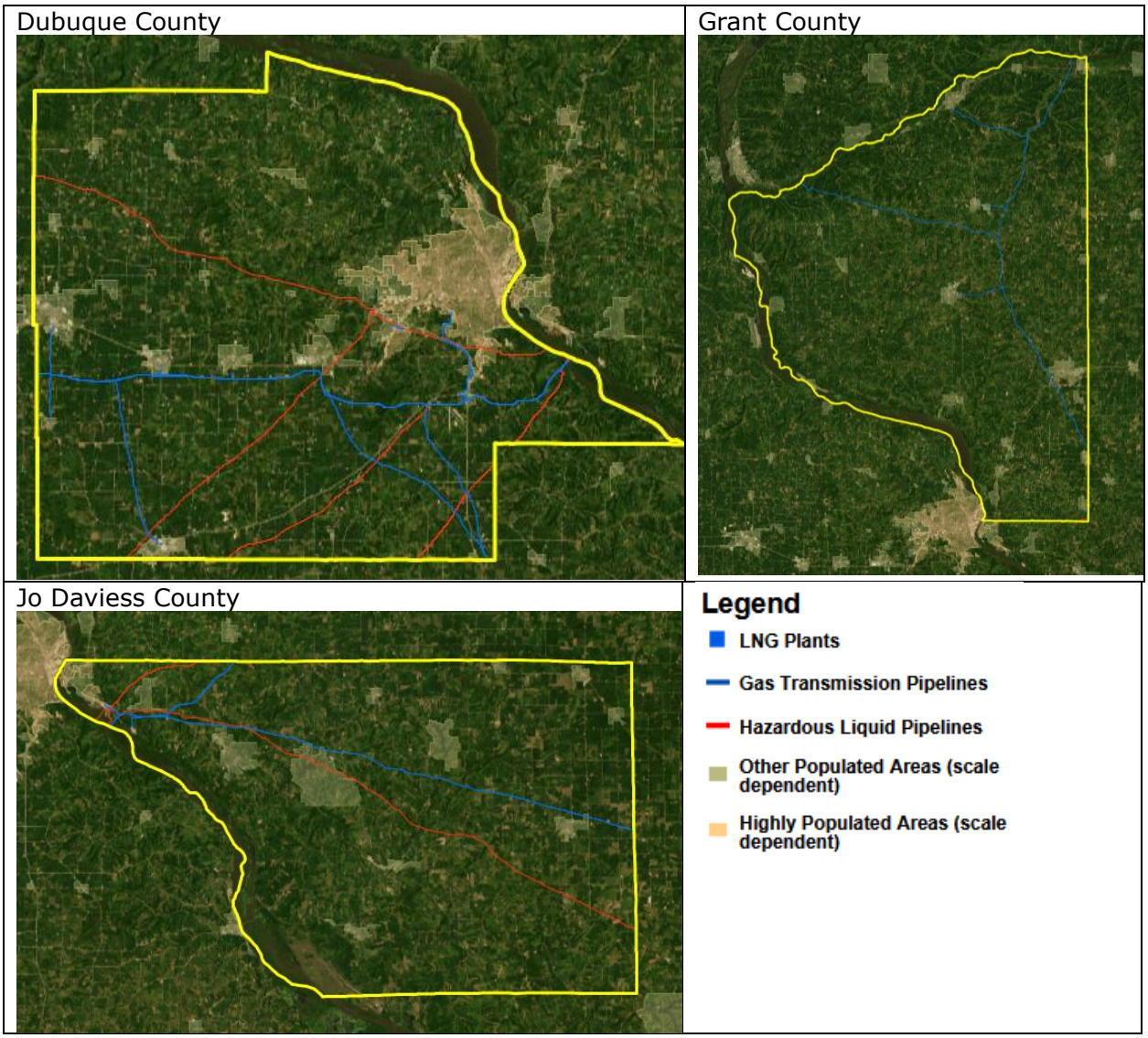

Figure 8. Pipeline Location Maps
Source: U.S. Pipeline and Hazardous Materials Safety Administration. National Pipeline Mapping System

Multimodal Freight Connections

Freight movement within the DMATS area depends on the efficient interaction between multiple transportation modes, including highways, rail, and the Mississippi River system. While each mode serves a distinct role, the overall performance of the freight system is largely determined by the quality of connections between them. Multimodal freight transportation integrates these modes to allow goods to move seamlessly from origin to destination, improving efficiency, reducing delays, and supporting economic competitiveness.

In the DMATS region, multimodal connectivity is particularly important given the presence of river terminals, rail infrastructure, and key highway corridors. The *Eight County Freight Study* identified 31 intermodal facilities within the study area. Most of the region's intermodal facilities are designed to move bulk materials, such as agricultural products, chemicals, and minerals like gravel.

Multimodal connections within the DMATS region are primarily made at the terminals along the Mississippi River. DMATS worked with partners in Upper Mississippi River Ports PSA (Port Statistical Area) to provide a resource that maps existing ports and terminals and provides key statistical information. The result of the project was an online public database and map of port facilities within the 15-county PSA area. The website, which can be accessed at the link below, maps 13 Mississippi River Facilities in the DMATS area. Figure 9 provides an example of the information included in the interactive map.

Upper Mississippi River Ports Link:
https://experience.arcgis.com/experience/9c9a25b001144a5f9f8523d5bcc12cff

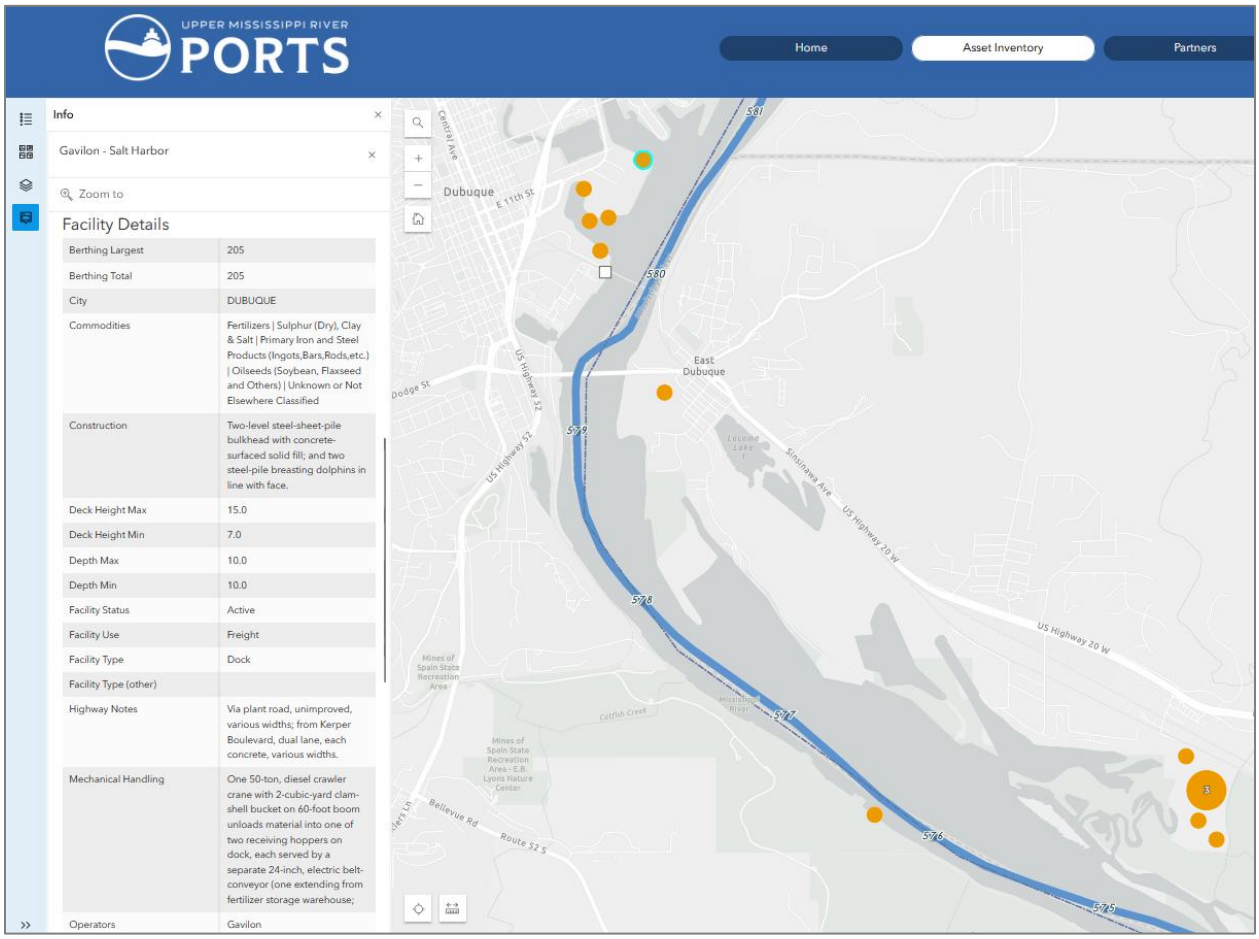

Figure 9. Upper Mississippi River Ports Online Map
Source: Upper Mississippi River Ports

The *Eight County Freight Study* noted that the region benefits from a wealth of transportation assets in the surrounding Midwest region. A summary of key intermodal freight locations found in the surrounding area is listed below.

- Cedar Rapids, Iowa
  - The Cedar Rapids Logistics Park is an emerging intermodal and transload hub.
  - It includes intermodal logistics facilities and air cargo capabilities.
- Rochelle, Illinois
  - Major intermodal rail terminal location.
  - One of the few full-service intermodal hubs in the region.

    - Provides strong connectivity to Class I railroads, container transfer, and intermodal operations.
- Rockford, Illinois
    - Chicago Rockford International Airport functions as a significant regional cargo airport.
- Greater Chicago Region
    - Serves as the primary destination for long haul intermodal access in the region.
    - Multiple major rail yards.
    - Extensive warehousing and distribution centers.
    - Chicago O'Hare International Airport is a major international air cargo hub.

Challenges to multimodal freight movement often occur at transfer points, such as terminals, rail crossings, and key roadway access routes. Addressing these challenges through improved infrastructure, operational coordination, and strategic investment can reduce bottlenecks and enhance system reliability. Continued collaboration between public agencies and private sector partners is critical to strengthening multimodal connections and supporting efficient goods movement throughout the region.

Emerging Freight Trends

Industries are constantly evaluating their operations, searching for opportunities to innovate, develop new products, optimize supply chains, and improve the bottom line. Several emerging trends, primarily driven by technological innovation and shifting consumer preferences, are changing freight transportation, and over the life of this Long Range Transportation Plan, several of the trends discussed below have the potential to significantly alter how goods, commodities, and materials are moved within and outside of the DMATS region.

Drones

Unmanned aircraft systems or drones have been a catalyst for change across several industries from agriculture to utility infrastructure. The *Iowa State Freight Plan* notes that additional uses for drones are being explored, including freight related applications such as time sensitive deliveries, logistics support, and infrastructure inspections. In the future, drone deliveries could replace some last-mile truck delivery trips.

Automated Trucking

The trucking industry has been an early adopter of automated technologies that focus on improving safety. Many trucks today have Advanced Driver Assistance Systems (ADAS) such as lane departure warnings, adaptive cruise control, and automatic emergency braking systems. *The Iowa State Freight Plan* reports that more advanced automated trucking concepts continue to be developed and tested such as automated truck platooning. The goal of a platoon – a group or convoy of closely spaced vehicles – is to reduce fuel consumption by reducing air resistance. Automated platooning, where the lead truck driver is the primary operator and the following drivers operate with a higher level of automation, could potentially allow drivers to rest while the truck is in motion, reducing driver fatigue and improving safety.

Photo: Example of an Automated Truck Platoon
Source: University of Illinois. https://ict.illinois.edu/news/newsletters/more-newsletters/august-2021/truck-platooning-moving-freight-into-the-future. Accessed May 27, 2026.

Commercial Vehicle Electrification

Electric trucks also have the opportunity to transform freight transportation. According to the *Iowa State Freight Plan*, the advantages of electric trucks over traditional include zero tailpipe emissions, lower cost of operation, and the historical price stability of electricity compared to diesel and gasoline. A key barrier limiting the wide-spread adoption of electric trucks is infrastructure. The transition to an electric commercial truck fleet will require charging stations and power generation to meet new demand.

E-Commerce

In the retail industry, the growth of online shopping and the e-commerce model has been reshaping supply chains over the last 25 years. U.S. Census Bureau data shows that the e-commerce share of all retail sales has increased steadily from less than 1% in 2000 to nearly 17% in 2026. The e-commerce growth rate increased sharply during the COVID-19 pandemic and has continued to expand in the years since.

The *Illinois State Freight Plan* points out that the complex e-commerce supply chain depends on home deliveries and a growing need for "reverse logistics" to handle returns, impacting travel patterns. E-commerce also has the potential to shift land use patterns over time as it can require more than three times the distribution space as traditional warehousing. To meet the need, Amazon and similar companies have constructed "mega warehouses" of more than 1 million square feet in major metropolitan areas such as Chicago and many smaller warehouses near regional population centers. Other retailers with physical presences including Target, Lowes, and Walmart have also adapted their business models and spaces to offer online ordering, home delivery, and pick up options.

Planning for Change

As of the writing of this plan, these emerging trends are expected to affect industry and freight operations in the DMATS area, but the full extent of these changes and their impacts on freight transportation systems remains uncertain. In response, DMATS can focus on being "change

ready" by monitoring and evaluating emerging trends to understand what is happening, why it is occurring, and how it will impact our region.

With a stronger understanding of these changes, DMATS and its partners can make informed decisions about how to respond, adjusting its long term goals and objectives as well as short term policies and projects to support an efficient and resilient freight transportation system.

Freight Strategies

Looking to the future, DMATS has identified several strategies and policies to improve the multimodal freight network. These strategies were developed in coordination with local partners and informed by state and regional freight plans, including the *Eight-County Freight Study*. Strategies are organized into four priority categories: Safety, Reliability, State of Good Repair, and Multimodal Connectivity. These strategies will guide future project prioritization, policy development, and coordination efforts within the DMATS planning process.

State of Good Repair

State of good repair focuses on maintaining the infrastructure necessary to support efficient and reliable freight movement across all modes.

- Prioritize pavement and bridge maintenance, recognizing system condition as a critical factor in freight movement.
- Support maintenance and improvement of the lock and dam system, including advocacy for federal investment to address aging infrastructure.
- Work with private partners to enhance barge terminal facilities to better align with current commodity flows and improve functionality.
- Coordinate with private rail operators and state departments of transportation to support infrastructure improvements and maintain access and service options.

Safety

Safety strategies focus on reducing crashes, improving system performance, and minimizing risk across all freight modes.

- Improve safety planning across modes, including truck safety and highway-rail grade crossing improvements.
- Address safety issues at roadway-rail grade crossings, including implementation of the *Dubuque-East Dubuque SafeTrack Project*.
- Continue hazard mitigation planning and training for incident response involving hazardous materials, particularly for rail and pipeline transportation.

Reliability

Reliability is essential for efficient freight movement and economic competitiveness. Strategies in this category focus on reducing delays, improving operations, and addressing system bottlenecks.

- Advance targeted improvements on key freight corridors to address capacity, operational, and performance issues.
- Monitor and address truck bottlenecks, particularly along major regional routes.
- Support improvements that enhance rail system efficiency and reliability, especially at key connections and crossings.

Multimodal Connectivity

Multimodal connectivity strategies focus on improving linkages between freight modes and enhancing access to regional and national markets.

- Improve access to regional and national intermodal facilities, including connections to rail terminals and logistics hubs outside the region.
- Support development of transload and intermodal facilities to reduce reliance on long-distance truck movements between origins and intermodal facilities.
- Enhance connections between local freight generators and the broader multimodal transportation network.