Illinois 2023

District 4 Freight Plan

April 2024

Illinois Department of Transportation

Illinois 2023
District 4 Freight Plan

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Illinois 2023
State Freight Plan

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1.0 Introduction to the IDOT District 4 Freight Plan

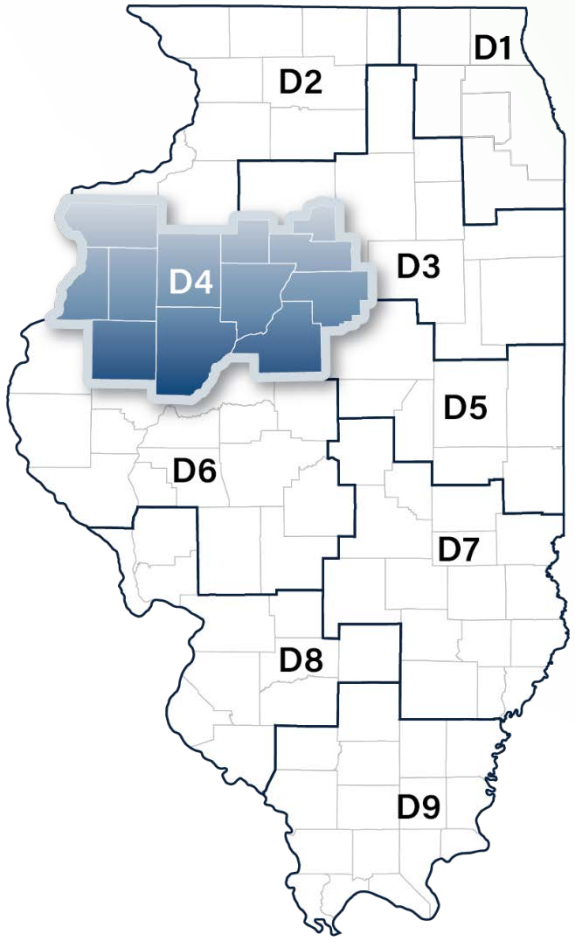
Illinois Department of Transportation (IDOT) District 4 is located in central Illinois and is made up of Fulton, Henderson, Knox, McDonough, Marshall, Mercer, Peoria, Putnam, Stark, Tazewell, Warren, and Woodford counties. The District has a robust multimodal network made up of all transportation modes. This network includes 155 centerline Interstate miles including I-74, I-155, I-474, and I-39; four Class I railroads; two navigable waterways; five pipelines; and one air cargo facility which provides U.S. Customs service. **In 2019, this network helped move 60 million tons of freight valued at $40 billion to, from, and within District 4.**

DISTRICT 4 BY THE NUMBERS

- Interstates I-74, I-155, I-474, I-39
- 1 truck-rail intermodal facilities
- 8 truck parking facilities
- 10 Class I and Class II/III railroads
- 3 port districts
- 2 commercially navigable waterways
- 35 cargo-handling waterway terminals

One of the unique assets of the District is its two navigable waterways: the Mississippi River part of Marine Highway 35, creating the western border of the District, and the Illinois River part of Marine Highway 55, which flows through the heart of the District. Along the Mississippi River, District 4 connects to the Mid-America Intermodal Authority Port District, while the Illinois River connects two port districts, the Illinois Valley Regional Port District and Heart of Illinois Port District. There are a total of 104 grain elevators, 24 aggregate mines, 13 power plants, and 19 logistic service providers within District 4. The District is home to major machinery and transportation equipment manufacturers, including Caterpillar and Komatsu. These businesses rely on the multimodal freight system to ship and receive goods to and from suppliers and customers all around the world. Additionally, other major companies that operate within the District are Precision Planting, Monmouth Meat Packing, and Amazon.

FIGURE 1.1 IDOT DISTRICT 4 MAP



District 4 also has a notable cluster of farms and agricultural firms that benefit from its central location, productive soil, and flat and rural character. Enormous amounts of pumpkins are grown in Tazewell, Woodford, and other counties within District 4, cementing Illinois' long held spot as the Nation's top pumpkin producer.[1] The District has rich fertile soil along with two major navigable waterways,

[1] https://www.ers.usda.gov/newsroom/trending-topics/pumpkins-background-statistics/

making it a prime location for agriculture to thrive. The cereal grain cluster includes businesses involved in farming including soil preparation, planting, cultivating, and post-harvest activities. The densest location of the cereal grain cluster is in the Peoria Metro Area. Once the crops are harvested, they need to be shipped to markets around the world. The most efficient means of shipping the product is via rail or waterways. The cluster is supported by an intricate network of grain elevators and waterway terminals to facilitate their movements. The roadway network provides critical first mile connections between the fields and aggregation facilities on the rail and waterway networks.

IDOT, in partnership with federal agencies, port authorities, municipalities, and other state and local agencies, plays a critical role in supporting freight in District 4. IDOT builds, maintains, and enhances the infrastructure and technology that serves as the backbone of the State's freight transportation network. IDOT's role is vital not only to support the health of the District's economy and way of life, but also to ensure connections between the State and global markets that depend on District 4 infrastructure to move their goods. Yet the world is changing, and trends such as climate change, shifts in world markets, impacts from the COVID-19 pandemic, and technological advances continue to affect how freight moves both within the State and across the globe. Now more than ever, it is imperative for IDOT to be a leader in advancing state-of-the-art policies, infrastructure, and technology that is needed to support freight within the State and ensure District 4's place as a freight hub in the years to come.

1.1 Purpose, Vision, and Goals of the Illinois State Freight Plan

This *Illinois 2023 State Freight Plan* (State Freight Plan) has been developed by IDOT in accordance with federal guidelines for state freight plans as outlined in the Infrastructure Investment and Jobs Act (IIJA), signed into law on November 15, 2021. While the State Freight Plan meets federal requirements and provides a holistic, State-level view of freight in Illinois, this District 4 Freight Plan serves a critical and complementary role to detail freight activity, needs, and priorities at the District level.

The State Freight Plan and District Freight Plans are part of IDOT's "Suite of Plans" under the umbrella of the Illinois Long Range Transportation Plan (LRTP). The LRTP sets long-range policy and strategic direction for the State. The Freight Plans guide understanding of freight modal needs and establish concrete strategies and actions that align with overarching LRTP goals as well as goals identified for this District Freight Plans.

As part of this planning process, IDOT developed a Freight Plan Vision and Goals. This sets a clear direction for freight in the State and serves as a guide for the development and implementation of the State and District Freight Plans for IDOT, its planning partners, and freight stakeholders throughout Illinois. The Illinois State Freight Plan Vision and Goals are shown in Figure 1.2.

FIGURE 1.2 ILLINOIS STATE FREIGHT PLAN VISION AND GOALS

ILLINOIS STATE FREIGHT PLAN VISION

The Illinois State Freight Plan will advance a safe, efficient, reliable, resilient, and sustainable multimodal freight system that supports Illinois' competitive position as a global hub, grows the economy, and enhances equity and quality of life for Illinois residents.

1. Prioritize the development of plans and policies and deployment of innovative technologies, that help achieve the vision of the State Freight Plan.
2. Drive collaboration and foster partnerships with public agencies and private-sector freight stakeholders throughout Illinois.
3. Make investments and implement policies that improve the safety, resiliency, and reliability of access to the multimodal freight system.
4. Implement a data informed approach to freight asset management, preservation of the multimodal freight system, and stewardship of public funds.
5. Incorporate socioeconomic and environmental impacts into freight related decision-making.

1.2 Freight Industry and Stakeholder Outreach

A robust stakeholder engagement effort was undertaken to ensure that a wide variety of input from diverse stakeholders was incorporated into the District 4 Freight Plan. District-specific stakeholder outreach focused on ensuring that freight-related businesses, organizations, and agencies that make up the District were provided opportunities to share input and validate the data collection efforts. Freight stakeholders include a diverse group of public and private sector organizations that impact or are impacted by freight, including public sector agencies (e.g., metropolitan planning organizations [MPO], regional planning organizations, counties, and cities); private sector companies (e.g., freight operators, carriers, and shippers); military facilities; freight facility operators and developers, manufacturers and other freight-intensive businesses including agriculture, mining, retail, and e-commerce; and economic development organizations. Additionally, engagement was used to foster partnerships and collaboration between IDOT and stakeholders who will have a strong role in implementation.

Three rounds of outreach were conducted in District 4, an introductory meeting with IDOT District staff to outline the project scope and gather insight into the freight stakeholders in the District, and two rounds of Freight Forums, a geographically focused small group meeting with local stakeholders. Freight Forum #1 aimed to present the project and gather input into the

needs and priorities of the District. Freight Forum #2 validated the data collection efforts in the District and identified planned and upcoming project needs for consideration.

1.3 Role of the District Freight Plans

While the State Freight Plan fulfills federal requirements for state freight planning, identifies opportunities for Illinois to invest in its freight system, and positions IDOT to take full advantage of federal formula and discretionary funding programs for freight transportation investments, this District 4 Freight Plan focuses on freight activity, needs, and priorities at the District level. The District 4 Freight Plan serves as a roadmap for Illinois' freight program at the District level, identifying both policies and investments that will enhance the State's freight system. It builds upon IDOT's extensive library of recent transportation plans and programs, incorporates national freight planning best practices for data analytics, and synthesizes input from key public- and private-sector freight stakeholders throughout Illinois.

1.4 Organization of this District Plan

The organization of the District 4 Freight Plan is as follows:

- *Chapter 1: Introduction to the District 4 Freight Plan*
- *Chapter 2: Freight Transportation Drives the District Economy*
- *Chapter 3: Overview of the District Freight System*
- *Chapter 4: Freight Equity and Environmental Justice*
- *Chapter 5: Freight Trends, Opportunities, and Investments*
- *Chapter 6: County Freight Profiles*

2.0 Freight Transportation Drives the District Economy

This chapter describes how freight transportation and the economy are linked in District 4. The following subsections discuss freight employment and facilities, freight industries and supply chains, and freight demand and forecasts. District 4's high concentration of industry surrounding the production of cereal grains, which includes businesses related to farming and services related to farming and its link to the regional economy will also be discussed in this chapter.

2.1 Freight Employment and Facilities

District 4 is in the western portion of central Illinois and includes Peoria (Figure 1.1), as well as several other mid-sized urban areas and many rural towns. Freight employment comprises a large portion of the jobs located within the District. There are a total of 30 freight producing industry clusters located within the District. Table 2.1 shows the industry clusters, the historical trend of jobs for each cluster, the gross regional product (GRP) of those clusters, and the job location quotient (LQ) for each cluster. The LQ is a ratio that compares the concentration of an industry within a specific area to the concentration of that industry nationwide. Within the District, there are a total of 97,180 people employed by the freight producing industry, a 5 percent decline from 2010 employment. However, during that same time there was an increase in the GRP by 13 percent, with the GRP equaling $12.4 billion.

The top five industry clusters by jobs in 2019 were food services, retail, machinery manufacturing, wholesale distribution, and metal manufacturing. These industries accounted for 66,201 jobs, or 68 percent of the total freight producing jobs in the District. These top five largest employing industries accounted for 62 percent of the total District freight producing GRP. When looking at the LQ of these indutries, District 4 has an exceptionally strong base for machinery manufacturing (LQ of 8.74)[2] and agricultral inputs[3] (LQ of 4.95). This high LQ of machinery manufacturing can be attributed to the presence of large manufacturers like Caterpillar and Komatsu within the Peoria Metro Area.

[2] A location quotient (LQ) compares the concentration of an industry within a specific area to the concentration of that industry nationwide. If an LQ is equal to 1, then the industry has the same share of its area employment as it does in the Nation. An LQ greater than 1 indicates an industry with a greater share of the local area employment than is the case nationwide. A LQ less than 1 indicates an industry with a lesser share than nationwide.

[3] Agricultural jobs are known to be undercounted in many national datasets, thus the number of agricultural jobs in the district is likely much higher than reported.

TABLE 2.1 DISTRICT 4 FREIGHT PRODUCING INDUSTRY EMPLOYMENT AND GRP

Cluster	Jobs				GRP in millions of USD			Job LQ
	2001	2010	2019	CAGR 2010–2019	2010	2019	CAGR 2010–2019	2019
Agricultural Inputs	873	1,867	823	-8.7%	$484.14	$216.02	-8.6%	4.95
Agricultural Wholesale	1,841	1,791	1,616	-1.1%	$215.51	$249.72	1.7%	3.55
Agriculture & Related	2,071	2,172	1,763	-2.3%	$454.32	$459.44	0.1%	1.06
Beverage	984	957	717	-3.2%	$137.49	$86.94	-5.0%	0.77
Chemical Manufacturing	929	927	812	-1.5%	$433.83	$461.27	0.7%	1.42
Construction Contractors	6,980	5,845	6,153	0.6%	$559.62	$663.87	1.9%	0.87
Electronics Manufacturing	2,913	572	303	-6.8%	$47.39	$32.08	-4.2%	0.32
Food	2,567	2,918	2,294	-2.6%	$262.51	$245.44	-0.7%	0.97
Food Services	24,930	22,024	21,719	-0.2%	$569.60	$637.03	1.3%	1.00
Food Wholesale	520	573	557	-0.3%	$42.43	$49.61	1.8%	0.48
Heavy Construction	1,817	1,629	1,385	-1.8%	$184.98	$157.65	-1.8%	0.71
Machinery Manufacturing	16,175	12,880	11,973	-0.8%	$3,310.98	$3,996.48	2.1%	8.74
Medical Manufacturing	13	6	1	-14.2%	$2.73	$1.36	-7.5%	0.00
Metal Manufacturing	10,530	7,434	7,972	0.8%	$712.44	$881.78	2.4%	2.93
Mineral Product Manufacturing	707	502	532	0.6%	$40.23	$56.01	3.7%	0.87
Mining	146	168	90	-6.7%	$77.26	$18.57	-14.6%	0.31
Miscellaneous Manufacturing	668	890	249	-13.2%	$42.37	$25.73	-5.4%	0.34
Oil & Gas Downstream	2,329	2,360	2,549	0.9%	$468.88	$377.55	-2.4%	1.40
Oil & Gas Upstream	193	398	326	-2.2%	$233.23	$242.67	0.4%	0.28
Plastic / Rubber Manufacturing	1,640	572	769	3.3%	$87.16	$117.24	3.3%	0.64
Residential Construction	1,130	960	1,042	0.9%	$76.86	$107.06	3.8%	0.85
Retail	18,021	17,078	15,999	-0.7%	$944.06	$1,148.52	2.2%	1.02
Retail Services	1,015	780	740	-0.6%	$64.79	$105.05	5.5%	0.63
Sensors & Instruments	346	99	314	13.7%	$9.09	$40.89	18.2%	0.58
Textile Manufacturing	368	128	161	2.6%	$7.30	$15.01	8.3%	0.31
Tobacco	106	100	46	-8.3%	$8.84	$8.76	-0.1%	0.88
Transportation Manufacturing	467	163	899	20.9%	$15.20	$141.47	28.1%	0.36
Transportation Services	7,190	6,597	5,108	-2.8%	$540.12	$663.68	2.3%	0.97
Wholesale & Distribution	7,234	7,992	8,538	0.7%	$830.62	$1,064.82	2.8%	0.89
Wood Product Manufacturing	2,965	1,701	1,730	0.2%	$127.43	$170.29	3.3%	0.94

Source: EMSI.

Table 2.2 summarizes industrial real estate trends within the District. There was little change in industrial space between 2010 and 2019, with only 12 new industrial buildings being built in that time period, adding about 442,869 square feet of additional industrial space[4]. The vacancy rate of industrial buildings in the District is very low, indicating a potential need for more industrial space. A majority of the industrial space currently located within the District is in the southeastern corner (Peoria and Tazewell Counties), largely due to the higher concentration of population and industry within the Peoria Metro Area.

TABLE 2.2 DISTRICT 4 INDUSTRIAL REAL ESTATE TRENDS

County	Industrial Buildings			Industrial Inventory (square feet)			Vacant %	
	2010	2019	CAGR 2010–2019	2010	2019	CAGR 2010–2019	2010	2019
Fulton	6	7	1.7%	69,384	85,194	2.3%	0%	19%
Knox	36	36	0.0%	4,119,760	4,119,760	0.0%	40%	3%
Marshall	11	11	0.0%	475,317	475,317	0.0%	0%	0%
McDonough	9	9	0.0%	559,047	559,047	0.0%	0%	0%
Mercer	5	5	0.0%	70,316	70,316	0.0%	23%	0%
Peoria	343	345	0.1%	16,716,703	16,754,720	0.0%	8%	4%
Putnam	5	5	0.0%	1,254,530	1,254,530	0.0%	0%	0%
Stark	5	5	0.0%	165,316	165,316	0.0%	0%	0%
Tazewell	225	234	0.4%	11,111,604	11,500,646	0.4%	9%	0%
Warren	N/A	14	N/A	N/A	805,360	N/A	N/A	0%
Woodford	30	30	0.0%	1,234,938	1,234,938	0.0%	4%	0%

Source: Costar.

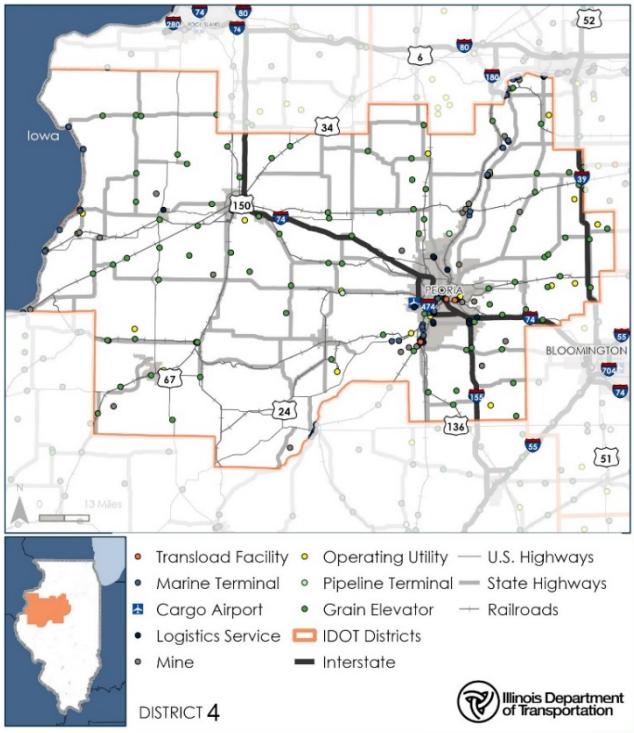
[4] Note: Warren County data was excluded from this analysis due to no available 2010 data

2.2 Freight Industries and Supply Chains

Freight Generators and Multimodal Freight Network

District 4's freight generators and multimodal transportation network can be viewed in Figure 2.1. Its multimodal network includes connections between highway, rail, water, air, and pipeline. The District has nearly 155 centerline miles of Interstate, including I-39, I-74, I-155, and I-474. In addition to these Interstates, District 4 has more than 420 miles of freeway and other principal arterials, including U.S. Highways 24, 34, 67, 136, and 150, and 2.5 miles of intermodal connectors providing links between the District's three intermodal freight facilities and the National Highway System (NHS).

FIGURE 2.1 FREIGHT GENERATOR AND MULTIMODAL TRANSPORTATION NETWORK



Source: IDOT, FHWA.

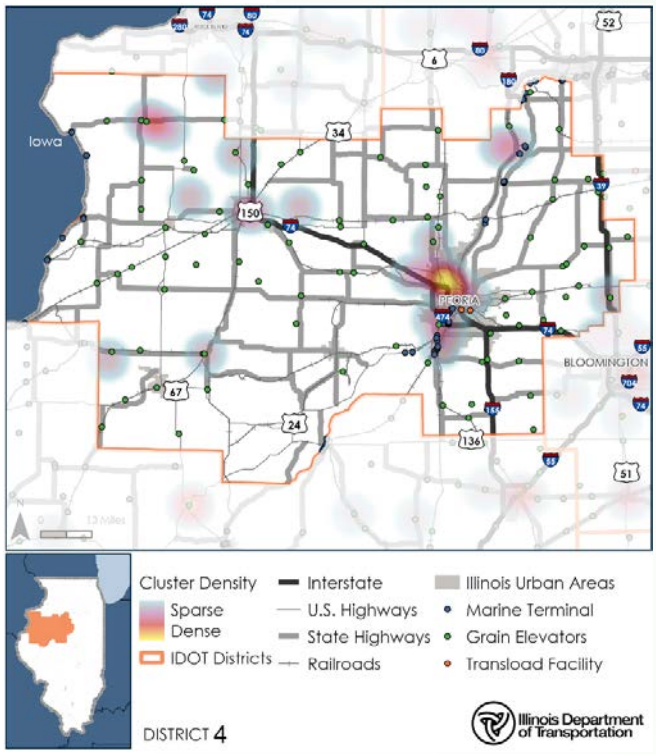
While the roadway network is the backbone of District 4's transportation network, it is complimented by the other modes. Four Class I railroads own track in District 4, including the BNSF Railway, the Canadian National Railway (CN), the Norfolk Southern Railway (NS), and the Union Pacific Railroad (UP). There are no intermodal ramps in the District, but it does have three rail transload facilities. Forty marine terminals provide direct access to the Nation's inland waterway system via the Illinois and Mississippi rivers. In addition to the rail and waterway networks, shippers in District 4 have access to air cargo and U.S. Customs services via General Downing—Peoria International Airport. Lastly, the District has several pipelines with two distribution terminals.

The large multimodal transportation network outlined in this section and shown in Figure 2.1 is what helps drive the freight generators in District 4. More than 30,000 manufacturing employees produce intermediate goods and finished goods in the District, while nearly 43,700 employees in the wholesale and retail industries generate freight by selling products to businesses and consumers. Other freight generators include 104 grain elevators, 24 aggregate mines, 13 power plants, and 19 logistics service providers, such as cross-docks, distribution centers, fulfillment centers, and warehouses.

Notable Freight Generating Cluster

A notable freight generating cluster in District 4 is cereal grains. Cereal grains are a commodity classification referring primarily to corn, wheat, oats, barley, and rice; however, due to their importance to the Illinois economy and the fact that they have similar handling and transportation characteristics, soybeans are also included for purposes of this discussion. Corn and soybeans are the top commodities in both District 4 and Illinois' agriculture economy. While Illinois has well established networks for moving bulk grain, emerging grain markets are blurring the lines between raw material movements and higher-value specialty products. Modern agriculture is diversifying and so are modern agriculture supply chains.

FIGURE 2.2 DISTRICT 4 CEREAL GRAIN CLUSTER



Source: InfoUSA.

As with most of central Illinois, District 4 has rich fertile soil along with two major navigable waterways, making it a prime location for agriculture to thrive. Specifically, as shown in Figure 2.2, there is a high concentration of businesses related to cereal grain production, including businesses involved in farming including soil preparation, planting, cultivating, and post-harvest activities, as well as complimentary services, such as farm labor, operations management, and the manufacturing of fertilizers.

The densest location of businesses within the cereal grain cluster is in the Peoria Metro Area, specifically on the north side. This can be attributed to many of those businesses involved and supporting the farming process in the metro area. Once the crops are harvested, they need to be shipped to markets around the world. The most efficient means of shipping the product is via rail or waterways. The cluster is supported by an intricate network of grain elevators and waterway terminals to facilitate their movements. Structural changes in the rail and barge industries, along with value-added marketing trends in agriculture, are placing increasingly higher demands on rural roads. The once short haul from farm to elevator has in many cases become a long haul using larger trucks to access high-volume elevators or intermodal container yards. This is increasing the need for investment in rural roads and bridges, as well as inland waterway lock and dam systems.

2.3 Freight Demand and Forecasts

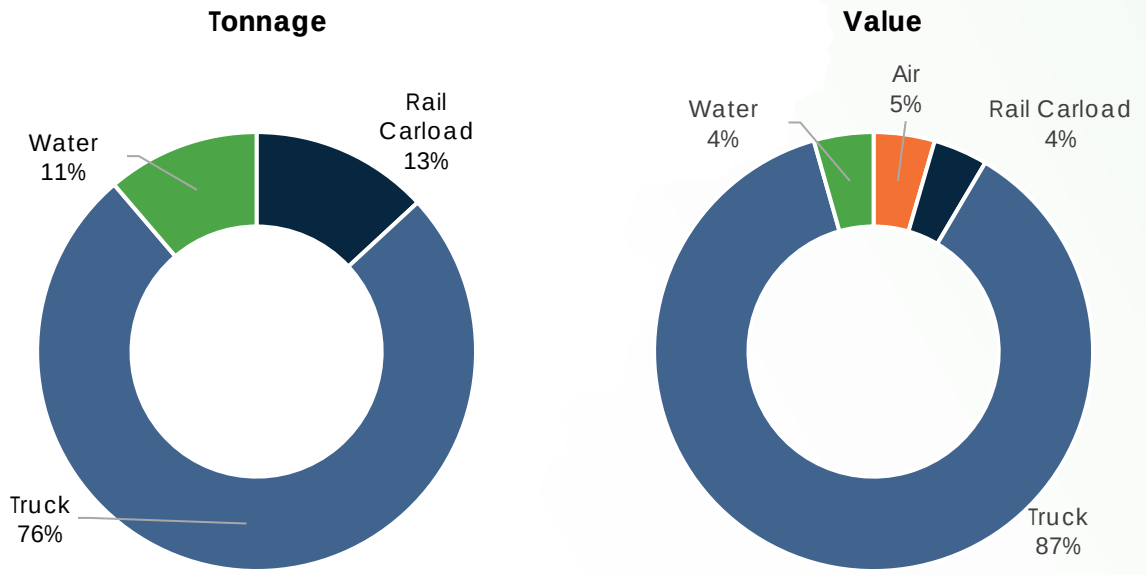
Overall Trends and Flows

In 2019, 60 million tons of freight valued at $40 billion was transported to, from, and within the District's transportation network. By 2050, it is projected that the volume of freight moved will increase to 104 million tons valued at $83 billion. [5] [6]

Most of the tonnage was moved via truck (76 percent), while rail carloads accounted for 13 percent, and water accounted for 11 percent. Railroad carload service generally captures goods that are moved on various types of railcars (including boxcars, covered hoppers, flatcars, tank cars, autoracks, centerbeams, and coil cars), while rail intermodal service refers to containers of various lengths and highway trailers filled with a variety of goods (including apparel, electronics, refrigerated products, and all types of consumer products) moving on flatcars, often transported to/from overseas locations via cargo ship. When looking at the value of tonnage moved in 2019, trucks have a much higher share while the water and rail carload share is much smaller. Rail and water movements are mostly composed of grain which is a high weight and low value commodity. Additionally, air movements tend to move extremely low tonnage, high value goods, to the point that is less than 1 percent of the total tonnage but 4 percent of the overall value. Figure 2.3 shows the breakdown of the District freight by tonnage and value for 2019. More than half of freight tonnage and value was transported outbound from District 4 in 2019, as shown in Figure 2.4.[7]

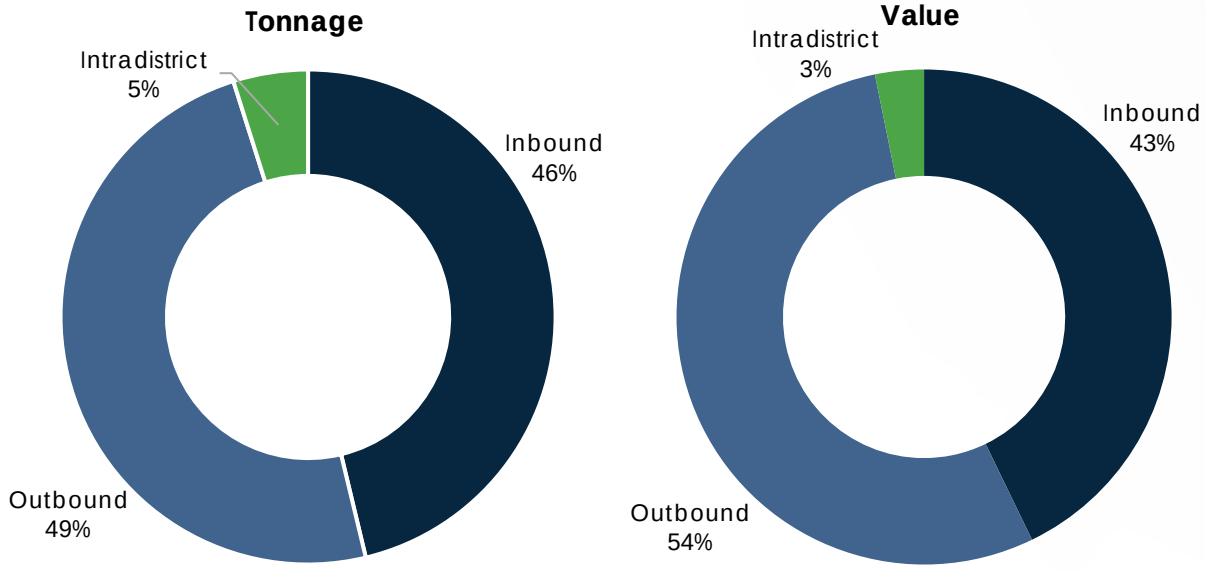
[5] Data is unavailable for domestic pipeline traffic; only cross-border traffic is included in state and district totals. Non-classified waterborne freight is not included in the state or district totals.
[6] The State Freight Plan utilized a macroeconomic forecast developed by S&P Global, which reflects economic growth across regions and industries, providing estimates of transportation demand between geographic regions by commodity. The forecast is based on Q2 2022 and reflects the rapid growth in the demand for goods—particularly consumer goods that occurred during the depth of the COVID-19 pandemic in 2020-2021. It thus likely overstates the long-term growth in demand for goods movement through 2050 given the principal factors that drive economic growth, i.e., population and income.
[7] Through flows are not available at the District level.

FIGURE 2.3 DISTRICT 4 FREIGHT TONNAGE AND VALUE BY MODE (2019)



Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

FIGURE 2.4 DISTRICT 4 DIRECTIONAL SPLIT BY TONNAGE AND VALUE (2019)



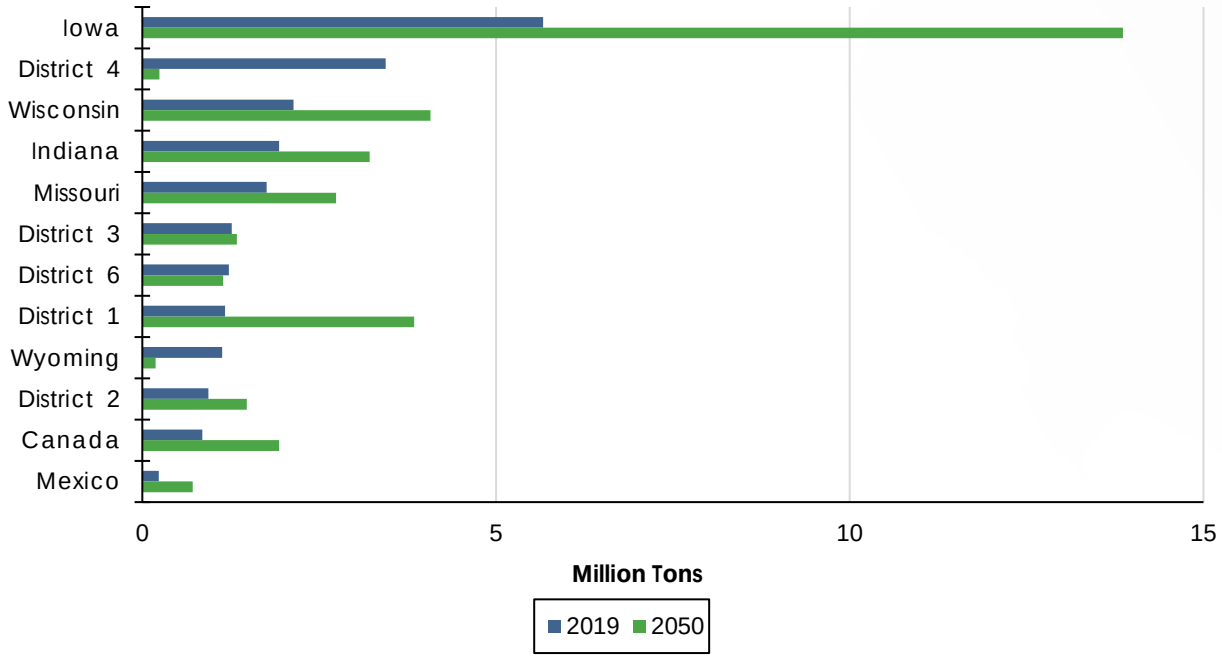
Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

Trading Partners

District 4 received around 29 million tons of goods valued at $21 billion in 2019. The majority of inbound goods received are from neighboring states, as well as from within Illinois. Aside from through-freight movements, the District receives high volumes of goods from Iowa, Wisconsin, Canada, and Mexico. Much of the inbound trade with Mexico and Canada in Illinois is from motor vehicles, machinery, and chemical products. District 4 reflects Illinois' trends, though they receive a good deal of raw materials such as wood and paper products in addition to metals. The top inbound trading partners are projected to shift their relative positions through 2050, with Iowa remaining the top trading partner accounting for 30 percent of inbound freight movements by weight, followed by Wisconsin (4 million tons or 8 percent) and District 1 (4 million tons or 8 percent). Wyoming, ranked ninth in 2019, is estimated to drop out of top inbound trading partners by weight due to the projected decline in coal shipments, which is being phased out as adoption of cleaner alternative forms of energy increases. Figure 2.5 displays the top trading partners by weight for 2019 and 2050.

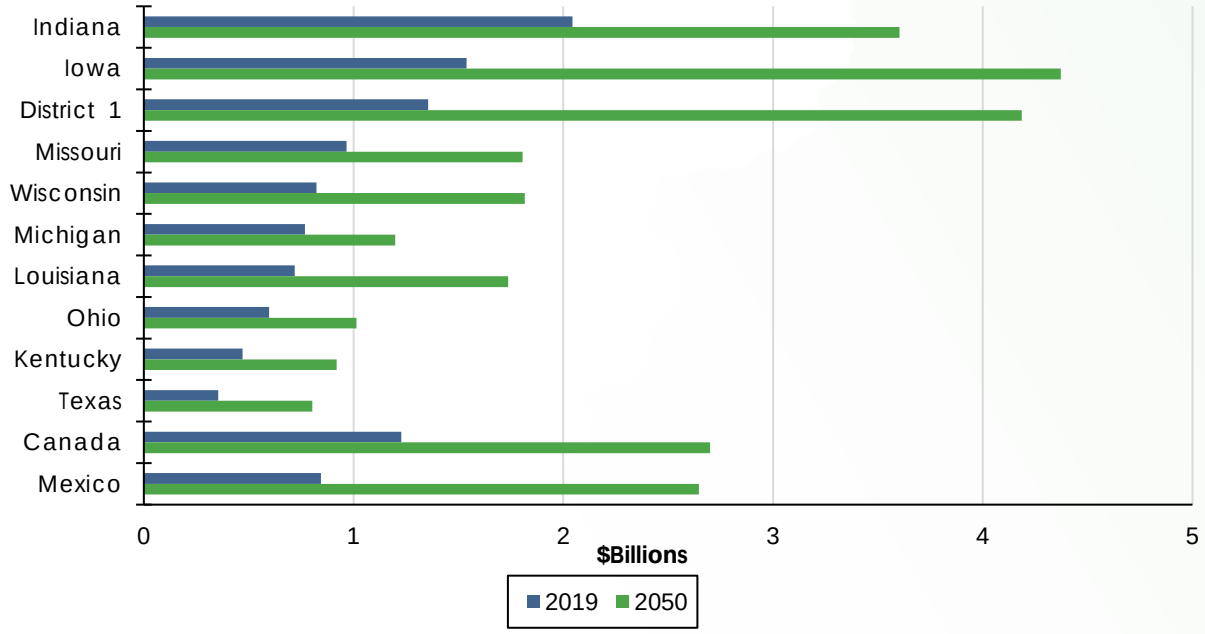
In terms of value, the top inbound trading partners are Indiana ($2 billion or 12 percent), Iowa ($1.5 billion or 9 percent), and District 1 ($1.4 billion or 8 percent). In 2050, these top trading partners are expected to continue to be major inbound trading partners for District 4. Trade with Iowa and Wisconsin consists of more agricultural products, while trade with Indiana is driven by metals and motor vehicles. Growth in both commodity groups is expected in 2050. When measured by value, Canada and Mexico are also major trade partners for District 4, with chemicals and machinery accounting for a good deal of international trade in 2019 and 2050. Figure 2.6 displays the top inbound trading partners by value for 2019 and 2050.

FIGURE 2.5 DISTRICT 4 INBOUND TRADING PARTNERS BY WEIGHT (2019 AND 2050)



Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

FIGURE 2.6 DISTRICT 4 TOP INBOUND TRADING PARTNERS BY VALUE (2019 AND 2050)



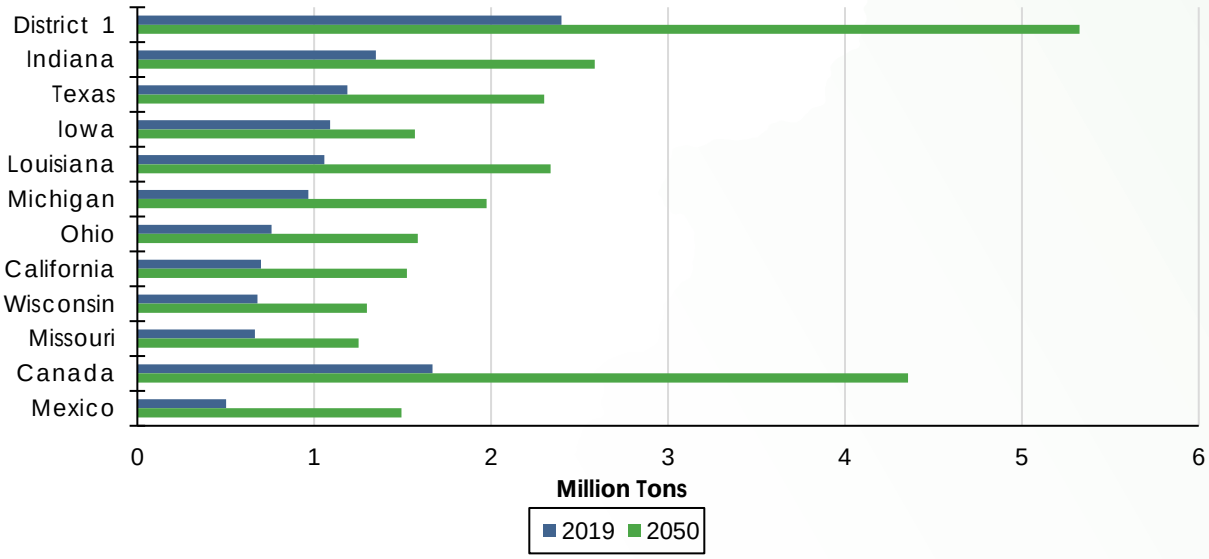
Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

Outbound Goods

District 4 shipped 29 million tons of goods valued at $21 billion in 2019. These goods are sent to others states as well as other districts within Illinois. The top outbound trading partners by weight are Louisiana (4 million tons or 13 percent), District 1 (3 million tons or 10 percent), and Iowa (3 million tons or 9 percent). Louisiana accounts for a high portion of outbound goods due to grain shipments which travel to the Port of New Orleans for export to markets across the world. Trade with District 1 is driven by secondary traffic commodities, which refers to products moved between warehouses, distribution centers, and retail store shelves, and is heavily linked to the retail and e-commerce trade sectors. In 2050, the top trading partners are anticipated to be Louisiana (8 million tons or 16 percent of the total weight), followed by District 1 (6 million tons or 12 percent), and Indiana (4 million tons or 8 percent). California is expected to be an emerging trade partner for District 4 in 2050, accounting for 2 million tons (3 percent) of all outbound freight movement by weight, with food and metal commodities driving the growth. Figure 2.7 displays the top ten outbound trading partners by weight in 2019 and 2050.

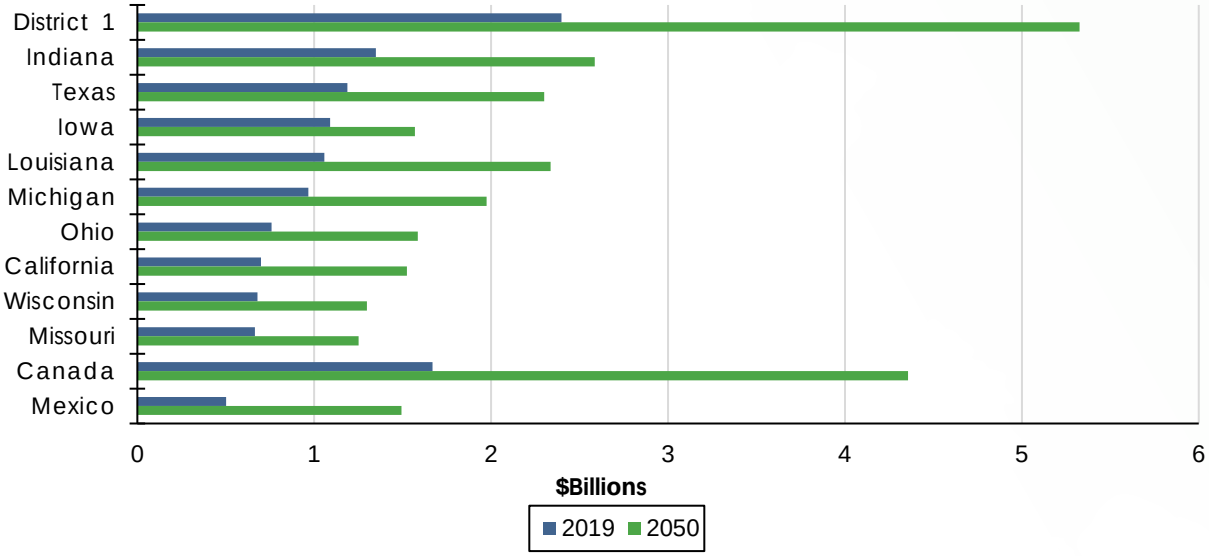
In terms of value, the top outbound trading partners in 2019 are District 1 ($2.4 billion or 11 percent), Canada ($1.7 billion or 8 percent), Indiana ($1.3 billion or 6 percent), and Texas ($1.2 billion or 6 percent). In 2050, the top trade partners are expected to maintain their relative positions, with the top partners being District 1 ($5.3 billion or 12 percent), Canada ($4.4 billion or 10 percent), Indiana ($2.6 billion or 6 percent), and Texas ($2.3 billion or 5 percent). It is important to note that although Louisiana ranks high in terms of tonnage for outbound movements, it does not for value; this is because a majority of the goods moved are grains which are high tonnage and low value. Trade with Texas is driven by machinery and metal products, which are higher value goods. Figure 2.8 displays the top ten outbound trading partners by value in 2019 and 2050.

FIGURE 2.7 DISTRICT 4 TOP OUTBOUND TRADING PARTNERS BY WEIGHT (2019 AND 2050)



Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

FIGURE 2.8 DISTRICT 4 TOP OUTBOUND TRADING PARTNERS BY VALUE (2019 AND 2050)



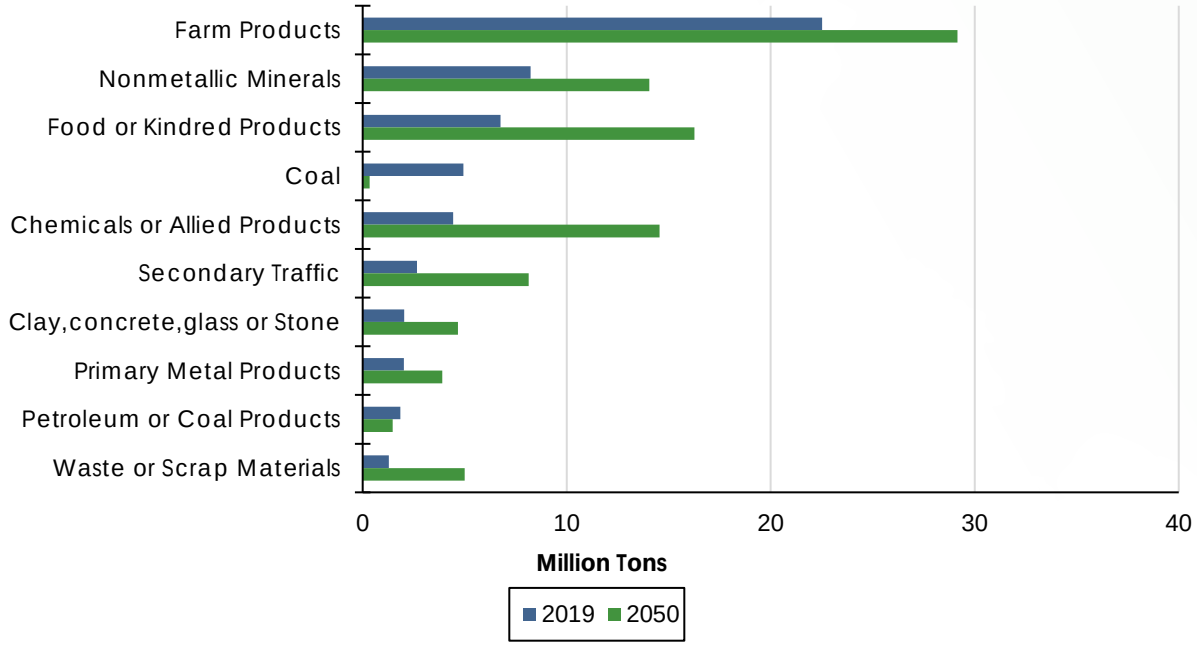
Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

Top Commodities

In 2019, the top commodity moved by weight in District 4 was farm products, accounting for 23 million tons (37 percent) of the 60 million tons moved in the District. The second top commodity moved by weight was nonmetallic minerals, accounting for 8 million tons (14 percent) of the total tonnage. It is forecasted that in 2050 farm products will remain the top commodity, accounting for 28 percent of total forecast freight movements by weight, followed by food or kindred products (16 million tons or 16 percent). Coal, which ranked fourth in 2019, is expected to drop out of the top ten commodities in 2050. While District 4 has many coal-fired power plants, this source of energy is being phased out nationally for renewable or cleaner sources of energy, which is expected to impact the District. Figure 2.9 shows the top ten commodities by weight in District 4 for 2019 and 2050.

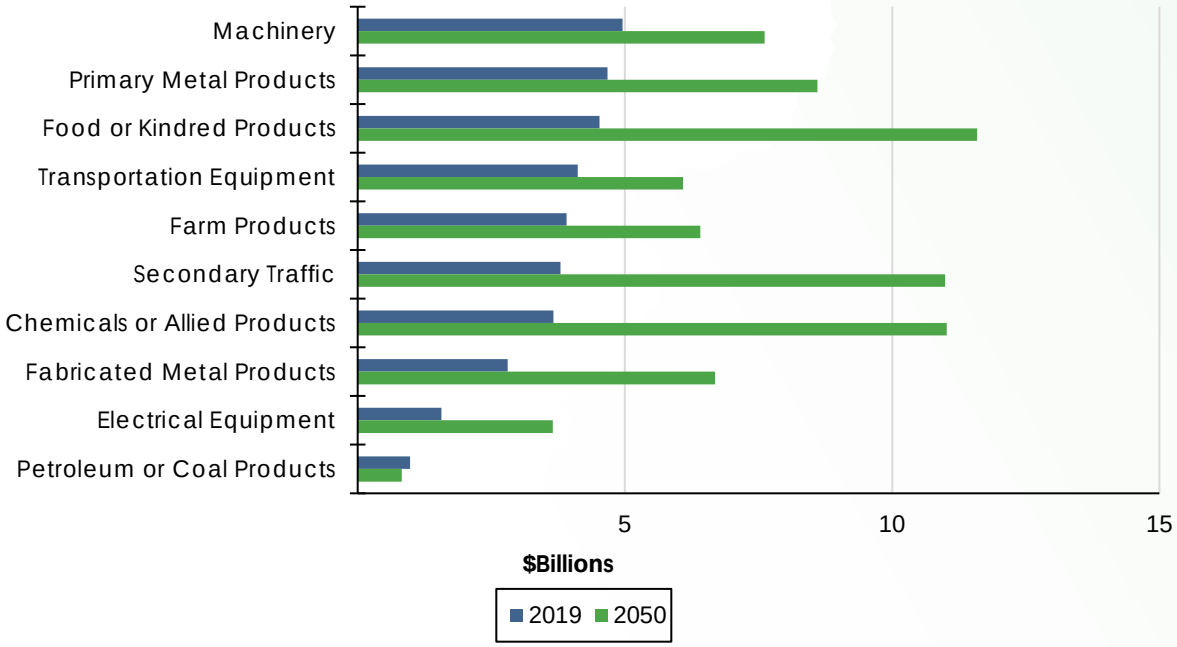
The top commodity by value moved in the District 4 was machinery, which accounted for $5 billion (13 percent) followed by primary metal products $4.7 billion (12 percent) of the $40 billion worth of goods moved in 2019. These are both due to the presence of manufacturing facilities, including Caterpillar and Komatsu, in the Peoria Metro Area. The third top commodity was food or kindred products, which accounted for $4.5 billion (11 percent) of the total 2019 value. Food and kindred products have a large presence in the Peoria area due to the vast agricultural industry and cereal grain clusters in the District. The top three commodities are projected to shift in 2050, with the top commodity being food or kindred products ($11.5 billion or 14 percent), followed by chemicals or allied products ($11 billion or 13 percent) and secondary traffic ($11 billion or 13 percent). Machinery remains in the top five but falls out of the top 3. Figure 2.10 displays the top ten commodities by value in the District for 2019 and 2050.

FIGURE 2.9 DISTRICT 4 TOP COMMODITIES BY WEIGHT (2019 AND 2050)



Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

FIGURE 2.10 DISTRICT 4 TOP COMMODITIES BY VALUE (2019 AND 2050)



Source: 2019-2050 S&P Transearch and 2019 STB Carload Waybill Data.

3.0 Overview of the District Freight System

The movement of goods is the backbone of Illinois' economy and way of life. Illinois' and District 4's complex multimodal freight transportation network (Figure 3.1 and Figure 3.2.) is composed of highway, rail, water, air, and pipeline infrastructure. It also includes interchange points between the modes, such as air cargo facilities, ports, rail terminals, pipeline terminals, military facilities, warehouse/distribution centers, and major logistics and manufacturing sites, allowing for the efficient movement of freight to, from, within, and through the District each year.

The multimodal freight network illustrated provides resilient and cost-effective shipping alternatives for all types of commodities produced in, consumed by, or moving through Illinois. Efficient transportation services are necessary to keep the District's manufacturers, agricultural producers, and other businesses competitive in regional, national, and global economies. Residents and businesses in urban and rural areas of the State rely on the freight transportation network for connections to markets around the globe.

This chapter profiles each mode of freight transportation in District 4, including components of the Illinois Priority Freight Network (PFN), which identifies the most important highway corridors for freight in the State, including those that connect to key multimodal facilities (Figure 3.3). The PFN was identified using a combination of data and stakeholder input to identify the roadways most critical to freight in the State. This network was identified using metrics that looked at economic competitiveness, goods movement, strategic supply chains, and market access and connectivity factors.

This chapter also includes a discussion of the demand, condition and performance, and needs of District 4's multimodal freight network.

FIGURE 3.1 ILLINOIS' MULTIMODAL FREIGHT NETWORK COMPONENTS

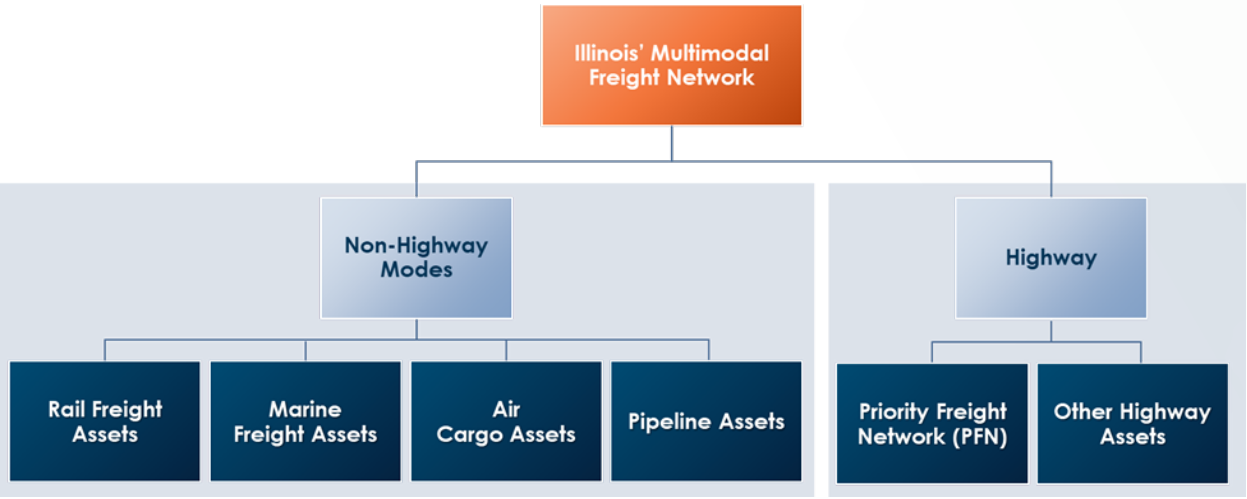
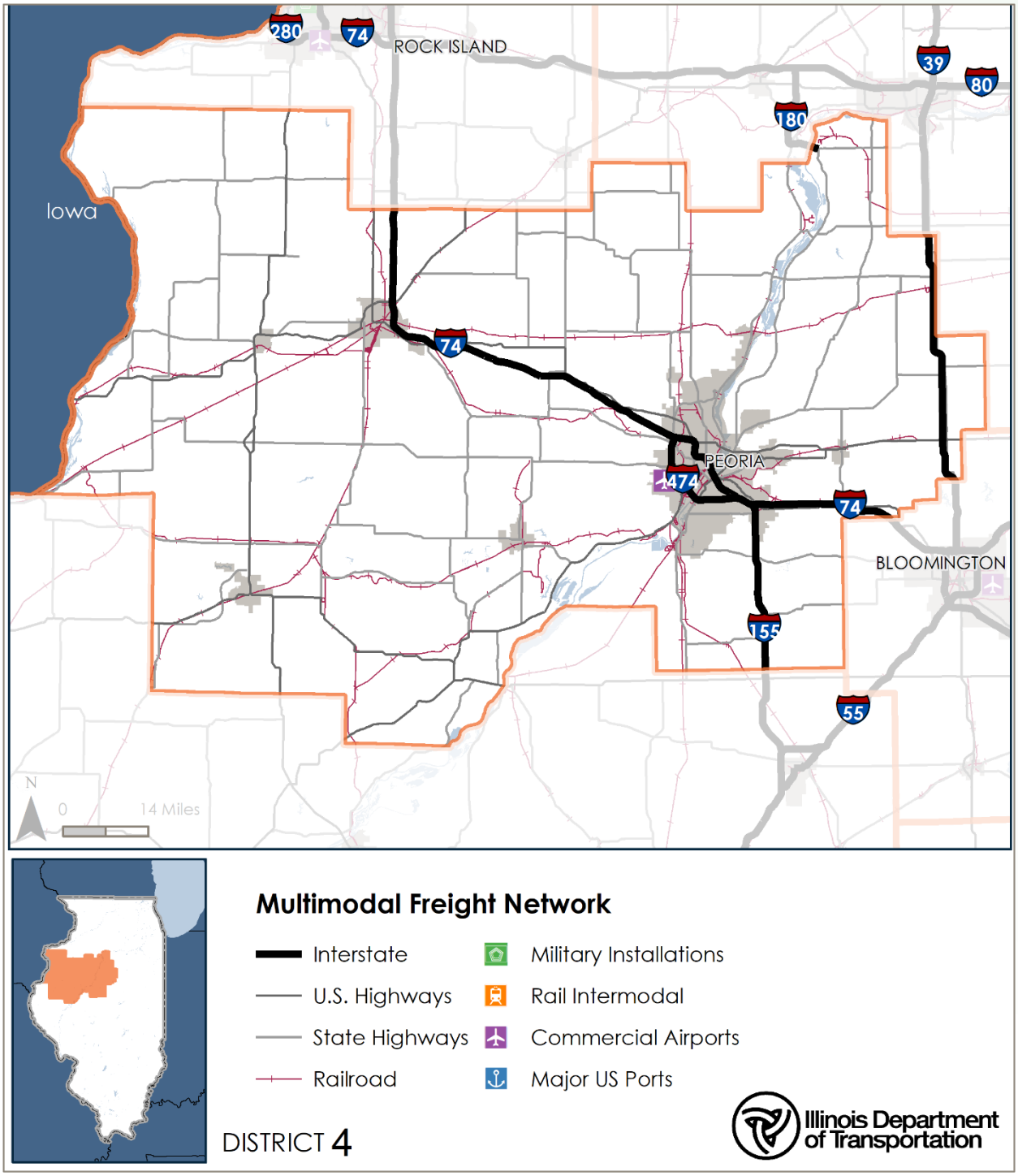
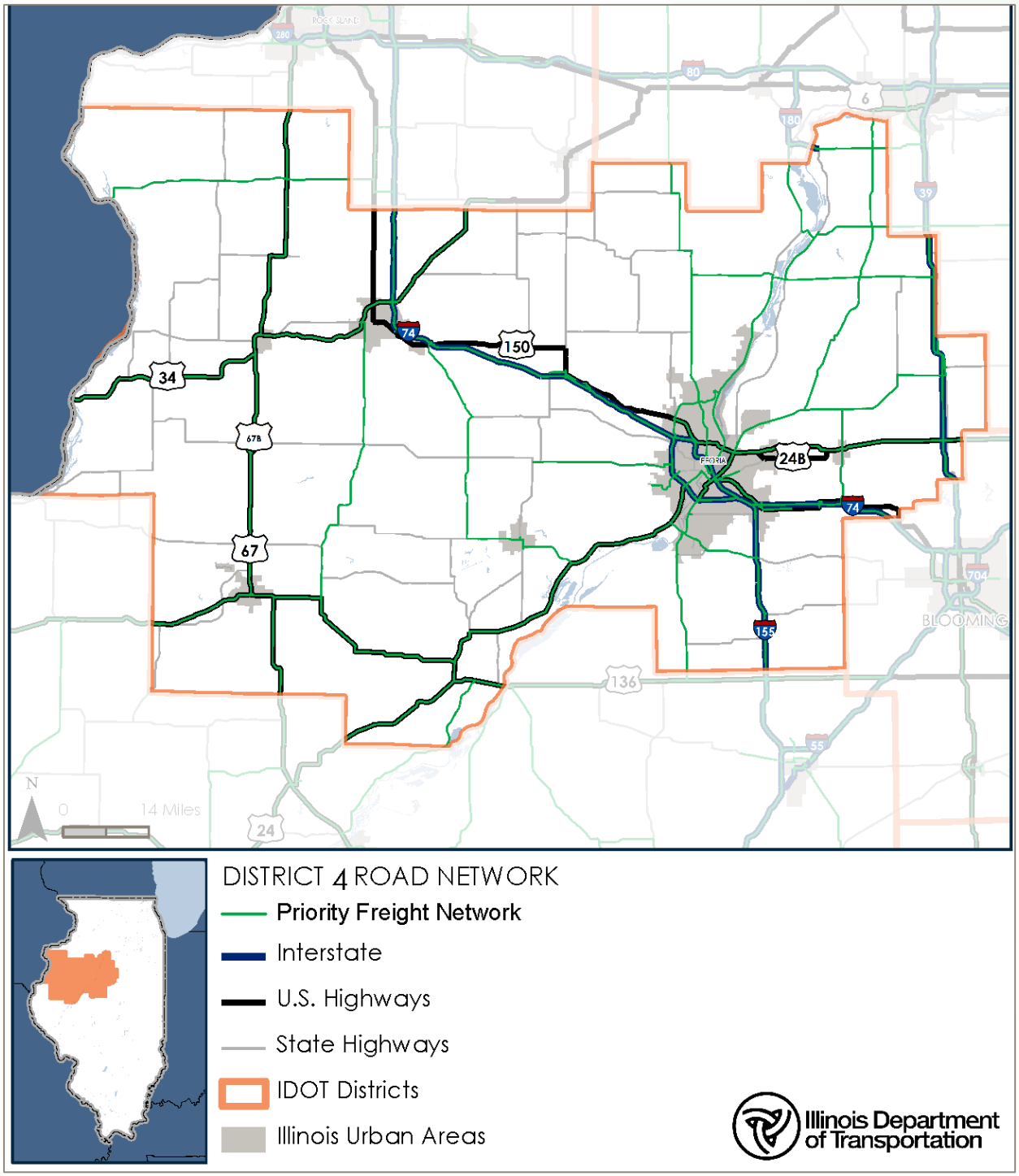


FIGURE 3.2 DISTRICT 4 MULTIMODAL FREIGHT NETWORK



Source: IDOT, FHWA.

FIGURE 3.3 ILLINOIS PRIORITY FREIGHT NETWORK IN DISTRICT 4



Source: IDOT, FHWA.

3.1 Freight Highways

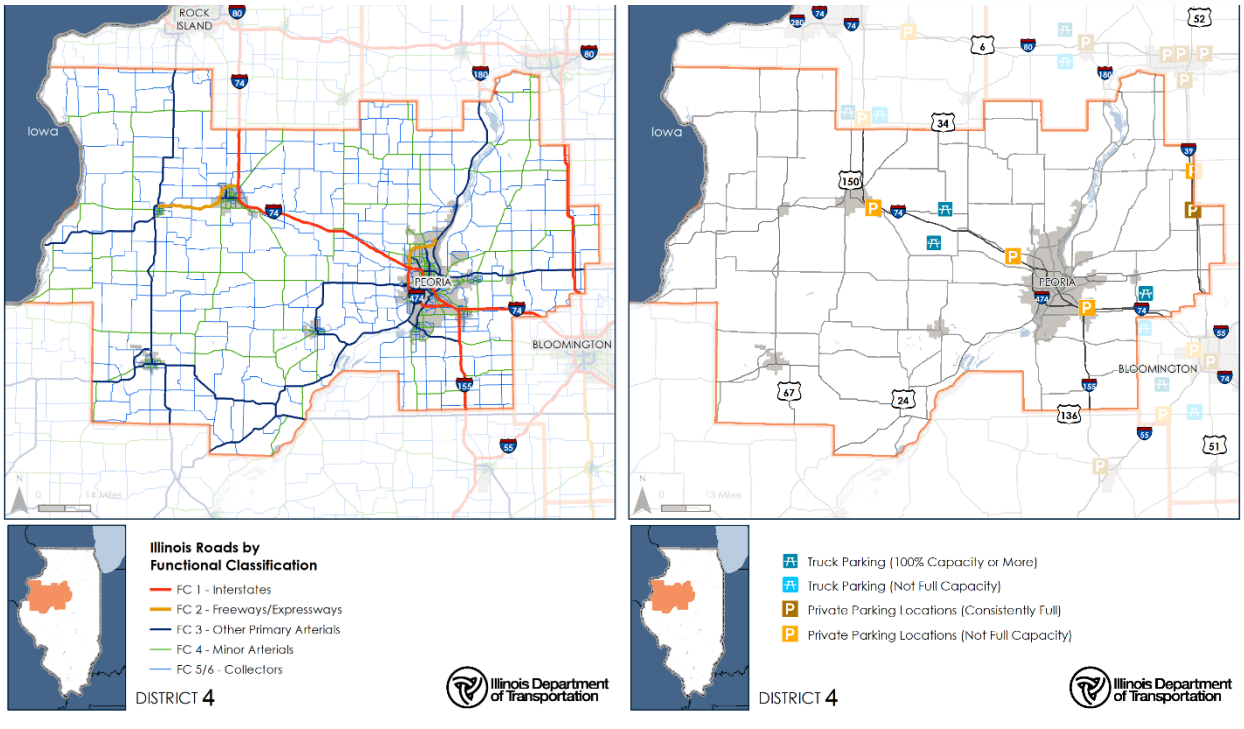
Highway Infrastructure and Facilities

Illinois highways are a central pillar to the State's freight network, providing the conduit for the 53 percent of freight within the State that moves by truck. Even when goods primarily move on another mode, the State's highway and roadway systems provide critical first- and last-mile links between suppliers, customers, and multimodal facilities. Almost all goods transported in the State utilize the highways for at least one leg of their trip. Of these roads, over 15,000 miles are managed by IDOT. IDOT maintains 54 safety rest areas that provide truck parking across 30 facilities in the State. As of 2019, drivers on Illinois roads drove over 108 billion vehicle miles annually, of which about 13 billion are truck vehicle miles traveled.

District 4's highways carry 63 percent of freight within the District on several major Interstates, including I-39, I-74, I-155, and I-474 as well as 420 miles of freeway and other principal arterials, including U.S. Routes 24, 34, 67, 136, and 150. Almost three miles of intermodal connectors providing links between the three intermodal freight facilities (air, port, and truck-rail) in District 4 and the NHS.

Figure 3.4 shows the roadways by functional class in the District and the location of truck parking facilities within the District. Eight truck parking sites are located along I-74 (two private sites are located adjacent to each other and may not appear in Figure 3.4). Four of these sites are public parking sites, of which three are at 100 percent capacity or more. The other four are private parking sites that are all not at full capacity. There are no weigh stations located in District 4.

FIGURE 3.4 ROADS BY FUNCTIONAL CLASS (LEFT) AND TRUCK PARKING FACILITIES AND UTILIZATION RATES (RIGHT) IN DISTRICT 4



Source: IDOT; IDOT Draft Truck Parking Study (2022).

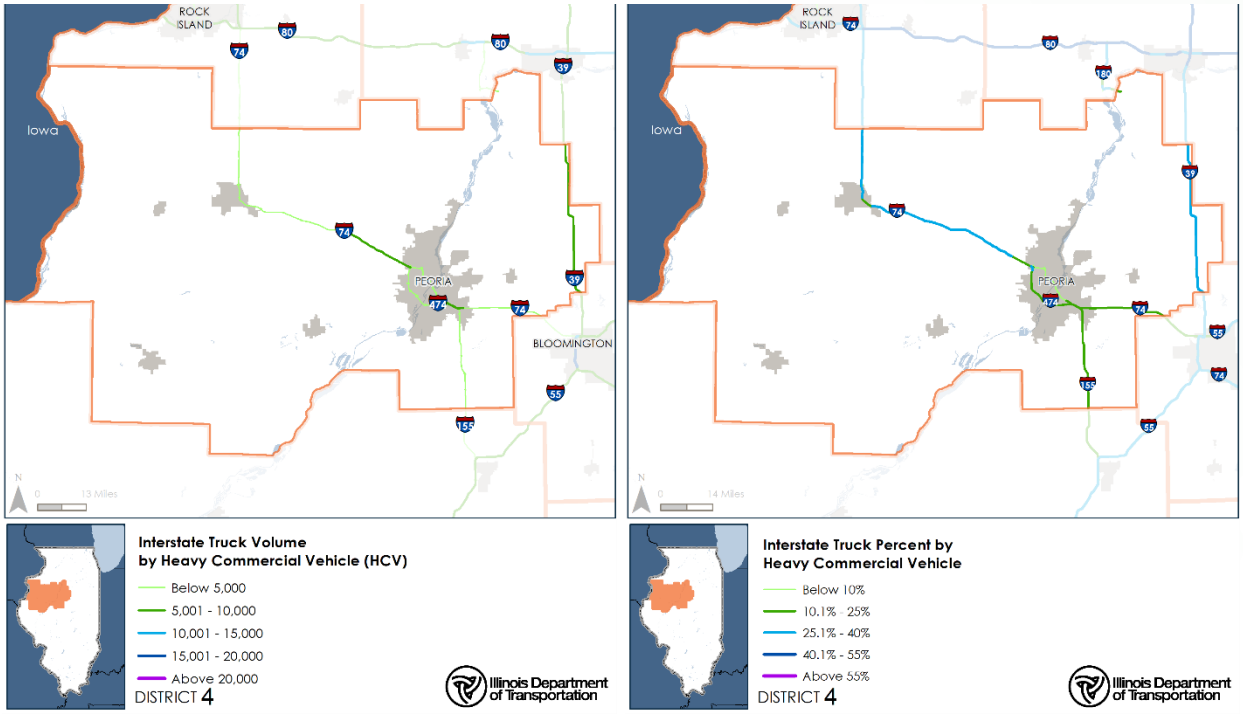
Note: Truck parking capacity measurements are based on overnight, midweek peak parking times.

Highway Freight Demand

Highway freight transportation demand measures how many trucks are using highways in the District, what commodities they are carrying, and what markets they are serving. Interstates see significantly higher truck volumes than all other roads both within District 4 and statewide. The highest truck volumes are west of Peoria along I-74 and along I-39. There are also substantial truck volumes through Peoria along I-474 and I-155 (Figure 3.5). The highest volumes of trucks are along I-39 and I-74 as those highways approach Peoria; however, the percentage of trucks compared to total traffic is higher in rural areas along non-Interstate routes. For instance, some of the U.S. highways see over 20 percent truck traffic in the rural areas and near the border with Iowa (Figure 3.6).

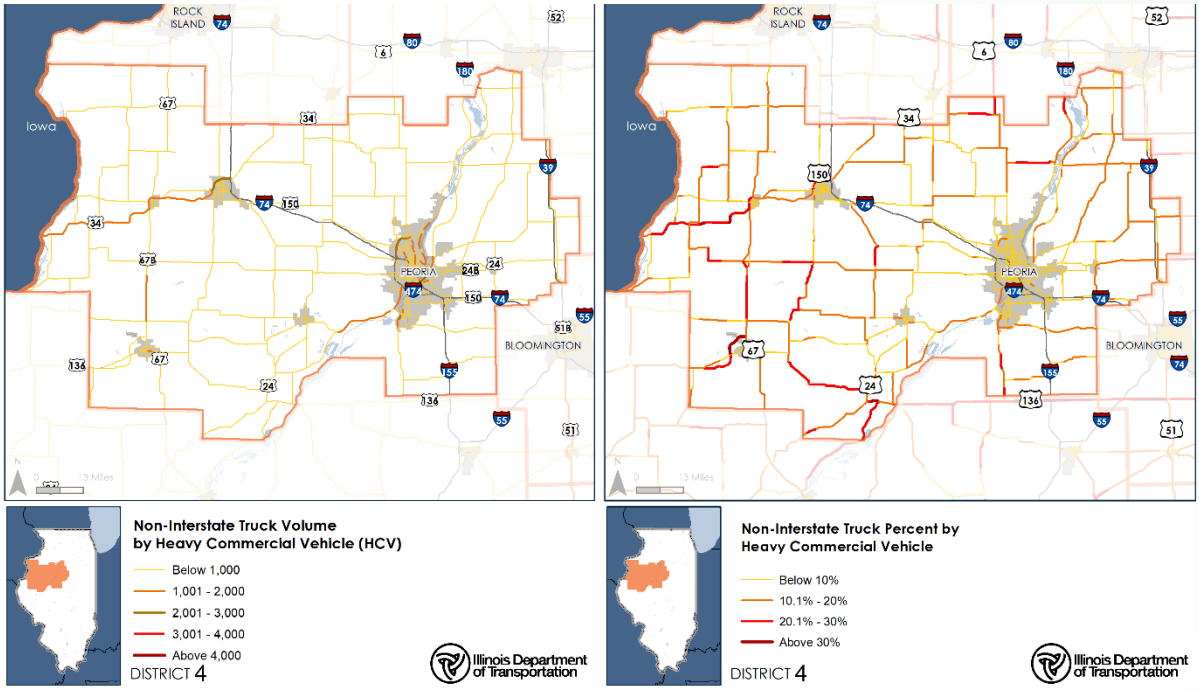
Truck transportation is the dominant means of moving goods in District 4, accounting for 63 percent of total tonnage and 85 percent of total value moving in 2019 (not including through-freight). The trucks on the District's roads carry around 46 million tons of goods worth just under $35 billion as of 2019. Figure 3.7 and Figure 3.8 shows the truck tonnage and value by direction for 2019 and 2050. The top commodities moved by truck as a percentage of total tonnage are farm products (42 percent), nonmetallic minerals (16 percent), and food or kindred products (10 percent). Over 50 percent of the tonnage moved is associated with the agriculture industry (crops, livestock, farm products, and food products). This is expected as District 4 is predominantly rural, with many farms spread throughout the District.

FIGURE 3.5 TRUCK VOLUMES (LEFT) AND PERCENT OF TRUCKS (RIGHT) ON INTERSTATES IN DISTRICT 4



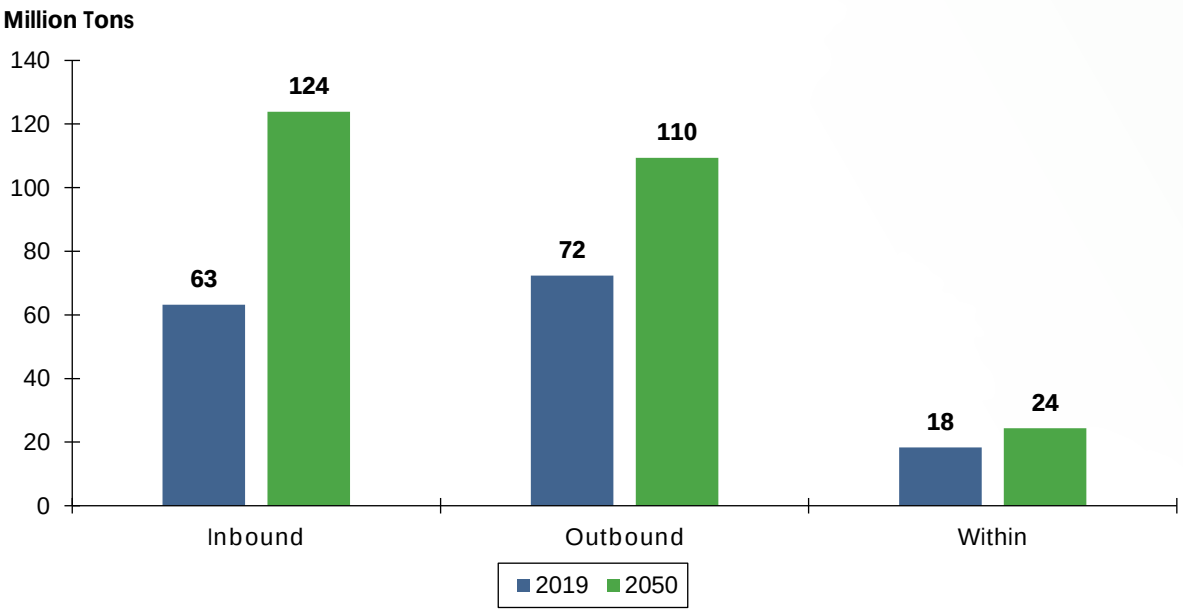
Source: IDOT IRIS Highway Inventory (2019).

FIGURE 3.6 TRUCK VOLUMES (LEFT) AND PERCENT OF TRUCKS (RIGHT) ON NON-INTERSTATES IN DISTRICT 4



Source: IDOT IRIS Highway Inventory (2019).

FIGURE 3.7 DISTRICT 4 HIGHWAY FREIGHT TONNAGE BY DIRECTION (2019 AND 2050)



Source: 2019-2050 S&P Transearch Data.

FIGURE 3.8 DISTRICT 4 HIGHWAY FREIGHT VALUE BY DIRECTION (2019 AND 2050)

Source: 2019-2050 S&P Transearch Data.

Highway Freight Needs

The highway freight needs assessment focuses on the needs of the most critical statewide corridors for freight, the PFN (Figure 3.3). The criteria for the needs assessment were developed using a data-driven, stakeholder-informed approach that structures the needs into five categories (Figure 3.9). This approach is used to identify needs for both the State and District Freight Plans. The base year for this analysis is 2019; however, in some cases more recent condition data was used. IDOT continues to evaluate the extent to which these needs are ongoing and continues to invest in its system.

Seventeen metrics were used to quantify needs within five categories. Within each category, two- to five metrics were weighted and combined to develop a composite needs score of high, medium, or low for each category (Safety, Reliability, System Enhancement, Operational Needs, Truck Parking). Urban and rural roadways were scored separately. Then, the scores were summed into a comprehensive score by allocating two points to each high needs category and one point to each medium needs category. In total, each roadway segment could score up to 10 possible points. (Figure 3.10). The roadway segments scoring five or more points are considered "High Needs." These segments of the PFN with multiple overlapping needs are some of the most critical opportunities for freight investment in the District and are discussed below.

FIGURE 3.9 HIGHWAY NEEDS ASSESSMENT CATEGORIES AND CRITERIA

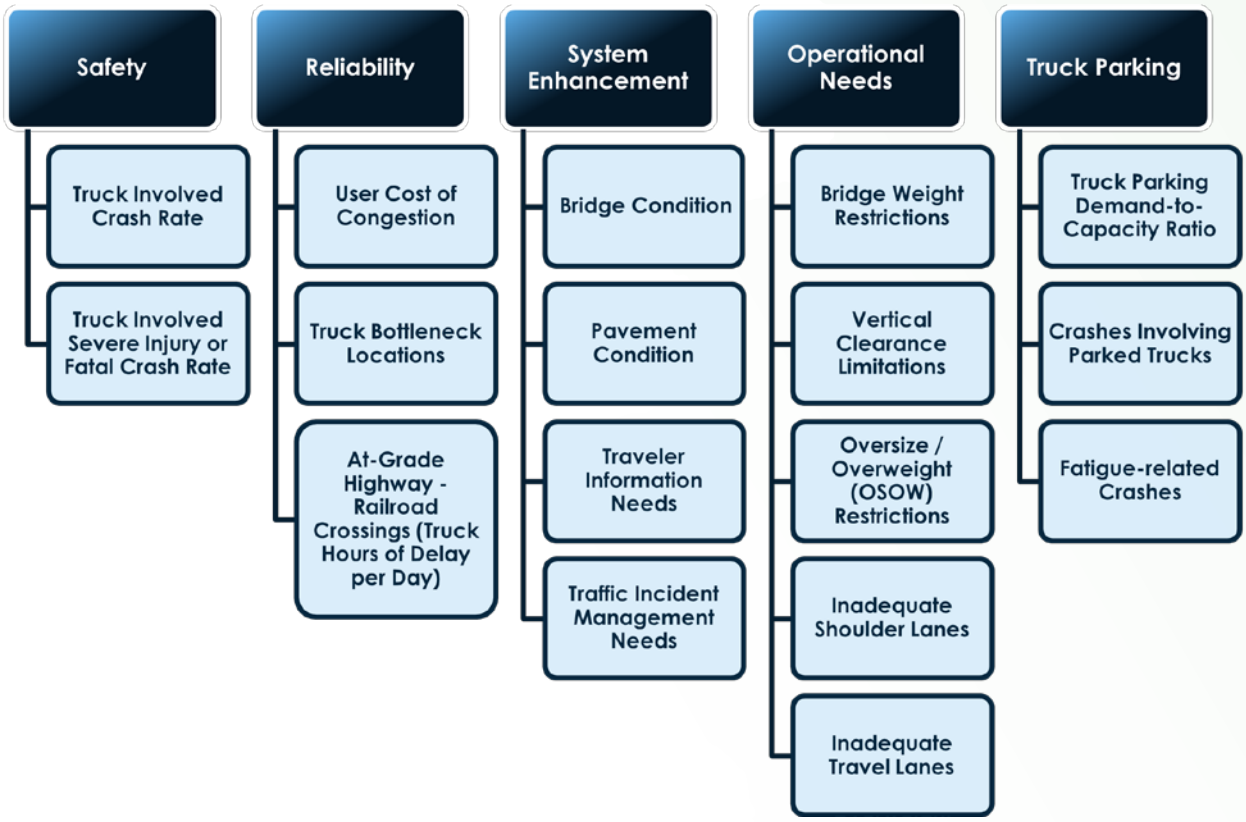


FIGURE 3.10 CALCULATION OF THE HIGHWAY NEEDS ASSESSMENT TOTAL SCORE

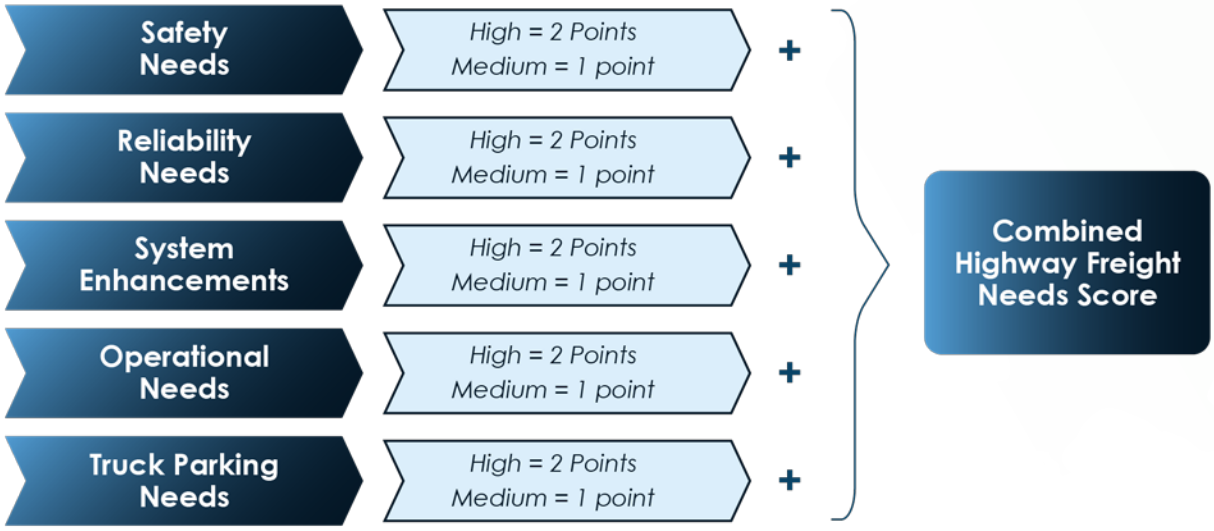


Figure 3.11 shows the needs assessment results for District 4. High needs segments are labeled in red. Table 3.1 lists the highest need segments in the District, which are defined as segments that have a Highway Freight Needs Score of five or greater. It identifies these segments by roadway name, inventory identifier number, and beginning and ending milepost and includes how the segment scores among each of the five needs categories. Each high needs segment has been given an ID which is labeled in Figure 3.11. There are many areas of need throughout District 4;

however, they can generally be segmented into the following categories: along the I-74 corridor; around the Peoria metropolitan area; and around the smaller urban areas of Galesburg and Monmouth.

Pavement condition in District 4 is above the statewide average, where 91 percent of Interstate mileage is in a state of acceptable condition (SOAC) (compared to 86 percent statewide). However, for all state-owned roads, District 4 is below the statewide average (75 percent) at 70 percent in a SOAC. Bridge condition is lower than the statewide average, where 81 percent of Interstate bridge deck area is SOAC (compared to 90 percent statewide) and 72 percent of bridge deck area on all state-owned roads is SOAC (compared to 88 percent statewide). For performance, District 4 experiences the highest congestion near the U.S. 24, IL Rt. 116, and I-474 junction in Peoria.

There are several high freight needs segments identified along I-74 within the District (Table 3.1). The needs, which all have a score of "considerably significant", along I-74 relate to safety, reliability, and system enhancement needs. The only segment which did not see a reliability need was located west of Galesburg in rural Knox County, as the areas near more urbanized communities had medium to high reliability needs based on proximity to population centers and connections to other highways and roadways.

While not listed in the table, the Peoria Metro Area has many freight needs. First, the bridges crossing the Illinois River—I-74, Bob Michel Bridge and Cedar Street Bridge—are noted as having high operational needs. IL Rt. 6, from U.S. 150 to IL Rt. 40, is also noted as having high operational needs. Finally, IL Rt. 9 in Pekin, from Veterans Drive to the Illinois River is noted as a location with high safety needs due to its high truck-involved crash rates.

There are also freight needs in and approaching the Galesburg and Monmouth metropolitan areas, as shown in Figure 3.11. There are also high operational needs along large sections of U.S. 24 between Monmouth and Galesburg.

Additional information about projects underway in District 4 to address highway system freight needs is included in Chapter 5.

FIGURE 3.11 HIGHWAY FREIGHT NEEDS IN DISTRICT 4

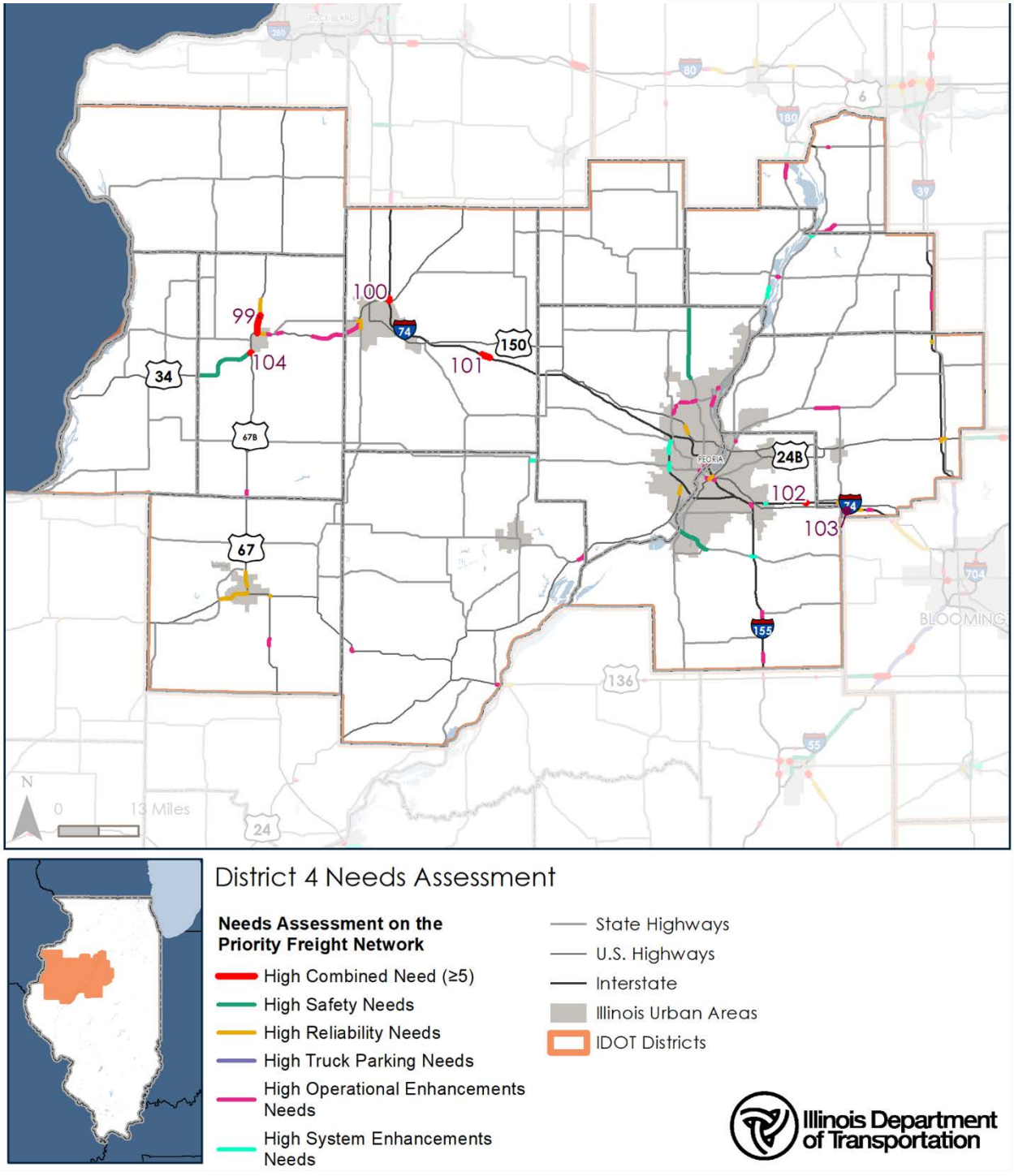


TABLE 3.1 HIGH NEED HIGHWAY FREIGHT SEGMENTS IN DISTRICT 4

ID	District	County	Roadway Name	Inventory	Beg. Mile Post	End Mile Post	Highway Freight Needs Score	Safety Needs	Reliability Needs	System Enhancement Needs	Operational Needs	Truck Parking Needs
99	4	Warren	U.S. 67	094 20310 000000	9.23	11.45	6	Medium	High	High	Medium	Low
100	4	Knox	Interstate 74	048 10074 000000	11.33	11.61	5	Medium	High	Medium	Low	Medium
101	4	Knox	Interstate 74	048 10074 000000	26.8	27.8	5	Medium	Low	Medium	High	Medium
102	4	Tazewell	Interstate 74	090 10074 000000	14.25	14.41	5	Medium	Medium	High	Low	Medium
103	4	Woodford	Interstate 74	102 10074 000000	4	4.08	5	Medium	High	Medium	Medium	Low
104	4	Warren	U.S. 34	094 20313 000000	8.16	8.27	5	High	Medium	Medium	Medium	Low

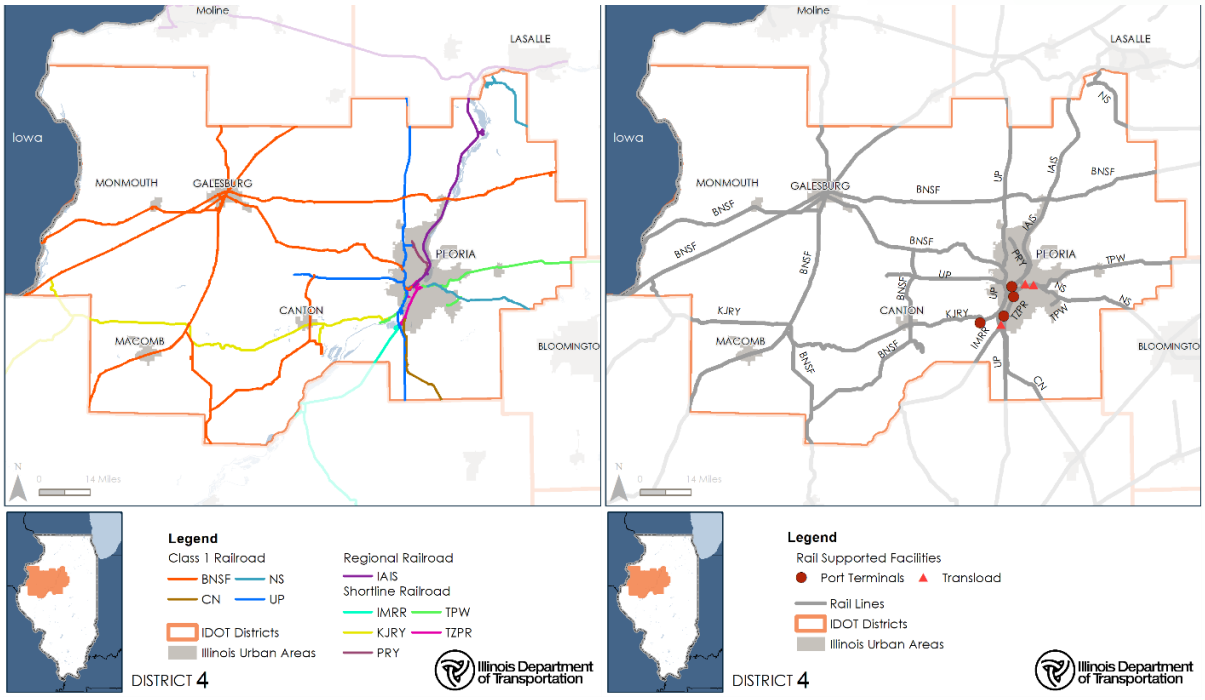
3.2 Freight Rail

Rail Infrastructure and Facilities

The Illinois rail system was born from Chicago's connection to the Great Lakes as a shipping center in the 1840s and 1850s. By 1856, Illinois was home to ten railroads. While Chicago was a major source of rail traffic in Illinois, further south, more rail lines were being constructed to connect freight to the west through East St. Louis where land was more affordable to accommodate the industrial growth in the St. Louis region. By the end of the 1800s, rail lines connected the Illinois, Ohio, Mississippi, and Wabash rivers. Coal and oil fields, agriculture, and lumber created investments along rail lines, and rail lines grew along with freight needs. Within 40 years of opening the first 59-mile rail line in 1842, the Illinois rail network was over 8,000 miles and peaked in the 1920s with approximately 12,000 rail miles. Today, the rail system has been reduced to just over 6,900 (2020) rail miles, but Illinois is still a leader and a hub to the North American rail network. It is the only state in the U.S. in which all seven Class I railroads operate. Chicago is the largest gateway where rail traffic is interchanged between railroads from different parts of the U.S., and East St. Louis is also a major gateway.

Ten railroads operate in District 4, including four Class I railroads, five short line railroads and one regional railroad (Figure 3.12). Class I railroads account for 70 percent of rail miles, short lines account for 24 percent, and the regional railroad accounts for six percent. BNSF accounts for the most rail miles with 50 percent, followed by UP (12 percent) and Keokuk Junction Railway Company (KJRY) (10 percent). District 4 has seven rail multimodal facilities, including four port terminals and three transload facilities. Figure 3.12 also shows District 4's rail multimodal facilities. The rail network is important to District 4's agricultural industry, since producers must often move large volumes of grain over long distances, which is more economically feasible by rail than by truck.

FIGURE 3.12 DISTRICT 4 RAIL MAP (LEFT) AND RAIL MULTIMODAL FACILITIES (RIGHT)

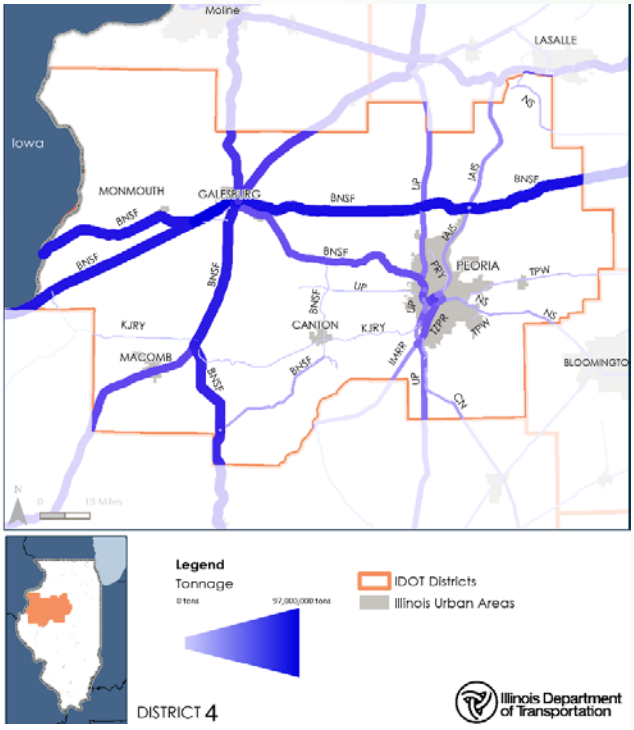


Source: IDOT GIS.

Rail Demand

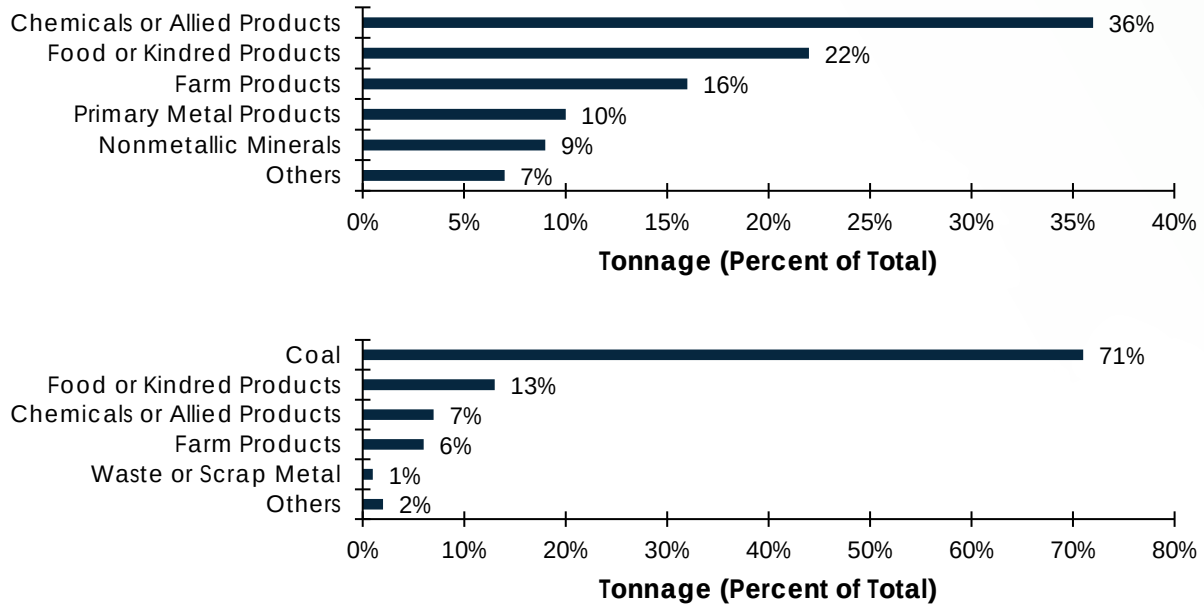
Figure 3.13 shows the tonnage flows by rail corridor for District 4. BNSF accounted for the highest movement of tonnage, with the Galesburg classification yard being the second largest on the BNSF system. Chemical products and food or kindred products account for the highest rail tonnage originating in District 4 (Figure 3.14). District 4 is also home to farm products, primary metal products manufacturing, and nonmetallic minerals extraction which also ship goods nationwide via rail. Nonmetallic minerals are typically associated with construction materials such as sand, gravel, and limestone. Nearly three quarters of inbound tonnage in 2019 was coal, as shown in Figure 3.14; however, this traffic is dropping quickly due to the ongoing closures of coal-fired power plants. District 4 is home to several plants including the E.D. Edwards Power Plant, which was retired in 2022, and the Powerton Station, expected to be retired in 2028.

FIGURE 3.13 DISTRICT 4 RAIL TONNAGE (2019)



Source: 2019 STB Carload Waybill Data.

FIGURE 3.14 TOP ORIGINATING (TOP) AND TERMINATING (BOTTOM) COMMODITIES IN DISTRICT 4 BY TONNAGE (2019)

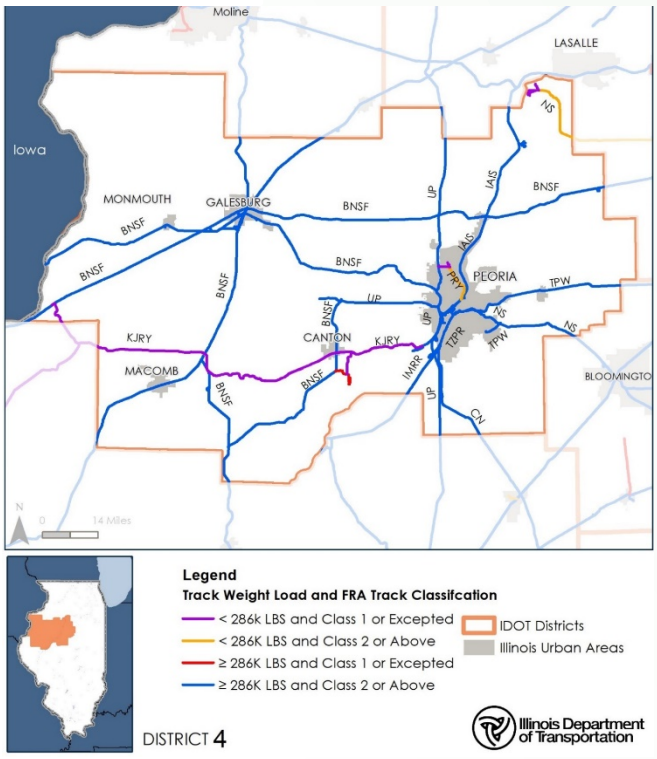


Source: 2019 STB Carload Waybill data.

Rail Needs

District 4 has a combination of urban and rural areas with a large presence of manufacturing facilities, agriculture production, and other industries utilizing the railroad network. The District contains several significant routes with freight rail needs. One major need is in regard to track condition. If rail lines cannot accommodate 286,000-pound (286K LBS) railcars, this places shippers on these lines at a competitive disadvantage because shipping in larger railcars is more efficient than shipping in smaller railcars. Trains on rail lines with Federal Railroad Administration (FRA) track Class 1 or Excepted track are limited to no more than 10 miles per hour, and these tracks are frequently in a poor state of repair.

FIGURE 3.15 DISTRICT 4 TRACK WEIGHT LOAD AND FRA TRACK CLASSIFICATION



Source: IDOT GIS, Illinois Rail Needs Assessment.

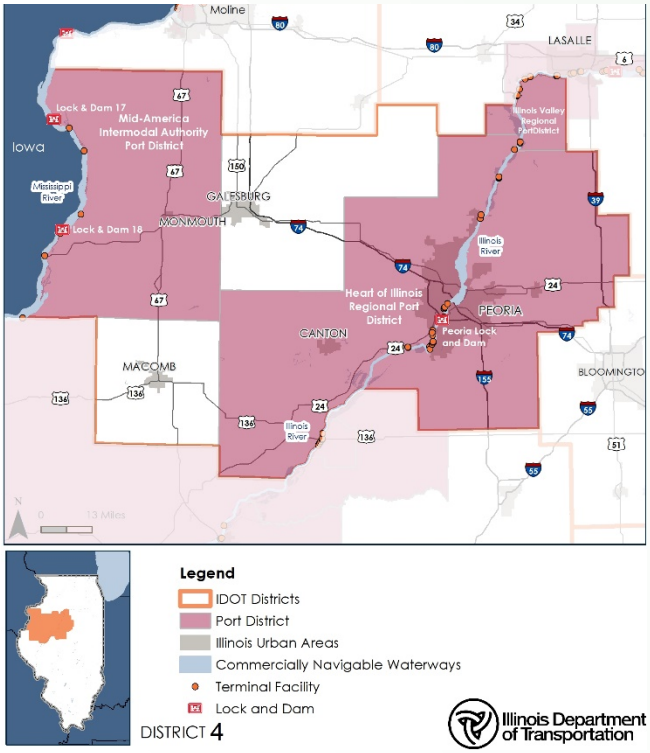
Figure 3.15 shows the weight limit and FRA track classification. Within the District, 11 percent of rail miles are not able to accommodate cars greater than 286K LBS and are rated FRA Class 1 or Excepted, and two percent are not capable of accommodating 286K LBS railcars at all. As an example, the KJRY rail line cannot accommodate 286K LBS railcars and is rated either FRA Class 1 or Excepted. The KJRY rail line, west of Peoria, is in a poor state of repair and in need of modernization and rehabilitation of the sidings. The KJRY was awarded a $15.3 million FY 2022 Consolidated Railroad Infrastructure and Safety Improvement grant from the FRA to rehabilitate 126 miles of mainline track increasing it to Class 2 track.

3.3 Ports and Waterways

Port and Waterway Infrastructure and Facilities

The Illinois Marine Transportation System (IMTS) accommodates waterborne freight transportation over six linked waterways: the Mississippi River, Ohio River, Illinois River, Kaskaskia River, Chicago Area Waterway System, and Lake Michigan. The Illinois, Ohio, and lower Kaskaskia are all maintained at a minimum 9-foot navigation channel. These waterways can accommodate barge traffic that link to the Mississippi River, which in turn links to deep-water international ports in Louisiana. These waterways (marine highway routes M-35, M-70, M-55, M-3, and M-90) accommodate barge traffic as part of the Mississippi River System (MRS) which links domestic markets across the central U.S. with the Gulf Coast and international markets.

FIGURE 3.16 DISTRICT 4 WATERWAY ASSETS



Source: IDOT.

Illinois has twenty public port districts formally established by state statute, and there are 341 public and private cargo-handling port facilities located on Illinois navigable waterways, handling a wide range of commodities. These are described in more detail in the Illinois Marine Transportation System Plan.

District 4 is unique in that it has two commercially navigable waterways. The Mississippi River makes up the western border of the District/State with Iowa. The Illinois river flows through the east-central part of the District. These waterways are commercially navigable, largely due to the lock and dam system within the State, of which three locks and dams are within District 4. Having two navigable rivers, the locks and dams factor into the placement of a series of cargo-handling terminals located along the banks of these rivers. Additionally, there are three port districts located within the District, including Mid-America Intermodal Authority Port District, Illinois Valley Regional Port District, and Heart of Illinois Port District. It is important to note that part of the Mid-America Intermodal Authority Port District is located in District 6; likewise, part of the Illinois Valley Regional Port District is located in District 3. Waterway assets within the District are shown in Figure 3.16 and the port districts are profiled below.

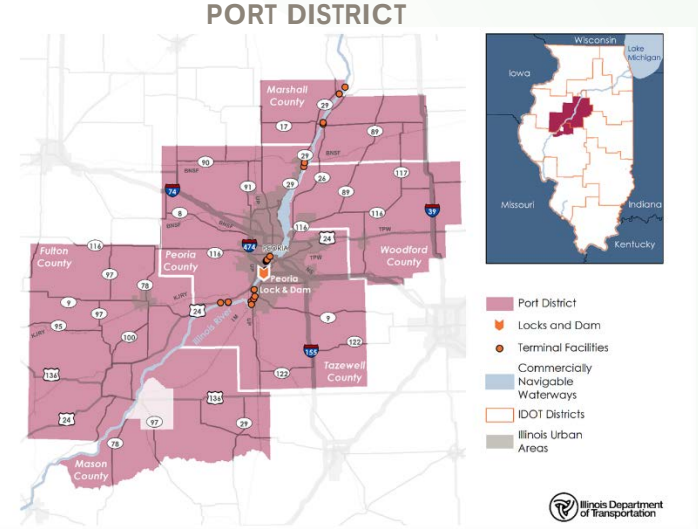
Heart of Illinois Regional Port District

Waterways—The Illinois River flows 90.5 miles through the port district and is part of Marine Highway 55.

Lock and Dams—Peoria Lock and Dam

Highway—Many Interstates, state routes, and U.S. highways traverse the port district. These include I-39, I-74, I-155, I-474, IL Rt. 9, IL Rt. 29, U.S. 24, and U.S. 136. Included within these routes are a total of 12.62 Critical Urban Freight Corridor (CUFC) miles and 16.89 Critical Rural Freight Corridor (CRFC) miles within the Port District.

FIGURE 3.17 HEART OF ILLINOIS REGIONAL PORT DISTRICT



Source: IDOT.

Rail—Four Class I railroads provide service within the Port District. These include UP, CN, BNSF, and NS. Additionally, the following Class III railroads provide services in the Port District: Toledo Peoria and Western, Tazewell and Peoria Railroad, KJRY, Illinois & Midland Railroad, and Iowa Interstate railroad.

Air—Several airports are near the port district, including General Downing-Peoria International Airport—PIA (Peoria, IL), Pekin Municipal Airport—C15 (Pekin, IL), Marshall County Airport—C75 (Lacon, IL), and Mount Hawley Auxiliary Airport—3MY (Peoria, IL).

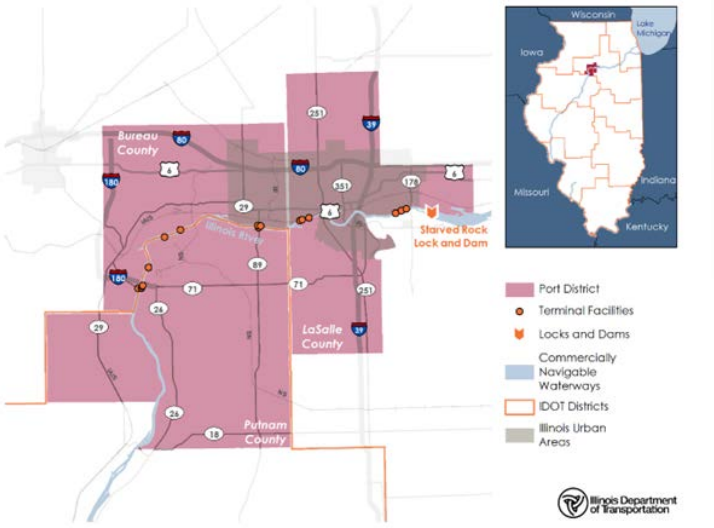
Illinois Valley Regional Port District

Waterways—The Illinois River flows 38.5 miles through the port district. The river is part of Marine Highway 55.

Locks and Dams—The Starved Rock Lock and Dam is located near the port district.

Highway—Several Interstates, state routes, and U.S. highways traverse the port district. These include I-39, I-80, I-180, U.S. 6, IL Rt. 18, IL Rt. 26, IL Rt. 29, IL Rt. 71, IL Rt. 89, IL Rt. 178, IL Rt. 251, and IL Rt. 351. Included within these routes are a total of 0.73 CRFC miles within the port district.

FIGURE 3.18 ILLINOIS VALLEY REGIONAL PORT DISTRICT



Source: IDOT.

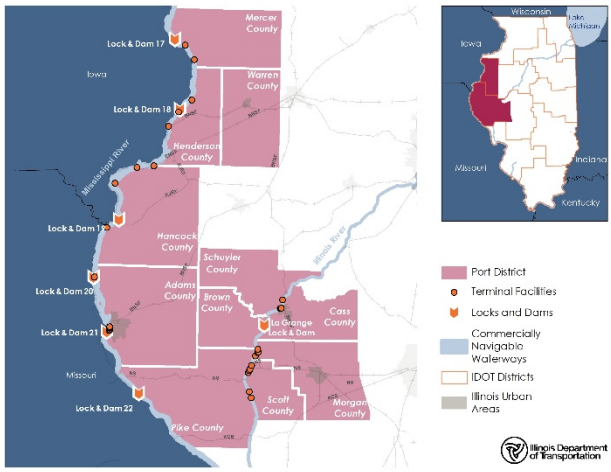
Rail—Two Class I railroads provide service throughout the port district. These are BNSF and NS. Iowa Interstate Railroad, a Class II railroad, and Illinois Railway provide service as well.

Air—One airport is near the port district. This is Illinois Valley Regional Airport—VYS (Peru, IL).

Mid-America Intermodal Authority Port District

Waterways—The Mississippi River flows 172 miles along the western border of the port district. The river is part of Marine Highway 35. The Illinois River flows 70.5 miles through the port district and is part of Marine Highway 55.

Locks and Dams—Lock and Dam #17, Lock and Dam #18, Lock and Dam #19, Lock and Dam #20, Lock and Dam #21, Lock and Dam #22, and Lock and Dam #24 on the Mississippi River, and LaGrange Locks and Dam on the Illinois River are located in the port district.



Source: IDOT.

Highway—Several Interstates, state routes, and U.S. highways traverse the port district. These include I-72, I-172, IL Rt. 17, IL Rt. 96, IL Rt. 110 (Chicago-Kansas City Expressway), U.S. 24, and U.S. 67. U.S. 61, known as the Avenue of the Saints, is in Missouri 5 miles west of the port district. Included within these routes are a total of 79.55 CRFC miles within the port district in Illinois.

Rail—Three Class I railroads provide service within the port district. These include BNSF, Canadian Pacific Kansas City, and NS. KJRY and Burlington Junction Railway, both being Class III railroads, provide service through the port district as well.

Air—Several airports are near the port district. These include Quincy Regional Airport—UIN (Quincy, IL), Mt. Sterling Municipal Airport—I63 (Mt. Sterling, IL), Jacksonville Municipal Airport—IJX (Jacksonville, IL), and Beardstown Municipal Airport—K06 (Beardstown, IL).

Private Terminals

Table 3.2 provides the count of terminal facilities within the District and the type of commodities they handle. Note that some terminals handle multiple commodities, thus the number will be greater than the total for cargo terminals.

TABLE 3.2 DISTRICT 4 PRIVATE TERMINAL FACILITIES BY COMMODITY HANDLED

Commodity	Count	Commodity	Count
Chemical Fertilizer	8	Iron Ore, Iron and Steel Waste and Scrap	3
Chemicals Excluding Fertilizer	6	Petroleum Products	3
Coal, Lignite and Coal Coke	7	Sand, Gravel, Shells, Clay, Salt, Slag	6
Food and Food Product	20		

Port and Waterway Demand

Table 3.3 shows the overall waterway tonnage by county within District 4. The counties handling the greatest tonnage are Putnam, Tazwell, and Peoria counties. This is expected, as these are the counites which have the highest concentration of waterway terminals. Most of this tonnage is related to the agriculture industry with food products, chemicals, and fertilizers being the highest commodities, a breakdown by port district is shown in Table 3.4.

TABLE 3.3 DISTRICT 4 WATERWAY TONNAGE (2019)

County	Tonnage in Millions
Fulton	0.0
Henderson	0.1
Mercer	0.1
Peoria	2.0
Putnam	3.7
Tazwell	2.7
Woodford	0.2

Source: U.S. Army Corps of Engineers.

TABLE 3.4 TOP COMMODITIES IN DISTRICT 4 PORT DISTRICTS

Rank	Mid-America Intermodal Authority Port District	Heart of Illinois Regional Port District	Illinois Valley Regional Port District
1	Food	Food	Petroleum Products
2	Chemicals	Chemicals	Food
3	Fertilizer	Fertilizer	Coal

Source: U.S. Army Corps of Engineers.

Port and Waterway Needs

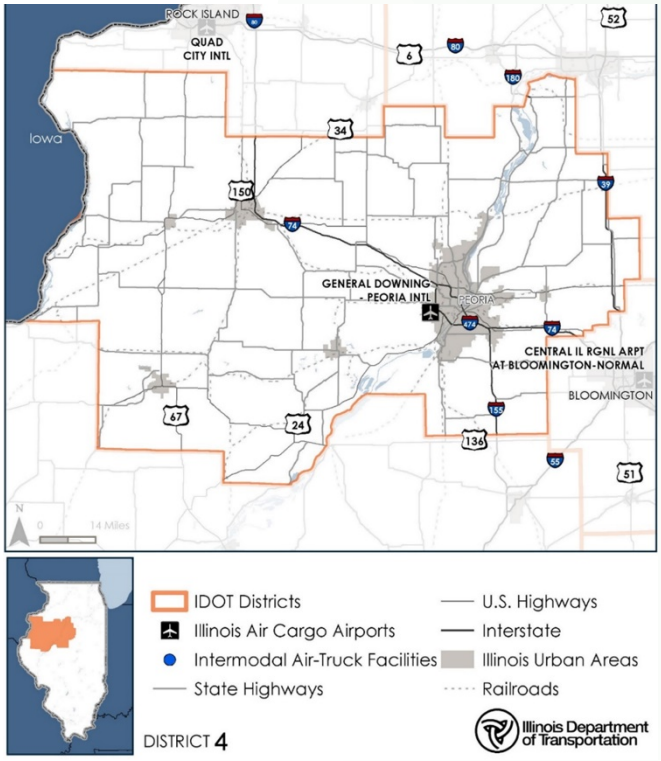
Marine terminals vary in size and have infrastructure that supports multiple modes, including waterway, roadway, and rail. For a terminal to operate efficiently, assets of all modes must be kept up in a state of good repair. There are three port districts that are within District 4; however, none of them currently own or operate any facilities, and nearly all the waterway terminals are privately owned. A number of needs were identified as part of the outreach process and survey in District 4. Mid-America Intermodal Authority Port District reported 2 navigational structure needs pertaining to wharf and terminal truck conditions, as well as other capital improvement needs pertaining to dock and sea wall infrastructure, raising the main BJRY rail line to mitigate flood risk, and constructing rail track capable of handling unit trains. Needs were not received from Illinois Valley Regional Port District or Heart of Illinois Regional Port District. Additional details on the port and waterway needs in Illinois can be found in the Illinois Marine Transportation System Plan.

3.4 Air Cargo

Air Cargo Infrastructure and Facilities

Illinois airports support the State's businesses and industries by transporting commodities and finished goods, both from suppliers and to customers. Air cargo is vital to Illinois' freight economy, allowing for freight to be moved over long distances in a short amount of time, and supporting the State's overall competitiveness with other air-served freight markets. With national and international airports that distribute cargo located in Chicago and Rockford, the State is a major air cargo origin and destination point for national and international shipments. The largest air cargo hub in Illinois is O'Hare International Airport (ORD) in northwest Chicago, which transported 82 percent of total air cargo tonnage in the State. Furthermore, in 2020, O'Hare was ranked 7th among U.S. cargo hubs, and 17th globally. ORD functions as an international gateway due to its substantial airside infrastructure capacity and Chicago's central location within the U.S. for truck and rail distribution.

FIGURE 3.20 AVIATION INFRASTRUCTURE IN DISTRICT 4



Source: FHWA.

District 4 only has one cargo-handling airport, General Downing-Peoria International (PIA). The airport is important to manufacturing in the area because it has U.S. Customs service, which streamlines freight originating from international markets into PIA. UPS operates between PIA and its Louisville hub, and belly cargo is transported on passenger flights. Figure 3.20 shows PIA's location in the District.

Air Cargo Demand and Performance

PIA regularly handles similar cargo volumes to Chicago Midway International Airport (MDW), approximately 20,000 tons per year between 2015 and 2020. Table 3.5 identifies the top air cargo commodities. The majority of the cargo, by tonnage, was small packaged freight shipments. When measured by value, transportation equipment was the top commodity.

TABLE 3.5 DISTRICT 4 AIR CARGO DEMAND (2019)

Commodity	Tonnage (thousand)	% of Total	Value ($M)	% of Total
Transportation Equipment	1.5	10%	$613	34%
Electrical Equipment	1.2	8%	$318	18%
Misc. Manufacturing Products	0.3	2%	$225	13%
Misc. Mixed Shipments	1.2	8%	$166	9%
Chemicals or Allied Products	0.8	5%	$165	9%
Machinery	1.1	8%	$142	8%
Instrum., Photo Equipment, Optical Eq.	0.5	3%	$119	7%
Textile Mill Products	0.5	4%	$11	1%
Fabricated Metal Products	0.1	1%	$6	0%
Rubber or Misc. Plastics	0.1	1%	$5	0%
Food or Kindred Products	0.2	1%	$2	0%
Small Packaged Freight Shipments	7.0	48%	N/A	N/A
All Others	0.2	1%	$9	1%
Total	**14.8**	**100%**	**$1,781**	**100%**

Source: 2019–2050 S&P Transearch data.

Note: Small Packaged Freight Shipments are missing associated value.

Air Cargo Needs

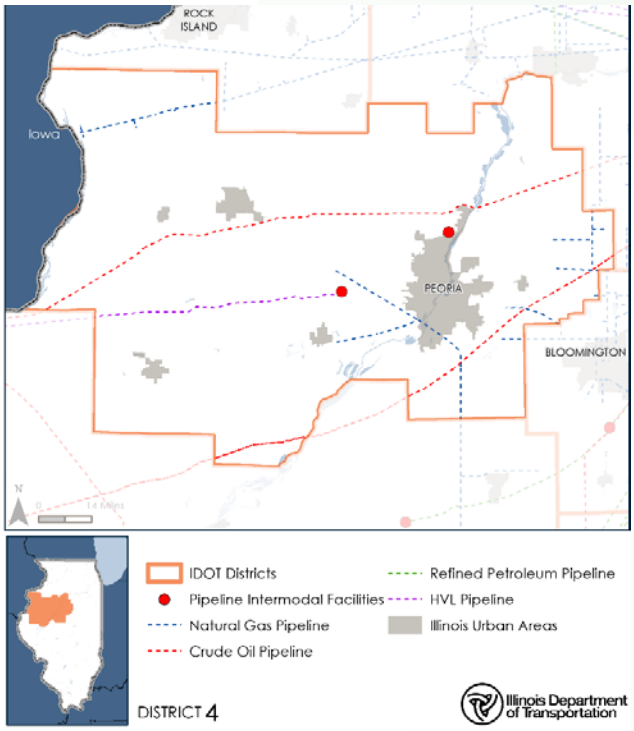
While the State Aviation System Plan identifies general needs at each of the State's airports, there were no specifically identified air cargo related needs at PIA or overall in District 4.

3.5 Pipelines

Pipeline Infrastructure and Facilities

Illinois has a long history of producing and transporting crude oil, petroleum products, and natural gas beginning in the early 1900s. Although other states have surpassed Illinois' production capabilities, the early and continued production of crude oil in Illinois resulted in a robust buildout of pipeline infrastructure throughout the State. Illinois contains over 134,000 miles of pipeline that carry crude oil, highly volatile liquids (HVL), refined petroleum, and natural gas. Pipelines are a critical piece of infrastructure, transporting natural gas, petroleum, crude oil, biofuels, and other products, for processing, handling, and to end consumers. The pipeline system is owned and operated by private entities and varies by size, material, and commodity transported. All pipelines interact with pipeline terminals, refineries, or storage facilities, which process, store, and link pipeline commodities to other modes of freight transportation, such as pipeline, rail, barge, and truck. Each type of pipeline has a different role in the collection, processing, and delivery of pipeline commodities. The network is particularly dense in the northern part of the State, especially in the Chicago metropolitan area, which is a major consumer market.

FIGURE 3.21 PIPELINE INFRASTRUCTURE IN DISTRICT 4



Source: IDOT; U.S. Energy Information Administration.

As shown in Figure 3.21, District 4 has a small number of pipelines present for each of the four pipeline commodities—natural gas, crude oil, refined petroleum products, and HVLs. The crude oil pipelines cross through the District, while the refined petroleum products pipeline and the HVL pipeline both have origins/destinations within the District. The HVL pipeline stops at a terminal for Buckeye Pipeline in Chillicothe, while the refined petroleum products pipeline terminates in Galesburg. There is another intermodal facility for Enterprise Products in Elmwood, west of Peoria.

Pipeline Demand

An estimated 9 million tons of pipeline commodities valued at $2.6 billion flowed throughout District 4 in 2017. These flows represent seven percent of Illinois' total pipeline tonnage and three percent of total pipeline value. Table 3.6 summarizes the pipeline volume and value by commodity in the District. Natural gas and fossil products commodities[8] comprised 47 percent of total tonnage and 28 percent of total value in the District, while crude petroleum and gasoline comprised 23 and 21 percent, respectively, of total tonnage. There were minimal volumes of basic chemicals and fuel oil flows present in District 4.

[8] Commodities classified as natural gas and fossil products that can be transported via pipeline include liquefied natural gas, propane, butane, and other liquefied gaseous hydrocarbons.

TABLE 3.6 DISTRICT 4 PIPELINE DEMAND, 2017

Commodity	Tonnage (in thousands)	% of Total	Value ($M)	% of Total
Basic chemicals	15	0%	$1	0%
Natural gas and fossil products	3,988	47%	$732	28%
Crude petroleum	1,951	23%	$616	23%
Fuel oils	798	9%	$410	15%
Gasoline	1,809	21%	$891	34%
Total	**8,561**	**100%**	**$2,650**	**100%**

Source: Freight Analysis Framework (FAF5).

Pipeline Needs

IDOT's 2022 Pipeline Study included an assessment of potential locations of pipeline-related NHS intermodal connectors in Illinois, using truck count data. There were no potential connectors identified in District 4, and as such there are no identified pipeline needs in the District.

4.0 Freight Equity and Environmental Justice

While the movement of goods is critical to Illinois' economy, it also can impact the State's communities, natural and cultural resources. The impacts of freight have historically been disproportionately felt by underserved communities throughout Illinois and the Nation. As such, improving equity and reducing the environmental impacts of freight are a priority for both IDOT and U.S. Department of Transportation (DOT). In order to help the State achieve its environmental and community goals, it is critical for IDOT to understand where freight movements pose the most risk to communities and the environment. This increases the State's ability to collect and track data on both acute issues and trends, and design and implement policies and procedures to mitigate or reduce impacts in already overburdened communities and environmental areas.

This chapter summarizes analyses that were undertaken as part of this District Freight Plan to help IDOT understand the spatial relationship between the PFN, disadvantaged communities, and natural and cultural resources within the State. IDOT examined the spatial relationship between the PFN and disadvantaged communities in Illinois, as defined by the U.S. DOT's Justice40 metrics and various Illinois metrics.

4.1 District 4 Baseline Spatial Metrics

District 4 is located in central Illinois, anchored by the City of Peoria. As shown in Table 4.1, in District 4, there are approximately 889 miles of the PFN within District 4, or 11 percent of all PFN mileage within Illinois. Peoria (148 miles) and Tazewell (117 miles) counties have the largest share of PFN within the District. There are also 146 census tracts, and 470 census block groups within District 4, about 5 percent of the Illinois total.

TABLE 4.1 DISTRICT 4 BASELINE SPATIAL METRICS

County	2010 Census Tracts		2010 Census Block Groups		Priority Freight Network	
	#	% of District Tracts	#	% of District Block Groups	PFN Miles	% of District PFN Miles
Fulton	12	8%	43	9%	108	12%
Henderson	3	2%	9	2%	18	2%
Knox	16	11%	58	12%	91	10%
Marshall	5	3%	12	3%	80	9%
McDonough	10	7%	34	7%	67	8%
Mercer	4	3%	19	4%	49	6%
Peoria	48	33%	141	30%	148	17%
Putnam	2	1%	8	2%	40	5%
Stark	2	1%	8	2%	13	1%
Tazewell	30	21%	86	18%	117	13%
Warren	5	3%	22	5%	53	6%
Woodford	9	6%	30	6%	103	12%
District 4	**146**	**100%**	**470**	**100%**	**889**	**100%**
Statewide	**3,121**		**9,691**		**7,829**	

Source: IDOT, U.S. Census.

4.2 U.S. DOT Justice40 Metrics

Justice40 Transportation Disadvantaged Communities (Composite Measure)

The Transportation Disadvantaged communities is a composite metric, flagging census tracts where four or more of the six measures of disadvantage are present, as defined by U.S. DOT.[9] In total, 23 miles or about three percent of the total PFN mileage in the District intersects with Transportation Disadvantaged communities.

As shown in Table 4.2 and Figure 4.1, the areas of PFN and Transportation Disadvantaged community intersections are distributed across two of the 12 counties in the District: Peoria and Tazwell. Areas with PFN and Transportation Disadvantaged communities intersections are almost exclusively located in and around the City of Peoria, except for the intersection of the census tract in Chillicothe (northeastern Peoria County) and IL Rt. 29.

TABLE 4.2 INTERSECTION BETWEEN THE PRIORITY FREIGHT NETWORK AND U.S. DOT JUSTICE40 DISADVANTAGED COMMUNITIES IN DISTRICT 4, BY COUNTY

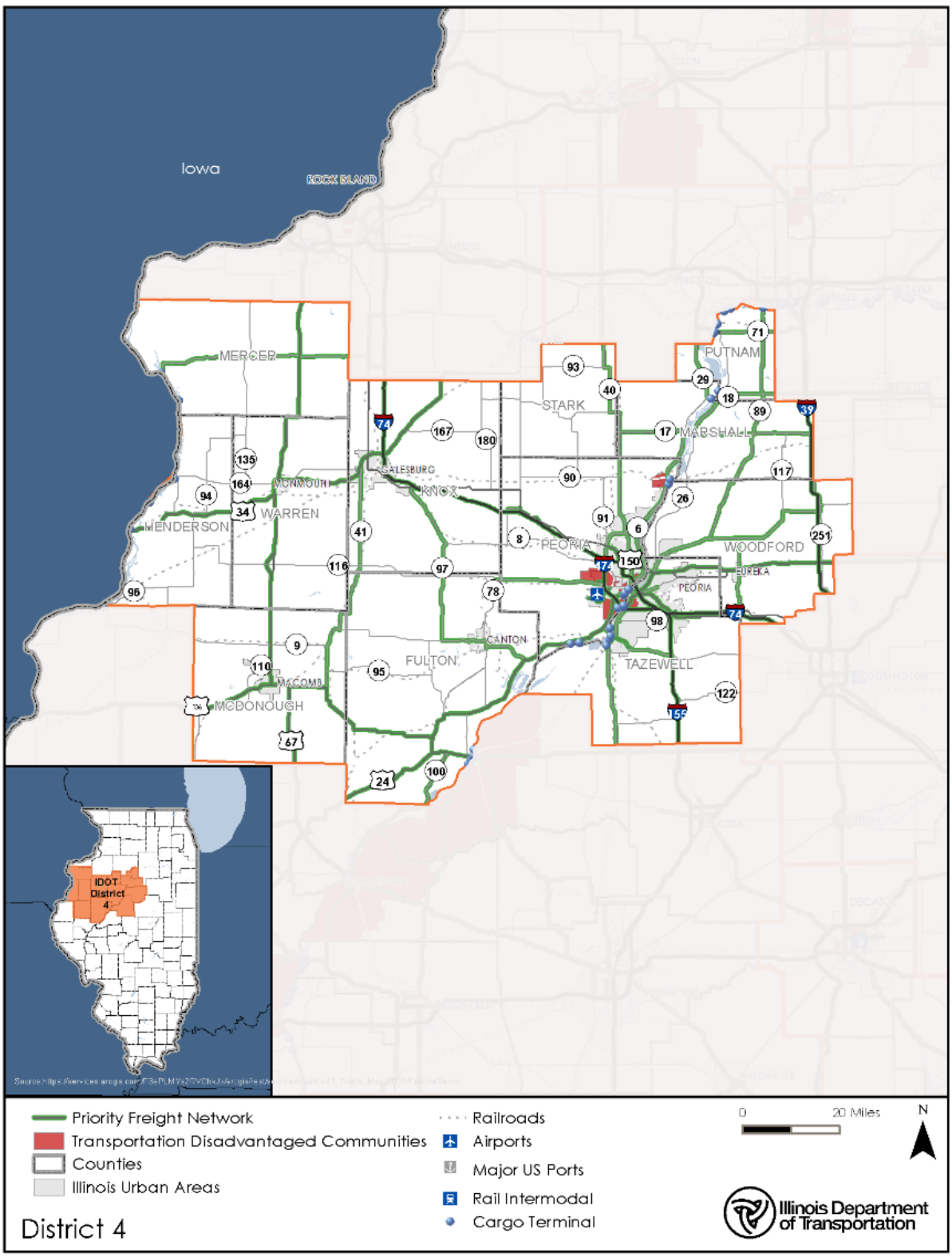
County	Total J40 Disadvantaged Census Tracts		J40 Disadvantaged Census Tracts Intersected by PFN (Tracts)		J40 Disadvantaged Census Tracts Intersected by PFN (Miles)		
	#	% of County/ District Tracts	#	% of County/ District Tracts	PFN Miles	% of County/ District PFN Miles	% of District J40 PFN Miles
Fulton	0	0%	0	0%	0	0%	0%
Henderson	0	0%	0	0%	0	0%	0%
Knox	0	0%	0	0%	0	0%	0%
Marshall	0	0%	0	0%	0	0%	0%
McDonough	0	0%	0	0%	0	0%	0%
Mercer	0	0%	0	0%	0	0%	0%
Peoria	10	21%	9	19%	21	14%	88%
Putnam	0	0%	0	0%	0	0%	0%
Stark	0	0%	0	0%	0	0%	0%
Tazewell	1	3%	1	3%	3	0%	12%
Warren	0	0%	0	0%	0	0%	0%
Woodford	0	0%	0	0%	0	0%	0%
District 4	**11**	**8%**	**10**	**7%**	**23**	**3%**	**100%**
Statewide	**866**	**28%***	**514**	**16%***	**1,328**	**17%***	

Source: IDOT, U.S. Census, U.S. DOT Justice 40.

** Percent of state.*

[9] https://www.whitehouse.gov/environmentaljustice/justice40/

FIGURE 4.1 DISTRICT 4 JUSTICE40 TRANSPORTATION DISADVANTAGED COMMUNITIES AND PRIORITY FREIGHT NETWORK INTERSECTIONS



Source: IDOT, U.S. Census, U.S. DOT Justice 40..

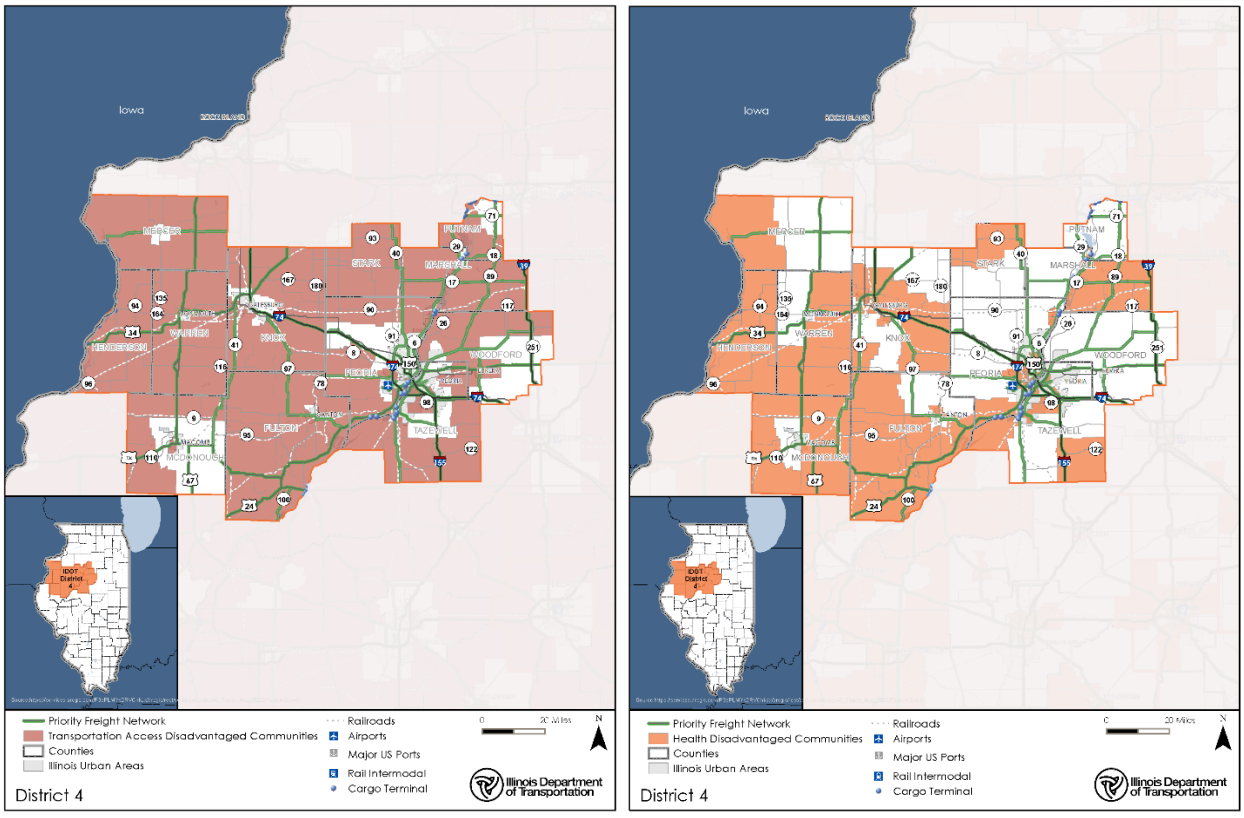
Justice40 Transportation Access Disadvantaged Communities

The Transportation Access Disadvantaged census tracts, as defined by the U.S. DOT, are communities that spend more on transportation and take longer to get to their destination. All but a few small pockets of District 4 counties are defined as Transportation Access Disadvantaged communities. About 606 miles (68 percent) of the PFN in the District, intersect with Transportation Access Disadvantaged communities and are illustrated in Figure 4.2.

Justice40 Health Disadvantaged Communities

Health Disadvantaged Census tracts are communities with high numbers of aged persons and people without insurance. As shown in Figure 4.2, concentrations of Health Disadvantaged communities are primarily located west of I-74 and I-474. Approximately 47 percent of the District's PFN miles intersect with Health Disadvantaged communities. All of the PFN miles in Henderson County intersect Health Disadvantaged census tracts, Fulton County has the greatest number of intersecting PFN mileage at nearly 94 miles, representing 23 percent of the District 4 total. This mileage is largely distributed along U.S. 24, U.S. 136, IL Rt. 9, and IL Rt. 100.

FIGURE 4.2 DISTRICT 4 JUSTICE40 TRANSPORTATION ACCESS DISADVANTAGED COMMUNITIES AND PFN INTERSECTIONS (LEFT) AND JUSTICE40 HEALTH DISADVANTAGE CENSUS TRACTS AND PFN INTERSECTIONS (RIGHT)



Source: IDOT, U.S. Census, U.S. DOT Justice 40.

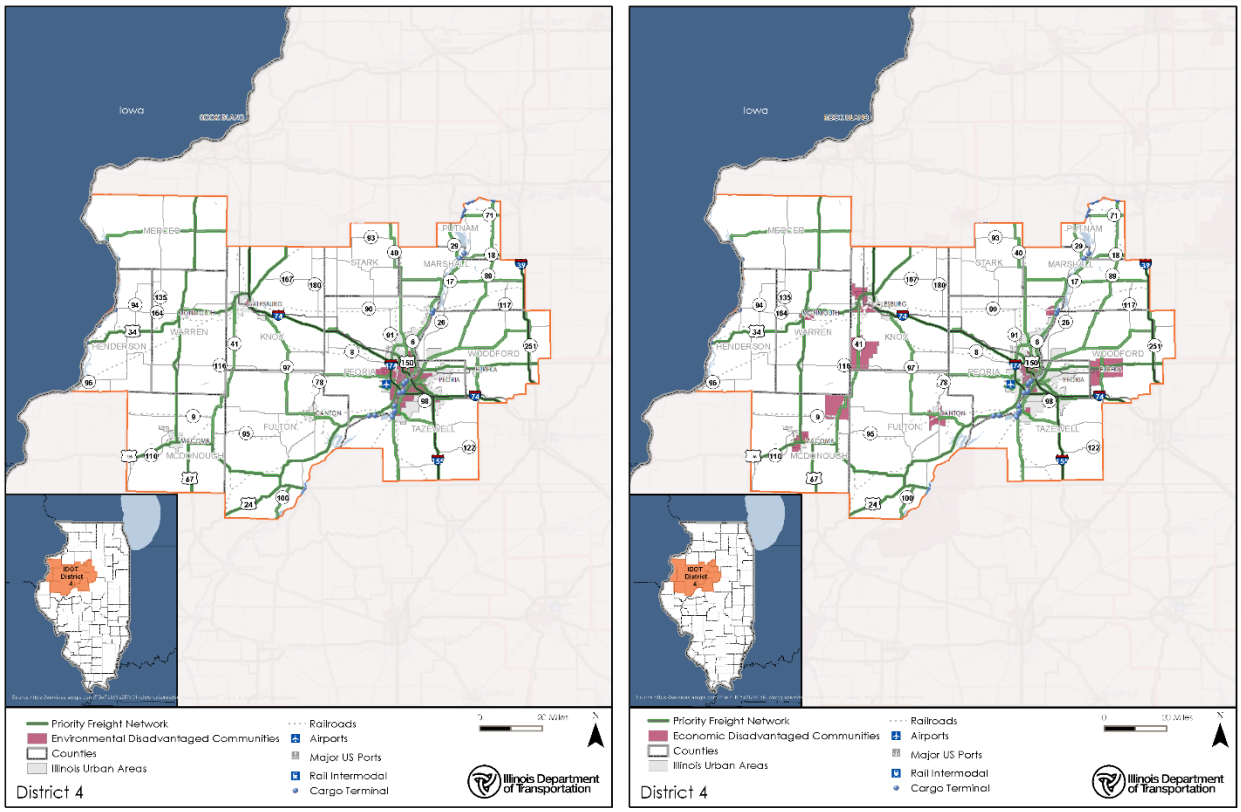
Justice40 Environmental Disadvantaged Communities

Environmental Disadvantaged census tracts represent communities with higher proportions of pollution burden and inferior environmental quality. In District 4, most of the census tracts considered Environmentally Disadvantaged are concentrated in and around the City of Peoria with one census tract on the eastern edge of Galesburg in Knox County also Environmentally Disadvantaged. There are approximately 93 miles of the PFN that intersect with these census tracts, as shown in Figure 4.3.

Justice40 Economic Disadvantaged Communities

Economically Disadvantaged census tracts include communities with high poverty, low wealth, a lack of local jobs, low homeownership, low educational attainment, and high inequality. The PFN in District 4 intersects with Economic Disadvantaged census tracts in seven of the 12 counties. In total, roughly 78 miles, or 9 percent, of the PFN miles in District 4 intersect these Economically Disadvantaged communities. Figure 4.3. shows that areas with significant PFN and disadvantaged community intersection include near West Peoria, Eureka, Canton, Macomb, and Galesburg.

FIGURE 4.3 DISTRICT 4 JUSTICE40 ENVIRONMENTAL DISADVANTAGED AND PFN INTERSECTIONS (LEFT) AND JUSTICE40 ECONOMIC DISADVANTAGED CENSUS TRACTS AND PFN INTERSECTIONS (RIGHT)



Source: IDOT, U.S. Census, U.S. DOT Justice 40.

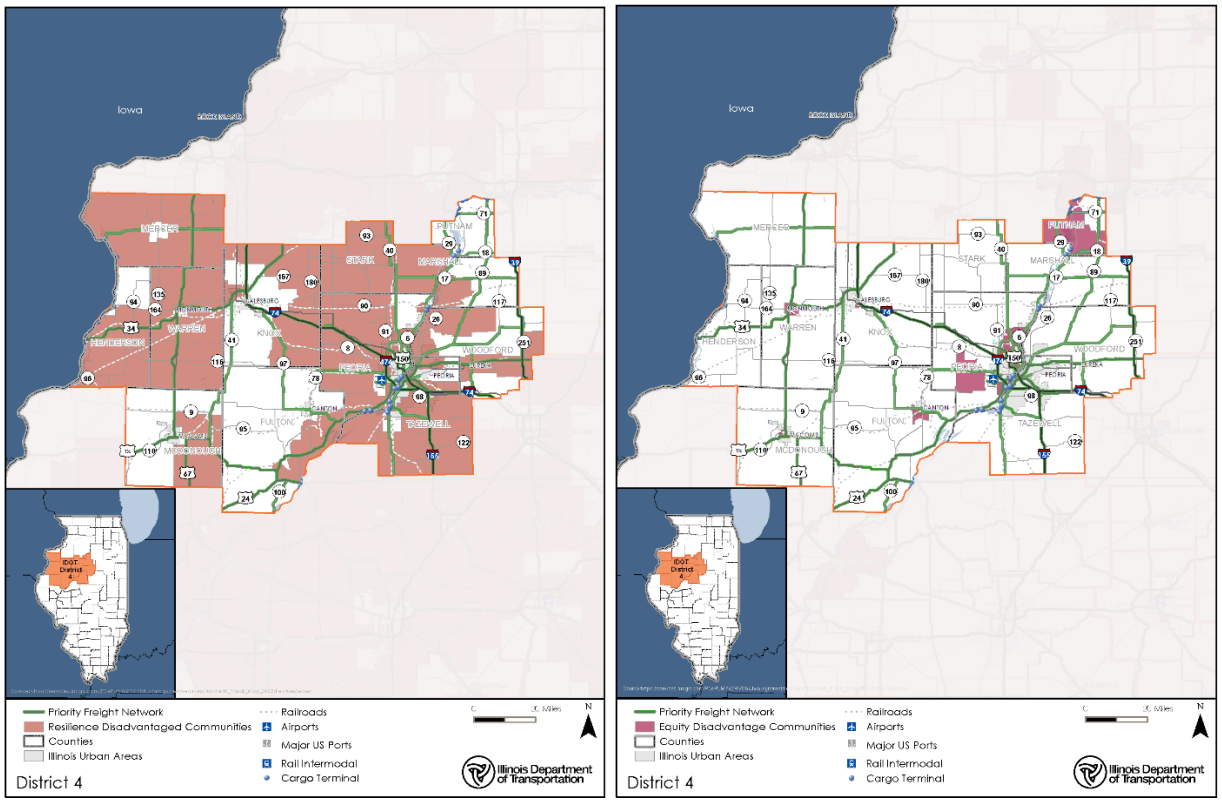
Justice40 Resilience Disadvantaged Communities

As defined by the U.S. DOT, Resilience Disadvantaged census tracts are areas that are vulnerable to hazards caused by climate change. Figure 4.4 illustrates that Resilience Disadvantaged census tracts comprise most of District 4 except for the northeastern edge of the District, and between IL Rt. 41 and IL Rt. 97. This is in part due to the close proximity of the District's communities to major river systems which can lead to flooding or other damage from storms or heavy rain. Approximately 56 percent (498 miles) of the District PFN mileage intersect with these communities, with particularly high concentrations in Henderson County, Stark County, Warren County, and Mercer County.

Justice40 Equity Disadvantaged Communities

Equity Disadvantaged census tracts, as defined by the U.S. DOT, are communities with a high percentile of persons (age 5+) who speak English "less than well." In District 4, approximately 11 percent (93 miles) of the District PFN mileage intersect with Equity Disadvantaged communities. As shown in Figure 4.4, key areas with a large number of PFN miles intersecting Equity Disadvantaged census tracts include IL Rt. 116 in and around Hanna City; I-74, U.S. 150, IL Rt. 29 and IL Rt. 40 in the northern suburbs of Peoria; and IL Rt. 18, IL Rt. 29, and IL Rt. 89 in Putnam County.

FIGURE 4.4 DISTRICT 4 JUSTICE40 RESILIENCE DISADVANTAGE CENSUS TRACTS AND PFN INTERSECTIONS (LEFT) AND JUSTICE40 EQUITY DISADVANTAGE CENSUS TRACTS AND PFN INTERSECTIONS (RIGHT)

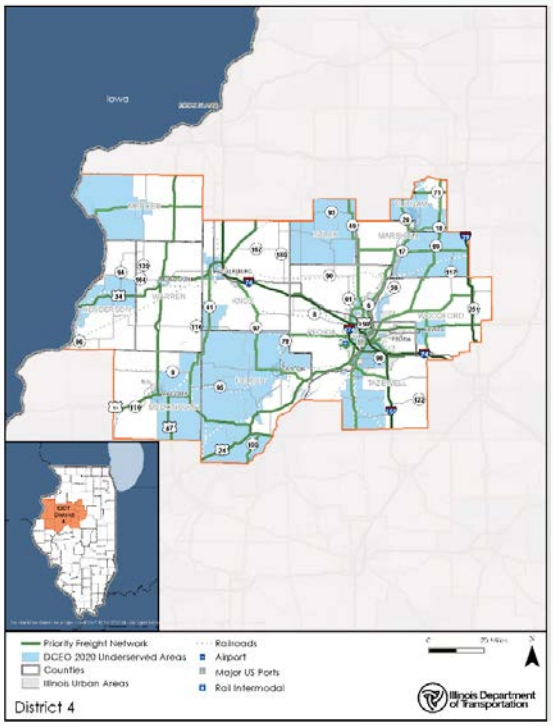


Source: IDOT, U.S. Census, U.S. DOT Justice 40.

4.3 Illinois Department of Commerce & Economic Opportunity (DCEO) Underserved Areas

The Illinois Department of Commerce and Economic Opportunity (DCEO) identifies areas of the State meeting one or more criteria of poverty or unemployment. About 45 percent (397 miles) of the PFN miles intersect with census tracts designated as DCEO underserved areas. This DCEO intersection in District 4 is on par with the overall statewide rate of 43 percent. As shown in Figure 4.5, counties with a high relative share of PFN miles intersecting DCEO underserved areas include Stark (100 percent), Henderson (100 percent), and McDonough (74 percent). Fulton County has the greatest number of intersecting route miles at 81 miles. DCEO underserved Aareas are spread fairly uniformly throughout the District, with slightly higher prevalence along state routes than Interstates such as I-74.

FIGURE 4.5 DISTRICT 4 ILLINOIS DCEO UNDERSERVED AREAS AND PFN INTERSECTIONS

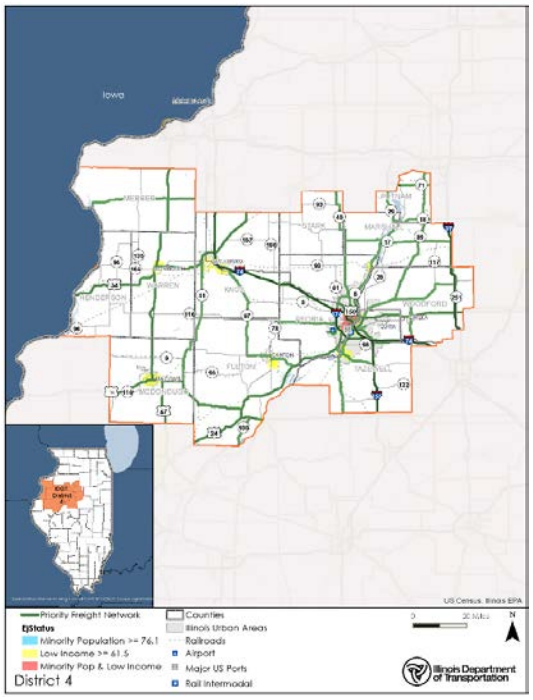


Source: IDOT, U.S. Census, DCEO.

4.4 Illinois Environmental Protection Agency- EJ Start 2021

Illinois Environmental Protection Agency's (IEPA) Environmental Justice (EJ) Start database contains two metrics relating to EJ status, both of which are measured at the block group level: minority prevalence and low-income prevalence. In District 4, low-income is the most prevalent of the two metrics, as approximately 40 miles of the PFN intersect with these block groups. Just one county (Peoria) includes PFN miles that intersect with a minority community block group, as shown in Figure 4.6. Overall, no counties in District 4 exceed the average statewide shares of PFN mileage in minority block groups, while only Peoria County (14 percent) and McDonough County (7 percent) meet or exceed the average statewide share of PFN mileage in low-income block groups (7 percent). Areas of PFN and minority and/or low-income community intersections are primarily located in the cities of Peoria, Pekin, Canton, Macomb, Monmouth, Galesburg, and Chillicothe.

FIGURE 4.6 DISTRICT 4 ILLINOIS EPA EJ START COMMUNITIES AND PFN INTERSECTIONS



Source: IDOT, U.S. Census, IEPA.

TABLE 4.3 INTERSECTION BETWEEN THE PRIORITY FREIGHT NETWORK AND ILLINOIS DCEO UNDERSERVED AREAS IN DISTRICT 4, BY COUNTY

County	DCEO Underserved Census Tracts		DCEO Underserved Census Tracts Intersected by PFN (Tracts)		DCEO Underserved Census Tracts Intersected by PFN (Miles)		
	#	% of County/ District Tracts	#	% of County/ District Tracts	PFN Miles	% of County/District PFN Miles	% of District DCEO PFN Miles
Fulton	11	92%	11	92%	81	74%	20%
Henderson	1	33%	1	33%	17.7	100%	4%
Knox	8	50%	5	31%	27	29%	7%
Marshall	4	80%	4	80%	55	0%	14%
McDonough	6	60%	5	50%	50	74%	13%
Mercer	2	50%	2	50%	17	34%	4%
Peoria	27	56%	23	48%	39	27%	10%
Putnam	1	50%	1	50%	28	70%	7%
Stark	2	100%	2	100%	13	100%	3%
Tazewell	13	43%	13	43%	49	0%	12%
Warren	1	20%	1	20%	2	3%	0%
Woodford	2	22%	1	11%	19	18%	5%
District 4	**78**	**53%**	**69**	**47%**	**397**	**45%**	**100%**
Statewide	**1,484**	**48%***	**931**	**30%***	**3,380**	**43%***	

Source: IDOT, U.S. Census, IL DCEO

** Percent of state.*

TABLE 4.4 INTERSECTION BETWEEN THE PFN WITH IEPA EJ START CENSUS BLOCK GROUPS IN DISTRICT 4, BY COUNTY AND CATEGORY

County	Intersection of PFN and Minority Communities			Intersection of PFN and Low-Income Households			Intersection of PFN, Minority and Low-Income Households		
	# Of Census Block Groups	PFN Miles	% PFN Miles	# Of Census Block Groups	PFN Miles	% PFN Miles	# Of Census Block Groups	PFN Miles	% PFN Miles
Fulton	0	0	0%	2	3	2%	0	0	0%
Henderson	0	0	0%	0	0	0%	0	0	0%
Knox	0	0	0%	2	4	4%	0	0	0%
Marshall	0	0	0%	0	0	0%	0	0	0%
McDonough	0	0	0%	4	5	7%	0	0	0%
Mercer	0	0	0%	0	0	0%	0	0	0%
Peoria	5	5	3%	13	20	14%	4	4	3%
Putnam	0	0	0%	0	0	0%	0	0	0%
Stark	0	0	0%	0	0	0%	0	0	0%

County	Intersection of PFN and Minority Communities			Intersection of PFN and Low-Income Households			Intersection of PFN, Minority and Low-Income Households		
	# Of Census Block Groups	PFN Miles	% PFN Miles	# Of Census Block Groups	PFN Miles	% PFN Miles	# Of Census Block Groups	PFN Miles	% PFN Miles
Tazewell	0	0	0%	3	6	5%	0	0	0%
Warren	0	0	0%	1	3	5%	0	0	0%
Woodford	0	0	0%	0	0	0%	0	0	0%
District 4	**5**	**5**	**1%**	**25**	**40**	**4%**	**4**	**4**	**0.5%**
Illinois	**715**	**530**	**7%***	**387**	**535**	**7%***	**230**	**237**	**3%***

Source: IDOT, U.S. Census, Illinois EPA EJ Start.

** Percent of state.*

4.5 Natural Systems

Like many human activities, the movement of freight can be a threat to not only human health but also the environment, including emissions or other pollutants that can impact air and water quality, as well as noise or vibrations that may impact wildlife. It is critical to understand where and how freight movements might adversely affect these natural systems so precautions or mitigation efforts can be taken. Natural systems examined by this analysis include flood zones, wetlands, streams, lakes, aquifers, farmland, and poor air quality zones. Table 4.5 quantifies the intersection of PFN with various natural systems present in District 4.

A significant majority of the PFN in District 4 passes through areas with poor air quality (748 miles),and intersects farmlands (734 miles). There are minor intersections with wetlands, 500-year flood zones, and impaired lakes (approximately 1 mile each). Additionally, in the south-central portion of District 4, 145 miles (or 16 percent of the total District 4 PFN miles) intersect with the Mahomet Sole Source Aquifer, the primary drinking water source for 15 counties.

TABLE 4.5 DISTRICT 4 SUMMARY NATURAL SYSTEMS

Natural System	Intersection of Priority Freight Network with Natural Systems	
	Miles	% of Total District PFN Miles
500-Year Flood Zone	1	<1%
100-Year Flood Zone	16	2%
Wetlands	1	<1%
Impaired Streams	36	4%
Impaired Lakes	1	<1%
Sole Source Aquifer	145	16%
Farmland	734	83%
Air Quality (PM2.5)	748	84%

Source: IDOT, Federal Emergency Management Agency (FEMA), IEPA, U.S. EPA, U.S. Department of Agriculture (USDA).

Information on threatened and endangered species in Illinois is maintained by the Illinois Natural Heritage Database and is available at a county level. Identification of the presence of threatened and endangered species and habitat is best performed as specific IDOT projects are identified and submitted to the Illinois Department of Natural Resources' (IDNR) EcoCAT, Ecological Compliance Assessment Tool. District 4 has several endangered species habitats within its boundary. In total, there are 117 endangered species, and 95 threatened species present in District 4.[10] Caution should be taken to avoid any harm or damage being done to these species as investments are made.

4.6 Cultural Resources

Cultural resources are an important part of communities and our way of life. Freight-related noise, vibration, and pollutants can damage human-created structures. Table 4.6 summarizes the prevalence of historic districts and properties listed on the National Registry that are within a quarter-mile buffer of the PFN in District 4. The PFN does not significantly intersect historic districts in District 4; however, 44 miles of the PFN are near historic properties. Freight activities intersecting these areas should include plans to protect or preserve these cultural resources since some of these locations may have significant meaning to certain communities.

TABLE 4.6 DISTRICT 4 SUMMARY OF CULTURAL RESOURCES

Cultural Resources	# in Counties in District	Priority Freight Network Intersection in Miles
Historic Districts	23	1
Historic Properties	303	43

Source: IDOT, IDNR.

[10] https://dnr.illinois.gov/content/dam/soi/en/web/dnr/espb/documents/ETCountyList_Apr2023.pdf.

5.0 Freight Trends, Opportunities, and Investments

This section will discuss freight trends and opportunities in District 4, and outline opportunities for investment in the freight system. Broader in scope than Chapter 3, this chapter discusses trends and opportunities at the state and federal levels, military freight, hazardous materials, and technology and intelligent transportation systems (ITS). It also discusses the findings of a District-specific strengths, weaknesses, opportunities, and threats (SWOT) analysis, and presents the multimodal freight investment needs for District 4.

5.1 Freight Trends and Opportunities Relevant to District

Illinois is the third busiest freight state when measured by value, and fourth when measured by tonnage.[11] To keep up with this demand, it is critical to address the needs and challenges the freight system faces. Some of these are driven by local conditions, such as outdated geometric design or end of life infrastructure, while others are derived from national and international trends, such as increasing volumes of local delivery due to the e-commerce economy, and increased oversize/overweight (OSOW) traffic influenced by factors such as the growth of wind energy farms. When considering needs on the freight system, it is important to understand the issues and trends that impact freight in Illinois. Table 5.1 highlights the key freight trends for District 4, which are also discussed below.

Federal Trends and Opportunities

By authorizing $567 billion in funding over a period of five years, the 2021 IIJA legislation enables the most expansive investment in U.S. transportation infrastructure in recent history. Out of this amount, $78 billion is dedicated to freight investments, including significant funding for freight-related competitive grant programs. Funding of this magnitude will have a significant impact on Illinois' and the Nation's ability to improve the quality of critical transportation infrastructure. IIJA also formed the groundwork for action in a number of other important categories, including climate change, resilience, and reducing dependency on fossil fuels. For example, IIJA is spurring development of a national network of zero-emissions vehicle infrastructure along highway corridors and in communities, of which Illinois is an active participant.[12]

State Trends and Opportunities

Illinois put into law the Climate and Equitable Jobs Act (CEJA) in 2022, which includes provisions to phase out carbon emissions from the energy and transportation sectors. Climate change is expected to bring increased flooding and droughts to Illinois and impacts on shipping are already being seen along the State's waterways which have experienced several decades of extreme conditions. To avoid the worst impacts to the freight system, Illinois must not only reduce its carbon emissions but also make investments to harden its infrastructure and protect against climate stressors. Specifically, the act requires all coal-fired plants to be emission free by 2030 (2050 for municipal power plants). District 4 has many coal-fired plants which are undergoing retirement, leading to a large drop in coal tonnage being brought into the District.

CEJA will also bring the rise to more wind farms within County. Data from the National Renewable Energy laboratory shows average wind speeds in District 4, making it a prime

[11] Federal Highway Administration (FHWA) Freight Analysis Framework version 5 (FAF5)
[12] https://idot.illinois.gov/home/drive-electric-illinois.

location for windfarms.[13] This rise in wind farms would place additional stress on the highway network, as constructing and transporting turbines requires OSOW traffic to move on the roadway network.

CEJA additionally sets a goal of adopting one million electric vehicles in Illinois by 2030 and was followed up by the Illinois Reimagining Electric Vehicles Act, which is a competitive state program to provide incentives to EV manufacturers and suppliers locating in or expanding their presence in Illinois.[14]

Market Specific Trends and Opportunities

Energy, supply chain management, e-commerce, the changing workforce, and technology are broad reaching trends that continue to impact freight in Illinois and across the Nation. The reduction in coal-fired power plants is driving a major commodity shift, particularly on the rail and waterways, whereas increases in wind energy farms in the State have led to significant amounts of OSOW traffic moving throughout the State. Changes in the global supply chain, both due to stress through the COVID-19 pandemic, the rise in e-commerce, and other market shifts continue to drive the need for flexible, multimodal supply chains in Illinois to support both businesses and consumers in the State.

E-commerce has grown exponentially over the years and has shifted the way individuals purchase goods. Companies like Amazon have made next day shipping, or even same day shipping, a reality. This has also changed the way companies set up their supply chains. The Peoria Metropolitan Statistical Area has a population of just over 400,000 people, supplying products to this population via ecommerce is a massive undertaking and requires a complex supply chain. If e-commerce continues to grow, the supply chain will need to expand which will place additional stress on the transportation network. One major asset which does not see much cargo activity is the Peoria International Airport; however, it could help address some of the needs of e-commerce and provide additional capacity.

Like many industries, freight-related sectors are currently facing significant and widespread workforce challenges. Most notably, substantial difficulties in recruiting as well as retaining staff in the trucking, rail, marine, and aviation modes, as well as for warehouse and distribution which create disruption and diminishes the performance of the freight system. Some industry leaders and operators are motivated by these challenges to increase investment in technologies such as autonomous and connected vehicles. At the same time, other industries are looking at ways to improve efficiency and reduce their workforce needs. Together, these overlapping trends create a shifting environment that will continue to impact how the Illinois multimodal freight system is used both now and in the future.

District 4 is in a unique position with two navigable waterways. This provides a potential opportunity for container-on-barge service in the future. Container-on-barge is currently limited in use in the Nation due to the lack of terminal infrastructure present. However, there has been a push to create/expand this service across the country. This would provide a mode shift of containers to the waterway. The District could take advantage of containers-on-barge if the service comes to fruition.

[13] National Renewable Energy Laboratory
[14] https://dceo.illinois.gov/businesshelp/rev.html

Table 5.1 summarizes some of the key trends that are impacting freight and logistics in the State. These trends are driven by a combination of developments in the public and private realms, such as legislative mandates on the public side, and technology and competitive pressures on the private side.

TABLE 5.1 SUMMARY OF KEY TRENDS IMPACTING FREIGHT IN DISTRICT 4

Trend Categories	Details
2021 Infrastructure Investment and Jobs Act (IIJA)	» $567 billion to fund the transportation system over the next five years. $78 billion dedicated to freight investments. » Established the National Electric Vehicle Infrastructure Formula Program and several new programs aimed at mitigating the impacts of climate change, increasing resilience, improving safety, and addressing other impacts of both freight and passenger transportation.
Climate Change and Resilience	» Illinois CEJA of 2022 includes provisions to phase out carbon emissions from the energy and transportation sectors. » Federal Neighborhood Access and Equity Grant Program provides support for resiliency-related transportation projects and planning to protect against flooding, extreme heat, and more.
Energy	» Renewable energy accounted for 11% of Illinois' in-state electricity generation, nearly 19 billion KWh, and Illinois ranks fifth in the U.S. in wind-powered generating capacity. » The Illinois Renewable Portfolio Standard targets 50% of all retail energy be sourced from renewables by 2040. » Reduction in coal traffic on rail and waterways.
Supply Chain Distribution and Management	» Reshoring of manufacturing driven by reduction in delivery lead times, logistics costs, quality of goods, labor cost/availability, and reduced carbon footprint. » The Global Supply Chain Pressure Index (GSCPI), which indicates stress, has seen the highest deviations from average since 1997 in 2021.
E-commerce	» Ecommerce's retail sales grew on average 10% annually until 2020 when it gained over a decade worth of growth. » Retail e-commerce sales will likely continue to "run ahead" of the forecast by several years.
Changing Workforce	» Illinois DCEO has several programs that target freight and manufacturing-related workforce shortages. » Smaller railroad companies are in pursuit of eliminating Two-Person Crew requirements in rail cabs.
Technology	» Strategic investment in broadband was a key to Illinois maintaining a competitive economic environment during the COVID-19 pandemic. » Illinois is a national leader in ITS/Transportation System Management and Operations (TSMO) and Autonomous Vehicle (AV)/Connected Vehicle (CV) integration, and actively promoting the shift to electric trucks.

5.2 Military Freight

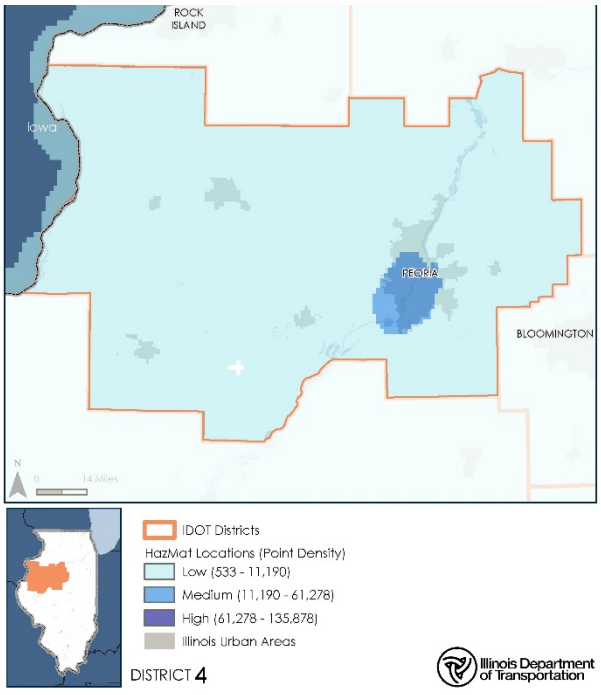
The military and defense industry play an important role in Illinois' economy. Annually, the military and the defense industry, directly and indirectly, contributes $13 billion in economic

activity and 150,000 jobs.[15] The military is also a driver of freight and cargo movements, including the movement of military personnel, supplies, and equipment within and through Illinois. Military facilities and activities in the State center around three active bases: Scott Air Force Base in the Metro East, Rock Island Arsenal in the Quad Cities, and Naval Station Great Lakes north of Chicago.

Ensuring that military facilities are connected to both military and civilian assets is critical for both day-to-day operations and national defense needs. Freight transportation assets are a contributing factor in base expansion and realignments. The U.S. Transportation Command developed the Strategic Highway Network (STRAHNET), which is a system of approximately 62,500 miles of roadways, including the Interstate system, that serves as the foundation of the U.S. Department of Defense's domestic on-the-ground operations. The STRAHNET defines the public highway network that is essential for supporting critical military and defense needs, including emergency mobilization and movement of goods including heavy armor, fuel, ammunition, repair parts, food, and other freight commodities that supports military operations. In Illinois, the STRAHNET includes the Interstate system and the highway connectors linking the three military installations in the State to the Interstate STRAHNET. In District 4, the STRAHNET includes I-74, I-474, and I-155. Additionally, the 182nd wing of the Air National Guard operates out of General Wayne A. Downing Peoria International Airport.

The U.S. Transportation Command also developed the Strategic Rail Corridor Network (STRACNET), which is a system of commercial railroads that serves U.S. Department of Defense's domestic operations, connecting bases, military installations, and maritime ports when rail service is needed. In Illinois, the STRACNET includes some of the major Class I (UP, BNSF, CP, CSX, NS) east-west and north-south rail corridors in the State, the Indiana Harbor Belt Railroad corridor circling Chicago, the UP, NS, and CSX corridors coming out of the Metro East, and the BNSF rail line connecting to the Rock Island Arsenal. In District 4, the STRACNET includes the BNSF east-west rail corridor through Galesburg, and the BNSF rail lines connecting Rock Island Arsenal and the Iowa Army Ammunition Plant to the STRACNET in Galesburg.

FIGURE 5.1 DISTRICT 4 HAZMAT ACTIVITIES LOCATIONS



Source: IDOT; IEMA Tier II Hazardous Materials Reporting Data, 2020.

5.3 Hazardous Materials

The term "hazardous materials" (HazMat) involves the transport of chemicals that have one or more hazardous properties. The hazardous properties are those that make up the nine U.S. DOT HazMat classes: explosives,

[15] Center for Governmental Studies Northern Illinois University, Illinois Military Base and Defense Industry Assets Economic Impact Study: State and Regional Analysis, November 2014. https://www2.illinois.gov/sites/ltg/issues/military/Documents/FINAL%20State%20Military%20Impacts%20Report%2011-20-14.pdf.

gasses, flammable liquids, flammable solids, oxidizing substances and organic peroxides, toxic and infectious substances, radioactive materials, corrosive substances, and miscellaneous.

WHAT IS HAZMAT?

HazMat, in some form, is consistently transported in Illinois, as it is essential to our society and economy. Many chemicals are present in common products that are used to power, clean, make, or maintain virtually every consumer good.

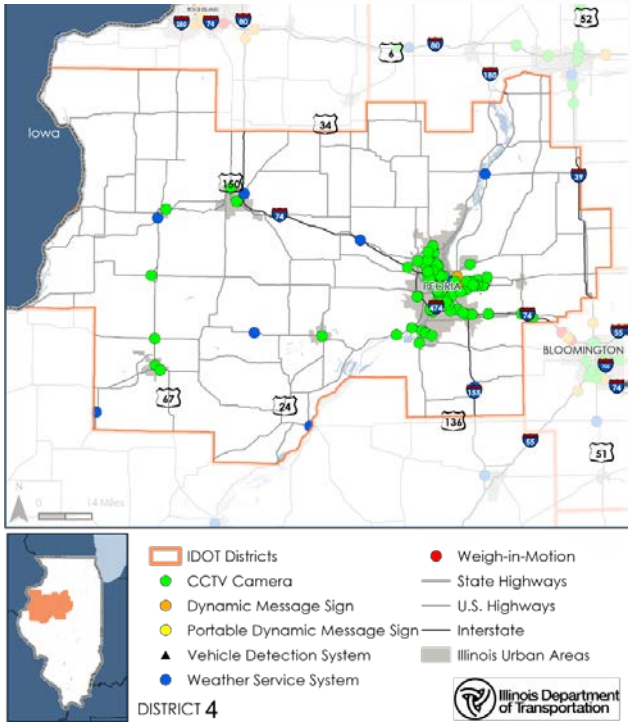
Illinois Emergency Management Agency's Tier II Hazardous Chemical Reporting tracks documented volumes and types of chemicals at sites throughout the State. Figure 5.1 shows the locations of these facilities in District 4. This data helps identify facilities that handle and store HazMat goods but does not necessarily mean that the chemicals are being handled or stored improperly or present an immediate hazard to the community. However, for the purposes of the Illinois State Freight Plan, the location of these facilities is helpful in understanding where HazMat is transported and stored in the context of the State's multimodal freight transportation system.

The majority of District 4 has low concentrations of HazMat sites, except for the Peoria area which has a medium level site density. Specifically, areas in, and south of, Peoria have a higher density, as this is the location of many manufacturing and processing plants which often use hazardous materials. This area is also the location of transload and waterway facilities, which are major points where these materials are brought into and out of the District.

5.4 Technology and ITS

ITS is roadway technology put in place to help improve traffic operations. It is a cost-effective way to help manage congestion and support incident management. There are several technologies, including closed-circuit television cameras, dynamic message signs, vehicle detection systems, and weather service systems located throughout District 4. A majority of the ITS infrastructure is installed on major state-owned roads around Peoria. The high concentration of ITS infrastructure around the Peoria metropolitan area is due to the high traffic volumes and along the U.S. 67 corridor. The technology is most widely used in dynamic message signs.

FIGURE 5.2 IDOT DISTRICT 4 ITS COVERAGE

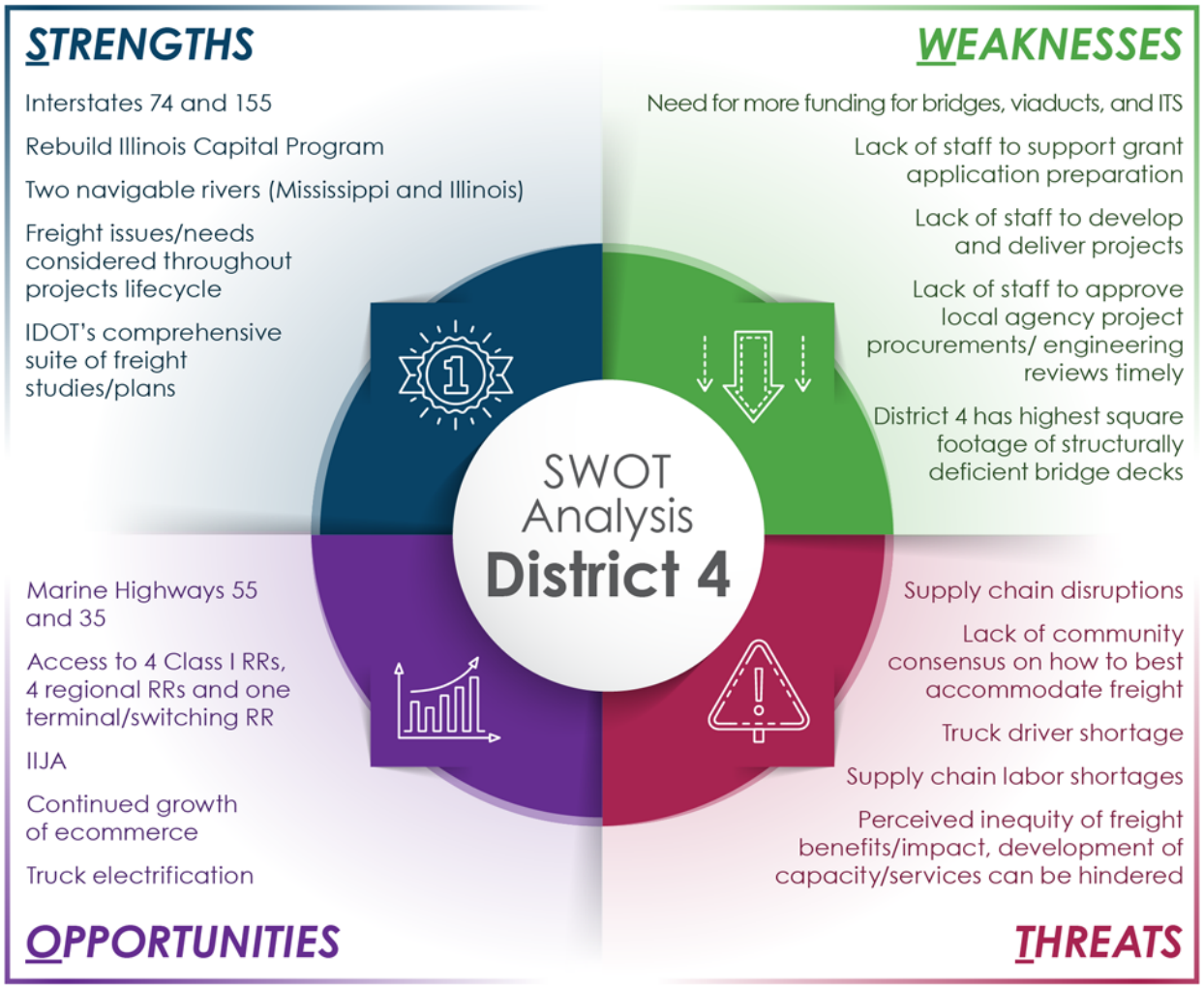


Source: IDOT.

5.5 SWOT Analysis and Stakeholder Identified Trends and Opportunities

A SWOT analysis was conducted as part of the development of each District Freight Plan. In District 4, IDOT District staff, IDOT Planning staff, the Illinois State Freight Advisory Council (ISFAC), and other regional freight stakeholders, including representatives from the trucking industry, aggregate producers, agriculture sector, railroads, Peoria International Airport, shippers, and the Tri-County Regional Planning Commission, participated in this process. During the forum, a long list of strengths, weaknesses, opportunities, and threats was whittled down to a top five in each category, which are shown in Figure 5.3.

FIGURE 5.3 SWOT ANALYSIS RESULTS FOR DISTRICT 4



Stakeholders noted the District's freight transportation assets and its comprehensive freight planning efforts position the District for economic growth and opportunity. However, without additional resources to address infrastructure and ITS needs, and staff to deliver on investments, the system will not be able to realize its full potential. Participants also indicated that bridge clearances impacting barges will need to be addressed as container-on-barge becomes more utilized on the Illinois River.

5.6 Multimodal Freight Investment

Illinois' roadways, railroads, ports, navigable waterways, airports, pipelines, and other facilities comprise the State's multimodal freight network, which connects businesses and consumers throughout Illinois and to domestic and international markets. While these multimodal assets are owned, operated, and maintained by a variety of entities, together they function to provide an integrated service to shippers and receivers moving critical raw materials, equipment, and intermediate and finished goods. For example, the modern agricultural supply chain has evolved to support a greater diversity of modern grain movements, with bulk grain first moved from farmers/producers via truck to an ethanol plant, intermodal container yard, grain elevator, or food processing site—depending on the product being produced—then moved via rail intermodal service, river barge, or unit rail train to domestic consumers or international export gateways. As discussed in Chapter 3, many of Illinois' freight needs are shared across these modes—including connectivity, capacity, safety, access, and resiliency—and as such, IDOT is looking comprehensively to address these needs across the system.

The following subsections present the proposed highway investments and multimodal investments in District 4. Projects were identified through a review of other state and region plans and analysis, stakeholder input, and input from IDOT District 4 staff.

Highway Investments

IDOT is continually investing in its transportation infrastructure and many of the highway needs in District 4 will be addressed through ongoing or future projects. Some of these priority projects impacting freight in the District are listed in Table 5.2. Projects listed below have been compared to the high needs segments in Table 3.1, and the ID(s) of any high freight needs segments that may be addressed by the project are listed. The U.S. 34 Improvement project is addressing a high need, specifically at the convergence in Monmouth.

However, many of the needs in the District are currently not being met and are opportunities for future investment by IDOT and its local partners. This includes many of the safety and system enhancement needs along I-74, as well as segments which have truck parking needs. Likewise, there are operational enhancement needs for the three bridge crossings in Downtown Peoria. Going forward, IDOT will continue to make investments on the highway system in District 4 to address the most critical freight challenges.

TABLE 5.2 FREIGHT SIGNIFICANT HIGHWAY PROJECTS IN DISTRICT 4

Project Location/Name	Project Description	Type	Connecting High Needs Segment ID(s)
U.S. 34 Improvement	U.S. 34 from east of Gulfport to west of Biggsville	Reliability	N/A
U.S. 34 Improvement	U.S. 34 S of Kirkwood to east of U.S. 34/67 at Monmouth	Reliability	104
IL Rt. 9 Bridge Replacement	Replacement of IL Rt. 9 bridge over the Spoon River near Blyton	Operational Needs, Reliability	N/A
U.S. 24/IL Rt. 9 Expansion	Expand to four lanes and bridge replacement from Banner to Kingston Mines	Capacity, Operational Needs, System Enhancements	N/A
IL Rt. 116 Reconstruction	Reconstruction of IL Rt. 116 from Washington St. to Griswold St. in Peoria	Operational Needs, System Enhancements	N/A
IL Rt. 18 Bridge Replacement	Replacement of IL Rt. 18 bridge over the Illinois River at Henry	Operational Needs, Reliability	N/A
I-74 Bridge Replacement	Replacement of I-74 bridge over Mackinaw River near Goodfield	Operational Needs, Reliability	N/A
I-474 Bridge Replacement	Replacement of I-474 bridge at Airport Road in Peoria	Operational Needs, Reliability	N/A

Multimodal Investments

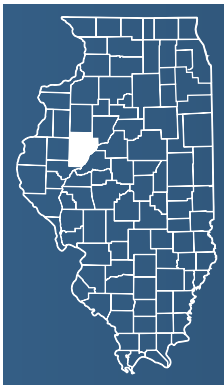
In addition to the highway investments, there are multimodal projects being undertaken by the District and its partners. Table 5.3 shows the multimodal investment projects located across the District. However, there are needs in District 4 that are not currently being met by existing or planned projects. Eleven percent of District 4's rail route miles are unable to handle railcars greater than 286K LBS and are potentially in a poor state of repair. Chapter 3 discusses the District's broader needs of the freight system across all modes. IDOT will continue to engage with District 4 stakeholders to document multimodal project needs and explore supporting potential projects in District 4 that would address these unmet needs.

TABLE 5.3 MULTIMODAL INVESTMENT PROJECTS IN DISTRICT 4

Project Location/Name	Project Description	Type	Mode(s)
Rail			
Bushnell Shipper Rail Access Reinstatement	Construction of spur tracks and sidings to reinstate direct rail access to shippers in the Bushnell area	Modal Connectivity	Rail
Keokuk Junction Railway	Remove existing weight restrictions on the Keokuk Junction Railway mainline between Keokuk, IA and Mapleton, IL to support maximum gross railcar weight of 286,000 lb. (286K).	System Enhancement, Mode Shift	Rail
KJRY Mainline Rehabilitation	Upgrade of the Keokuk Junction Railway mainline between Keokuk, IA and Mapleton, IL to FRA Track Class 1. The KJRY was awarded a $15.3 million FY 22 CRISI grant from the FRA to upgrade 126 miles of mainline to Class 2 track	System Enhancement, Mode Shift	Rail
Waterway			
Port of Henry Terminal	Development of an intermodal terminal within Henry IL at the current sand and gravel terminal. A port master plan is currently being conducted to determine market demand for the facility.	Mode Shift, Modal	Waterway
Air			
General Wayne A. Downing—Peoria International Taxiway Strengthening	Strengthen Taxiway A based on a change in air carrier aircraft/fleet mix	System Enhancement, Resiliency	Air

6.0 County Profiles

The Illinois 2023 State Freight Plan and District Freight Plans detail freight activity, needs, and priorities at both the State and District levels, respectively. The following County Profiles provide an overview of the multimodal freight network for each county within District 4, and a detailed look at the existing and projected freight activity for each county, including total freight tonnage and value by mode, top commodities, and top trading partners.



Fulton County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Fulton County.

Existing Freight Infrastructure:

203 Miles of State Highways
229 Miles of County Highways

106 Route Miles of Freight Rail Lines

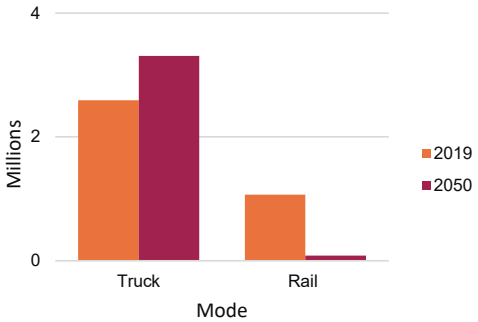
Class I Railroads:
Union Pacific, BNSF

The Illinois River – Marine Highway 55 is the main river corridor within Fulton County.

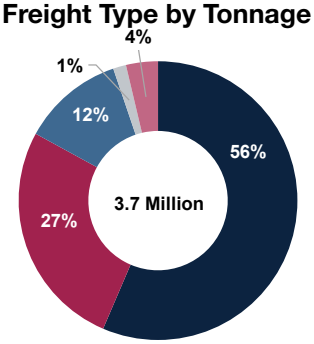
5 Miles of Natural Gas Pipeline and
17 Miles of Hazardous Liquid Pipeline

Fulton County Freight Map:

Freight Tonnage by Mode & Year

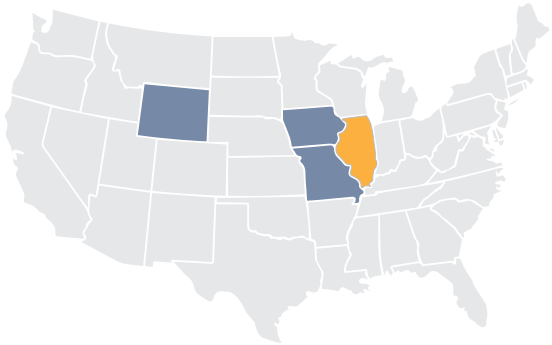


Freight Type by Tonnage (2019)



- Energy Products (2.1M)
- Crops, Livestock, and Farm Products (970,000)
- Aggregates (430,000)
- Food Products (55,000)
- Other (140,000)

Top Trading Partners by Tonnage (2019)

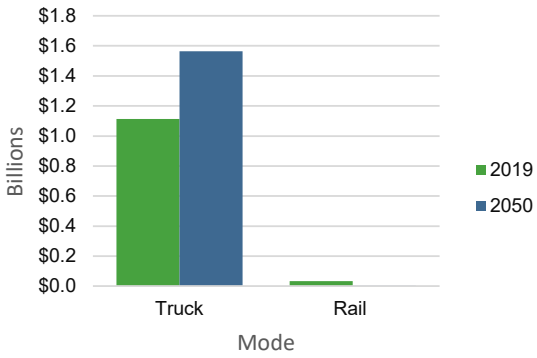


Missouri
200 Million Tons

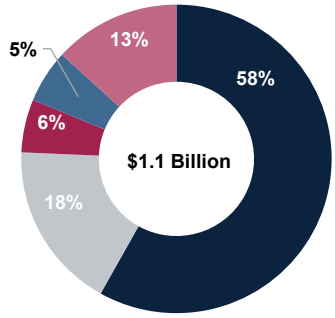
Iowa
600 Million Tons

Wyoming
1.1 Million Tons

Freight Value by Mode & Year

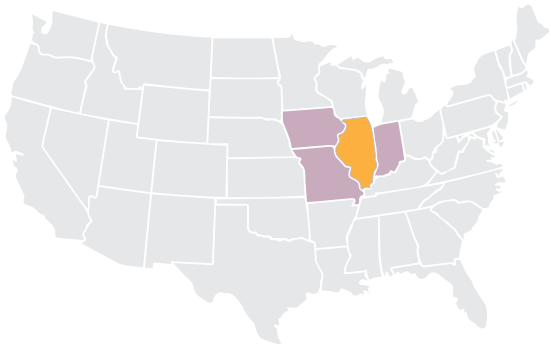


Freight Type by Value (2019)



- Energy Products ($670M)
- Crops, Livestock, and Farm Products ($200M)
- Metals ($64M)
- Food Products ($34M)
- Other (152M)

Top Trading Partners by Value (2019)



Indiana
$55 Million

Missouri
$54 Million

Iowa
$270 Million

Truck Freight By The Numbers

Total Tonnage:
2.6 Million Tons

Economic Value:
$1.1 Billion

Top Trading Partners:
Nearly all tons of goods were exported to states such as Indiana, Missouri, and Kentucky in 2019.
Future Projections:
By 2050, truck freight is expected to increase to 3.3 million tons with a projected value of $1.6 billion.

Top Truck Freight

- Aggregates
- Crops/Livestock Farming
- Energy Products

Rail Freight By The Numbers

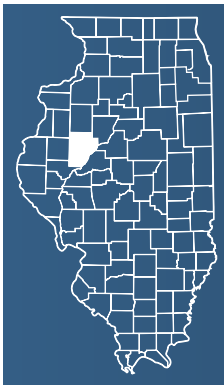
Total Tonnage:
1 Million Tons

Economic Value:
$34 Million

Top Trading Partners:
Rail is largely utilized for imports from Missouri, Mississippi, and Indiana with less than 1% of exports using rail.
Future Projections:
By 2050, rail cargo is expected to decrease to 81,000 tons with a projected value of $2.6 million.

Top Rail Freight

- Energy Products



Fulton County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

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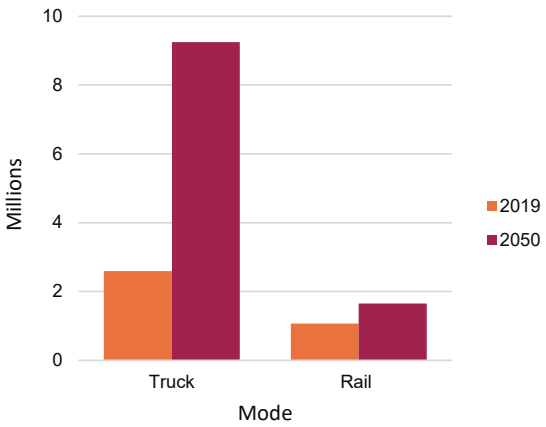
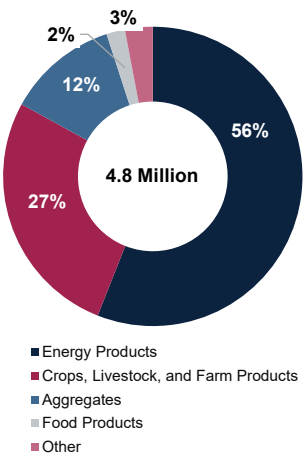
Fulton County Freight Map:

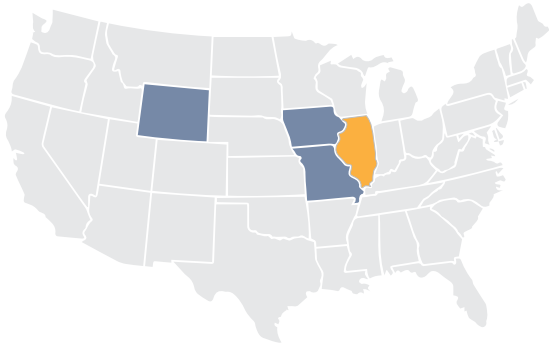
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

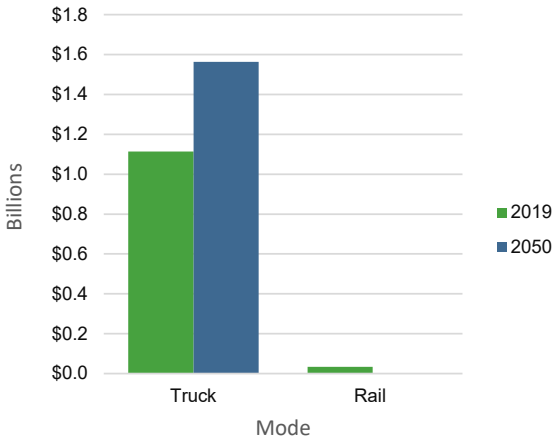


Missouri
200 Million Tons

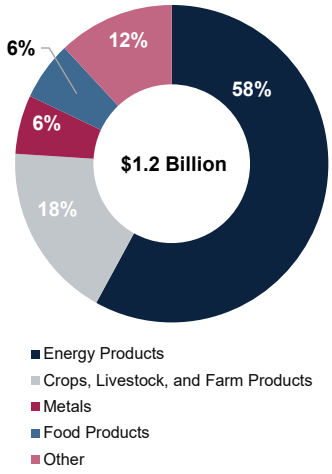
Iowa
600 Million Tons

Wyoming
1.1 Million Tons

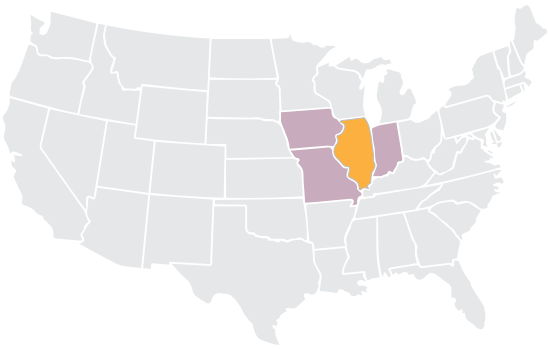
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana $60 Million

Missouri $50 Million

Iowa $270 Million

Truck Freight By The Numbers

Total Tonnage:
2.6 Million Tons

Economic Value:
$1.1 Billion

Top Trading Partners:
Over 80% of all tons of goods were exported to states such as Iowa, Indiana, and Missouri in 2019.

Future Projections:
By 2050, the prevalence of truck activity is expected to remain constant, with 3.3 million tons of freight valued at $1.6 billion.

Top Truck Freight

Rail Freight By The Numbers

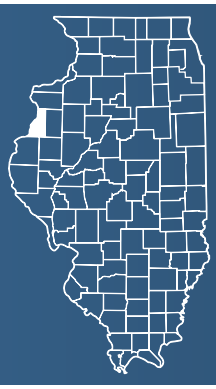
Total Tonnage:
1.1 Million Tons

Economic Value:
$34 Million

Top Trading Partners:
Almost all of the rail freight was imported from states such as Wyoming, Missouri, and Iowa in 2019.

Future Projections:
By 2050, rail activity is expected to decrease to 100,000 tons of freight valued at $2.6 million.

Top Rail Freight



Henderson County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Henderson County.

Existing Freight Infrastructure:

88 Miles of State Highways

79 Miles of County Highways

46 Route Miles
of Freight Rail Lines

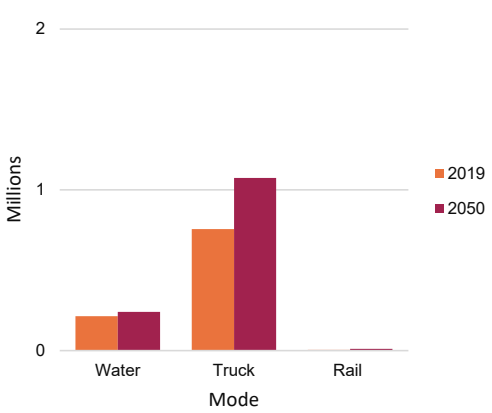
Class I Railroads:
BNSF

The Mississippi River is the primary waterway in the county.

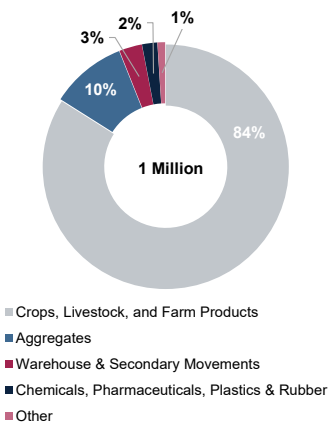
There are 19 miles of active hazard liquid pipelines operated by BP Pipeline of North America.

Henderson County Freight Map:

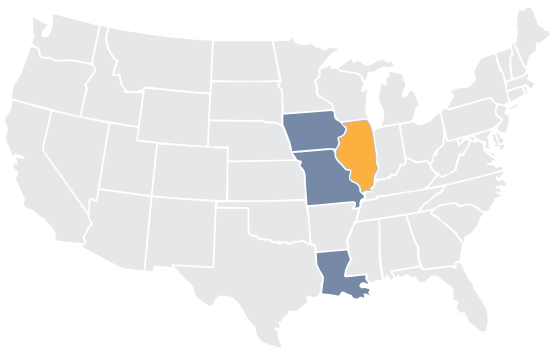
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

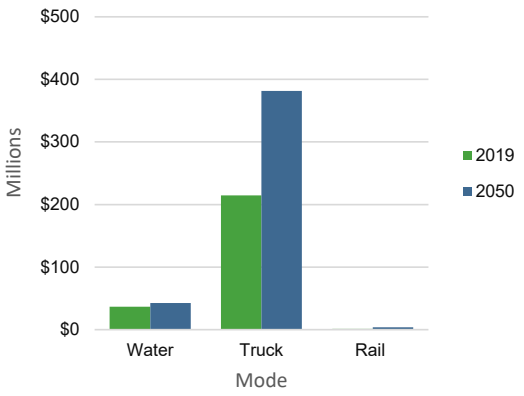


Missouri
75,000 Tons

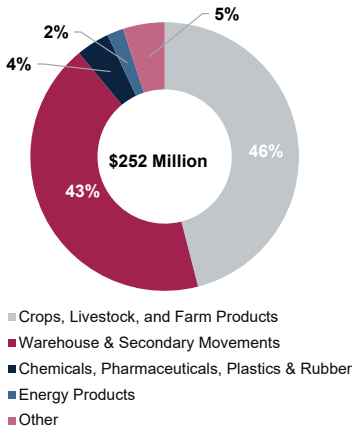
Iowa
180,000 Tons

Louisiana
200,000 Tons

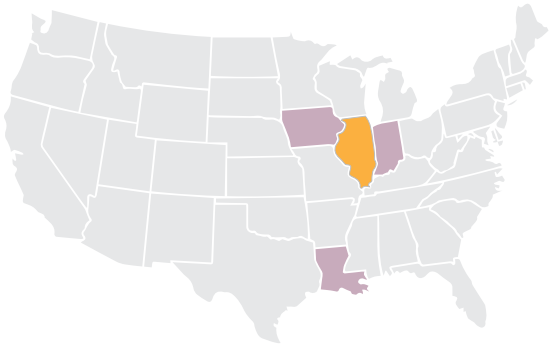
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana $12 Million

Louisiana $35 Million

Iowa $24 Million

Truck Freight By The Numbers

Total Tonnage:
800,000 Tons

Economic Value:
$200 Million

Top Trading Partners:
650,000 tons of goods were exported to states such as Iowa, Indiana, and Missouri.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 1.1 million tons of commodities valued at $400 million.

Top Truck Freight

Rail Freight By The Numbers

Total Tonnage:
4,000 Tons

Economic Value:
$1 Million

Top Trading Partners:
Almost all of the rail freight was exported to states such as Iowa, Missouri, and Louisiana.

Future Projections:
By 2050, these figures are expected to increase to 10,000 tons valued at $3.5 million.

Top Rail Freight

Marine Freight By The Numbers

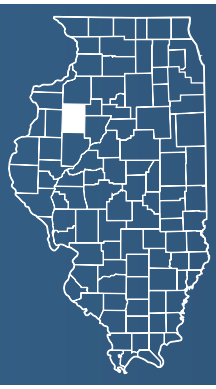
Total Tonnage:
200,000 Tons

Economic Value:
$37 Million

Top Trading Partners:
Nearly 95% of marine freight was shipped to Louisiana, and Alabama.

Future Projections:
By 2050, those figures are expected to increase, with 200,000 tons of commodities being transported by water with a projected value of $42 million.

Top Marine Freight



Knox County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Knox County.

Existing Freight Infrastructure:

INTERSTATE 74

181 Miles of State Highways

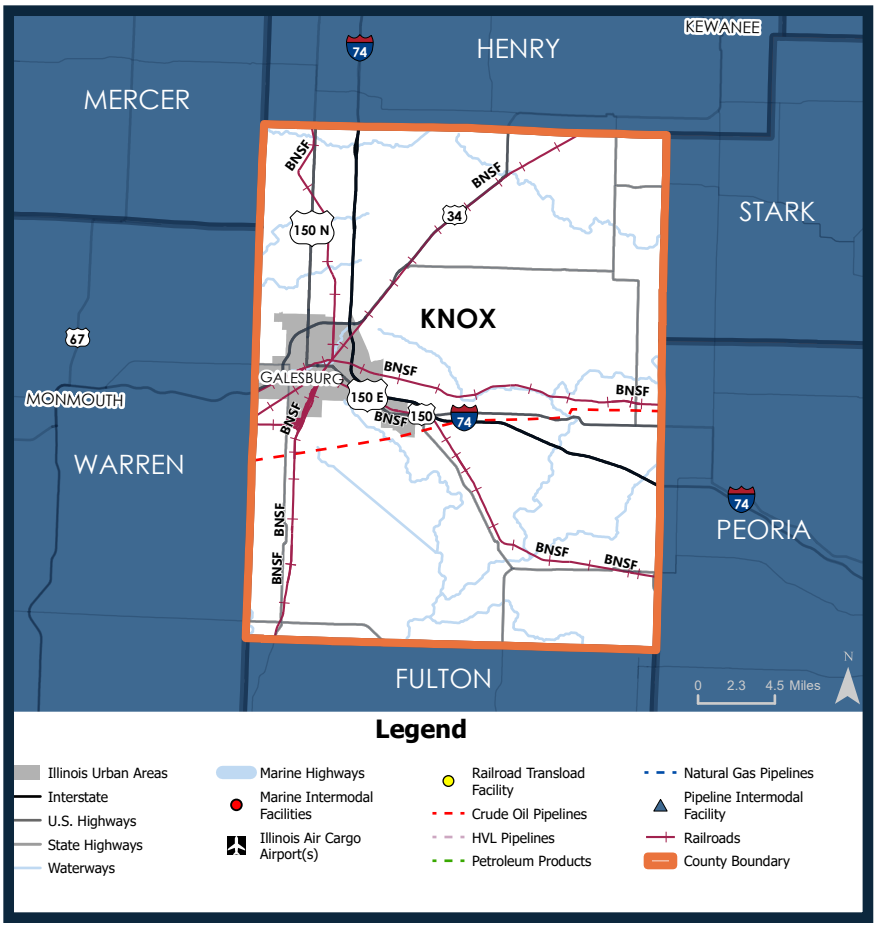
258 Miles of County Highways

115 Route Miles
of Freight Rail Lines

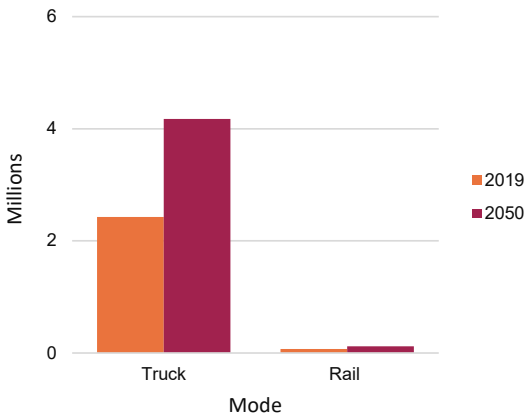
Class I Railroads:
BNSF

24 Miles of underground oil pipeline infrastructure operated by BP Pipeline

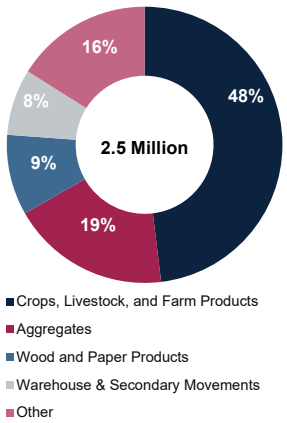
Knox County Freight Map:



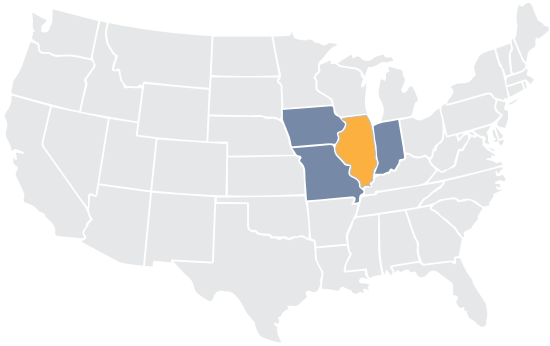
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

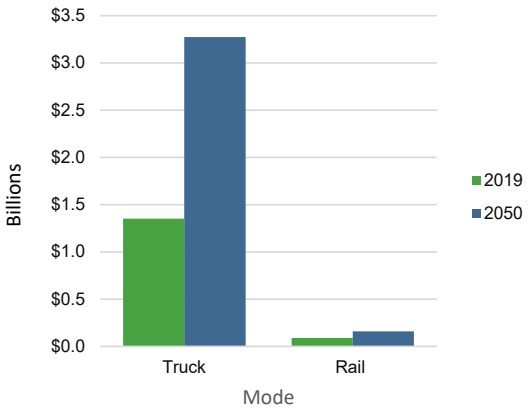


Missouri
155,000 Tons

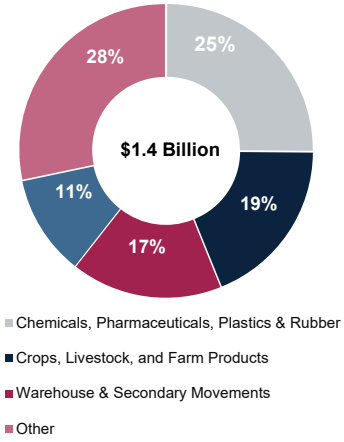
Iowa
400,000 Tons

Indiana
230,000 Tons

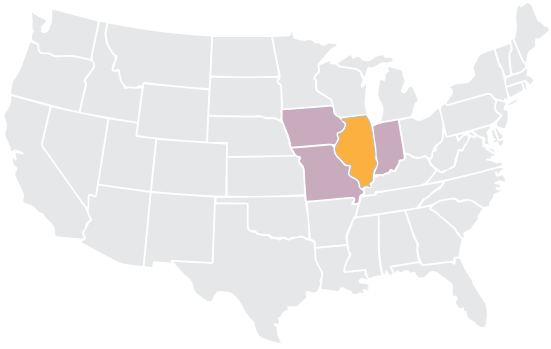
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana $110 Million

Missouri $65 Million

Iowa $125 Million

Truck Freight By The Numbers

Total Tonnage:
2.4 Million Tons

Economic Value:
$1.4 Billion

Top Trading Partners:
1.8 million tons of goods were exported to states such as Iowa, Indiana, and Wisconsin.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 4.2 million tons of commodities valued at $3.3 billion.

Top Truck Freight

Top Rail Freight

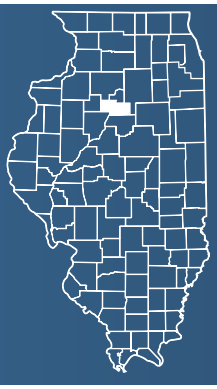
Rail Freight By The Numbers

Total Tonnage:
100,000 Tons

Economic Value:
$100 Million

Top Trading Partners:
Almost all of the rail freight was exported to states such as Iowa, Missouri, and Wisconsin.

Future Projections:
By 2050, these figures are expected to remain constant, 100,000 tons of freight valued at $200 million.



Marshall County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Marshall County.

Existing Freight Infrastructure:

INTERSTATE 39

103 Miles of State Highways

98 Miles of County Highways

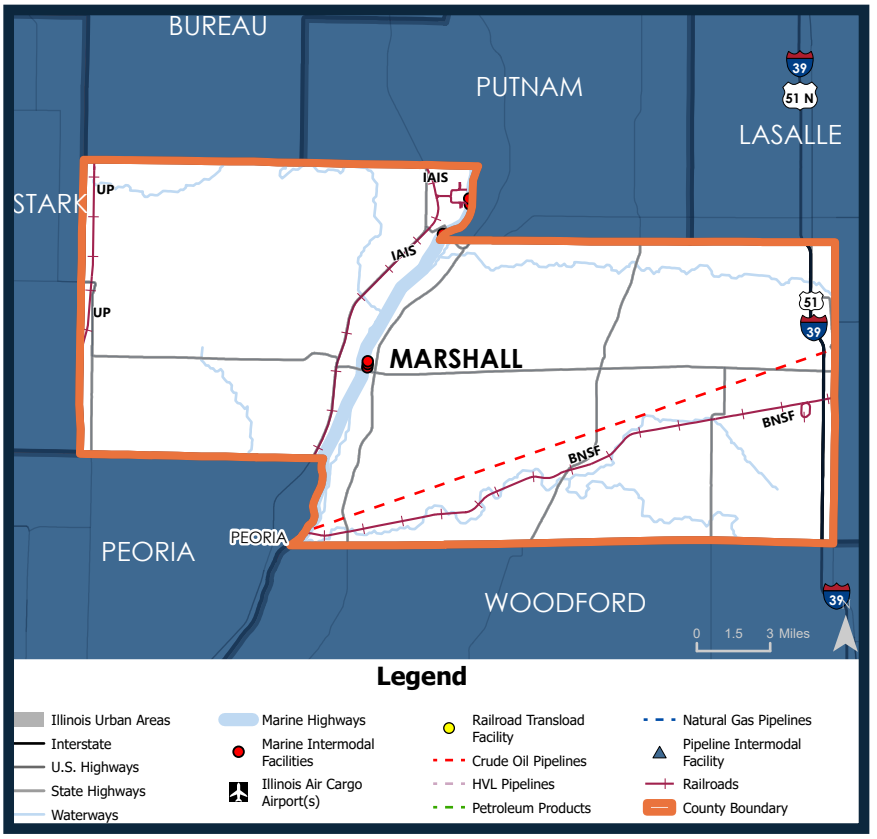
44 Route Miles of Freight Rail Lines

Class I Railroads:
BNSF, Union Pacific

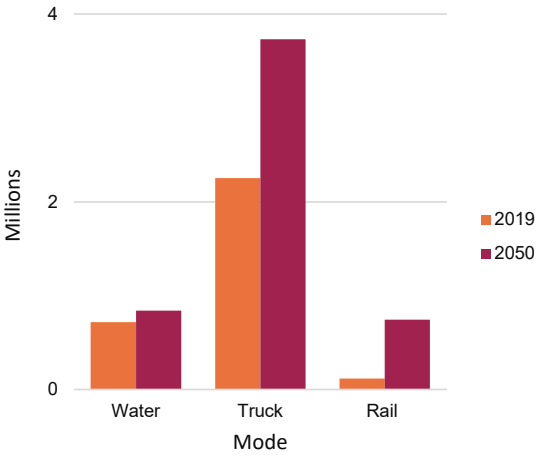
The Illinois River is the primary waterway in the County.

23 Miles of hazardous liquid pipelines operated by BP

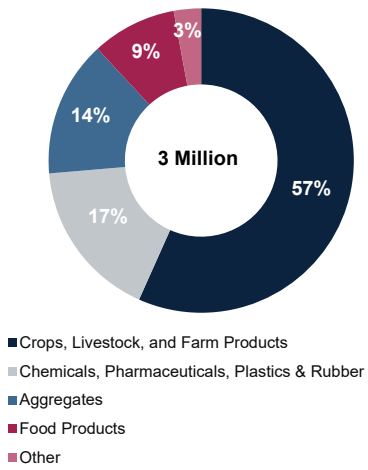
Marshall County Freight Map:



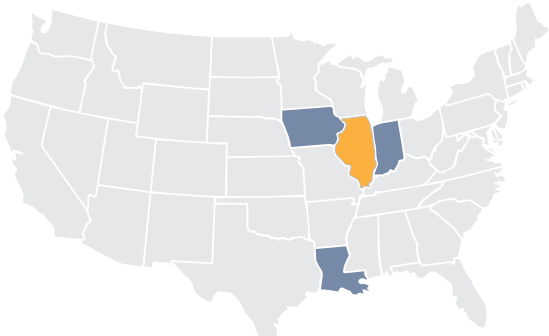
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

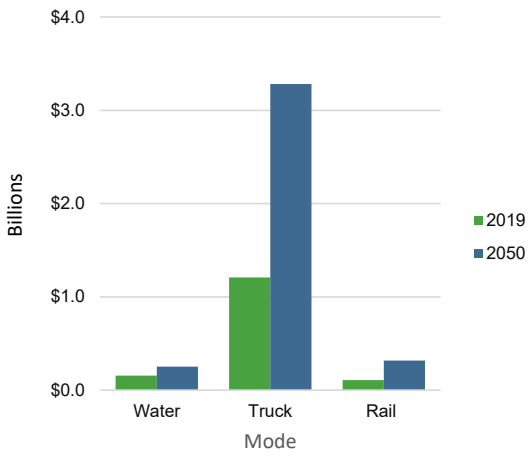


Louisiana
550,000 Tons

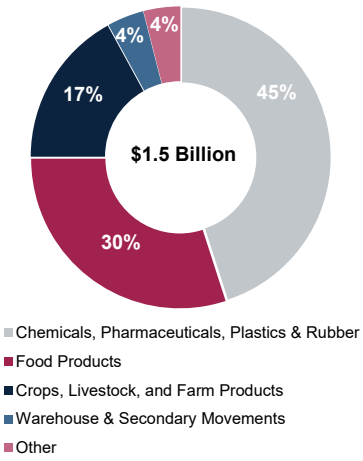
Iowa
325,000 Tons

Indiana
250,000 Tons

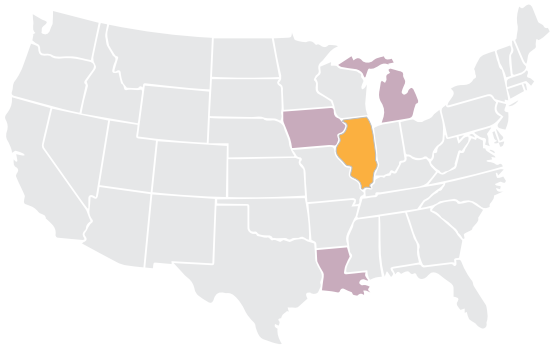
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Louisiana $135 Million

Michigan $40 Million

Iowa $65 Million

Truck Freight By The Numbers

Total Tonnage:
2.3 Million Tons

Economic Value:
$1.2 Billion

Top Trading Partners:
1.4 million tons of were exported to states such as Indiana, and Iowa.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 3.7 million tons of commodities valued at $3.3 billion.

Top Truck Freight

Rail Freight By The Numbers

Total Tonnage:
100,000 Tons

Economic Value:
$100 Million

Top Trading Partners:
100,000 tons of goods were exported to states such as Iowa, Wisconsin, and Indiana.

Future Projections:
By 2050, these figures are expected to increase to 700,000 tons valued at $300 million.

Top Rail Freight

Marine Freight By The Numbers

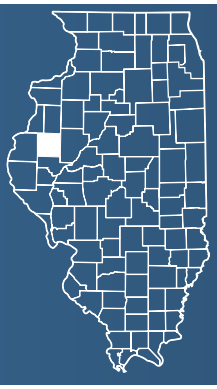
Total Tonnage:
700,000 Tons

Economic Value:
$158 Million

Top Trading Partners:
Nearly all of marine freight was shipped to Louisiana, Alabama, and Tennessee.

Future Projections:
By 2050, those figures are expected to increase, with 840,000 tons of commodities being transported by water with a projected value of $250 million.

Top Marine Freight



McDonough County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within McDonough County.

Existing Freight Infrastructure:

116 Miles of State Highways

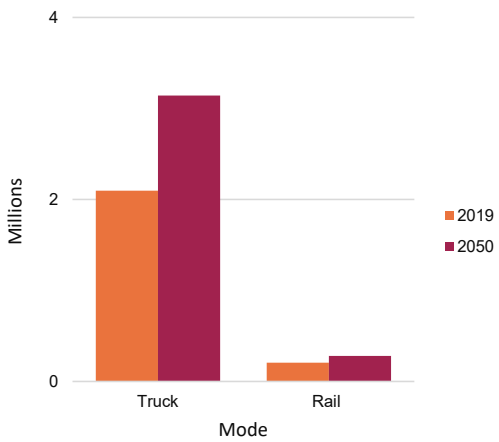
180 Miles of County Highways

75 Route Miles
of Freight Rail Lines

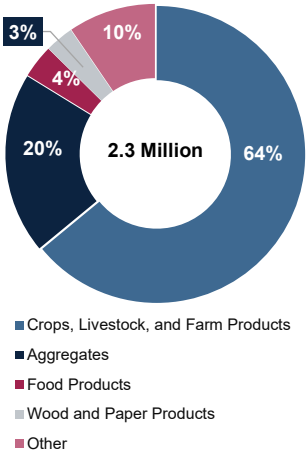
Class I Railroads:
BNSF

McDonough County Freight Map:

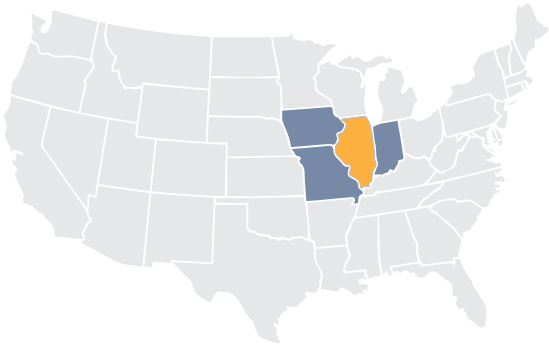
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

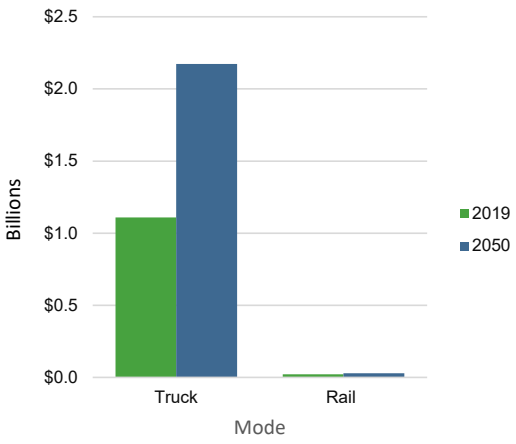


Missouri
300,000 Tons

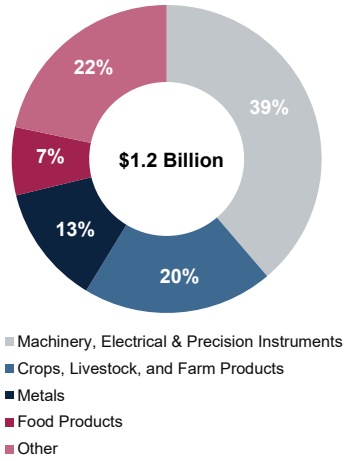
Iowa
345,000 Tons

Indiana
180,000 Tons

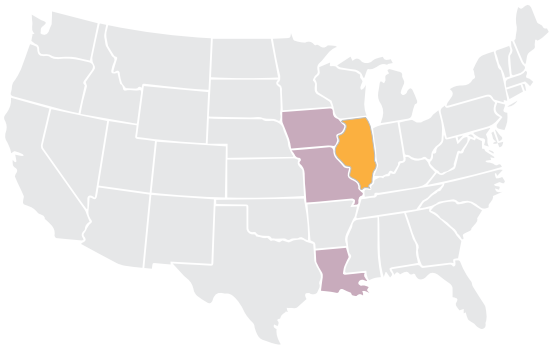
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Louisiana
$90 Million

Missouri
$80 Million

Iowa
$100 Million

Truck Freight By The Numbers

Total Tonnage:
2.1 Million Tons

Economic Value:
$1.1 Billion

Top Trading Partners:
1.4 million tons of were exported to states such as Iowa, Missouri, and Indiana.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 3.1 million tons of commodities valued at $2.2 billion.

Top Truck Freight

- Crops/Livestock Farming
- Aggregates
- Food Products

Rail Freight By The Numbers

Total Tonnage:
200,000 Tons

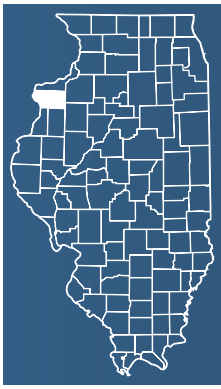
Economic Value:
$21 Million

Top Trading Partners:
200,000 tons of goods were exported to states such as Iowa, Texas, and Missouri.

Future Projections:
By 2050, these figures are expected to increase to 300,000 tons valued at $28 million.

Top Rail Freight

- Crops/Livestock Farming
- Aggregates
- Wood/Paper



Mercer County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Mercer County.

Existing Freight Infrastructure:

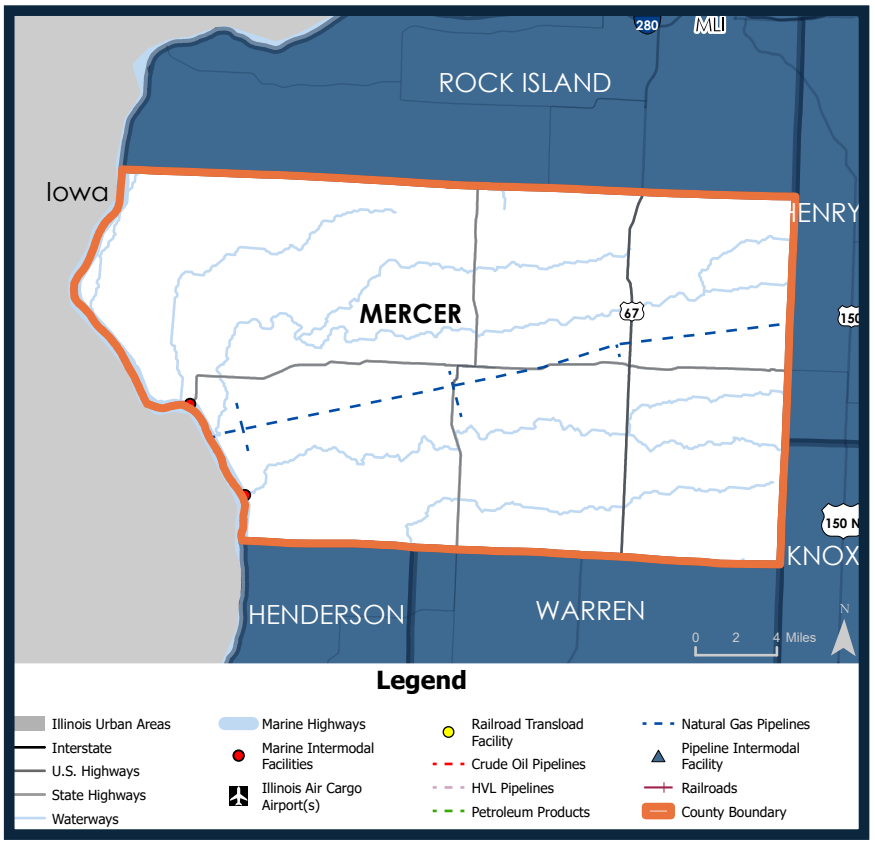
71 Miles of State Highways

154 Miles of County Highways

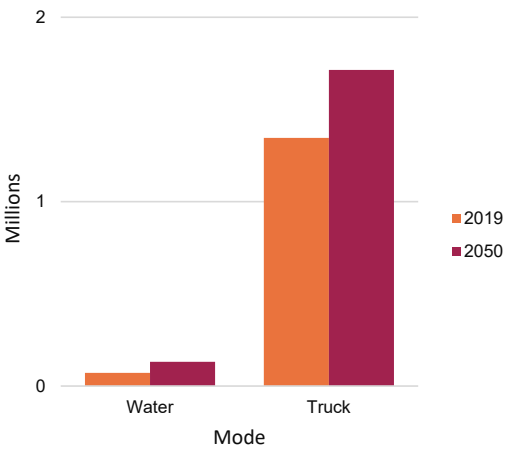
The Mississippi River is the primary waterway in the County.

32 Miles of natural gas pipelines servicing **15,970** local inhabitants.

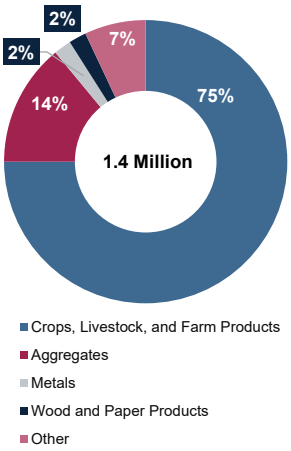
Mercer County Freight Map:



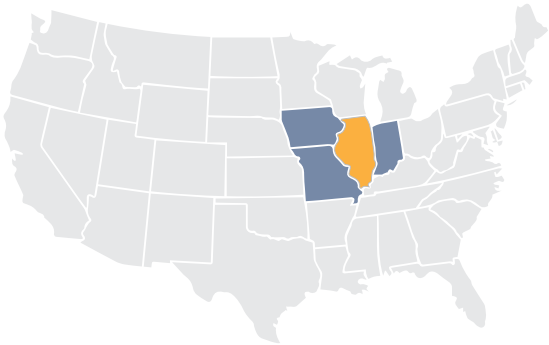
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

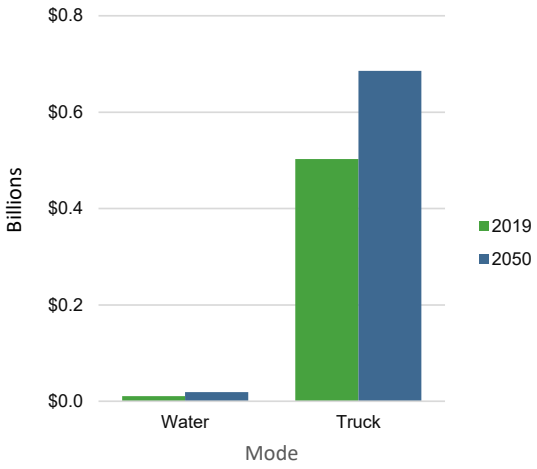


Iowa
370,000 Tons

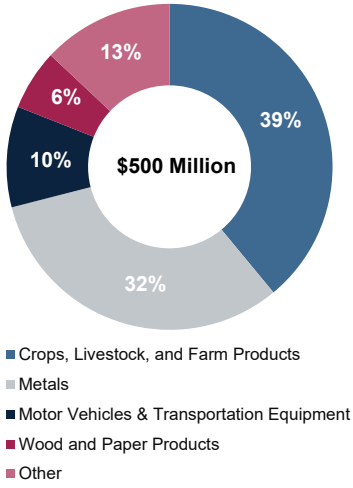
Indiana
110,000 Tons

Missouri
90,000 Tons

Freight Value by Mode & Year

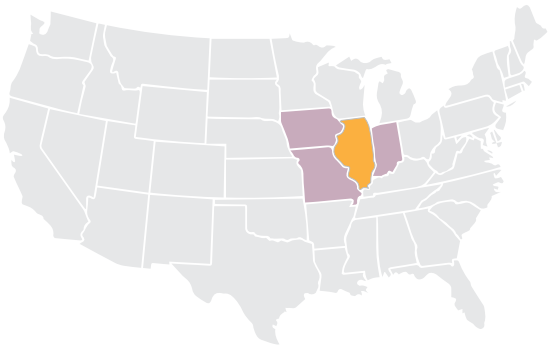


Freight Type by Value (2019)



- Crops, Livestock, and Farm Products
- Metals
- Motor Vehicles & Transportation Equipment
- Wood and Paper Products
- Other

Top Trading Partners by Value (2019)



Iowa $90 Million

Indiana $50 Million

Missouri $35 Million

Truck Freight By The Numbers

Total Tonnage:
1.4 Million

Economic Value:
$600 Million

Top Trading Partners:
1 million tons of were exported to states such as Iowa, Indiana, and Missouri.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 1.7 million tons of commodities valued at $700 million.

Top Truck Freight

Marine Freight By The Numbers

Total Tonnage:
70,000 Tons

Economic Value:
$11 Million

Top Trading Partners:
55,000 tons of goods were exported to states such as Louisiana, Minnesota, and Alabama.

Future Projections:
By 2050, these figures are expected to increase to 130,000 tons valued at $19 million.

Top Marine Freight

Peoria County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Peoria County.

Existing Freight Infrastructure:

INTERSTATE 74 INTERSTATE 474

229 Miles of State Highways

305 Miles of County Highways

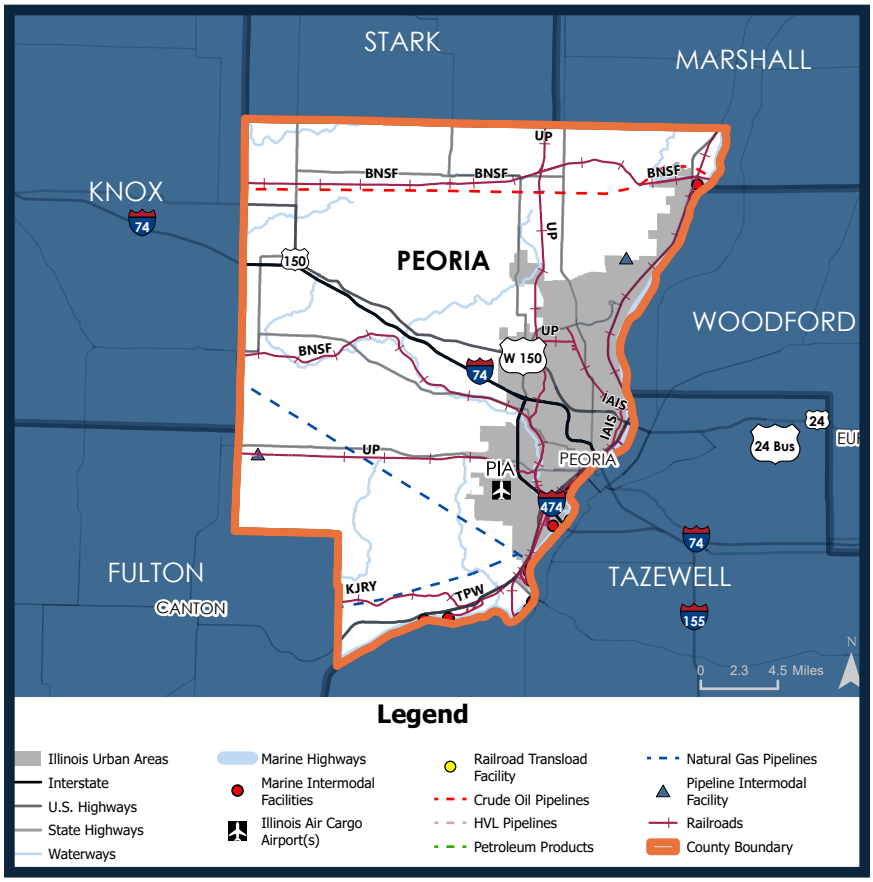
150 Route Miles
of Freight Rail Lines

Class I Railroads:
Union Pacific, BNSF

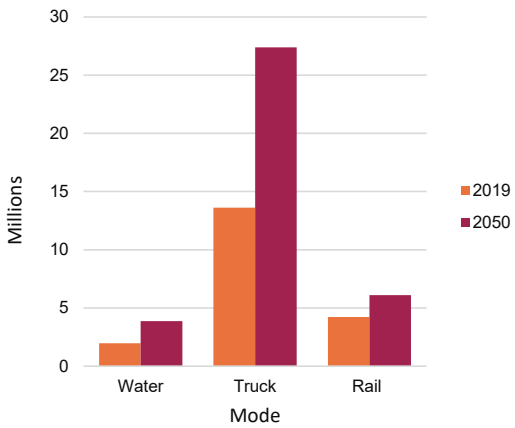
The Illinois River is the primary waterway in Peoria County.

31 Miles of natural gas pipelines servicing **186,820** local inhabitants and neighboring regions.

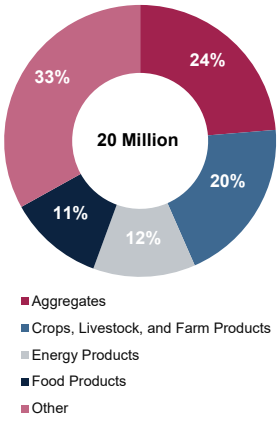
Peoria County Freight Map:



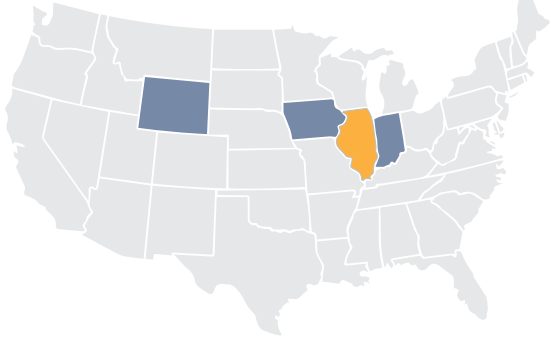
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

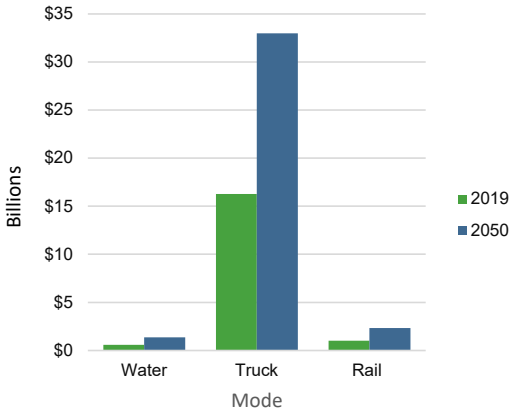


Wyoming
3.5 Million Tons

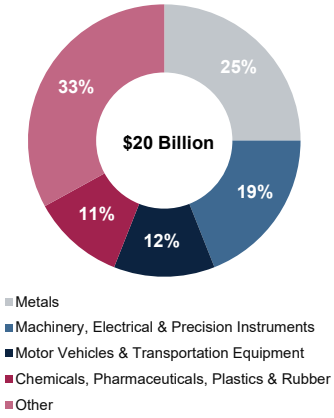
Iowa
2.5 Million Tons

Indiana
1.6 Million Tons

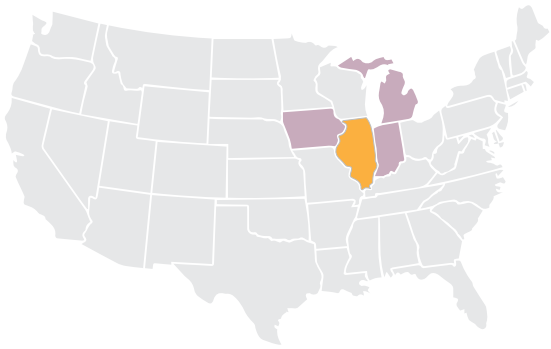
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana $1.9 Billion

Michigan $1 Billion

Iowa $1.1 Billion

Truck Freight By The Numbers

Total Tonnage:
14 Million Tons

Economic Value:
$16 Billion

Top Trading Partners:
6 million tons of goods were inbound from states including Iowa, Wisconsin, and Indiana.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 27 million tons of commodities valued at $33 billion.

Top Truck Freight

- Aggregates
- Crops/Livestock Farming
- Metals

Rail Freight By The Numbers

Total Tonnage:
4.2 Million Tons

Economic Value:
$1 Billion

Top Trading Partners:
0.9 million tons of goods were exported to states such as Texas, Iowa, and Ohio.

Future Projections:
By 2050, these figures are expected to grow to 6 million tons valued at $2.3 billion.

Top Rail Freight

- Energy Products
- Crops/Livestock Farming
- Aggregates

Marine Freight By The Numbers

Total Tonnage:
2 Million Tons

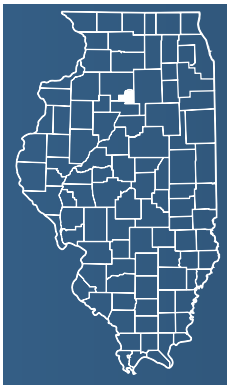
Economic Value:
$600 Million

Top Trading Partners:
Nearly 1.5 million tons of freight was shipped to Louisiana, Alabama, and Tennessee.

Future Projections:
By 2050, those figures are expected to grow to 4 million tons of commodities being transported by water with a projected value of $1 billion.

Top Marine Freight

- Crops/Livestock Farming
- Pharmaceuticals & Chemicals
- Aggregates



Putnam County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Putnam County.

Existing Freight Infrastructure:

INTERSTATE 180

51 Miles of State Highways

42 Miles of County Highways

22 Route Miles
of Freight Rail Lines

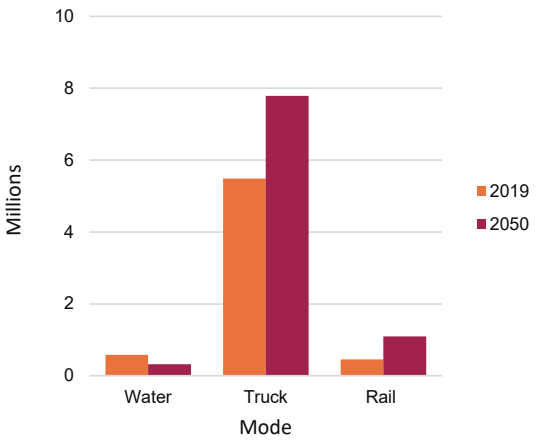
Class I Railroad:
Norfolk Southern

Illinois River – Marine Highway 55 is the primary route for freight movment by water in Putnam County.

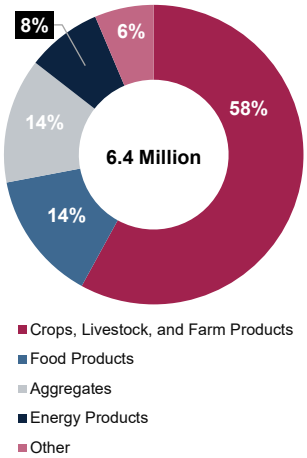
2 Miles of natural gas pipelines servicing **19,770** local inhabitants and neighboring midwest states.

Putnam County Freight Map:

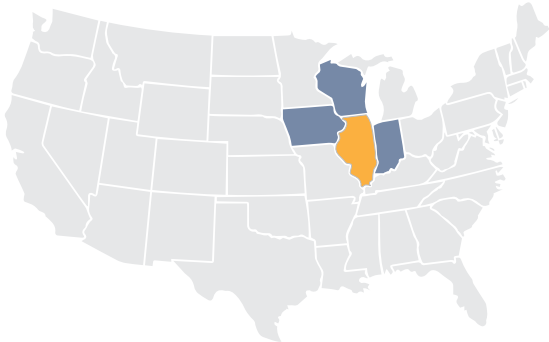
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

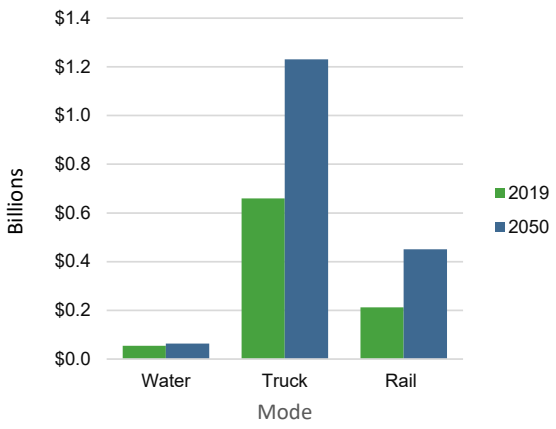


Iowa
1.4 Million Tons

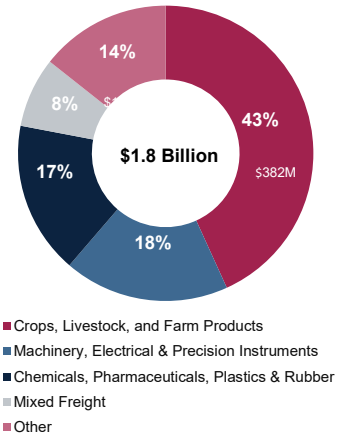
Wisconsin
800,000 Tons

Indiana
400,000 Tons

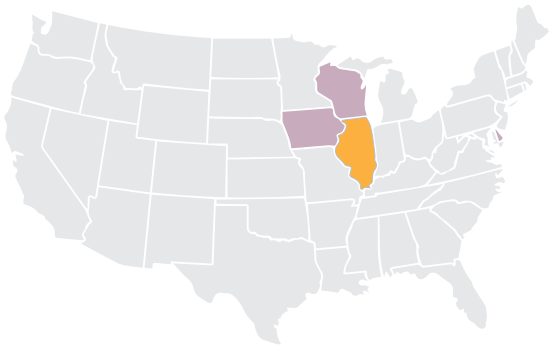
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Iowa $140 Million

Delaware $85 Million

Wisconsin $85 Million

Truck Freight By The Numbers

Total Tonnage:
6 Million Tons

Economic Value:
$700 Million

Top Trading Partners:
6 million tons of freight valued at $700 million were transported in Putnam County via truck from states such as Iowa, Wisconsin, and Indiana.

Future Projections:
By 2050, truck activity is expected to remain constant, with 8 million tons of freight valued at $1 billion making its way through the county.

Top Truck Freight

Rail Freight By The Numbers

Total Tonnage:
500,000 Tons

Economic Value:
$200 Million

Top Trading Partners:
500,000 tons of freight valued at $200 million were transported in Putnam County via rail in 2019 to states such as California, Delaware, and Indiana.

Future Projections:
By 2050, rail activity is expected to remain constant, with 1 million tons of freight valued at $500 million making its way through the county.

Top Rail Freight

Marine Freight By The Numbers

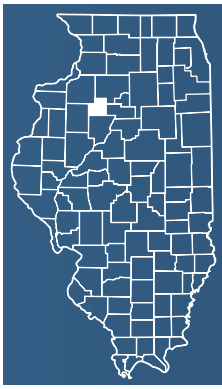
Total Tonnage:
600,000 Tons

Economic Value:
$54 Million

Top Trading Partners:
600,000 tons of freight valued at $54 million were transported in Putnam County via waterways in 2019, to states such as Lousiana, Texas and Missouri.

Future Projections:
By 2050, marine activity is expected to remain constant, with 300,000 tons of freight valued at $63 million making its way through the county.

Top Marine Freight



Stark County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan

Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Stark County.

Existing Freight Infrastructure:

67 Miles of State Highways

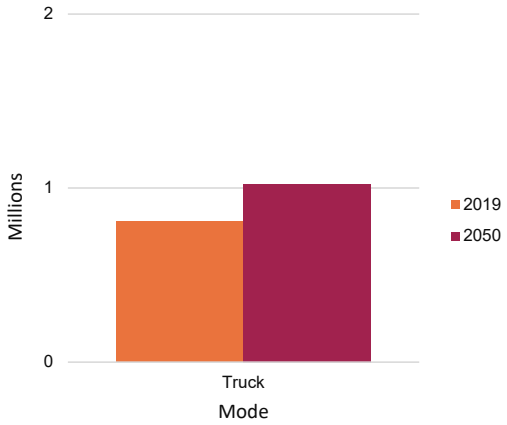
96 Miles of County Highways

6 Route Miles
of Freight Rail Lines

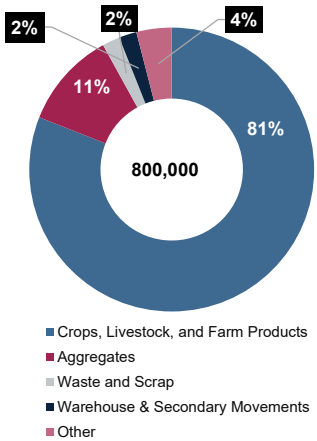
Class I Railroad:
Union Pacific

Stark County Freight Map:

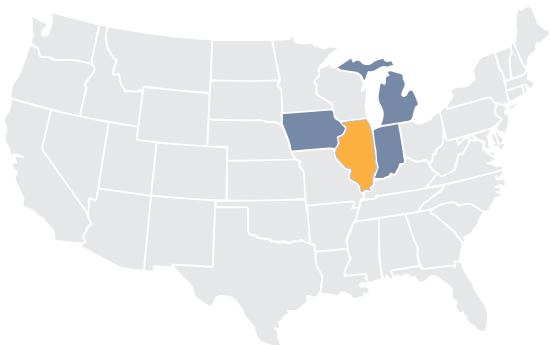
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

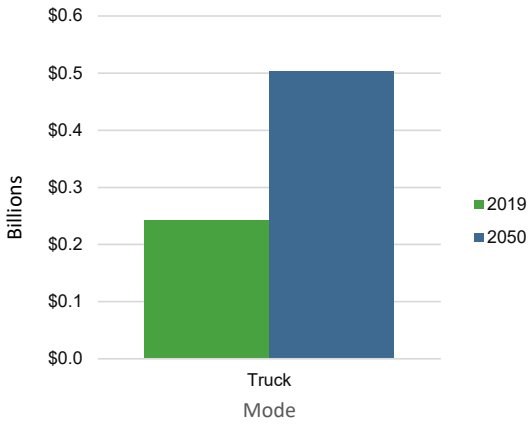


Iowa
120,000 Tons

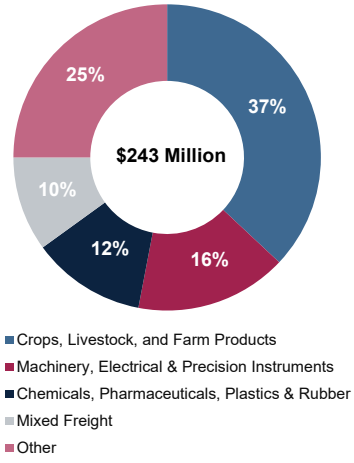
Indiana
110,000 Tons

Michigan
40,000 Tons

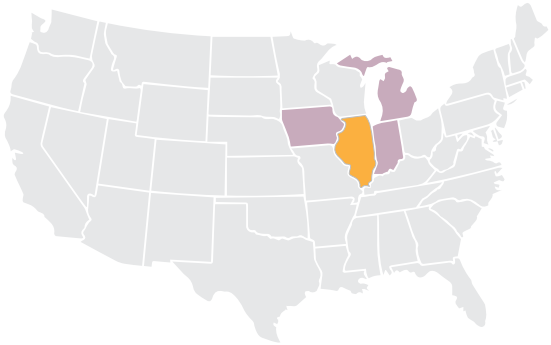
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana
$25 Million

Iowa
$18 Million

Michigan
$13 Million

Truck Freight By The Numbers

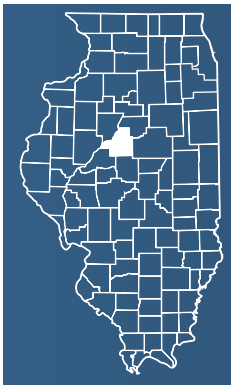
Total Tonnage:
800,000 Tons

Economic Value:
$240 Million

Top Trading Partners:
670,000 tons of goods were exported to states such as Iowa, Indiana, and Michigan.

Future Projections:
By 2050, truck freight numbers are expected to remain constant, with 1 million tons of commodities valued at $500 million.

Top Truck Freight



Tazewell County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Tazewell County.

Existing Freight Infrastructure:

INTERSTATE 74 INTERSTATE 155 INTERSTATE 474

172 Miles of State Highways
203 Miles of County Highways

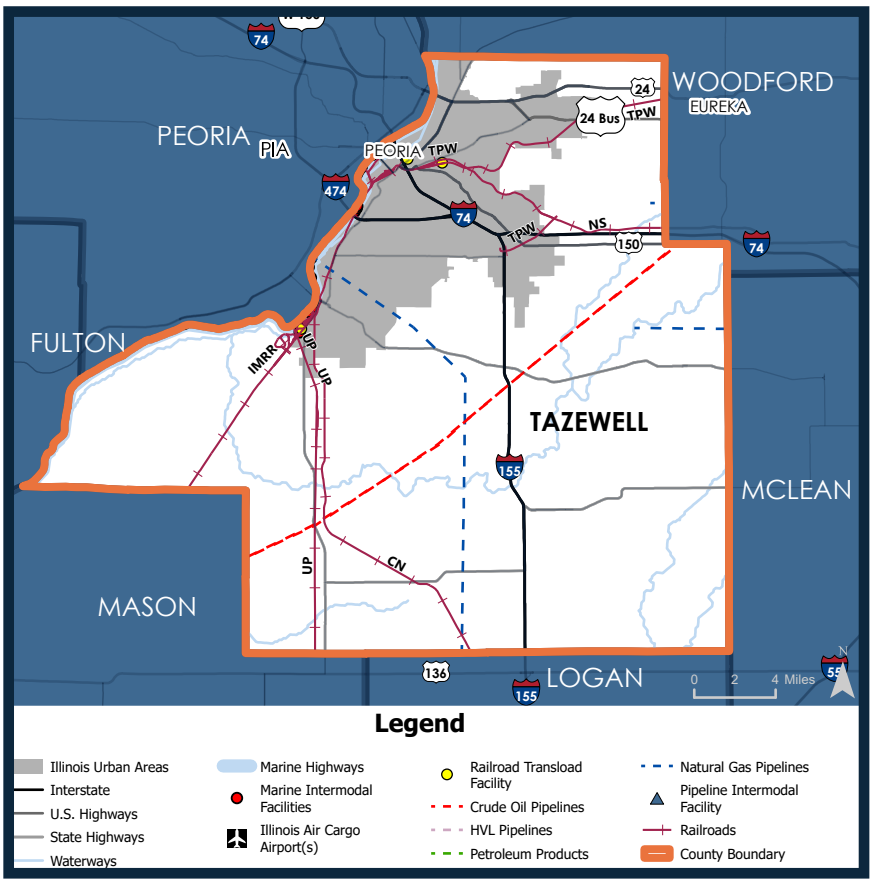
94 Route Miles of Freight Rail Lines

Class I Railroads:
Canadian National, Union Pacific, Norfolk Southern

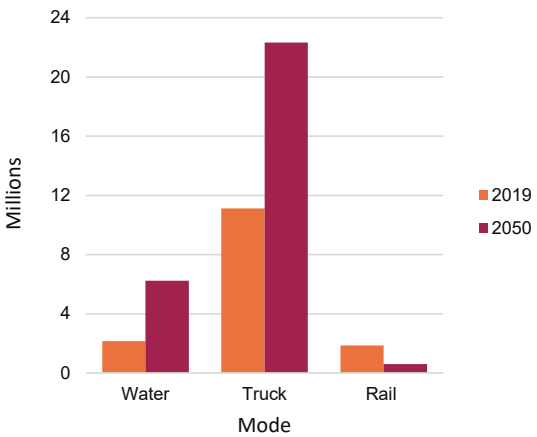
Tazewell County includes the Illinois River, or Marine Highway 55

29 Miles of natural gas pipelines

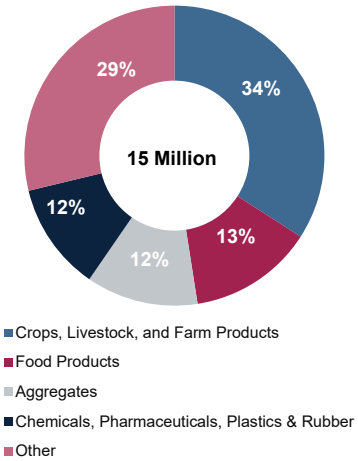
Tazewell County Freight Map:



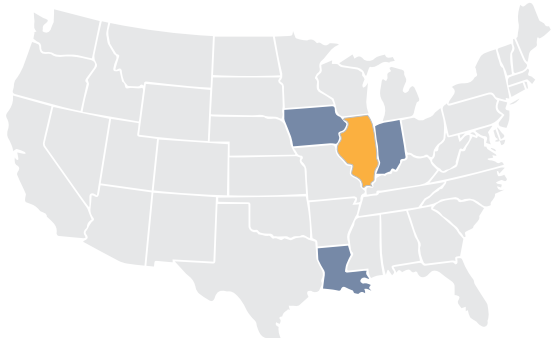
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

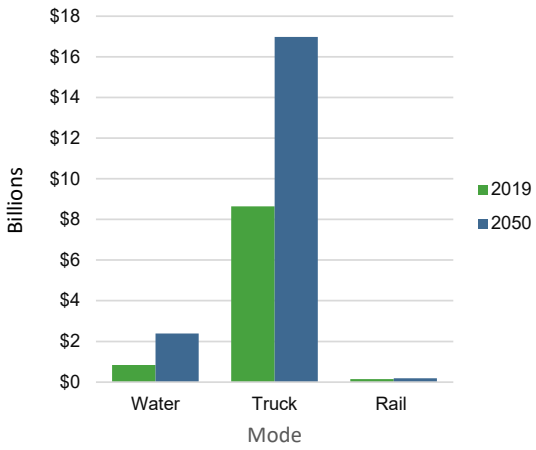


Iowa
1.8 Million Tons

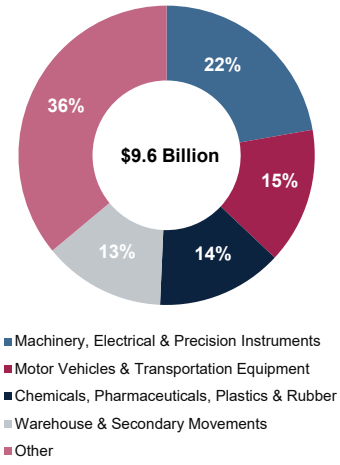
Louisiana
1.4 Million Tons

Indiana
1 Million Tons

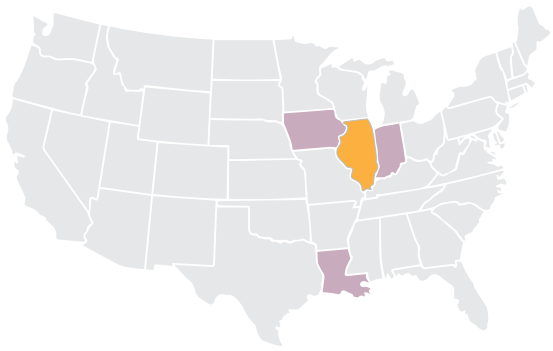
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana	Louisiana	Iowa
$820 Million	$660 Million	$460 Million

Truck Freight By The Numbers

Total Tonnage:
11 Million Tons

Economic Value:
$9 Billion

Top Trading Partners:
4.3 million tons of goods were exported to states such as Iowa, Wisconsin, and Indiana in 2019.

Future Projections:
By 2050, the prevalence of truck freight activity is expected to increase, with 22 million tons of freight valued at $17 billion making its way through the county.

Top Truck Freight

Rail Freight By The Numbers

Total Tonnage:
2 Million Tons

Economic Value:
$140 Million

Top Trading Partners:
2 million tons of freight valued at $140 million were transported via rail from states such as Wyoming, Iowa and Wisconsin.

Future Projections:
By 2050, the tonnage will decrase to 600,000 tons, yet the value of goods transported by rail is expected to increase to $181 million.

Top Rail Freight

Marine Freight By The Numbers

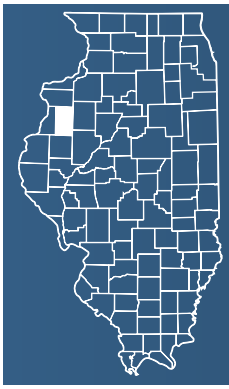
Total Tonnage:
2 Million Tons

Economic Value:
$1 Billion

Top Trading Partners:
2 million tons of freight valued at $1 billion were transported via waterways to states such as Louisana, West Virginia, and Texas.

Future Projections:
By 2050, the prevalence of marine activity is expected to increase, with 6 million tons of freight valued at $2 billion making its way through the county.

Top Marine Freight



Warren County
Illinois State Freight Plan
IDOT District 4

Illinois 2023
State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Warren County.

Existing Freight Infrastructure:

111 Miles of State Highways

172 Miles of County Highways

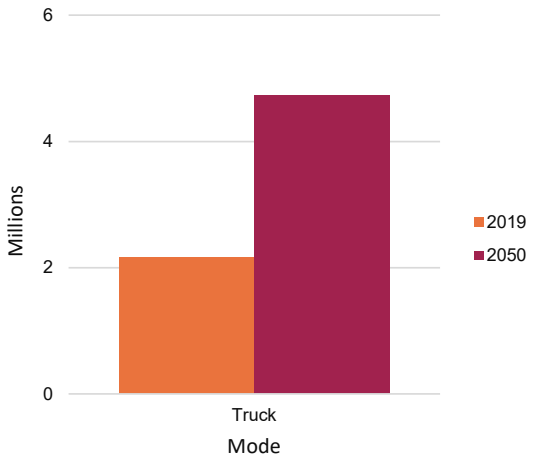
45 Route Miles
of Freight Rail Lines

Class I Railroads:
BNSF

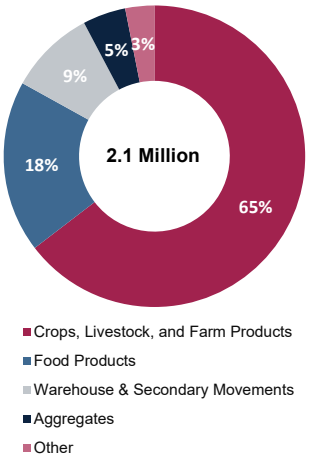
20 Miles of crude oil pipelines.

Warren County Freight Map:

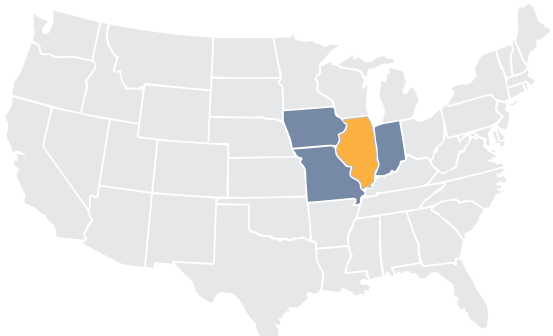
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

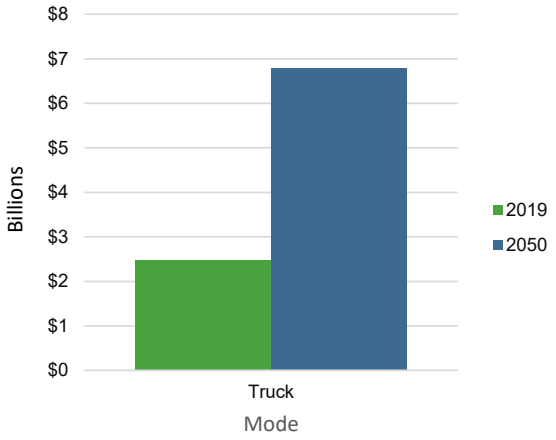


Iowa
430,000 Tons

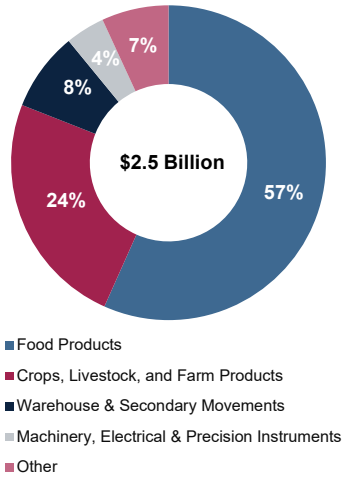
Missouri
200,000 Tons

Indiana
170,000 Tons

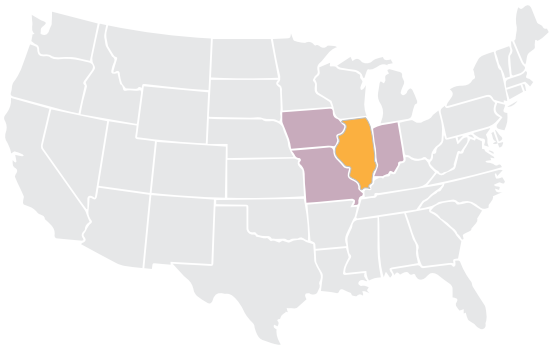
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Iowa
$360 Million

Missouri
$220 Million

Indiana
$105 Million

Truck Freight By The Numbers

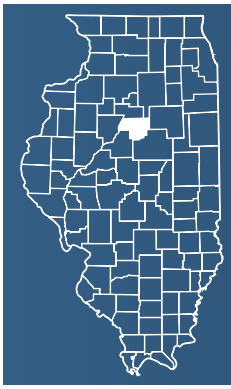
Total Tonnage:
2.2 Million Tons

Economic Value:
$2.5 Billion

Top Trading Partners:
1.6 million tons of goods were exported to states such as Iowa, Indiana, and Missouri.

Future Projections:
By 2050, truck freight numbers are expected to increase to 4.7 million tons of commodities valued at $6.8 billion.

Top Truck Freight



Woodford County
Illinois State Freight Plan
IDOT District 4

Illinois 2023 State Freight Plan
Illinois Department of Transportation

Freight is a critical component to Illinois' economy and way of life for millions of residents and businesses of the state. The Illinois 2023 State Freight Plan provides a comprehensive overview of freight in the state. This County Profile provides an at-a-glance overview of how, where, and what freight is moved within Woodford County.

Existing Freight Infrastructure:

INTERSTATE 39 INTERSTATE 74

155 Miles of State Highways

160 Miles of County Highways

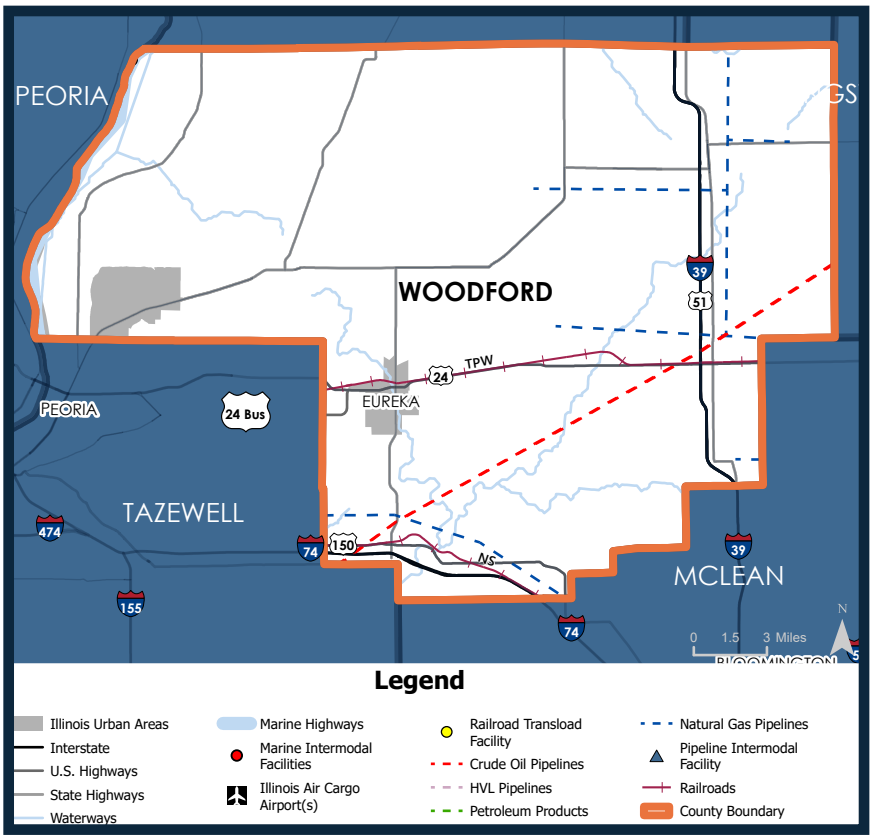
28 Route Miles of Freight Rail Lines

Class I Railroads:
Norfolk Southern

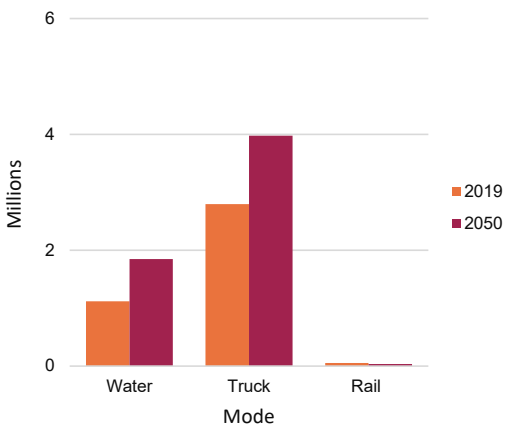
The Illinois River is the primary waterway in the county

23 Miles of Crude Oil Pipelines and
44 Miles of Natural Gas Pipelines

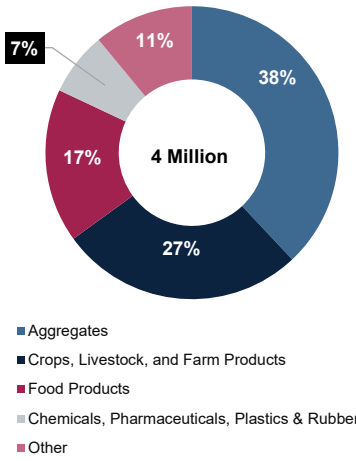
Woodford County Freight Map:



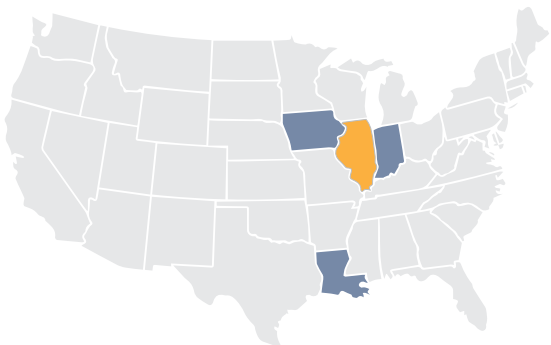
Freight Tonnage by Mode & Year



Freight Type by Tonnage (2019)



Top Trading Partners by Tonnage (2019)

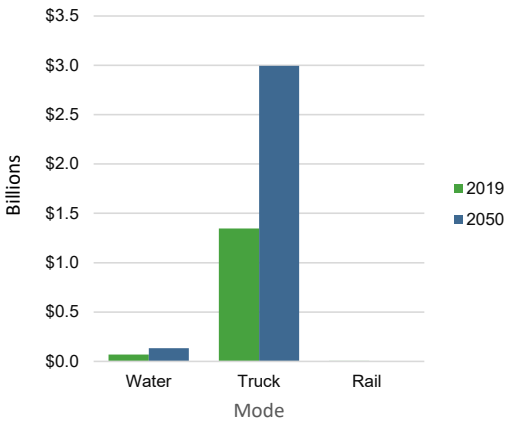


Louisiana
920,000 Tons

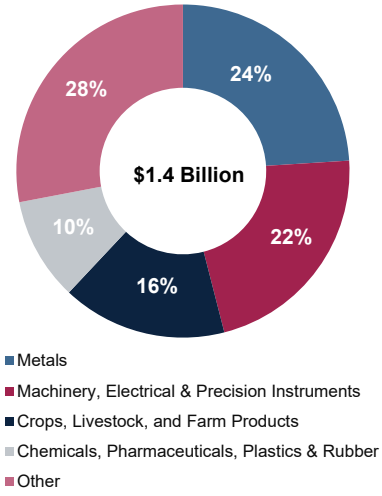
Indiana
420,000 Tons

Iowa
160,000 Tons

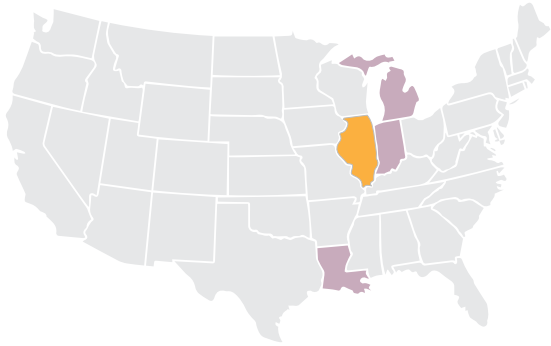
Freight Value by Mode & Year



Freight Type by Value (2019)



Top Trading Partners by Value (2019)



Indiana $150 Million

Louisiana $100 Million

Michigan $100 Million

Truck Freight By The Numbers

Total Tonnage:
2.8 Million Tons

Economic Value:
$1.3 Billion

Top Trading Partners:
1.8 million tons of goods were exported to states such as Indiana, Iowa, and Michigan.

Future Projections:
By 2050, truck freight numbers are expected to increase, with 4.0 million tons of commodities valued at $3.0 billion.

Top Truck Freight

Rail Freight By The Numbers

Total Tonnage:
50,000 Tons

Economic Value:
$5 Million

Top Trading Partners:
Almost all goods were outbound to other regions in Illinois.

Future Projections:
By 2050, these figures are expected to decrease to 32,000 tons valued at 33 million.

Top Rail Freight

Marine Freight By The Numbers

Total Tonnage:
1.1 Million Tons

Economic Value:
$69 Million

Top Trading Partners:
800,000 tons were exported to states such as Louisiana, Tennessee, and Minnesota.

Future Projections:
By 2050, these figures are expected to increase to 1.8 million tons valued at $135 million.

Top Marine Freight