Freight Economic Overview and Policies

Kansas City Regional Freight Study

CONNECTED FREIGHT KC 2050

A Plan in Action

Prepared for:

Mid-America Regional Council

In coordination with

Lawrence-Douglas County Metropolitan Planning Organization

And

Pioneer Trails Regional Planning Commission

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Acronyms and Abbreviations

ATTAIN	Advanced Transportation Technologies and Innovative Mobility Deployment
ARRA	American Recovery and Reinvestment Act
AADT	Average Annual Daily Traffic
BIL	Bipartisan Infrastructure Law
BEA	Bureau of Economic Analysis
BNSF	Burlington Northern Santa Fe Railroad
CAMPO	Capital Area Metropolitan Planning Organization
CCOG	Centralina Council of Governments
C.F.R.	Code of Federal Regulations
CDL	Commercial Driver's License
CEDS	Comprehensive Economic Development Strategy
CTP	Comprehensive Transportation Program
CNG	Compressed Natural Gas
CRISI	Consolidated Rail Infrastructure and Safety Improvements
COFS	Corridors of Freight Significance
COG	Council of Governments
DRCOG	Denver Regional Council of Governments
EDA	Economic Development Administration
IKE	Eisenhower Legacy Transportation Program
EJ	Environmental Justice
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FY	fiscal year
FAST	Fixing America's Surface Transportation Act
FDI	Foreign Direct Investment
FTZ	Free Trade Zone
FCS	Freight Corridors of Significance
FIP	Freight Investment Plan
FFY	Federal Fiscal Year
GIS	Geographic Information System
GMC	Goods Movement Committee
GDP	Gross Domestic Product

GSP	Gross State Product
INFRA	Infrastructure for Rebuilding America program
IIJA	Infrastructure Investment and Jobs Act
ITS	Intelligent Transportation System
KAIP	Kansas Airport Improvement Program
KC	Kansas City
KDOT	Kansas Department of Transportation
KFAC	Kansas Freight Advisory Committee
LDCMPO	Lawrence-Douglas County Metropolitan Planning Organization
T2050	Lawrence-Douglas County Transportation 2050 Metropolitan Transportation Plan
LNG	Liquified Natural Gas
LRTP	Long-Range Transportation Plan
MPO	Metropolitan Planning Organization
MAASTO	Mid-America Association of State Transportation Officials
MAFC	Mid-America Freight Council
MARC	Mid-America Regional Council
MoDOT	Missouri Department of Transportation
MoFAS	Missouri Freight Analysis System
MAP-21	Moving Ahead for Progress in the 21st Century Act
NEPA	National Environmental Policy Act
NHFP	National Highway Freight Program
NHS	National Highway System
NIPA	National Infrastructure Project Assistance
NPMRDS	National Performance Management Research Data Set
N/A	Not Applicable
OKI	Ohio-Kentucky-Indiana
OS/OW	Oversize/Overweight
PRIIA	Passenger Rail Investment and Improvement Act of 2009
PTRPC	Pioneer Trails Regional Planning Commission
PIDP	Port Infrastructure Development Program
PROTECT	Promoting Resilient Operations and Transformative, Efficient, and Cost-Saving Transportation program
RPAC	Rail Planning Advisory Committee

RSIF	Rail Service Improvement Fund
RAISE	Rebuilding American Infrastructure with Sustainability and Equity program
RWIN	Regional Workforce Intelligence Network
R&D	Research and Development
SLRIF	Short Line Rail Improvement Fund
SKOL	South Kansas & Oklahoma Railroad
SFY	State Fiscal Year
STIP	State Transportation Improvement Program
SMART	Strengthening Mobility and Revolutionizing Transportation
SWOT	Strengths, Weaknesses, and Threats
STBG	Surface Transportation Block Grant
STB	Surface Transportation Board
TSS	Traffic Separation Study
TDM	Transportation Demand Management
TSM&O	Transportation System Management and Operations
TPIMS	Truck Parking Information Management System
UP	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
VMT	Vehicle Miles Traveled

1. Introduction

The Mid-America Regional Council (MARC),[1] in coordination with Lawrence-Douglas County Metropolitan Planning Organization (LDCMPO) in Kansas, and Pioneer Trails Regional Planning Commission (PTRPC) in Missouri, is developing a regional freight plan, Connected Freight Kansas City (KC) 2050 Plan. The study region for this freight plan encompasses 14 counties in Kansas and Missouri (MARC's nine counties,[2] LDCMPO's one county,[3] and PTRPC's four counties[4]), as shown in **Figure 1**.

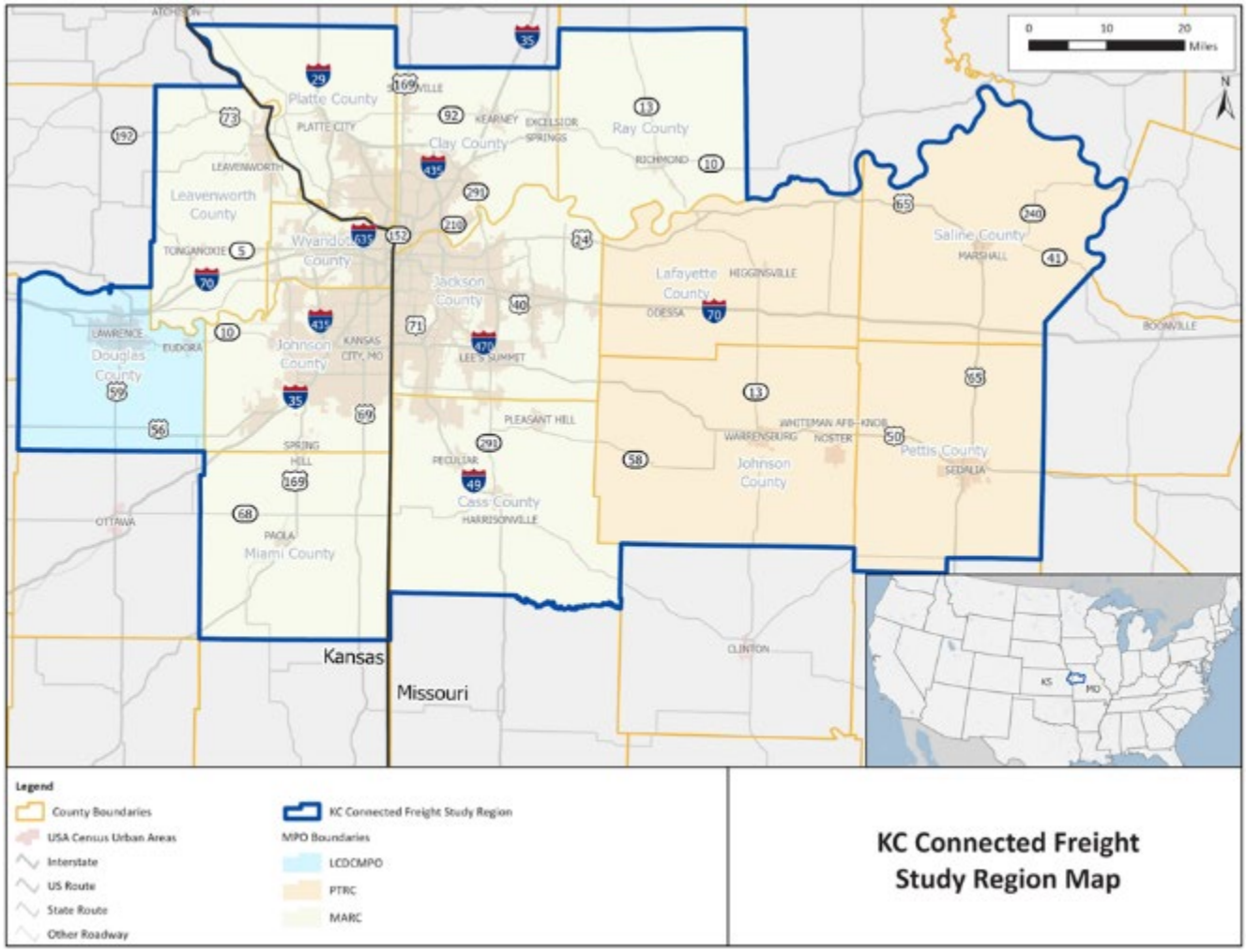


Figure 1. Study Region Map

[1] A nonprofit association of city and county governments and the metropolitan planning organization for the bi-state Kansas City region.
[2] Johnson, Leavenworth, Miami, and Wyandotte counties in Kansas, and Cass, Clay, Jackson, Platte, and Ray counties in Missouri.
[3] Douglas County in Kansas.
[4] Johnson, Lafayette, Pettis, and Saline counties in Missouri.

As part of the Connected Freight KC 2050 Plan, a proactive planning process will target the following objectives:

- Establish a proactive freight planning process for the Kansas City region
- Leverage MARC-LDCMPO-PTRPC partnership and identify future partnership opportunities
- Preserve and improve the Kansas City region's multimodal freight network
- Convey the economic resiliency components and policies related to freight industry success

This document provides a summary of the economic components of the Missouri and Kansas state freight plans and other regional economic development plans. It also provides a review of freight economic development plans for select U.S. regions with similar population and economic characteristics. The intent of the information provided herein is to inform a high-level set of policy recommendations for the Connected Freight KC 2050 Plan. The goals of these policies are to balance and consider unique rural and urban freight capital investment and inter-agency coordination needs in seeking new sources of funding, project prioritization, programming, and delivery processes.

2. Economic Development Elements of the Kansas and Missouri Statewide Freight Plans

This section provides an overview of relevant freight-related industry data from the Kansas and Missouri state freight plans. Due to data limitations and inconsistencies across the two plans, Kansas City regional data was only available for the relevant counties in Missouri, but not in Kansas. Therefore, for comprehensiveness and consistency, additional data is presented at the statewide level for both states. This section also summarizes available information related to policies, funding sources, project prioritization criteria, inter- and intra-agency partnerships.

2.1. Missouri Department of Transportation

For Missouri, data was obtained from the *2022 Missouri State Freight and Rail Plan*[5] and the *2022 Missouri State Freight and Rail Plan – Economic Futures and Needs Assessment* provided by the Missouri Department of Transportation (MoDOT).[6] Data in this report is presented at both the statewide level and the Kansas City regional level, which comprises the Missouri counties of Cass, Clay, Jackson, Platte, Ray, Johnson, Lafayette, Pettis, and Saline.

[5] www.modot.org/sites/default/files/documents/2022%20State%20Freight%20and%20Rail%20Plan.pdf
[6] www.modot.org/sites/default/files/documents/Economic%20Futures%20and%20Needs%20Assessment%20FINAL.pdf

2.1.1. Missouri Statewide Data

Freight-Reliant Industry Gross State Product

The 2019 Missouri economy produced more than $41 billion in gross state product (GSP), a measurement of a state's economic output. That translates into more than $6.9 billion in total tax revenue. Transportation and industry sectors that support and are supported by freight movements are the foundation of the state's economy.

The largest freight-intensive industry sectors[7] in the state are measured by the number of establishments and employment. These currently include:

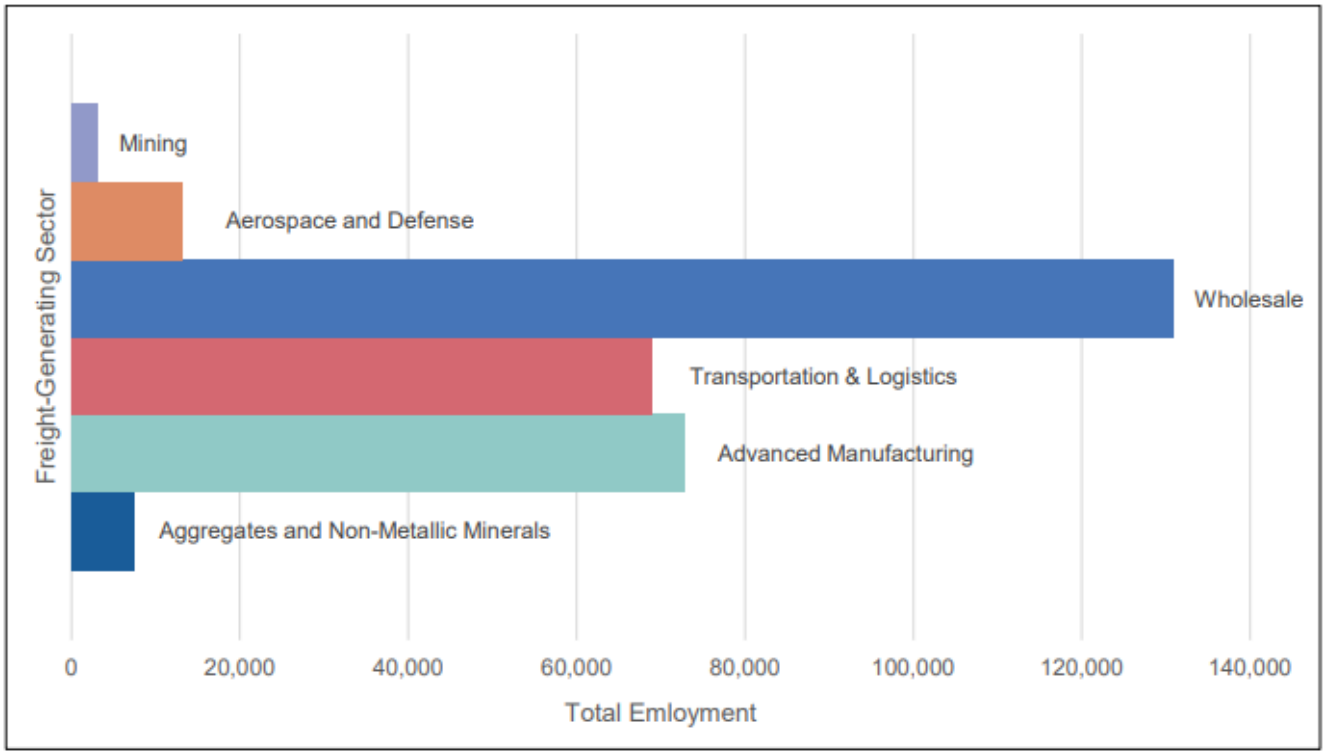
- Agriculture and Food & Goods Processing
- Automotive Suppliers
- Chemicals, Plastics, and Rubbers
- Aggregates & Non-Metallic Minerals
- Advanced Manufacturing
- Transportation & Logistics
- Wholesale
- Military & Defense

Freight-Reliant Industry Jobs

Economic activity in Missouri resulting from freight transportation in 2019 created a total of 476,700 jobs valued at more than $25.5 billion in wages.

Figure 2 shows that wholesale industry is the leader, with about 130,900 employees and 7,400 establishments, reflecting 35.5 percent of employees and more than half of establishments in freight-intensive industries across the state. This points to a heavy emphasis on business-to-business freight activity as well as supportive e-commerce business-to-consumer distribution centers and warehouses statewide. The land-use intensive nature of the wholesale industry and the other leading industries—advanced manufacturing (72,900 jobs) and transportation and logistics (68,900 jobs)—make up a combined 74 percent of key freight industry employment and more than 90 percent of establishments.

[7] Sectors were identified by the Missouri Department of Economic Development's target industries, reports from the Missouri Department of Agriculture, as well as an economic shift-share and location quotient analysis for Missouri industry sectors using U.S. Bureau of Labor Statistics data.



Source: U.S. Census and Transearch[8]

Figure 2. Total Number of Employees in Missouri's Key Freight-Generating Industries

2.1.2. Kansas City District-Wide Overview

Kansas City's growing industries include advanced energy, biosciences, data centers, engineering, and manufacturing. Kansas City International Airport is the area's largest airport and one of three major commercial airports in the state. Kansas City is the second busiest and largest rail hub in the nation in terms of tonnage, following Chicago. Major rail access includes Burlington Northern Santa Fe, Central Midland, Canadian Pacific, Kansas City Southern, Kaw River, Missouri & Northern Arkansas, Norfolk Southern, and Union Pacific. The region's port is on the Missouri River in Kansas City.

Kansas City is the second largest freight hub in Missouri. In terms of footprint, wholesale is the leading industry, followed by advanced manufacturing and transportation and logistics. This is consistent with the demands of space for storage and distribution in these three industries. The Kansas City District has roughly 23.5 percent, or 86,840, of the statewide freight Industry jobs.[9] The breakdown of the number of freight-related establishments per industry is provided in **Table 1**.

[8] Metrics were calculated using U.S. Census ZIP Codes Business Patterns data, as well as commodity flow data from the Transearch highway network.
[9] LODES Version 7.5 2018.

Table 1. Kansas City Freight Industry Establishments

District	Agriculture, Food & Goods Processing	Automotive Suppliers	Chemicals, Plastics, and Rubbers	Aggregates and Non-Metallic Minerals	Advanced Manufacturing	Transport & Logistics	Wholesale	Military and Defense	Mining
Kansas City	7,082	3,493	5,187	1,132	16,214	14,518	39,054	160	328

Source: U.S. Census County Business Patterns, 2018

Automotive suppliers in Missouri's Kansas City region represent over half of the state's total employment in the sector. Wholesale and advanced manufacturing are other leading industries in the district, which is also home to Whiteman Air Force Base as well as a military entrance processing station. **Figure 3** shows the diversity of industries represented in the Kansas City District relative to the rest of the state. In terms of land use, all key industries represent more than 10 percent of freight establishments in the state.

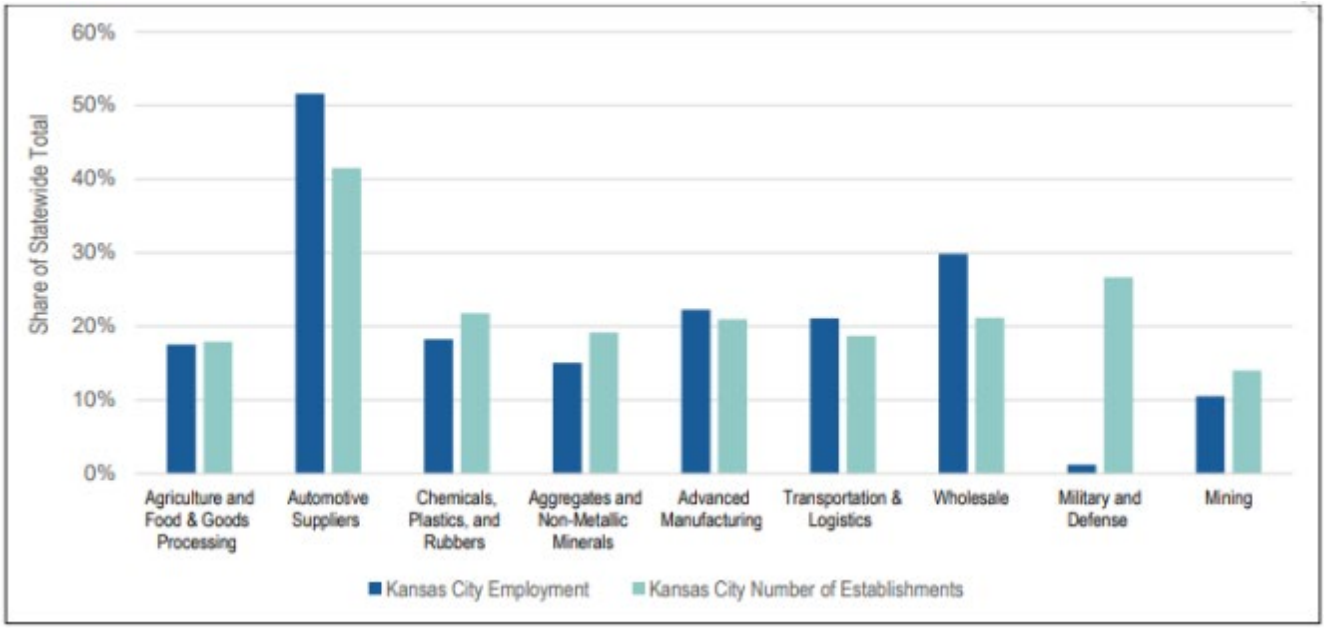


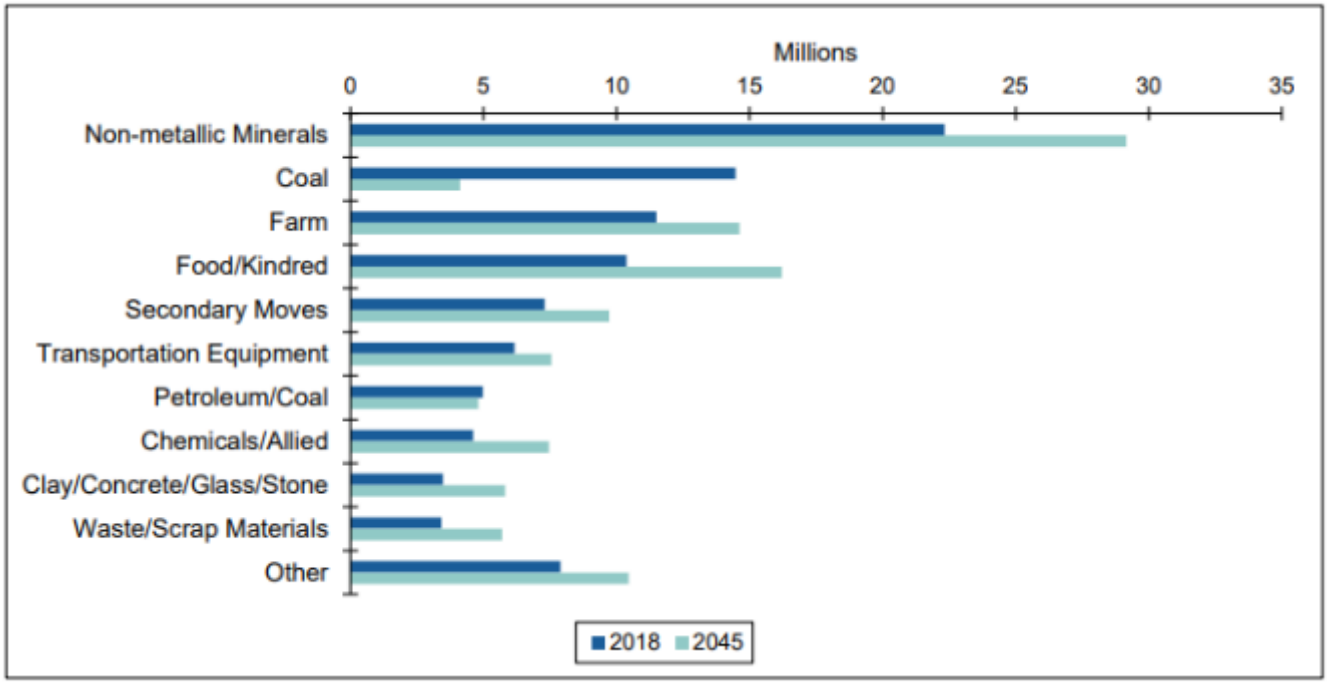
Figure 3. Kansas City District Share of Employment and Establishments

Freight Demand

The top commodities by tonnage and value in the Kansas City region are shown in **Figure 4** and **Figure 5**, respectively. The top four commodities by tonnage were nonmetallic minerals, coal, farm products and food/kindred goods with more than 58 million tons in 2018. By 2045,

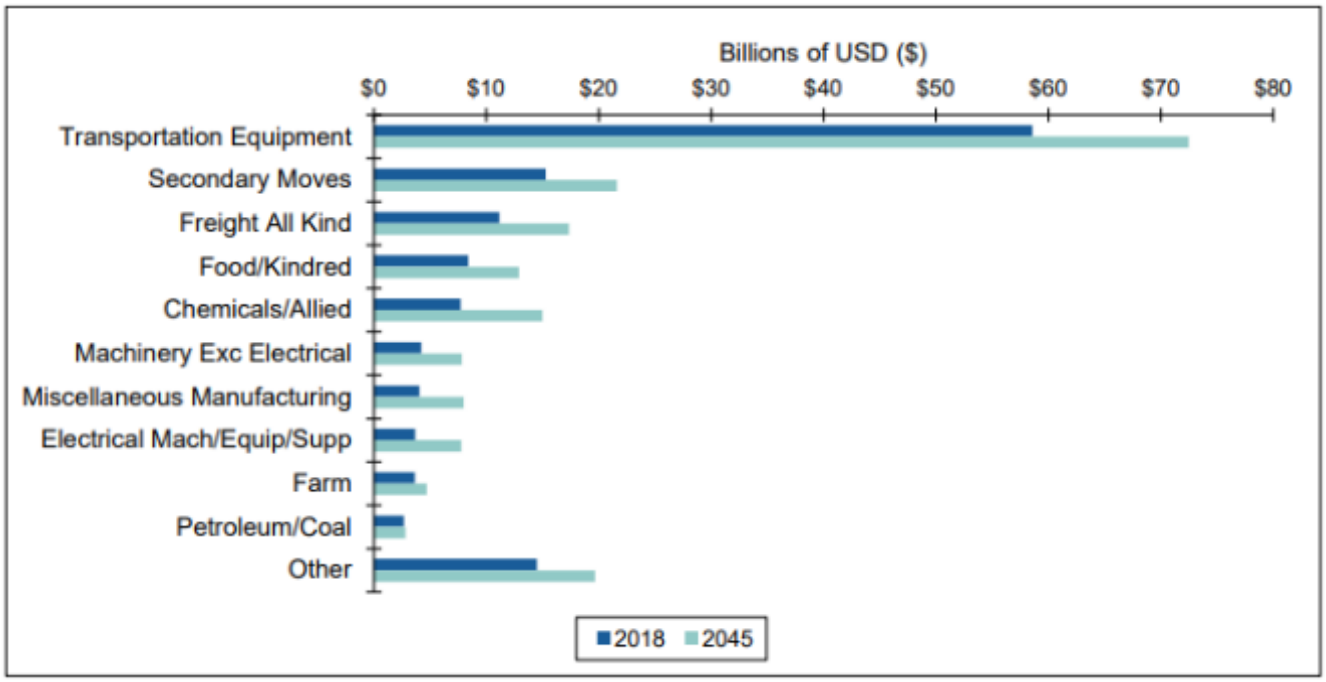
nonmetallic minerals are expected to remain the top commodity with an increase to 29 million. The biggest predicted drop is for coal, which is expected to decline from 14 million tons in 2018 to four million tons in 2045, including a decrease in the total share of commodities moved from 15 percent to just 4 percent. The biggest increase in market share is expected for food/kindred goods from 11 percent to 14 percent.

By value, transportation equipment had the largest share of all goods moved at 44 percent in 2018. This equated to almost $59 billion. This was followed by drayage, warehouse and distribution moves (secondary moves), and freight all kinds (general freight moved in containers) at 11 percent and 8 percent, respectively. By 2045, transportation equipment shipments are expected to be valued at $72 billion, despite a decrease in market share to 38 percent. Increases in market share are expected for most of the other top commodities, including chemicals/allied products and machinery.



Source: Transearch and Surface Transportation Board (STB) Confidential Carload Waybill Sample

Figure 4. Kansas City District Top Commodities by Tonnage, 2018–2045



Source: Transearch and STB Confidential Carload Waybill Sample

Figure 5. Kansas City District Top Commodities by Value

2.1.3. Policy Findings

The 2022 Missouri State Freight and Rail Plan identified four strategies designed to change the course of freight in Missouri by helping to address challenges and opportunities identified within the plan. The following sections provide policy recommendations for each of these strategies.

Expand the Ag Coast of America

The "Ag Coast of America" includes a 15-mile stretch of the Mississippi River in Missouri that features some of the highest levels of capacity anywhere along this crucial waterway. This strategy aims to expand the Ag Coast of America to support increased shipments of agriculture products on the robust and efficient inland waterways of the Mississippi and Missouri rivers. Policy recommendations for this strategy include:

- Promote the importance of Missouri ports and waterways and the maritime industry to the state and national economies
- Strengthen partnerships between MoDOT, state and local agencies, and industry to identify site selection opportunities for shippers
- Strengthen partnership between MoDOT, ports, and the U.S. Army Corps of Engineers for improved inland waterways maintenance

Missouri Manufactures

The purpose of the "Missouri Manufactures" strategy is to enable the state to support the evolving freight transportation needs for goods movement and its supporting workforce. Policy recommendations for this strategy are:

- Develop land use guidelines for mitigating freight and industry conflicts with residential and commercial land uses
- Promote capacity availability and development opportunities at Missouri's air cargo-handling airports

Efficient and Intelligent Multimodal Freight Corridors

The goal of this strategy is to leverage technology solutions and operational changes to improve the efficiency of freight movement across all modes. Policy recommendations for this strategy are:

- Promote and incentivize off-peak operations in congested areas
- Develop truck traffic impact analysis guidelines to include truck parking/queuing impact and inspection locations in urban and rural areas
- Develop policy and programs to support statewide deployment of electric charging infrastructure for trucks
- Promote capacity building for regional and state freight transportation planning staff

Expand Freight and Passenger Rail Market Opportunities

The purpose of this strategy is to expand the rail freight market to make Missouri more competitive for shippers and to improve and expand passenger rail service and access to improve passenger mobility options. Policy recommendations for this strategy include:

- Support funding for spurs serving local businesses
- Support increased track capacity for rail corridors at or near capacity
- Evaluate feasibility of reengagement of underused rail assets to improve freight and passenger transportation in rural areas

2.1.4. Additional Funding Sources

The $1.2 trillion Infrastructure Investment and Jobs Act (IIJA) was enacted in November 2021 and calls for the following key funding mechanisms in freight:

- $350 billion in highway programs for federal fiscal years (FFY) 2022–2026[10]

[10] https://www.fhwa.dot.gov/bipartisan-infrastructure-law/

- $17 billion in funding for port infrastructure and waterways for FFY 2022–2026[11]
- $102 billion in total rail funding, including both passenger and freight rail for FFY 2022–2026[12]
- $25 billion in aviation funding for FFY 2022–2026[13]
- The new program, Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT), provides both new formula funding ($7.3 billion) and competitive funds ($1.4 billion) to support planning, resilience improvements, and community resilience.[14]
- Multimodal opportunities emphasize connectivity in the freight network in new programs such as the National Infrastructure Project Assistance (NIPA) program and existing programs such as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) program, and the Infrastructure for Rebuilding America (INFRA) program. For INFRA, the maximum share of funds that may go to multimodal projects has increased from 10 percent to 30 percent.

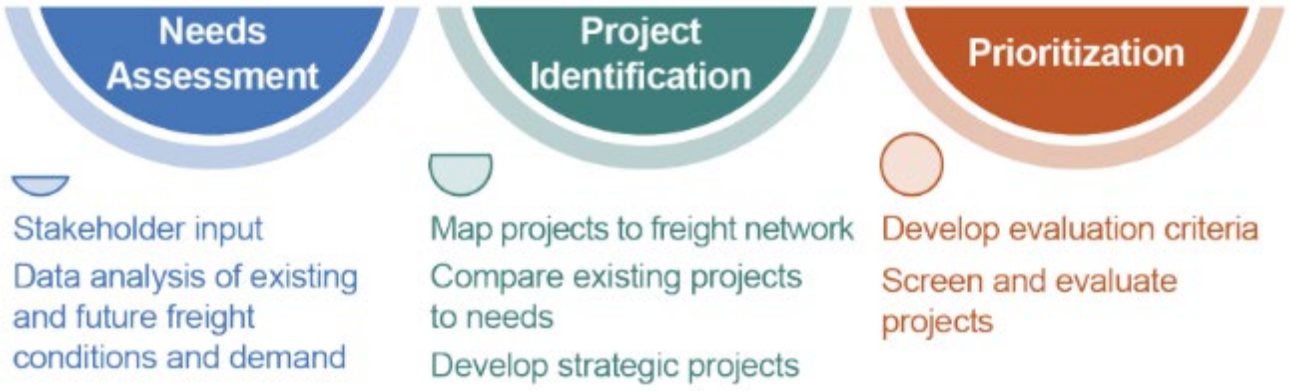
Additional funding sources identified in the plan are:

- The soybean checkoff program started in 1991 as a provision in the 1990 Farm Bill. The program collects 0.05 percent of soybean sales each year and transfers to a fund managed by the United Soybean Board for education, promotion, and research.
- To address current shortfalls in transportation funding, states are exploring alternative funding mechanisms to gas tax collection. For example, 14 states, including Missouri, charge an electric vehicle registration fee. Missouri's fee is $75 per vehicle. Additionally, recent legislation provides for alternative-fuel vehicles to pay an annual decal fee.

2.1.5. Project Prioritization Criteria

The project prioritization process for Missouri's Freight Investment Plan (FIP) incorporates stakeholder input and a data-driven analysis of future freight conditions and demand. Stakeholders from across Missouri were identified, and project scoring utilized a multivariate process with the Missouri Freight Analysis System (MoFAS) tool to rank projects by priority. **Figure 6** below shows the MoDOT FIP process.

[11] https://www.maritime.dot.gov/about-us/bipartisan-infrastructure-law-maritime-administration
[12] https://railroads.dot.gov/BIL
[13] https://www.faa.gov/bil
[14] https://policy.transportation.org/wp-content/uploads/sites/59/2021/09/2021-09-15-AASHTO-Comprehensive-Analysis-of-IIJA-FINAL.pdf



Source: MoDOT

Figure 6. Missouri Department of Transportation Freight Investment Plan Process

According to the Criteria for Project Prioritization (RSMo. 21.795.3(2)), project prioritization is performed using a three-tiered process, the details of which are as follows.

Tier 1 – Engineering Considerations

Projects are assessed using quantifiable data, with a total of 100 points available across various categories. Preservation is allocated 35 points, divided into 15 points for pavement, 15 points for bridges, and 5 points for signals. Safety is awarded 30 points, congestion receives 25 points, and goods movement is given 10 points, (or up to 10% weight in the scoring process). The total points for each project in this tier are then used in cost-effectiveness calculations, which also consider the project's average daily traffic, the route's functional classification, and a usage value derived from these factors. The cost-effectiveness calculation employs an annualized cost and excludes life cycle costs such as operation and maintenance.

Tier 2 – Planning Considerations

Projects are assessed based on non-technical elements, which include environmental impacts (30 points), regional objectives (25 points), sustainable development (20 points), resource conservation (10 points), funding (10 points), and the adoption of modern technology (5 points). A total of 100 points is possible. The points each project receives in this tier will supplement the Tier 1 total points and will also be used as a comparison factor.

Tier 3 – Public and Political Support

Projects are awarded points based on their support from the public, businesses, and political entities. Additionally, an overview of projects is conducted in this tier to ensure that funds are distributed equitably among the counties in the district. The percentage of funding for the City of St. Louis and each county in the district is compared to the vehicle miles traveled (VMT), lane miles, population, and employment in the City of St. Louis and each county. Information from

this tier supplements the Tier 1 total points and cost-effectiveness rating and is used as a comparison factor.[15]

2.1.6. Multimodal Freight Investment Implementation Plan

The 2022 Missouri State Freight and Rail Plan identified projects, needs, and areas of Missouri's multimodal freight network that do not currently have full funding in place. The identified unmet freight needs capture longer range investment in Missouri's multimodal freight network, including private sector rail and port projects identified by MoDOT's partners and projects proposed by stakeholders that are not yet in any MoDOT plans. The complete list of high priority unmet freight projects by mode is shown in **Table 2**, **Table 3**, and **Table 4**.

Table 2. Unmet Needs – Identified High Priority Freight Highway Needs in the Kansas City District

Beginning County	Road Name	Location	Length	Road Type	Priority
Johnson	MO 13	US 50 E JCT	1.98	Two-Lane	High
Clay	MO 92	RT E	1.50	Two-Lane	High
Lafayette	MO 13	BU 13	5.59	Two-Lane	High
Clay	MO 92	Clay CO Line	0.97	Two-Lane	High
Lafayette	MO 13	Lafayette CO Line	1.86	Two-Lane	High
Clay	MO 92	Lynn Road	0.45	Two-Lane	High
Jackson	Interstate 435	Jackson CO Line	3.29	Two-Lane	High
Platte	Interstate 29	IS 635-RT A	0.96	Freeway	High
Johnson	MO 131	US 50	9.18	Two-Lane	High
Platte	Intestate 29	Platte CO Line	1.06	Freeway	High
Jackson	Interstate 70	IS 670	1.95	Freeway	High
Jackson	US 24	IS 435	0.29	Two-Lane	High
Lafayette	US 24	MO 13 E JCT	0.31	Two-Lane	High
Jackson	Interstate 70	Lee's Summit Rd	1.36	Freeway	High
Platte	Intestate 29	MO 152	0.53	Freeway	High
Lafayette	Interstate 70	Lafayette CO Line	2.26	Freeway	High
Lafayette	US 24	MO 224 E JCT	6.87	Two-Lane	High
Johnson	MO 131	Johnson CO Line	5.48	Two-Lane	High
Lafayette	MO 131	Lafayette CO Line	1.00	Two-Lane	High

[15] https://www.modot.org/sites/default/files/documents/Tab%25202A%2520Narrative%25202003%5B1%5D.pdf

Beginning County	Road Name	Location	Length	Road Type	Priority
Jackson	US 40	Blue Ridge Cutoff	1.79	Two-Lane	High
Cass	RT D	RT Y	3.14	Two-Lane	High
Lafayette	US 24	RT N	1.54	Two-Lane	High
Cass	MO 7	Independence	0.50	Two-Lane	High

Source: https://www.modot.org/sites/default/files/documents/Freight%20Projects%20and%20FIP%20FINAL.pdf

Table 3. Unmet Needs – Identified Statewide Rail Project Needs

Project Title	Need Addressed	Project Description	Estimated Capital Cost (YOE in Millions)
Second Main Line – Lee's Summit to Strasburg	Infrastructure	Double track from Lee's Summit to Strasburg to improve capacity for both passenger and freight rail traffic.	$120 - $140
Holden – Siding	Infrastructure	New siding track to improve passenger and freight rail capacity.	$7.3
Knob Noster – Siding	Infrastructure	New siding track to improve passenger and freight rail capacity.	$16 - $18
Independence Street Bridge (Kansas City) Improvements	Infrastructure	Bridge work to enhance freight and passenger rail services.	$12 - $14
KCT North-South Corridor Improvements	Track Capacity	Realignment and raising of existing tracks and the creation of a third track.	$23
Sedalia Station Bicycle/Pedestrian Improvements	Modal Connectivity	Addition of bicycle and pedestrian facilities connecting Sedalia's Amtrak station with the historic Katy Depot.	$0.99
Warrensburg Station Bicycle/Pedestrian Improvements	Modal Connectivity	Addition of a sidewalk and ADA compliant facilities at Warrensburg's Amtrak station.	$0.27

Source: https://www.modot.org/sites/default/files/documents/Freight%20Projects%20and%20FIP%20FINAL.pdf

Table 4. Unmet Needs – Unfunded Needs List for Kansas City Area Missouri Port Authorities

Port Authority	Description	Project Cost
FY 2022		
Port of Kansas City	Mooring Replacement	$750,000
Port of Kansas City	Paving & Stormwater Improvements	$750,000
FY 2024		
Port of Kansas City	Railcar Unloading Pit Conveyor	$300,000
FY 2025		
Port of Kansas City	Dock Replacement	$14,700,000
FY 2026		
Port of Kansas City	Paving and Warehouse Rehab	$1,250,000

Source: https://www.modot.org/sites/default/files/documents/Freight%20Projects%20and%20FIP%20FINAL.pdf

2.1.7. Inter- and Intra-Agency Partnerships

The Missouri State Freight and Rail Plan identified the following current partnerships and opportunities to expand partnerships.

- **Missouri: Center of Automotive Manufacturing Excellence. Missouri Partnership:**[16] The Motor Vehicle industry group includes the businesses manufacturing motor vehicles, those manufacturing motor vehicle bodies and trailers, and those manufacturing motor vehicle parts. Parts include engines and engine parts, electrical and electronic equipment, steering, suspension, brake systems, transmission and powertrains, seats, trim, vehicle metal stamping, and others.
- **Aerospace & Defense in Missouri. Missouri Partnership:**[17] The Aerospace Product and Parts industry group consists of companies producing aircraft, aircraft engines/engine parts, and other aircraft components. It also includes companies manufacturing guided missiles, space vehicles, propulsion units, and parts.
- **Public-Private Partnership Opportunities That Expand Port Capacity and Connectivity:** There are 16 active public port authorities along the marine highways in Missouri in addition to hundreds of private dock facilities. These waterways connect the state to the entire Mississippi River system and its tributaries, including the Ohio, Tennessee, and Illinois rivers. They also provide connections to Gulf Coast ports such as New Orleans and Mobile, providing Missouri shippers with access to the global market. These types of partnerships can enable greater capacity of ports, keeping the inland

[16] https://www.missouripartnership.com/industry-strengths/top-advanced-manufacturing-network-location/
[17] https://www.missouripartnership.com/wp-content/uploads/2016/08/Aerospace-and-Defense-in-Missouri-2.pdf

waterways as a low-cost alternative to move large volumes of bulk freight throughout the inland waterways network.

- **Partnerships Between MoDOT, State and Local Agencies, and Industry to Identify Site Selection Opportunities for Shippers:** Industrial sites with multimodal access—particularly inland waterway and/or rail access—are coveted but often difficult to acquire. For the state's agriculture businesses and other freight-intensive industries to secure these valuable sites, coordination between industry and various public partners allows them to work together to identify and secure site selection opportunities, keeping freight rates competitive across all modes.
- **Partnerships Between MoDOT, Ports, and the U.S. Army Corps of Engineers (USACE) for Improved Inland Waterways Maintenance:** Most of the locks and dams in the northern half of the state are close to 100 years old. Strengthening the partnership between MoDOT, ports, and USACE would improve maintenance of the state's inland waterways and identify potential state and federal investments.
- **Partnership Between MoDOT and Railroad Industry Stakeholders to Access Federal and State Funding Support:** Missouri's rail network is 100 percent privately owned and operated. As such, it is important for the railroad industry and MoDOT to work together to identify priorities and strategize on how to access federal and state funding support.

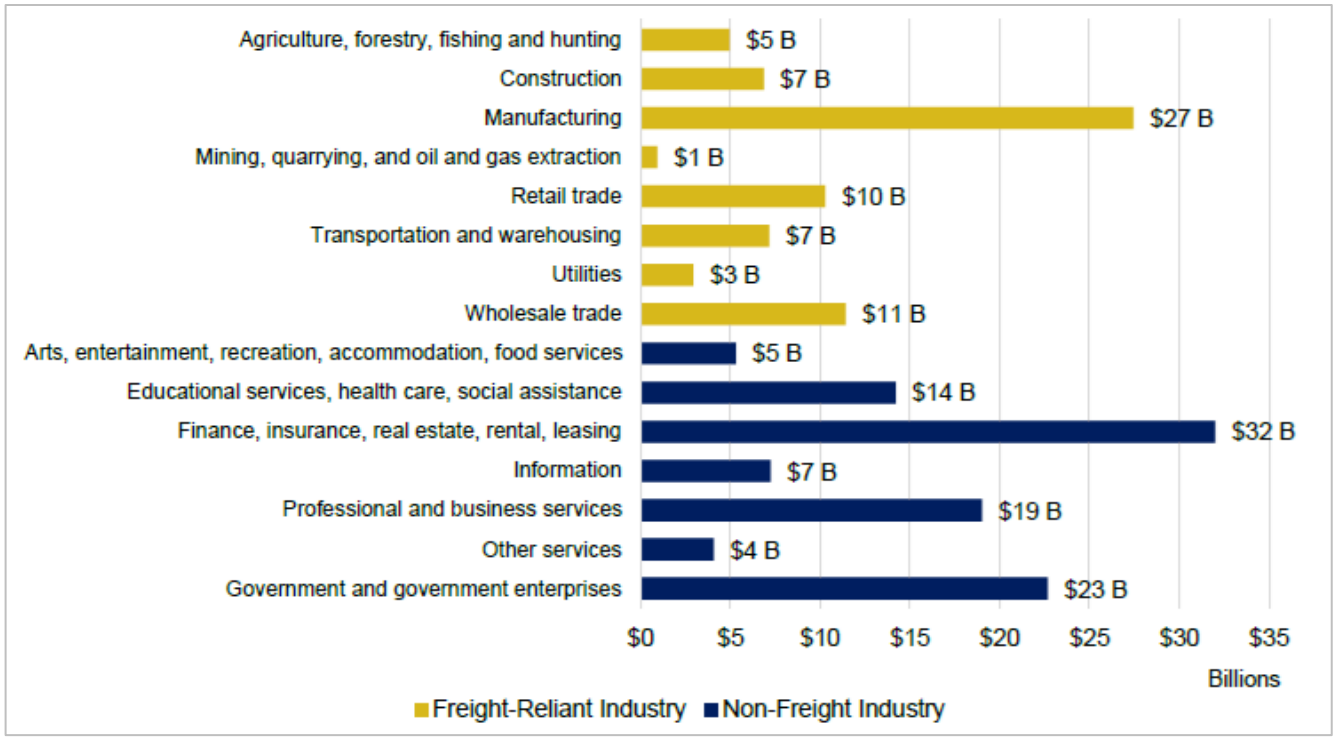
2.2. Kansas Department of Transportation

For Kansas, data was obtained from the *2023 Kansas State Freight Plan* provided by the Kansas Department of Transportation (KDOT).[18] Data in this report is presented at the statewide level.

2.2.1. Freight-Reliant Industry Gross Domestic Product

Freight-reliant industries in Kansas contributed 40.8 percent ($72 billion) of the state's $176.5 billion Gross Domestic Product (GDP) in 2019. **Figure 7** shows the breakdown of GDP for each of the major industries in Kansas, categorized as freight- and non-freight-reliant. Among freight-reliant industries, manufacturing is the largest, reaching over $27.4 billion in GDP and contributing to 15.6 percent of the state's GDP.

[18] 2023 Kansas State Freight Plan



Source: Bureau of Economic Analysis (BEA), GDP by state, 2019, analysis by CPCS, 2021

Figure 7. Kansas Gross Domestic Product by Industry, 2019

Manufacturing is the state's second largest industry by GDP, across all industries—freight- and non-freight-related activities including logistics associated with managing the storage of materials and delivering finished products. In Kansas, freight-reliant industries contributed 40.8 percent of the state's $176.5 billion GDP in 2019.

2.2.2. Freight-Reliant Industry Jobs

Kansas had 50,886 freight-reliant industry establishments with 593,711 total employees in 2019.[19] In Kansas, wholesale trade, advanced manufacturing, and retail trade are the top three freight-reliant industries contributing to the state economy. **Figure 8** shows the percentage of contributions to employment by freight-reliant industries in Kansas. **Figure 9** provides the breakdown of employment and sales volume for freight-reliant industries in Kansas.

[19] Source: Bureau of Labor Statistics (BLS), Quarterly Census of Employment and Wages (QCEW), by area, annual averages for 2019. Analysis by CPCS, 2021.

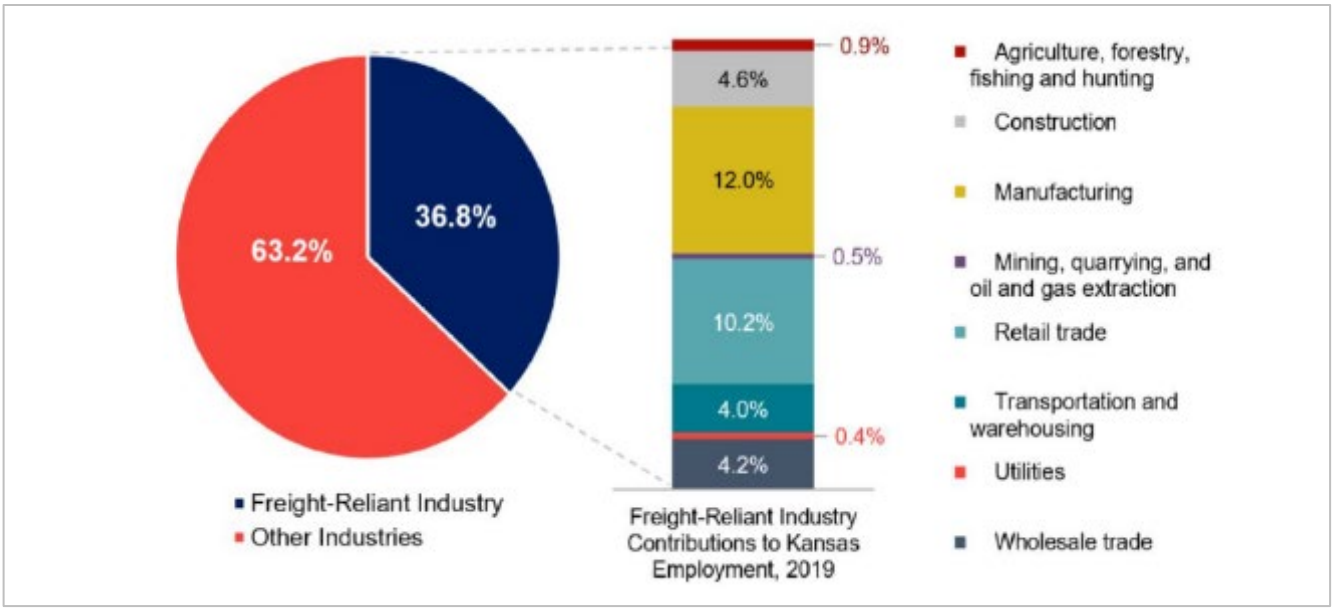


Figure 8. Freight Contribution to Kansas Employment, 2019

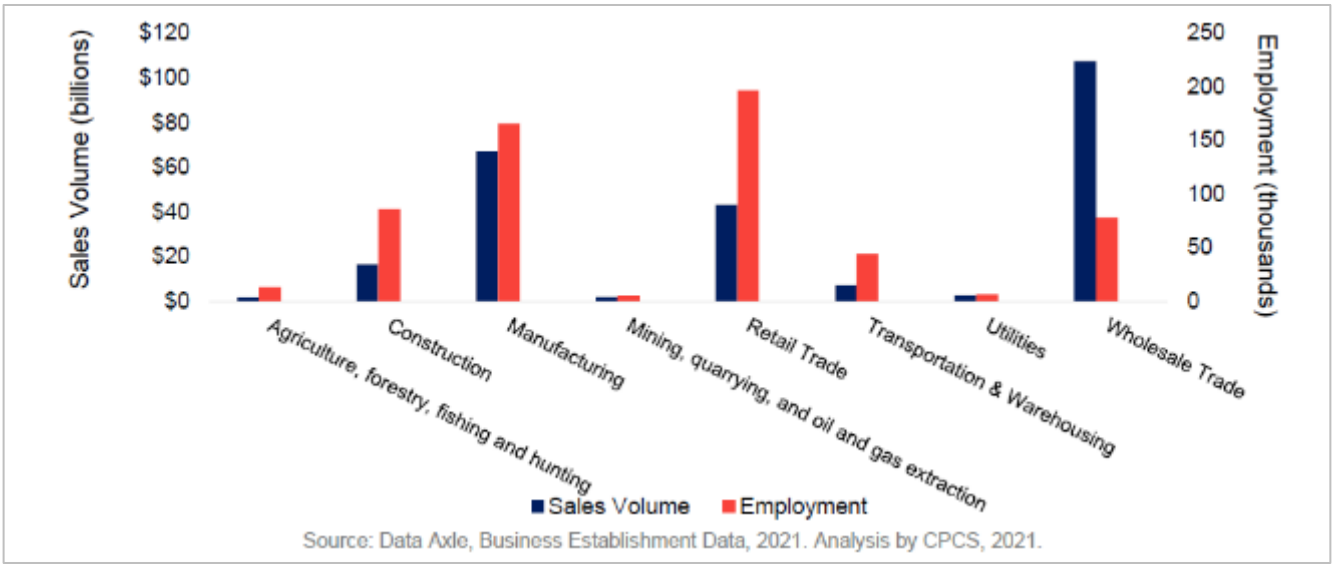


Figure 9. Sales Volume and Employment by Freight-Reliant Industry

2.2.3. Policy and Program Opportunities Findings

Kansas State Freight Plan policy and program opportunities were identified based on data analysis and performance evaluation of the Kansas multimodal freight system, stakeholder consultations, Kansas Freight Advisory Committee meetings with freight stakeholders, and a strengths, weaknesses, opportunities, and threats (SWOT) assessment, with consideration of social, technological, economic, environmental, and political trends that have the potential to impact the freight system. The policy and program opportunities identified for the Kansas freight system were developed in-line with KDOT's goals for the multimodal freight system. These

opportunities will serve as a key set of considerations for future development of policy recommendations, project identification, and project prioritization recommendations that will be included in the final Connected Freight KC 2050: A Plan in Action document.

Address Congestion, Delay, and Improve Freight System Resiliency

The following actions can mitigate existing bottlenecks and handle the anticipated increase in freight demand:

- Conduct plans and studies to understand freight system needs and issues (State Rail Plan, State Freight Plan)
- Conduct performance measurement and monitoring of the freight system
- Address urban area bottlenecks (Kansas City, Wichita)
- Consider/support multimodal freight system opportunities (opportunities that place less reliance on the highway system alone).

Improve Safety and Efficiency of Freight System Operations

The following actions will help improve the safety and efficiency of the state's freight system:

- Evaluate and integrate new technologies into Kansas' freight system
- Work with the trucking industry, freight industry, and local agencies to identify opportunities to expand truck parking capacity where needed, including at locations of new or expanded freight facilities
- Maintain and improve Kansas' Truck Parking Information Management System (TPIMS)
- Conduct an assessment and develop a strategic investment plan for Kansas' weigh stations
- Implement Kansas' Grade Crossing Safety State Action Plan, including recommendations for blocked crossings

Preserve and Improve Roadways Used by Heavy Vehicles

The following actions will help preserve and improve the state's roadways, especially those used by heavy vehicles:

- Identify and improve infrastructure that supports Oversize/Overweight (OS/OW) movements
- Identify and prepare sites in Kansas for large-scale industrial development along both highway and railroad corridors
- Conduct traffic impact studies for new freight facilities

Address Extreme Weather, Air Pollution, Flooding, Wildlife, and Habitat Loss

The following actions will help KDOT strengthen the resiliency of the state's freight system, address climate change impacts, and protect wildlife and habitat.

- Update KDOT design standards to harden against extreme weather, flooding, and other events
- Incorporate extreme weather considerations in asset management planning
- Support transportation programs and projects that actively protect wildlife habitats, manage flooding and stormwater, and mitigate other potential environmental impacts
- Partner with Kansas Department of Health and Environment, Kansas Department of Wildlife, Parks and Tourism, and other sister agencies to plan and create climate-conscious and ecofriendly freight infrastructure
- Encourage the adoption of alternative fuel vehicles for goods movement

Guide Freight-Related Transportation Investment in Kansas

The following actions can help to invest in freight transportation projects strategically:

- Use Kansas' Freight Corridors of Significance (FCS) as a KDOT project selection factor
- Provide grants and other funding to improve the safety, condition, and efficiency of the multimodal freight system
- Submit and support freight-related applications for US Department of Transportation (USDOT) discretionary grant funding (Bridge, RAISE, Rural Surface Transportation)
- Advance investments identified in the Kansas State Rail Plan and Kansas State Freight Plan

Address Freight-Related Workforce Needs in Kansas

The following actions will assist with addressing workforce needs:

- Develop a staffing plan for the KDOT Freight and Rail Unit
- Support projects that enhance workforce mobility to and from freight-related job centers
- Coordinate efforts with public and private freight stakeholders to promote the freight workforce, such as education for new truck drivers

2.2.4. Additional Competitive Federal Funding Sources

The Bipartisan Infrastructure Law (BIL) established the freight project-eligible funding programs shown in **Table 5**.

Table 5. Select Bipartisan Infrastructure Law Grant Programs

Program	Category	Description
National Infrastructure Project Assistance (Mega Projects)	Roads, Bridges, and Major Projects	Supports large, complex projects that are difficult to fund by other means and likely to generate national or regional economic, mobility, or safety benefits.
Local and Regional Project Assistance (RAISE)	Roads, Bridges, and Major Projects	Supports projects that will have significant local or regional impact and improve transportation infrastructure
Nationally Significant Multimodal Freight and Highway Projects (INFRA)	Roads, Bridges, and Major Projects	Supports multimodal freight and highway projects of national or regional significance.
Rural Surface Transportation Grant Program (RURAL)	Roads, Bridges, and Major Projects	Supports projects to improve and expand surface transportation infrastructure in rural areas.
Bridge Investment Program	Roads, Bridges, and Major Projects	Supports projects to improve bridge and culvert condition, safety, efficiency, and reliability.
National Culvert Removal, Replacement, and Restoration Grant	Roads, Bridges, and Major Projects	Supports projects to replace, remove, and repair culverts or weirs.
Consolidated Rail Infrastructure and Safety Improvements (CRISI)	Freight and Passenger Rail	Supports projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail.
Railroad Crossing Elimination Program	Safety	Supports highway-rail or pathway-rail grade crossing improvement projects that focus on improving the safety and mobility of people and goods.
Port Infrastructure Development Program (PIDP) Grants	Ports and Waterways	Supports projects that improve the resiliency of ports, as well as projects that reduce or eliminate port-related criteria pollutant or greenhouse gas emissions.
Reduction of Truck Emissions at Port Facilities	Ports and Waterways	Supports projects that reduce truck idling and emissions at ports, including through the advancement of port electrification.
Advanced Transportation Technologies & Innovative Mobility Deployment (ATTAIN)	Roads, Bridges, and Major Projects	Supports projects to deploy, install, and operate advanced transportation systems.
Strengthening Mobility and Revolutionizing Transportation (SMART)	Technology	Supports demonstration projects focused on advanced smart community technologies and systems in order to improve transportation efficiency and safety.
Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT)	Resilience	Supports planning, resilience improvements, community resilience, evacuation routes, and at-risk coastal infrastructure.
Airport Infrastructure Grants	Airports and FAA Facilities	

Source: White House, Build.gov, https://www.whitehouse.gov/build/?utm_source=build.gov; USDOT, SMART Grants Program, https://www.transportation.gov/grants/SMART

Kansas State Funding Partnership Success Stories

For roadway projects, KDOT has led and supported projects, in partnership with other localities and states, which have received federal grants. These success stories highlight how partnerships between states, localities, metropolitan planning organizations (MPO), and public and private stakeholders can provide funding resources to freight projects that improve operations, relieve bottlenecks, enhance safety, promote economic development, and improve equitable accessibility to goods and services. Selected projects are detailed below.

- **TIGER, now BUILD (2015):** KDOT, in partnership with the Mid-America Association of State Transportation Officials (MAASTO) states of Indiana, Iowa, Kentucky, Michigan, Minnesota, Ohio, and Wisconsin, secured $25 million for an eight-state regional TPIMS project using intelligent transportation system (ITS) technology on major freight routes.
- **BUILD (2020):** The City of Wichita secured $21 million for the North Junction Gold Project to construct a collector-distributor system to connect I-235 to I-135 and SR 96, replace outdated single-lane system ramps with new two-lane system ramps as well as a new flyover ramp, add new continuous auxiliary lanes on mainline sections, and resurface and improve bridge conditions.
- **BUILD (2018):** Led by the Unified Government of Wyandotte County, the I-70 and Turner Diagonal Interchange improvements project secured $13.84 million to replace the existing interchange at I-70 and Turner Diagonal with a more efficient diverging diamond interchange.

For rail projects, KDOT has provided technical and financial support to state partners to secure federal grants for freight projects in the state, as detailed below.

- **CRISI (2021):** KDOT supported the successful application of two CRISI grants in 2021, providing $500,000 in matching funds to secure $9.4 million for the KYLE Railroad Gateway Project, and $500,000 in matching funds to secure nearly $11 million for the Southwest Kansas Infrastructure Upgrade Project.
- **TIGER, now BUILD (2011):** KDOT provided $400,000 in matching funds, in collaboration with KYLE Railroad, for the Solomon Rural Rail Upgrade, which was awarded a $6.6 million grant.
- **TIGER, now BUILD (2010):** KDOT provided $1.7 million in matching funds, in collaboration with South Kansas & Oklahoma Railroad (SKOL), to secure a $14.9 million grant for the Great Plains Freight Rail Project.

Kansas State Freight Funding Sources

KDOT provides several state-funded programs that provide financial support to private and public partners for multimodal freight transportation projects in Kansas.

- **Economic Development Program:** The Economic Development Program offers funding to local governments for transportation projects that bring economic development, job growth, and capital investments to Kansas. KDOT awarded over $14.6 million to six roadway projects and over $6.4 million to four rail projects between 2019 and 2021. This funding was leveraged to provide over $21 million in total funding.
- **Cost Share Program:** The Cost Share Program provides financial support to all freight modes, including but not limited to road, rail, and air. Funding is provided, in the form of a grant match, to support construction projects that address a key need for enhancing safety, improving access or mobility, improving condition, relieving congestion, or supporting job retention and growth. Between 2019 and 2021, the program funded 13 roadway projects and one railway project with over $10 million, leveraging over $21 million.
- **State Rail Service Improvement Fund (RSIF):** RSIF supports local governments, railroads, port authorities, and shippers to carry out projects that improve the condition and accessibility of Kansas' railroad network. To receive a grant, projects must have a benefit cost of 1.0 or above. Since 2000, KDOT has supported 95 projects with over $87 million in loans and grants through the RSIF program. This includes eight short line rail projects and seven shipper projects funded by the most recent round of RSIF funding in state fiscal year (SFY) 2022, with $10.1 million in grants awarded across the 15 projects.
- **Short Line Rail Improvement Fund (SLRIF):** SLRIF provides funding for projects that maintain, reconstruct, or replace short line rail infrastructure, including tracks, bridges, industrial leads, and sidings. The program distributed $5 million annually to qualified projects from SFY 2021 through 2023. In its first two years of funding, the SLRIF program provided over $9.3 million in grants to support 21 projects. This includes five short line rail projects and six shipper projects in its most recent round of funding for SFY 2022.
- **Kansas Airport Improvement Program (KAIP):** Established under Comprehensive Transportation Program (CTP) and continued under T-WORKS and Eisenhower Legacy Transportation Program (IKE), this program provides funding through reimbursable grants to improve and maintain Kansas' public-use airports (except those classified as Primary airports), including for projects that enhance economic opportunities involving air travel and air freight.
- **Broadband Acceleration Grant:** This competitive grant opportunity funds broadband infrastructure projects in Kansas. Launched in 2020, the grant is funded by KDOT's IKE program and is set to provide $85 million over 10 years. The first round of the program awarded $5 million to 14 recipients in 2021, resulting in a $10 million total investment. The awarded projects provided broadband access to 20 cities and counties. In 2022, the second round of the program awarded $5 million to 11 recipients, resulting in another $11 million total investment, enabling high-speed broadband access across 10 rural counties.

2.2.5. Freight System Investment Plan

The 2023 Kansas State Freight Plan was the first freight plan for the state of Kansas. Because of this, at the time of the plans' adoption, there were no freight corridor related criteria for project prioritization incorporated into KDOT policies, project planning, decision-making, or investments. As part of the plan's stakeholder engagement process, five potential evaluation criteria were considered for applicability for future project funding selection. These criteria were:

- Truck-related Fatalities and Serious Injuries
- At-grade Crossing Locations
- Bridges in Good Condition and Poor Condition
- Pavement in Good Condition and Poor Condition (federal definition)
- Truck average annual daily traffic (AADT) and Truck Share

After discussing these criteria, the KDOT Executive Team expressed interest in using the FCS designation as an evaluation factor when determining where to invest funds. The goal is to prioritize projects that are located on the state's FCS network. Although other freight evaluation criteria were not advanced for inclusion, they are recorded in the State Freight Plan for future consideration.

Project Prioritization

Building off the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act, the BIL continues the National Highway Freight Program (NHFP), which provides formula funding to states for freight projects. States become eligible for program funds upon Federal Highway Administration (FHWA) approval of a State Freight Plan, which must be completed every four years. The State Freight Plan must include a freight investment plan that includes a list of priority projects and describes how NHFP funds will be invested and matched. The only KDOT identified project for utilization of NHFP funding in the Kansas City region is for the replacement of the bridge over I-35 on Gardner Road 5.75 miles northeast of the Gardner County line in Gardner, Kansas. The plan identified $7.6 million in fiscal year (FY) 2023, and $9.9 million in FY 2024 for programming, supplemented by programming of $1.9 million in non-federal matching funds for a total project cost of $19.4 million.

Other Freight Project Opportunities

KDOT also identified other freight project opportunities that where KDOT would consider providing support. These project types were identified based on data analysis and a SWOT assessment, supplemented by stakeholder input. These opportunities may address freight transportation needs in Kansas but remain in the concept phase, with project details, including location, yet to be determined. The concepts must also be further explored to identify potential

costs, benefits, and other impacts of implementation. **Table 6** provides an overview of other freight project opportunities in Kansas.

Table 6. Additional Freight Investment Opportunities in Kansas

Project	Project Description	Project Need(s)	Goal Area(s)
Intersection Improvements	Construct intersection improvements along key corridors	Improve intersection operation and enhance safety	▪ Safety and Security ▪ Asset Preservation ▪ Transportation System Management ▪ Freight and Economic Vitality
Capacity Expansion	Build new land capacity for increased traffic volume expected with development	Increase roadway capacity	▪ Asset Preservation ▪ Transportation System Management ▪ Freight and Economic Vitality
Truck Parking	Build new and/or expand existing truck parking	Enhance truck parking facility options	▪ Transportation System Management ▪ Freight and Economic Vitality ▪ Stewardship ▪ Workforce
Grade Crossing Upgrade	Improve highway-rail grade crossing infrastructure – upgrade crossing surface	Improve aging infrastructure	▪ Safety and Security ▪ Asset Preservation
Grade Crossing Upgrade	Improve safety at highway-rail grade crossing locations by upgrading safety devices and adding overhead lighting at crossings	Reduce highway-rail grade crossing incidents	▪ Safety and Security ▪ Asset Preservation
Inspection Facility	Construct new or expand existing inspection facility	Improve freight operation and efficiency	▪ Freight and Economic Vitality ▪ Stewardship

Source: 2023 Kansas State Freight Plan

2.2.6. Inter- and Intra-Agency Partnerships

The Kansas State Freight Plan identified freight system policy and program opportunities and corresponding plan goals. An important policy and program opportunity identified by the plan was to "strengthen coordination and partnerships." Strengthening coordination and partnerships

is anticipated to improve freight system performance in the goals areas of Safety & Security, Transportation System Management, Asset Preservation, Freight & Economic Vitality, Stewardship, and Workforce Development.

The following actions will strengthen relationships and collaborative efforts with freight stakeholders:

- Continue to convene the Kansas Freight Advisory Committee (KFAC) and the Rail Planning Advisory Committee (RPAC) for freight and rail planning, respectively
- Continue to collaborate with neighboring states on freight planning (state freight plan, state rail plan), including through multi-state freight coalitions (MAASTO, Mid-America Freight Council [MAFC])
- Continue to collaborate with MPOs, cities and counties, KDOT sister agencies, and others on mutually beneficial projects

3. Local Program and Project Evaluation

3.1. Kansas City Comprehensive Economic Development Strategic Plan

The information provided in this section was obtained from MARC's 2024–2029 Comprehensive Economic Development Strategic Plan Policy Framework that supports the Kansas City regional freight network. The KC Comprehensive Economic Development Strategic Plan identifies five key metrics to measure the region's economic growth led by KC Rising, MARC, and Climate Action KC for a sustainable region. KC Rising, formed in 2015, is a business-led regional economic development initiative for prosperity and greater community wide impact. The 2024 Comprehensive Economic Development Strategy (CEDS) identifies goals, objectives, strategies, and metrics for:

- Business
- Innovation and Entrepreneurship
- People
- Place
- Leadership

The business policy framework aims to strengthen the region's domestic and international export trade activity by focusing on emerging trade sectors associated with existing businesses and attracting new firms to the region. Regional economic development efforts focus on securing new federal funding resources, capitalizing on technological advancements, and investing in a

green supply chain to increase domestic and global exports for the benefit of Greater Kansas City's economy. The business goal objectives highlight the following focus areas:

- Strengthening exports as a percentage of regional GDP
- Increasing transportation and logistics investments for international trade with Mexico, Canada, Japan, Germany, and China
- Promoting growth by focusing on equality and resiliency for existing trade sectors
- Developing transportation and logistics hubs by nearshoring trade within the U.S. and across the North Triangle (El Salvador, Guatemala, and Honduras).

Metrics to measure success related to focus areas above include:

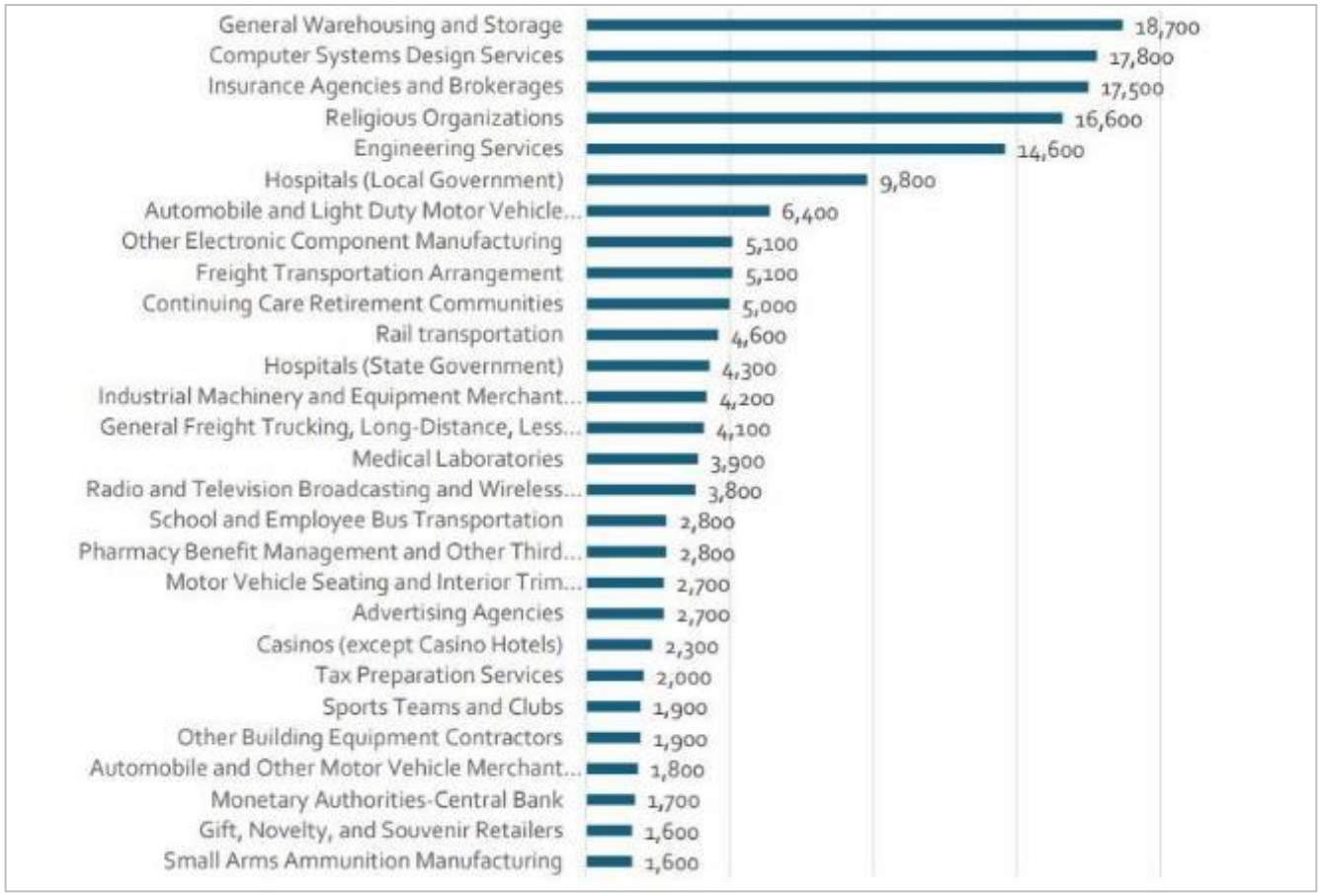
- Growth in GDP per JOB (KC Rising Horizon Metric)
- Growth in Exports, both domestic and international
- Change in industry clusters with competitive advantage when compared to peer metros

The region should focus on innovation and entrepreneurship to create an environment that supports Greater Kansas City business creation, entrepreneurial talent, and small businesses based on the following themes:

- Creating an effective workplace for the people is an essential part of economic growth and opportunity for residents
- Creating a vibrant region by improving access to jobs and opportunities by investing in infrastructure that supports economic growth
- Regional local governments, public and civic institutions should work together to address racial equity, economic and climate resiliency

As part of the Comprehensive Economic Development Strategy Plan, a SWOT analysis was conducted with the Regional Workforce Intelligence Network (RWIN) in 2024. The SWOT identified opportunities and weaknesses in the metro area. This exercise allowed regional leaders to identify SWOT for the key metrics mentioned above: business, innovation and entrepreneurship, people, place, and leadership. The SWOT analysis indicated the need to support freight and commuter travel on major highways, roads, and railroads throughout the region. Due to Kansas City attracting investments in tradable sectors, the region has a strong transportation and logistics system.

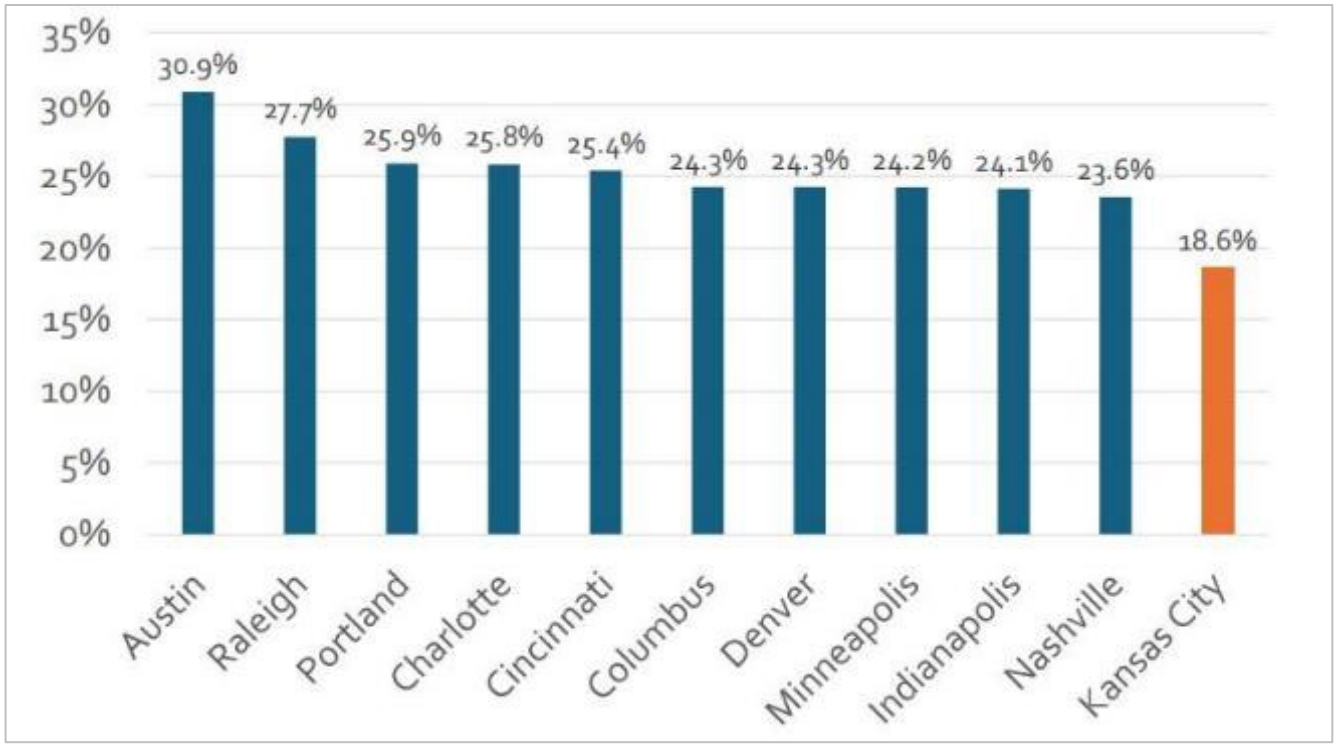
Figure 10 highlights the largest exporting industries by number of employees in the Kansas City region by rank in 2022. General warehousing and storage employ the greatest number of individuals at 18,700. In contrast, small arms ammunition manufacturing employs the smallest number of individuals at 1,600.



Source: Lightcast

Figure 10. Kansas City Largest Exporting Industries Ranked by 2022 Jobs

Kansas City is behind other similarly sized and characterized regions in employment in export industries, which contributes to the region's ability to export goods and services around the world. Shown in **Figure 11**, Kansas City export industry employment is 18.6 percent which is the lowest compared to ten other cities' export industries ranging from 23.6 percent to 30.9 percent employment. Section 4 reviews the economic development plans for four major cities which include Austin, Charlotte, Denver, and the Ohio-Kentucky-Indiana region.



Source: Lightcast

Figure 11. Export Industry Employment as a Share of All Employment

The region has marginal research and development (R&D) expenditures and patents. In the year 2021, the U.S. had a R&D portion of total industry percentage of 3.1 percent, Kansas had 1.99 percent, and Missouri had 2.36 percent. Low patents and R&D expenditures contribute to less-than-ideal production of new innovative products and services. Much of the economy is still recovering from the COVID-19 recession which experienced a downturn in 2020. Kansas City has experienced slow and steady job growth since the pandemic.

3.2. Connected Freight KC 2050 Plan

The freight chapter of the Connected Freight KC 2050 Plan highlights the importance of freight movement to the regional economy and regional quality of life. The Kansas City region owes much of its historical growth to its strategic position as a major freight trans-shipment point, and it remains an important center for the rail, truck, barge, and air freight industries. The metropolitan area currently ranks as the second largest rail center (based on number of carloads and amount of pass-through tonnage) in the U.S. It is also among the top five trucking centers in the nation. Kansas City International Airport ranks as one of the most important air freight hubs in a six-state region in terms of total volume.

The Kansas City region is well-positioned to leverage national trends toward intermodal freight movement and can benefit from international trade. Most goods consumed in the region are

produced outside of the metropolitan area, and most goods produced in the region are consumed elsewhere.

The region is home to the largest rail center in the U.S. by tonnage and is located at the intersection of four of the nation's major interstate highways and placed on the largest navigable inland waterway. The region's central Midwest location and transportation network offer many logistical advantages:

- Serviced by five of the seven Class 1 Railroads in the U.S.
- Four intermodal hubs
- Largest U.S. rail center by tonnage
- Connected by four major national interstates
- Ability to service 85 percent of the U.S. population in two days or less
- Located on the largest navigable inland waterway
- An airport that moves more air cargo than any air center in the 6-state region

3.2.1. Freight Industry Regional Economic Impacts

The freight industry itself supports more than 100,000 regional jobs. Transportation and warehousing in 2019 accounted for approximately 65,000 jobs and attributed to $6 billion in regional GDP.[20] The tonnage and value of all freight modes and commodities originating from the Kansas and Missouri portions of the region in 2020 and 2045 is highlighted in **Table 7**. Total growth in outbound freight tonnage from the combined Kansas and Missouri portions of the region will increase from over 95 million tons to over 133 million tons between 2020 and 2045. This increase in outbound freight tonnage will coincide with overall freight value transported from the region increasing from a total value of over $144 billion in 2020 to a 2045 value of almost $203 billion. Total growth of freight tonnage inbound and destined to the combined Kansas and Missouri portions of the region will increase from over 108 billion tons in 2020 to nearly 154 billion tons in 2045. This increase in inbound destined to the region freight tonnage will coincide with overall freight value transported into the region growing from over $148 billion in 2020 to over $236 billion in 2045.

[20] 2020 Chmura Economic & Analytics

Table 7. 2020 and 2045 Tonnage and Value of All Kansas City Region Freight

All Modes & Commodities (1)				
Origin from region	Tons		Value	
	2020	2045	2020	2045
Kansas	45,012,000	72,901,000	$75,659,000,000	$106,881,000,000
Missouri	50,495,000	60,975,000	$68,647,000,000	$96,059,000,000
TOTAL	95,507,000	133,876,000	$144,306,000,000	$202,940,000,000

Destined to the region	Tons		Value	
	2020	2045	2020	2045
Kansas	53,047,000	75,792,000	$65,353,000,000	$103,654,000,000
Missouri	55,274,000	77,991,000	$82,875,000,000	$132,958,000,000
TOTAL	108,321,000	153,783,000	$148,228,000,000	$236,612,000,000

Source: Freight.pdf

The Kansas City region is one of the nation's leading transportation hubs, with transportation infrastructure that supports freight movement by truck, rail, air, and water in both domestic and international trade lanes. **Table 8** shows the 2019 value of freight movements in the region by all modes, and **Table 9** shows the same data for 2045. In 2019, the regional system handled an estimated 214 million tons of freight with an estimated total value of $298 billion. It is estimated that in 2045 the region will move over 295 million tons of freight valued at over $447 billion.

Table 8. 2019 Kansas City Freight Tonnage and Value by Mode

2019 Freight System Totals (3)		
Mode	**Tons**	**Value**
Air	100,000	$21,525,000,000
Multimodal	6,418,000	$60,522,000,000
Pipeline	23,265,000	$5,373,000,000
Rail	34,237,000	$13,487,000,000
Truck	149,814,000	$197,430,000,000
Water	101,836	$57,950,077
TOTAL	213,940,000	298,394,950,000

Source: Freight.pdf

Table 9. 2045 Kansas City Freight Tonnage and Value by Mode

2045 Freight System Totals

Mode	Tons	Value
Air	231,000	$23,287,000,000
Multimodal	11,219,000	$68,138,000,000
Pipeline	28,832,000	$7,635,000,000
Rail	38,089,000	$26,674,000,000
Truck	217,184,000	$322,116,000,000
Water	124,865	$71,513,445
TOTAL	295,680,000	$447,921,510,000

Source: Freight.pdf

The Kansas City region's 10 top inbound commodities are broken down by the Kansas and Missouri portions of the region by value in 2020 and 2045 as shown in **Table 10**. In the Kansas portion of the region, all inbound commodities are anticipated to increase in value between 2020 and 2045. The highest and lowest value inbound commodities in the Kansas portion of the region in 2020 are motorized vehicles at $8.3 billion and coal-n.e.c. at $2.4 billion, respectively. The highest and lowest value inbound commodities in the Kansas portion of the region in 2045 are electronics at $12 billion and textiles/leathers at $3.9 billion, respectively.

In the Missouri portion of the region, all inbound commodities are also anticipated to increase in value between 2020 and 2045. The highest and lowest value inbound commodities in the Missouri portion of the region in 2020 are motorized vehicles at $17 billion and articles-base metal at $2.1 billion respectively. The highest and lowest value inbound commodities in the Missouri portion of the region in 2045 are motor vehicles at $24 billion and nonmetal mineral prods. at $3.78 billion, respectively.

Table 10. Kansas City Region 2020 and 2045 Inbound Commodities by Value

Kansas	2020*		2045*	
1	Motorized vehicles	$8.30	Electronics	$12.00
2	Mixed freight	$6.90	Mixed freight	$9.90
3	Coal	$6.00	Machinery	$9.60
4	Electronics	$5.40	Motorized vehicles	$9.30
5	Machinery	$4.70	Coal	$8.90
6	Pharmaceuticals	$4.10	Pharmaceuticals	$8.90
7	Other foodstuffs	$3.50	Other foodstuffs	$5.40
8	Textiles/leathers	$3.10	Precision instruments	$4.40
9	Meat/seafood	$3.00	Meat/seafood	$4.10
10	Coal-n.e.c.**	$2.40	Textiles/leathers	$3.90

Missouri	2020*		2045*	
1	Motorized vehicles	$17.00	Motorized vehicles	$24.00
2	Electronics	$7.70	Electronics	$16.00
3	Mixed freight	$5.80	Mixed freight	$8.50
4	Other foodstuffs	$4.95	Other foodstuffs	$7.25
5	Machinery	$4.53	Machinery	$6.72
6	Coal-n.e.c.**	$4.10	Coal-n.e.c.**	$5.95
7	Plastic/Rubbers	$3.69	Plastic/Rubbers	$5.75
8	Chemical prods.	$3.49	Chemical prods.	$4.86
9	Base metals	$2.28	Precision instruments	$4.02
10	Articles-base metal	$2.10	Nonmetal min. prods.	$3.78

*$$$ Billions
** "not elsewhere classified" i.e. fuel briquettes

Source: Freight.pdf

The Kansas City region's 10 top outbound commodities are broken down by the Kansas and Missouri portions of the region by value in 2020 and 2045 as shown in **Table 11**. In the Kansas portion of the region, all outbound commodities are anticipated to increase in value between 2020 and 2045. The highest and lowest value outbound commodities in the Kansas portion of the region in 2020 are electronics at $10.4 billion and transport equip at $1.89 billion, respectively. The highest and lowest value outbound commodities in the Kansas portion of the region in 2045 are electronics at $25.08 billion and chemical products at $3.38 billion respectively.

In the Missouri portion of the region, all outbound commodities are also anticipated to increase in value between 2020 and 2045. The highest and lowest value outbound commodities in the Missouri portion of the region in 2020 are machinery at $6.6 billion and plastic/rubbers at $1.92 billion, respectively. The highest and lowest value outbound commodities in the Missouri portion

of the region in 2045 are machinery at $11.26 billion and printed products at $2.98 billion, respectively.

Table 11. Kansas City Region 2020 and 2045 Outbound Commodities by Value

KANSAS

2020			2045	
	Commodity	Value	Commodity	Value
1	Electronics	$10.40	Electronics	$25.08
2	Mixed freight	$10.31	Mixed freight	$15.80
3	Plastic/Rubbers	$7.78	Machinery	$15.23
4	Printed prods.	$7.78	Printed prods.	$8.64
5	Machinery	$7.20	Plastic/Rubbers	$8.08
6	Textiles/leathers	$4.89	Articles-base metal	$5.11
7	Articles-base metal	$3.15	Misc. mfg. prods.	$5.03
8	Misc. mfg. prods.	$2.99	Pharmaceuticals	$4.86
9	Pharmaceuticals	$2.54	Textiles/leathers	$4.23
10	Transport equip.	$1.89	Chemical prods.	$3.38

MISSOURI

2020			2045	
	Commodity	Value	Commodity	Value
1	Machinery	$ 6.60	Machinery	$11.26
2	Pharmaceuticals	$ 5.29	Pharmaceuticals	$9.66
3	Chemical prods.	$ 5.01	Electronics	$8.74
4	Electronics	$ 4.60	Meat/seafood	$5.08
5	Other foodstuffs	$ 3.12	Chemical prods.	$4.87
6	Milled grain prods.	$ 3.05	Milled grain prods.	$4.82
7	Meat/seafood	$ 2.90	Other foodstuffs	$3.52
8	Printed prods.	$ 2.22	Misc. mfg. prods.	$3.33
9	Coal-n.e.c.	$ 2.02	Mixed freight	$3.05
10	Plastic/Rubbers	$ 1.92	Printed prods.	$2.98

Source: Freight.pdf

3.2.2. Plan Goals and Strategies

The plan's goals serve as the foundation and direct the development of objectives, strategies, and key measures to track regional progress over time that can be used to identify and prioritize freight improvements. The plan describes five desired outcomes or major policy goals as follows:

- **Access to opportunity:** Support a connected system that enables access to all activities, allowing people to succeed by removing transportation barriers.
- **Public health and safety:** Foster healthy communities and individuals by providing safe and secure places to live, walk, bike, ride the bus, and drive with clean air to breathe.

- **Healthy environment:** Prioritize and support investments that reduce pollution and greenhouse gas emissions and preserve and restore ecosystem health.
- **Transportation choices:** Provide a range of transportation choices for communities across the region to allow for ease of travel as well as public health and environmental benefits.
- **Economic vitality:** Maintain a multimodal transportation system that supports the efficient movement of people and goods and promotes economic development.

In addition to the goals defined above, the planning process identified a set of broader strategies that play an important role in realizing the regional vision that include:

- **Focus on centers and corridors:** Focus energy around key activity centers and the corridors that connect them to help promote livable, vibrant, resilient, and adaptable places.
- **Climate protection and resilience:** Take a multi-pronged approach to building resilience and reducing climate risks to transportation infrastructure and area communities while also ensuring that the transportation system's impact on the climate decreases significantly over time.
- **New funding sources:** Consider new or additional funding streams to promote regional transportation projects and services.
- **Prioritize investments:** Invest in projects that incorporate more than one strategy and bring benefits to the most people, making our limited resources go further.
- **Data and technology:** Incorporate data-driven transportation planning into plans and programs.

3.2.3. Public-Private Partnerships

The Kansas City region is a place where strong infrastructure and supporting elements come together to provide an atmosphere where freight-based business can grow. Some of the top criteria for businesses looking for suitable locations for freight-related development include:

- Transportation costs
- Rail facilities
- Availability of labor
- Low cost of living

The Kansas City area recognizes that freight and logistics are important to the regional economy. Indicators show the region is more supportive of initiatives and projects when stakeholders, decision-makers and residents are engaged through specific and targeted information; therefore,

it is important to continue utilizing KC SmartPort for transportation and logistics development. In addition, it will be important to continue convening MARC's Goods Movement Committee (GMC). The region must continue to develop new channels of communication to inform and coordinate regional dialogue as growth continues.

Future partnerships and coordination should focus on the supply, demand, and movement of freight that include the five following factors driving freight:

- Demand
- Technology
- Infrastructure
- Regulations
- Global Economy

3.2.4. Project Prioritization

Regional and local corridors are classified in a similar manner to characterize truck and train volumes. These modes provide a solid foundation for freight transportation infrastructure in the region. The region developed a framework that designates Corridors of Freight Significance (COFS), to review conditions, assess needs, and provide direction for prioritizing infrastructure investments. The corridor approach is applicable across all modes and transportation systems through the three corridor classifications:

- **Corridors of national significance:** Provide service across multiple state lines, long-distance travel, and access to international ports of entry.
- **Corridors of regional significance:** Provide supplementary service for regional travel and direct access to freight-related activities such as manufacturing, distribution, and inter-modalism.
- **Corridors of local significance:** Provide connections to higher-level facilities and provide direct access to freight-related facilities in industrially zoned areas.

3.2.5. Freight Activity Areas

The Connected Freight KC 2050 Plan worked with FHWA, MoDOT, KDOT, MARC, local city, and county jurisdictions to identify the regional freight activity areas, railroads, and truck corridors shown in **Figure 12**.

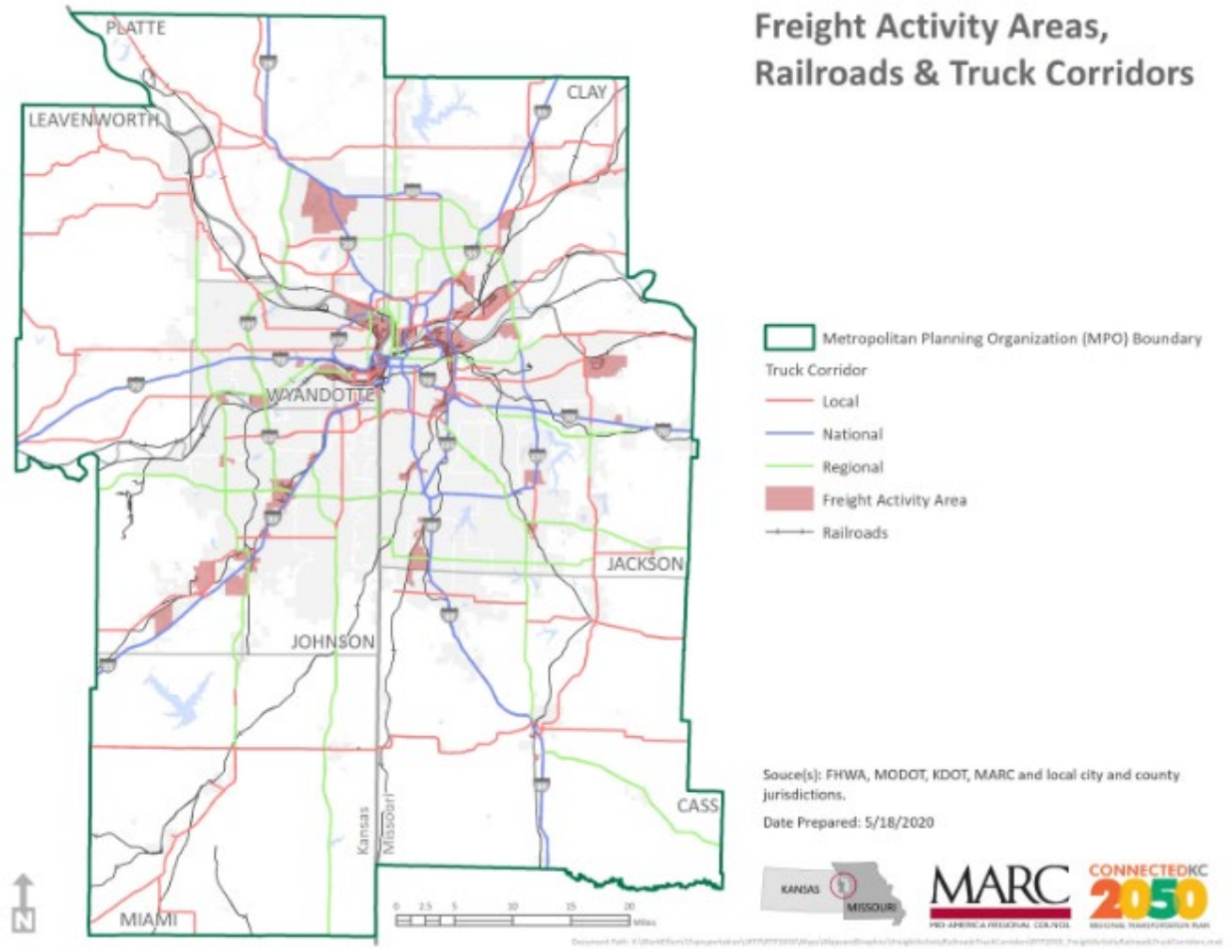


Figure 12. Kansas City Region Freight Activity Areas, Railroads and Truck Corridors

3.2.6. Freight Bottlenecks

The Connected Freight KC 2050 Plan provided an overview of freight bottlenecks on the National Highway System (NHS) using National Performance Management Research Data Set (NPMRDS) to determine overall freight system performance and project priorities. FHWA defines a roadway freight "Bottleneck" as: "A period of 5 minutes or more when a segment experiences reported speeds below 60% of the reference speed (85th percentile of all observed speeds for all time periods)." Kansas City region freight bottlenecks are shown in **Figure 13**, and **Table 12** highlights projects to address the identified freight bottlenecks.

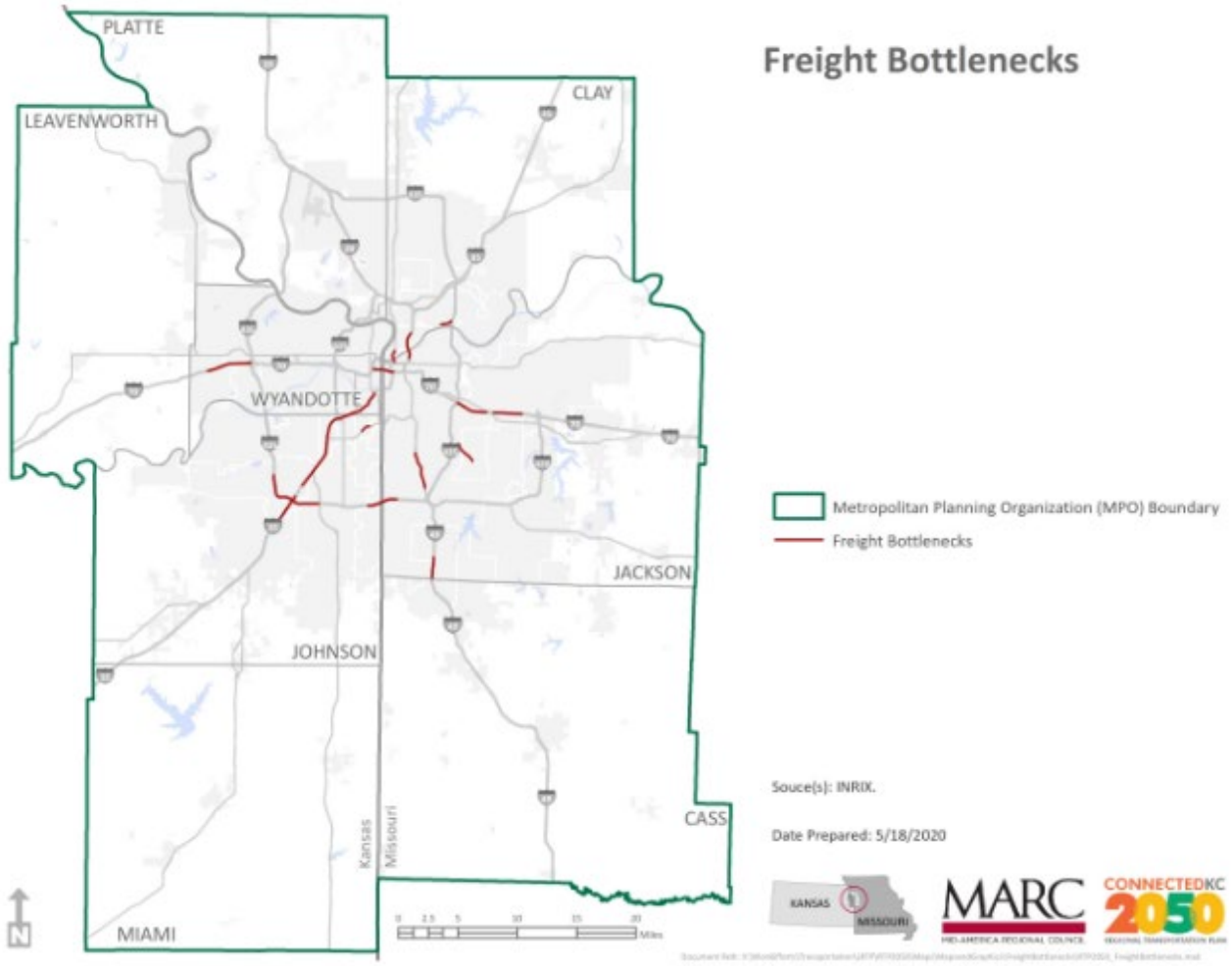


Figure 13. Kansas City Region Freight Bottlenecks

Table 12. Projects Identified to Mitigate Freight Bottlenecks

FREIGHT CONGESTED BOTTLENECKS

	Location	Plan and project number		Jurisdiction	Year
1 2	I-35 @ 75th	TIP	#380135	KDOT	2018 - 2029
3 4	I-70 @ Sterling I-70 @ Blueridge	Connected KC	#1285	MoDOT	2020 - 2029
5	US 71 @ 75th	Connected KC	#1353	MoDOT	2030 - 2039
6	US56 @ W60th				
7	I-435 @ Wornall	TIP	#690394	MoDOT	2018 - 2020
8	I-435 @ I-35/US-56	Connected KC Connected KC	#1065 #1022	KDOT	2020 - 2029 2030 - 2039
9	M350 @ Raytown Rd	TIP	#632006	Raytown	2019
10	I-35 @ I-435				

Source: Freight.pdf

3.3. Lawrence-Douglas County Transportation 2050 Metropolitan Transportation Plan

The Lawrence-Douglas County Transportation 2050 Metropolitan Transportation Plan (T2050) is the blueprint for the region's future transportation system; it is a vision for a healthy, safe, and efficient transportation system which adequately serves the metropolitan region that includes Lawrence, Eudora, Baldwin City, Lecompton, and all remaining unincorporated areas of Douglas County into the future.

On a more regional and statewide scale, from a freight perspective, Lawrence and Douglas Counties are located between the Topeka and Kansas City metropolitan areas, and they fulfill a role as an important link along the I-70 and K-10 corridors. This is a significant link in moving traffic from Topeka and western Kansas into the Kansas City area and providing connections that serve traffic between Topeka and the growing economic development areas in Johnson County.

3.3.1. Existing Truck Freight Movements

The largest freight corridor in the County is I-70, with 6,300 to 6,500 trucks passing through the region daily according to the 2021 KDOT Traffic Flow map (**Figure 14**). This is an increase of approximately 50 percent from 2016. The east leg of the South Lawrence Trafficway opened in 2016 and contains between 750 and 1,730 trucks, with 750 to 1,340 trucks on the west leg. Truck traffic on the west leg has increased approximately 75 percent since the opening of the east leg. West K-10 was designated as a Critical Freight Corridor in the Kansas Freight Plan in 2017 (**Figure 15**). Part of the reason for the increase in truck traffic in the region may be due to the rise

of e-commerce, which is the buying and selling of goods or services via the internet. In 2021, Amazon delivered 5 billion packages in the United States, equivalent to 39 packages per household. There is a limited body of research on the impact of e-commerce on transportation. Some studies suggest a reduction of VMT is possible with e-commerce deliveries replacing shopping trips by individuals, but many variables make it difficult to predict. Issues to consider as e-commerce continues to grow include electrification of delivery fleets, the use of drones for delivery, and managing limited curb space.

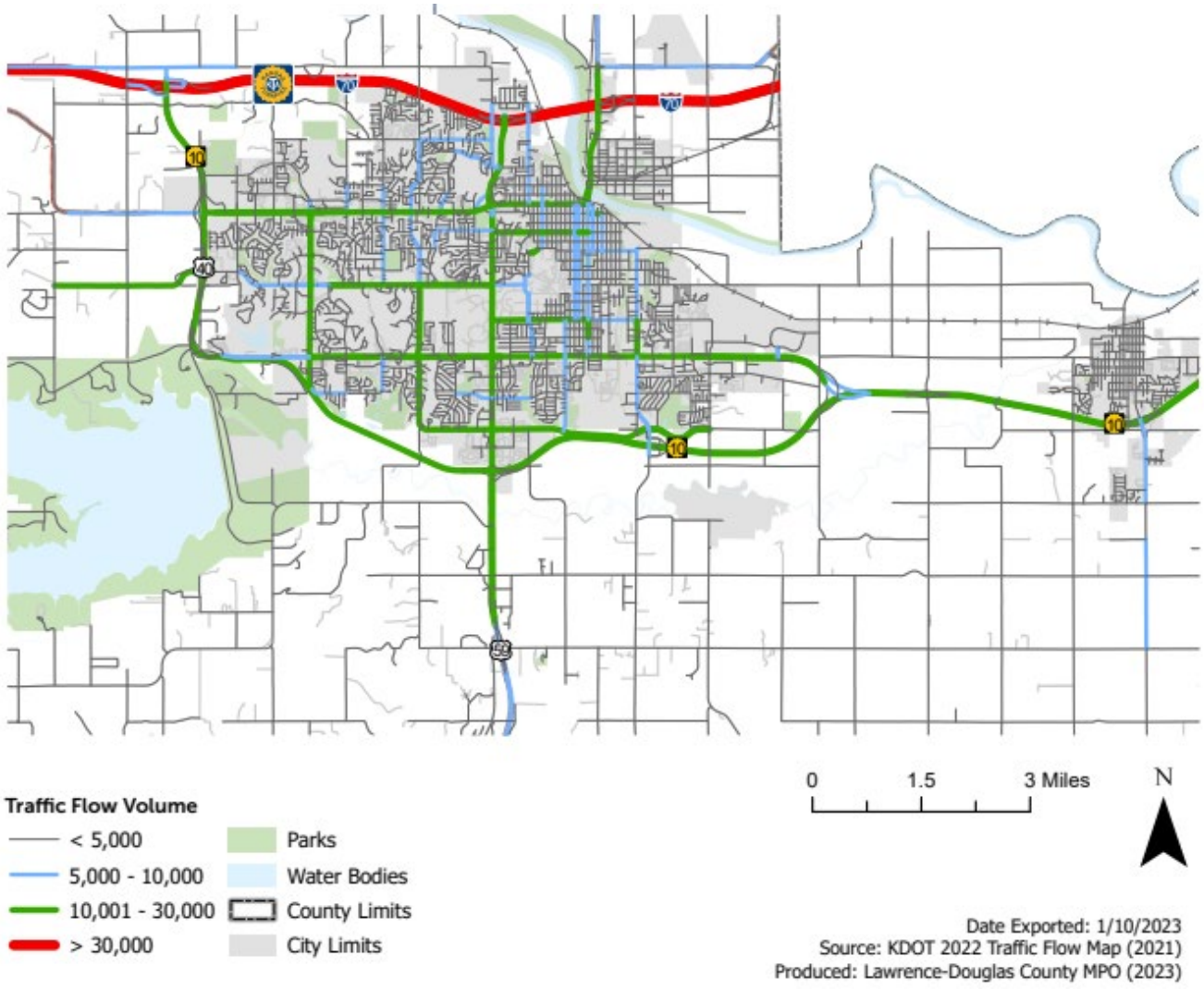


Figure 14. Lawrence-Douglas County Traffic and Truck Flow

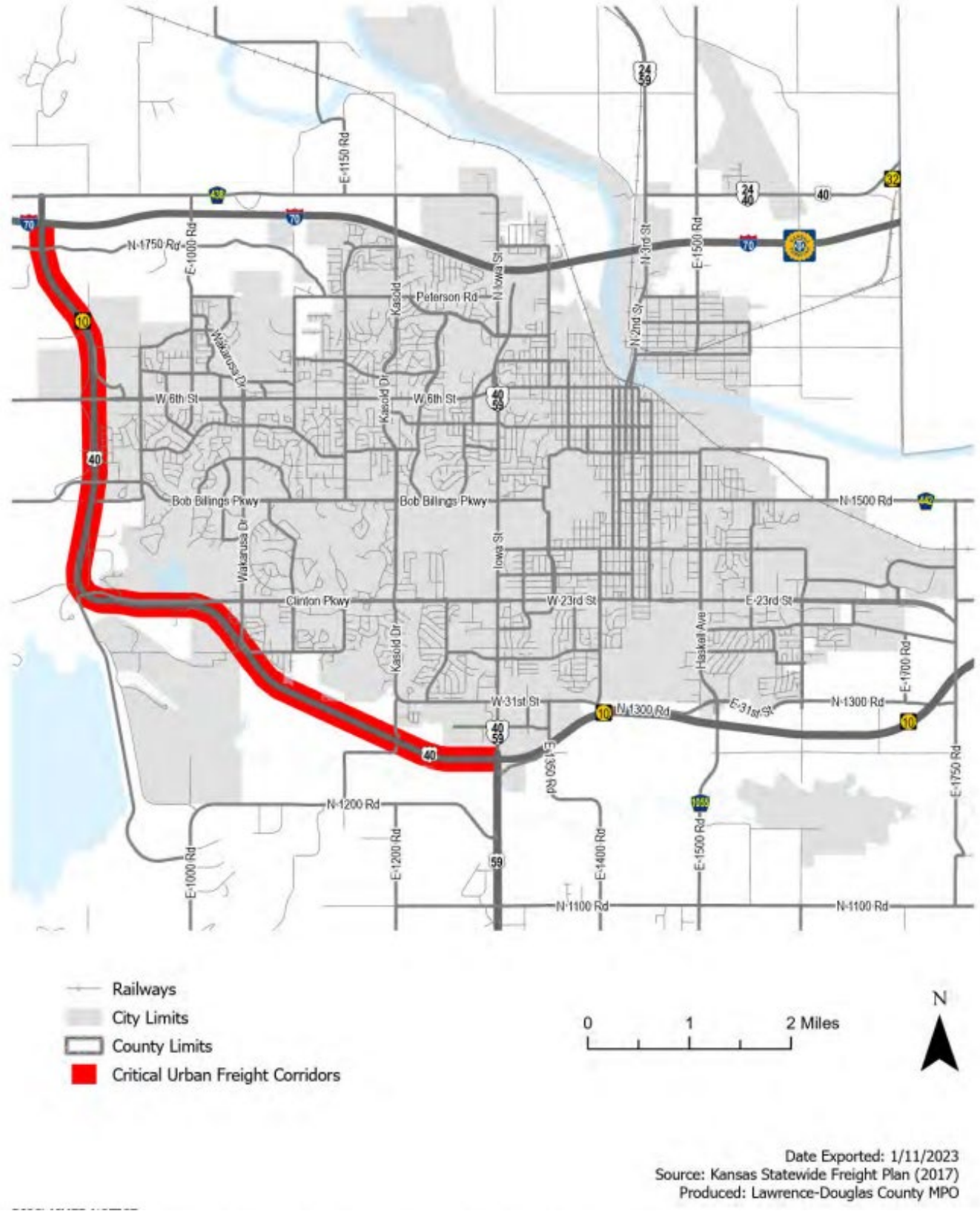


Figure 15. Lawrence-Douglas County Critical Freight Corridors

3.3.2. Intermodal Facilities

Inter-modalism is the concept that binds the modes together so that people and freight movements can be made in the most efficient manner possible. Although none currently exist in Douglas County, intermodal freight facilities in Kansas City and Topeka provide the region with those connections. Freight destined for Douglas County can be moved by rail to Kansas City and then trucked a short distance to its final destination. Douglas County does not currently have an intermodal center to handle rail-truck transfers, but large amounts of cargo in containers from those facilities do travel through the region as evidenced by the many containers on truck rigs noticed on the I-70 corridor and the multitude of containers on trains passing through Lawrence.

3.3.3. Lawrence–Douglas Planning Area Adjacent Rail Intermodal Facilities

In 2013 the Burlington Northern Santa Fe (BNSF) Railroad opened an intermodal facility in the City of Edgerton in Johnson County east of the Lawrence-Douglas County planning area. The facility provides for the transfer of freight between rail and trucks. The facility is part of Logistics Park Kansas City, which is home to 14 million square feet of distribution and warehouse facilities that take advantage of the proximity of the intermodal facility. Projections when the facility opened were for up to 7,000 trucks and 140 trains per day by 2030. Most of that truck traffic from the facility appears to be carried on I-35. It is possible that a small portion of trucks use US-56 through Baldwin City to US-59, US-59 to Lawrence and K-10, and K-10 to I-70. However, according to KDOT traffic count maps, overall truck counts on US-56 in Douglas County have decreased slightly since the facility opened.

3.3.4. Rail Existing Conditions

There are two active freight rail lines that pass through Douglas County as shown in **Figure 16**. The BNSF has 27.6 miles as part of the Topeka subdivision which sees an average of seven trains per day, per the Kansas Statewide Freight and Rail Plan. The Union Pacific (UP) Railroad has 9.3 miles as part of the Marysville Cutoff, comprised of the Marysville and Kansas subdivisions which sees an average of 40 trains per day.

The rail facilities in the area provide access to national rail networks so that local businesses can ship to a larger market. The railroads in the area also interact with the road system through both at-grade and grade separated railroad crossings in the region. There are currently two at-grade BNSF crossings that intersect with the Lawrence Loop shared use path along the west side of the Kansas River through Burcham Park.

At the UP Railroad and North 3rd Street just north of the Kansas River Bridge Pair in Downtown Lawrence, there is a substandard height limit on an arterial road due to a railroad crossing only allowing 14 feet of clearance and restricting some tall truck loads that must detour around that site.

There are 38 at-grade public crossings in Douglas County. These at-grade rail crossing locations have potential vehicle, pedestrian, bicycle, and train conflicts. Based on data from the Federal Railroad Administration (FRA), there were two fatalities in Douglas County between 2017 and 2021. At-grade crossings can also create negative quality of life impacts due to the noise from train horns. KDOT has been heavily involved in efforts to improve the safety of the statewide rail system, which includes 5,133 at-grade public crossings. KDOT maintains an inventory of prioritized crossing projects for inclusion in its work program.

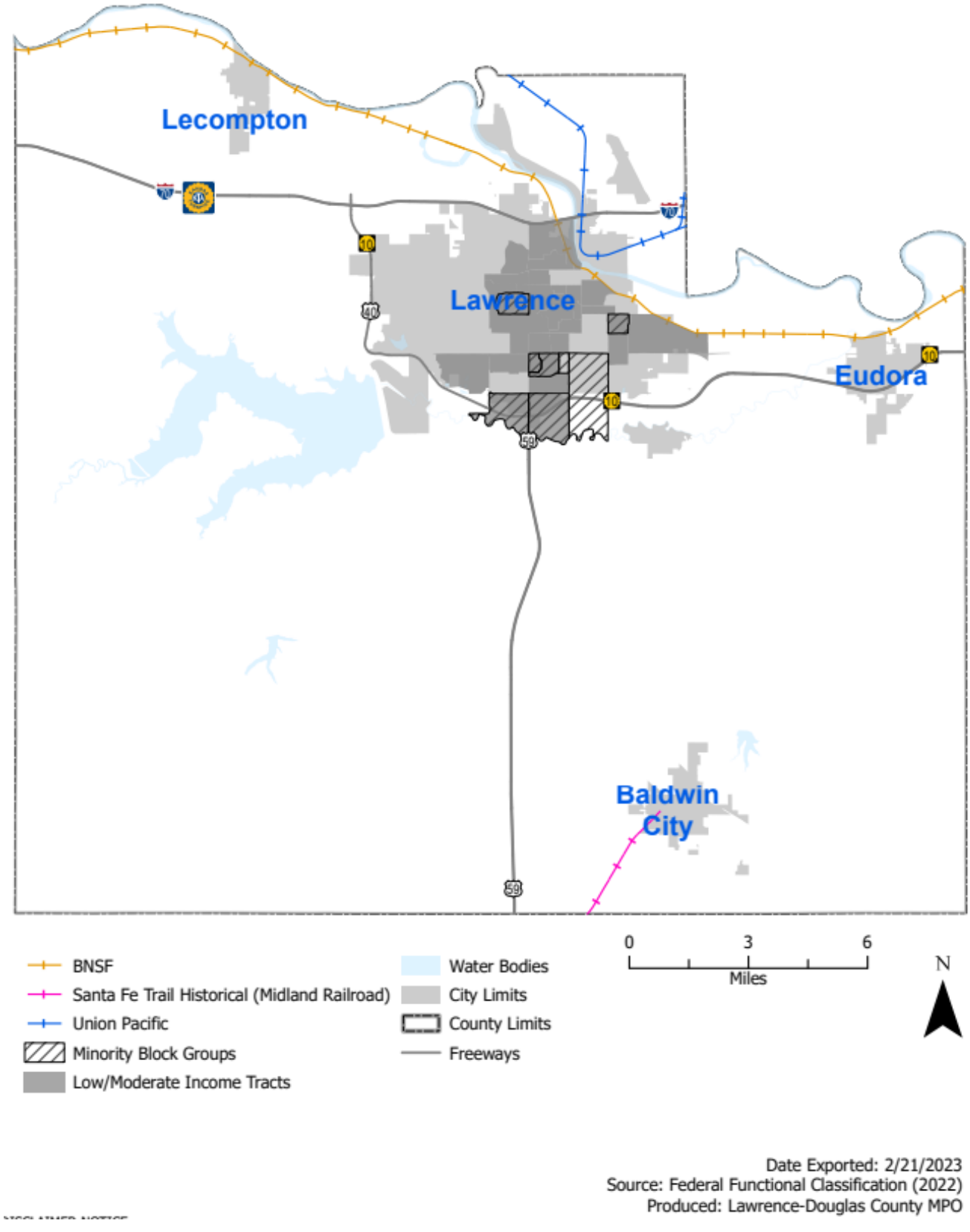


Figure 16. Lawrence-Douglas County Railroads

3.3.5. Freight-Related Policies, Goals, and Objectives

The T2050 plan consists of a goal for each of the plan's five themes: Access and Choices; Shared Prosperity; Safety, and Security; Sustainability; and Operations and Maintenance. The following plan strategies are intended to improve transportation operations and safety in the region. These strategies should be considered when identifying and prioritizing future freight programs and projects:

- Integrate multimodal elements in project planning, design, construction, and maintenance consistent with the Complete Streets Policy (Lawrence, Eudora, Baldwin City, and Lecompton).
- Adopt Complete Streets policies and explore revisions to add development code/street standards to expand multimodal options (e.g., FHWA Small Town and Rural Design Guide).
- Implement the Regional Intelligent Transportation System Strategic Deployment Plan strategies to maximize network capacity and improve efficiencies.
- Participate in development of Statewide Freight Plan and the MARC Regional Freight Study.
- Explore opportunities for emerging technologies and new market-driven transportation options (e.g., autonomous vehicles, electric vehicles, rideshare) and consider equitable outcomes.
- Center equity in the decision-making process by implementing public engagement with a focus on including traditionally underrepresented people.
- Use the planning process to assess potential benefits and burdens of transportation projects, policies, and programs through qualitative and quantitative analysis.
- Deliver a roadway system that allows for intuitive understanding of reasonable travel speed through design controls (e.g., turn radii or lane widths) and uses access management to improve safety.
- Prioritize investments that improve the resiliency of the transportation system by preparing infrastructure to deal with impacts of climate change and severe weather.
- Embrace a transportation planning process that considers transportation needs alongside environmental, regional, community goals, plans, and programs in decision making.
- Maintain an inventory of transportation infrastructure and assets and track transportation system performance. Implement asset management policies to maintain and improve roadway and bridge, bikeway, and pedestrian network conditions.

- Use ITS to provide cost-effective and practical technologies that enhance the safety, capacity, operations, and evaluation of multimodal transportation.

3.4. Pioneer Trails Regional Planning Commission 2024 Regional Transportation Plan

The purpose of the Pioneer Trails Regional Transportation Plan is to submit the transportation needs of the Pioneer Trails region to MoDOT for inclusion in the state's Long-Range Transportation Plan (LRTP) and the State Transportation Improvement Program (STIP). The LRTP addressees regional needs over a 20-year planning horizon. The STIP includes projects to which MoDOT has committed over the next five years. Goals and objectives of the plan are as follows:

- Provide a safe transportation system
- Maintain the existing transportation system
- Reduce congestion and travel delays
- Support economic growth and development
- Reduce the number and severity of accidents
- Reduce travel hazards within the region
- Respond to regional emerging needs
- Provide access to opportunities for all residents
- Provide for the efficient movement of goods and people through the region
- Promote the utilization of all modes of transportation

3.4.1. Transportation Needs List

Pioneer Trails' transportation needs are listed in three major categories as shown in **Table 13**: Roads and Bridge; Bike, Pedestrian, and Public Transit; and Long-Range. Project needs within the Road and Bridge category and the Long-Range category may be considered as beneficial to providing an efficient and safe freight network.

Table 13. Pioneer Trails Region 2023 Transportation Needs List

Pioneer Trails REGIONAL PLANNING COMMISSION

2023 TRANSPORTATION NEEDS LIST

Taking Care of System (TCOS) Priorities

Lafayette	Widen and repair shoulders along Rte. O South from Lexington to I-70	2.484
Saline	Resurface Hwy 41 from Marshall to Miami	2.484
Lafeyette	Safety improvements to shoulders E Old 40 Hwy, east of 131 south to Johnson Dr.	2.452
Pettis	Culvert replacement along Front Rd. adjacent to US 50. Junctions of East Lane & Front St and Sunny and Front St.	2.258
Saline	Culvert replacement at intersection of Hwy 127 & Chestnut St.	2.258
Saline	Resurfacing of Rte. O	2.258
Lafayette	Resurfacing and striping of Rte. OO from 131 to 9th St.	2.226
Saline	Newly replaced culverts (2023) on Hwy 122 dipped out and failing	2.097
Lafayette	Bridge decking and resurfacing maintenance on Johnson Dr. over I-70	1.968
Johnson	Resurfacing of Mo 131 from Holden City limits to Pittsville	1.935
Lafayette	Resurfacing, Drainage Control, Ditch Cleanup, Shoulder Repair along Hwy 224 from Lexington to Wellington	1.708
Lafayette	Resurfacing of Rte. MM from south of Higginsville to W of Hwy 13	1.194

Road and Bridge

Saline	Intersection improvements to address safety at Rte. 240 and Rte. C	26.99
Pettis	Improvements to address congestion along US 65 at the convergence of Hwy B, 32nd St, Clinton Rd. and Highway Dr.	24.82
Saline	Intersection improvements to address safety at the intersection of Hwy 240 and Hwy 41	23.66
Johnson	Interchange improvements at US 50 and BUS Rte. 13 (Mcguire St.)	20.72
Pettis	Congestion control improvements at northbound entry to US 65 from Main St. (US 65) and Southbound access from US 65 to Main St.	18.16
Pettis	Widening of US 50 under Katy Trail underpass to increase safety by alleviating bottlenecking and repair deteriorating condition	16.83
Lafayette	Expand Hwy 13 between Rte. MM and Higginsville City Limits to four lanes or construct designated turn lane combined decreased speed limits	16.62
Lafayette	Reconfiguration of Hwy 13 and 24th St. Terrace intersection to allow turning, congestion control, and deceleration and acceleration of commercial vehicles	9.87
Johnson	Intersection signage to address safety concerns from new development at US 50 and NE 501 Rd.	9.82
Saline	Improvements to correct right and left turn conflicts along US 65 from Arrow St. to Marshall city limits	9.17
Saline	Widen roadway to alleviate unsafe conditions along Hwy 122 from Van Meter State Park to Hwy 41	8.83
Pettis	Construct dedicated turn lane to Smithton from US 50 spur	8.75
Lafayette	Intersection improvements to address large traffic volumes during peak times at Hwy 13 and 31st, 34th, and 35th Streets.	8.16
Lafayette	Intersection improvements for vehicle and pedestrian safety at Rte. OO and 9th St and Cox Road	8.16
Pettis	Construct roundabout at the intersections of Sacagawea Rd. and Hwy B to improve traffic safety	7.75
Lafayette	Install guardrails along Hwy 23 on all four sides of KCS Railroad underpass	7.58
Saline	Improve Hwy 41 from Rte. AA to Rte. TT with 4 ft. paved shoulders, guardrails, rumble strips and signage	7.0
Johnson	Construct dedicated turn lanes to allow for safety traffic flow into new Highschool stadium facilities near Hwy 23 and MoDOT maintenance shed	6.94
Lafayette/Saline	Improve Hwy 20 from Rte. W to Rte. EE with 6 ft. paved shoulders, guardrails, rumble strips and signage	5.17
Saline	Improve Hwy 20 from Rte. EE to Hemlock Ave. with 6 ft. paved shoulders and rumble strips	5.17
Saline	Safety intersection improvements at Hwy 240 and Rte. C	5.0
Saline	Improvements to sightlines and configuration to allow for new development at I-70 and Hwy 127	4.67
Lafayette	Widen and repair shoulders along Rte. FF from Hwy 13 to Jackson County Line	4.58
Lafayette	Improve traffic and pedestrian safety at the intersection of Hwy 40 and Mo 131	4.17
Lafayette	Reduce speed limit to 45 mph due to new business development on west side of Hwy 13 in Higginsville	4.0
Pettis	Safety improvements to the intersection of Rte. Y and Hwy 127	4.0
Saline	Resurface and install safety measures such as guardrail and rumble strips along Hwy 41 from Hwy 240 to Cooper County line	2.0
Johnson	Construct deceleration and acceleration lanes along US 50 at 1921 US-50, Lone Jack 64070	1.94
Saline	Adress repetitive flooding along Hwy 127, north of Sweet Springs	1.17
Lafayette	Improve roadway for vehicle safety along US 65 from MO River E to Saline County line	1.0
Lafayette	Roundabout construction at intersection of Hwy 20 and Hwy 23 to reduce collisions and increase safety	Unscored

Long Range

Pettis	*New Construction* Construct outer road from Hwy 765 North to new Rte. HH overpass to relieve traffic congestion	40.65
Regional	Widen and repair letter route shoulders	28.2
Saline	Utilize 2+1 expansion on US 65 from Marshall to Waverly	27.57
Saline	Widen US 65 to 4 lanes to relieve traffic congestions at the fairgrounds, Fitzgibbon Hospital, retail, etc. from intersection of S Odell Ave and Lexington Ave. to approx. 1/8 mile North of N Speyer Ln.	27.24
Johnson	Improve Hwy 13 to 4 lanes from Warrensburg to southern Johnson County line	26.22
Lafayette	Construct a roundabout at the intersection of Mo 20 and Mo 23 to alleviate collision concerns	23.56
Johnson	Address repetitive flooding and closures of Mo 23 South of Concordia through Martha Perry Conservation Area	14.48
Johnson	Replace and improve bridge Maguire St. Bridge over US 50	14.08
Lafayette	Replace Southern KC Railroad overpass on Mo 13 in Higginsville and construct sidewalk with rail or shoulder under rail line	13.33
Pettis	*New Construction* Construct truck route from N 65 heading SE to Hwy 50 (West of o Hwy)	11.75
Pettis	*New Construction* Construct Multimodal transload dock from Sedalia industrial park along Boonville St. to Sedalia Airport	9.42
Johnson	Improve Mo 13 to four lanes along east loop	8.33
Pettis	Widen US 65 to four lanes from Hwy 765 to Main St. with on/off ramps on north side of Hwy 65 Main St. bridge	3.17

Source: https://www.trailsrpc.org/wp-content/uploads/RTP-2040-Draft_Approved-5.29.24.pdf

3.4.2. Freight Funding Opportunities

The FAST Act bill establishes a competitive grant program for very large, predominantly highway projects that benefit the national freight network. One condition of this program is a project estimated cost of $100 million or 30 percent of a state's annual federal appropriation. The minimum grant is $25 million. However, there are some reserves (10 percent) for smaller projects of less than $5 million and 25 percent for rural areas (population less than 200,000). A local match will be required for funds used to support the capital needs of public ferries. The FAST Act revises the formula for apportionment. The biggest change is the minimum FY allocation of $100,000.

Performance metrics will be developed on the nation's top 25 ports in each category of tonnage, containers, and dry bulk. The St. Louis port is the only one that qualifies as a mandate on the list. New funding is designated to improve the freight highway network. The language includes requirements to be designated as a "freight project." MoDOT will need to add these elements to its planning processes. Missouri has more than 2 percent of the national freight mileage so its apportionment must be spent on the primary freight network, critical urban, and critical rural freight corridors instead of the broader freight system. State Freight Plans are now mandated and must be in place within two years for Missouri to be able to access the freight funds. State Freight Advisory Committees remain an encouraged activity but not mandated. The BIL, effective November 2021, continues all requirements that applied to NHFP and the FAST Act. **Table 14** highlights NHFP apportionments from FY 2022 through FY 2026.

Table 14. National Highway Freight Program Fiscal Year 2022 through Fiscal Year 2026 Apportionments

National Highway Freight Program (NHFP)				
2022	**2023**	**2024**	**2025**	**2026**
$1.374 Billion*	$1.401 Billion*	$1.429 Billion*	$1.458 Billion*	$1.487 Billion*

*Calculated (sum of estimated individual State NHFP apportionments)

Source: https://www.trailsrpc.org/wp-content/uploads/RTP-2024-Draft_Approved-5.29.24.pdf

Rail Funding

This is the first surface transportation bill to include rail funding; passenger rail and other rail investments total $10.4 billion over the five-year life of the legislation. Federal funding for intercity passenger rail does not begin until FFY 2017. FAST Act's most significant language relative to Missouri pertains to operating assistance. For the first time, Congress has provided states a chance to compete for $20 million per year to offset costs for state-sponsored service. This primarily targets states' added cost from the Passenger Rail Investment and Improvement Act of 2009 (PRIIA).

In Missouri's case, costs were relatively the same after PRIIA. Therefore, it is uncertain how much Missouri will be able to obtain from this new funding source. States can compete for this funding to improve infrastructure and vehicles used in the delivery of intercity passenger rail. This is like what Congress did through the American Recovery and Reinvestment Act (ARRA) and the creation of the High Speed and Improved Passenger Rail Program which delivered much needed projects like the Osage River Railroad Bridge.

Grade crossing safety remained a distinct safety program targeting improvements at highway rail grade crossings. Congress also put funding towards a committee currently working on costs. This committee is made up of the FRA, states, and Amtrak. The committee continues to work to help ensure states are paying only their fair share of costs and advocate for increased funding.

Safety improvements to Missouri's railways were prioritized in 2023 with House Bill 4, providing MoDOT $50 million to allocate towards improvements to public railroad crossings. Tier 1 improvements identified included 17 closures, 2 security gate systems, 27 light and gate upgrades, 3 public to private status changes, and 3 passive enhancements costing a total of $18.5 million.

Economic Development Administration – Public Works and Economic Development Program

Through the Public Works and Economic Development Act of 1965, the United States Department of Commerce, through its Economic Development Administration (EDA) branch, offers project grants to enhance regional competitiveness and promote long-term economic development in regions experiencing substantial economic distress. EDA provides Public Works investments to help distressed communities and regions revitalize, expand, and upgrade their physical infrastructure to attract new industry, encourage business expansion, diversify local economies, and generate or retain long-term private sector jobs and investment. Current priorities include Equity, Recovery and Resilience, Workforce Development, Manufacturing, Technology-Based Economic Development, Environmentally Sustainable Development, and Exports & foreign direct investment (FDI).

Project grants may be used for investments in facilities such as water and sewer systems, industrial access roads, industrial and business parks, port facilities, railroad sidings, distance learning facilities, skill-training facilities, business incubator facilities, redevelopment of brownfields, eco-industrial facilities, and telecommunications infrastructure improvements needed for business retention and expansion. Eligible activities include the acquisition or development of public land and improvements for use for a public works, public service or development facility, and acquisition, design and engineering, construction, rehabilitation, alteration, expansion, or improvement of publicly owned and operated development facilities, including related machinery and equipment. A project must be in a region that, on the date EDA receives an application for investment assistance, satisfies one or more of the economic

distress criteria set forth in Title 13 Code of Federal Regulations (C.F.R.) 301.3(a). In addition, the project must fulfill a pressing need of the region and must:

- Improve the opportunities for the successful establishment or expansion of industrial or commercial plants or facilities in the region
- Assist in the creation of additional long-term employment opportunities in the region
- Primarily benefit the long-term unemployed and members of low-income families. In addition, all proposed investments must be consistent with the currently approved CEDS for the region where the project will be located, and the applicant must have the required local share of funds committed, available, and unencumbered. Also, the project must be capable of being started and completed in a timely manner. The Pioneer Trails RPAC (Counties of Johnson, Lafayette, Pettis, and Saline) CEDS can be found by visiting the Pioneer Trails Regional Planning Commission Website. The State Plan is under development and should be made available in 2024.

3.5. Surface Transportation Block Grant Program Funding and Project Evaluation Criteria

MARC's Surface Transportation Block Grant (STBG) program is a federal-aid highway program that can be used for state and local projects on any highway eligible for federal aid. The STBG scoring system for the Kansas City region utilizes a set of criteria used to evaluate and prioritize projects for funding in which specific details can vary by year and local priorities. Common scoring factors often include assessing how prepared a project is for implementation, including necessary permits and evaluation of potential impact. The STBG program has the greatest eligible flexibility when compared to all federal highway funding programs. STBG provides funding to state and local governments to assist with transportation planning, decision-making, and delivery of transportation projects. STBG program guidance provides project scoring criteria for the regional freight network including bridge restoration and rehabilitation, roadway capacity, and transportation operations and management. Bridge Restoration, Rehabilitation and Replacement, Road Capacity, and Transportation Operations and Management are the three criteria that support regional freight network scoring with the highest points awarded for national, regional, or local freight corridor or direct connections. For example, the scoring criteria gives one point to each of the following regional freight network supportive criteria:

- Improves an identified MoDOT, KDOT, MARC freight movement issue
- Removes/substantially improves a freight related land-use compatibility, noise, or safety issue
- Located on or provides access to the regional freight network and provides travel time and/or reliability benefits

- Enhances access to key freight generators (airports, major distribution centers, industrial parks, etc.)
- Enhances access to intermodal freight movement (air to truck/rail, rail to truck, etc.)
- Average daily truck traffic is greater than 20 percent of AADT

In addition to providing freight network project scoring criteria considerations, the grant program details candidate transportation system scoring criteria associated with additional transportation system project types including bicycle and pedestrian, public transportation, and safety projects.

4. Summary of Peer Region Freight and Long-Range Transportation Plans and Economic Considerations

This section provides a summary of the ways in which transportation agencies in similar regions include the impact of freight in their regional plans. Figure 11 shows a list of ten major cities leading in export industries. Of the ten, four regional freight plans have been evaluated to document freight system-enhancing policies, partnerships, and project evaluation criteria approaches for consideration when continuing to develop the Connected Freight KC 2050 Plan. The reasons for selecting the regional freight plans chosen for evaluating include similar regional population dynamics, multi-state metropolitan area characteristics, freight industry growth trajectories, and similar supply chain characteristics including dependence on rail, highway, air freight, and in some cases maritime transport to support local manufacturing and transport of finished products to international ports. The four regional freight plans evaluated are as follows:

1. Capital Area Metropolitan Planning Organization (CAMPO) 2045 Regional Transportation Plan – Austin, Texas
2. Centralina Council of Governments (CCOG) Greater Charlotte Regional Freight Mobility Plan – Charlotte, North Carolina region that extends into South Carolina
3. Ohio–Kentucky–Indiana (OKI) Freight Plan – Area surrounding and including Cincinnati, Ohio extending into southeast Indiana and northern Kentucky
4. Denver Regional Council of Governments (DRCOG) Regional Multimodal Freight Plan – Denver, Colorado

4.1. Regional Freight Goals and Objectives Summary

The comprehensive list of freight and economy related goals and objectives in **Table 15** were identified through the peer review process that could be used as a baseline for developing policies, partnership, and project recommendations as part of Connected Freight KC 2050.

Table 15. Comprehensive List of Peer Review Freight Goals and Objectives

Goal	Region	Objective
Safety and Security	CAMPO, CCOG, OKI, DRCOG	Crash Reduction – Reduce severity and number of crashes for all modes
Safety and Security	CCOG, DRCOG	Assist regional emergency management agencies to be better prepared in the event of crashes on the freight system, and in response to hazardous material incidents
Safety and Security	CAMPO, CCOG, OKI, DRCOG	Expand the use of technology to increase regional freight safety and security
Safety and Security	CCOG, OKI, DRCOG	Reduce the number of high crash locations that involve trucks or at rail grade crossings
Mobility	CAMPO, CCOG, OKI, DRCOG	Connectivity – Reduce network gaps to add connectivity, eliminate bottlenecks, and enhance seamless use across all modes
Congestion and Reliability	CAMPO, CCOG, OKI, DRCOG	Reduce the frequency of recurring and non-recurring congestion on the freight system
Congestion and Reliability	CAMPO, CCOG, OKI, DRCOG	Reliability - Improve the reliability of the transportation network through improved incident management, ITS, transportation demand management (TDM)
Congestion and Reliability	CAMPO, CCOG, OKI, DRCOG	Travel Choices – Offer time-competitive, accessible, and integrated transportation options across the region
Congestion and Reliability	CAMPO, CCOG	Implementation – Plan and deliver networks for all transportation modes, with reduced project delivery delays
Regional Coordination	CAMPO, CCOG, DRCOG	Continue Inter-agency collaboration between transportation planning, implementation, and development entities
Regional Coordination	CAMPO, CCOG, DRCOG	Improve coordination among regional agencies responsible for freight transportation planning and implementation
Regional Coordination	CAMPO, CCOG, OKI, DRCOG	Engage private sector freight stakeholders to inform freight transportation planning and decision making
Infrastructure Preservation and Maintenance	CAMPO, CCOG, OKI, DRCOG	System Preservation – Use Operations, ITS, and optimization techniques to expand the useful lifecycle of multimodal system elements
Infrastructure Preservation and Maintenance	CAMPO, CCOG, OKI, DRCOG	Maintain regionally significant streets, highways, and bridges to a state of good repair to minimize truck travel times and cargo damage
Performance and Accountability	CAMPO, CCOG, OKI, DRCOG	Fiscal Constraint – Strategically prioritize fiscally constrained investments to maximize benefits to the region

Goal	Region	Objective
Performance and Accountability	CCOG	Decrease the costs of freight movement by reducing empty backhaul movements
Performance and Accountability	CAMPO, CCOG, OKI, DRCOG	Improve freight system operations and information sharing to benefit regional planning and decision making through improvements in technology
Performance and Accountability	CAMPO, CCOG	Increase freight knowledge and expertise by planners and elected officials throughout the region
Performance and Accountability	CAMPO, CCOG, DRCOG	Implement a performance-based tracking process to determine how well the freight system is functioning relative to freight investments
Environment	CCOG	Public Health – Improve public health outcomes through air and water quality protection and active mobility
Environment	CAMPO	Natural Environment – Develop transportation designs that avoid, minimize, and mitigate negative impacts to water and air quality, as well as habitat
Environment	CAMPO, CCOG, OKI, DRCOG	Encourage land use planning that supports and promotes the efficient movement of freight
Environment	CAMPO, CCOG, DRCOG	Reduce the emissions resulting from freight congestion and excessive vehicle/train idling
Economy	CAMPO, CCOG	Economic Development – Enable mode choice and system management to keep people and goods moving and reduce lost hours of productivity
Equity	CAMPO	Access to Opportunity – Develop a multimodal transportation system that allows all, including vulnerable populations, to access employment, education, and services
Equity	CAMPO	Impact on Human Environment – Promote transportation investments that have positive impacts and avoid, minimize, and mitigate negative impacts to vulnerable populations
Equity	CAMPO	Valuing Communities – Align system functionality with evolving character and design that is respectful to the community and the environment for current and future generations
Innovation	CAMPO, CCOG, OKI, DRCOG	Technology – Leverage technological advances to increase efficiency of travel across all modes and for users of the network
Innovation	CAMPO	Flexibility – Develop a system that is adaptable and flexible to changing needs and conditions

Goal	Region	Objective
Economic Competitiveness and Efficiency	CAMPO, CCOG, OKI, DRCOG	Develop, integrate, and support a freight system supporting the region's position as a major freight hub via a network of highways, railroads, and airports
Economic Competitiveness and Efficiency	CAMPO, CCOG, OKI, DRCOG	Encourage regional efforts to maximize the region's competitiveness in freight and logistics
Economic Competitiveness and Efficiency	CAMPO, CCOG, OKI, DRCOG	Formulate a relationship between the private and public sectors to leverage available public and private revenue resources

4.1.1. General Freight Recommendations

General freight recommendations encompass programs and policies that would support overall freight mobility in the region without being tied specifically to one mode of transportation or another. These general freight recommendations are provided in **Table 16**. Additional truck-related recommendations are included in **Table 17**, and rail recommendations are included in **Table 18**. The further dispersion of freight-using and freight-generating plants or facilities away from the existing pattern of corridors and concentrations creates six main transportation impacts:

- Conflicts with rural passenger traffic
- Increases the maintenance costs of rural roads due to increased weight loads and frequency of use
- Greater emissions generation in more rural and agricultural environments
- A reduction of economies of scale for freight input projects
- Conflicts with non-industrial and residential land uses
- Increased travel times and distance to markets increasing costs for businesses and final consumers

Table 16. General Freight Recommendations

Index	Recommendation	Detail
G-1	COG and MPOs to dedicate staff to freight planning and/or coordination.	A dedicated staff person would be the point person for all future freight-related planning and coordination efforts in the region.
G-2	COG, MPO and local planning partners should continue to work with multi-state partners to make corridor-wide system decisions.	The relationships and coordination efforts initiated during the development of this Freight Plan must stay intact to maintain the momentum of freight planning implementation.
G-3	Undertake an effort to educate the public on the importance of freight to the region, including elected officials, and the public.	Utilize social media to raise awareness of freight mobility, safety statistics, and other information related to freight transportation.
G-4	Coordinate freight plans and programs of municipalities, counties, MPOs, regional planning organizations, COGs and state departments of transportation.	Continue the working relationships of the integration of local plans into the Freight Plan to have reciprocal integration of Freight Plan elements into local and state planning efforts.
G-5	Establish protocol for a functioning Freight Advisory Committee for the region.	Build upon the current activities of any existing Freight Advisory Committee, formalize a schedule of meetings and activities.
G-6	Establish the identified “logistics villages” within the region. The goal of logistics villages is to help increase economic activity and transportation efficiency at these sites, such as access between intermodal and private distribution centers, rest and parking areas for drivers, and fixing freight choke points and bottlenecks.	This is an opportunity for Public Private Partnership.
G-7	Increase and/or raise awareness of training opportunities for careers in logistics and transportation.	Partner with local technical training programs and colleges to promote training opportunities.
G-8	Develop local transportation plans for areas adjacent to freight intermodal facilities.	Incorporate freight related transportation needs into planning efforts for freight related land use development plans. This includes traffic impact analyses and necessary modal access.
G-9	Prioritize intermodal connection projects, as these projects are often the most conducive to reducing overall supply chain costs.	This should be used to inform MPO/transportation planning organization planning partners of the prioritization of intermodal connectivity in transportation planning.

Index	Recommendation	Detail
G-10	Develop a freight network resiliency plan. This plan would help bring freight dependent industries back online after an emergency event and would assist with hurricane relief efforts. This plan should be developed with local or state homeland security partners.	N/A
G-11	Create a commercial vehicle crash database. Extract commercial vehicle crash data from the statewide database to identify patterns or situations to address.	Data compiled in development of the Freight Plan; identify staff resources to maintain and provide data for interested parties.
G-12	Ensure freight representation and participation by private sector in the Kansas, Missouri state and MPO planning processes.	Draw on members of the Freight Advisory Committee for participation in other plan steering committees or in other plan stakeholder participation.
G-13	Prioritize projects designed to improve freight mobility and eliminate freight bottlenecks.	Codify prioritization criteria.
G-14	Understand funding available for freight including traditional and non-traditional funding sources.	Incorporate freight funding education into an overall freight awareness campaign. Include freight funding programs in the regional coordination efforts.
G-15	Leverage public-private partnerships for funding non-highway improvements.	Trucking terminals, distribution centers, intermodal facilities, air cargo, and railroad improvements are good examples of private funded projects that would benefit from public outreach.
G-16	Partner with local, state, and federal agencies to expand programs that support fuel efficiency in the transportation industry.	Consider developing and/or partnering with a regional Clean Fuels Coalition to engage freight industry in efforts.
G-17	Support the accelerated retirement of older model year heavy duty vehicles and rail equipment focusing on idle reduction and low emissions technology.	Partner with Clean Fuels Coalition to identify grant programs for upfitting outdated equipment with more efficient engines/technologies.
G-18	Support improved inspection and maintenance of vehicles to minimize emission.	Partner with the Clean Fuels Coalition to identify programs to support maintenance programs for equipment in the freight industry.
G-19	Identify anti-idling policies to enact in freight districts around the region (railyards, queuing areas)	Partner with Clean Fuels Coalition to engage freight industry in efforts.

Index	Recommendation	Detail
G-20	Expand the use of Intelligent Transportation Systems (ITS), technology, and innovation to improve the flow of freight.	Examples include surveillance systems to identify congestion or traffic disruptions, variable message signing, electronic tolling, ramp control/metering during peak traffic hours
G-21	Use technological solutions to address truck parking such as real time parking availability, reservation systems, cashless payment, and navigation using smart phone technology.	Partner with state efforts to improve truck parking programs.
G-22	Expand the use of automated enforcement such as weigh stations	N/A
G-23	Expand the use of automated truck permitting, particularly for county and state roads.	N/A
G-24	Reduce the number of at-grade highway rail crossings where feasible.	N/A
G-25	Facilitate the sharing of information, best practices, and training among local Emergency Response agencies to improve Traffic Incident Management. Support the creation of local incident management teams and regional Incident Management Task Forces with specific area assignments.	Identify opportunities to coordinate with MoDOT, KDOT and local agencies on Traffic Incident Management and Emergency Response Management.
G-26	Maintain coordination with the Kansas City Airport Plan	This plan provides the opportunity for continued coordination in planning as it encompasses all modes of freight transportation.

Table 17. Freight Truck Related Recommendations

Index	Recommendation	Detail
T-1	Provide training for truck drivers (commercial driver's license [CDL] Programs-CPCC).	Partner with local training centers to raise awareness and promote training opportunities in the region.
T-2	Reduce risk to non-motorized transportation users. Clearly sign and mark bicycle and pedestrian facilities where the Strategic Freight Network and state/local bike routes overlap.	Geographic information system (GIS) operation to overlay bicycle and pedestrian networks with Strategic Freight Network.
T-3	Identify areas of needed truck parking and rest areas along the region's Strategic Freight Network.	GIS operation illustrating areas where truck parking utilization has exceeded available capacity; site selection study within corridors and roadway segments with high truck volumes including the Strategic Freight Network.
T-4	Address and prioritize functionally obsolete and structurally deficient bridges on the region's Strategic Freight Network.	Inventory bridges on the Strategic Freight Network and prioritize needs.
T-5	Conduct educational efforts to counter public perception that increases in truck size and weight limits will impact roadway quality and compromise safety.	N/A
T-6	Incident management should be prioritized for responding to increased congestion, safety issues during highway construction, and impacts of vehicular accidents.	Promote enforcement of quick clearance laws.
T-7	Program additional transportation funding mechanisms, particularly for highway maintenance and construction.	Focus on identified deficient bridges, "Corridors and Concentrations," and Strategic Freight Network for preservation and expansion of roadway access to major facilities.
T-8	Program improvements to infrastructure to handle heavy and wide shipments.	Focus on identified deficient bridges, "Corridors and Concentrations," and Strategic Freight Network for preservation and expansion of roadway access to major facilities.
T-9	Make improvements to inadequate sections of rural highways.	Focus on identified deficient bridges, "Corridors and Concentrations," and Strategic Freight Network for preservation and expansion of roadway access to major facilities.

Index	Recommendation	Detail
T-10	Identify and address concerns related to perceived/actual high costs and inability to ship products to the ports.	Partner with MoDOT and KDOT on statewide and multistate planning efforts to identify pathways connecting the Kansas City region to international marine port terminals.
T-11	Encourage alternative options compressed natural gas/liquified natural gas (CNG/LNG) for trucks-including fueling stations.	Focus on identified "Corridors and Concentrations" for preservation and expansion of roadway access to major facilities. Partner with MoDOT and KDOT for regionally identified corridors.
T-12	Participate in the Bipartisan Infrastructure Law (BIL) Alternative Fuel Corridors program.	Partner with Clean Fuels Coalition, MoDOT and KDOT on statewide and multistate planning efforts to identify long distance corridors qualifying for federal designation.
T-13	Continue to Identify and close any first/last mile gaps near major intermodal centers and manufacturing hubs.	Focus on identified "Corridors and Concentrations" for preservation and expansion of roadway access to major facilities.
T-14	Evaluate Crash hotspots identified in densely populated areas.	Evaluation of safety improvements possible in operations, capacity, lighting, etc.
T-15	Improve operations and access between intermodal centers and private distribution centers.	Inventory condition of NHS freight connector public roads that connect major intermodal terminals to the highway network, as priority.
T-16	Identify corridors where non-traditional improvements may significantly reduce congestion (ITS, Managed Lanes, Value Pricing, etc.).	Incorporate this scope of work into corridor improvements planning and concept design.

Table 18. Freight Rail Related Recommendations

Index	Recommendation	Detail
R-1	Review existing policies and practices on the preservation of rail-served industrial sites and preservation of industrial railroad corridors.	N/A
R-2	Greater Kansas City Region Traffic Separation Studies (TSS).	At-grade rail crossing studies (TSS): A TSS will evaluate the need for improving the rail at-grade crossings' warning systems or reducing and eliminating at-grade crossings to address potential safety conflicts; thus, allowing partnerships with the railroads to prioritize grade crossing improvements
R-3	Partner with the development community to identify and find solutions for existing or forecast terminal capacity constraints. Support efficient transfer of bulk commodities such as grain, coal, oil, etc. requires adequate intermodal operations capacity to move goods from production to consumption markets.	Working with the Class I railroads and local stakeholders in ensuring programs and policies are developed to ensure improved operation efficiencies.
R-4	Support an effort to improve the ability of short line railroads to accommodate 286,000-pound standard rail cars.	Work with Class I and short line railroads in changing the weight limits and identifying funding sources to assist in short line railroads to upgrade rails.
R-5	Partner with state agencies to explore the potential for a state rail program to take advantage of federal programs that require a match would help address the 286,000 track limitations that the system faces.	Need to work with State Legislatures to increase state funding towards Rail Projects and increase the STI weighted formula for freight projects.
R-6	Support opportunities for Intermodal terminal development and multimodal diversity.	This includes working with the Class I railroads and local stakeholders to ensure programs and policies are developed to ensure improved operation efficiencies.
R-7	Retain existing rail corridors and halt track removal.	By ensuring rail corridors stay intact and that adding, not reducing, track improves the efficiency of freight movements on rail, reducing the dependency on long haul trucking movements.
R-8	Continue direct support for short-line railroad infrastructure improvements.	Shortline railroads provide local transportation options to industries, thus improves local economic benefits.
R-9	Expand capacity in high-use rail corridors, including the expansion into double/triple track configurations.	With double tracking, there will be less conflicts between passenger/freight trains and enhance on-time performance.

Index	Recommendation	Detail
R-10	Enhance/improve scheduling and coordination with passenger rail service.	With enhancements, there will be less conflicts between passenger/freight trains and enhance on-time performance.
R-11	Explore routing options for hazardous materials shipments to avoid highly populated areas.	By utilizing rail to transport hazardous materials reduces the dependency on long-haul trucking movements and reduces safety hazards along heavily congested urban areas and networks.
R-12	Raise awareness of environmental justice concerns in rail expansions.	Implement policies that require National Environmental Policy Act (NEPA) evaluations for mitigating the impacts to Environmental Justice (EJ) communities on new rail corridors, as well as rail corridor improvements.
R-13	Create rail-focused business parks.	By creating rail-focused business parks, truck and freight movements can be centralized and increase the opportunity for intermodal movements.

4.1.2. Project Identification and Prioritization Considerations

The comprehensive list of project identification and prioritization criteria in **Table 19** were identified through the peer review process that could be used as a baseline for identifying and developing freight project scopes, and prioritizing improvements for inclusion in a Connected Freight KC 2050 implementation plan needs list.

Table 19. General Project Prioritization Evaluation Criteria

Goal Area	Evaluation Criteria
Economic Competitiveness and Efficiency	Project is on the Strategic Freight Network
Economic Competitiveness and Efficiency	Project improves access to/from existing or developing freight hubs including free trade zones (FTZ)
Economic Competitiveness and Efficiency	Project preserves freight reliant jobs
Economic Competitiveness and Efficiency	Project Improves freight network access
Economic Competitiveness and Efficiency	Project improves access among two or more modes

Goal Area	Evaluation Criteria
Economic Competitiveness and Efficiency	Project supports business retention (keeping corporate headquarters or major operations from closing, moving to or expanding in other regions, and encouraging employee tenure through workplace accessibility) or expansion of business
Economic Competitiveness and Efficiency	Project supports or expands freight related land use
Safety and Security	Project reduces number of weight restricted bridges
Safety and Security	Project improves geometric conditions
Safety and Security	Project improves high truck crash locations
Safety and Security	Project improves at-grade crossings
Safety and Security	Project improves truck parking availability
Safety and Security	Project improves safety/security at facilities (parking, intermodal, etc.)
Safety and Security	Project improves freight incident response times
Safety and Security	Project educates the public about freight system safety and security issues
Safety and Security	Project incorporates design components that provide dedicated space for bicyclists, pedestrians, and transit operations or incorporates elements or provides an alternative to route heavy freight operations away from vulnerable users including school zones, bicycles and pedestrians, transit routes, and heavy commuter corridors
Infrastructure Preservation and Maintenance	Project improves or maintains existing pavement to a state of good repair
Infrastructure Preservation and Maintenance	Project improves structurally deficient bridges
Infrastructure Preservation and Maintenance	Project improves rail lines to increase allowable speeds
Infrastructure Preservation and Maintenance	Project maintains air cargo facilities
Environment	Project reduces air emissions
Environment	Project reduces impact to wetlands and water quality
Environment	Project reduces energy consumption
Environment	Project reduces other adverse residential and community impacts
Environment	Project separates freight operations from community activities
Congestion and Reliability	Project improves bridges with vertical clearance issues or weight restrictions

Goal Area	Evaluation Criteria
Congestion and Reliability	Project addresses freight bottlenecks
Congestion and Reliability	Project improves multimodal connections
Congestion and Reliability	Project improves system capacity and/or freight operations
Congestion and Reliability	Project establishes or improves access to intermodal, transload, and/or air cargo facilities including FTZs
Congestion and Reliability	Project improves rail/truck at-grade crossing delays
Congestion and Reliability	Project improves air cargo facilities or increased throughput
Performance and Accountability	Project uses ITS technology to improve freight system operations and information sharing
Performance and Accountability	Project assists in reducing the cost of freight movements by providing more direct access to ports and freight activity centers, automating distribution, accommodating electric vehicles, mitigating or improving a freight bottleneck, improving the ability for combining shipments into one larger shipment, utilizing Transportation System Management and Operations (TSM&O) strategies to improve transportation system efficiency and safety, or promoting utilization of multiple shipping modes (transload facility)
Regional Coordination	Project or program increases coordination among public agencies responsible for freight transportation planning and implementation
Regional Coordination	Project or program increases coordination between the private and public sector with regards to freight planning and priorities
Equity	The project serves vulnerable populations including low-income, minority, seniors, persons with disabilities, zero-car households, and limited English proficiency households by providing safe and affordable transportation options including accessibility to bicycling, walking, and transit or mitigation of a safety issue that is known to be occurring in or near an underserved community