



OPEN MEETING NOTICE

Goods Movement Committee

Beth Linn- Kansas Co-Chair
Mike Duffy, Missouri Co-Chair

There will be a meeting of MARC's Goods Movement Committee on **Tuesday, December 3, 2024, at 10:00 a.m.** in the Westview Room at the MARC office. Those who are unable to attend in person may attend virtually join us via MARCZoom09 Address: <https://marc-kc.zoom.us/j/6576214834?pwd=U0ptVVArAGVIU3psNIU4UXh2czRvZz09>

Meeting ID: [657-621-4834](#)

Passcode: [075821](#)

AGENDA

- I. Introduction and welcome

- II. Freight Study update – CDM Smith
 - Regional Freight Picture
 - What we have heard - one on one interview recaps
 - Second Phase

- III. Other Business
 - KDOT
 - MoDOT

**Action Item*

Meeting Attendance Audio:

Audio:

- We encourage the use of computer audio especially if you are viewing a webcam or sharing your webcam.

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- Please use cell phones only as a last resort.

Getting to MARC: Information on transportation options to the MARC offices, including directions, parking, transit, carpooling, and bicycling, can be found [online](#). If driving, visitors and guests should enter the Rivergate Center parking lot from Broadway and park on the upper level of the garage. An entrance directly into the conference area is available from this level.

Parking: Free parking is available when visiting MARC. Visitors and guests should park on the upper level of the garage. To enter this level from Broadway, turn west into the Rivergate Center parking lot. Please use any of the available spaces on the upper level at the top of the ramp.

Special Accommodations: Please notify MARC at (816) 474-4240 at least 48 hours in advance if you require special accommodations to attend this meeting (i.e., qualified interpreter, large print, reader, hearing assistance). MARC programs are non-discriminatory as stated by Title VI of the Civil Rights Act of 1964. For more information or to obtain a Title VI Complaint Form, call 816-474-4240 or visit our webpage.

Goods Movement Committee October 2024, Meeting Summary

No meeting minutes for the October 1, 2024

Agenda Item II

Freight Study Update

Key socioeconomic and freight trends and forecasts that develops associated scenarios and methods for evaluation. The analysis will support identification of socioeconomic and freight industry needs and policies for future multimodal freight transportation systems and economy, but most likely will not support identification of transportation projects. The needs and policies will use causal factors to define scenarios such as locations of growth or decline in population and employment, industry and commodity mix changes, trade corridor flow density changes, freight value addition potential, and truck flow-employment relationships; and will recommend quantitative and qualitative methods to evaluate the effects of these causal factors or defined scenarios on the future multimodal freight transportation system and economy.

Kansas City Regional Freight Snapshot

Overview

This overview summarizes key socioeconomic and freight trends and forecasts that and develops associated scenarios and methods for evaluation. The analysis will support identification of socioeconomic and freight industry needs and policies for future multimodal freight transportation systems and economy, but most likely will not support identification of transportation projects. The needs and policies will use causal factors to define scenarios such as locations of growth or decline in population and employment, industry and commodity mix changes, trade corridor flow density changes, freight value addition potential, and truck flow-employment relationships; and will recommend quantitative and qualitative methods to evaluate the effects of these causal factors or defined scenarios on the future multimodal freight transportation system and economy.

Trends in Region’s Economy

Population

Forecast Total Population Growth



Cause:  (increase) in regional total population, **Potential Effect:**  in consumer freight demand for the region

Table 1: Prior Forecast Population Change by County in MARC Region, 2020-2050

Geography	Population			
	2020	2050	Change, 2020-2050	Percent Change, 2020-2050
Johnson County, KS	612,229	808,903	196,673	32.1
Leavenworth County, KS	82,485	99,996	17,511	21.2
Miami County, KS	34,363	43,519	9,156	26.6
Wyandotte County, KS	166,047	189,485	23,438	14.1
Jackson County, KS	710,015	791,119	81,103	11.4
Cass County, KS	106,963	134,643	27,680	25.9
Clay County, KS	250,468	333,171	82,703	33.0
Platte County, KS	104,959	146,071	41,113	39.2
MARC Region Total	2,067,530	2,546,907	479,377	23.2

Source: MARC, June 2020 Population Projections, available: <https://gis2.marc2.org/forecast/> (accessed on October 7, 2024)

Population change between 2020 and 2050 is being reduced from the prior forecast (June 2020) of 480,000 more persons to 336,000 more persons (which is 70% of the prior forecast) based on MARC’s ongoing updates

Table 2: New DRAFT Forecast Population Change for MARC Region, 2020-2050

Geography	2020	2050	Change, 2020-2050
MARC Region Total	2,195,043	2,530,692	335,649

Source: MARC, DRAFT 2024 Population Projections, available: <https://www.marc.org/sites/default/files/2024-09/DRAFT-Long-Run-Population-Employment-Forecast.pdf> (accessed on October 7, 2024)

State Level Forecasts

Kansas State



Cause:  in county share of state total population change (higher or lower than the state average population growth rate), **Potential Effect:**  in consumer freight demand for the county

Table 3: Forecast Population Change for Kansas State Study Region Counties, 2021-2051

County	Population			
	2021	2051	Change, 2021-2051	Percent Change, 2021-2051
Douglas, KS	119,363	150,400	31,037	26.0
Johnson, KS	613,219	756,824	143,605	23.4
Leavenworth, KS	82,184	88,009	5,825	7.1
Miami, KS	34,593	36,733	2,140	6.2
Wyandotte, KS	167,046	199,237	32,191	19.3
Kansas State Total	2,934,582	3,174,722	240,140	8.2

Source: University of Kansas, Institute for Policy & Social Research, Kansas Statistical Abstract 2023, September 2024, available: <https://ksdata.ku.edu/ksdata/ksah/population/> (accessed on October 7, 2024).

Note: The original source within the above source is as follows: Wichita State University, Center for Economic Development and Business Research, available: <https://cedbr.org/forecast-blog/population-forecast> (accessed July 31, 2023).

Missouri State

Table 4: Forecast Population Change for Missouri State Study Region Counties, 2020-2030

County	Population			
	2020	2030	Change, 2020-2030	Percent Change, 2020-2030
Cass, MO	121,499	136,933	15,434	12.7
Clay, MO	261,469	300,021	38,552	14.7
Jackson, MO	689,226	714,467	25,241	3.7
Johnson, MO	57,691	61,668	3,977	6.9
Lafayette, MO	32,869	32,947	78	0.2
Pettis, MO	44,237	47,349	3,112	7.0
Platte, MO	102,810	114,904	12,094	11.8
Ray, MO	24,012	24,435	423	1.8
Saline, MO	21,740	21,140	-600	-2.8
Missouri State Total	6,389,850	6,746,762	356,912	5.6

Source: Missouri Office of Administration, 2000 to 2030 Projections, available: <https://oa.mo.gov/budget-planning/demographic-information/population-projections/2000-2030-projections> (accessed on October 7, 2024)

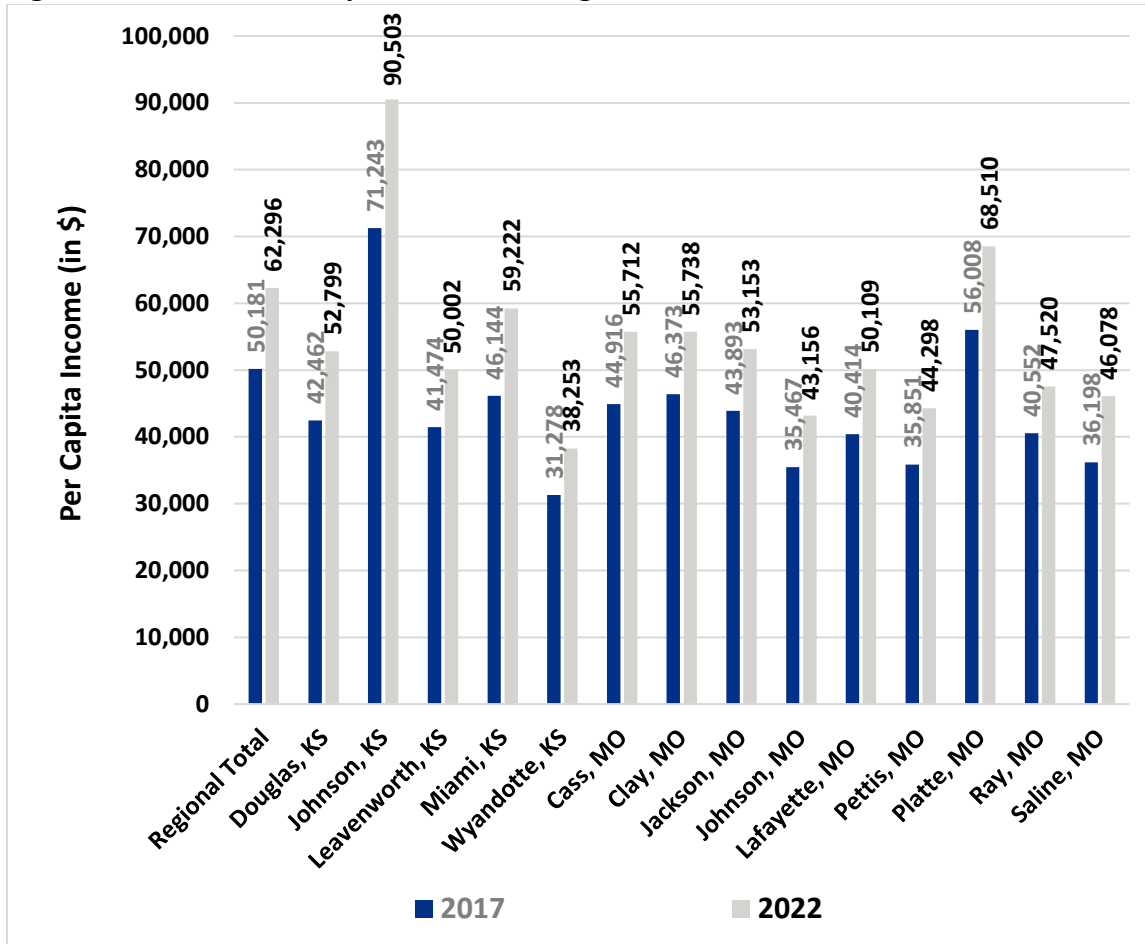
Per Capita Income

Historical Changes

Cause: ↑ in per capita income, **Potential Effect:** ↑ in consumer freight purchasing power for the region's population

Cause: ↑ regional disparity of per capita income, **Potential Effect:** ↑ in importance of equity considerations when planning for goods and services

Figure 1: Historical Per Capita Income Changes, 2017 vs. 2022



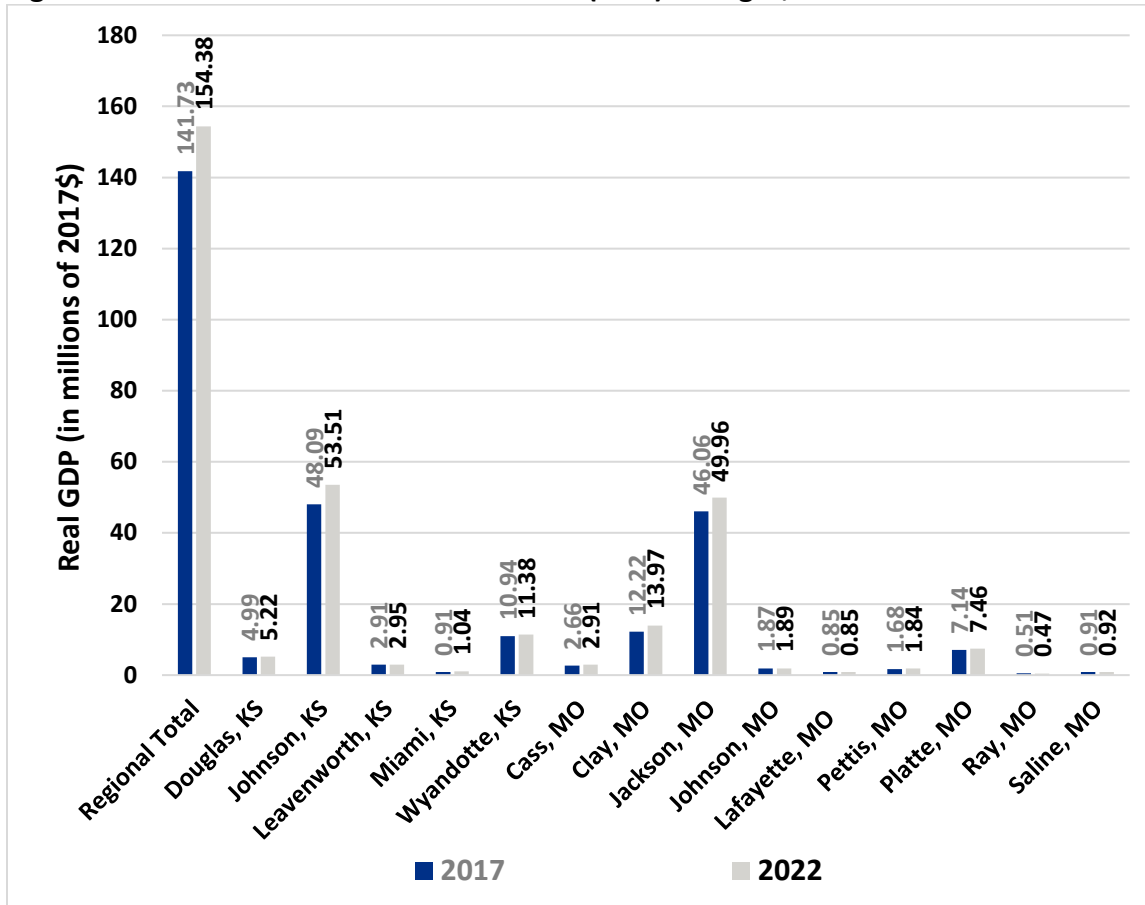
Source: U.S. Bureau of Economic Analysis, "CAINC1 County and MSA personal income summary: personal income, population, per capita personal income" (accessed Monday, October 7, 2024).

GDP Contribution

Historical Changes

Cause: ↑ in GDP contribution growth in a county that is attributed to goods production, storage and transportation sectors (i.e., freight value addition activity), **Potential Effect:** ↑ in jobs of workforce for the county

Figure 2: Historical Gross Domestic Product (GDP) Changes, 2017 vs. 2022



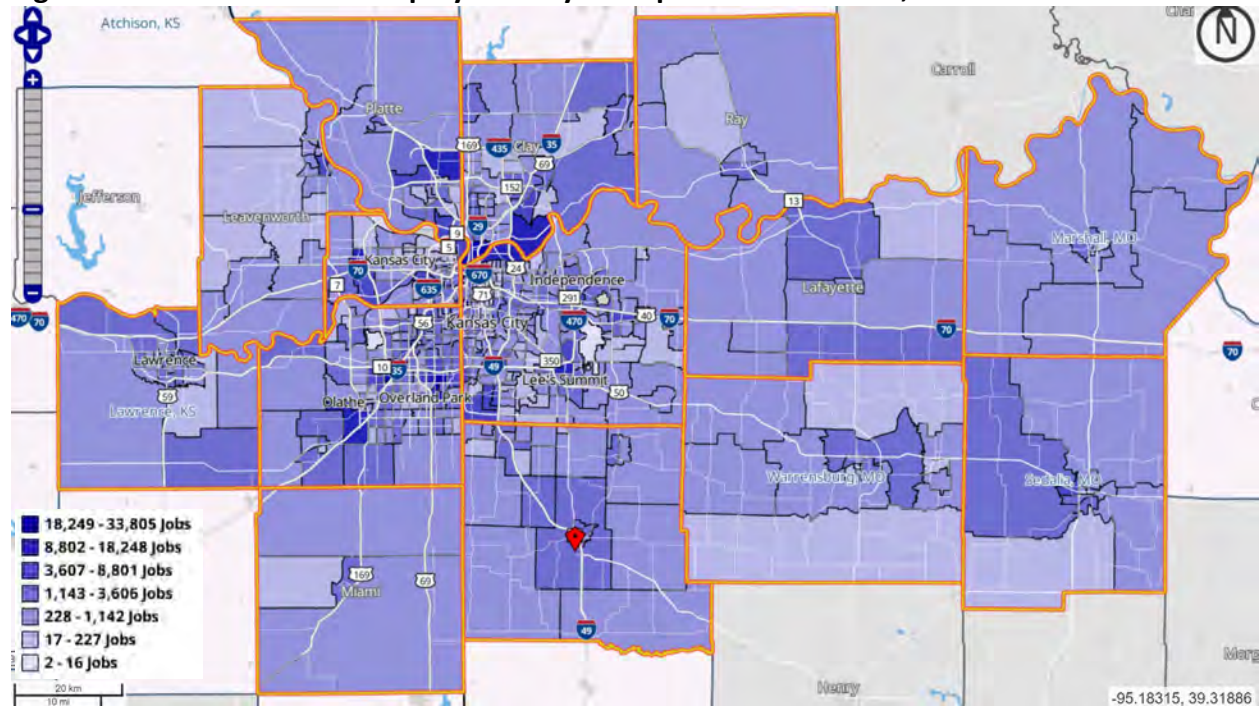
Source: U.S. Bureau of Economic Analysis, "CAGDP1 County and MSA gross domestic product (GDP) summary" (accessed Monday, October 7, 2024).

Employment

Historical Changes

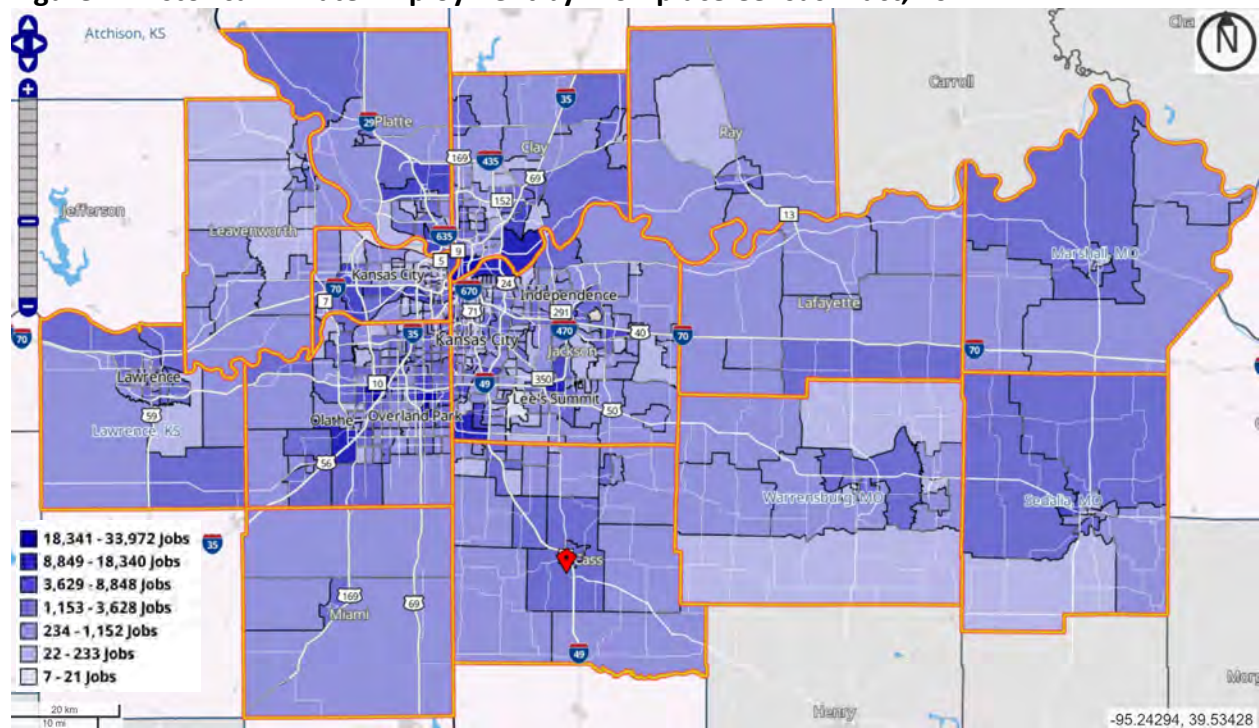
Cause: ↑ in a census tract share of total change in regional employment, **Potential Effect:** ↑ in concentration of business-related freight demand in the census tract

Figure 3: Historical Private Employment by Workplace Census Tract, 2017



Source: U.S. Census Bureau, LEHD Origin-Destination Employment Statistics (2002-2021), available at: <https://onthemap.ces.census.gov> (accessed on October 7, 2024).

Figure 4: Historical Private Employment by Workplace Census Tract, 2021



Source: U.S. Census Bureau, LEHD Origin-Destination Employment Statistics (2002-2021), available at: <https://onthemap.ces.census.gov> (accessed on October 7, 2024).

Table 5: Top 25 Workplace Census Tracts by Historical Private Employment Growth, 2017-2021

Census Tract	Private Employment			
	2017	2021	Change, 2017-2021	Percentage Change, 2017-2021
174 (Jackson, MO)	1,251	8,586	7,335	586.3
440.01 (Wyandotte, KS)	468	4,463	3,995	853.6
9800.01 (Johnson, KS)	26,136	28,053	1,917	7.3
134.05 (Jackson, MO)	7,679	9,549	1,870	24.4
524.15 (Johnson, KS)	601	2,310	1,709	284.4
537.12 (Johnson, KS)	1,447	3,001	1,554	107.4
526.10 (Johnson, KS)	622	1,966	1,344	216.1
99 (Jackson, MO)	5,963	7,286	1,323	22.2
179 (Jackson, MO)	9,595	10,897	1,302	13.6
202.02 (Clay, MO)	2,498	3,571	1,073	43.0
301.01 (Platte, MO)	3,710	4,779	1,069	28.8
208.02 (Clay, MO)	2,889	3,918	1,029	35.6
302.10 (Platte, MO)	125	1,147	1,022	817.6
1 (Douglas, KS)	1,807	2,819	1,012	56.0
452 (Wyandotte, KS)	9,393	10,372	979	10.4
535.08 (Johnson, KS)	3,299	4,097	798	24.2
537.01 (Johnson, KS)	347	1,108	761	219.3
524.17 (Johnson, KS)	5,183	5,923	740	14.3
534.18 (Johnson, KS)	2,543	3,272	729	28.7
518.04 (Johnson, KS)	3,794	4,483	689	18.2
905 (Saline, MO)	1,110	1,781	671	60.5
447.04 (Wyandotte, KS)	591	1,256	665	112.5
526.04 (Johnson, KS)	2,674	3,314	640	23.9
536.03 (Johnson, KS)	9,682	10,303	621	6.4
603.09 (Cass, MO)	255	833	578	226.7

Source: U.S. Census Bureau, LEHD Origin-Destination Employment Statistics (2002-2021), available at: <https://onthemap.ces.census.gov> (accessed on October 7, 2024).

Table 6: Top 25 Workplace Census Tracts by Historical Private Employment Decline, 2017-2021

Census Tract	Private Employment			
	2017	2021	Change, 2017-2021	Percentage Change, 2017-2021
447.03 (Wyandotte, KS)	10,966	6,486	-4,480	-40.9
302.01 (Platte, MO)	10,027	6,955	-3,072	-30.6
221 (Clay, MO)	24,096	21,488	-2,608	-10.8
529.10 (Johnson, KS)	7,504	5,319	-2,185	-29.1
2.01 (Douglas, KS)	3,479	1,341	-2,138	-61.5
168.01 (Jackson, MO)	5,902	3,909	-1,993	-33.8
531.02 (Johnson, KS)	11,402	9,461	-1,941	-17.0
11 (Jackson, MO)	3,702	1,867	-1,835	-49.6
73.02 (Jackson, MO)	7,995	6,285	-1,710	-21.4
9808.02 (Jackson, MO)	3,409	1,797	-1,612	-47.3
130.03 (Jackson, MO)	4,903	3,477	-1,426	-29.1
532.03 (Johnson, KS)	11,144	9,831	-1,313	-11.8
9800 (Wyandotte, KS)	8,408	7,169	-1,239	-14.7
155 (Jackson, MO)	16,474	15,258	-1,216	-7.4
504 (Johnson, KS)	3,700	2,553	-1,147	-31.0
44 (Jackson, MO)	5,623	4,517	-1,106	-19.7
303.08 (Platte, MO)	6,341	5,248	-1,093	-17.2
518.05 (Johnson, KS)	4,939	3,938	-1,001	-20.3
519.04 (Johnson, KS)	3,497	2,562	-935	-26.7
2.02 (Douglas, KS)	3,285	2,357	-928	-28.2
535.55 (Johnson, KS)	2,280	1,373	-907	-39.8
66 (Jackson, MO)	1,884	1,019	-865	-45.9
441.03 (Wyandotte, KS)	2,824	1,979	-845	-29.9
69 (Jackson, MO)	7,665	6,902	-763	-10.0
530.06 (Johnson, KS)	2,290	1,544	-746	-32.6

Source: U.S. Census Bureau, LEHD Origin-Destination Employment Statistics (2002-2021), available at: <https://onthemap.ces.census.gov> (accessed on October 7, 2024).

Current Major Manufacturing and/or Distribution Employers



Cause:  in employment with major employers for manufacturing and/or distribution, **Potential Effect:**  in freight flows to/from the manufacturing and/or distribution facilities

Table 7: Major Manufacturing and/or Distribution Employers

Area of Specialization	Firm Name	Firm Emp.
Motor vehicle mfg.	Ford Motor Company	7,310
	General Motors Corp.	2,385
Electronic & mech. weapons components mfg.	Kansas City National Security Campus, managed by Honeywell FM&T	7,800
Fulfillment center, post office	Amazon	6,500
Global positioning system mfg. (Hdq.)	Garmin International, Inc.	4,744
Greeting card mfg. (Hdq.)	Hallmark Cards, Inc.	4,480
Retailer distribution center	Walmart	2,960
	Target	1,052
Delivery services	United Parcel Service	3,888
Delivery services call center	FedEx	2,891
Pork processing (Hdq.)	Triumph Foods, LLC	2,800
Ammunition mfg.	Olin Winchester, Lake City Ammunition Plant	1,550
Tire mfg.	Goodyear	1,500
Industrial equipment mfg.	Altec Industries, Inc.	1,500
Snack food mfg. & distribution	Frito-Lay Inc.	1,406
Clothing distribution and fulfillment center	Urban Outfitters	1,400
Food mfg. & distribution	Reser's Fine Foods	1,354
Automotive storage battery mfg. & distribution	Clarios	1,342
Meat products mfg. & distribution	Tyson Foods, Inc.	1,299
Pharmaceutical services	CVS Health	1,274
Grocery distributor (Hdq.)	Associated Wholesale Grocers	1,194

Area of Specialization	Firm Name	Firm Emp.
Animal pharmaceuticals mfg.	Boehringer Ingelheim	800
Chocolate mfg.	Mars Wrigley	800
Meat processing (Hdq.)	National Beef Packing Company	795
Pet food mfg. (Hdq.)	Hill's Pet Nutrition, Inc.	762
Automotive welded body assembly parts mfg.	LMV Automotive	700
Microbiology media products mfg.	Thermo Fisher Scientific	687
Clothing retailer distribution center	American Eagle Outfitters	673
Catalog fulfillment & store distribution center	JCPenney Logistics Center	662
Plumbing specialty products mfg. (Hdq.)	Sioux Chief Manufacturing Co.	650
Electronic garage door components mfg.	Amarr Entrematic Garage Doors	650
Beverage mfg. & distribution (Hdq.)	Heartland Coca-Cola	637
Meat products mfg. (Hdq.)	Smithfield Farmland Foods, Inc.	635
Pre-engineered buildings (Hdq.)	BlueScope Properties Group	630
Food products mfg.	Kellogg Company	622
Batteries mfg.	Energys, Inc.	619
Vehicle safety lighting and wiring harness mfg. (Hdq.)	Peterson Manufacturing Co.	617
Auto parts mfg.	Challenge Manufacturing Company	600
Apparel distribution (Hdq.)	GEAR for Sports, a Division of HanesBrands, Inc.	560
Electric motors distribution center	Grainger	560
Automotive parts distribution (Hdq.)	TVH Parts Company	550
Fiberglass insulation mfg.	CertainTeed Insulation	550

Area of Specialization	Firm Name	Firm Emp.
Pharmaceutical call center & fulfillment center	OptumRx	1,100
Plastic products mfg.	Berry Global	1,000
Truck and equipment mfg. (Hdq.)	Custom Truck One Source	986
Pet supply distributor	Chewy, Inc.	891
Building products sales & service	DH Pace Company, Inc.	834

Area of Specialization	Firm Name	Firm Emp.
Crop protection products mfg.	Bayer CropScience	548
Food service marketing & distribution	Sysco Food Services, Inc.	534
Fulfillment center	Jet.com	510
Pet food mfg.	J.M. Smucker Co.	510
Commercial goods mgmt. and disposition (Hdq.)	Recovery Management Corporation	506

Source: Kansas City Area Development Council, Regional Employers, Available at: <https://thinkkc.com/business/regional-employers/Employers> (last accessed on August 9, 2024)

Note: Emp. = Employment in persons, Hdq. = Headquarters

Current Specialized Goods Movement Dependent Industries




Cause:  in employment and value addition activity in specialized goods movement dependent industries, **Potential Effect:**  in transportation and logistics cost to shippers and finished product costs to businesses and consumers and  in sustainability of the supply chains

Table 8: Study Region’s Specialized and Goods Movement Dependent Industries

Private Sector Industry with Location Quotient > 1.0	Jobs	Share of Regional Total Jobs	Location Quotient
NAICS 323 Printing and related support activities	5,444	0.47%	1.95
NAICS 334 Computer and electronic product manufacturing	11,993	1.04%	1.44
NAICS 493 Warehousing and storage	20,153	1.74%	1.43
NAICS 488 Support activities for transportation	8,579	0.74%	1.40
NAICS 492 Couriers and messengers	10,850	0.94%	1.34
NAICS 336 Transportation equipment manufacturing	17,502	1.51%	1.31
NAICS 484 Truck transportation	15,208	1.31%	1.30
NAICS 459 Sporting goods, hobby, musical instrument, book, and miscellaneous retailers	13,741	1.19%	1.20
NAICS 423 Merchant wholesalers, durable goods	29,741	2.57%	1.16
NAICS 444 Building material and garden equipment and supplies dealers	11,672	1.01%	1.10
NAICS 325 Chemical manufacturing	7,347	0.63%	1.08
NAICS 424 Merchant wholesalers, nondurable goods	18,019	1.56%	1.08
NAICS 456 Health and personal care retailers	8,990	0.78%	1.08
NAICS 238 Specialty trade contractors	40,826	3.52%	1.07
NAICS 425 Wholesale trade agents and brokers	4,113	0.36%	1.06
NAICS 455 General merchandise retailers	25,368	2.19%	1.04
NAICS 322 Paper manufacturing	2,793	0.24%	1.03
NAICS 441 Motor vehicle and parts dealers	15,706	1.36%	1.02
NAICS 449 Furniture, home furnishings, electronics, and appliance retailers	6,505	0.56%	1.02
TOTAL	274,550	23.7%	

Source: US Bureau of Labor Statistics (BLS) - Quarterly Census of Employment and Wages - 2023 Annual Average Employment, All establishment sizes for 14-County Kansas City Study Region Counties and US

Note: Location Quotient (LQ) for an industry was computed as an industry’s share of the regional employment total divided by the industry’s share of national total employment.

Forecast Industry Employment Distribution Changes



Cause:  in traditional goods production, storage and transportation sector jobs (e.g., traditional farming, manufacturing, wholesale trade and transportation and warehousing), goods attraction sector jobs (e.g., construction, healthcare facilities, accommodation and food services) and advanced farming, manufacturing and distribution sector jobs (uses information, automation, computation, software, sensing, and networking technologies) in the region, **Potential Effect:**  in education, skill development and training needs for the workforce in the region

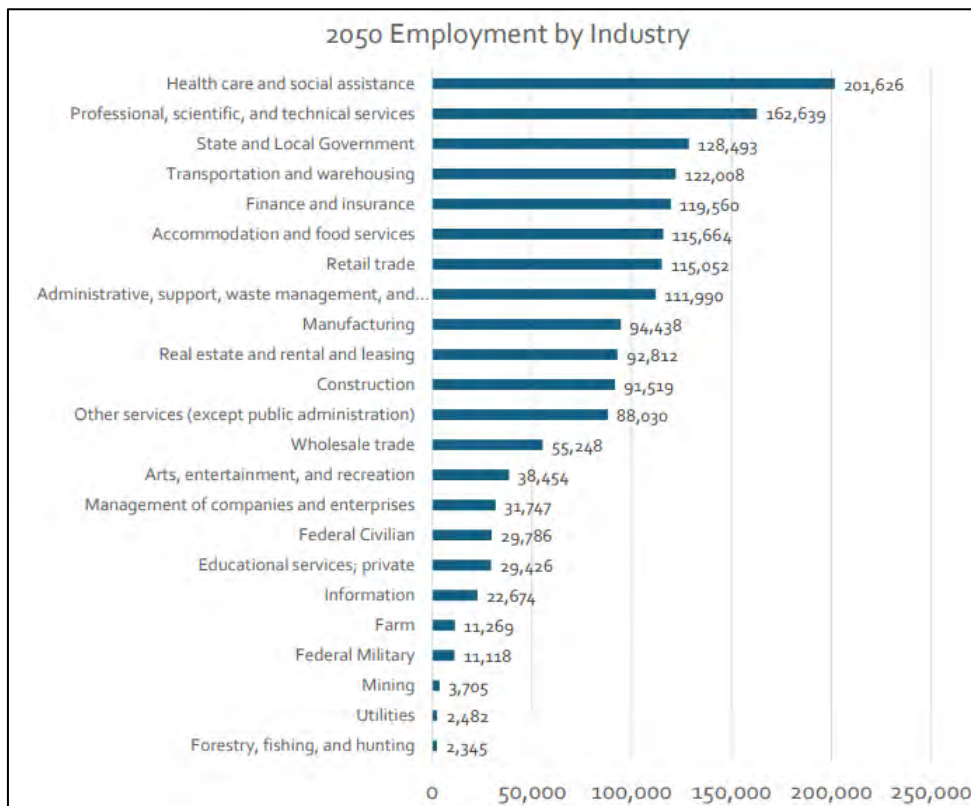
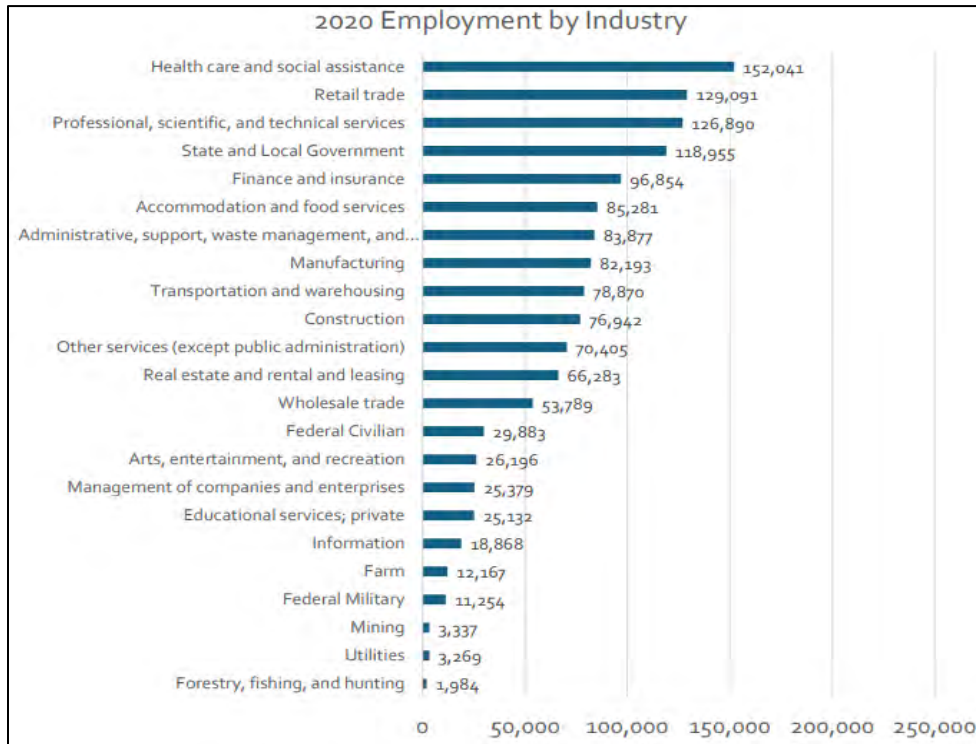
Figure 5: Forecast Employment Distribution over Industry Sectors for MARC Region, 2020-2050

KC Largest Exporting Industries Ranked by 2022 Jobs



Source : Lightcast

Figure 6: Forecast Employment Distribution over Industry Sectors for MARC Region, 2020-2050





Source: MARC, DRAFT 2024 Population Projections,

Freight Value Growth Scenarios

This section shows starter information that can be derived from FAF data to discuss freight related growth scenarios. Additional data elements that can be included are:

- “value per ton” changes (i.e., how much value addition activity would change) by commodity
- growth factors (2050 medium forecast to 2020 tons and value ratio)
- interim year (say, 10-year forecast from current year, such as 2035)

Table 9: Freight Value Growth Scenarios Overview for Study Region FAF Zones, 2020-2050

Freight Flow Type	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
KC Region FAF Zones Outbound Only	92,589	179,176	191,138	195,377	0.94-1.02
KC Region FAF Zones Inbound and Intra Flows Combined	125,487	246,651	261,855	267,673	0.94-1.02
KC Region FAF Zones Total	218,075	425,827	452,993	463,050	0.94-1.02

Source: FAF 5.6, 2022

Multimodal Freight Flows

Mode Splits

Cause: ↑ in heavier commodities and low time-sensitive commodities, **Potential Effect:** ↑ in rail and water modes usage

Cause: ↑ in high-value and time-sensitive commodities, **Potential Effect:** ↑ in truck and air modes usage

Cause: ↑ in containerization of commodities, **Potential Effect:** ↑ in multimodal (truck-rail) mode usage

Cause: ↑ in anchor businesses for water-based commodities, **Potential Effect:** ↑ in multimodal (truck-water or rail-water) mode usage

Cause: ↑ in multimodal business parks, **Potential Effect:** ↑ in multimodal (truck-rail, truck-water or rail-water) mode usage

Table 10: Outbound Freight Value Growth Scenarios for Study Region FAF Zones – Mode Splits, 2020-2050

Mode	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Truck	65,576	122,575	131,124	134,033	0.93-1.02
Multiple modes & mail	17,874	42,855	45,397	46,403	0.94-1.02
Pipeline	4,208	3,820	4,270	4,357	0.89-1.02
Rail	2,677	4,944	5,149	5,271	0.96-1.02
Air (include truck-air)	2,160	4,710	4,918	5,028	0.96-1.02
Other and unknown	89	267	274	279	0.98-1.02
Water	6	5	6	6	0.85-1.02

Source: FAF 5.6, 2022

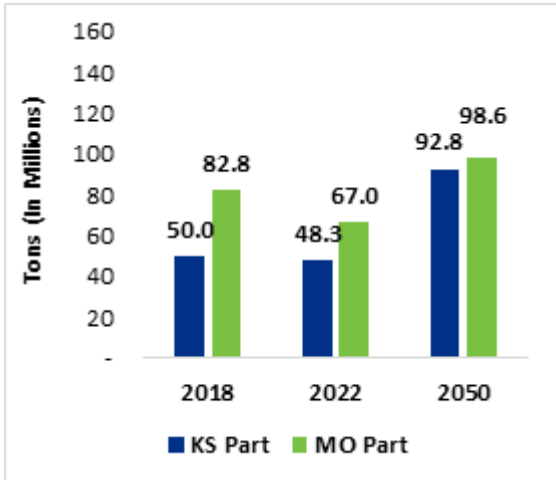
Multimodal freight flows in the study region were analyzed using origin-destination zones in the Freight Analysis Framework (FAF) database version 5.6 released in April 2024. The FAF Kansas City study region was formed by two zones, one on the Kansas side (FAF zone 201 referred to as “Kansas Part”) and another on the Missouri side (FAF zone 291 referred to as “Missouri Part”). Together these FAF zones include 12 of the 14 study region counties except Pettis County and Saline County. FAF zones include some counties that are peripheral to the study region.

In terms of weight, the Kansas Part and the Missouri Part of the study region traded 50 million tons and 83 million tons of freight in 2018, respectively. Under a baseline scenario, the FAF projects freight tonnage to nearly double for the Kansas Part and by 50 percent for the Missouri Part by 2050 (see **Figure 7**). The higher projected growth rate for the Kansas Part is largely due to a forecasted 190 percent increase in cereal grain tonnage, which is the top commodity by weight for the Kansas Part, but only a forecasted 80 percent increase in cereal grain tonnage for the Missouri Part, which is the third highest commodity by weight.

In terms of value, both the Kansas Part and Missouri Part of the study region independently traded about \$70 billion in 2018. Under a baseline scenario, the FAF projects freight values to increase by 112 percent for the Kansas Part while increasing by 94 percent for the Missouri Part by 2050 (see **Figure 8**

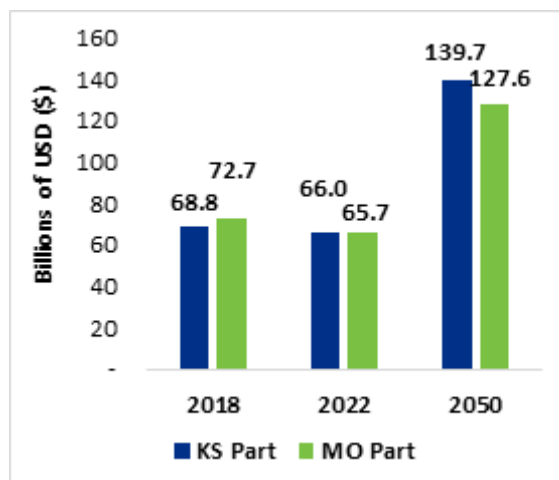
Source: FAF, 2022

Figure 7: Projected Freight Tonnage, 2018-2050



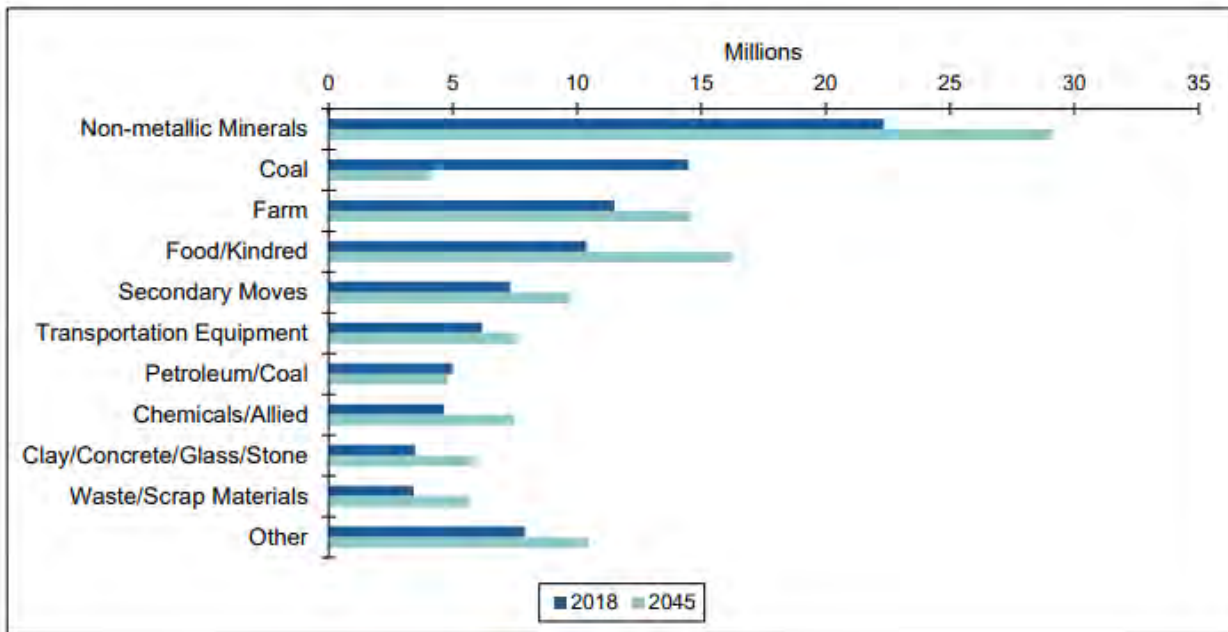
Source FAF,2022

Figure 8: Projected Freight Value, 2018-2050



Top Commodities

Figure 9: Kansas City District Top Commodities by Tonnage, 2018-2045



Cause: ↑ in use of information, automation, computation, software, sensing, and networking technologies in production and storage of top commodities, **Potential Effect:** ↑ in value addition for industries and their commodities and ↑ in jobs and wages for regional workforce

Cause: ↑ in regional industry participation in just-in-time and/or resiliency solutions for freight supply chains in the U.S., **Potential Effect:** ↑ in region’s importance to distribution of freight commodities

Cause: ↑ in anchor businesses for top industries and their commodities, **Potential Effect:** ↑ in jobs and wages for regional workforce

Table 11: Outbound Freight Value Growth Scenarios for Study Region FAF Zones – Top Commodities, 2020-2050

Commodity	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Motorized vehicles	12,253	11,216	11,424	11,653	0.98-1.02
Mixed freight	11,004	22,329	24,087	24,537	0.93-1.02
Electronics	6,243	16,962	17,167	17,511	0.99-1.02
Pharmaceuticals	5,017	14,590	16,233	16,558	0.90-1.02
Chemical prods.	4,971	12,504	14,304	14,570	0.87-1.02
Misc. mfg. prods.	4,486	14,295	14,836	15,133	0.96-1.02
Textiles/leather	4,444	10,168	11,154	11,379	0.91-1.02
Natural gas and other fossil products	4,439	4,318	4,815	4,913	0.90-1.02
Machinery	4,174	8,526	8,864	9,041	0.96-1.02
Other foodstuffs	3,919	6,249	6,596	6,827	0.95-1.04
Other Commodities	31,639	58,019	61,657	63,254	0.94-1.03

Source: FAF 5.6, 2022

Top Export Trade Partners



Cause: ↑ in specialization in high demand export industries and their commodities, **Potential Effect:** ↑ in jobs and wages for regional workforce

Table 12: Outbound Freight Value Growth Scenarios for Study Region FAF Zones – Top Export Trade Partners, 2020-2050

Export Trade Partner	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Canada	1,726	3,567	3,785	3,871	0.94-1.02
Mexico	1,234	3,017	3,123	3,189	0.97-1.02
Eastern Asia	1,226	3,624	3,789	3,871	0.96-1.02
Europe	1,167	2,713	2,897	2,958	0.94-1.02
South-Eastern Asia and Oceania	526	1,352	1,407	1,438	0.96-1.02
Other Trading Partners	775	2,167	2,314	2,359	0.94-1.02

Source: FAF 5.6, 2022

Top Domestic Trade Partners

Cause:  in specialization in high domestic demand industries and their commodities, **Potential Effect:**  in jobs and wages for regional workforce




Cause:  in freight flow concentration on top trade corridors, **Potential Effect:**  in economies of scale and  in private investment into industrial growth and jobs



Table 13: Outbound Freight Value Growth Scenarios for Study Region FAF Zones – Top Domestic Trade Partners, 2020-2050



Domestic Trade Partner	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Rest of KS	7,339	14,754	15,845	16,175	0.93-1.02
Rest of MO	6,751	11,822	12,894	13,159	0.92-1.02
Iowa	4,365	7,472	8,027	8,189	0.93-1.02
Chicago IL-IN-WI (IL Part)	4,045	5,911	6,318	6,445	0.94-1.02
St. Louis MO-IL (MO Part)	2,948	5,341	5,867	5,981	0.91-1.02
Wichita KS	2,526	5,713	6,005	6,117	0.95-1.02
Rest of NE	2,229	4,271	4,752	4,850	0.90-1.02
Rest of IL	2,140	3,365	3,559	3,647	0.95-1.02
Dallas-Fort Worth TX-OK (TX Part)	2,034	3,732	3,999	4,083	0.93-1.02
Omaha NE-IA (NE Part)	2,023	4,280	4,572	4,654	0.94-1.02
Rest of PA	1,804	3,147	3,339	3,414	0.94-1.02
Denver CO	1,617	3,536	3,716	3,790	0.95-1.02
Los Angeles CA	1,584	2,772	2,909	2,986	0.95-1.03
Arkansas	1,552	2,745	2,861	2,955	0.96-1.03
St. Louis MO-IL (IL Part)	1,527	3,129	3,516	3,595	0.89-1.02
Other Trading Partners	41,006	79,777	84,633	86,619	0.94-1.02



Source: FAF 5.6, 2022

KC Region FAF Zones Inbound and Intra Combined Flows

Mode Splits

Cause:  in heavier commodities and low time-sensitive commodities, **Potential Effect:**  in rail and water modes usage

Cause:  in high-value and time-sensitive commodities, **Potential Effect:**  in truck and air modes usage

Cause:  in containerization of commodities, **Potential Effect:**  in multimodal (truck-rail) mode usage




Cause:  in business-to-business (B2B) and business-to-consumer (B2C) e-commerce and  in last mile freight delivery systems and services, **Potential Effect:**  in multimodal (truck-truck) mode usage

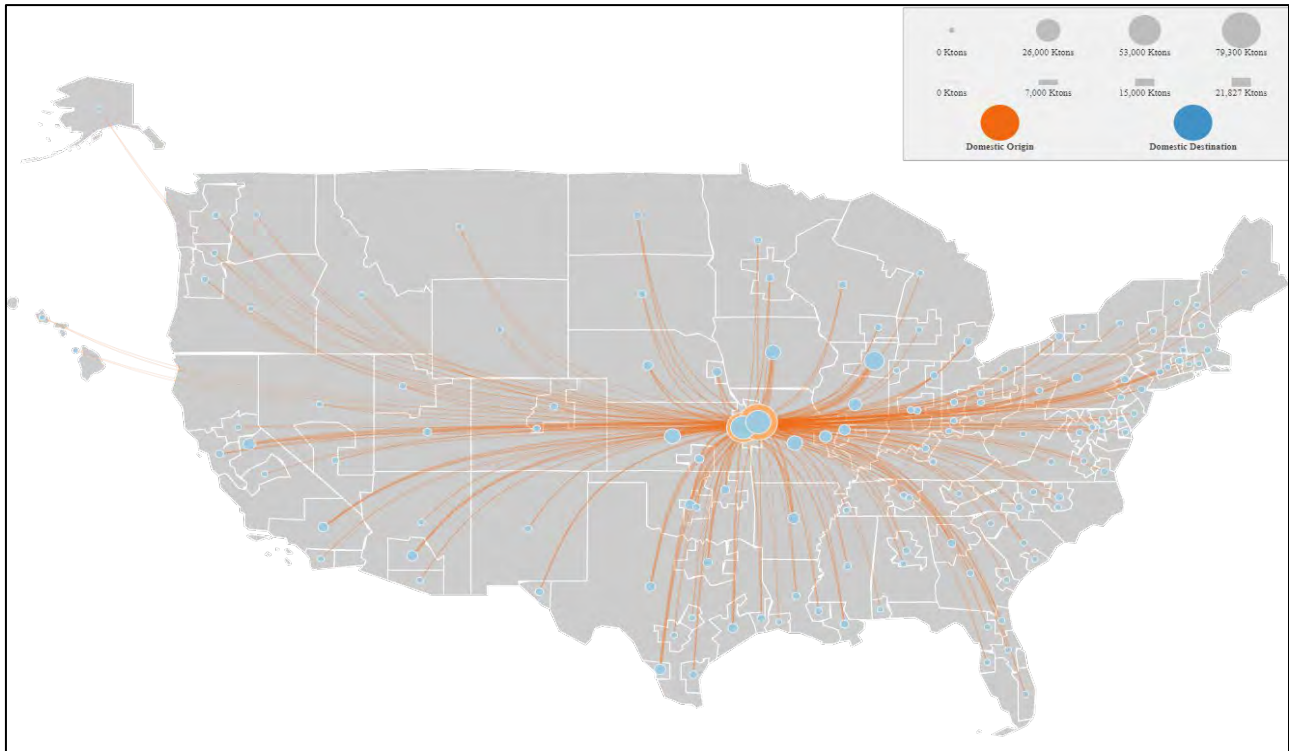
Table 14: Inbound and Intra Combined Freight Value Growth Scenarios for Study Region FAF Zones – Mode Splits, 2020-2050

Mode	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Truck	98,859	188,103	199,275	203,691	0.94-1.02
Pipeline	4,334	7,157	8,399	8,566	0.85-1.02
Multiple modes & mail	18,662	41,866	44,181	45,173	0.95-1.02
Rail	2,170	3,659	3,962	4,095	0.92-1.03
Other and unknown	136	2,897	2,954	3,002	0.98-1.02
Air (include truck-air)	1,325	2,968	3,083	3,144	0.96-1.02
Water	0	1	1	1	0.90-1.06

Source: FAF 5.6, 2022

Top Commodities

Cause: ↑ in use of information, automation, computation, software, sensing, and networking technologies in storage and distribution of top commodities, **Potential Effect:** ↑ in speed and reliability of freight delivery and ↑ in visibility of freight to consumers



Source: FAF, 2022

Figure 10: 2022 Commodity Origin Flows Map for Kansas City FAF Zones Combined

Table 15: Inbound and Intra Combined Freight Value Growth Scenarios for Study Region FAF Zones – Top Commodities, 2020-2050

Commodity	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Mixed freight	14,166	24,906	26,791	27,287	0.93-1.02
Motorized vehicles	13,439	27,186	27,463	28,012	0.99-1.02
Electronics	9,284	21,068	21,282	21,708	0.99-1.02
Machinery	8,849	18,396	18,670	19,043	0.99-1.02
Pharmaceuticals	6,933	19,737	22,134	22,577	0.89-1.02
Misc. mfg. prods.	6,754	18,779	19,228	19,613	0.98-1.02
Meat/seafood	6,008	7,635	8,159	8,349	0.94-1.02
Other foodstuffs	5,457	7,544	8,033	8,238	0.94-1.03
Plastics/rubber	5,428	12,590	13,600	13,868	0.93-1.02
Natural gas and other fossil products	5,286	8,414	9,874	10,072	0.85-1.02
Other Commodities	43,883	80,396	86,621	88,907	0.93-1.03

Source: FAF 5.6, 2022

Top Import Trade Partners






Cause:  in specialization in high demand import industries and their commodities, **Potential Effect:**  in jobs and wages for regional workforce

Table 16: Inbound and Intra Combined Freight Value Growth Scenarios for Study Region FAF Zones – Top Import Trade Partners, 2020-2050

Import Trade Partner	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Eastern Asia	2,320	6,452	6,683	6,844	0.97-1.02
Europe	1,506	3,840	4,093	4,174	0.94-1.02
Canada	1,044	2,130	2,227	2,280	0.96-1.02
Mexico	918	2,600	2,643	2,697	0.98-1.02
South-Eastern Asia and Oceania	582	1,461	1,541	1,574	0.95-1.02
Other Trading Partners	531	1,417	1,504	1,536	0.94-1.02

Source: FAF 5.6, 2022

Top Domestic Trade Partners

Cause:  in local production and consumption (e.g., farm and food products) and  in regional policy (e.g., “buy more local”), **Potential Effect:**  in transportation and logistics cost to shippers and finished product costs to businesses and consumers,  in sustainability of the supply chains, and  in visibility of freight and health benefits to consumers





Cause:  in freight flow concentration on top trade corridors, **Potential Effect:**  in economies of scale and  in private investment into industrial growth and jobs and  in affordability of consumer goods

Table 17: Inbound and Intra Combined Freight Value Growth Scenarios for Study Region FAF Zones – Top Domestic Trade Partners, 2020-2050

Domestic Trade Partner	Freight Value (in millions of 2017\$)				2050 Growth Scenarios Sensitivity Factors
	2020	2050 Low Forecast	2050 Medium Forecast	2050 High Forecast	
Kansas City MO-KS (MO Part)	20,489	37,638	40,429	41,199	0.93-1.02
Kansas City MO-KS (KS Part)	17,205	32,123	34,134	34,889	0.94-1.02
Rest of KS	6,398	9,112	9,994	10,199	0.91-1.02
Iowa	4,276	7,403	7,802	7,963	0.95-1.02
Rest of MO	4,200	7,468	7,954	8,121	0.94-1.02
Los Angeles CA	3,740	8,760	9,201	9,406	0.95-1.02
Dallas-Fort Worth TX-OK (TX Part)	3,375	6,554	6,934	7,075	0.95-1.02
Chicago IL-IN-WI (IL Part)	3,182	6,292	6,636	6,775	0.95-1.02
Rest of OK	2,218	3,247	3,681	3,762	0.88-1.02
Rest of NE	2,168	4,070	4,497	4,588	0.90-1.02
Detroit MI	2,163	3,140	3,238	3,306	0.97-1.02
St. Louis MO-IL (MO Part)	2,124	4,636	5,056	5,158	0.92-1.02
Rest of IL	1,653	2,738	2,951	3,008	0.93-1.02
Atlanta GA	1,614	3,454	3,564	3,639	0.97-1.02
Indianapolis IN	1,526	3,724	3,836	3,918	0.97-1.02
Other Trading Partners	42,086	85,343	90,147	92,404	0.95-1.03

Source: FAF 5.6, 2022