9.0 GOODS MOVEMENT

Freight is fundamental to the Kansas City region's economy. Freight systems are how goods produced by area businesses get to market, both locally and across the country, and how consumer goods and business supplies produced elsewhere get to local end users. The freight industry itself supports more than 100,000 jobs in the region. The transportation of freight by air, barge, rail and truck is fundamental to the region's 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 car loads and amount of pass-through tonnage) in the United States. 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. Perhaps most importantly, the Kansas City region is well-positioned to leverage national trends toward intermodal freight movement, and can benefit from international trade. The majority of goods consumed in the region are produced outside of the metropolitan area, and most goods produced in the region are consumed elsewhere.

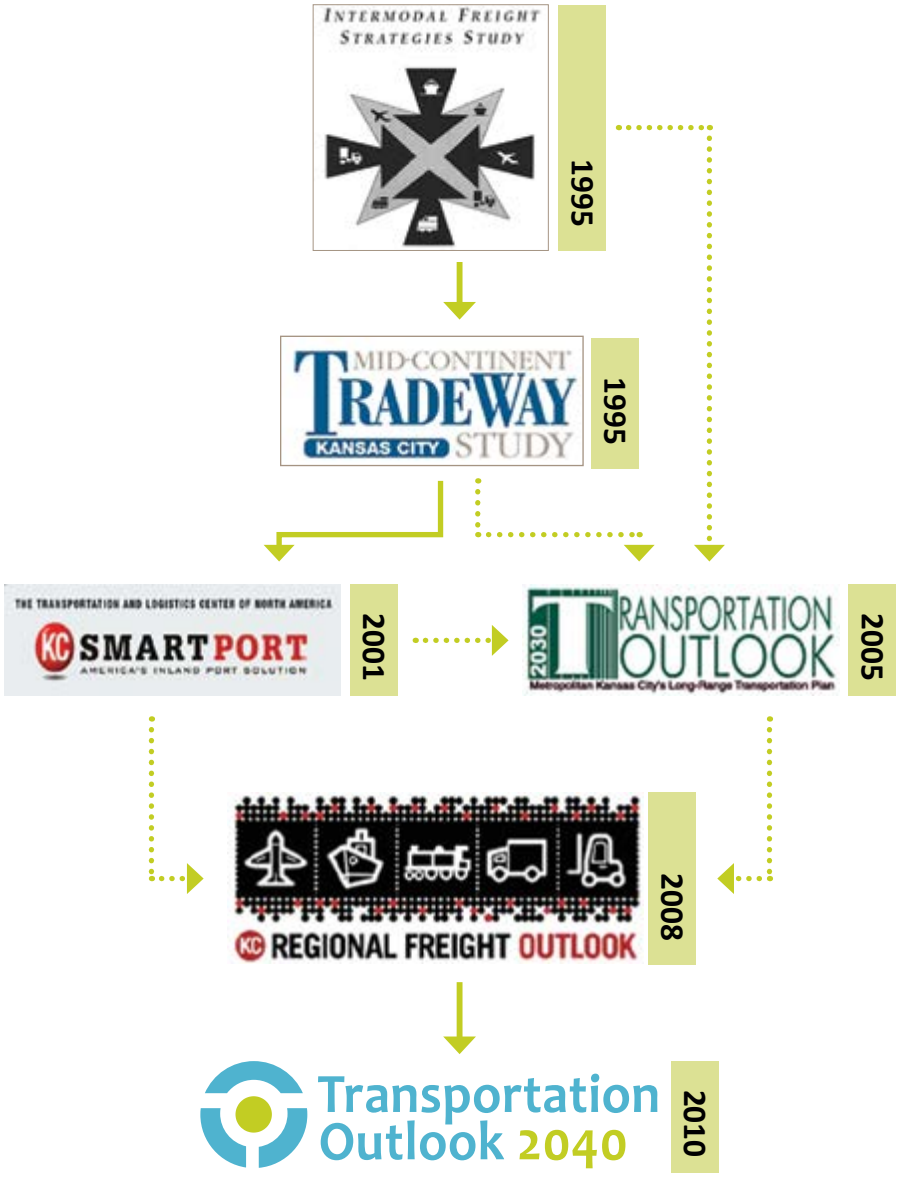
Regional plans for freight

Freight takes a prominent role in regional planning due to federal surface transportation legislation that emphasizes freight as an integral component of transportation planning. The most recent federal transportation legislation developed a national freight network to help states strategically direct resources to improve highway freight movement. Additionally, the legislation establishes a policy that improves the condition and performance of the national freight network by providing a foundation for the U.S. to compete in the global economy and achieve goals related to economic competitiveness and efficiency; congestion; productivity; safety, security and resilience of freight movement; infrastructure condition; the use of advanced technology; performance, innovation, competition, and accountability in the operation and maintenance of the network; and environmental impacts. Since freight transportation is critical to Kansas City's regional economy and transportation system, several plans address goods movement issues and needs.

- **The Intermodal Freight Strategies Study (1995):**

  Acting on recommendation from MARC's Goods Movement Focus Group and the Greater Kansas City Chamber of Commerce's Inland Port/Intermodal Task Force, the Intermodal Freight Strategies Study (IFSS), a large-scale regional project, was initiated more than 20 years ago. The study identified goods movement considerations in the overall metropolitan and statewide transportation planning processes. Specifically, the study detailed freight transportation facilities serving the region, provided current and future freight flow data (in and out of the metro area) and identified infrastructure efficiency improvements for the freight transportation.

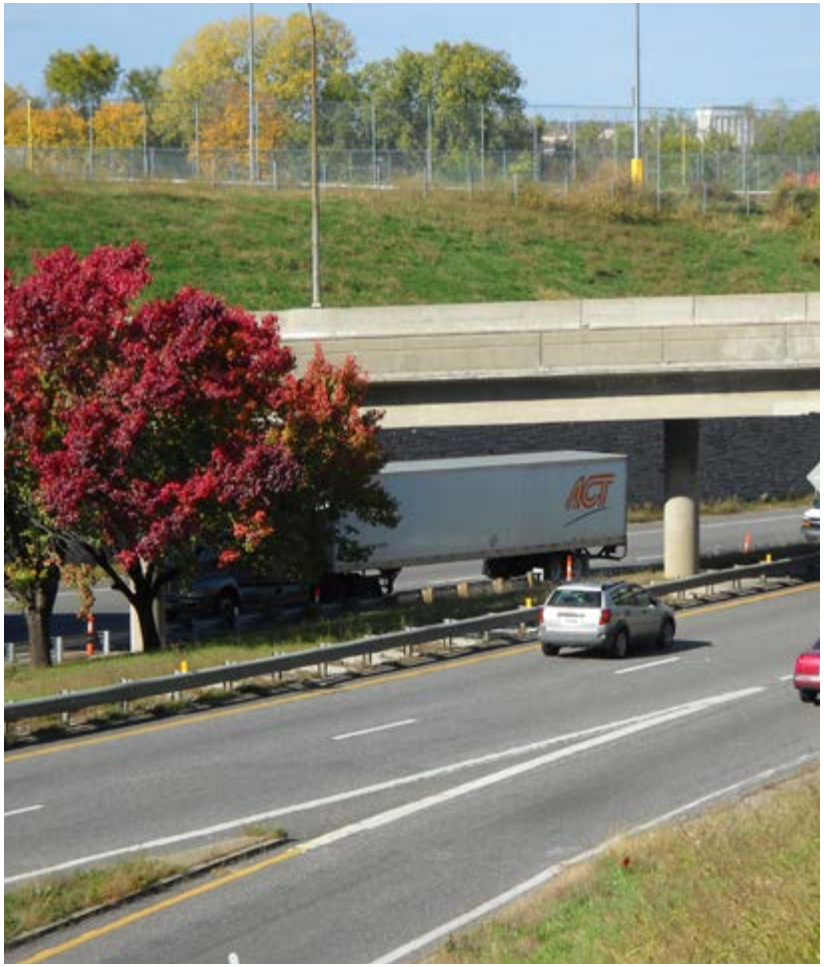
Figure 9.1: Regional freight planning background/history



- **I-35 Trade Corridor Study (1999):**
  The I-35 Trade Corridor Study was a multi-state effort to develop a corridor management plan and other recommendations regarding transportation impacts on the I-35 corridor from Laredo, Texas, north to Duluth, Minnesota. The study assessed the need for improved local, interstate and international services on I-35, as a result of increased trade among Canada, Mexico and the U.S. via the North American Free Trade Agreement (NAFTA) of 1994.

- **Mid-Continent TradeWay Study (1999):**
  MARC and the U.S. Department of Treasury jointly sponsored this study to investigate the feasibility of establishing an international trade-processing center (ITPC) within the Kansas City region. The study concluded that metropolitan Kansas City could and should support the concept and implementation of an ITPC. In 2001, MARC, the Greater Kansas City Chamber of Commerce and the Kansas City Area Development Council agreed to implement a bistate ITPC concept and established Kansas City SmartPort.

- **Kansas City Regional Freight Outlook (KCRFO 2009):**
  MARC and Kansas City SmartPort, with support from KDOT and MoDOT, completed a comprehensive regional fright study in 2009. The KCRFO study validated and updated assumptions and recommendations from the 1995 IFSS. The KCRFO provided a regional strategic plan for freight that would allow Greater Kansas City to remain a vital national freight transportation hub and support expansion of the region's freight transportation system and economic well-being. The study provided a framework for coordination between public and private stakeholders, identified and prioritized regional initiatives, and developed capital and marketing strategies to sustain the Kansas City region's status as a national freight leader.



Domestic and international freight

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. In 2014, the regional system handled an estimated 264 million tons of freight with an estimated total value of $357 billion (Figures 9.2 and 9.3).

Figure 9.2: 2014 Estimated regional freight, in tons

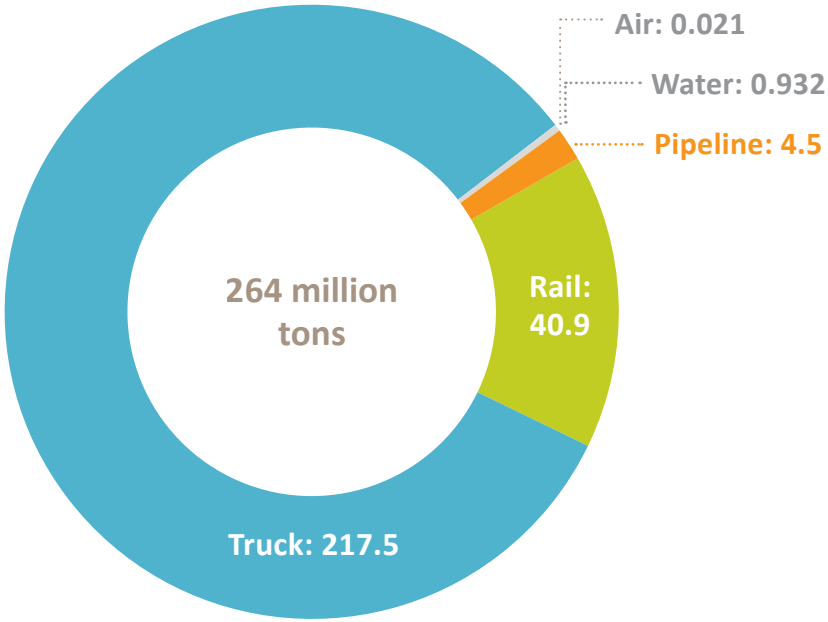
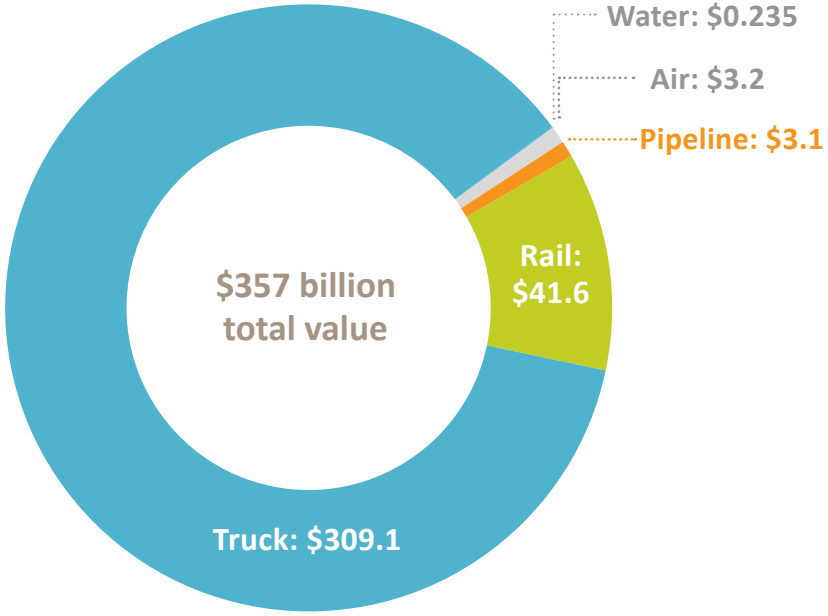


Figure 9.3: 2014 Estimated regional freight value, in billions



Multimodal freight

Total regional freight is projected to increase from 264 million tons in 2014 to 338 million tons by 2040. The infrastructure that supports freight, includes highways, rail lines, intermodal rail yards, water ports, airports, warehouse and distribution centers, and other facilities.

Figure 9.4: 2014 Estimated regional tonnage (in millions)

Year	Truck		Rail		Water		Air		Pipeline		Total
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound	
2015	111.4	115.9	21.9	12.6	0.10	0.84	0.11	0.09	4.1	0.62	267.66
2020	119.1	120.4	22.5	14.1	0.11	0.85	0.11	0.10	4.2	0.63	282.1
2030	133.0	130.0	23.4	16.1	0.11	0.89	0.12	0.11	4.4	0.66	308.79
2040	147.8	140.1	24.3	19.6	0.12	0.92	0.13	0.11	4.6	0.68	338.36

Source: Federal Highway Administration's (FHWA) Freight Analysis Framework (FAF3)

Infrastructure

The Kansas City region has a significant transportation network that includes highways, railroads, airports and the Missouri River system. Numerous corridors are part of the national freight transportation system. The system includes nearly 440 miles of Interstate Highway System facilities with high truck traffic volumes and about 800 miles of rail corridors with high train volumes, tonnage and value. Regional and local corridors are classified in a similar manner to characterize truck and train volumes. These modes provide a strong 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 intermodalism.
- **Corridors of local significance —** provide connections to higher-level facilities and provide direct access to freight-related facilities in industrially zoned areas.

Figure 9.5: Freight corridors of significance by designation and mode

Corridor designation	Highway	Rail	River	Air
National	Roadways with more than 4,000 trucks per day	Primary Rail Corridor per AAR*	Mississippi River	Kansas City International (MCI)
Regional	Roadways with 1,000–3,999 trucks per day	None	Missouri River	Kansas City International (MCI)
Local	Roadways with 500–999 trucks per day	Rail lines with less than 10 trains per day	Missouri River	Forbes Field, New Century AirCenter and Rosecrans

Source: Association of American Railroads

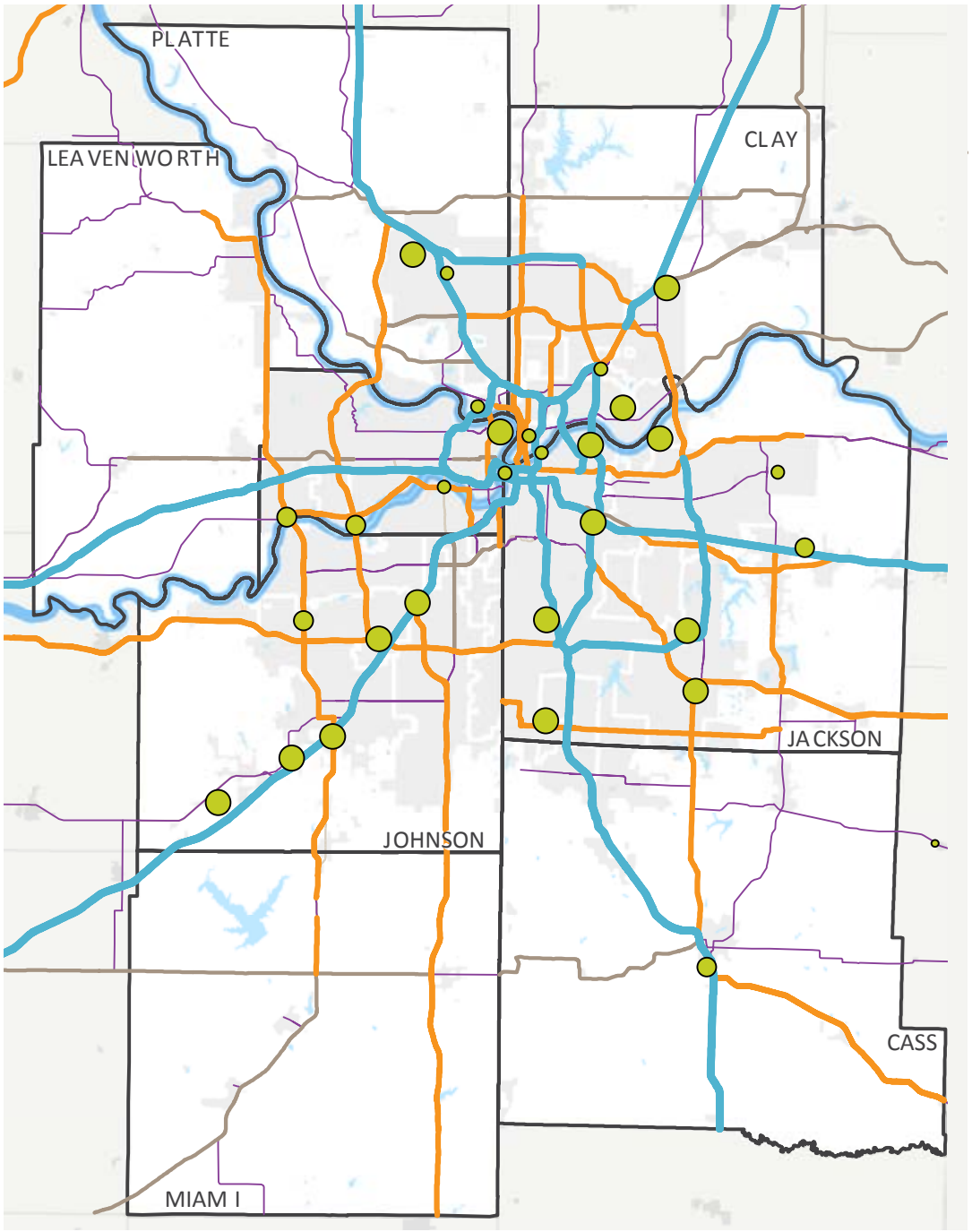


Figure 9.6: Truck corridors and freight zones for the Kansas City region

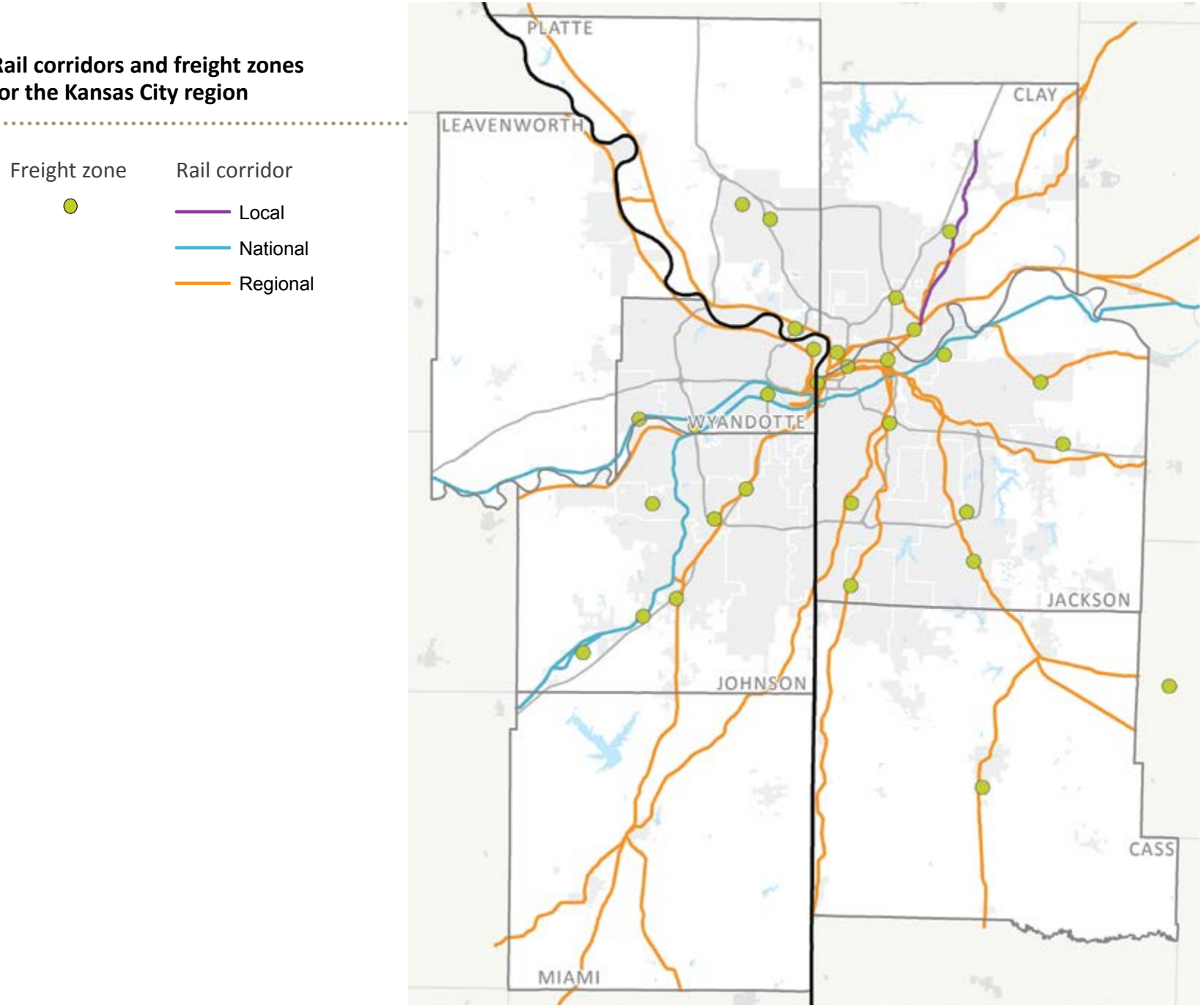
Scale

- 18,000
- 24,000
- 29,000
- 30,000
- 38,000

Truck corridor

- 0–499
- 500–999
- 1,000–3,999
- 4,000 or higher

Figure 9.7: Rail corridors and freight zones for the Kansas City region



Missouri River Marine Highway Connector

The Marine Highway system identifies routes with water transportation opportunities that offer relief to landside corridors that experience traffic congestion, excessive ozone emission levels or other environmental concerns and challenges. Corridors are generally longer, multi-state routes, while connectors represent shorter routes that serve as feeders to the larger corridors. Crossings are short routes that traverse harbors or waterways and offer alternatives to much longer or less convenient land routes between points. With these Marine Highway corridor, connector and crossing designations, the USDOT highlighted public and private efforts to use the Missouri River to relieve landside congestion and attain the benefits that waterborne transportation can offer, such as reductions in greenhouse gas emissions, energy savings and increased system resiliency.

Technologies to improve freight movement

The region is expanding the use of existing technologies and tools that monitor freight-specific data. Kansas City SmartPort's Trade Data Exchange (TDE), the Cross-Town Improvement Project (C-TIP), and the KC Scout traffic management system (TMS) are all technology-based solutions designed to facilitate and improve the region's freight transportation system and economic development.

Trade Data Exchange

The TDE is a collaborative environment for all supply chain parties to connect to trading partners, share supply chain data, communicate via electronic messaging, receive electronic alert notifications and proactively monitor shipment progress. Participating members make more confident logistics decisions because the TDE helps them make informed choices. The TDE electronically forwards notification to ground carriers (truck and rail) and alerts them of a shipment that is ready for transport, at the point of origin. Supply chain users access the TDE to review trade documentation and electronically commit to the required delivery service. The TDE evaluates updated commercial trade data to assess commercial risk associated with the shipment and supply chain participants, and electronically forwards any necessary notifications to all appropriate, interested parties associated with the shipment. The TDE provides visibility into a user's supply chain; removes shipping and delivery uncertainty; increases efficiency; and ensures shipments are received as promised.

Figure 9.8: National Marine Highway routes

Cross-Town Improvement Project

Intermodal freight often requires multiple truck movements in addition to the primary movements by rail, barge or air. There are numerous reasons for these movements, such as:

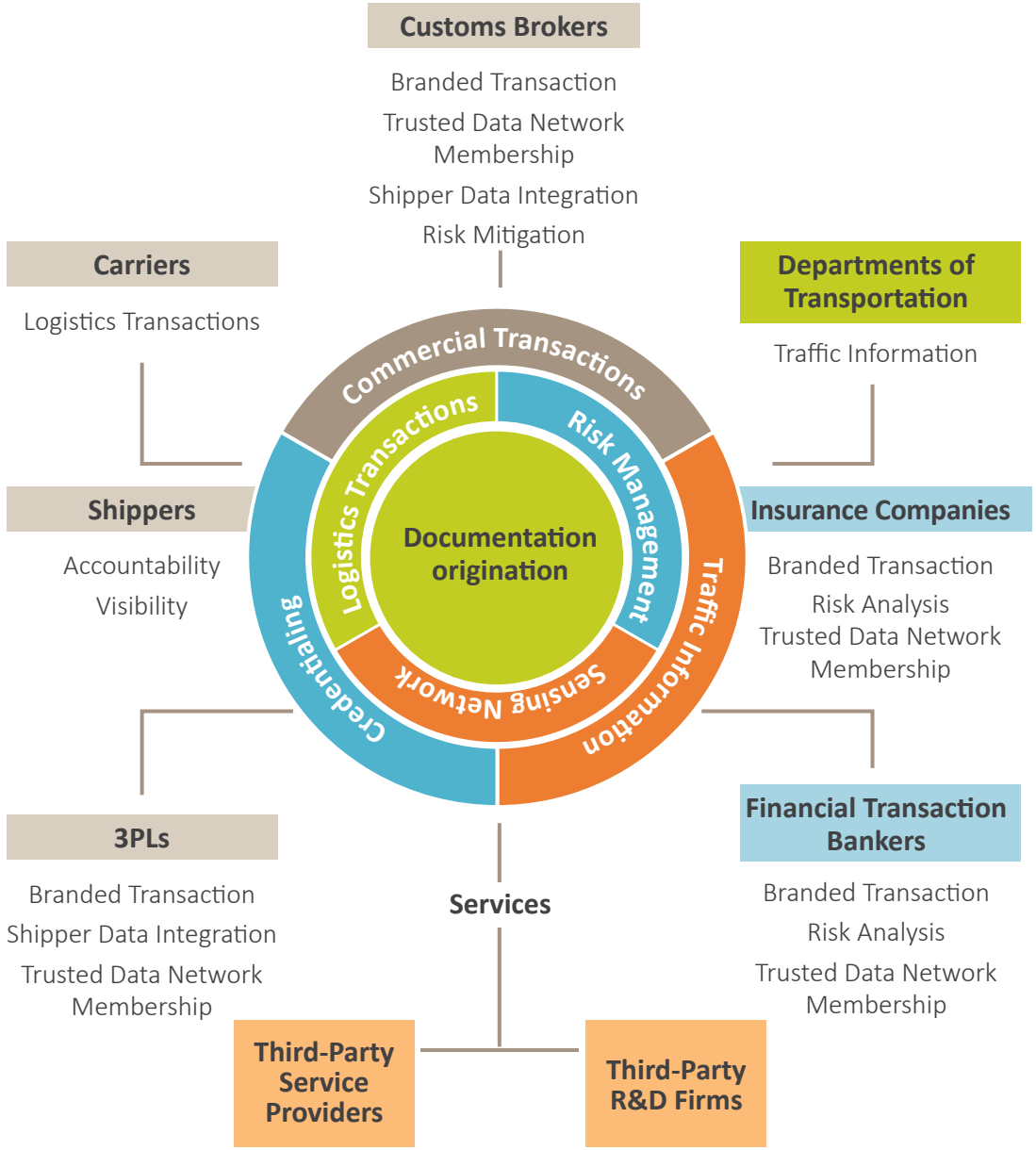
- Taking advantage of favorable cartage rates.
- Infrastructure limitations.
- Delivery and scheduling requirements.

Intermodal transportation, by definition, requires the change of freight between modes, often in or near metropolitan areas where freight terminals or warehousing and distribution facilities are located. During these interchanges, freight traffic is loaded on trucks for short movements through or around metropolitan areas. This interchange is often called a cross-town move.

The C-TIP, first conceived in the fall of 2004, consists of a concept development that incorporates an intermodal move database for the coordination of cross-town traffic, helping to reduce empty moves between terminals, wirelessly tracking intermodal assets and distributing information to truckers.

The C-TIP helps to mitigate the number of trucks involved with cross-town rubber tire interchanges. These conditions adversely affect the efficiency of the transportation network, the safety of roadway users and the security and quality of life

Figure 9.9: Trade Data Exchange: constituents and information flow



of people in communities where they occur. The interchanges add to overall traffic congestion, increase volumes of pollutants and, in the case of empty moves, represent inefficiencies and safety risks. As freight trade continues to grow, so will these conditions and their consequences.

Kansas City Scout

KC Scout is the region's bistate traffic management system. The Kansas and Missouri Departments of Transportation designed KC Scout to help lessen traffic congestion with improved peak-hour travel speeds, increase safety through a decrease in the number of rush-hour incidents, and improve emergency response to roadway situations. Through regional program expansion, KC Scout's capabilities will help minimize delays in supply chain deliveries due to traffic-related interruptions.

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. The region has considerable competitive strength in several areas, including:

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

These are some of the top criteria for businesses looking for suitable locations for freight-related development. Major industries (agricultural, manufacturing, wholesale/retail, transportation/warehousing, and professional services) are optimistic about growth of the Kansas City market. The Kansas City region is the second largest rail hub in the nation. It has the first and second largest export markets in Kansas and Missouri respectively. Of the top 100 Missouri freight generators, 23 are located in the region. Kansas City also has the 45th busiest freight airport in the nation and the highest concentration of intermodal facilities in Kansas and Missouri.

The Kansas City area recognizes that freight transportation and logistics are important to the regional economy. Regional indicators show that the region is more supportive of initiatives and projects when stakeholders, decision-makers and residents are educated through specific and targeted information. Although KC SmartPort is not a required resource for the region's freight planning efforts, this organization plays an active, important role in regional freight strategic planning.

KC SmartPort's efforts center on economic development and growth of the transportation industry in Kansas City, attracting businesses with transportation and logistics elements. Since its establishment in 2001, KC SmartPort has become a nationally recognized organization — the region's "go-to" agency for transportation and logistics development.

Greater Kansas City's strong intermodal infrastructure includes five Class I railroads, five truck/rail intermodal facilities, express air cargo availability and four interstate highways. It helps maintain the region's ability to compete for transportation and logistics-based businesses. The foundation is in place for active dialogue on freight transportation through KC SmartPort and MARC's Goods Movement Committee. The region must continue to develop new channels of communication to inform and coordinate dialogue as growth continues.

Projects significant to freight

The plan identifies nine projects that are significant to freight movement.

Project ID	Sponsor	State	Project Name	Project Description	Plan year
2010	City of Edgerton	KS	Waverly Road	Waverly Road	2010
720	City of Gardner	KS	US-56 Improvements - Moonlight Road to I-35	US-56, Moonlight Road to I-35 including improvements or modifications to the interchange at New Century Parkway	2030
407	Unified Government of WYCO/KCK	KS	I-70 and Turner Diagonal Interchange Re-configuration	I-70 and Turner Diagonal	2020
262	City of Lenexa	KS	95th & I-435 Interchange	95th Street and I-435 interchange	2020
894	KDOT	KS	Johnson County Gateway Project - Phase 2	Various	2030
705	City of Tonganoxie	KS	Leavenworth County Road 1	Leavenworth County Road 1 from US Highway 24/40 to the KTA (I-70)	2030
557	City of Kansas City, MO	MO	Front Street	I-35 TO Chouteau	2020
558	City of Kansas City, MO	MO	Front Street	Chouteau TO I-435	2030
585	City of Liberty	MO	I-35/M-291 Interchange Improvements	I-35 / M-291 Interchange	2020

Strategies

9-1: Facilitate dialogue with stakeholders.

In addition to continued coordination with the two state departments of transportation on various freight-related issues, MARC's Goods Movement Committee should meet on a regular basis to review mobility and safety data reports and regional corridor assessments. This review may identify new issues that require further analysis or lead to recommendations for an infrastructure improvement project. Freight planning coordination with MPOs in St. Joseph, Missouri, and Lawrence, Douglas County and Topeka, Kansas is also important.

9-2: Support organizations and initiatives that attract, retain and assist transportation and logistics businesses.

Continue to invest in KC SmartPort. Over the past decade, KC SmartPort has taken the lead in promoting regional economic development and infrastructure improvements that focus on the transportation and logistics sectors. Investments in the agency are generated through public and private interests. KC SmartPort continues to lead by connecting public and private sectors to promote a strong image of Kansas City outside of the region. Continued investment in this agency will benefit the region by attracting new and emerging freight based business, warehouse/distribution centers, and identifying transportation-related solutions for business needs.

9-3: Continue to invest in the Trade Data Exchange.

Continued investment in the development of the Trade Data Exchange (a relevant version of an international trade processing center) will also benefit the region by emphasizing Kansas City's importance in global supply chains.

9-4: Develop freight corridors (Corridors of Freight Significance, CFOS).

Periodically review, maintain and preserve goods-moving infrastructure. Define a goods movement transportation system for all modes and conduct high-level and specific corridor assessments to review the efficiencies of the current system. To determine if this objective is being met, develop a COFS Assessment for national, regional and local corridors. Some classifications include all modes of goods movement, while others are not applicable to certain classifications. Each assessment should review physical condition, system network use, safety and a mobility index to help identify freight-specific improvements or opportunities. The types of measurements vary depending on the level of corridor classification and the availability of data.

9-5: Integrate freight transportation, land-use planning and the environment.

Balance development so that it new development does not outpace the reuse of existing sites. The region seeks a balanced approach for growth in goods movement and implementation of environmental standards. Monitor and track environmental trends in the region that focus on freight. The building industry's use of Leadership in Energy and Environmental Design (LEED) is one way that warehouses and distribution centers can bolster sustainability. Reuse of existing sites is another way that the region can positively impact land use and the built environment. The region should encourage the integration of green technologies, building design and facility reuse, subject to cost implications for shippers and service providers.

9-6: Implement projects with freight significance.

Create annual checklist of the Transportation Improvement Program (TIP) and Metropolitan Transportation Plan (MTP) for freight benefits that recognizes the region's investment in transportation and specific freight-related transportation improvements. Projects should be cross referenced for proximity to a freight zone as well as location along or adjacent to a corridor of freight significance. Monitor the region's infrastructure investments with a specific focus on goods movement, using the checklist to keep focus on freight transportation needs and provide support to jurisdictional agencies in their efforts to identify funding and create solutions. In addition to projects currently listed in the TIP, the annual checklist should also include ongoing studies or non-infrastructure projects that promote transportation solutions and provide additional support to other regional initiatives that benefit freight.

9-7: Support freight on the Missouri River.

Support the Kansas City Port Authority's efforts to reopen and improve its port facility on the Missouri River. Build community support for improved water commerce. Communities that support holistic freight transportation are more likely to attract and retain freight-related business. The region's communities can show a readiness to bring in business by streamlining development reviews, supporting regulatory changes and promoting coordinated and innovative financing. The region's freight players, including MARC and KC SmartPort, must continue to demonstrate the economic and environmental benefits of active river commerce.

Transportation Outlook 2040							
Policy framework strategies and goals:	9-1: Facilitate dialogue	9-2: Attract and retain business	9-3: Trade Data Exchange	9-4: Freight corridors	9-5: Integration	9-6: Significant projects	9-7: Missouri River freight
 Economic vitality	X		X			X	X
 Placemaking	X						
 Equity							
 Transportation choices	X	X					X
 Safety and security	X		X				
 System condition	X			X			
 System performance	X			X	X		
 Public health	X				X		
 Environment	X				X		X
 Climate change and energy use	X				X		X