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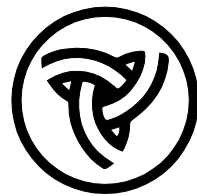
# Southwestern Illinois Freight Transportation Study

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Final Report ~ Date TBD

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LEADERSHIP  
COUNCIL  
SOUTHWESTERN  
ILLINOIS



**Illinois Department  
of Transportation**

Prepared by

TranSystems  
with GKSF Global Research

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## **Southwestern Illinois Freight Transportation Study**

*This project is made possible through an Intergovernmental Agreement between the Illinois Department of Transportation and Madison County, Illinois, with the Leadership Council acting as a local public agency.*

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### **Southwestern Illinois Transportation Enhancement (SITE) Committee**

*Throughout the study members of the Leadership Council Southwestern Illinois' SITE committee were integral to the analysis and developing opportunities for the region to act on.*

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## **Executive Summary**

Leadership Council Southwestern Illinois (Leadership Council) engaged TranSystems, partnered with GKSF Global Research, to conduct the Southwestern Illinois Freight Transportation Study. The purpose of the study is to identify quantitative means for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment. To accomplish the purpose, the study team focused on four areas including a freight flow outlook, freight infrastructure and facilities inventory, a market survey of industry representatives, and a comparative cities analysis. While the study specifically relates to Southwestern Illinois, many of the opportunities identified can be applied more broadly to the greater St. Louis region.

## **Background**

The Leadership Council Southwestern Illinois is a not-for-profit economic development corporation representing Southwestern Illinois. The organization is primarily focused in Madison and St. Clair counties. In 2011, the Leadership Council launched its new Southwestern Illinois Transportation Enhancement (SITE) initiative, creating a new working group composed of individuals representing rivers, rail, roads, transit, and runways. SITE's mission is to drive economic development in Southwestern Illinois through transportation infrastructure.

In 2012, the East-West Gateway Council of Governments launched a planning effort focused on freight transportation in the region. The intent of the St. Louis Regional Freight Study was to clarify the current status of freight movement through the St. Louis region as well as the future ability of local freight infrastructure to sustain growth in jobs and economic opportunity. An outcome of the Regional Freight Study was a recommendation to create a freight district capable of coordination with the public and private sector, managing transportation and infrastructure programming, financing and marketing for the region.

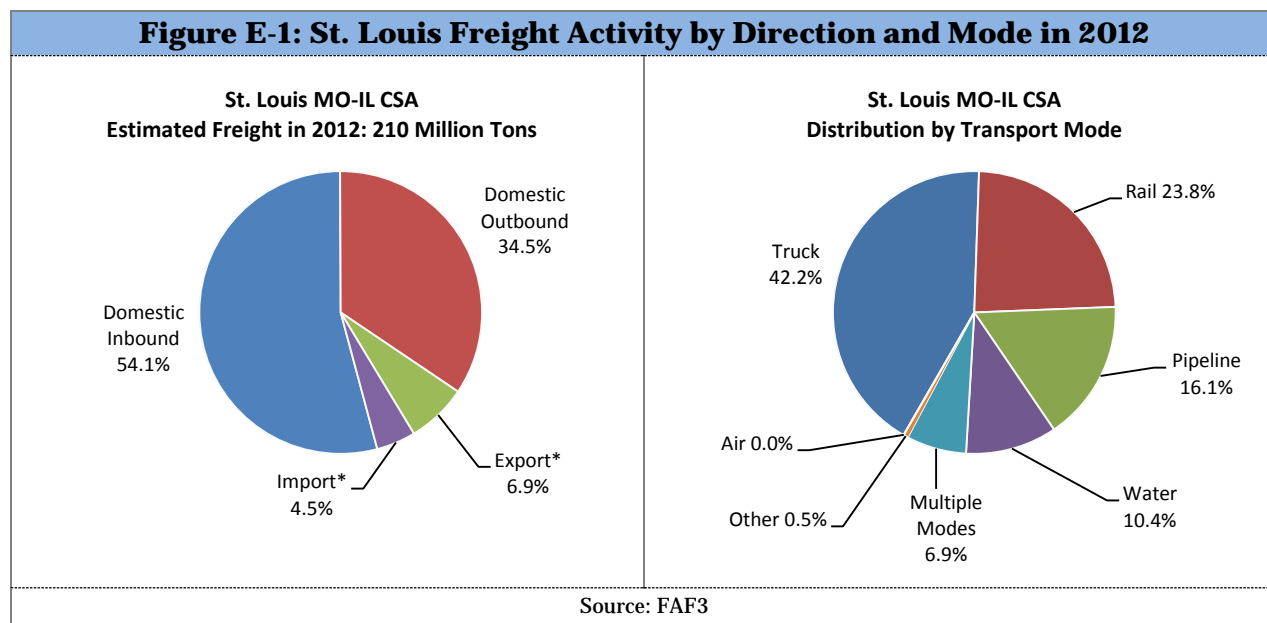
Moving on that recommendation, the Leadership Council and St. Louis Regional Chamber launched a website as a collaborative initiative to create a new brand identity for the St. Louis region – and for Southwestern Illinois within that region – as a multimodal hub poised for growth. The Southwestern Illinois Freight Transportation Study is a specific undertaking targeted to identify quantitative means for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment.

Through a freight outlook analysis, infrastructure and facilities inventory, market survey of industry representatives, and a comparative cities analysis, the study team identified quantitative means for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment. Each of these areas of study provided data and information that was used to develop opportunities and action items for Leadership Council Southwestern Illinois, and identified champions, to execute in the next 3

to 5 years. It is through fostering these opportunities that Southwestern Illinois can benefit from growth in the freight and logistics industry.

### Freight Outlook Analysis Key Findings

- Freight growth is projected for the St. Louis area, including Southwestern Illinois, with the principal drivers of growth being economic expansion in the St. Louis area and its main domestic trade partners. St. Louis has a long-held, dominant position in lower value/bulk commodities. While growth is expected in lower value/bulk commodities, higher value/warehouseable/manufacturing commodities are projected to grow at a faster rate.
- Shipments by rail (carload) are projected to grow at a slower rate than truck and multiple modes (includes intermodal rail). This results from faster growth of truck-friendly and intermodal commodities combined with the dominance of truck in short haul corridors.
- Outbound freight of higher value/warehouseable/manufacturing commodities is projected to grow at a faster pace than inbound shipments reflecting the potential for continued growth of manufacturing activity. A continued imbalance in the intermodal market is expected – the region generates more outbound intermodal freight than inbound consumer-driven intermodal cargo.



### Infrastructure Inventory Key Findings

- Over \$100 million in roadway and bridge project investments was recently completed in Madison and St. Clair counties. This investment is significant and fosters growth in freight-based industries.

- Over \$700 million in additional roadway and bridge investment is programmed over the next five years along with other investment needed in rail and port infrastructure. Continued support for transportation investment is important to foster economic growth.
- Highways in Southwestern Illinois avoid traffic congestion in downtown St. Louis and improve linkages to Chicago, allowing for growth in trucking along highway corridors. Eastbound rail service is a particular strength for the St. Louis region, especially as compared to Chicago due to congestion or to Kansas City due to St. Louis' closer proximity to eastern states.
- The distribution service area is within a 300 to 400 mile radius of St. Louis; however, shipments originating from St. Louis can reach anywhere in the U.S. within a three-day truck drive. The existence of UPS and FedEx hubs provide additional transportation mode and delivery time options that make St. Louis attractive for eCommerce Fulfillment Centers, manufacturers, and others that require all transit time options, varying from overnight to a week or more, and transport reliability.
- The North American transportation landscape has been in constant flux over the past two decades, which may create openings for St. Louis as logistics managers evaluate the reliability of their existing supply chains and prepare contingency plans.
- The combination of reliable river barge service and access to six Class 1 North American railroads creates substantial opportunities for bulk and break-bulk transload services serving Midwest, Gulf Coast, and International markets.
- The St. Louis region has 5 airports with cargo capabilities. Currently, air cargo is mostly limited to charter services. MidAmerica Airport has cold storage capabilities for shipping perishable goods via air.

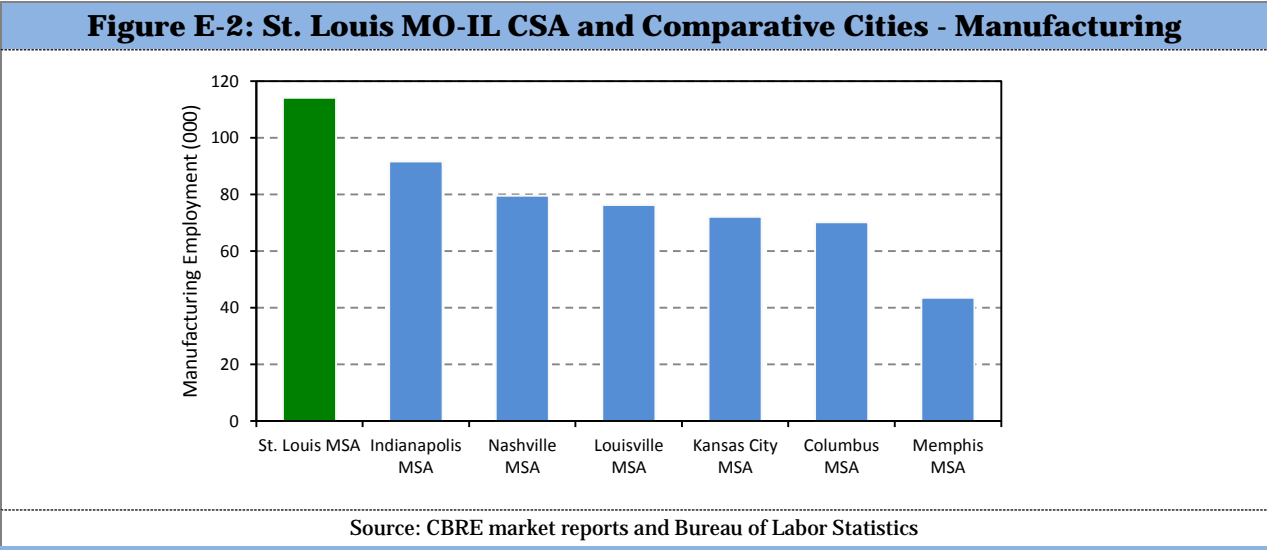
### **Market Survey Key Findings**

- The St. Louis area has many logistical advantages, but is often overlooked because of competing logistics hubs' aggressive promotional efforts. Aggressive business development campaigns of competing regions tend to overshadow the region's advantages, such as central location to key Midwest markets, ample access to key transportation modes, and available workforce.
- The Port of Houston may receive consideration as an alternative Asia cargo gateway due to the prospect of continued labor disruption on the U.S. West Coast and a key gateway for the Latin America trade. St. Louis has faster intermodal rail service to and from the Port of Houston than do regional rivals, such as Kansas City or Chicago.

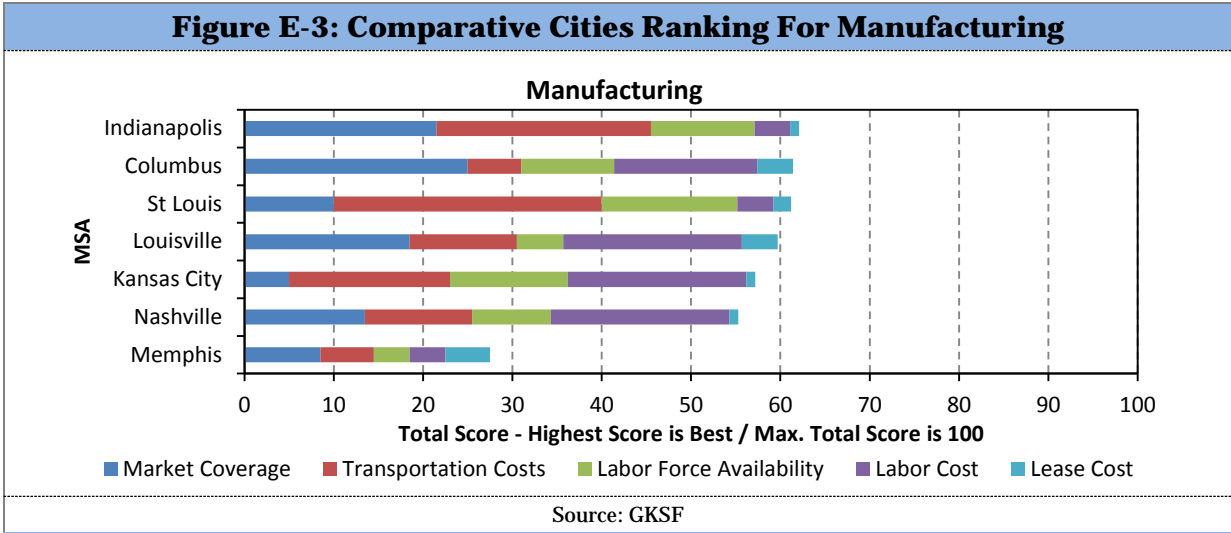
- Persistent trucker shortages are causing shippers to divert truck freight to the intermodal rail mode. Favorable intermodal rail service to Eastern markets from St. Louis provides a rail transit-time advantage over competing logistics hubs to the west.
- The local availability of raw materials used in the manufacturing process, notably the abundance of water, was also cited as an important manufacturing consideration.
- Consolidation of operations at large recognized hubs, such as Chicago and Kansas City, may present a challenge for the region.
- Ocean carriers have gradually reduced the share of intact marine containers moving to inland markets by rail due to the high cost of inland equipment management (e.g., finding return export cargo and empty repositioning). This has emerged as a disadvantage for exporters in Southwestern Illinois.
- Illinois' hard-to-do-business-with reputation is a disadvantage despite the possible misinformed viewpoint. However, if the site fits logistically, labor union and tax issues are less of a concern. Proximity to a perceived business-friendly location (e.g., Missouri) needs to be considered during marketing efforts.

**Comparative Cities Analysis Key Findings**

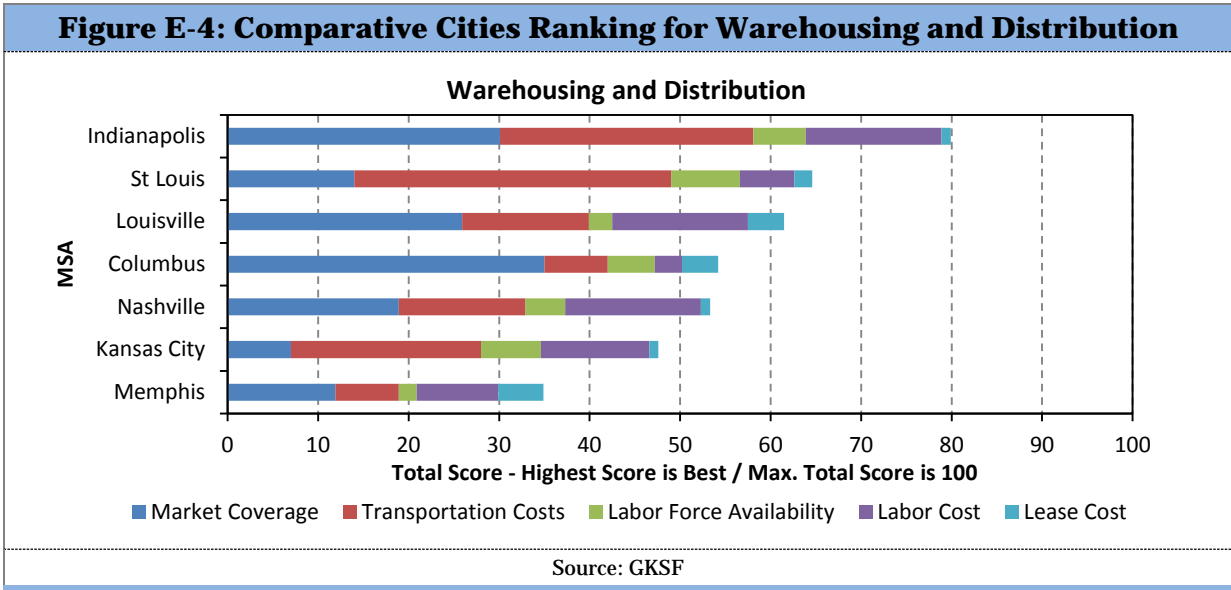
- Of its peer cities, St. Louis is the largest freight hub (measured by total tons by all modes), a reflection of its significant presence across all transportation modes – truck, rail, water, multiple modes (e.g., rail-barge and intermodal) and pipeline – compared to the other cities.
- The St. Louis area has the largest number of workers employed in manufacturing and its manufacturing employment as a share of total nonfarm employment is similar or better than all except one city (Louisville).



- The comparative city macro ranking analysis reveals that St. Louis is nearly tied with Indianapolis and Columbus as the best location for manufacturing. For St. Louis, favorable transportation costs and labor (availability and cost) offset weakness in market coverage. A history of manufacturing, a large supply of industrial space, a large labor force, and other factors (e.g. transport infrastructure) suggest that St. Louis has the resources to develop and grow its manufacturing base.



- St. Louis emerges as the second-ranked city, behind Indianapolis, as a location for regional warehousing and distribution. St. Louis has weaker market coverage, but this is countered by competitive transportation costs and favorable labor conditions (availability and cost). Successful distribution models are demonstrated by the existing presence of international and national businesses that distribute from Southwestern Illinois including Hershey, Unilever, Dial, USF Logistics, and Schneider National.



- In comparing St. Louis to its peer cities, total trucking cost from St. Louis produced the lowest cost option for shippers. St. Louis may be the best choice for truck-based distribution, especially over Chicago, if manufacturing facilities are in close proximity to St. Louis, Gulf Coast ports are used for import goods, and more favorable workforce conditions prevail.

## Opportunities

Based on the key findings, six primary opportunities were developed for Southwestern Illinois to consider for advancing investment in freight, logistics, and transportation. These opportunities should act as critical action areas for Southwestern Illinois to pursue in the next 3 to 5 years. It will be important to identify a “champion” for each action to provide initial support for implementation. Additionally, tracking performance of the actions taken to implement each opportunity will gauge how strategic each opportunity is for Southwestern Illinois.

### **Bolster Southwestern Illinois as a Leading Logistics Center**

Identifying, and communicating Southwestern Illinois’ competitive advantages is key to promoting growth in the transportation and logistics sector. Aggressive business development campaigns of competing regions tend to overshadow Southwestern Illinois’ advantages. Active efforts to promote the region are expected to enhance growth in the freight and logistics sectors.

Specific items that should be considered are:

- Promote Southwestern Illinois’ position as a leading Midwest distribution hub.
- Develop information to diminish concerns with the perceived litigious nature of Illinois counties and difficult business environment.
- Provide information on the transportation assets present in Southwestern Illinois.
- Actively engage partners in the region to promote labor advantages.

### **Increase Investment in the Transportation Network for More Reliable Shipments**

The success of business relies on a safe, effective, and accessible transportation network. Economic competitiveness is threatened when investment declines. Continued efforts to support regional priorities should be maintained and kept current.

Specific items that should be considered are:

- Maintain a project priority list.
- Support funding applications.
- Preserve land for future freight use.
- Maintain awareness of national and international trade corridors.

### **Build on the Long-Standing Success in Bulk and Break-bulk Transload Services**

Southwestern Illinois has a strong history shipping bulk commodities, such as grains, aggregates, and coal, along with break-bulk items, such as steel coils and other over-sized or heavy cargo. A particular advantage of Southwestern Illinois is its location below the Mississippi



River lock system, enabling direct transit to New Orleans and the presence of six Class I railroads. Additionally, the central U.S. location in close proximity to agricultural areas, situated in the center of major Midwest population centers and manufacturing centers leads to the long-standing success in bulk and break-bulk.

Specific items that should be considered are:

- Investigate transload opportunities with emerging cargo types.
- Research the viability of a dedicated or expanded rail/barge transload facility.

### **Focus Attention on Growing Regional Distribution Centers and Manufacturing**

Continued growth of manufacturing activity is expected in the St. Louis area which is an important generator of higher-value, outbound freight. A strong growth in consumption of warehouseable commodities is also expected over lower-value or bulk commodities.

Specific items that should be considered are:

- Maintain awareness of equipment shortages and support contingency planning.
- Target marketing efforts to shippers looking for regional Distribution Center models.
- Identify items shipped in congested markets.
- Target marketing efforts to manufacturers that can take advantage of St. Louis.

### **Promote Benefits of Southwestern Illinois for eCommerce**

The growing popularity of online shopping has led to the emergence of eCommerce as an integral component of domestic supply chains. The existence of Target.com and Express-Scripts.com are positive indications of the St. Louis region's ability to meet the criteria of an eCommerce site search.

Specific items that should be considered are:

- Promote Southwestern Illinois benefits for eCommerce distribution.
- Support small-package delivery services.

### **Capture Growth from Emerging Trends**

The state of transportation has been in flux for nearly two decades, causing shippers and carriers to continuously seek out new and innovative ways to manage their supply chains. Southwestern Illinois needs to be aware of these changes and adapt marketing to capture growth from these emerging trends.

Specific items that should be considered are:

- Establish marketing agreements.
- Grow presence in Latin American trade.
- Leverage access to Northeast Ports.
- Develop shipment options in the face of equipment shortages.
- Introduce tools to create shipment efficiencies for the region.

## Table of Contents

Section 1   Introduction .....	1
Background .....	1
Past Studies .....	2
Study Area .....	3
Freight Transportation Study Outline .....	3
Section 2   Freight Flows .....	5
Freight Flow Study Area.....	5
Total Freight.....	6
Domestic Truck Freight .....	10
Domestic Rail Freight .....	14
Domestic Multiple Modes .....	18
Domestic Waterway .....	21
Domestic Pipeline .....	22
Domestic Air Cargo .....	22
Exports and Imports .....	22
Cross-Border Freight.....	27
Mexico .....	27
Canada.....	29
Intermodal Rail Traffic .....	31
National and Midwest Intermodal Trends.....	31
St. Louis Intermodal Market .....	33
Section 3   Freight Outlook.....	35
Economic Trends .....	35
U.S. and Regional Economies .....	35
International Economies.....	37
St. Louis MO-IL MSA .....	39
Population Trends .....	40
Regional Freight Outlook.....	42

Section 4   Freight Infrastructure and Facilities .....	44
Highway .....	44
Interstate 270-70 Corridor .....	47
Route 3 Corridor.....	50
Transportation Improvement Plan (TIP) FY 2015-2018 .....	54
2015 Multimodal Priorities for Southwestern Illinois .....	57
Railroad.....	58
Terminal Railroad Association (TRRA) .....	59
Union Pacific (UP).....	59
CSX Transportation (CSX) .....	60
Norfolk Southern (NS) .....	60
Alton & Southern (ALS).....	61
2015 Multimodal Priorities for Southwestern Illinois .....	61
Waterway.....	61
America’s Central Port.....	61
Kaskaskia Regional Port.....	62
Port of East St. Louis .....	62
Air.....	63
St. Louis Downtown Airport.....	63
MidAmerica Airport .....	63
St. Louis Regional Airport .....	63
Pipeline.....	64
Facilities .....	65
Downtown Airport (DA) and Sauget Business Park .....	65
Dupo Yard (DY) .....	66
East Industrial Gateway (EG).....	66
Gateway Commerce Park (GC) and Lakeview Commerce Center.....	66
Lewis and Clark North (LC) .....	66
MidAmerica Airport (MA).....	67
Port Kaskaskia (PK).....	67
Route 3 North (TN) .....	67

Section 5   Interview Survey and Industry Trends.....	71
Location Selection Criteria.....	72
Site Selection Criteria Rank .....	74
Proximity to Customers and Suppliers (Different for Retail vs. Manufacturers) .....	75
Availability of Transportation Modes.....	75
Labor.....	81
St. Louis Transportation Hub Summary .....	82
Distribution Strategies .....	82
Retail Distribution Model Example.....	83
Manufacturing Distribution Model Example.....	83
eCommerce Fulfillment Center .....	85
Transportation Industry Trends .....	86
Cargo Routing and West Coast Port Disruptions.....	87
Modal Choice and Fuel Prices .....	89
Section 6   Comparative Cities Analysis .....	90
Evaluation Criteria.....	93
Market Coverage.....	94
Truckload Costs .....	98
Labor Cost and Availability .....	98
Lease Rates .....	100
Other Evaluation Criteria .....	101
Comparison Methodology.....	102
Comparative Cities Ranking Results.....	103
Section 7   Market and Infrastructure Opportunities.....	105
Key Findings.....	105
Opportunities .....	108
Bolster Southwestern Illinois as a Leading Logistics Center (1) .....	109
Increase Investment in the Transportation Network for More Reliable Shipments (2) ....	109
Build on the Long-Standing Success in Bulk and Break-bulk Transload Services (3).....	110
Focus Attention on Growing Regional Distribution Centers and Manufacturing (4) .....	110
Promote Benefits of Southwestern Illinois for eCommerce (5) .....	111

Capture Growth from Emerging Trends (6).....	111
Summary.....	112
Appendix A: Literature Review.....	1
A.1   Synthesis of Existing Studies.....	1
A.2   State Reports.....	2
A.3   Regional and Local Reports.....	8
A.4   Federal Guidebooks and Related Research.....	16
Appendix B: Truckload Rate Comparison.....	1
Appendix C: Southwestern Illinois Freight Transportation Study Stakeholder Meeting Summary.....	1

## List of Figures

Figure 1: FAF3 Regions for Freight Flow Analysis .....	5
Figure 2: St. Louis MO-IL CSA and Top Ten Freight Hubs in 2012.....	7
Figure 3: St. Louis Freight Activity by Direction and Mode in 2012 .....	8
Figure 4: St. Louis Freight Activity by Commodity in 2012 .....	9
Figure 5: St. Louis Domestic Truck Freight by Commodity in 2012 .....	11
Figure 6: Map of St. Louis MO-IL CSA Domestic Truck Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities.....	12
Figure 7: St. Louis Domestic Truck Freight by Lane in 2012 .....	13
Figure 8: St. Louis Domestic Rail Freight by Commodity in 2012.....	15
Figure 9: Map of St. Louis MO-IL CSA Domestic Rail Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities.....	16
Figure 10: St. Louis Domestic Rail Freight by Lane in 2012 .....	17
Figure 11: Map of St. Louis MO-IL CSA Domestic Multiple Modes Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities.....	18
Figure 12: St. Louis Domestic Multiple Modes Freight by Commodity in 2012 .....	19
Figure 13: St. Louis Domestic Multiple Modes Freight by Lane in 2012 .....	20
Figure 14: St. Louis Domestic Waterway Freight by Commodity in 2012.....	21
Figure 15: St. Louis Export and Import Freight by Mode in 2012.....	23
Figure 16: St. Louis Exports and Imports by Commodity in 2012 .....	24
Figure 17: Map of St. Louis MO-IL CSA Export and Import Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities.....	25
Figure 18: St. Louis Export and Import by Lane in 2012 .....	26
Figure 19: U.S. Cross-Border Trade with Mexico by Rail and Truck .....	27
Figure 20: Index of Cross-Border Surface Trade with Mexico by Rail and Truck .....	28
Figure 21: Illinois Cross-Border Trade with Mexico by Rail and Truck.....	29
Figure 22: U.S. Cross-Border Trade with Canada by Rail and Truck.....	30
Figure 23: Index of Cross-Border Surface Trade with Canada by Rail and Truck.....	30
Figure 24: Illinois Cross-Border Trade with Canada by Rail and Truck .....	31
Figure 25: National and Midwest Intermodal Traffic Trends .....	32
Figure 26: U.S. Economic and Housing Indicators .....	35
Figure 27: Disposable Income and Manufacturing Growth in the East North Central and West North Central Census Regions.....	36
Figure 28: Historical and Projected Disposable Income Growth by Census Division .....	37
Figure 29: Annual Growth of Real GDP by Country and Region to 2019 .....	38
Figure 30: Economic Indicators for the St. Louis MO-IL MSA.....	40
Figure 31: Population Growth by Census Division, 2009 to 2014 .....	41
Figure 32: U.S. Population Growth by State, 2009 to 2014 .....	41
Figure 33: Highway Network.....	44

Figure 34: St. Louis Through Truck Tons in 2010.....	45
Figure 35: St. Louis Inbound Truck Tons in 2010.....	46
Figure 36: St. Louis Outbound Truck Tons in 2010.....	46
Figure 37: Interstate 270-70 Corridor.....	49
Figure 38: Route 3 Corridor.....	51
Figure 39: TIP Projects.....	56
Figure 40: Railroad Network.....	58
Figure 41: Map of Regional Airports.....	64
Figure 42: Pipeline Network.....	65
Figure 43: Map of Industrial Site Areas.....	67
Figure 44: Map of Industrial Inventory by Date of Construction.....	68
Figure 45: Map of Industrial Inventory by Rentable Building Area.....	69
Figure 46: Map of Industrial Inventory by Vacant Building Area.....	70
Figure 47: St. Louis Area Crude Oil and Petroleum Products Pipeline Network Map.....	81
Figure 48: North America Distribution Center Network – DCs Including St. Louis.....	84
Figure 49: Manufacturer Distribution Network Example Centered on St. Louis.....	84
Figure 50: Cities for Comparative Analysis.....	90
Figure 51: St. Louis MO-IL CSA and Comparative Cities – Freight Activity.....	92
Figure 52: St. Louis MO-IL CSA and Comparative Cities – Industrial Real Estate and Manufacturing Indicators.....	93
Figure 53: St. Louis Local and One-Day Market Coverage Map.....	95
Figure 54: Comparative Cities Local Market Coverage.....	96
Figure 55: Comparative Cities One-Day Market Coverage.....	97
Figure 56: Comparative Cities Ranking.....	104
Figure 57: Southwestern Illinois Opportunity Matrix.....	108

## List of Tables

Table 1: Higher Value / Warehouseable / Manufacturing Commodities .....	43
Table 2: TIP Projects.....	55
Table 3: SITE Priority Roadway Projects .....	57
Table 4: SITE Priority Rail Projects.....	61
Table 5: Estimated Population Coverage.....	95
Table 6: Outbound Truck Cost from Selected Midwest Distribution Hubs to a Sample of Midwest Destinations .....	99
Table 7: Labor Cost and Availability Indicators .....	100
Table 8: Average Industrial Space Lease Rates, 4 <sup>th</sup> Quarter 2014 .....	101
Table 9: State Business Tax Climate 2015 .....	102
Table 10: Comparison City Analysis – Weighting of Evaluation Criteria .....	103



## Section 1 | Introduction

Leadership Council Southwestern Illinois (Leadership Council) has engaged TranSystems, partnered with GKSF Global Research, to conduct the Southwestern Illinois Freight Transportation Study. The purpose of the study is to identify quantitative means for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment. To accomplish the purpose, the study team focused on four areas including a freight flow outlook, freight infrastructure and facilities inventory, a market survey of industry representatives, and a comparative cities review. While the study specifically relates to Southwestern Illinois, many of the opportunities identified can be applied more broadly to the greater St. Louis.

### Background

The Leadership Council Southwestern Illinois is a not-for-profit economic development corporation representing Southwestern Illinois. The organization is primarily focused in Madison and St. Clair counties. Work toward uniting the region for economic growth is primarily accomplished through a coalition of over 200 members who are leaders in business, industry, labor, education and government.

In 2011, the Leadership Council launched its new Southwestern Illinois Transportation Enhancement (SITE) initiative, creating a new working group composed of individuals representing rivers, rail, roads, transit, and runways. The Council's original transportation/infrastructure committee, which played a key role in advancing significant projects such as the Clark Bridge, the I-255 extensions and the New Mississippi River Bridge, remains a key component of this new working group. SITE's mission is to drive economic development in Southwestern Illinois through transportation infrastructure.

In 2012, the East-West Gateway Council of Governments launched a planning effort focused on freight transportation in the region. The intent of the St. Louis Regional Freight Study was to clarify the current status of freight movement through the St. Louis region as well as the future ability of local freight infrastructure to sustain growth in jobs and economic opportunity. An outcome of the Regional Freight Study was a recommendation to create a freight district capable of coordination with the public and private sector, managing transportation and infrastructure programming and financing.

Moving on that recommendation, the Leadership Council and St. Louis Regional Chamber launched a website<sup>1</sup> as a collaborative initiative to create a new brand identity for the St. Louis

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<sup>1</sup> More information on the initiative can be found at [www.stlgateway.com](http://www.stlgateway.com).

region – and for Southwestern Illinois within that region – as a multimodal hub poised for growth. The St. Louis Regional Freight District is tasked with optimizing the region’s freight transportation network and developing public-private partnerships to create the foundation for planning, marketing and advocacy of the region as a national freight hub.

The Southwestern Illinois Freight Transportation Study is a specific undertaking targeted to identify quantitative means for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment.

## Past Studies

A series of federal, statewide, regional, and local documents were reviewed to understand existing national and regional policies, development efforts, and freight flows that could impact development of the Study Area. These documents provide a foundation for further analysis of the Study Area. Key highlights from the review of past studies are identified below with a detailed literature review of the documents in Appendix A.

*Federal Guidebooks:* Two federal organizations share research and guidance for freight-related activities: the National Cooperative Freight Research Program (NCFRP) and the National Cooperative Highway Research Program (NCHRP). The resources provide guidance for policymaking that could inform decisions for Southwestern Illinois, such as how policy can influence the location selection process. The federal guidebooks reviewed included:

- Impacts of Public Policy on the Freight Transportation System, NCFRP Report 6 (2011)
- Freight Facility Location Selection: A Guide for Public Officials, NCFRP Report 13 (2011)
- Guidebook for Understanding Urban Goods Movement, NCFRP Report 14 (2012)
- Guidebook for Freight Policy, Planning, and Programming in Small- and Medium-Size Metropolitan Areas, NCHRP Report 570 (2007)
- Guidebook for Integrating Freight into Transportation Planning and Project Selection Processes, NCHRP Report 594 (2007)
- Freight and Land Use Handbook, FHWA (2012)
- Understanding Freight-Built Environment Relationships, CFIRE (2011)
- Reemergence of the Iron Horse, Jones Lange LaSalle (2014)
- The Impact of Omni-Channel Fulfillment on Distribution Systems, Fortna (2014)
- Dimensional-Weight Pricing: A Winning Strategy for Charge Changes, Mettler Toledo (2014)
- Mapping Freight: The Highly Concentrated Nature of Goods Trade in the United States, Brookings Institution (2014)

*State Reports:* The statewide rail and freight plans for both Missouri and Illinois were reviewed. The plans set the overall foundation and framework for making transportation investment decisions in their respective states. The Missouri documents particularly support intermodal

connections between freight railroads and ports. The Illinois documents recognize Madison and St. Clair counties as the second largest population center in the state. The state reports reviewed included:

- Illinois Freight Mobility Plan (2012)
- Illinois State Rail Plan (2012)
- Missouri State Freight Plan (2014)
- Missouri State Rail Plan (2012)

*Regional and Local Reports:* Regional and local reports provide greater insight to freight activities in the St. Louis region and, more specifically, the area of Southwestern Illinois that is the focus of the Leadership Council. The regional reports reviewed included:

- St. Louis Regional Freight Study, East-West Gateway Council of Governments (2013)
- Market Review and Investment Update, Leadership Council Southwestern Illinois (2013)
- Southwestern Illinois: Where Multimodal Opportunities Abound, Illinois Department of Commerce and Economic Opportunity (2013)
- Illinois Route 3 Corridor Community Impact Assessment, Leadership Council Southwestern Illinois (2013)
- Competitive Marketing Analysis, Wholesale Trade in the St. Louis Supermetro Area, Ameren Economic Development (2009)
- Realizing a Global Freight Hub in St. Louis, St. Louis Regional Chamber and Growth Association (2011)
- America's Central Port 2030 Master Plan, Tri-County Regional Port District (2014)
- Jefferson County Port Authority Master Plan, Jefferson County Port Authority (2011)

## Study Area

The specific area of focus for this study is Madison and St. Clair counties in Southwestern Illinois. However, most freight logistics and transportation industry representatives more broadly identify with the St. Louis region. Therefore, the study area refers to the broader St. Louis region in most instances unless specifically identified.

## Freight Transportation Study Outline

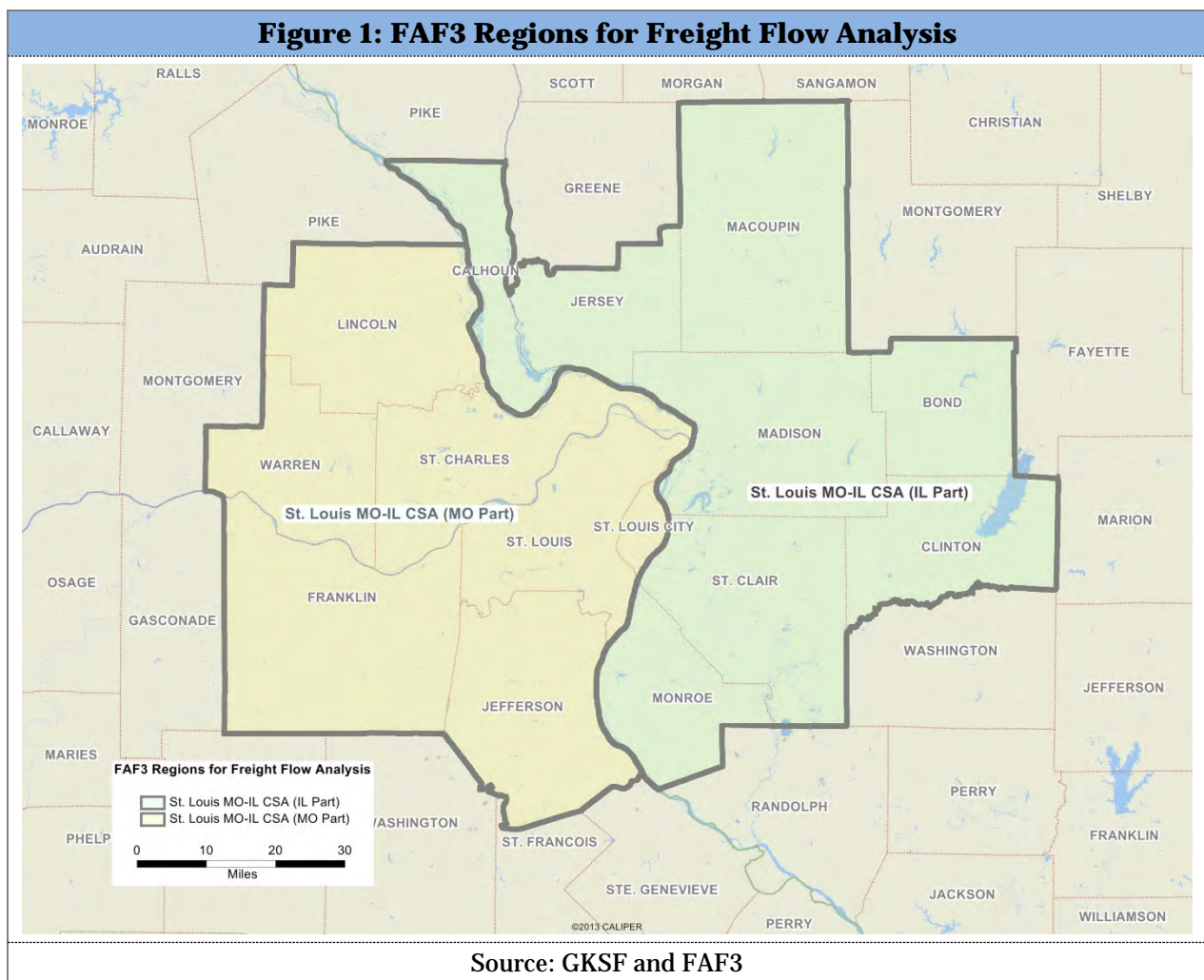
Sections 2 and 3 of this study cover the freight market analysis. The freight market analysis uses economic trends and freight volume and value data to develop a regional freight outlook. Section 4 is an overview of the freight infrastructure and facilities serving the Study Area. Discussion of the transportation modes available in the St. Louis region along with specific assessment of the facilities is included. Section 5 summarizes the interview surveys of industry professionals familiar with requirements and trends involving domestic and international supply-chains affecting the St. Louis region. The interview surveys help to define industry trends, distribution strategies, and competition. Section 6 is a comparative cities analysis looking at how the study area compares to six other regions as a location for

warehousing/distribution and manufacturing. Section 7 details the market and infrastructure opportunities specific to Southwestern Illinois. Key findings from freight market analysis, infrastructure and facilities overview, and interview surveys were used to develop opportunities and marketing strategies for the Leadership Council to consider areas of investment in the future.

## Section 2 | Freight Flows

### Freight Flow Study Area

The freight flow review uses data from the Freight Analysis Framework (FAF3) released by the Federal Highway Administration (FHWA). FAF3 provides a profile of freight flows between metropolitan areas and states by commodity and transportation mode. The freight analysis focuses on the St. Louis MO-IL CSA (combined statistical area) and on the Illinois part of CSA, identified as St. Louis MO-IL CSA (IL Part) in the FAF3 database (see map in Figure 1). This Study Area includes Bond, Calhoun, Clinton, Jersey, Macoupin, Madison, Monroe and St. Clair Counties.



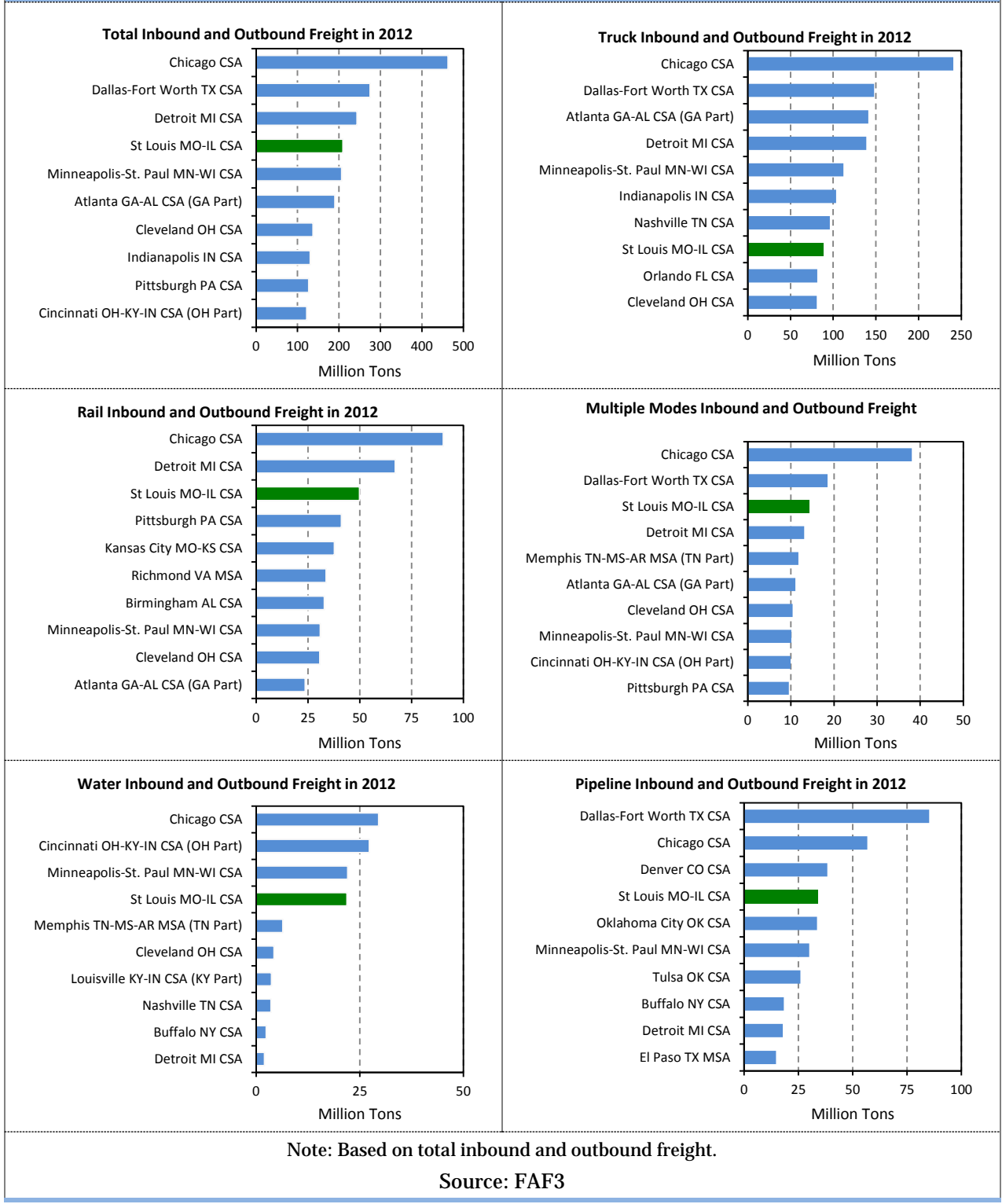
## Total Freight

The St. Louis MO-IL CSA ranks as one of the largest inland freight hubs in the nation. In 2012, the CSA generated 210 million tons of inbound and outbound freight, which ranked the CSA fourth behind Chicago (463 million tons), Dallas-Fort Worth (275 million tons), and Detroit (243 million tons). Looking at freight by different modes, the St. Louis MO-IL CSA had the following ranks (see top 10 inland freight hubs in Figure 2):

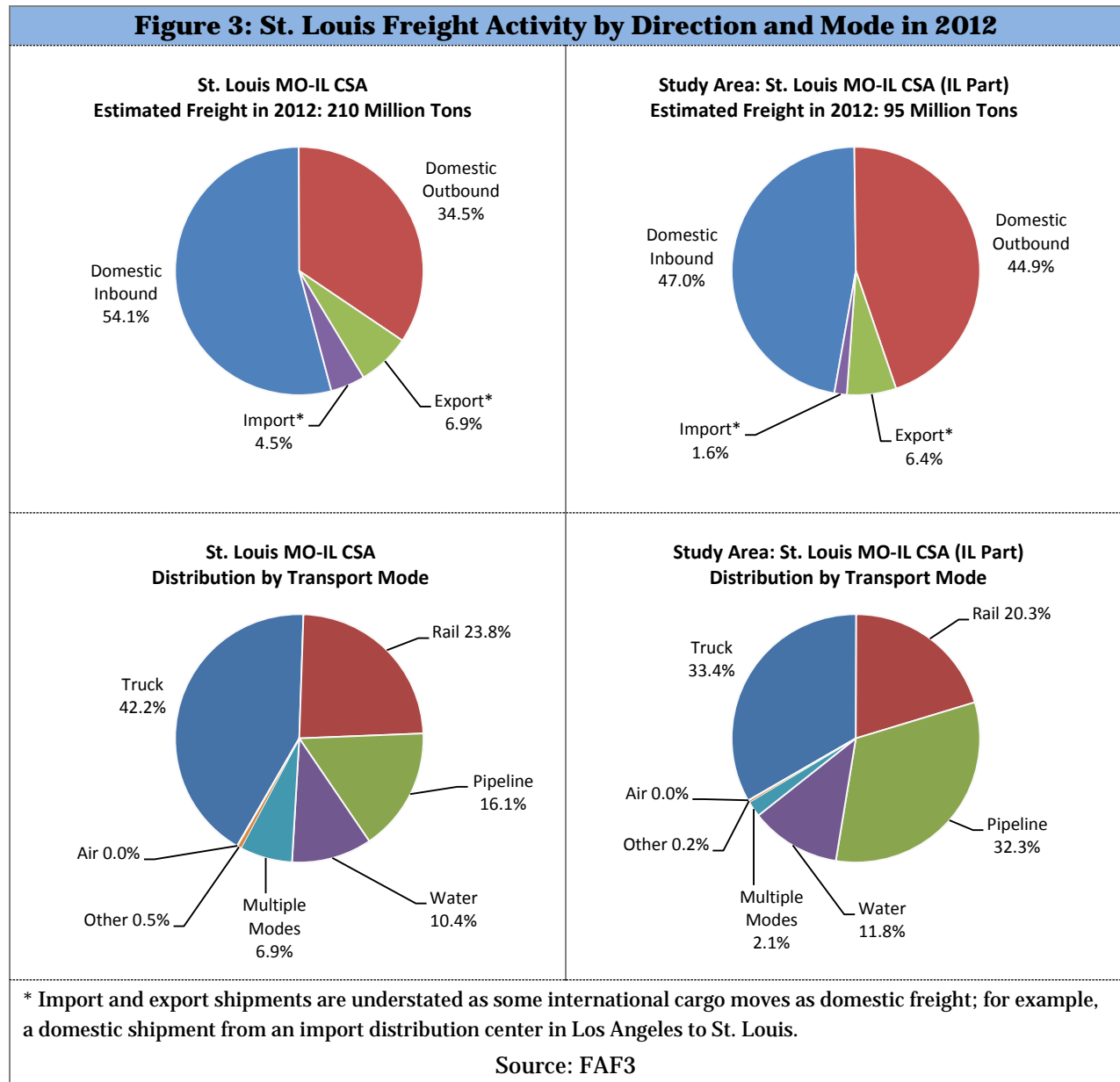
- Total inbound and outbound tons – 4<sup>th</sup>
- By Truck – 8<sup>th</sup>
- By Rail (carload) – 3<sup>rd</sup>
- By Multiple Modes (e.g., truck-barge and truck-rail) – 3<sup>rd</sup>
- By Pipeline – 4<sup>th</sup>
- By Water – 4<sup>th</sup>
  - U.S. Army Corps of Engineers (USACE) ranks St. Louis as the 2<sup>nd</sup> largest inland port by domestic tons in 2012. The difference in ranking is due to geographic definition – FAF3 uses “metropolitan area” and USACE uses “port district”.

Freight moves in domestic inbound and outbound lanes and international lanes. As shown in Figure 3, domestic inbound is the largest flow with an estimated 54 percent share of total freight volume. The shares attributed to import and export sectors, 4.5 and 6.9 percent respectively, are understated because many international shipments are captured as domestic freight movements. For example, consumer goods imported from Asia to a Los Angeles area distribution center, then shipped as domestic freight to the St. Louis market. Truck is the largest transport mode with an estimated 42.2 percent of freight volume, followed by rail with 23.8 percent and pipeline with 16.1 percent. Water shipments (barge traffic) account for 10.4 percent of volume and multiple modes 6.9 percent. The latter captures combined modes; for example, intermodal container-on-rail shipments and rail-barge shipments.

**Figure 2: St. Louis MO-IL CSA and Top Ten Freight Hubs in 2012**



The Study Area – St. Louis MO-IL CSA (IL Part) – handled 95 million tons of inbound and outbound freight in 2012 (Figure 3), and this accounted for 45 percent of St. Louis freight activity. The distribution by direction was domestic inbound 47.0 percent, domestic outbound 44.9 percent, export 6.4 percent, and import 1.6 percent. The modal distribution differs from St. Louis as a whole with a greater share moving by pipeline and limited volume by multiple modes.



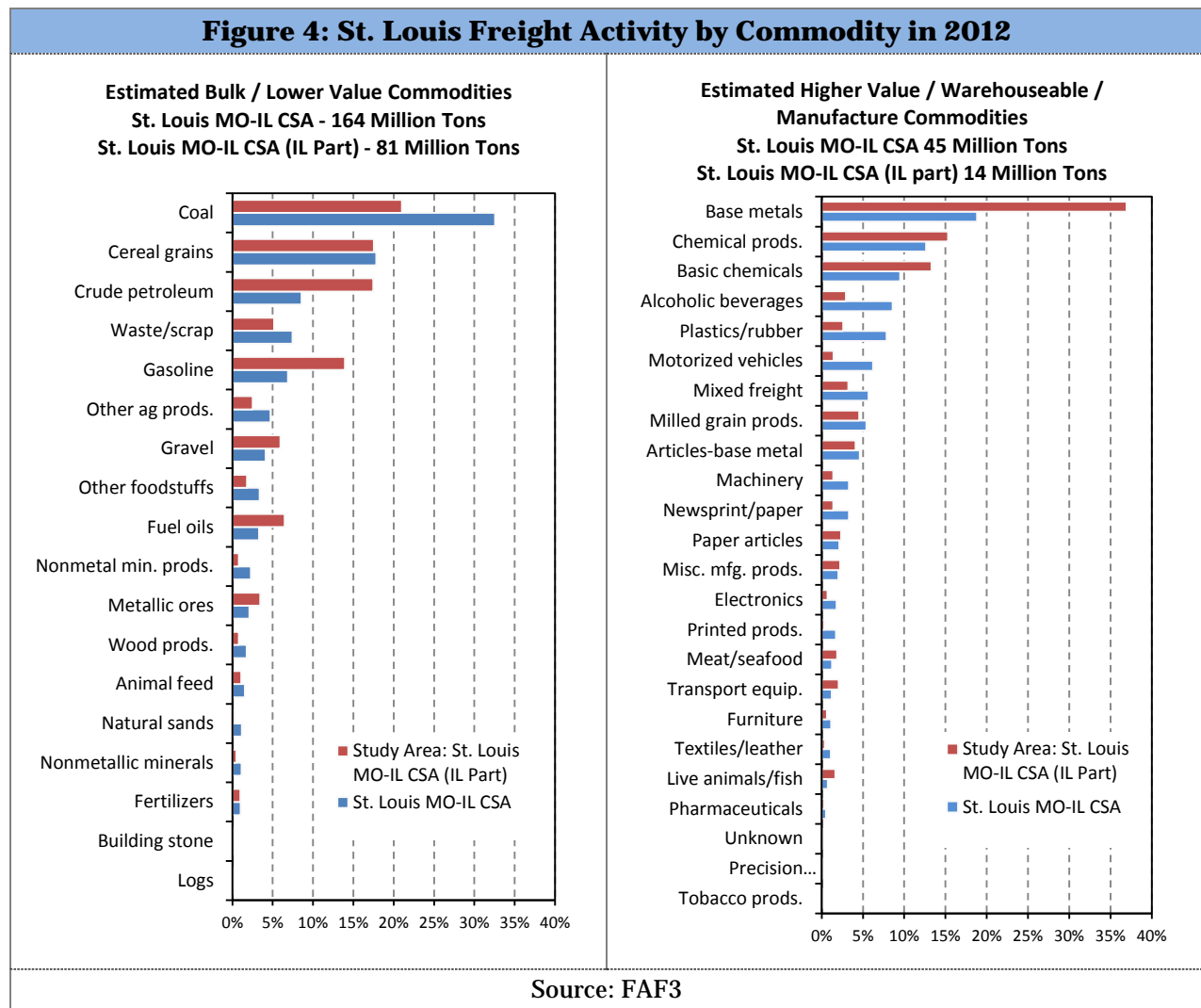
The commodity mix of regional freight is presented in Figure 4. There is heavy concentration in bulk/lower value commodities (for example, coal and grain), which accounted for 85 percent of the Study Area’s freight in 2012 (compared to 79 percent for the whole St. Louis MO-IL CSA).



Liquid bulk commodities (crude petroleum, gasoline, and fuel oils) accounted for 38 percent of bulk/lower value commodities (19 percent for the St. Louis MO-IL CSA) due to the strong presence of refining, pipeline, and liquid terminal infrastructure in the Study Area.

The Study Area has a lower presence in what can be generally termed as higher value, warehouseable, and manufactured commodities. They accounted for 15 percent of freight tons compared to 22 percent for the St. Louis MO-IL CSA as a whole. However, the Study Area does have greater potential (real estate, etc.) to accommodate growth compared to the Missouri side, as discussed later in the Interview Survey (Section 4).

**Figure 4: St. Louis Freight Activity by Commodity in 2012**



## Domestic Truck Freight

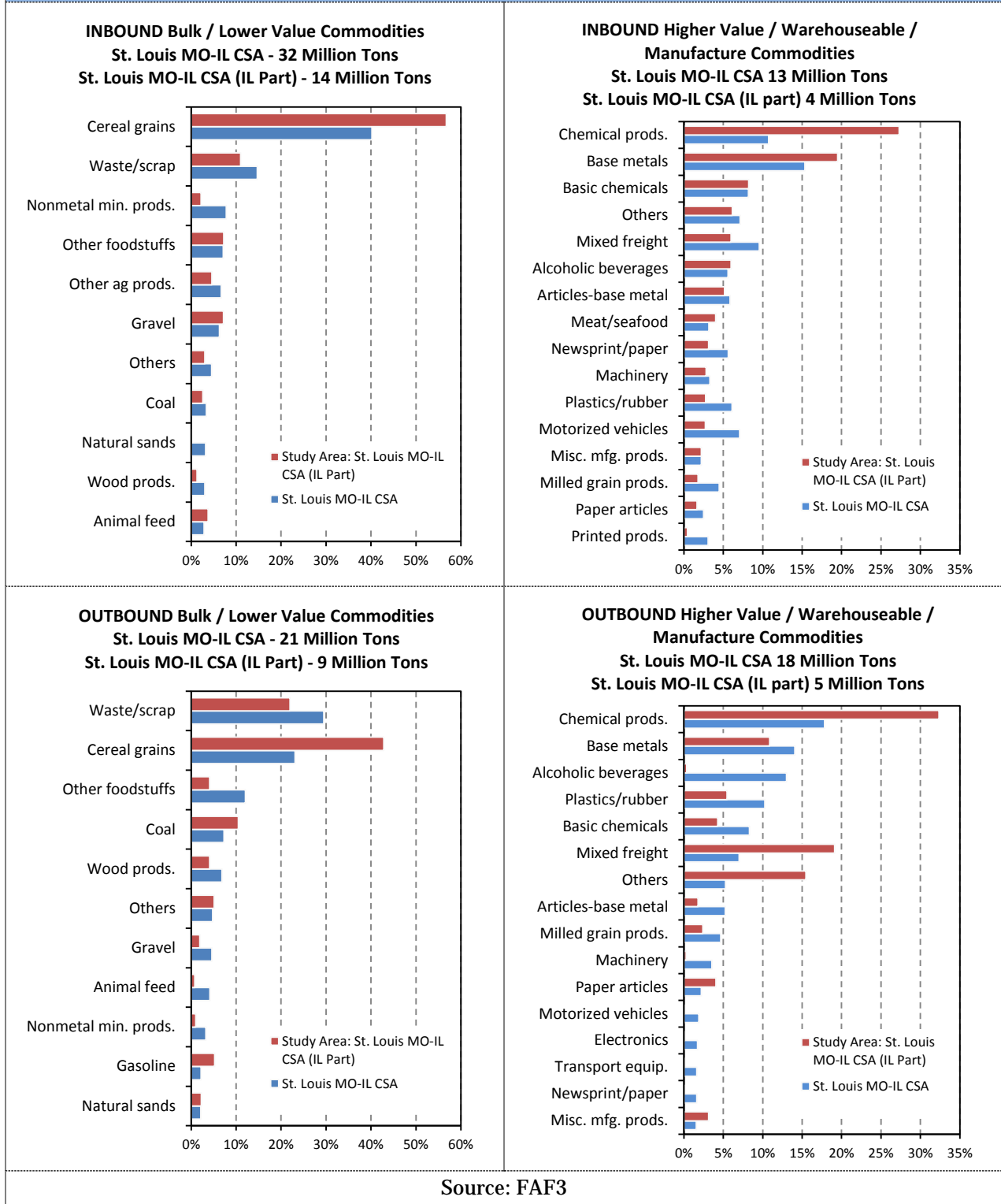
Truck is the principal freight transportation mode in and out of the St. Louis MO-IL CSA. Total domestic truck freight amounted to an estimated 84 million tons in 2012 (out of total freight of 210 million tons); 45 million tons moving inbound and 39 million tons moving outbound. The Study Area (the IL portion of the St. Louis CSA) had domestic truck freight of 32 million tons, 18 million tons inbound and 14 million tons outbound.

The commodity profile for inbound and outbound flows, split between bulk/lower value and higher value commodities, is presented in Figure 5. Truck movements of bulk commodities are dominated by grain, while truck shipments of higher value, warehouseable, or manufactured-related commodities are more diversified. The Study Area has a more concentrated commodity profile than the whole St. Louis region.

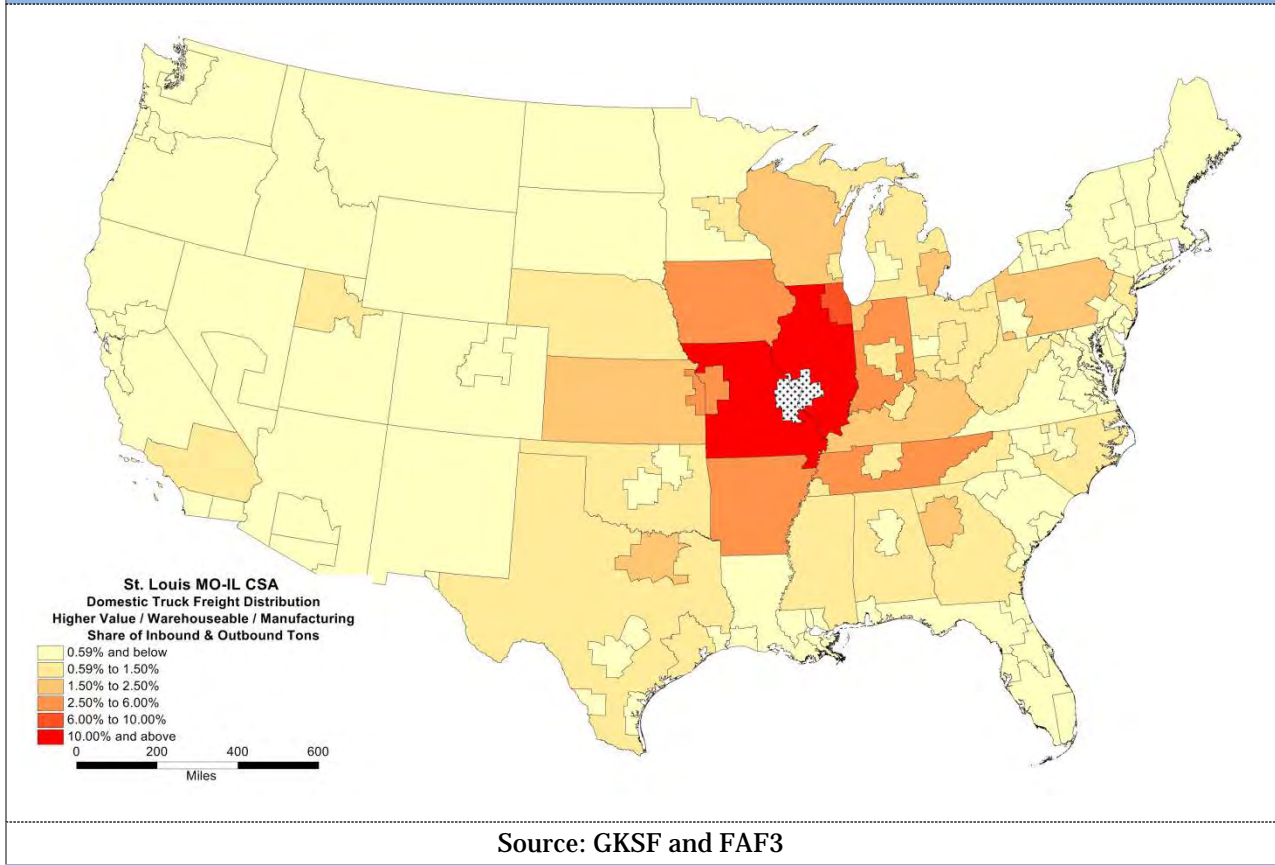
Domestic truck freight is concentrated in short haul corridors with the rest of Illinois and Missouri, and other surrounding states (Figure 6). Illinois (excluding Chicago) and Missouri (excluding Kansas City) accounted for 31 percent of the Study Area's higher value commodities moving inbound and outbound by truck. A further 11.1 percent was related to the Chicago CSA and 6.1 percent with the Kansas City CSA. The geographic distribution of truck freight is driven by several factors – St. Louis integration with the surrounding regional economy, its role as a regional distribution center, use of Chicago and Kansas City as regional distribution hubs, and trucking's position as the most cost-effective and efficient mode of transport in shorter haul corridors.

The origin and destination pattern is further illustrated by Figure 7, which shows inbound and outbound freight on the top 30 domestic truck lanes. Of note are the imbalances on the top four lanes. The Study Area, and St. Louis as a whole, has more freight moving outbound to the states of Illinois (excluding Chicago) and Missouri (excluding Kansas City) than inbound due to St. Louis' role as a regional economic and distribution center. However, more freight is moving inbound than outbound on the Chicago and Kansas City lanes, which supports the view that these two regional hubs act as distribution points for the St. Louis market. The top 30 lanes include several border crossings (for example, Detroit) and maritime ports (for example, New York). Some domestic truck freight in these lanes may in fact be international cargo; for example, imports that are processed at an import distribution center before inland transport by domestic truck service.

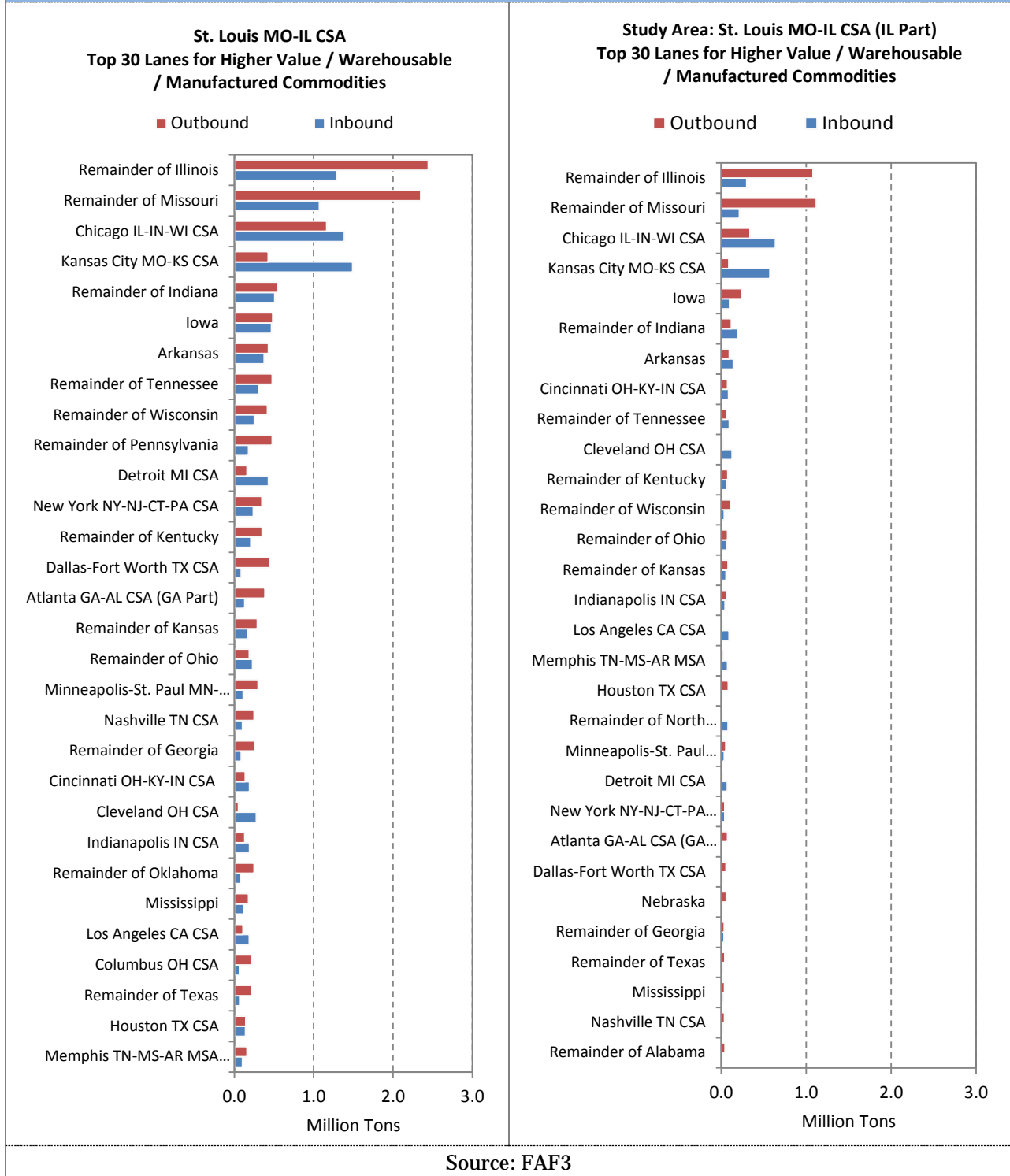
**Figure 5: St. Louis Domestic Truck Freight by Commodity in 2012**



**Figure 6: Map of St. Louis MO-IL CSA Domestic Truck Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities**



**Figure 7: St. Louis Domestic Truck Freight by Lane in 2012**



## Domestic Rail Freight

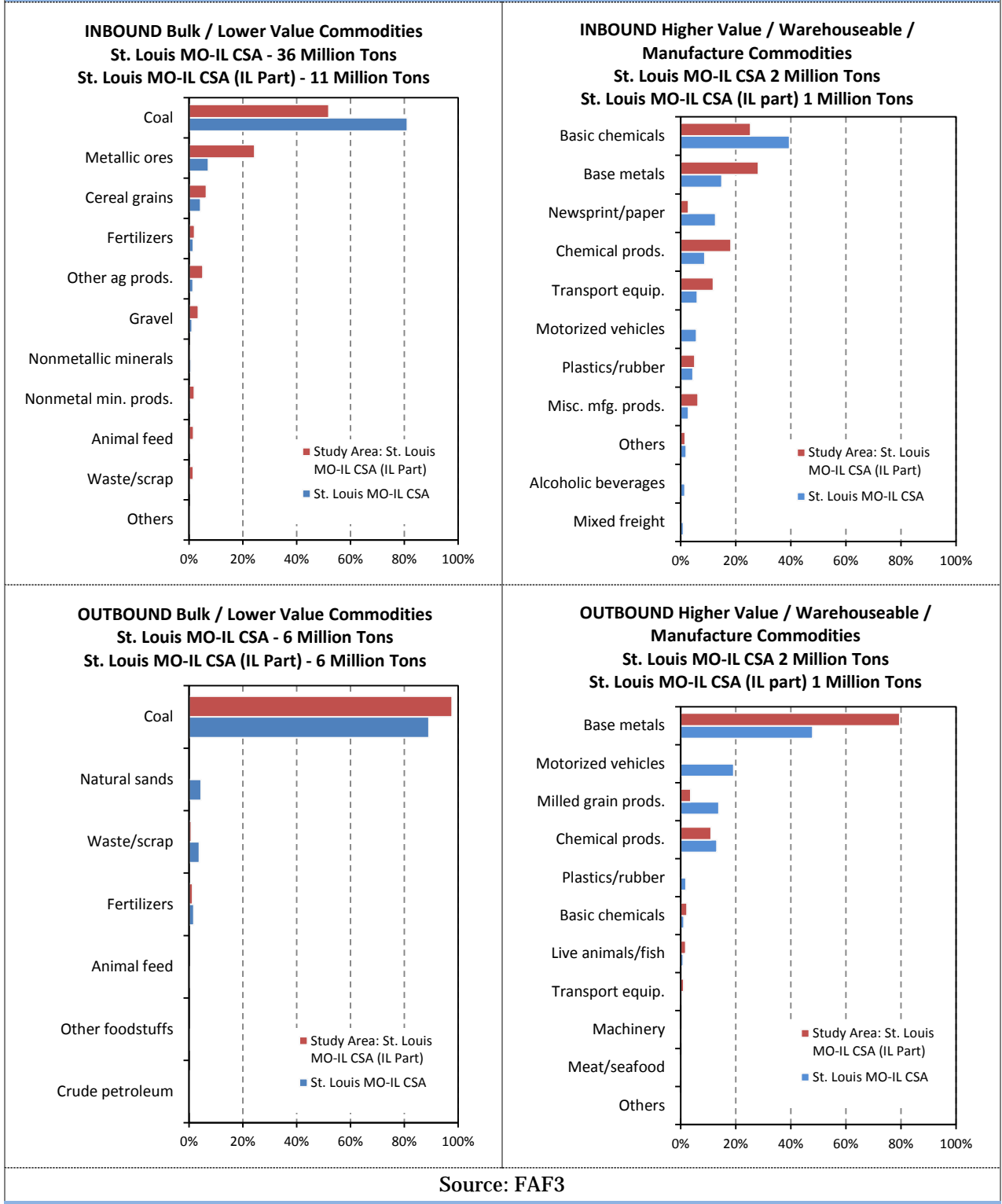
St. Louis is one of the nation's largest rail centers and ranked third in 2012 when measured by total inbound and outbound tons. The St. Louis Mo-IL CSA had total domestic rail (carload) freight of 46 million tons in 2012 (out of total freight of 210 million tons); 38 million tons moving inbound and 8 million tons moving outbound. The Study Area (the IL part of the St. Louis CSA) had domestic rail freight of 19 million tons, 12 million tons inbound and 7 million tons outbound.

The commodity profile for inbound and outbound rail flows, split between bulk/lower value and higher value commodities, is presented in Figure 8. Rail shipments of bulk commodities are dominated by coal, notably inbound shipments from Wyoming. Shipments of higher value commodities by rail are also concentrated amongst a few sectors, including chemical-related products and vehicles.

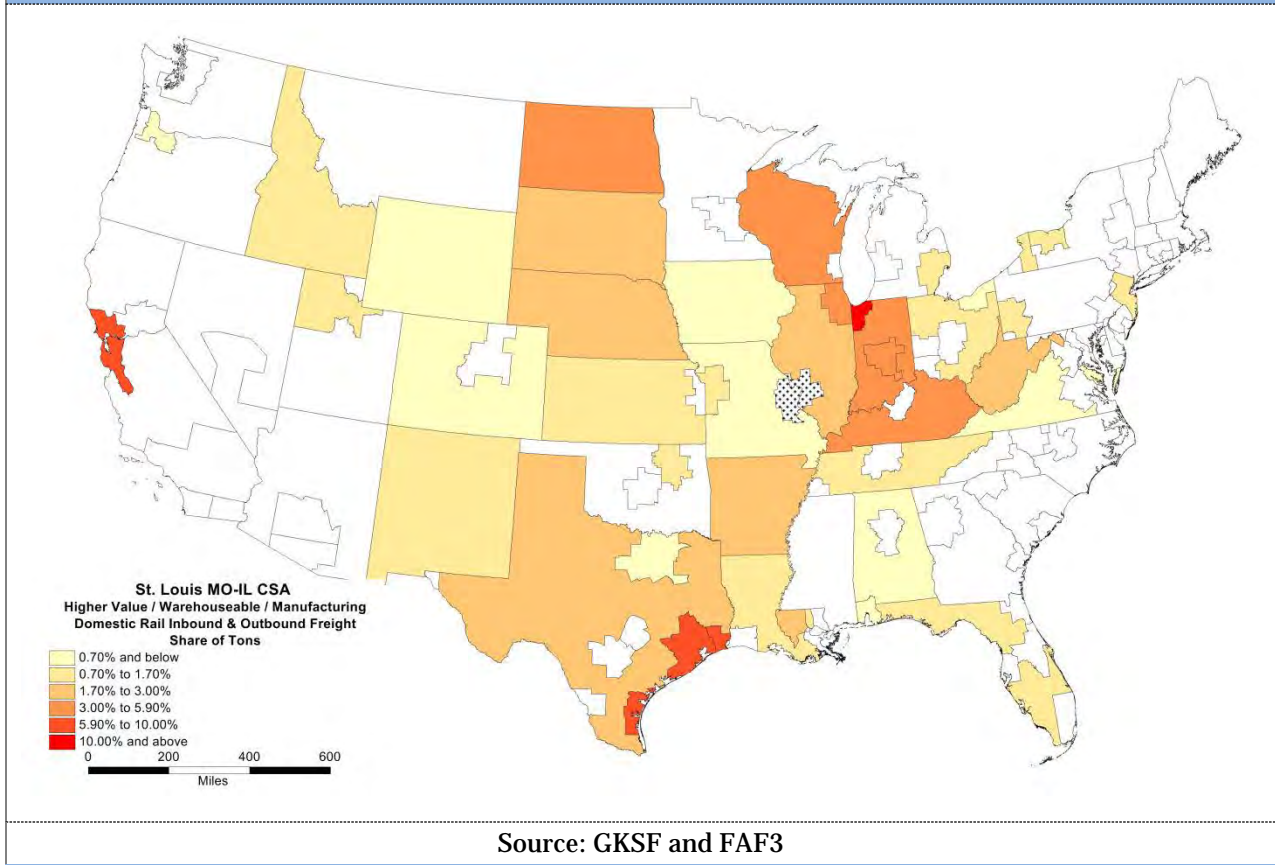
Rail freight activity is concentrated in longer haul corridors, but there are some large short to medium length corridors, as shown in Figure 9. The geographic distribution of rail (carload) freight is centered on specific commodity sectors (for example, coal inbound from Wyoming and grain inbound from Midwest agricultural states). Wyoming accounted for 29 percent of the Study Area's inbound and outbound rail tons, and Minnesota 14 percent. Illinois (excluding Chicago) and Chicago CSA accounted for 24 percent and 7 percent respectively.

The origin and destination pattern of higher value/warehouseable/manufactured commodities is illustrated by Figure 10, which shows inbound and outbound freight on the top 30 domestic rail lanes. Chicago is the largest lane for these commodities. Other notable lanes are those with metropolitan areas that include maritime ports for international cargo (Los Angeles, Houston and San Francisco).

**Figure 8: St. Louis Domestic Rail Freight by Commodity in 2012**

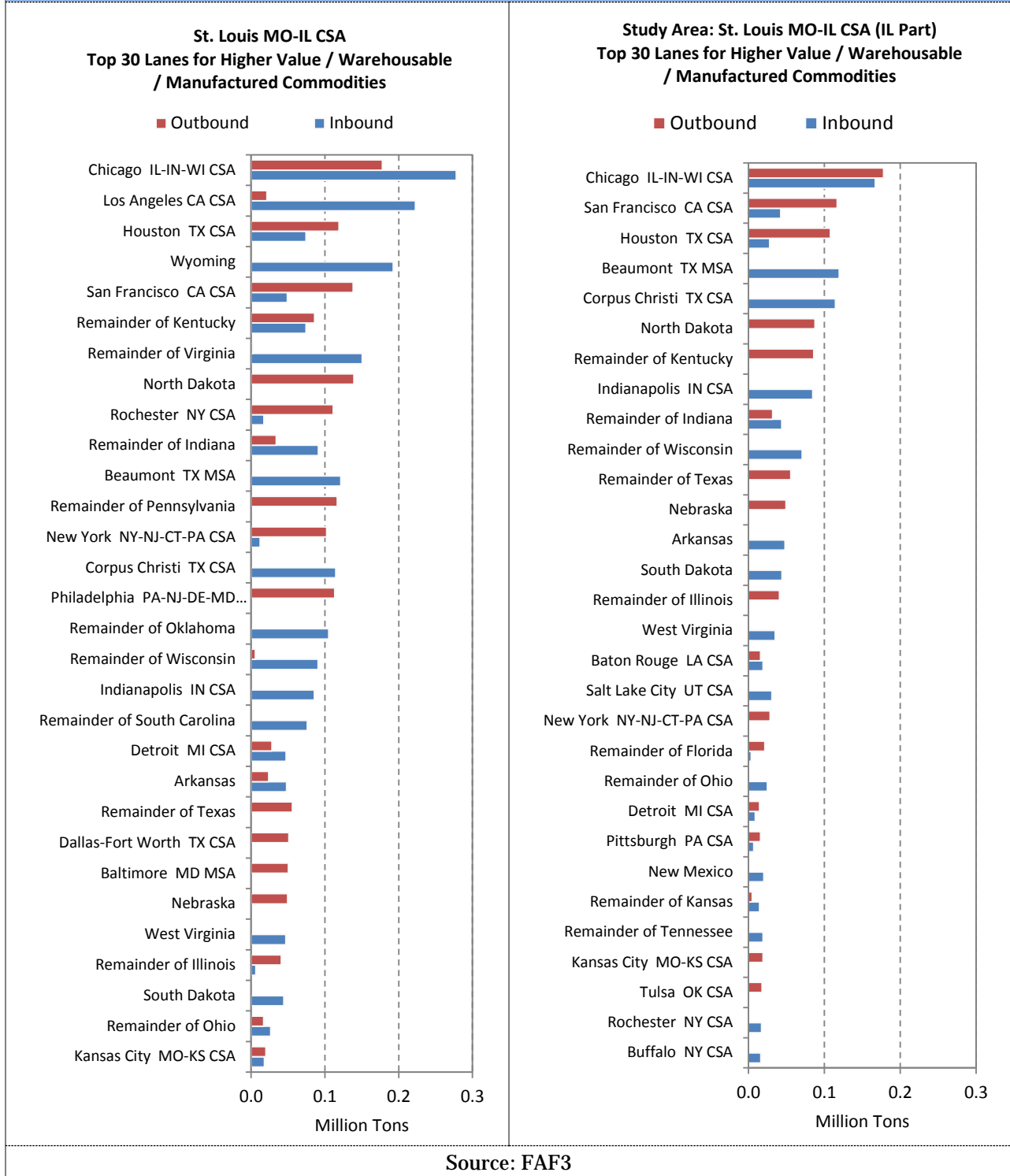


**Figure 9: Map of St. Louis MO-IL CSA Domestic Rail Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities**





**Figure 10: St. Louis Domestic Rail Freight by Lane in 2012**



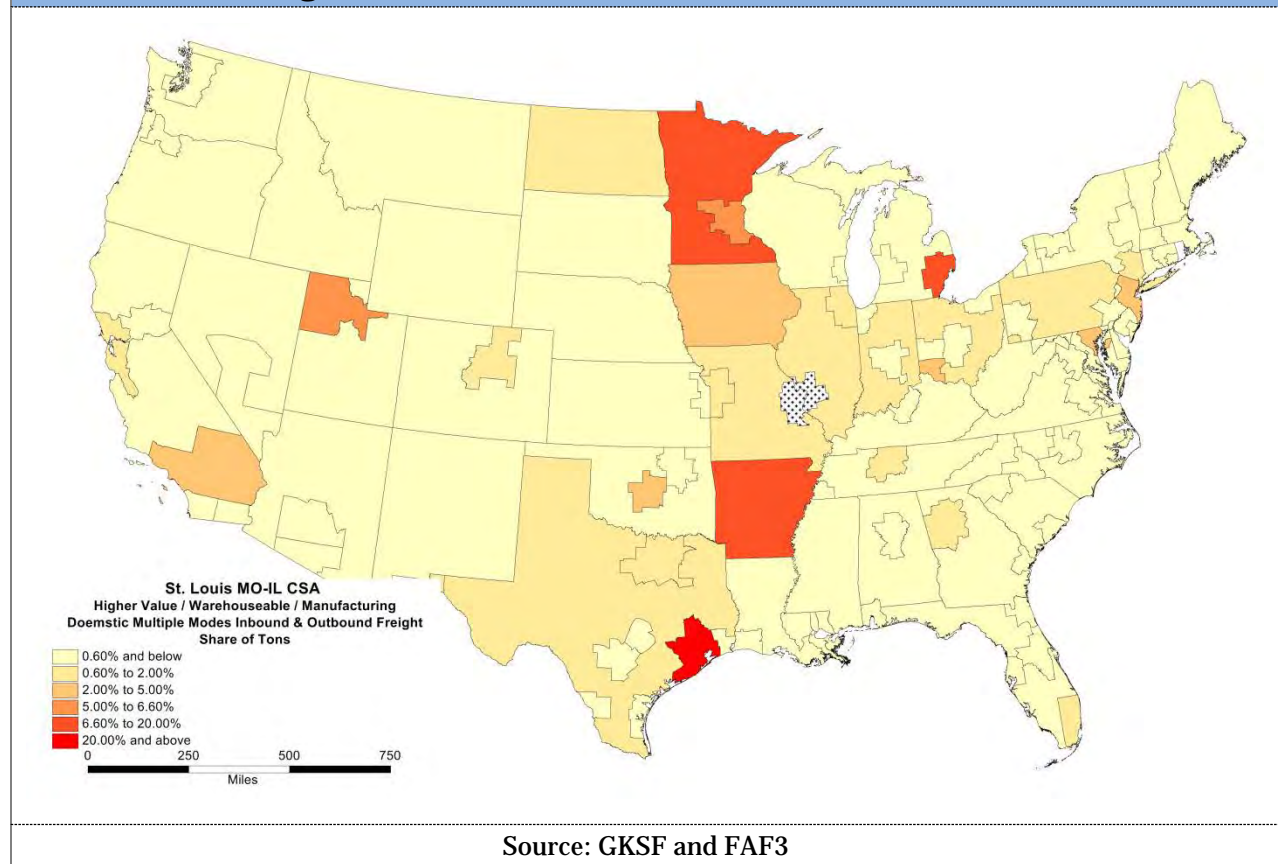
## Domestic Multiple Modes

Multiple modes are defined in the FAF3 database as truck-rail, truck-water and rail-water shipments involving one or more end-to-end transfers of cargo between two different modes.

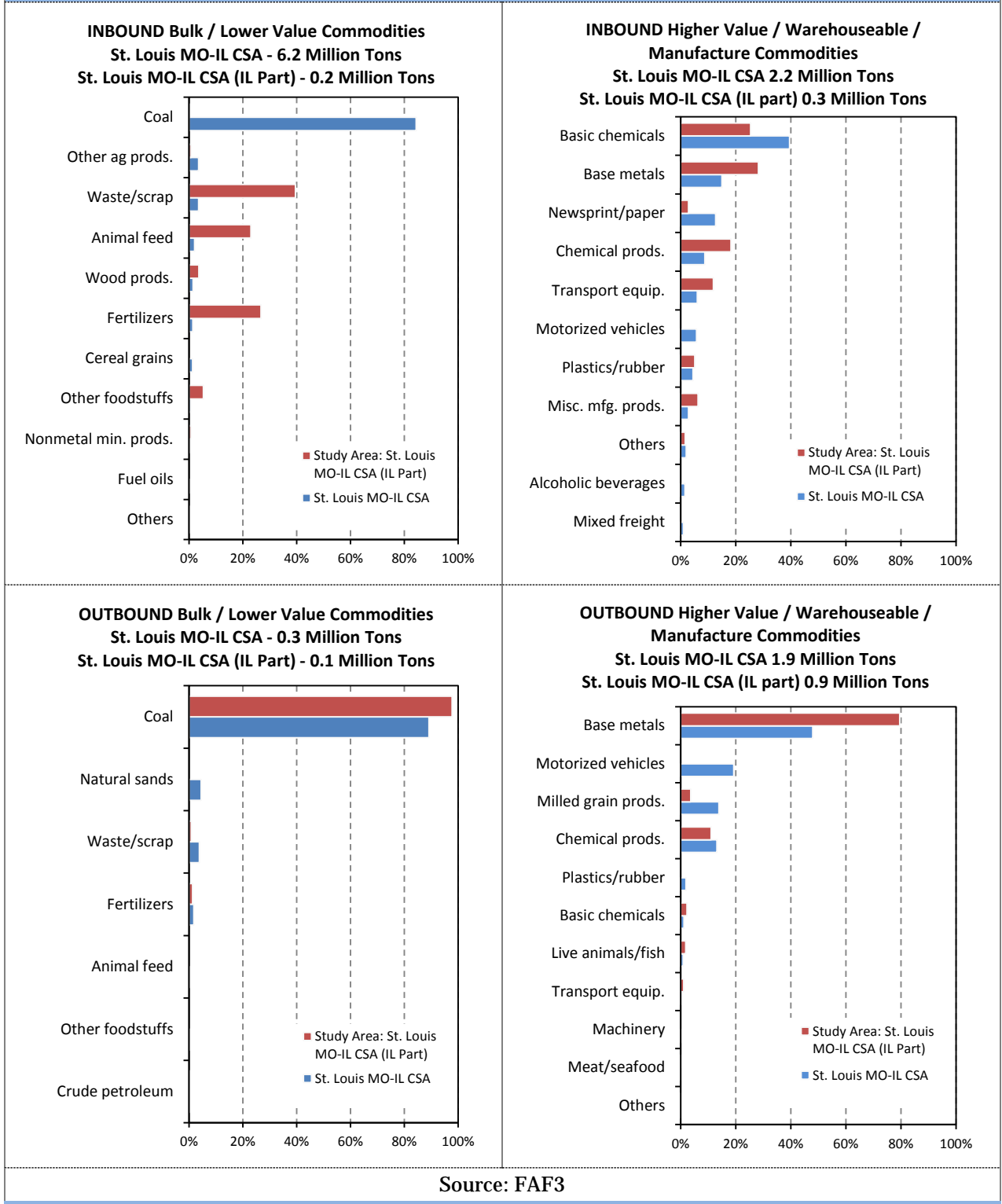
St. Louis MO-IL CSA generated 10.6 million tons of domestic multiple mode shipments in 2012 (out of total freight of 210 million tons), 8.4 million tons inbound and 2.2 million tons outbound. The Study Area (the IL part of the St. Louis MO-IL CSA) had 1.5 million tons of multiple modes freight, 0.5 million tons inbound and 1.0 million tons outbound.

The commodity mix is illustrated in Figure 12. Bulk shipments are centered on coal, followed by waste/scrap, fertilizers, and animal feed. Shipments of higher value commodities are also concentrated, notably chemicals and metals. Domestic multiple mode freight activity also has a high geographic concentration, as shown in Figure 11 and Figure 13, with shipments of base metals to Houston, TX a key outbound lane.

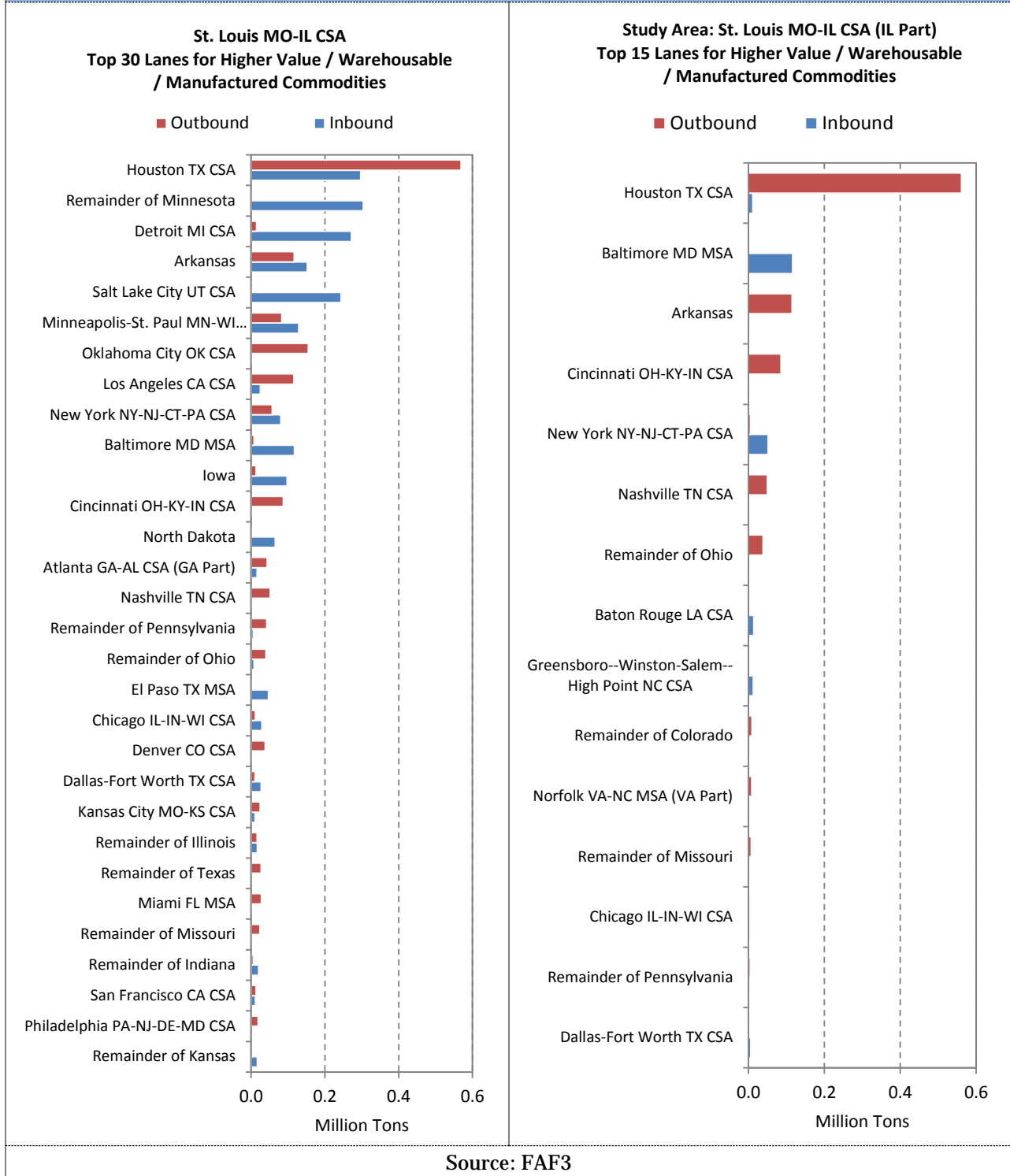
**Figure 11: Map of St. Louis MO-IL CSA Domestic Multiple Modes Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities**



**Figure 12: St. Louis Domestic Multiple Modes Freight by Commodity in 2012**

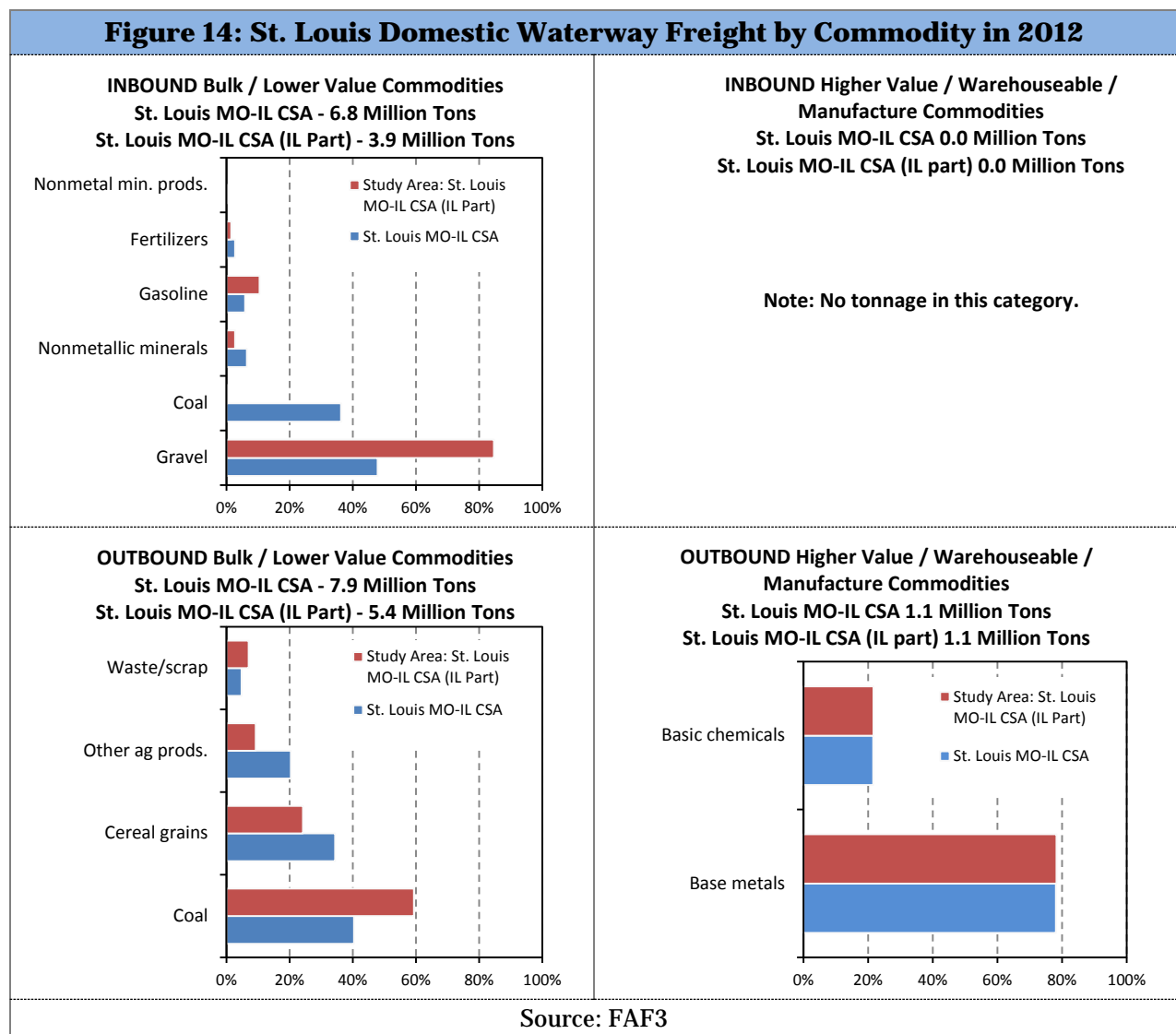


**Figure 13: St. Louis Domestic Multiple Modes Freight by Lane in 2012**



## Domestic Waterway

St. Louis is one of the nation's leading inland ports for freight moving by inland waterway barge service. The FAF3 database shows the St. Louis MO-IL CSA handled 15.8 million tons classed as domestic waterway freight, with 6.8 million tons moving inbound and 9.0 million tons moving outbound. The figures for the Study Area (IL part of the St. Louis MO-IL CSA) were 10.4 million tons total, 3.9 million tons inbound and 6.5 million tons outbound. As shown in Figure 14, freight is concentrated in a few bulk commodities – including coal, grains, and gravel – and only limited shipments of higher value commodities outbound. The outbound destination is the New Orleans CSA (over 50 percent of tons), which suggests some outbound freight, although classified as domestic, is transloaded at New Orleans for shipment overseas. The main origin for inbound freight is Illinois, which accounts for over 80 percent of tons.



The above profile uses FAF3 data on domestic waterway cargo for the St. Louis MO-IL CSA. However, this data understates the scale of waterway freight activity in the St. Louis region. The U.S. Army Corps of Engineers (USACE) reports data for the St. Louis Port District (both banks of Mississippi River from mile 138.8 through mile 208.8 above Ohio River Junction), which extends beyond the CSA boundaries. USACE data shows the Port District handled 34.9 million tons of cargo in 2012, 6.1 million inbound, 27.3 million outbound, and 1.5 million intra port. The major commodities were coal, petroleum and petroleum products, chemicals and related, grains, and primary manufactured goods (e.g., cement and iron and steel products).

### **Domestic Pipeline**

An extensive network of pipelines moves petroleum and energy products in and out of the St. Louis MO-IL CSA. In 2012, FAF3 reports domestic pipeline freight was 28.5 million tons, 13.9 million tons inbound and 14.6 million tons outbound. The Study Area (IL part of the St. Louis MO-IL CSA) handled 76 percent of the inbound pipeline freight and 99 percent of the outbound freight. Inbound commodities were crude petroleum, gasoline, and coal slurry fuel; outbound were gasoline and fuel oils. Texas was the origin for just over 50 percent of the inbound freight and Chicago the destination for 68 percent of the outbound freight.

### **Domestic Air Cargo**

Domestic air cargo in and out of the St. Louis MO-IL CSA was reported as 46,000 tons in 2012, handled by St. Louis International Airport in Missouri. As discussed later in Section 2, there is only a further 2,400 tons reported as import and export air cargo. Overall, St. Louis ranks outside the top 50 airports measured by air cargo tons. Major air freight carriers have concentrated their activities at large hub airports to create operating efficiencies, and truck distribution is used to connect these hub airports with other cities. This air-truck service network is well established and presents a significant obstacle to the growth of direct air freight service at non-hub locations, including St. Louis. A review of North America airports shows that St. Louis area shippers are within 1-day truck service to many of the nation's major cargo hub airports – Memphis, TN (ranked 1<sup>st</sup> in North America by total air cargo tons<sup>2</sup>), Louisville, KY (3<sup>rd</sup>), Chicago, IL (7<sup>th</sup>), and Indianapolis, IN (8<sup>th</sup>).

### **Exports and Imports**

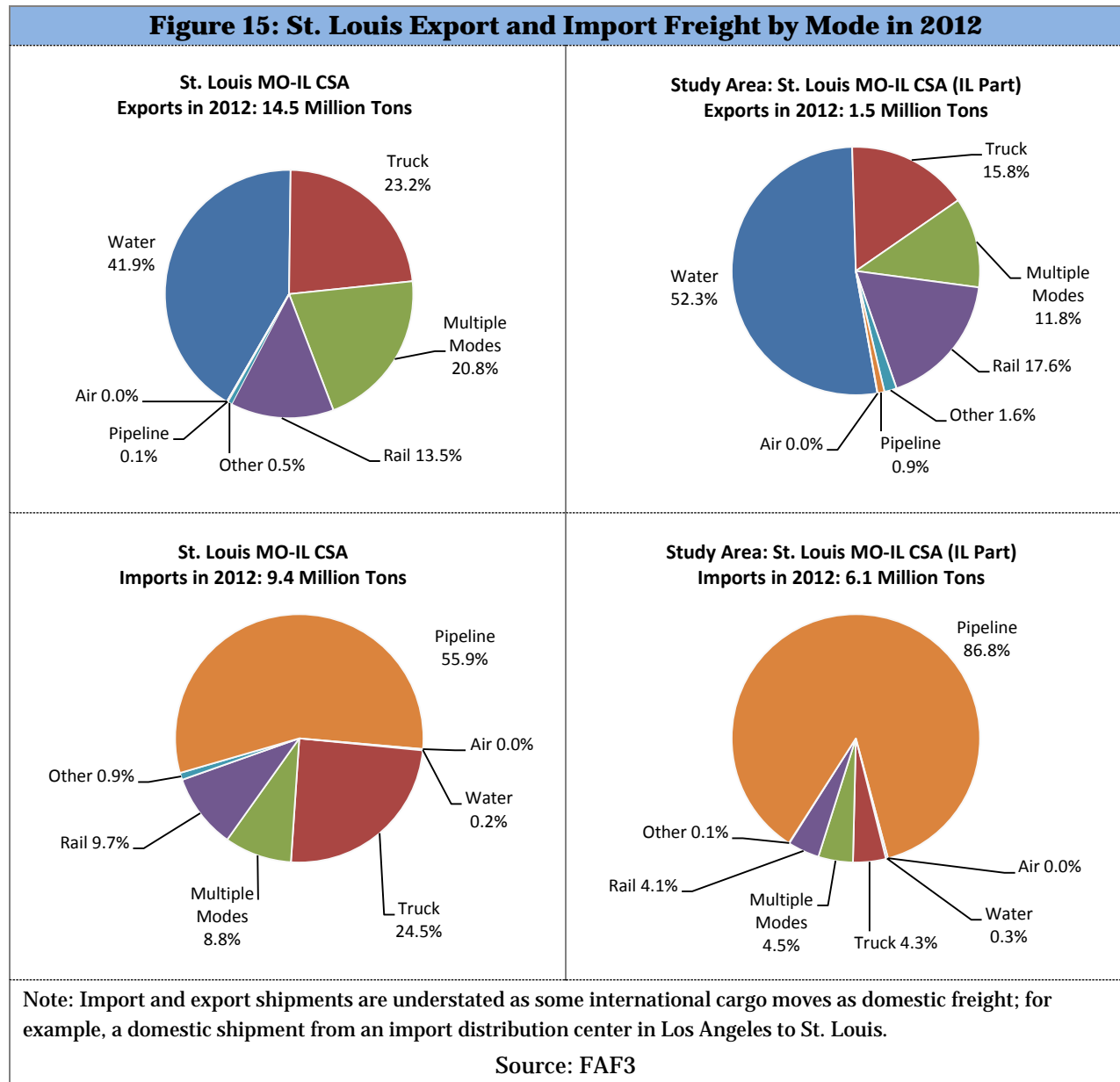
The St. Louis MO-IL CSA had clearly identified exports and imports of 23.9 million tons in 2012, 14.5 million tons of exports and 9.4 million tons of imports. As stated earlier, export and import shipments are understated as some international cargo is captured as domestic freight. The Study Area (the IL part of the St. Louis MO-IL CSA) had 7.6 million tons of exports and imports, 1.5 million tons of exports and 6.1 million tons of imports. The modal distribution is illustrated

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<sup>2</sup> Based on air cargo data for 2013 published by Airports Council International – North America

in Figure 15. Export shipments are spread across transport modes – water, truck, multiple modes and rail (carload). Water is the largest mode by virtue of the bulk commodities shipped through the Port of St. Louis downstream for export through the Port of New Orleans. By contrast, import freight is dominated by pipeline shipments – 56 percent of import tons for the St. Louis MO-IL CSA and 87 percent for the Study Area.

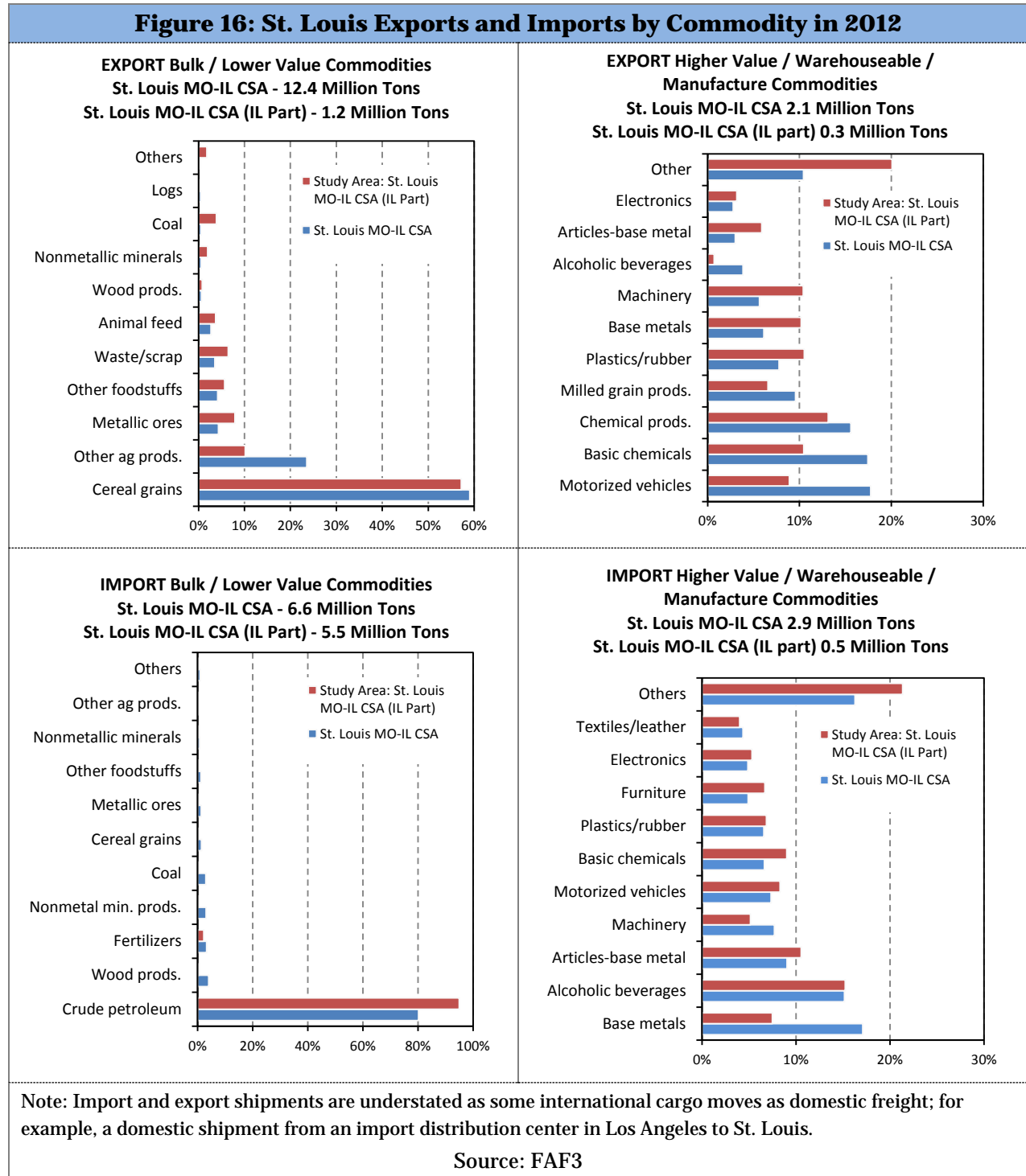
**Figure 15: St. Louis Export and Import Freight by Mode in 2012**



The commodity mix of exports and imports is shown in Figure 16. Exports of bulk commodities are heavily concentrated in the agricultural sector, while imports are dominated by crude petroleum. These bulk commodities drive the dominance of leading position of water and

pipeline modes identified above. Shipments of higher value/warehouseable/manufactured goods are diversified and reflect the consumer demands, and industry requirements and outputs, of the region. These commodities would mainly move by multiple modes (including intermodal rail service, truck, and rail (carload)).

**Figure 16: St. Louis Exports and Imports by Commodity in 2012**

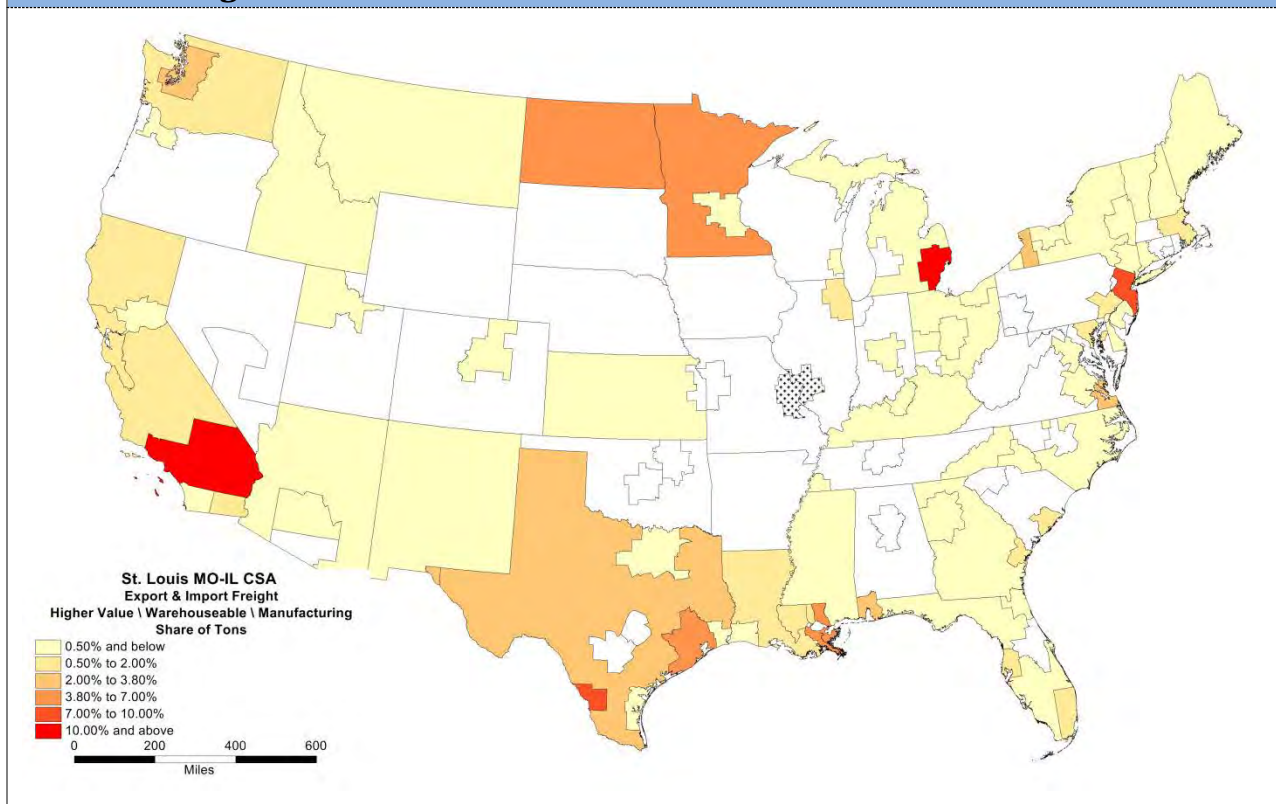




New Orleans and other Louisiana ports are of critical importance to bulk commodity exports from the St. Louis area. They handle 80 percent of bulk commodity export tons identified in the FAF3 database. Of the remaining 20 percent, the main export gateways are Los Angeles and Houston, and the border crossings of Laredo, TX and Detroit, MI. Imports of bulk commodities, dominated by crude petroleum, are concentrated via Houston, TX and from Canada via North Dakota and Montana, which together handled 76 percent of import tons.

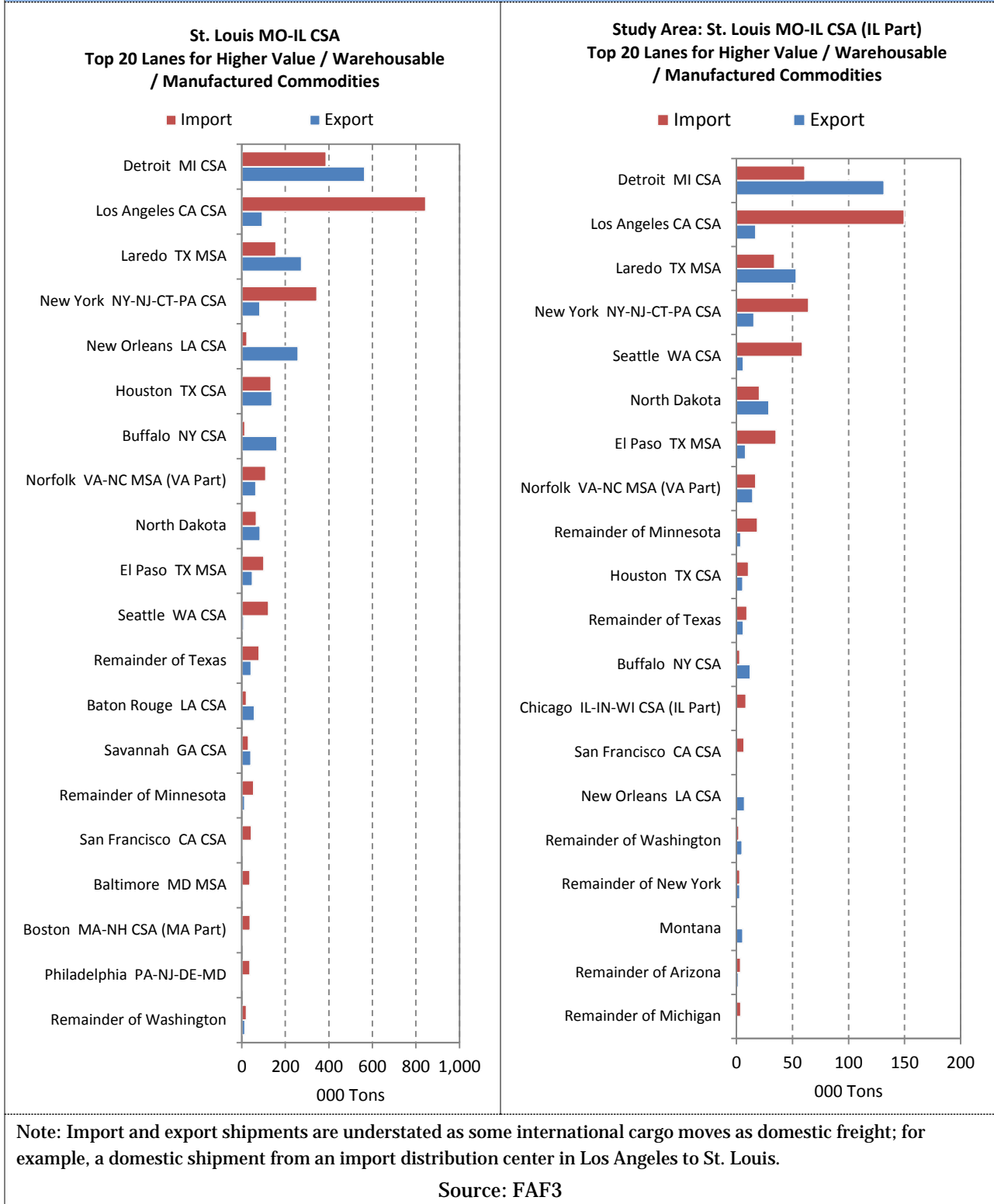
Exports and imports of higher value/warehouseable/manufactured commodities are more diversified across gateways. The distribution by gateway is illustrated in Figure 17 and the top 20 lanes are shown in Figure 18. The major lanes are Detroit (19.3 percent of St. Louis area export and import tons), Los Angeles (19.0 percent), Laredo (8.7 percent), New York (9.7 percent), New Orleans (5.7 percent) and Houston (5.6 percent). In the case of the cross-border lanes, Detroit and Laredo, there is more export freight than import freight. The reverse is the case for Los Angeles and New York, the top two maritime port gateways. Los Angeles and other West Coast ports are gateways for Asian trade, New York and other Northeast ports for trade with Europe and Asia via the Suez Canal, and New Orleans and Houston for trade mainly with Latin America.

**Figure 17: Map of St. Louis MO-IL CSA Export and Import Freight by Partner – Higher Value / Warehouseable / Manufactured Commodities**



Source: GKSF and FAF3

**Figure 18: St. Louis Export and Import by Lane in 2012**

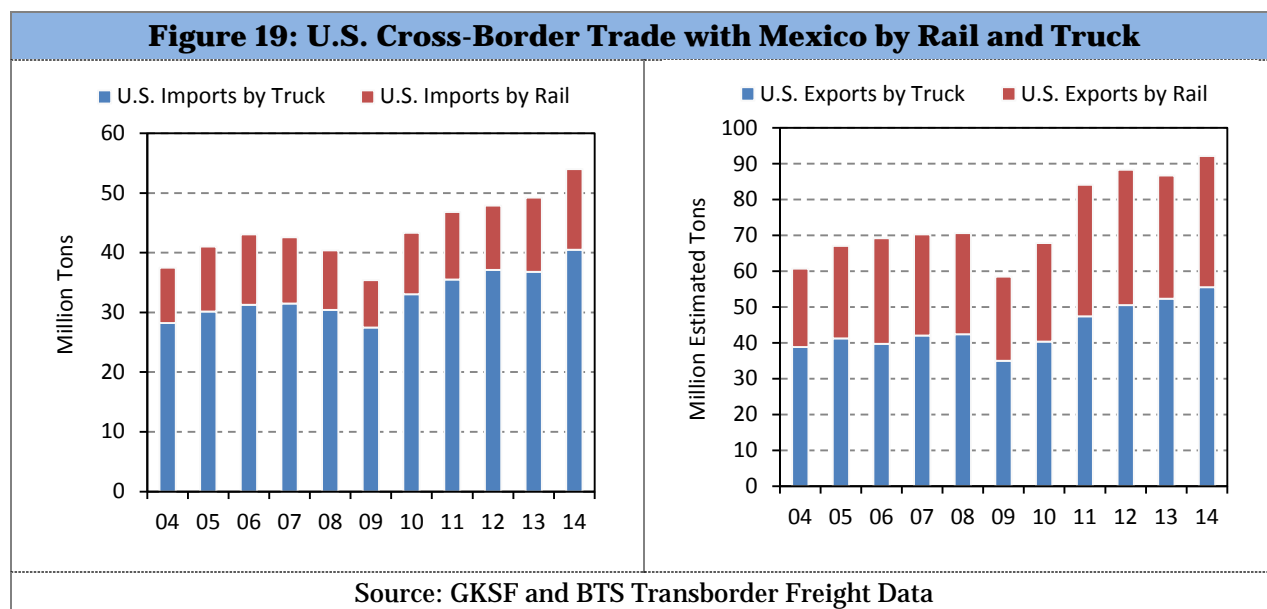


## Cross-Border Freight

The FAF3 database captures cross-border freight as mostly a domestic move between the Study Area and border regions (for example, the Laredo MSA or the Detroit MSA). Additional visibility on cross-border freight activity and trends is provided here by drawing on the Transborder Freight Data (TFD) maintained by the Bureau of Transportation Statistics. TFD is reported at the state level and therefore data for Illinois are taken as representative of trends in the Study Area's cross-border trade with Mexico and Canada. TFD reports import tons but only export value and so estimated exports were calculated by applying value per ton estimates by commodity group to total export value by commodity group.

### Mexico

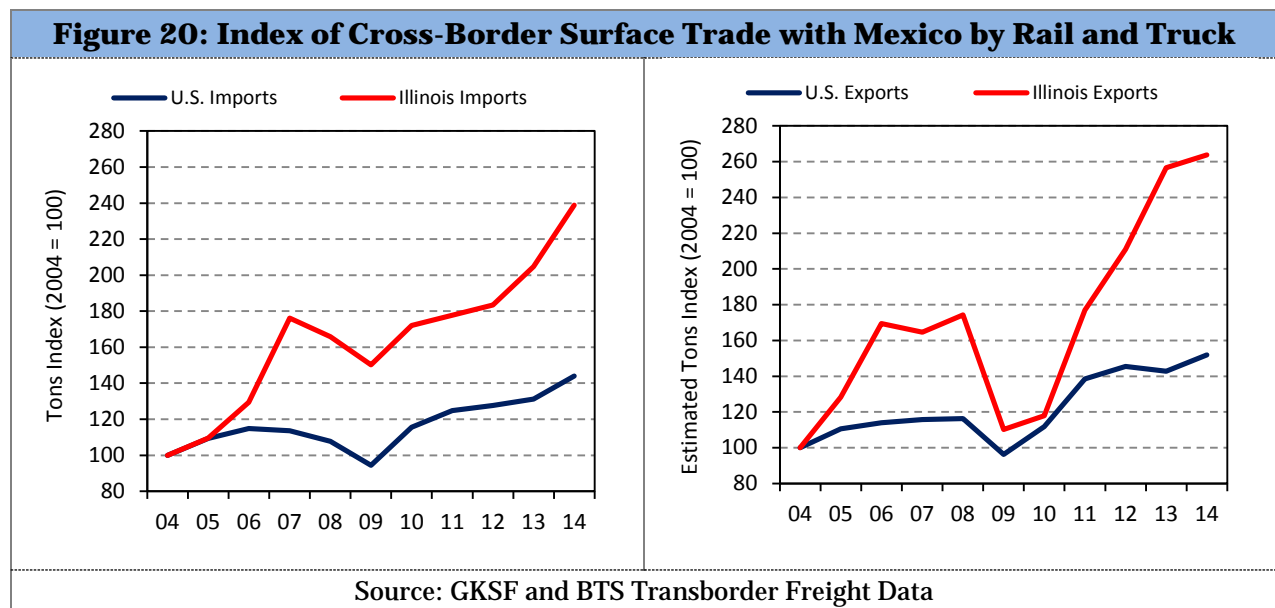
U.S. cross-border trade with Mexico recovered strongly after the recession of 2008/2009, and reached record levels in 2013 and again in 2014 (Figure 19). Growth has occurred in both the import and export trades; imports reached a record 54.0 million tons in 2014, while exports climbed to a record of over 90 million estimated tons. On the import side, important sectors for growth have been automotive vehicles and parts, agricultural commodities and food products, and consumer-related goods (electronics, etc.). Exports are more centered on lower value commodities and key growth areas have been mineral fuels, cereals, and other agricultural commodities. The outlook for U.S. cross-border trade is reasonably positive due to economic growth in the U.S. and Mexico, and further investment in Mexico in sectors that service the U.S. domestic market (e.g., automotive).



Trucking is the dominant transport mode in U.S. cross-border trade – 75 percent of import tons and 60 percent of estimated export tons in 2014. Truck's share has been close to 75 percent of

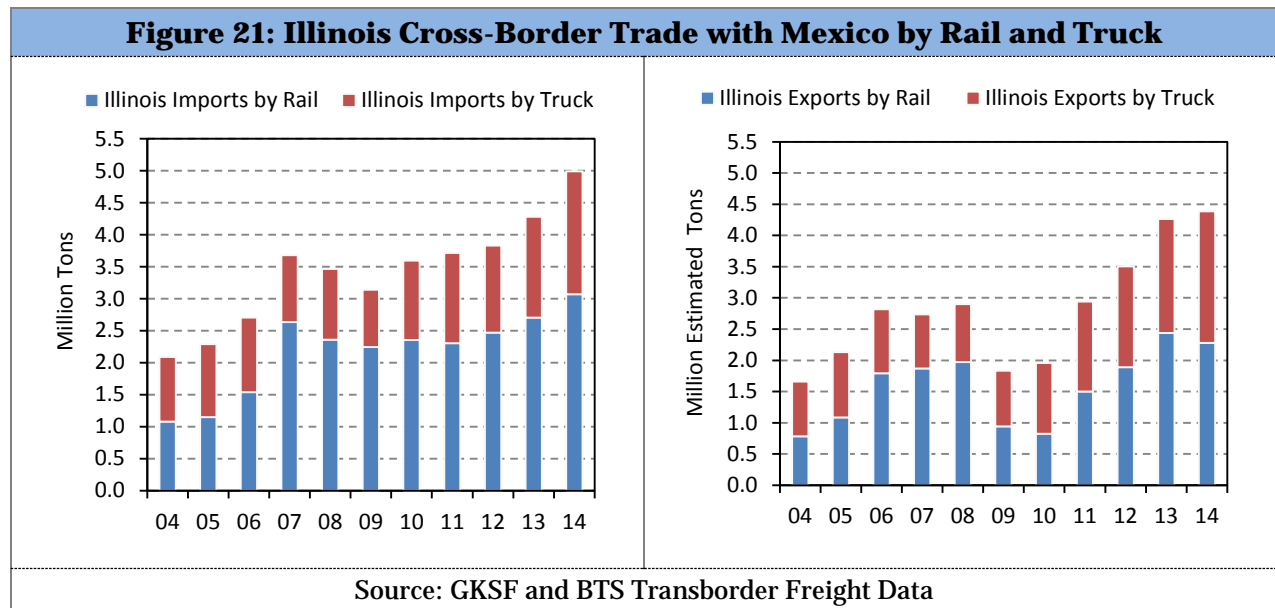
imports for the past decade, with a spike to 78 percent in 2009 as the recession negatively impacted rail-friendly commodities such as finished vehicle imports. Rail's share recovered to 25 percent post-recession driven by resumption of growth in rail-friendly sectors. On the import side, rail's share is constrained by the high incidence of truck-friendly commodities, the appeal (actual and perceived) of flexible door-to-door truck service for many shippers, and the presence of larger truck-friendly markets in the U.S. trade (notably the border-states). Rail moves a larger share of the export trade due to the greater presence of bulk commodities. Trends in modal shares over the past decade indicate there has been limited conversion of truck freight to rail. This contrasts with the U.S. domestic freight market, where domestic intermodal rail service has had success in attracting freight from truck to rail in medium and some short-haul corridors.

Trade activity between Illinois and Mexico has grown at a faster rate than U.S.-Mexico cross-border trade past decade (see index of tons in Figure 20). The Illinois share of U.S. import tons reached 8.6 percent in 2007 and eased to 7.9 percent in 2011 then climbed to a record 9.2 percent in 2014. A similar pattern occurred with exports, the Illinois share reaching 4.1 percent in 2006, then falling to 2.9 percent in 2010 and climbing to 4.8 percent in 2014. The import growth was fueled by increased shipments of manufactured goods and components into Illinois. On the export side, growth derived from agricultural commodities and industrial materials (e.g., iron and steel, plastics, and chemicals).



Illinois's trade with Mexico reached a record 5.0 million tons of imports and 4.4 million tons of exports in 2014. Rail is the leading transport mode with 62 percent of the import tons and 52 percent of the estimated export tons. Rail's dominance reflects the type of commodities moving

in the trade – for example, imports of beverages and exports of cereals – that are suited to rail carload service, as well as intermodal-friendly manufacturing-related commodities.

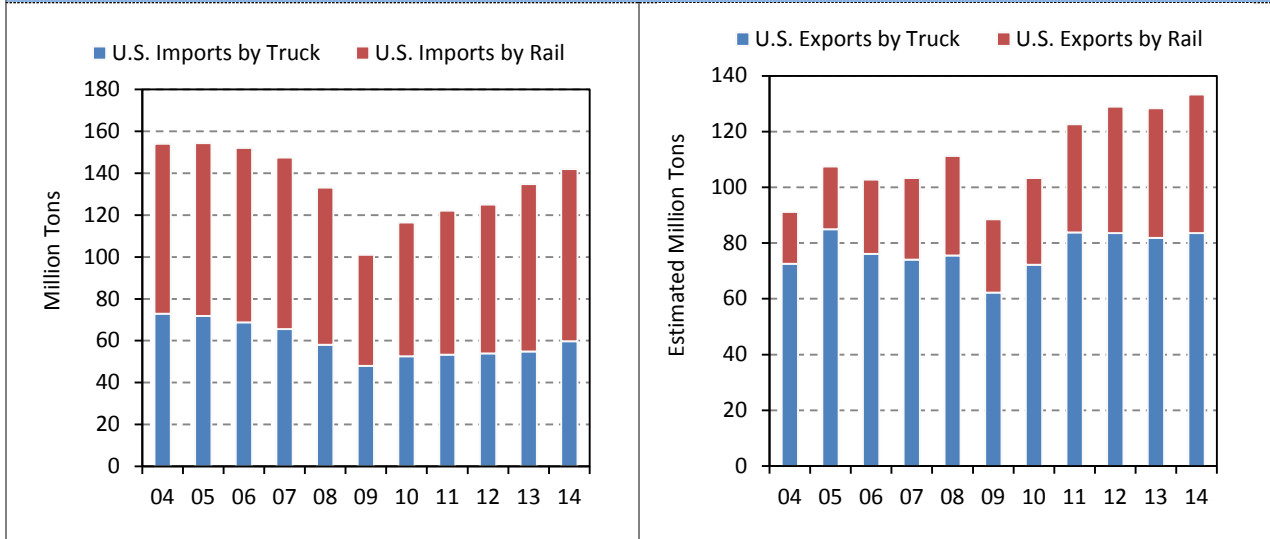


## Canada

U.S. cross-border import trade with Canada recovered strongly after the recession of 2008/2009, but still remains below the pre-recession levels (Figure 22). Exports have performed well and reached a new record in 2014. The weaker import performance reflects the commodity mix of the import trade. Annual imports of Wood and Articles, the second largest import commodity, are still only 50 percent of their pre-recession peak largely due to the reduced activity in the U.S. housing market. Other construction-related commodities (for example, Wood Pulp and Paperboard) are also still below their pre-recession levels. The slow recovery of these commodities has been partly offset by strong growth in other sectors, including Mineral Fuels and Vehicles.

Rail handles more than 50 percent of cross-border imports with Canada. Several major commodities are very suited to rail – Mineral Fuels, Wood and Articles, Fertilizers, and Inorganic Chemicals. Top commodities where truck is the leading mode are Vehicles and Iron and Steel. Some of the truck dominance in selected commodities is driven by the proximity between supplier and destination; for example, cross-border shipments into the Detroit area related to the automotive industry. Rail’s share of exports to Canada was an estimated 37 percent in 2014, a new record, due to growth of rail-friendly commodities.

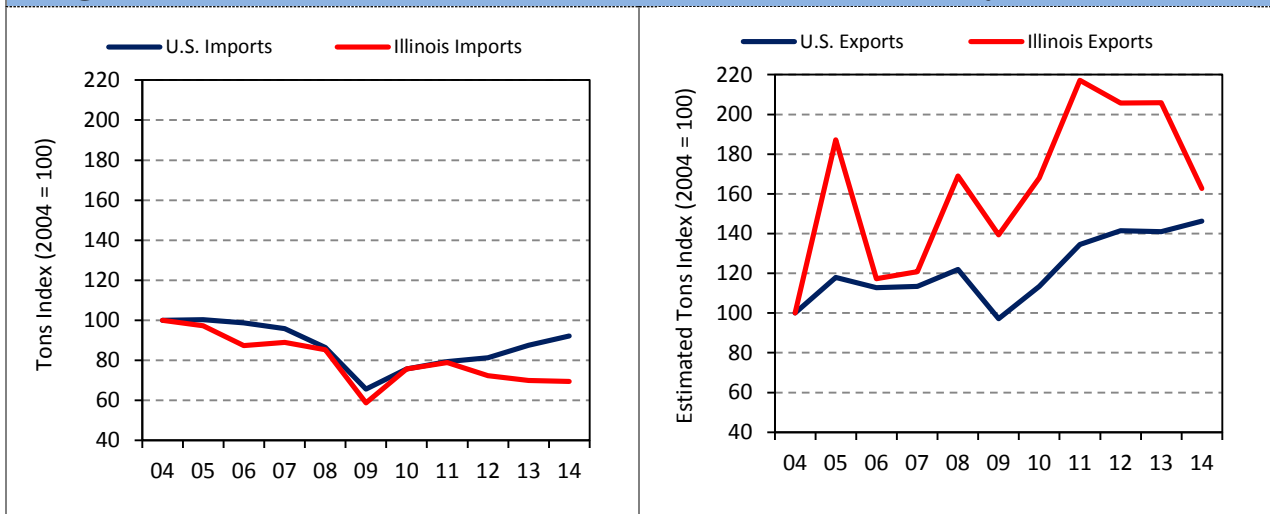
**Figure 22: U.S. Cross-Border Trade with Canada by Rail and Truck**



Source: GKSF and BTS Transborder Freight Data

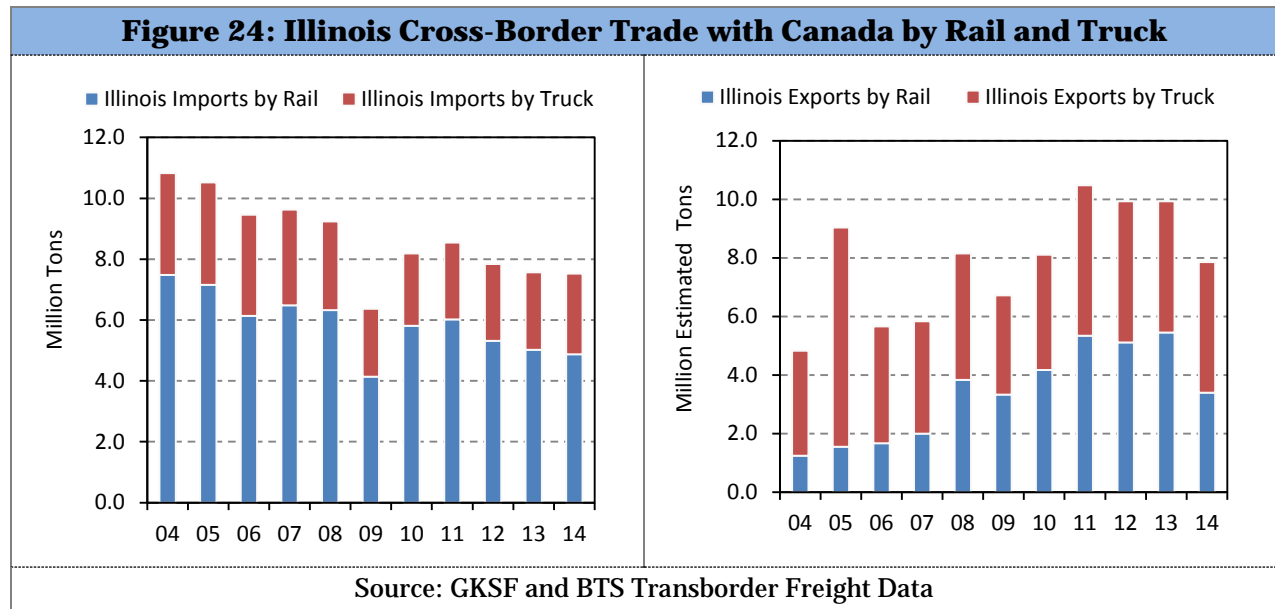
Illinois imports from Canada have under-performed the U.S. import trade over the past decade (see the index in Figure 23), due to weakness in some of the major commodities imported to Illinois, including Fertilizers, Paper and Paperboard, and Inorganic Chemicals. By contrast, Illinois exports to Canada have exceeded growth of U.S. exports. Growth sectors have included Iron and Steel, Plastics, and Machinery and Parts. Illinois export volume has been volatile due to annual fluctuations in selected major commodities (for example, Mineral Fuels).

**Figure 23: Index of Cross-Border Surface Trade with Canada by Rail and Truck**



Source: GKSF and BTS Transborder Freight Data

Illinois's trade with Canada was 7.5 million tons of imports and 7.9 million tons of exports in 2014 (Figure 24). Rail moves 65 percent of imports and 43 percent of exports, the import trade consisting of more rail-friendly bulk commodities.



## Intermodal Rail Traffic

### National and Midwest Intermodal Trends

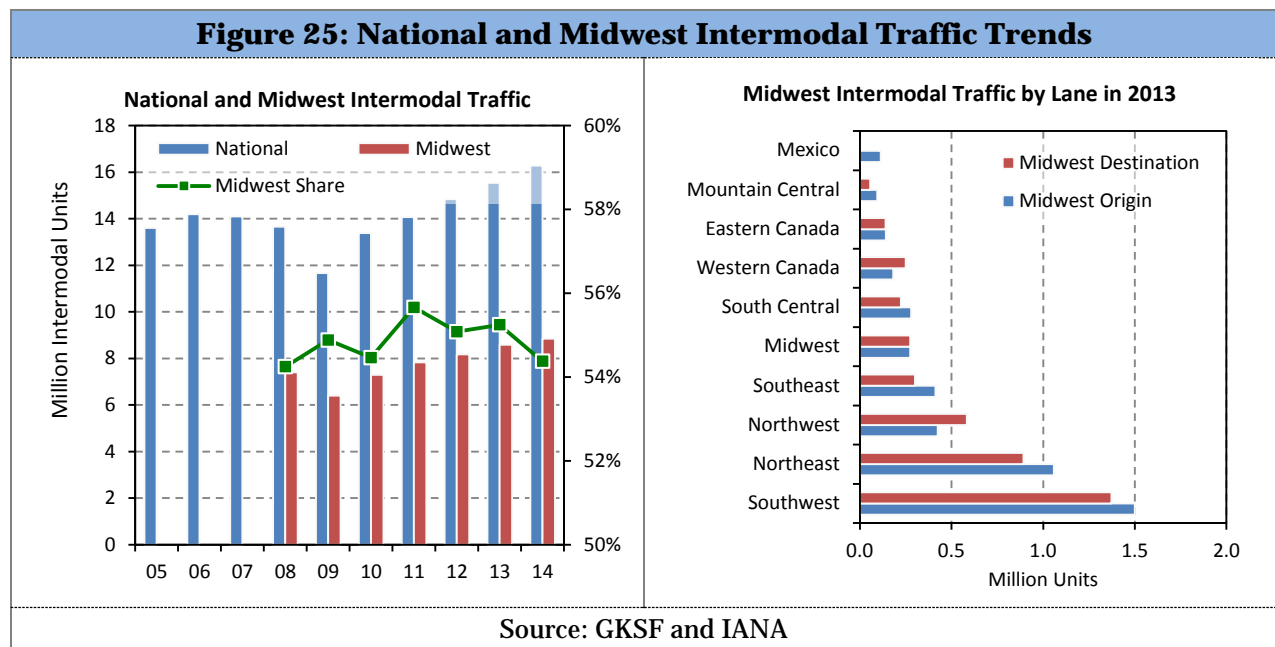
National intermodal traffic reached a record high in of 16.3 intermodal units in 2014 and the fifth year of growth since the recession low in 2009 (Figure 25)<sup>3</sup>. The sustained growth of intermodal traffic has been driven by:

- Post-recession recovery of economic growth and domestic and international cargo flows.
- Substitution of intermodal rail for over-the-road truck in medium and long haul corridors, and in some short haul corridors. This substitution is being driven by labor and capacity constraints facing the trucking industry, including driver retention and shortages, and regulations.
- The substitution of intermodal for highway truck is greatly enhanced by the rapidly growing availability of 53-foot containers, which offer the same freight capacity as highway trailers and can be double-stacked for low-cost rail linehaul transport.

<sup>3</sup> National and regional intermodal traffic data were obtained from the Intermodal Association of America (IANA). The Midwest region is defined by IANA as Illinois, Indiana, Iowa, Kentucky, Kansas, Missouri, Minnesota, Montana, Ohio and Wisconsin.

A further trend has been the continued expansion of transload activity of containerized import cargo from ISO marine containers to domestic 53-foot containers for inland transport by double-stack intermodal rail. Transloading provides increased supply chain flexibility, linehaul and drayage cost savings, and enhanced ISO fleet productivity (fewer inland moves) for ocean carriers. Transloading reduces the number of intermodal shipments (three 40-foot ISO containers go into two 53-foot containers). A downside of transloading is the constraint it places on the availability of ISO marine containers (20-foot and 40-foot) at inland locations for exporters in the Midwest. In turn, this has stimulated the development of rail carload shipments of agricultural commodities to West Coast and other ports, where freight is transloaded into marine containers at or near the port.

The outlook for nationwide intermodal traffic is favorable due to the continuation of the above trends – economic growth, international trade growth (including cross-border activity), and continued pressure on trucking particularly in the 550 to 1,200 mile lanes.



Intermodal traffic in and out of the Midwest region was 8.9 million units in 2014, accounting for 54.4 percent of the national total. This share has been reasonably constant over the past seven years, ranging from 54.2 percent in 2008 to 55.7 percent in 2011. Midwest intermodal volume has also expanded year-over-year since 2009 and volume hit a new record in 2014. As shown in Figure 25, the two largest lanes are with the Southwest (including the Ports of Los Angeles/Long Beach) and the Northeast; their respective shares of Midwest intermodal traffic were 33.5 percent and 22.7 percent. Other key lanes are the Northwest (11.8 percent) and the Southeast (8.3 percent). Over the past five years, the fastest growing domestic lanes have been the Southeast and South Central.



The Midwest has participated disproportionately in the usage of 53-foot containers and in the substitution of intermodal shipments in 53-foot containers for over-the-road truck shipments. For example, nationwide, between 2008 and 2014, the percentage of intermodal shipments moving in 53-foot containers increased from 26 percent to 40 percent. For Midwest intermodal shipments over the same period, the percentage of 53-foot container shipments increased from 36 percent to 52 percent.

### **St. Louis Intermodal Market**

The St. Louis intermodal market is estimated at 334,000 units, with outbound volume of 227,000 units exceeding inbound volume of 107,000.<sup>4</sup> The imbalance is driven by the region's strong manufacturing activity and shipments that exceed inbound consumption-driven needs. Sectors include tires, canned goods/food products, consumer products and furniture. The effects of an outbound freight imbalance can sometimes result in outbound equipment shortages or higher outbound rail freight rates, as empty containers are brought in to meet the outbound freight demand. When this occurs, the cost to position empty containers is passed onto outbound shippers when possible.

Outbound volume is roughly 55 percent eastbound and 45 percent westbound, while inbound volume is an estimated 45 percent eastbound and 55 percent westbound. Although, the split is unavailable, a large share of the intermodal volume are export and import cargo moving through West and East coast ports. Los Angeles and New York would be key port gateways, as indicated by the FAF3 freight data by lane (Figure 18) discussed earlier under Exports and Imports.

The St. Louis terminals handle some of the intermodal market for St. Louis and surrounding areas in Illinois, Indiana, Kentucky, and Missouri. However, a majority of the intermodal volume is routed via other Midwest hubs, including Chicago, Kansas City, Memphis, and Ohio, where shippers have access to higher frequency of intermodal rail service, better equipment supply, greater drayage<sup>5</sup> capacity and regional distribution centers. Intermodal freight is handled at these centers and trucked to and from St. Louis.

St. Louis intermodal cargo is projected to grow due to manufacturing activity in the region. However, routing more of the St. Louis intermodal market through St. Louis area terminals faces challenges.

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<sup>4</sup> The estimated market size is based on interviews with intermodal service providers conducted by the project team.

<sup>5</sup> Drayage refers to the trucking of goods a short distance – under roughly fifty miles. The freight origin is generally a rail or port depot destined for a nearby location, such as a distribution center or a port terminal to a rail terminal.

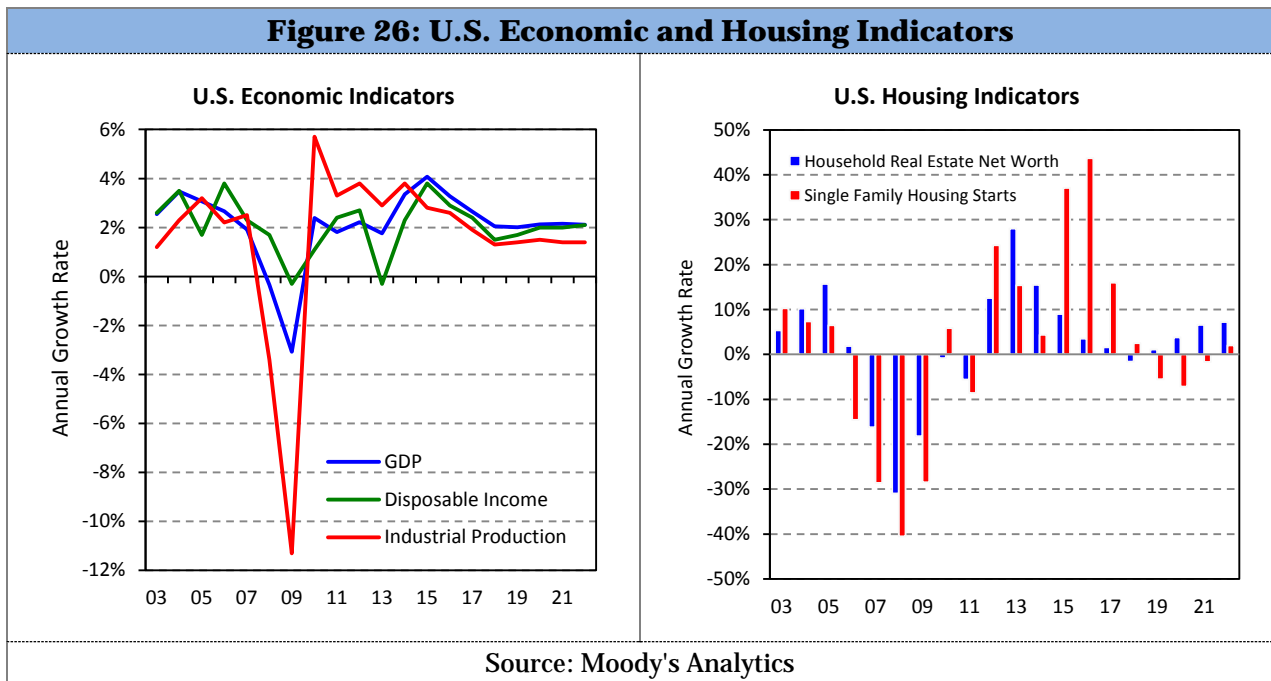
- St. Louis is a deficit market – there is not enough inbound equipment to support the market for outbound. This equipment shortage is a constraint for on St. Louis shippers that is overcome by routing cargo via other intermodal hubs.
- While local drayage costs in St. Louis are competitive with other intermodal hubs, drayage capacity is a challenge. Greater density of activity at St. Louis area terminals would encourage drayage companies to expand or enter the market.

## Section 3 | Freight Outlook

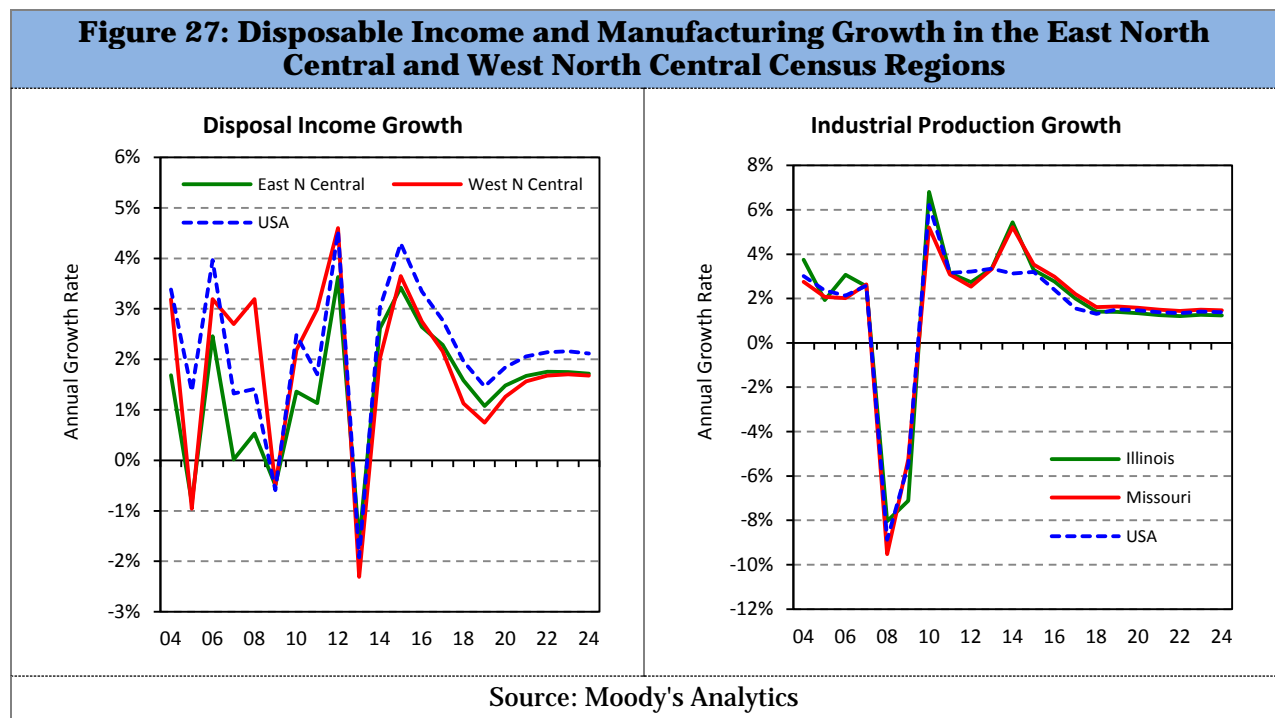
### Economic Trends

#### U.S. and Regional Economies

U.S. economic activity has gradually recovered from the 2008/2009 recession and the economy is projected to have 2 to 4 percent annual growth of Gross Domestic Product (GDP) through 2016 and then 2 to 3 percent annual growth through 2022. Factors supporting growth include the expansion of disposable income and consumption, a healthier housing sector (relative to the collapse during the recession), population growth, and export activity. The gradual recovery in housing starts, linked to household formation and population growth, will continue to have a favorable impact on consumption and import activity. However, exports are coming under pressure from the stronger U.S. Dollar and weak growth in overseas markets, and this could dampen export growth over the near term. The near-term outlook for the U.S. Dollar relative to other currencies is for a continued moderate strengthening, which got underway in early 2014 and is likely to continue into 2016, after which it will decline gradually. Figure 26 shows the growth trends for selected U.S. economic indicators – GDP, disposable income, and industrial production.



Major domestic destinations for freight moving outbound from St. Louis IL<sup>6</sup> are the states of Illinois and Missouri, and neighboring states in the East North Central (which includes Illinois) and West North Central (which includes Missouri) census divisions<sup>7</sup> (See Section 2 for geographic distribution of inbound and outbound freight). Economic activity in these regions will have an impact on future St. Louis IL freight flows. Figure 27 presents historical and projected economic indicators – disposable income growth for the two census regions and industrial production growth for Illinois and Missouri. Growth of disposal income in the East North Central Division has underperformed the broader U.S. economy over the past decade, a reflection of factors that includes outsourcing of manufacturing, shift of investment to and slower population growth relative to other regions, notably the South and Southeast. The West North Central Division has performed relatively better, partly due to the greater role of agriculture and energy extraction in its economy.



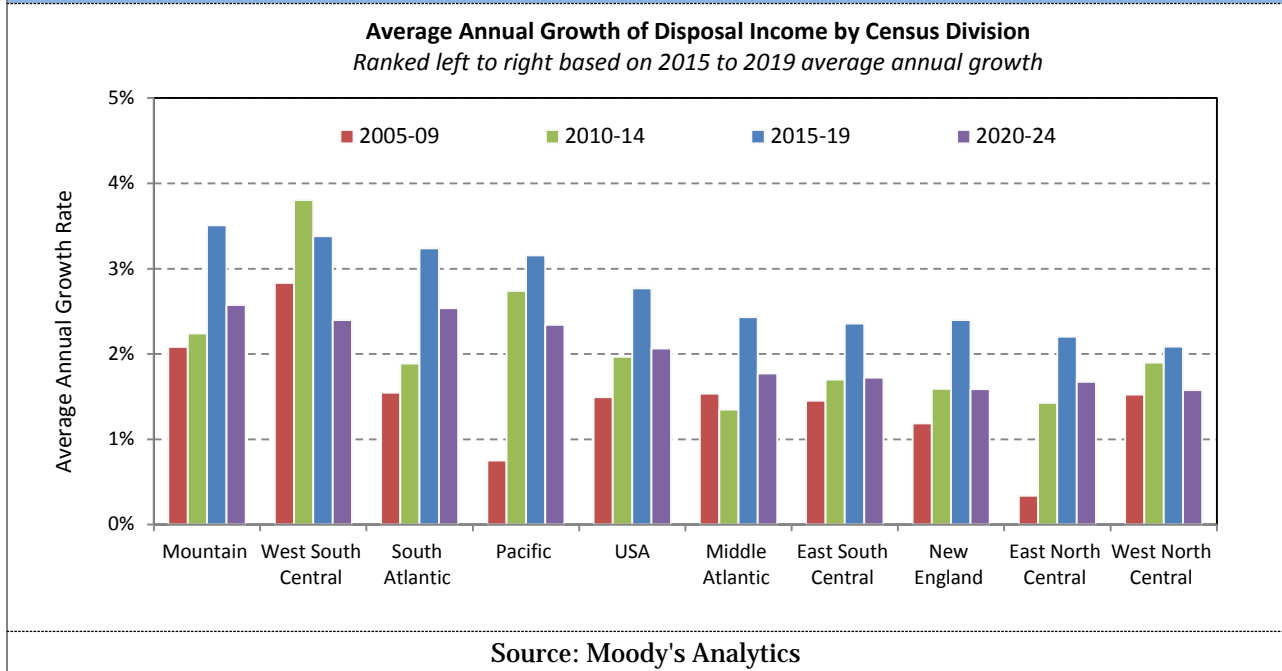
Annual growth of disposal income is projected to be lower for both regions relative to the overall U.S. economy over the next five to ten years, and to grow more slowly than most other Census divisions (see Figure 28). Causes include faster growing economies and populations in other regions, notably in the southern tier states.

<sup>6</sup> The analysis focuses on freight inbound and outbound of the St. Louis, IL part of the St. Louis CSA, and excludes freight inbound and outbound of the St. Louis, MO part of the St. Louis CSA. This approach aligns with the geographic focus of the Southwestern Illinois Freight Transportation Study.

<sup>7</sup> The U.S. is divided into nine divisions by the Census Bureau and they are used in this report as the basis for regional economic trend analysis. The East North Central Division covers IL, IN, MO, OH and WI. The West North Central Division includes IA, KS, MN, MO, ND, NE, and SD.

Manufacturing plays an important role in the regional economies. In 2013, manufacturing accounted for 14 percent of Illinois’s Gross State Product (GSP), 30 percent for Indiana, 19 percent for Michigan, and 13 percent for Missouri.<sup>8</sup> These shares compare with 12 percent of national Gross Domestic Product (GDP). Thus regional economic and freight activity is heavily influenced by industrial activity. As shown in Figure 28, industrial production growth in the East and West North Central Divisions fell sharply during the 2008/2009 recession and then recovered strongly as the U.S. economy recovered, with demand growing again for these regions’ products, notably output from the automotive industry. Industrial production growth is projected to be similar to that of the U.S. total over the next ten years. The regions industries remain under competitive pressure from other regions, including investment in the Southeast and continued growth of manufacturing activity in Mexico. Growth of industrial production will support growth of industry-related (components and finished goods).

**Figure 28: Historical and Projected Disposable Income Growth by Census Division**

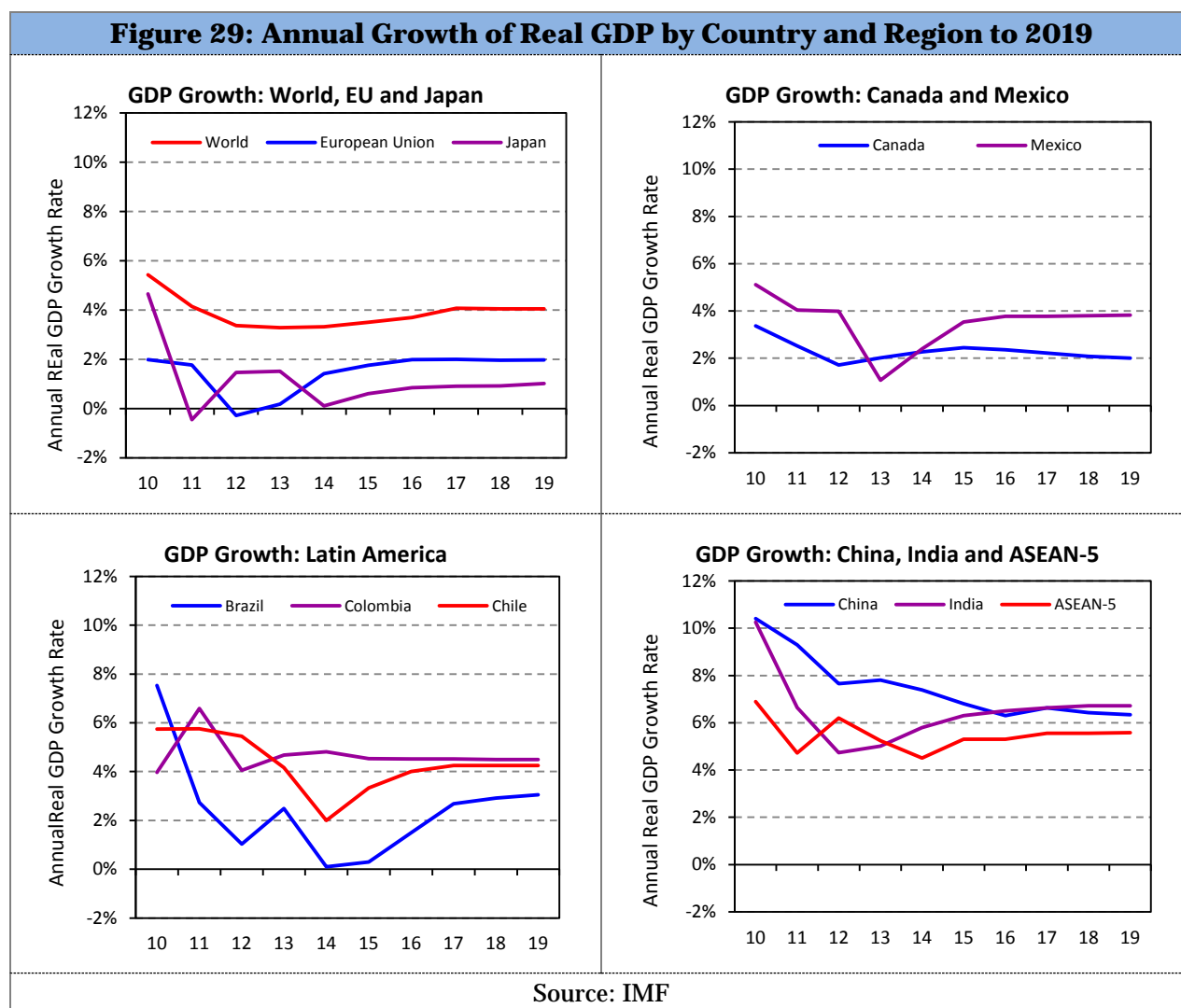


### International Economies

Exports of higher value commodities from St. Louis IL, and the surrounding area, are primarily tied to the NAFTA market (Mexico and Canada), Europe, Latin America (excluding Mexico), and Northeast Asia. Exports of lower value bulk commodities (for example, grains) are centered on Asia, Europe, and the NAFTA market. Economic growth in these overseas regions influences

<sup>8</sup> Based on data from the Bureau of Economic Analysis

export freight activity. The projected growth of GDP by region and country is presented in Figure 29.



Global economic growth is projected to average 3.9 percent per year through 2019. With its economy heavily integrated with the U.S., Mexico manufacturing activity and cross-border trade are impacted by the performance of the U.S. economy. The Mexican economy recovered strongly in 2010 as the U.S. emerged from recession and Mexico is projected to average annual growth of nearly 4.0 percent through 2019. The country has emerged as one of the world’s leading centers for automotive manufacturing and related component production, and investment continues in this sector. Additionally, investment continues in other manufacturing areas, including consumer-related products. Mexico will remain a prominent market for agricultural commodities and food products imported from the U.S.

The major economies of the European Union (EU) and Japan are projected to have weak growth. The outlook is favorable for markets in India and South East Asia. Latin America recovered well from the global recession, due to exports and healthy domestic demand. However, the region's commodity exports have been negatively impacted by slower growth in China and other markets. The medium term outlook for Latin America's major economies, notably Brazil, has been downgraded; while the long term outlook remains favorable due to population growth, rising income levels and expanding middle classes.

### **St. Louis MO-IL MSA**

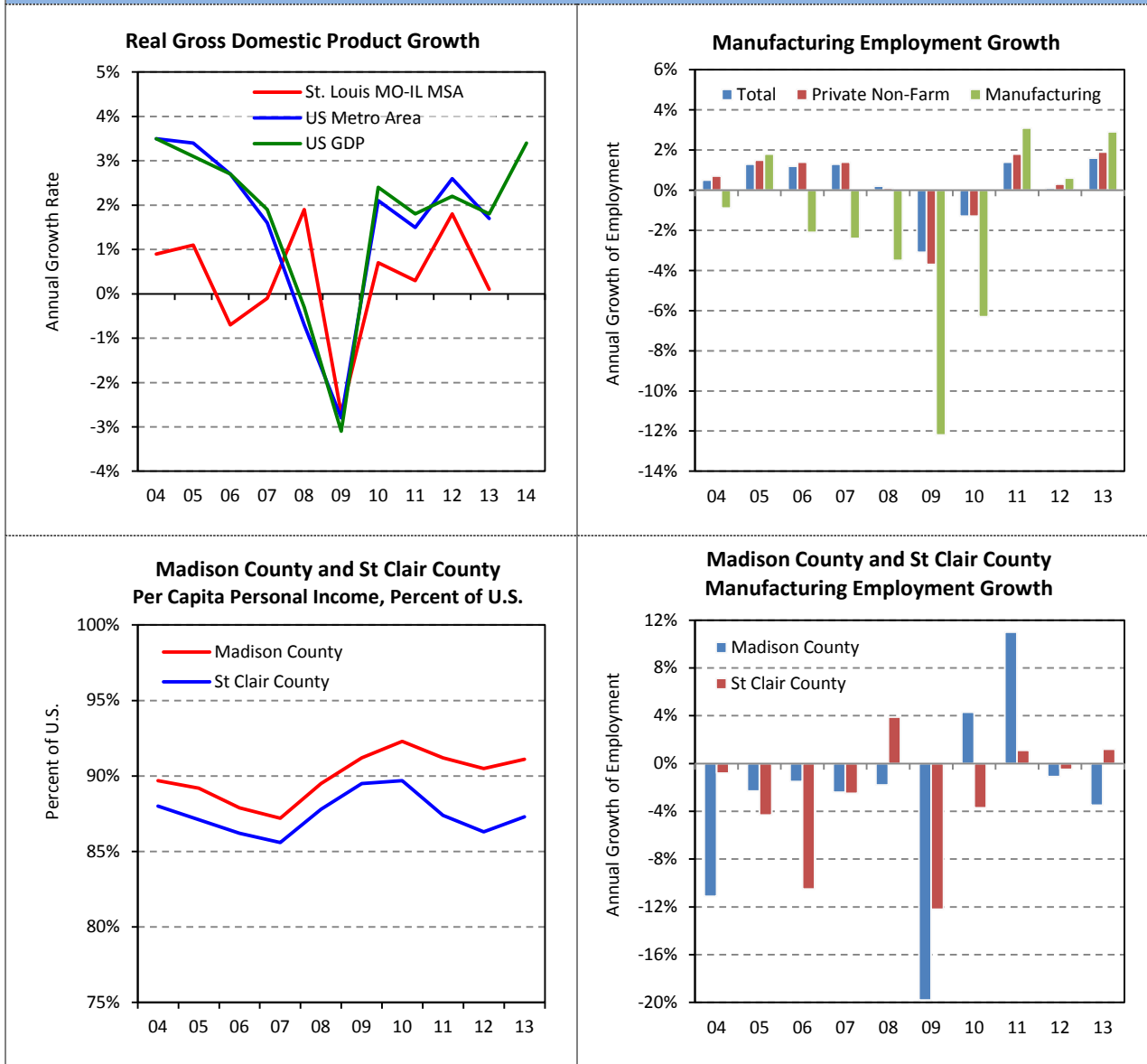
Economic growth in the St. Louis City MO-IL Metropolitan Statistical Area (MSA)<sup>9</sup> has lagged behind the country as a whole and metro areas (Figure 30) over the past five years. Growth of GDP averaged less than 1 percent from 2010 to 2013, compared to 2.0 percent for metro areas and 2.1 percent for the U.S. economy. This reflects the severe economic downturn in St. Louis during the 2008/2009 recession, illustrated by the manufacturing sector. Manufacturing employment growth had been weak prior to the recession, and then fell by 3.5 percent in 2008, 12.2 percent in 2009 and 6.3 percent in 2010 (Figure 30). Some growth of manufacturing employment returned in 2011. This pattern was also seen in Madison County, IL and St. Clair County, IL (the two counties at the core of the IL part of the St. Louis MSA).

The weak economic recovery of the St. Louis MO-IL MSA contrasts with the stronger performance of other regions over the last few years, notably in the Southeast (for example, South Carolina with its expanding automotive and aerospace sectors) and the energy producing states (for example, Texas). These regions will continue to compete aggressively for investment in manufacturing and other economic sectors. Further discussion of regional competition is provided in Section 6 – Comparative Cities Analysis.

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<sup>9</sup> The Bureau of Economic Analysis provides economic data for the St. Louis MO-IL metropolitan area.

**Figure 30: Economic Indicators for the St. Louis MO-IL MSA**



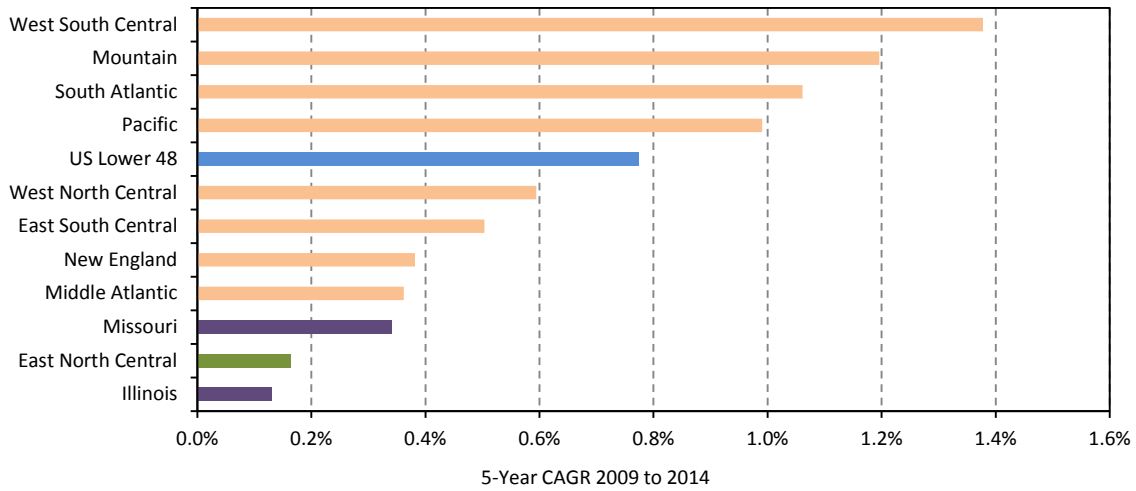
Source: Bureau of Economic Analysis

**Population Trends**

A further challenge for St. Louis is the slow growth of population relative to other regions of the country. As shown in Figure 31, the East North Central Census Division had the slowest growing population of the all Census divisions over the five year period from 2009 to 2014. The 5-year compound annual growth rate (CAGR) was 0.2 percent compared to 0.8 percent for the U.S. Lower 48 states. Illinois’s population five-year growth was even lower, at only 0.1 percent. The population of the St. Louis MO-IL MSA, 2.8 million in 2013, has grown at a similar rate as the East North Central Census Division and is one of the slowest growing MSAs in the country.

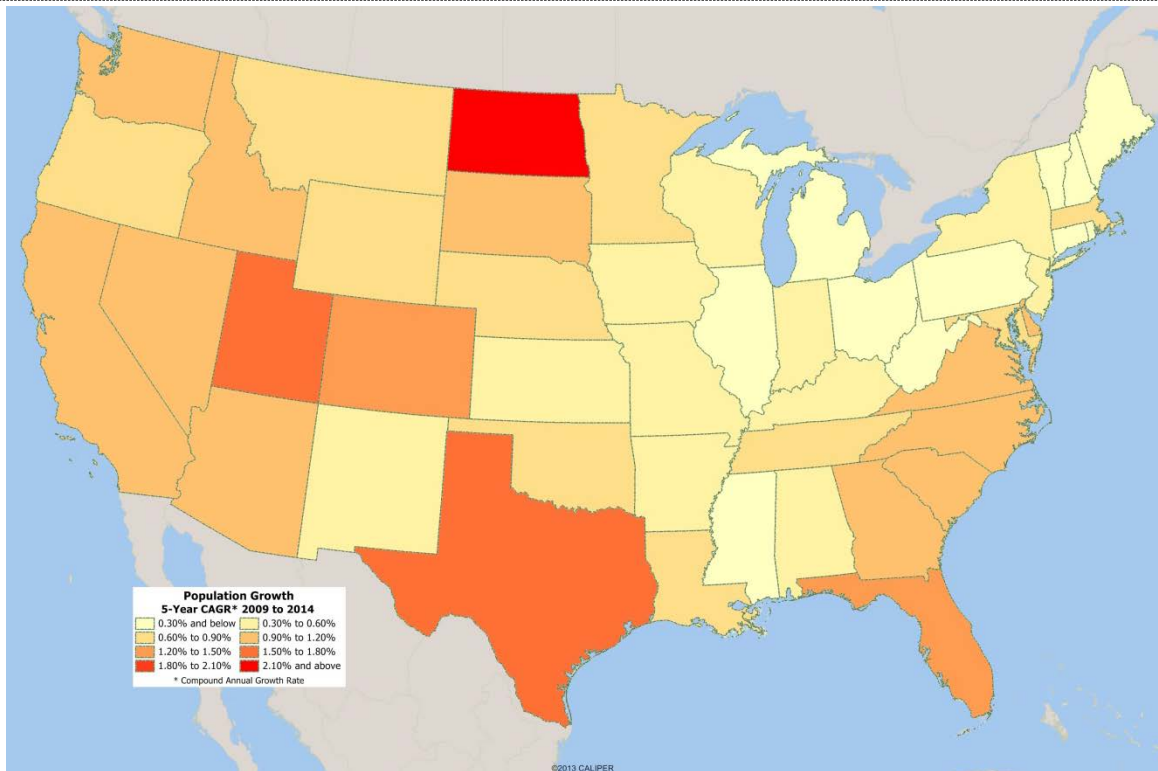


**Figure 31: Population Growth by Census Division, 2009 to 2014**



Source: U.S. Census Bureau, Population Division

**Figure 32: U.S. Population Growth by State, 2009 to 2014**



Source: U.S. Census Bureau, Population Division

The continuation of the above population trends for the St. Louis MO-IL MSA and surrounding area would tend to dampen the growth of consumer demand and the labor force, and in turn possibly dampen the growth of freight activity. The faster growing regions of the country are to the South, Southeast, and West, and suggest the importance of transport connectivity to these markets for industry in the St. Louis area.

**Regional Freight Outlook**

The regional freight outlook for the St. Louis MO-IL CSA is based on a review of the FAF3 forecasts to 2040, the economic trends presented above, and the impacts from the industry trends discussed elsewhere in the report. The outlook focuses on freight moving by truck, rail and multiple modes, with an emphasis on the growth trend for higher value commodities that drive demand for warehousing and manufacturing space in the St. Louis area.

The projected compound annual growth rate (CAGR) for Total Freight (combined inbound and outbound) moving by truck, rail and multiple modes is 0.7 percent over the 25-year period from 2015 to 2040. The principal drivers of growth are economic expansion in the St. Louis area and its main domestic trade partners. However, growth is dampened by the underperformance of the St. Louis MSA and regional economy relative to the rest of the country. The higher value/warehouseable/manufacturing commodities are projected to grow faster than the lower value/bulk commodities – CAGRs of 1.5 percent and 0.4 percent respectively. This reflects the stronger growth of manufacturing-related goods and consumption goods relative to the more mature bulk commodities. A summary of the projected growth rates by time period is provided below:

	<b>Compound Annual Growth Rates by Period</b>			
	<b>2015 - 20</b>	<b>2020 - 30</b>	<b>2030 - 40</b>	<b>2015 - 40</b>
Total Freight Tons (Inbound and Outbound moving by Truck, Rail and Multiple Modes)	1.4%	0.5%	0.5%	0.7%
Bulk/Lower Value	1.1%	0.1%	0.2%	0.4%
Higher Value/Warehouseable/Manufacturing	2.4%	1.5%	1.0%	1.5%

Shipments by Rail (carload) are projected to grow at a slower rate than Truck and Multiple Modes (includes intermodal rail) due to the slow growth of rail-friendly bulk commodities, faster growth of truck-friendly and intermodal commodities (for example, manufactured goods), and the dominance of truck in short haul corridors, including those that link the St. Louis area with intermodal/distribution hubs in Chicago and elsewhere. The projected CAGR growth by transport mode is – Rail (carload) 0.2 percent, Truck 0.9 percent, and Multiple Modes 1.0 percent.

Segregation of the higher value commodities between high growth and low growth is provided in Table 1. Outbound freight of higher value/warehouseable/manufacturing commodities is projected to grow at a faster pace than inbound shipments – the 25-year CAGRs are 1.3 percent and 1.6 percent. This projected trend partly reflects the potential for continued growth of manufacturing activity in the St. Louis area, which is an important generator of higher-value outbound freight. The projected trend also suggests the continued imbalance in the intermodal market that occurs in St. Louis today – the region generates more outbound intermodal freight than inbound consumer-driven intermodal cargo. The respective inbound and outbound growth rates by time period are provided below:

<b>Higher Value / Warehouseable / Manufacturing Commodities</b>	<b>Compound Annual Growth Rates by Period</b>			
	<b>2015 - 20</b>	<b>2020 - 30</b>	<b>2030 - 40</b>	<b>2015 - 40</b>
Inbound to St. Louis CSA	2.2%	1.2%	0.8%	1.3%
Outbound from St. Louis CSA	2.6%	1.7%	1.2%	1.6%
Total	1.6%	1.0%	0.8%	1.1%

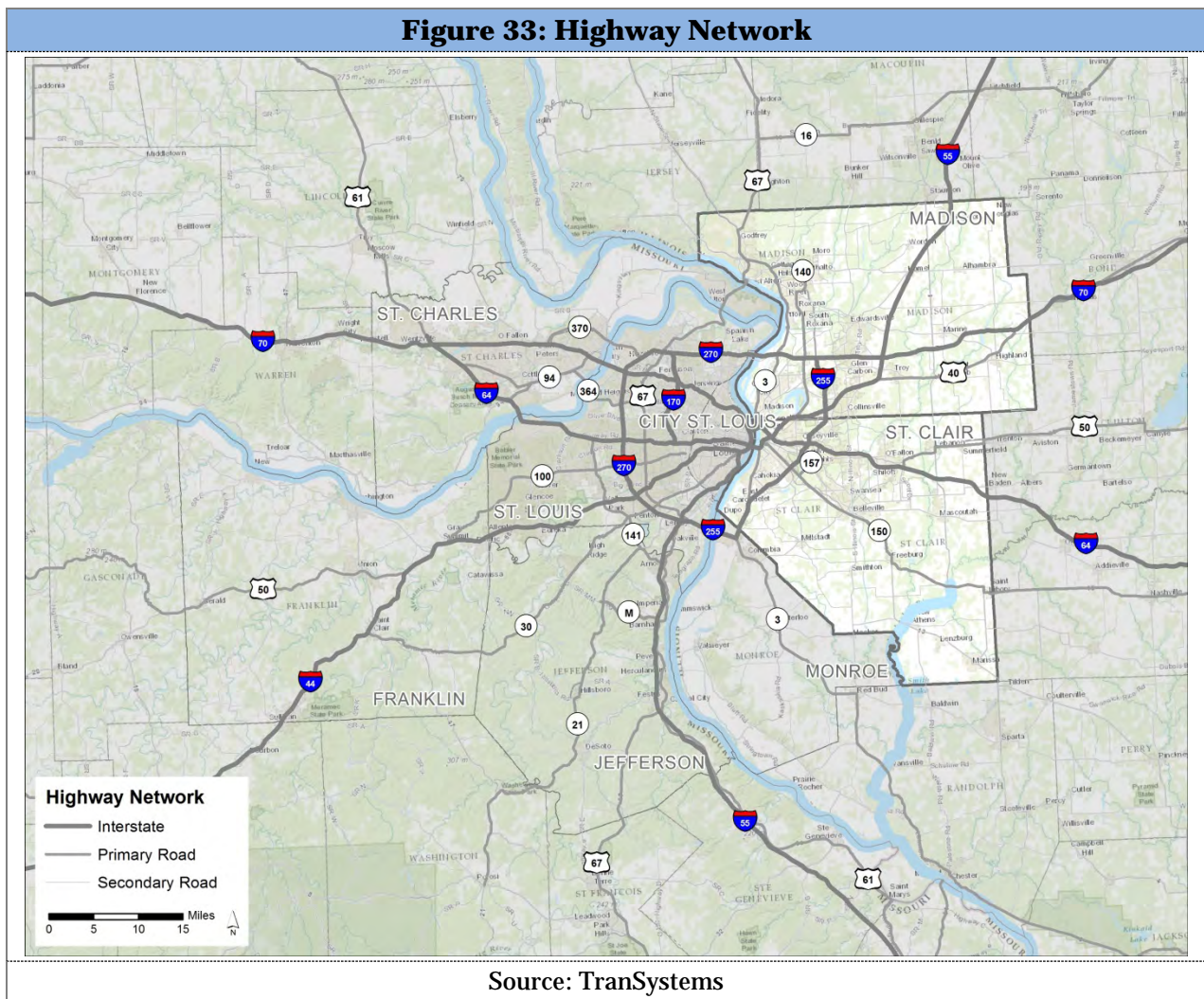
<b>Table 1: Higher Value / Warehouseable / Manufacturing Commodities</b>			
<b>Inbound Freight to St. Louis CSA</b> <i>(Forecast 1.3% CAGR* 2015 to 2040)</i>		<b>Outbound Freight from St. Louis CSA</b> <i>(Forecast 1.6% CAGR* 2015 to 2040)</i>	
A commodity is designated as high or low growth if its projected growth is higher or lower than the projected growth of total inbound or outbound freight for the period 2015 to 2040.			
<b>High Growth Commodities</b>	<b>Low Growth Commodities</b>	<b>High Growth Commodities</b>	<b>Low Growth Commodities</b>
Pharmaceuticals	Newsprint/paper	Precision instruments	Motorized vehicles
Precision instruments	Live animals/fish	Misc. mfg. prods.	Newsprint/paper
Chemical prods.	Milled grain prods.	Electronics	Textiles/leather
Misc. mfg. prods.	Paper articles	Transport equip.	Live animals/fish
Machinery	Basic chemicals	Pharmaceuticals	Printed prods.
Furniture	Printed prods.	Plastics/rubber	Base metals
Mixed freight	Articles-base metal	Chemical prods.	Meat/seafood
Alcoholic beverages	Motorized vehicles	Machinery	Articles-base metal
Unknown	Base metals	Mixed freight	Milled grain prods.
Textiles/leather	Tobacco prods.	Furniture	Tobacco prods.
Electronics		Paper articles	
Meat/seafood		Alcoholic beverages	
Plastics/rubber		Basic chemicals	
Transport equip.			
*Compound annual growth rate Source: GKSF based on FAF3 Forecast			

## Section 4 | Freight Infrastructure and Facilities

The St. Louis region has a vast transportation network encompassing highways, railroads, waterways, airports, and pipelines. These modes provide a strong base for supporting freight transportation infrastructure in the region. The existing conditions by mode are reviewed at a regional level followed by a focus on infrastructure in the Southwestern Illinois region.

### Highway

The St. Louis region's highway system, displayed in Figure 33, encompasses four interstate highways that transverse the region: Interstate 70, Interstate 44, Interstate 64, and Interstate 55. With this coverage, freight can travel radially from St. Louis in six different directions. Within the metropolitan area, interstate beltways or links include I-270, I-255, and I-170. U.S. Route 50, Route 61, and Route 67 provide greater connectivity throughout the region.



Three of the four cross-state interstate highways travel through Southwestern Illinois: I-55 to connect to Memphis and Chicago, I-70 to connect to Kansas City and Indianapolis, and I-64 towards Louisville. I-255 and I-270 in Illinois form the eastern segments of the beltway loop around St. Louis. As indicated by truck flows in Figure 34, Figure 35, and Figure 36, the majority of the inbound and outbound freight in the Southwestern Illinois region travels between St. Louis and Chicago via I-55. Illinois Route 3, a north-south corridor inside the beltway loop, is a critical, local freight route.

Truck congestion is significant in both directions across the Mississippi River on I-64/55 as the corridor approaches and crosses the Mississippi River via the eight-lane Poplar Street Bridge. The new four-lane I-70 bridge, the Stan Musial Veterans Memorial Bridge, is located about two miles north of the Poplar Street Bridge and was completed in early 2014. Monitoring of the new bridge for the first few months indicated that traffic on the nearby Poplar Street Bridge decreased by approximately 19 percent, slightly lower than the estimated impact. The new I-70 bridge has the capacity to expand to six lanes and was designed to accommodate a future companion bridge. About ten miles north of downtown St. Louis, the I-270 bypass has emerged as a preferred route for trucks to avoid downtown congestion and it directly passes by the Gateway Commerce Center and Lakeview Commerce Center. With expectations that these industrial areas will see distribution center development due to the improved linkage to Chicago, growth in trucking along this corridor should be anticipated.

**Figure 34: St. Louis Through Truck Tons in 2010**



Source: TranSystems and FHWA

**Figure 35: St. Louis Inbound Truck Tons in 2010**



Source: TranSystems and FHWA

**Figure 36: St. Louis Outbound Truck Tons in 2010**



Source: TranSystems and FHWA

## **Interstate 270-70 Corridor**

Interstate 270 is one of two major beltways around the St. Louis area. The northern terminus is the interchange with I-55/70 in Madison County, Illinois and its southern terminus is I-55/255 interchange in southern St. Louis County, Missouri. At the northern terminus of I-270, the east-west route continues as I-70. As indicated, the northern I-270 corridor has emerged as an alternate route for trucks to avoid downtown congestion. With expectations that industrial areas along the route will experience further development, growth in truck volume along this corridor should be anticipated. I-270 in this area is also the only remaining four-lane portion of the beltway – all other segments in Missouri are six to ten lanes.

For purposes of this study within Southwestern Illinois, the I-270-70 corridor analysis includes the interstate from the Mississippi River east to the Madison-Bond County border in Illinois. A segment by segment analysis in terms of transportation infrastructure and land use is presented below and illustrated in Figure 37.

*Segment 1 (Mississippi River to Route 3):* Analysis of the I-270-70 corridor in Madison County begins at the Mississippi River. At this point, I-270 is a four-lane, divided highway for approximately one mile in Missouri – beginning one of the only segments of I-270 that is not at least a six-lane section. Transitioning from a suburban interstate in Missouri to an exurban interstate in Illinois, the 3.5-mile segment passes through floodplains and farmland. The 1-mile Chain of Rocks Bridge over the Mississippi River was constructed in 1966 to replace the original bridge to the south (the original two-lane crossing is currently used as a pedestrian bridge). The bridge has a double guardrail median and no shoulders. Average daily traffic on the bridge is about 54,000 vehicles and more than 8,700 trucks.

This segment then crosses the Chain of Rocks Canal, the navigable channel for all Mississippi River barge traffic passing through St. Louis. Construction of the new Canal Bridge with shoulders was completed in 2014. The \$104 million project included levee construction, bridge construction, bridge demolition, pavement removal, new alignment, and partial reconstruction of the interchange with Route 3. IDOT is currently preparing the old bridge for demolition and is expected to complete the project in summer 2015. Just west of the Canal Bridge is a partial cloverleaf system interchange with Route 3. Route 3 provides access to the Lewis and Clark (LC) industrial area in the north and the Route 3 North (TN) industrial area and America's Central Port to the south. About 11,800 vehicles travel via the interchange ramps daily.

*Segment 2 (Route 3 to Route 157):* Segment 2 begins just east of the Route 3 interchange and travels 6.3 miles to the interchange with Route 157. The four-lane section of I-270 has a stop-controlled, partial cloverleaf service interchange with Old Alton Road and Route 203 with two folded diamonds due to the railroad tracks between the two roadways. The route then encounters a cloverleaf system interchange with Route 11. At this point, I-270 transitions from a

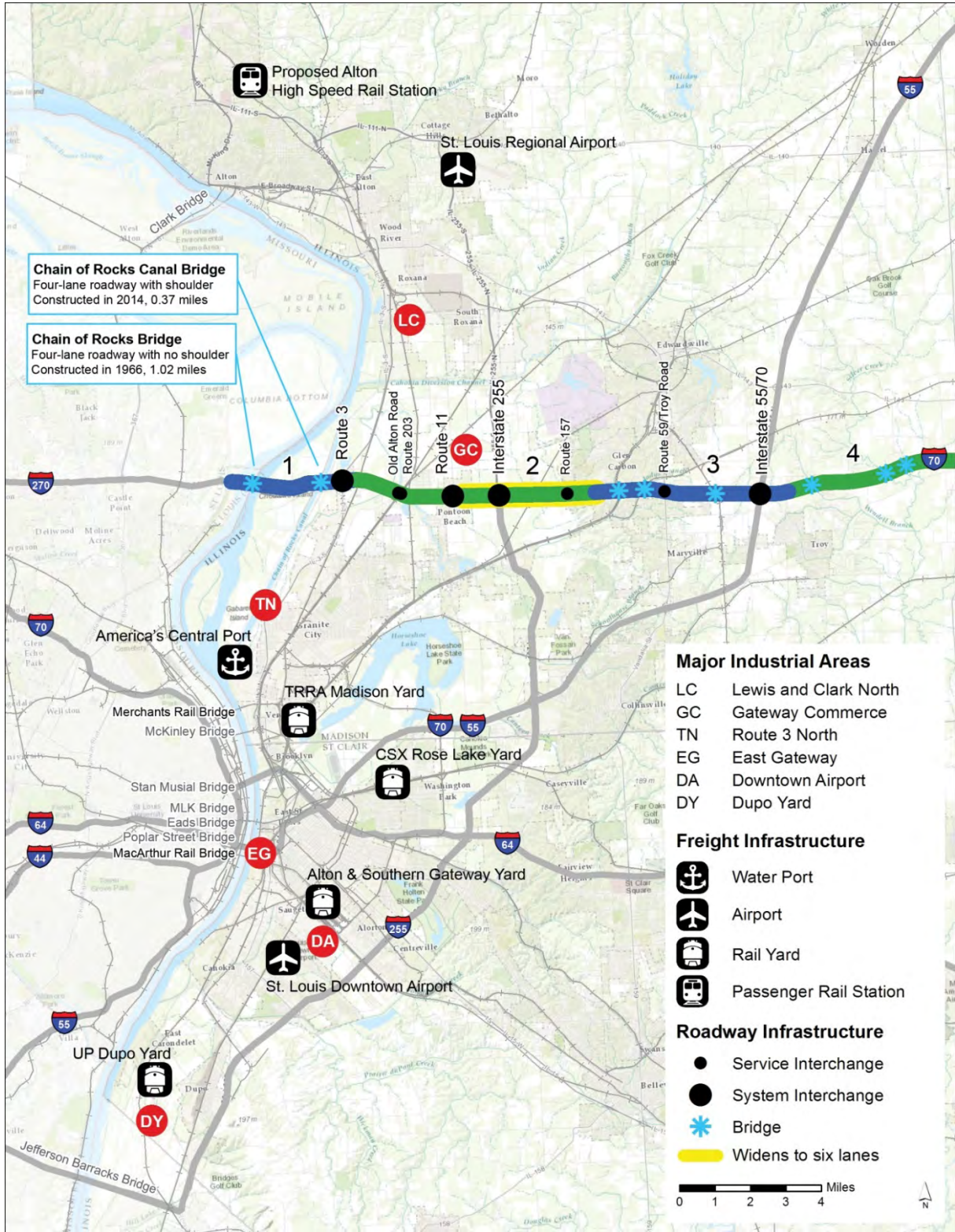
four-lane to a six-lane section and the speed limit increases from 55 to 65 mph as the corridor approaches I-255. The partial cloverleaf system interchange with I-255 includes a flyover ramp from northbound I-255 to westbound I-270. The two system interchanges with Route 11 and I-25 provide access to the Gateway Commerce Park (GC) industrial area to the north. This segment ends just east of the stop-controlled, diamond service interchange with Route 157. At this point, I-270 transitions back to a four-lane section with a wide median. Average daily traffic on this segment ranges from 50,000 to 55,000 vehicles and between 8,000 and 10,000 trucks – similar to the volume in Segment 1. The three grade-separated rail crossings located along the segment do not have clearance issues.

*Segment 3 (Route 157 to I-55/70):* Segment 3 begins just west of the Route 157 interchange and travels 5.0 miles to the interchange with I-55/70. The four-lane section of I-270 passes through the City of Glen Carbon. A signal controlled, diamond service interchange with Route 59/Troy Road is located at the mid-point of the segment. This segment ends at the interchange with I-55/70. The partial cloverleaf system interchange includes a flyover ramp from westbound I-270 to southbound I-55/70. At this point, I-270 ends – I-55 continues north to Chicago and I-70 shifts direction to travel east towards Indianapolis. Average daily traffic ranges from 50,000 vehicles at the west end of the segment and gradually decreases to 30,000 vehicles at the I-55/70 interchange. Truck volume, however, remains consistent at roughly 8,000 trucks. There are also three small bridge crossings over a trail system that includes the Madison County Transit Nickel Plate Trail, the Glen Carbon Heritage Bike Trail, and the Madison County Transit Goshen Trail.

*Segment 4 (I-55/70 to County border):* The last segment of the corridor covers I-70 for nearly 17 miles to the Madison-Bond County border. The four-lane, rural section has three stop-controlled, diamond service interchanges: Route 4, Route 143, and U.S. Route 40/Stein Road. An eastbound and westbound rest area is located near Highland Silver Lake. There are four small bridge crossings over local streams and/or water bodies: Wendell Branch, Silver Creek, and Highland Silver Lake. As in Segment 3, average daily traffic gradually decreases as the corridor continues east with an average daily traffic falling from 30,000 vehicles to 22,700 near the County border. Again, truck volume remains consistent at roughly 8,000 trucks.



**Figure 37: Interstate 270-70 Corridor**



Source: TranSystems

## **Route 3 Corridor**

Illinois Route 3 is a major north-south state highway with its northern terminus near the confluence of the Illinois and Mississippi Rivers in Grafton, Illinois and its southern terminus near the Missouri-Illinois-Kentucky border in Cairo, Illinois. For purpose of this study within Southwestern Illinois, Route 3 travels over 40 miles from the Madison-Jersey County border near Alton, Illinois and parallels the Mississippi River inside the I-255 beltway until merging with I-255 near the St. Clair-Monroe County border. Route 3 serves as an inner belt in Southwestern Illinois to access the industrial heart of the region including the municipalities of Wood River, Granite City, East St. Louis, Sauget, and Dupou.

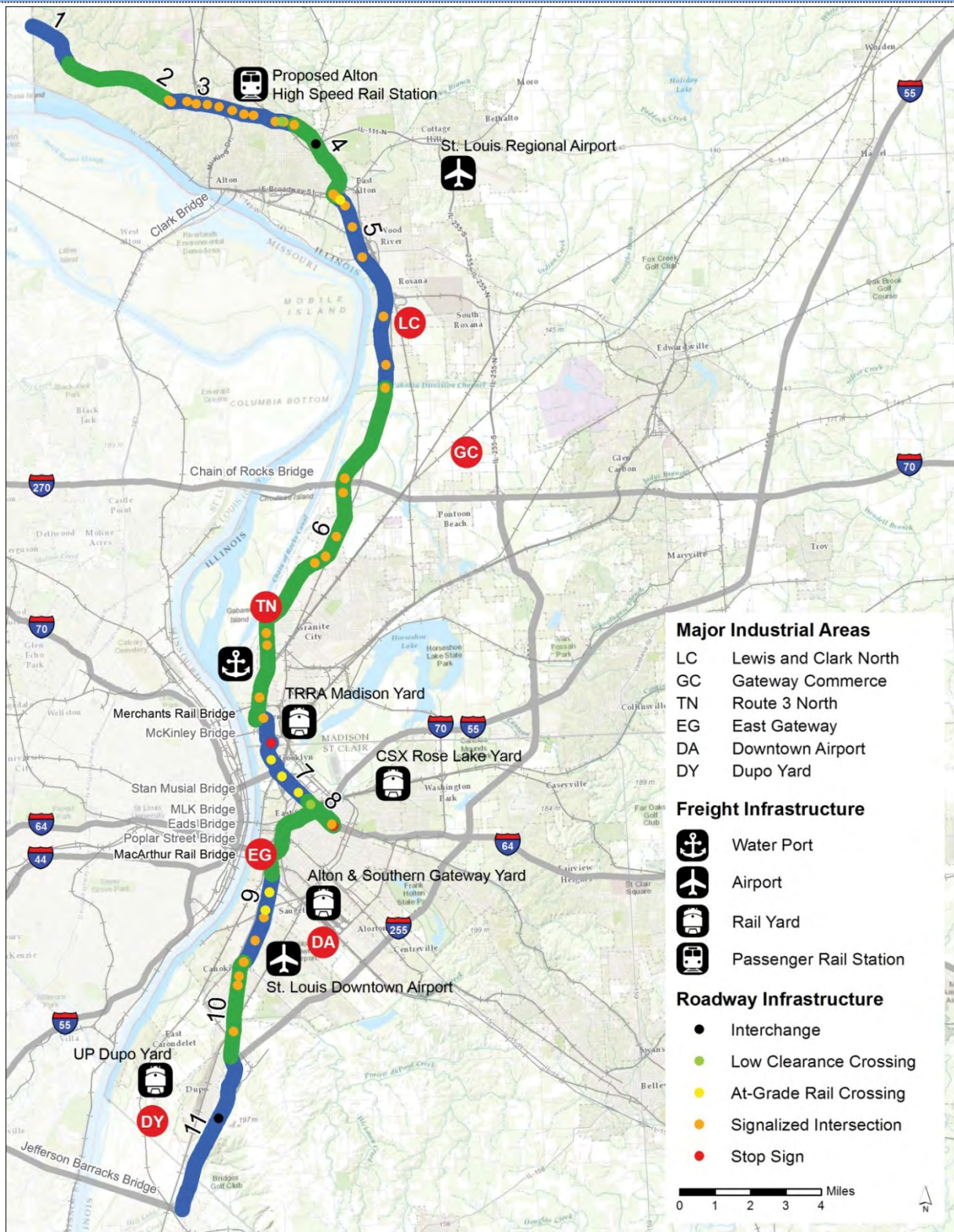
In 2013, the Leadership Council Southwestern Illinois completed a Community Impact Assessment of the Route 3 corridor. The corridor is dominated by transportation, manufacturing, and wholesale distribution business activity. According to the assessment, the corridor contains 1,380 businesses (with 10+ employees) with annual revenue of \$6.3 billion, providing employment for a workforce of 75,000 and an annual payroll of \$3.3 billion. The indirect economic impacts of the businesses total \$20 billion in annual business revenue throughout the St. Louis region. A segment by segment analysis of the Route 3 corridor in terms of transportation infrastructure and land use is presented below and displayed in Figure 38.

*Segment 1 (Delmar Avenue):* The 1.6-mile segment in the City of Godfrey travels from the Jersey-Madison County border to Stanka Lane. This segment is a 34-foot, two-lane rural section with an average daily traffic of 6,000 vehicles and about 300 trucks. Sporadic residential uses are located on both sides of the corridor.

*Segment 2 (Delmar Avenue):* The 3.2-mile segment continues south until shifting direction at Homer Adams Parkway. This segment is a 45-foot, three-lane section with a center turn lane and sidewalk on portions of the east side of the roadway. The corridor transitions from rural to urban character as the route approaches the City of Alton, accommodating an average daily traffic of 16,700 vehicles and 600 trucks at the junction with Homer Adams Parkway. Primarily residential uses are located on both sides of the corridor.

*Segment 3 (Homer Adams Parkway):* At a signalized intersection with Homer Adams Parkway, the 3.6-mile segment travels east through the City of Alton. This segment expands from a three-lane section to a 90-foot, four-lane urban section with a concrete median. Multiple signalized intersections and turn pockets are located along this segment, as well as a low clearance grade-separated rail crossing. Average daily traffic gradually increases to a peak of 24,000 vehicles and 1,200 trucks. A mix of residential and commercial uses is located along the corridor.

**Figure 38: Route 3 Corridor**



Source: TranSystems

*Segment 4 (Homer Adams Parkway):* The 2.7-mile segment continues south through the City of Alton. While this segment is similar to Segment 3 with its four-lane urban section with a concrete median, Segment 4 is a limited access corridor with no signalized intersections and one interchange at College Avenue. While average daily traffic gradually decreases to 16,000 vehicles, truck traffic increases to 1,600 trucks south of the junction with College Avenue. A mix of residential and commercial uses is adjacent to the corridor, but no parcels have direct access to Route 3. Bluff City Minerals, the 100-acre sand and gravel mining operation by Fred Weber Inc., is located at the southeastern corner of Route 3 and College Avenue and likely accounts for the increase in truck traffic on Route 3 south of College Avenue.

*Segment 5 (Lewis and Clark Boulevard):* The 5.7-mile segment passes through two signalized intersections at the Alton-East Alton municipal border as Route 3 shifts direction to continue south to New Poag Road. The 75-foot, four-lane section with concrete median transitions to rural character as it bypasses the residential areas in the City of Wood River and the Village of Hartford. The segment has relatively limited access with the exception of six signalized intersections and a few cross streets to provide access to adjacent areas. Average daily traffic varies from 12,000 vehicles near the northern end to 17,000 vehicles at the southern end. Truck traffic also varies but is heavier near the industrial uses south of Route 143/Madison Avenue with up to 2,200 trucks. One at-grade rail crossing leads to the Alton Steel plant. The Lewis and Clark North (LC) industrial area, which is dominated by the Conoco Phillips refinery, is located along Segment 5. A full-integrated brass mill operated by Olin Brass that supplies finished product to domestic and international facilities is also located along this segment.

*Segment 6 (Lewis and Clark Boulevard):* The 10.6-mile segment begins at the signalized intersection with New Poag Road, passes I-270, and terminates at the signalized intersection with Broadway Street in the Village of Venice. Although Route 3 changes direction at this intersection, through traffic has access to the McKinley Bridge over the Mississippi River. The 110-foot, four-lane, divided rural section travels through the City of Granite City. This segment also has relatively limited access, but signalized intersections provide access to adjacent areas at key locations. Average daily traffic varies between 13,000 and 19,000 vehicles while truck traffic ranges from 2,200 to 3,700 trucks. All three railroad crossings are grade-separated with no clearance issues, with the southernmost of the three crossings leading to the Merchant Rail Bridge over the Mississippi River. Segment 6 offers primarily industrial uses. The growing Gateway Commerce (GC) industrial area about three miles east of Route 3 is accessible via two interchanges with I-270. Further south, the Route 3 North (TN) industrial area is a combination of America's Central Port and surrounding industrial areas that is served by truck, rail, and barge traffic. A two-mile section of Segment 6 expands from a four-lane to a six-lane roadway to increase capacity near this industrial area. Other major industrial uses near the Route 3 North industrial area include the TRRA Madison Yard, the U.S. Steel Corporation's Granite City Works, and American Steel Foundries.

*Segment 7 (Broadway Street/4th Street/2nd Street/St. Clair Avenue):* The 3.1-mile segment shifts character drastically after changing direction at the signalized intersection with Broadway Street. The corridor transitions to a 30-foot, two-lane rural section that passes through the City of Venice. The route then changes direction at a stop-controlled intersection to pass through the Village of Brooklyn. Three at-grade rail crossings and multiple local streets restrict traffic along this corridor. Average daily traffic drops significantly to vary between 3,200 and 5,200 vehicles and roughly 600 trucks. Most uses along this segment are residential.

*Segment 8 (St. Clair Avenue/Interstate 64/Interstate 55):* The 4.3-mile segment shifts drastically again as the corridor travels through the City of East St. Louis and merges with I-64/55. The approach to the interstate is a 50-foot, three-lane urban section with a center turn lane and travels under a grade-separated rail crossing with a 13-foot, 10-inch low clearance. If traveling south on Route 3, traffic merges onto I-64/55 relatively smoothly (if traveling north on Route 3, traffic must pass through the I-64/55/70 interchange to travel south on I-64 in order to exit and begin traveling north once again on Route 3). Once maneuvering the roughly 2.8 miles of the six-lane interstate, traffic exits onto Route 3 before the Mississippi River. This segment provides access to the Poplar Street Bridge, Eads Bridge, and Martin Luther King Jr. Bridge. The Poplar Street Bridge is the second most heavily used bridge on the Mississippi River. Before vehicles diverge via the three bridge crossings, the interstate has an average daily traffic of 125,000 vehicles and nearly 16,000 trucks.

*Segment 9 (Mississippi Avenue):* The 2.6-mile segment through the Village of Sauget and City of Cahokia stretches from I-64/55 to a signalized intersection at Camp Jackson Road. This segment is a 70-foot, five-lane urban section that accommodates multiple cross streets with a center turn lane. Five signalized intersections and two at-grade railroad crossings are located along the corridor. Average daily traffic ranges from 20,000 to 25,000 vehicles and 2,100 to 3,600 trucks. The segment is characterized by the multitude of freight infrastructure. The East Gateway (EG) industrial area encompasses multiple rail lines and industrial facilities. The Downtown Airport (DA) includes an industrial area speckled with a few large warehouses and manufacturing buildings but has capacity to grow in the Sauget Business Park, which has access to both Route 3 and I-255. North of the airport, the Alton & Southern's Gateway Yard serves as the railroad's base of operations. Rail has access over the Mississippi River via the MacArthur Bridge at the northern end of this segment.

*Segment 10 (Mississippi Avenue):* This 2.7-mile segment continues through the City of Cahokia and into the Village of Dupou. The route transitions from an industrial five-lane section to a residential four-lane section with a concrete median. Three signalized intersections are located along the corridor. Average daily traffic transitions from 17,000 to 9,000 vehicles as the corridor continues south towards the junction with I-255. Similarly, truck traffic also decreases from

2,000 to 1,000 trucks. While uses are primarily residential, traffic can access the Union Pacific Dupo Yard (DY) industrial area via a signalized intersection at Stolle Road.

*Segment 11 (Interstate 255):* In the last 4.7-mile segment, Route 3 merges with six-lane I-255. The interstate provide access via the Jefferson Barracks Memorial Arch Bridge into south St. Louis County or traffic can continue south on Route 3 towards the City of Columbia. Average daily traffic is over 4,000 vehicles and nearly 1,000 trucks. Improvements are planned for an existing interchange at I-255 and Main Street, which provides access to the Union Pacific Dupo Yard (DY).

### **Transportation Improvement Plan (TIP) FY 2015-2018**

The current Transportation Improvement Plan (TIP) FY 2015-2018 is a schedule of transportation improvements planned for the St. Louis region. Federal legislation requires the East-West Gateway Council of Governments to prepare and approve the TIP for federal funds to be used on identified projects. The organization covers the eight-county metropolitan area, including St. Clair and Madison Counties. Projects identified in the TIP have been prioritized based on the region's long-range transportation plan, *Regional Transportation Plan 2040*. The six project priority areas, in order of regional significance, are outlined below:

1. Preservation of Existing Infrastructure
2. Safety and Security in Travel
3. Congestion Management
4. Access to Opportunity
5. Sustainable Development
6. Efficient Movement of Goods

The bi-state TIP FY2015-2018 contains 688 projects at a total cost of approximately \$1.83 billion in federal, state, local, and private funding. Consistent with the goals of the *Regional Transportation Plan 2040*, the TIP continues the region's emphasis on preserving the existing infrastructure by committing nearly 40 percent of the total program to resurfacing, reconstruction, and replacement of aging transportation systems and facilities. About twelve percent of the total program is allocated to operation and safety improvements and six percent to capacity expansions.

Over the past ten years, emphasis in IDOT's program has shifted between preservation and capacity needs. Capacity projects spiked at 55 percent in the FY 2010-2013 program but have decreased to 11 percent in the current program. Projects relevant to the freight infrastructure in Southwestern Illinois that have been implemented from the TIP FY 2014-2017 and programmed projects for the TIP FY 2015-2018 are described in Table 2 and illustrated in Figure 39. The projects below were either identified as congestion management or sustainable development priorities. None of the projects in the TIP FY 2015-2018 listed efficient movement of goods as

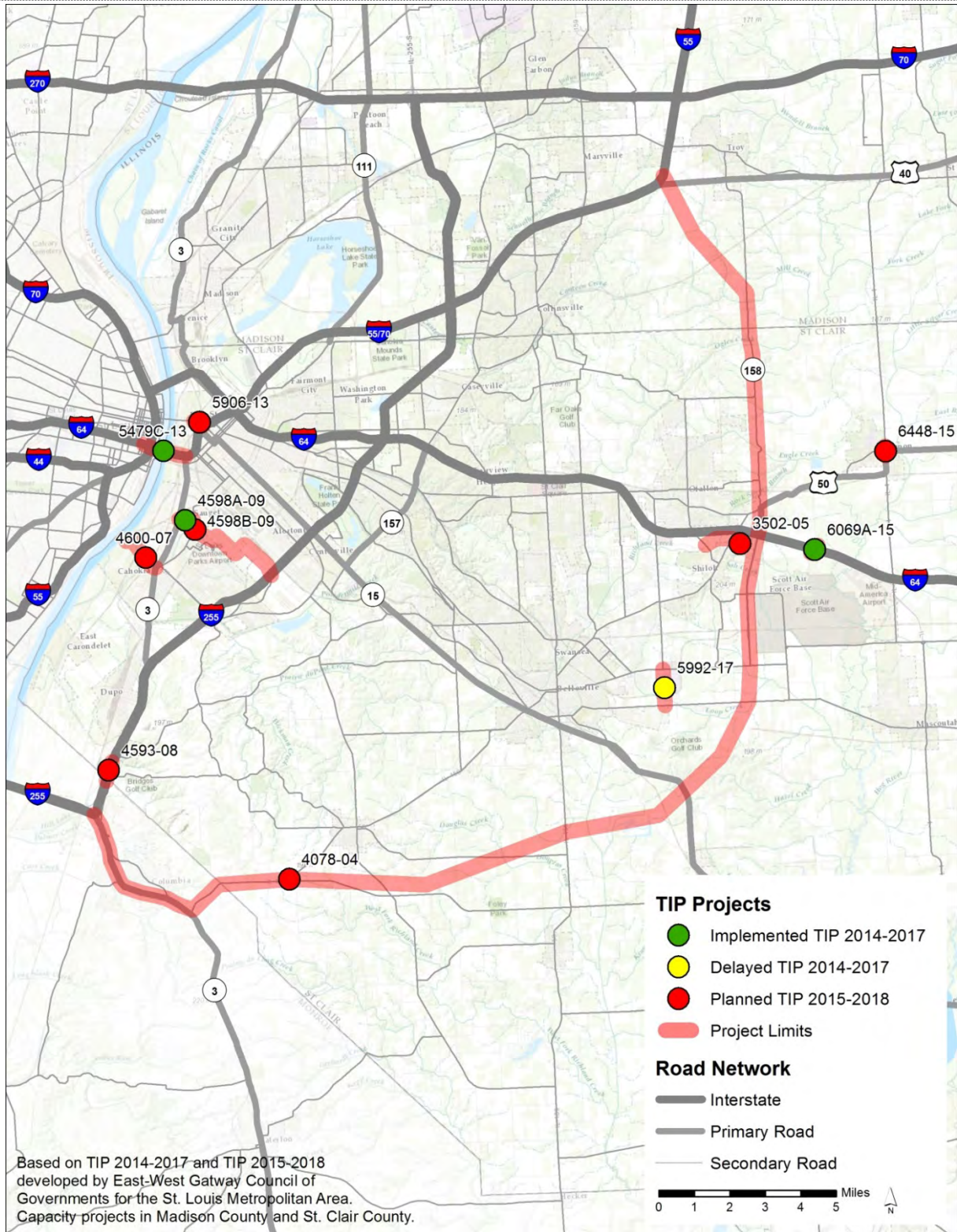
the project purpose. Several projects are funded through high priority projects in the SAFETEA-LU federal legislation enacted by Congress in 2005, which represented the largest surface transportation investment in U.S. history.

<b>Table 2: TIP Projects</b>				
<b>TIP</b>	<b>Project</b>	<b>Description</b>	<b>Status</b>	<b>Cost<sup>2</sup></b>
6069A-15	IDOT - I-64 Interchange	New interchange at Rieder Road	Construction <i>Completed in 2014</i>	\$40.0 million
4598A-09 <sup>1</sup>	Sauget - Queeny Avenue	New two-lane roadway from Loop Hollow Road to Monsanto Road	Construction <i>Completed in 2014</i>	\$3.3 million
5479C-13	MoDOT - I-64 Mississippi River Bridge	Bridge and ramp improvements and add eastbound lane from 6th Street to Route 3	Construction <i>Ongoing 2014-2016</i>	\$37.7 million
3502-05 <sup>1</sup>	St. Clair County - Frank Scott Parkway	New two-lane roadway from Cross Street to Route 158	Construction <i>2015</i>	\$6.8 million
4598B-09 <sup>1</sup>	Sauget - Queeny Avenue	New two-lane roadway from Route 3 to I-255 to serve Falling Springs Road to Sauget Industrial Parkway	Construction <i>2015</i>	\$0.75 million
4600-07 <sup>1</sup>	Cahokia - Cargill Road	New two-lane roadway from Route 3 to the Mississippi River barge dock	Engineering <i>2015</i>	\$2.0 million
5906-13	IDOT - Martin Luther King Jr. Bridge Ramps	Ramp for new interchange from eastbound Martin Luther King Jr. Bridge to southbound I-55/64	Construction <i>2015</i>	\$27.0 million
6448-15	IDOT - Lebanon Bypass	Bypass from Route 40 to U.S Route 50 east of Lebanon	Engineering <i>2015</i>	\$0.19 million
4593-08 <sup>1</sup>	Dupo - Davis Street Ferry Road	New interchange at I-255	Land acquisition <i>2016</i>	\$29.9 million
4078-04	IDOT - Route 158 Gateway Connector	Corridor protection from I-255 to I-55/70	Land acquisition <i>2015-2018</i>	\$0.14 million
5992-17	IDOT - Green Mount Road	Widen roadway from two to four lanes from Route 161 to Route 177 and add center turn lane	Construction <i>Delayed until 2019</i>	\$8.0 million

<sup>1</sup> Projects identified as SAFETEA-LU earmarked

<sup>2</sup> Cost of the specific phase of the project (i.e. construction, preliminary engineering, etc.)

**Figure 39: TIP Projects**



Source: TranSystems and East-West Gateway Council of Governments



## 2015 Multimodal Priorities for Southwestern Illinois

The SITE Committee is a group of individuals representing rivers, rail, roads, transit, and runways. With the goal of driving economic development in Southwestern Illinois through transportation infrastructure, the SITE Committee lists priority projects in the region based on three criteria:

1. Multimodal impact
2. Economic development return
3. Regional significance

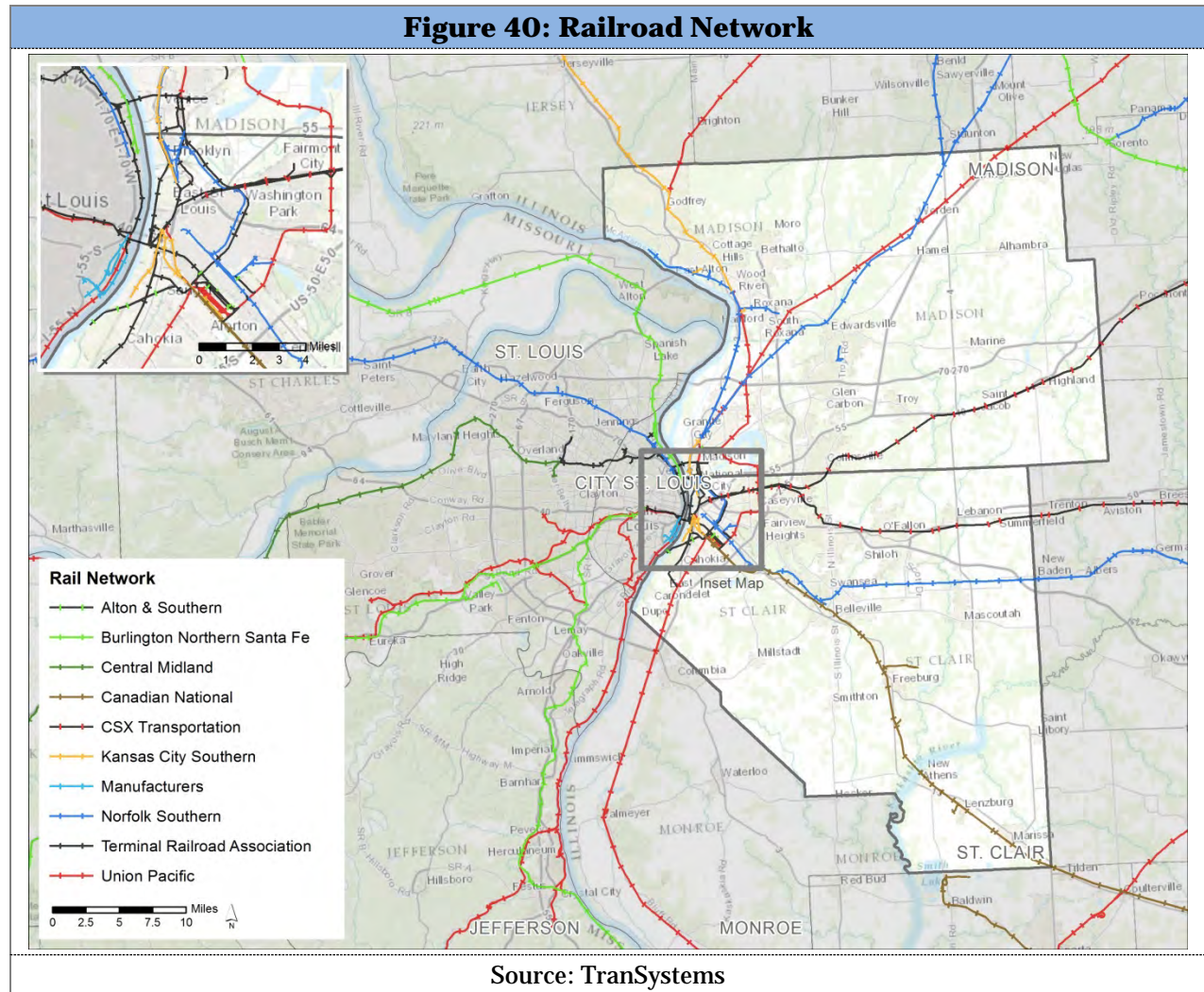
The several roadway project priorities that were identified by SITE in 2015 are listed in Table 3. About half of the roadway projects overlap with items in the TIP FY 2015-2018 or IDOT's Multi-Modal Multi-Year Program (MYP) 2015-2020. Other multimodal priorities identified by the SITE Committee are listed in the respective section by mode.

<b>Table 3: SITE Priority Roadway Projects</b>		
<b>Project</b>	<b>Status</b>	<b>Estimated Cost</b>
Poplar Street Bridge Interchange (MoDOT) and bridge widening (MoDOT/IDOT)	TIP 5479C-13 <i>Anticipated completion 2016</i>	\$60 million
Martin Luther King connection (IDOT)	TIP 5906-13 <i>Anticipated completion 2016</i>	\$25 million
I-64 Rieder Road new interchange (St. Clair County/IDOT)	TIP 6069A-15 <i>Anticipated completion 2016</i>	\$40 million
Replace I-270 Mississippi River Bridge with a new six-lane structure	IDOT MYP 2015-2010 for preliminary engineering	\$160-175 million
I-270 widening from four to six lanes between Illinois Route 111 and Lilac Avenue in Missouri	-	\$350-400 million
I-255/Davis Street Ferry Road new interchange in St. Clair County	TIP 4593-08 IDOT MYP 2015-2020	\$19.5 million (local match required)
Illinois Route 3 structure over Alton & Southern Railroad in St. Clair County	-	\$55.0 million
Pontoon Road overpass to elevate traffic over the Alton & Southern Railroad in Granite City	-	\$14-16 million
Illinois Route 3 relocation in St. Clair County from River Park Drive to Monsanto Avenue	-	\$110-150 million

## Railroad

The St. Louis region is fortunate to have access to six of the seven Class I railroads: BNSF Railway, Canadian National, CSX Transportation, Kansas City Southern, Norfolk Southern, and Union Pacific. Other prominent railroads include Alton & Southern, Central Midland, Manufacturers, and the Terminal Railroad Association. Most of the railroads pass through Southwestern Illinois and converge near the City of St. Louis, as displayed in Figure 40. Through rail tons primarily travel from the Kansas City area into the St. Louis region while through intermodal rail tons primarily parallels the I-55 corridor through the St. Louis region in order to connect to Chicago. Other rail facilities are located in the Missouri portion of the region.

**Figure 40: Railroad Network**



### **Terminal Railroad Association (TRRA)**

The TRRA was established in the 1880s to satisfy the need for an efficient, safe, and economical method of interchanging rail traffic in the St. Louis region and crossing the Mississippi River. Today, the TRRA owns and operates the Merchants Bridge, the MacArthur Bridge, a rail switching facility in the City of Madison, and several key railroad routes in Southwestern Illinois and St. Louis, Missouri.

The Merchants and MacArthur Bridges are the top investment priorities for rail infrastructure in the region. Constructed in 1889, the Merchants Bridge is a 0.5-mile long railroad-only bridge over the Mississippi River located north of downtown St. Louis. It is the oldest rail crossing of the Mississippi River and is ranked sixth in the number of rail crossings over the river. The MacArthur Bridge is a double track bridge, but load restrictions effectively reduce it to a single track bridge. Constructed forty years after the Merchants Bridge, the MacArthur Bridge is part of a 6.2-mile elevated track that crosses the Mississippi River into downtown St. Louis and is ranked fourth in the number of rail crossings over the river. The bridge was originally constructed with a road deck over the rail deck, but the bridge is currently used for rail traffic only. The two bridges are operated together as a system, making it the highest used crossing of the Mississippi River. The TRRA would like to stage improvements on the rail bridges over the next five years and is seeking a TIGER application and public-private partnerships for financing.

There are strong barge connections in the region that help facilitate the volume of unit trains. America's Central Port, Bunge, Bulk East and Bulk West, Lange Steadman are facilities that support the need for rail service. Growth in transload is anticipated in plastics, fertilizer, and salt. There has also been recent interest in a storage yard to bring in unit trains but take deliveries to customers on manifest service as most users can only receive a delivery of ten cars. The TRRA Madison Yard has capacity for a storage yard, but staff indicated that it will be important to maintain real estate for future capacity needs. During the 1980s and 1990s, real estate was sold that could have been beneficial for service today. There is also a need for last mile improvements such as capacity expansion at Tyler Street/Bulk West to relieve congestion, local street maintenance, and the construction of grade-separated crossings.

### **Union Pacific (UP)**

Union Pacific is a Class I rail carrier that operates the Union Pacific Dupo Intermodal Terminal is located in Dupo, Illinois with access to I-255 and Illinois Route 3. The facility averaged 111,000 annual lifts in 2013 with 13 originating intermodal trains per week servicing Dallas, Los Angeles, and Seattle. There are more than 50 through trains per day on the mainline adjacent to the Dupo Yard. There are five-8,000 foot tracks used to inspect and fuel 10-12 coal trains daily. The Dupo Yard services coal-fired utilities in Southern Illinois and Kentucky.

The Illinois Department of Transportation has identified a new single-point urban interchange at I-255 and Davis Street Ferry Road to enhance access to the facility and reduce the number of at-grade crossings through the yard. The interchange is a SAFETEA-LU high priority project. The interchange and system of connecting roads will serve the 2,000-acre Discover Business Park announced in 2005 by Clayco Construction. The first phase of the Discover Business Park includes approximately nine million square feet of commercial, retail, office, and light industrial space with an additional thirteen million square feet of commercial and industrial space in the second phase. The development was modeled after the Gateway Commerce Park in order to create a regional business park that would compete with Memphis, Indianapolis, and Chicago. Full build-out of the \$1 billion distribution and manufacturing development could take up to twenty years.

The current configuration of the Dupo Yard limits functionality of the intermodal terminal. The entrance to the yard requires trucks to crossover the mainline tracks to access the terminal gate. Additionally, storage space is limited and some empty containers are stored outside of the intermodal terminal gate. In past efforts to expand or relocate facilities on the UP network, the railroad has encountered challenges with local, state and national permitting. This experience could influence any future decisions related to changes in yard configuration.

Marketing efforts by the UP in the region have identified potential intermodal, manifest and direct rail-served shippers but the business environment in Illinois has been cited as a deterrent to locating in the area. The Illinois side of the region does have an advantage in that there is limited land for development with rail access in Missouri.

### **CSX Transportation (CSX)**

CSX Transportation is a Class I rail carrier that operates the CSX East St. Louis Intermodal Terminal (also referred to as the Rose Lake Yard). The Rose Lake Yard is located in Fairmont City, Illinois and Washington Park, Illinois near I-55/70 and Illinois Route 203. The facility is part of the CSX Southeastern Corridor with gateways in Chicago, St. Louis and Memphis. According to the Illinois State Rail Plan, the terminal had a volume of 68,000 annual lifts in 2010. Restricted by residential areas to the north and south, the facility has limited potential areas for expansion with a limited amount of modern distribution space in proximity to the yard.

### **Norfolk Southern (NS)**

The Triple Crown Services, a subsidiary of Norfolk Southern, Intermodal Yard is located north of the Gateway Commerce Center near Illinois Route 111. Opened in 2000, the six-acre yard is the newest intermodal asset in the region and can accommodate up to 50,000 annual lifts.

### **Alton & Southern (ALS)**

The Alton & Southern is a switching railroad under the ownership of Union Pacific that operates the Alton & Southern Gateway Yard. The Gateway Yard is located east of I-255 and north of the St. Louis Downtown Airport. Up to 48 trains per day originate or terminate in the Gateway Yard, with an average of 2,100 cars humped and more than 3,500 cars classified each day.

### **2015 Multimodal Priorities for Southwestern Illinois**

In addition to the roadway projects, five rail-specific project priorities were identified by the SITE Committee in 2015. The five projects are listed in Table 4.

<b>Project</b>	<b>Estimated Cost</b>
Lenox Railroad Tower upgrade to increase freight and passenger speeds	\$12-15 million
Merchants and MacArthur Bridge enhancements, including superstructure repairs to the Merchants Bridge and long-range plans for replacement	Not identified
America's Central Port rail enhancements that support the new South Harbor in Madison County	\$11.5 million
IDOT's 110-mph High Speed Rail Corridor Tier 1 Environmental Study from Granite City to St. Louis	Not identified
Support 220-mph High Speed Rail Corridor from Chicago to St. Louis	Not identified

### **Waterway**

The St. Louis region is competitively positioned along the Mississippi River with connections to the Missouri, Illinois, and Kaskaskia Rivers. America's Central Port the most northerly, ice-free, full-service port on the Mississippi River, allows barge traffic to travel lock-free from the Gulf of Mexico to the port's slack water harbor. The Kaskaskia Regional Port on the Kaskaskia River, which joins the Mississippi River south of St. Louis, serves as an alternate route. Several private ports are operated along the Mississippi River include Bunge, Gateway Terminals and Gaviion, among others. These private ports allow direct shipment of goods to the

### **America's Central Port**

America's Central Port is a 1,200-acre intermodal business and industrial campus owned and operated by the Tri-City Regional Port District. About two-thirds of the Port was formerly an army base. With access to all three major freight transportation modes – river, rail, and road – the Port's location in Granite City is within a two-day drive of 70 percent of the United States' population and 64 percent of all U.S. businesses. America's Central Port is the only full service public intermodal port along the Mississippi River in the region and provides access to four

interstate highways and six Class I railroads. The Port is also a grantee of Foreign Trade Zone #31 offering special customs benefits to U.S. companies engaged in international trade.

The Port's North Harbor is the most northerly ice-free port on the Mississippi River, allowing it to operate year-round with 24-hour barge switching services. This 6,000-foot slack-water harbor is located just north of Lock #27 and serves approximately 2,500 barges and 3 million tons of grain, steel, petro-chemicals, and other bulk goods per year. The facility includes dry and liquid bulks terminals, general cargo dock, and roll-on/roll-off dock. The liquid bulk terminal includes rail and truck loading racks, tank farms, and a river dock. The Port includes two high-capacity dry bulk material terminals that handle more than two million tons per year. The Port's South Harbor is nearing completion and will be the most northerly lock-free port on the Mississippi River, just south of Lock #27, and offer access to open, southerly barge navigation to the Port of New Orleans. The harbor access will include a rail loop that facilitates unit train movement to the region's six Class I railroad carriers.

Landside, the Port has over 1.7 million square feet of rail-served warehouse space within Foreign Trade Zone #31. In addition, there are over 50,000 square feet of office space and the only small business incubator in Southwestern Illinois. The mixed-use campus is flat and zoned for heavy industrial use with on-site utilities and internal roadway network and over twenty miles of railroad to serve the landside and riverside amenities. Within the Port, a Class III short line railroad provides 24-hour local switching and connections to the Class I carriers with the on-site locomotives.

### **Kaskaskia Regional Port**

The Kaskaskia Regional Port District was created by state legislation in 1965. The district, which includes the southern half of St. Clair County, supports shipments on both the Mississippi and Kaskaskia Rivers. The peak year for tonnage was 1989 when the facility shipped about 4.4 million tons and the primary commodity was coal. When coal tonnage dropped in 1999, the port diversified to ship other commodities including grain, fertilizer, and slag. In 2014, tonnage on the Kaskaskia River was over 1.1 million tons. Kaskaskia Regional Port is considered one of the largest ports in the small port category. In the Port's strategic plan, the district is seeking to develop the Fayetteville Terminal, enhance Scott Air Force Base multimodal shipping opportunities, and evaluate the potential for the district to include all of St. Clair County.

### **Port of East St. Louis**

The Port of East St. Louis is a planned development of 200 acres of a former 1930s industrial site along the Mississippi River. The project is a partnership between the City of East St. Louis and private developers. The initial \$7 million investment funded by the Illinois Department of Commerce and Economic Opportunity and a developer will construct a road, a rail connection and utilities to serve the future port development.

## Air

Of the numerous regional and local airports in the St. Louis region, five major airports are located in the region: Lambert – St. Louis International, Spirit of St. Louis, St. Louis Regional, St. Louis Downtown, and MidAmerica. The five major airports are displayed in Figure 41. Three of the five major airports are located in Southwestern Illinois and described below.

### **St. Louis Downtown Airport**

St. Louis Downtown Airport is located in Cahokia, Illinois just east of downtown St. Louis and is owned and operated by the Bi-State Development Agency. St. Louis Downtown Airport is the second busiest airport in the St. Louis area and the third busiest airport in Illinois after O'Hare and Midway in Chicago. The 1,000-acre airfield contains three paved runways, the largest of which is 7,000-foot by 100-foot. The airport handles an average of 8,500 operations each year and supports over 1,800 jobs in its business park, contributing an estimated \$584 million annually to the region. The 170-acre business park has about 100 acres available and offers county business incentives and assistance.

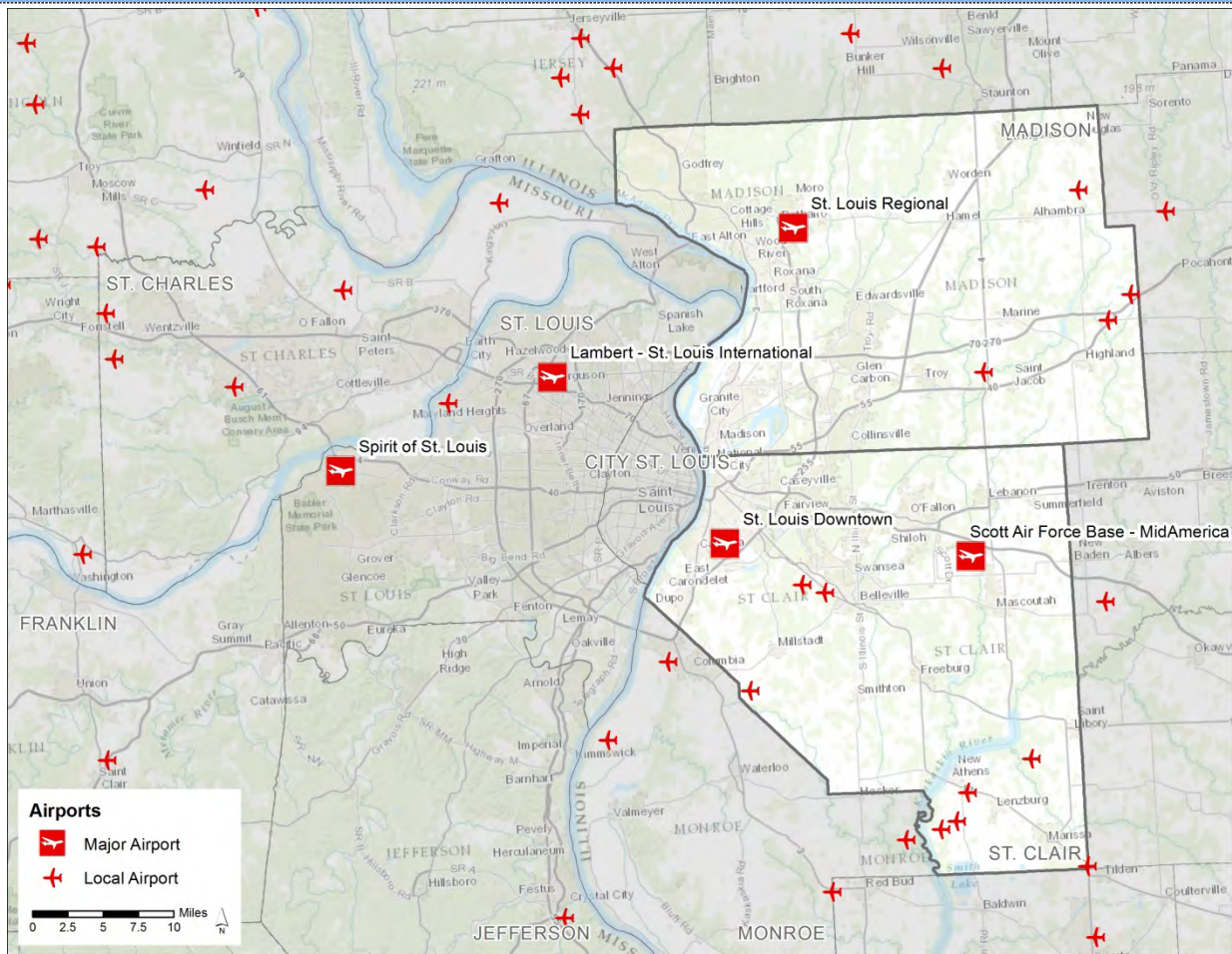
### **MidAmerica Airport**

MidAmerica Airport is located adjacent to Scott Air Force Base and has served as an important airport for military aviation activities. Since 1997, the civilian commercial industry has operated the airport jointly with military services. The airport has two parallel runways of 10,000 feet and 8,000 feet and a 5.9-acre air cargo ramp. Numerous interstates and major inland ports are easily accessible from the airport via I-64, and the Norfolk Southern railroad borders the southern edge of the site. Air cargo facility development sites range from 10 to 200 acres. Most recently, St. Clair County indicated the willingness to offer nearly 200 acres of land adjacent to the airport to attract the National Geospatial-Intelligence Agency as it considers multiple relocation sites. Currently, air cargo is mostly limited to charter services. Most freight is shipped into and out of MidAmerica Airport in a north-south direction and 80 percent of the cargo are perishable goods. The airport hopes to expand its cargo operating footprint through a combination of strategic partnerships, low costs, and leveraging its authorization as a Foreign Trade Zone.

### **St. Louis Regional Airport**

St. Louis Regional Airport is located four miles east of Alton, Illinois. The 2,250-acre airfield contains an 8,100-foot by 150-foot east-west runway and a 6,500-foot by 100-foot north-south crosswind runway. The airport handles an average of 80,000 operations each year and supports over 500 jobs in its business park. Of the 600 acres in the airport business park, 150 acres are utility-ready and available for lease. Available lots range from less than one acre to more than eight acres. West Star Aviation is the largest fixed base operations company at the airport. The company provides a wide range of services including engine repair, interior and exterior paint services, avionics installation and repair, refurbishing, sales, and inspections.

**Figure 41: Map of Regional Airports**



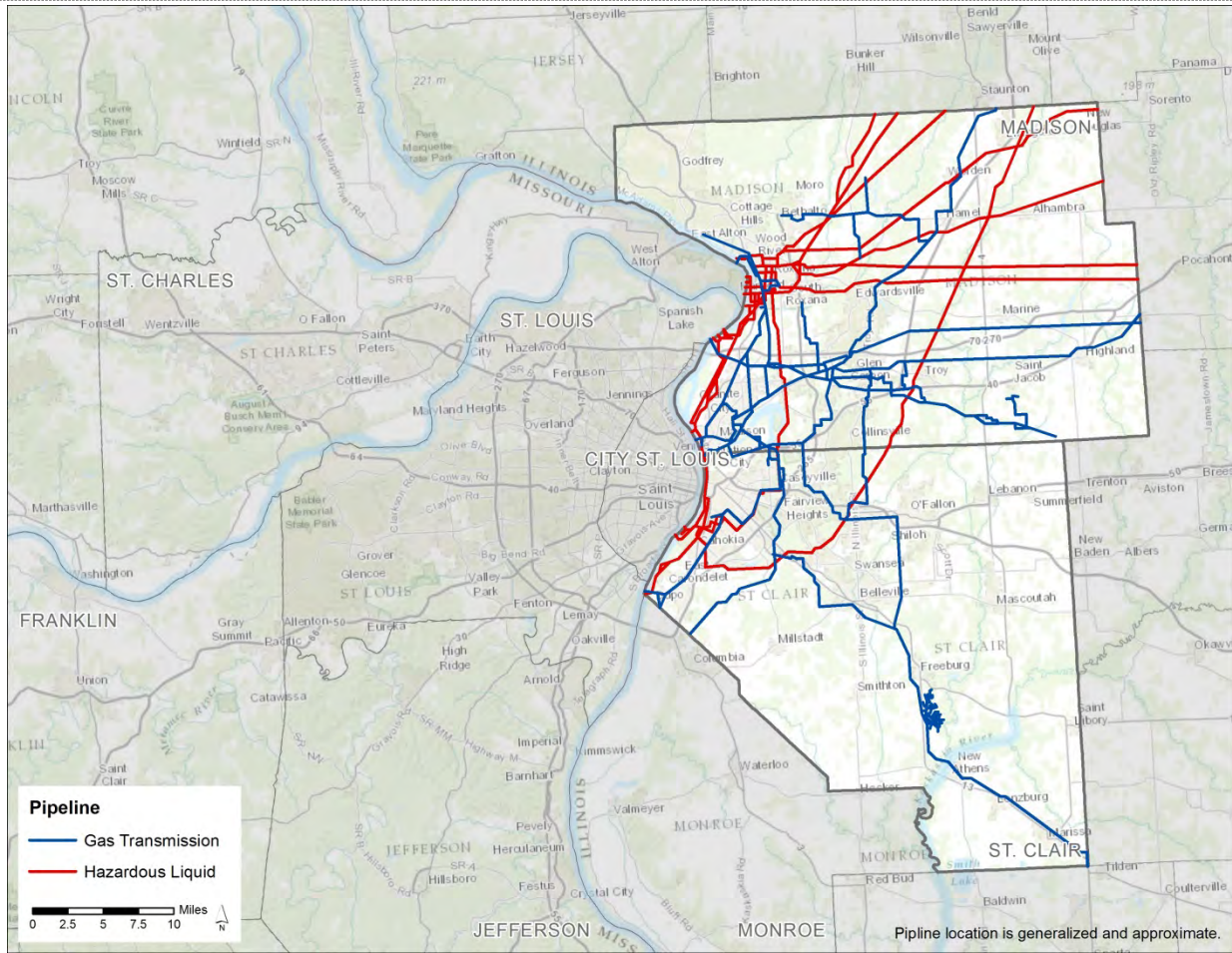
Source: TranSystems

## Pipeline

Two sectors are the primary consumers of transportation by pipeline. Combined, petroleum refiners and natural gas distribution account for 77 percent of all spending in the St. Louis region on pipeline by transportation. The National Pipeline Mapping System data for Southwestern Illinois, displayed in Figure 42, consists of gas transmission pipeline and hazardous liquid trunk lines. For security reasons, location data is generalized and approximate. Of particular interest is the concentration of pipeline connecting to the Conoco Philips Refinery that dominates the Lewis and Clark North area. The central portion of the site is primarily industrial land uses characterized by the numerous storage tanks related to the refinery complex, pipeline network, and bulk liquid movements by rail and barge.



**Figure 42: Pipeline Network**



Source: Pipeline and Hazardous Materials Safety Administration

## Facilities

Major industrial sites in the St. Louis region are displayed in Figure 43. Eight of the sites are located in Southwestern Illinois and described below. A few of the facilities have been introduced in the previous transportation infrastructure sections. The industrial inventory of the St. Louis region in terms of date of construction, rentable building area, and vacant building area are displayed in Figure 44, Figure 45, and Figure 46 respectively.

### Downtown Airport (DA) and Sauget Business Park

The Downtown Airport site has a few large warehouse and manufacturing buildings located between the St. Louis Downtown Airport and the major rail yards to the north and west. In 2013, the area was announced as the site for a new, ground-based FedEx distribution center. The site is well located with capacity to handle additional truck traffic and land is available for development with master plans in place.

The Sauget Business Park is located adjacent to the Downtown Airport. Established in the early 1990s, this is a 700 acre light industrial/office park development. As a small-user development, there is opportunity to locate new business in the park with utility and transportation-ready sites.

### **Dupo Yard (DY)**

The Dupo Yard area encompasses the Union Pacific rail yard. The site will benefit from a new interchange from I-255, which has the capacity to absorb additional truck traffic. The new interchange aligns with plans by local developers for an industrial park. Union Pacific also reportedly has plans to reconfigure the yard to provide more efficient operation.

### **East Industrial Gateway (EG)**

The East Industrial Gateway area is characterized by its multitude of freight infrastructure including rail lines, the Mississippi River, and several interstate and local bridges across the river. Eight municipal boundaries divide the area. Although there is abundant undeveloped land, a number of the sites have suspected brownfield issues. The extensive number of rail lines crossing through the area also makes portions of the site area inaccessible for active land uses.

### **Gateway Commerce Park (GC) and Lakeview Commerce Center**

The Gateway Commerce Park is a 2,300-acre master planned business park strategically located with access to two major interstates – I-270 and I-255. Total build-out of the Gateway Commerce Park is expected to be more than 25 million square feet. The Lakeview Commerce Center is a 750-acre industrial Park with access to I-270 and I-255. Since 1998, nearly 15 million square feet of development has been built in both parks. This equates to the majority of the St. Louis region's modern warehouse/distribution center buildings. The sites also have immediate access to the newest intermodal yard in the region operated by Triple Crown Services.

Both parks are home to Fortune 500 companies and national logistics leaders. Gateway occupants include Hershey, Unilever, Dial, USF Logistics and Schneider National. Lakeview occupants include World Wide Technologies and Spectrum Brands Inc.

### **Lewis and Clark North (LC)**

The Lewis and Clark North area is dominated by the Philips 66 Refinery. The site includes the former BP Wood River redevelopment parcels which are in various stages of regulatory approval. Throughout the site, there are large areas of undeveloped and agricultural land uses that represent the potential for growth and expansion of the site, particularly adjacent to active barge terminals along the Mississippi River. Railroads that cross the site include Union Pacific and Norfolk Southern.

### MidAmerica Airport (MA)

The MidAmerica Airport area is focused around the airport and Scott Air Force Base. Most of the land within the site is undeveloped. MidAmerica airport continues to pursue an air cargo strategy. IDOT also has additional interchanges planned for the area to enhance access.

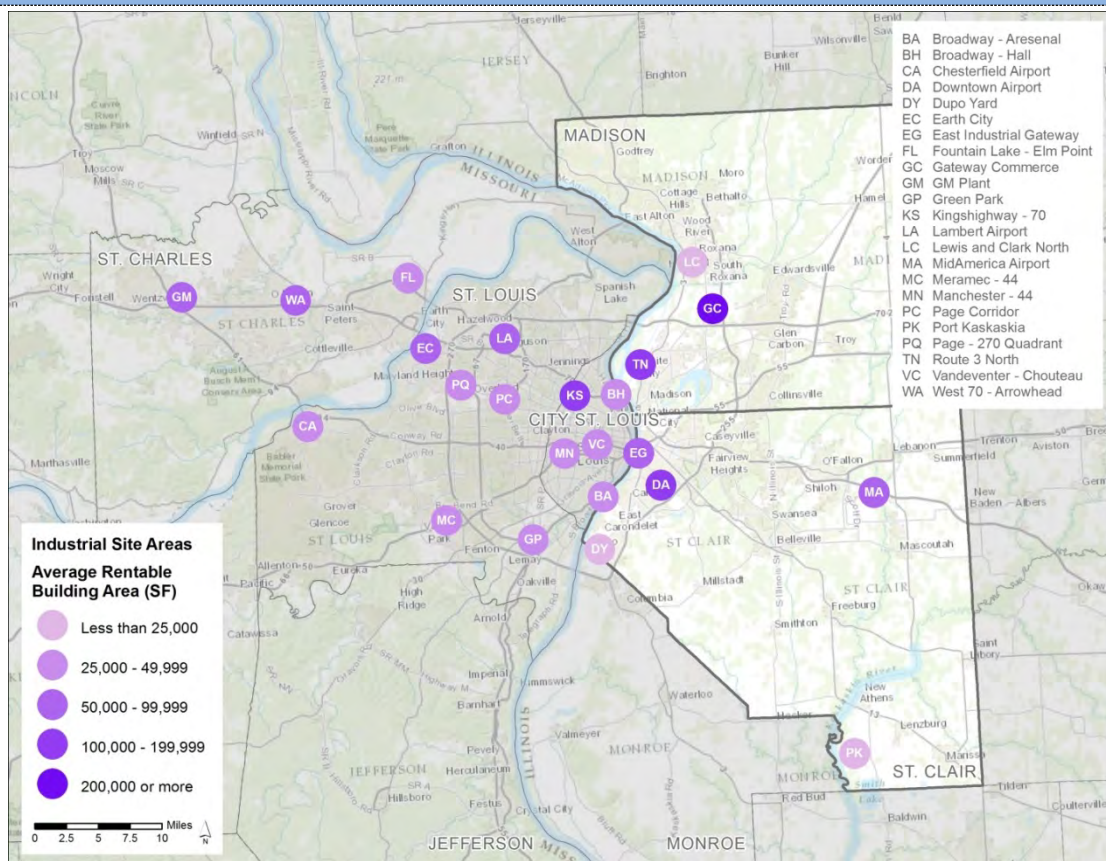
### Port Kaskaskia (PK)

The Port Kaskaskia area is expected to benefit from recent river dredging as well as proximity to grain and coal shipments. Changes in customers and bulk product types at the Port have significant impact on the site.

### Route 3 North (TN)

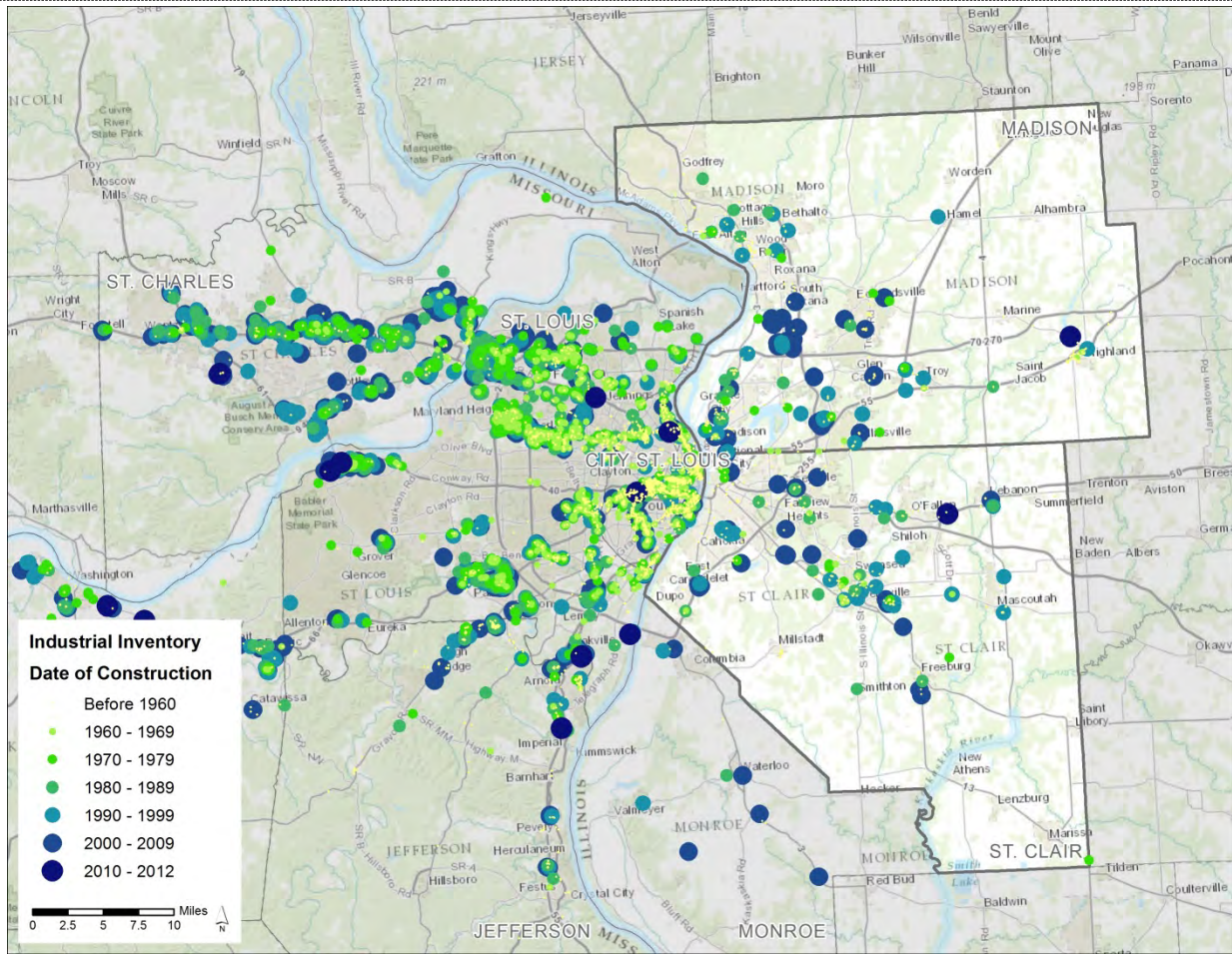
The Route 3 North area includes America’s Central Port, the surrounding industrial properties, and multiple rail tracks. A significant portion of the area encompasses steel industries. Given infrastructural and geographic constraints in this area, small targeted development could be possible for parcels west of Route 3 and north of Pontoon Road. Long-term needs of the site are related to America’s Central Port improvements and increased access for multimodal opportunities.

**Figure 43: Map of Industrial Site Areas**



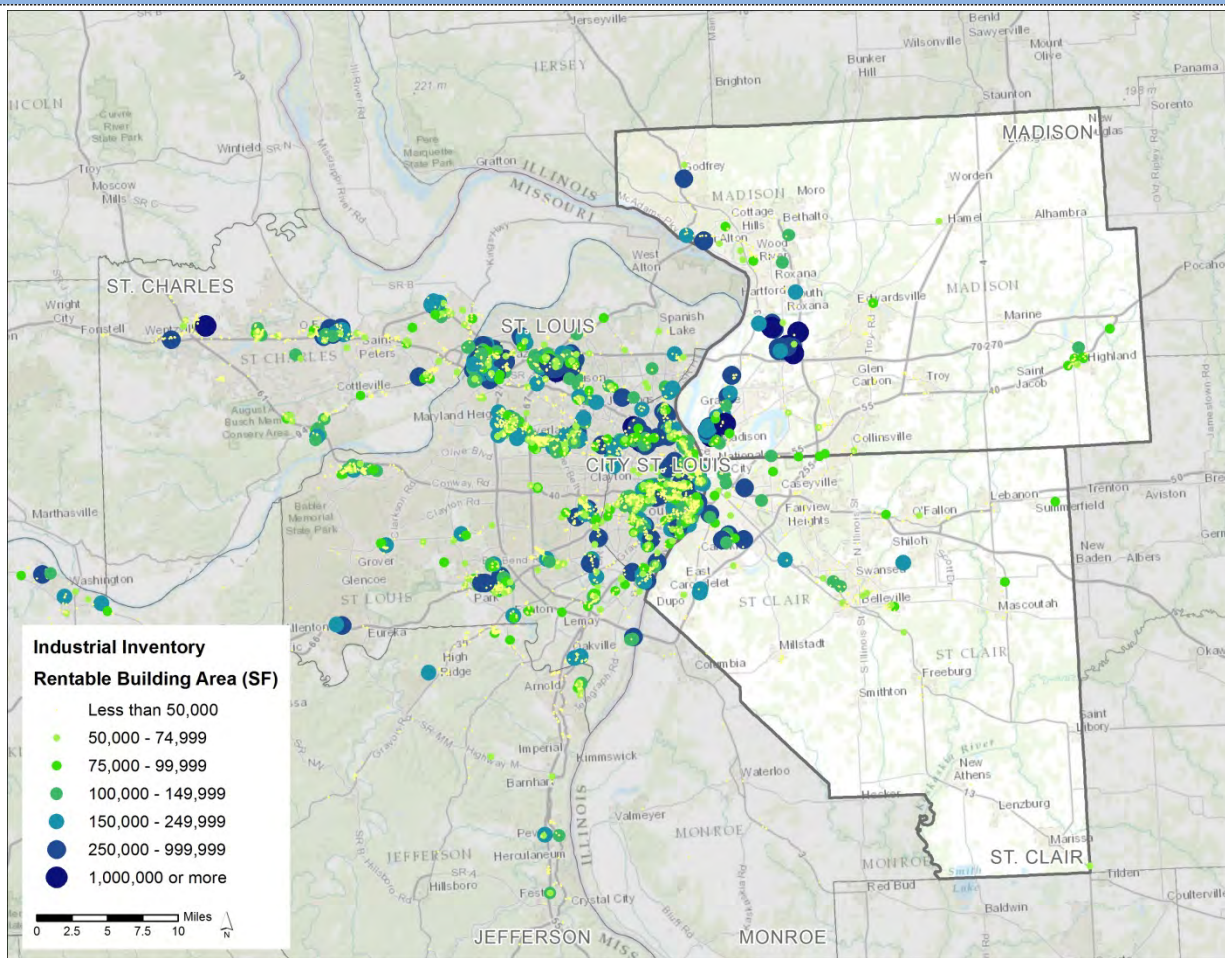
Source: TranSystems and East-West Gateway Council of Governments

**Figure 44: Map of Industrial Inventory by Date of Construction**



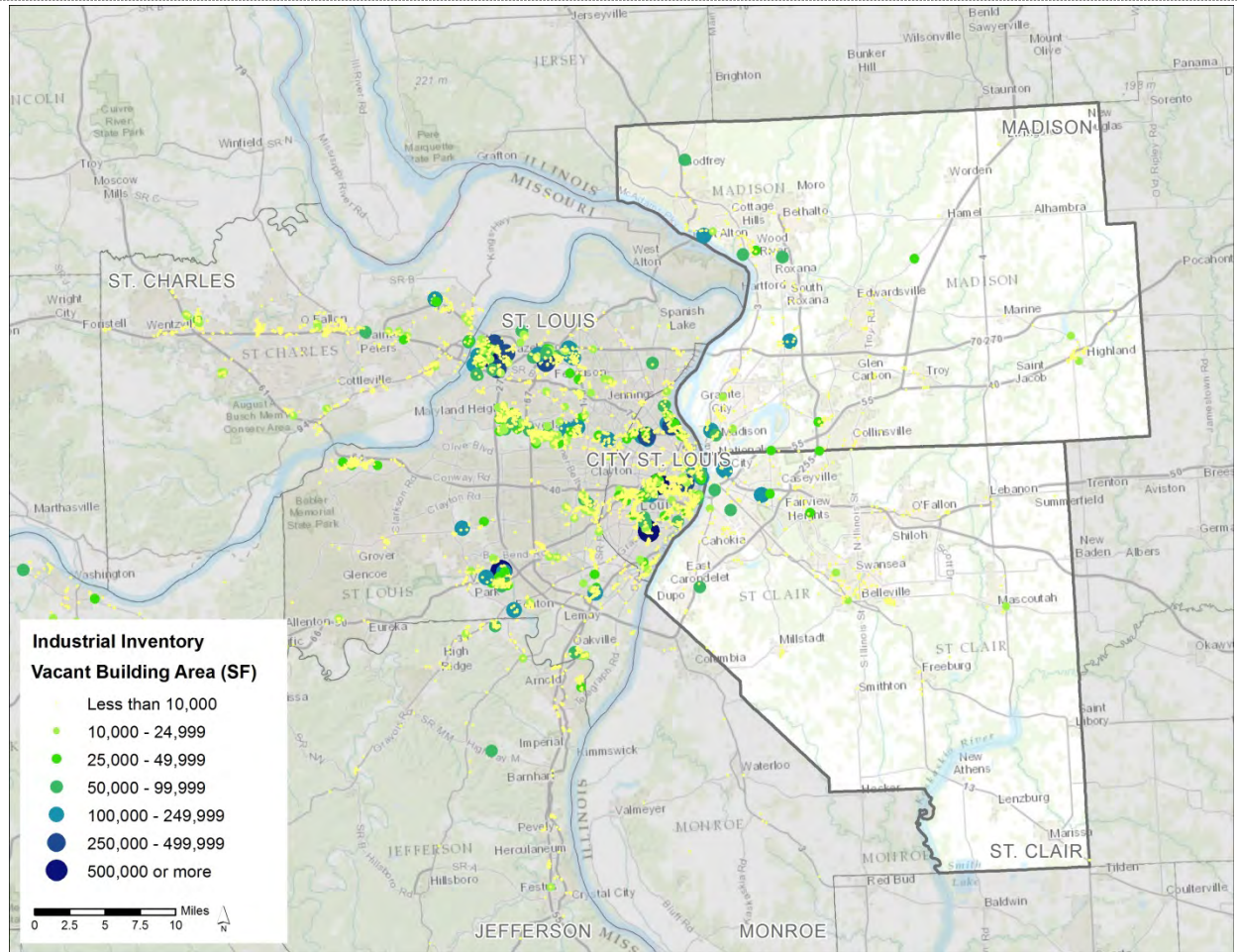
Source: TranSystems and East-West Gateway Council of Governments

**Figure 45: Map of Industrial Inventory by Rentable Building Area**



Source: TranSystems and East-West Gateway Council of Governments

**Figure 46: Map of Industrial Inventory by Vacant Building Area**



Source: TranSystems and East-West Gateway Council of Governments

## Section 5 | Interview Survey and Industry Trends

The project team interviewed a variety of professionals involved in the transportation, business development, manufacturing, and retail sectors to assess the viability of the St. Louis area, with an emphasis on the Illinois side including Madison and St. Clair counties as a distribution or manufacturing hub. Respondents generally note St. Louis' central U.S. location, and Tier 1<sup>10</sup> access to all transportation modes as strong advantages. Additionally, a skilled workforce, and available land are also considered to be attractive features. The Study Area's central proximity among key Midwest cities further emphasizes its position as a strong Midwest distribution hub candidate for shipments within a 300- to 400-mile radius of the area.

The following are the interview survey key findings:

- Several respondents suggest that promotion of the St. Louis area could elevate its position as a leading Midwest distribution hub. Aggressive business development campaigns of competing regions tend to overshadow advantages, such as St. Louis' central location to key Midwest markets, ample access to key transportation modes, and available workforce.
- According to interviews, the distribution service area is within a 300- to 400-mile radius of St. Louis; however, shipments originating from St. Louis can reach anywhere in the U.S. within a three-day truck drive. The existence of UPS and FedEx hubs provide additional transportation mode and delivery time options that make St. Louis ideal for eCommerce Fulfillment Centers, manufacturers, and others that require all transit time options, varying from overnight to a week or more.
- The combination of reliable river barge service and access to six Class 1 Railroads creates substantial opportunities for bulk and break-bulk transload services serving Midwest, Gulf, and International markets.
- The Port of Houston may receive consideration as an alternative Asia cargo gateway due to the prospect of continued labor disruption on the U.S. West Coast. In addition to Asia cargo, the Port of Houston is a key gateway for the Latin America trade. St. Louis has faster intermodal rail service to and from the Port of Houston than do regional rivals, such as Kansas City or Chicago.

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<sup>10</sup> Logistics managers consider Tier 1 locations to be the combination of large population centers, cost effective and efficient transportation reach to regional markets, and abundant access to transportation infrastructure. Transportation providers, particularly railroad companies, ocean carriers, or cargo airlines tend to feature service to these cities. Examples of Tier 1 Markets are cities like Chicago, Dallas, Los Angeles, or New York. A Tier 2 market may have access to some, but not all transportation modes, a small population size, or is better served by a Tier 1 city.

- Persistent trucker shortages are causing shippers to divert truck freight to the intermodal rail mode.
- Favorable intermodal rail service to Eastern markets from St. Louis provides a rail transit-time advantage over competing logistics hubs to the west.
- The local availability of raw materials used in the manufacturing process, notably the abundance of water, was also cited as an important manufacturing consideration.
- Challenges were also mentioned in interviews, such as the trend for large logistics companies to consolidate operations at recognized large hubs, such as Chicago and Kansas City, and ocean carrier reluctance to continue to rail ocean containers intact to/from inland markets. National respondents without a presence in St. Louis note Illinois' hard-to-do-business-with reputation. If the site fits logistically, however, labor and tax issues are less of a concern. According to a commercial real estate developer interview, Madison and St. Clair counties (and neighboring counties in Illinois) in close proximity to a state that is viewed to be more business-friendly (i.e. Missouri) must be addressed when marketing the area as a logistics or manufacturing site candidate.

Survey respondents represented several categories including:

- Third-Party Logistics Companies (3PL)
- Economic Development Organizations
- Manufacturers
- Parcel Package Shippers
- Railroads
- Real Estate Brokers/Developers
- Terminal Operators

The detailed survey results are presented in the remainder of Section 5.

### **Location Selection Criteria**

Respondents were asked to elaborate on logistics and distribution site selection criteria to serve as the basis of the interview discussion. Interviews highlighted several advantages of St. Louis from the perspective of the site selection decision.

According to interviews, the distribution service area is about a 300- to 400-mile radius around St. Louis, and eligible for consideration as an eCommerce Fulfillment Center (EFC), a Midwest Regional Distribution Center (RDC), or a Distribution Center (DC) responsible for distributing goods within a two-day truck drive, including local deliveries. St. Louis is viewed as being in a strong transportation logistics position given the presence of all transportation modes. Several



respondents suggest that promotion of St. Louis could elevate its position as a leading Midwest distribution hub, because aggressive business development campaigns of competing regions tend to overshadow St. Louis' advantages. The many site selection considerations offered by respondents as part of the survey are discussed at length in the following pages, so the following points are provided for ease of reference:

- St. Louis is served by six Class 1 railroads, serving all regions of the U.S. without the need to interchange to another railroad. Respondents to this and other surveys suggest that it is easier to manage shipments that do not require a railroad operator interchange.
- Intermodal rail rates from St. Louis to the Northeast are also “favorable” according to an intermodal rail service provider, which highlights the Northeast U.S. corridor as a St. Louis selling point. This is key to logistics managers looking for an alternative to trucking, as trucker shortages, especially long-haul trucker shortages are facilitating a general shift towards intermodal rail when possible.
- Recent bulk and break-bulk freight (non-intermodal) business development interest in St. Louis focuses on commodities such as resins, soda ash, potash, and frac sand, suggesting a rising demand for truck/rail/barge transload services.
- St. Louis' access to major east/west (I-40 and I-70) and north/south (I-55) highways were highlighted by respondents as important logistics hub features
- Parcel shipping companies (e.g. FedEx, UPS, DHL) are emerging as important components of North America supply chains because these companies provide shippers with access to all U.S. regions with varying delivery time options including overnight. UPS and FedEx hubs in St. Louis are important assets to companies considering locating in the region.
- The existing barge/rail transload services in St. Louis provide supply-chain options for shipments to/from Houston and New Orleans. These connections allow delivery of freight from Houston to St. Louis for distribution to points beyond. Additionally, agricultural products from points in the Midwest can be delivered to New Orleans for export.
- Air Cargo carriers in St. Louis consist of the big three parcel carriers (DHL, FedEx and UPS) along with “belly”, or air-cargo shipped in the cargo hold of passenger airlines serving Lambert-St. Louis International Airport. Lambert Airport is not considered to be a major international air cargo hub.

- Respondents suggest that St. Louis has a large and talented labor pool, mainly driven by the manufacturing history of St. Louis. Unionized labor considerations were raised during interviews. “If the site makes sense from a logistics point of view, right-to-work is not much of an issue.” One respondent made the observation though, that Madison and St. Clair counties (and neighboring Illinois counties) close proximity to a state (Missouri) that is viewed to be more business-friendly must be addressed when marketing the area as a potential site selection candidate.

### **Site Selection Criteria Rank**

Shippers’ decisions to use truck or rail, or where to place a manufacturing or distribution center illustrate how transportation network achieve delivery time and cost objectives. Respondents were asked to rank the following common selection criteria that affect network transit and cost capabilities in order of importance: labor force, quality, cost, availability; proximity to customers and suppliers; available transportation infrastructure and mode; and government programs and tax incentives.

All managers of retail distribution respondents ranked selection criteria as follows:

1. Proximity to customers/suppliers
2. Available transportation infrastructure and mode (e.g. air, truck, rail, barge)
3. Labor force, quality, cost, availability
4. Government programs and tax incentives

Manufacturers ranked selection criteria slightly differently, elevating the importance of labor:

1. Labor force, quality, cost availability
2. Proximity to customers/suppliers
3. Available transportation infrastructure and mode
4. Government programs and tax incentives

Manufacturers in most cases are also concerned with the availability of raw materials, and the cost of utilities.

Proximity to customers, labor force considerations, and available transportation infrastructure selection criteria play the deciding roles in identifying an appropriate DC or manufacturing area, such as a county or city. Government programs and tax incentives are generally viewed as “tie-breakers” between competing sites in the general selection area. Once St. Louis meets the first three criteria (i.e. proximity to customers/suppliers, available transportation infrastructure, and available labor supply) for example, various sites in and around St. Louis can compete by providing local government incentives, land deals, and the like. Madison and St. Clair counties

were viewed to have more available land for expansion as compared to other counties around St. Louis.

### **Proximity to Customers and Suppliers (Different for Retail vs. Manufacturers)**

In many supply chains, particularly retail store supply chains, the trucking expense for the “last mile” of product delivery accounts for the largest portion of the transportation budget.

Distribution centers are therefore located within the closest possible proximity to a majority of end customers. Manufacturers also benefit from locating near to their customers, but access to a skilled, available, and wage competitive labor force is often the deciding factor with respect to choosing a manufacturing location. Additionally, manufacturers’ access to suppliers and raw materials in some cases can outweigh proximity to customer considerations.

According to interviews, the St. Louis distribution service area extends to about a 300- to 400-mile radius around St. Louis. It should be noted that shippers have unique delivery location and freight volume requirements; therefore, it is not uncommon for a St. Louis supply chain to extend beyond the 400-mile service area radius to either the East or West coasts to meet individual supply-chain delivery requirements.

### **Availability of Transportation Modes**

Retailers and manufacturers alike depend on the availability of reliable modes of transportation to link to DCs, although the specific mode varies depending on the transportation strategy. Transportation cost, delivery time, and reliability requirements generally dictate the modal choice. The result is that areas that have air, rail, truck, barge, parcel package shipper distribution hub capabilities (e.g. UPS/FedEx/USPS) are in the best position to meet the requirements of domestic supply-chains. St. Louis was viewed as being in a strong transportation logistics position given the presence of all transportation modes. Several respondents suggest that promotion of St. Louis could elevate its position as a leading Midwest distribution hub, because aggressive business development campaigns of competing regions tend to overshadow St. Louis’ advantages. As one respondent suggests, “I think people will stop thinking of the area as a Tier 2 area, and start considering it a Tier 1 with a little marketing of what they have there.”

### **Rail**

Rail facilities are an important feature of many supply chains. DCs that are near to rail hubs make the most of cost savings and freight handling capabilities of the rail mode. Freight that favors rail includes large and heavy items not suited for over-the-road transport, high volume bulk shipments, and intermodal containerized shipments. (For purposes of this report, intermodal rail includes shipments moving in containers or trailers that interchange between the truck and rail modes.) On-site or near-site rail facilities eliminate or reduce transportation

costs between DCs and rail hubs, and avoid over-the-road challenges associated with overweight and oversized freight restrictions on public roads.

Rail is also the lowest cost overland mode. Supply chain managers have increasingly looked for ways to divert truck freight to rail, particularly intermodal rail over the past several years to reduce transportation costs, and to avoid delays caused by truck shortages (see Truck section below). Retail and manufacturing supply chain managers have worked to extend DC freight delivery lead time requirements to accommodate slower rail transits. The intermodal rail transit to St. Louis from Los Angeles, for example is six to seven days, but the same route can be served by truck in about two-and-one-half to three days. Rail cost savings until recently have justified slower delivery transits. The recent truck shortage is causing intermodal rail rates to rise; however, logistics managers continue to use the rail mode, as it is proving to be more available than trucking. As a general rule of thumb, the distance threshold to choose rail over truck is about 500 miles; although prior to widespread truck unavailability, the cut-off was closer to 700 miles.

St. Louis is served by six Class 1 railroads, serving all regions of the U.S. without the need to interchange to another railroad. Rail shipments can be placed directly on the BNSF and Union Pacific (UP) railroads for western region freight, or on the NS or CSX for eastern destined shipments. Generally, the western railroad companies (BN and UP) provide service west of the Mississippi River, and eastern railroads (CSX and NS) serve points east of the Mississippi River. The railroads have refined the interchange hand-off to nearly a seamless process for rail shipments that straddle the Mississippi; however, respondents to this and other surveys suggest that it is easier to manage shipments that do not require a railroad operator interchange.

Midwest north/south rail service to the Gulf, Canada and Mexico is largely provided by the CN, the KCS, and the UP. CN's St. Louis service is relatively small compared to the east/west rail service providers according to a rail operator. Similarly, KCS uses St. Louis primarily as an interchange hub with CSX for eastern region freight, and has very limited freight service there.

### Intermodal Rail

Intermodal rail carries the vast majority of retail or finished goods moving between manufacturers and distribution centers to their final destinations. Containerized goods also tend to be of higher value, and require more labor intensive warehousing and distribution handling procedures as compared to freight moving in bulk.

The UP is the strongest western railroad, providing seven-day service into St. Louis. The BNSF service is considered to be too infrequent (four days per week), and its intermodal yard was described as being small and congested. The BNSF is rumored to be considering an expansion of its facility at the closed Chrysler plant in Fenton, IL; however, it is unclear if that facility will be

used for intermodal shipments. A new BNSF intermodal facility in the St. Louis area would signal BNSF's continued support for intermodal rail in the region. UP has indicated changes to their Dupo Yard could make it more efficient for intermodal rail.

Trains traveling between St. Louis and the West Coast pass through Kansas City, resulting in an additional 2-day transit for St. Louis versus Kansas City. Eastbound service, particularly to the Atlantic Northeast was considered to be a strength for the St. Louis region, especially as compared to Chicago due to congestion, or to Kansas City due to St. Louis' closer proximity to eastern states (St. Louis is about two days closer to New York versus Kansas City by rail). One respondent suggested that the St. Louis/ Northeast corridor could compete even with truck transits for departures later in the week. The truck drive-time between St. Louis and New York is a day or two, but if part of the truck transit falls on a weekend for a Monday delivery, trains departing on Wednesday or Thursday are capable of meeting the Monday delivery date as well. Intermodal rail rates from St. Louis to the Northeast are also "favorable" according to an intermodal rail service provider, which highlights the Northeast U.S. corridor as a selling point for St. Louis. Truck unavailability, which will be discussed below, is elevating rail options as a way to maintain supply-chain reliability.

According to interviews, intermodal service to Canada and Mexico from St. Louis is virtually non-existent. KCS favors Kansas City as its key Midwest hub, and the UP trains between Chicago and Mexico are at full capacity, and do not generally divert to St. Louis. Mexico freight is typically trucked in from Kansas City if on KCS, or from the nearest UP intermodal hub, likely from Chicago.

#### Manifest Freight (carload, non-containerized)

Manifest freight commodities moving by rail at St. Louis are bulk items such as agricultural products, fertilizer, liquefied petroleum gas (LPG), asphalt, and sulfuric acid. According to interviews, growth opportunities related to existing manifest freight for St. Louis must add value to the existing supply chain by either reducing costs, or expediting service. An interviewee familiar with manifest business development inquiries for St. Louis suggests that recent interest focuses on commodities such as resins, soda ash, potash, and frac sand that could be transloaded and stored in St. Louis, and distributed by truck to Midwest destinations. An example of a transload opportunity is to store "frac sand" used in hydro fracturing, or "Fracking" operations in the Midwest. Fracking for oil and natural gas has slowed recently due to the drop in the price of crude oil to levels below the break-even fracking extraction price of around \$70 per barrel. A recovery in oil prices may well return the demand for frac sand to levels needed to justify a transload facility, especially if viewed over a five- to ten-year time horizon. Several respondents took the transload concept further to include the barge to rail transfer, which could establish a multi-modal bulk supply chain reaching from the northern Midwest states to Gulf

coast ports, using St. Louis as a transload and storage location. (See the Barge section for more information).

### Truck

Trucking is the backbone of every supply chain, and provides the greatest flexibility in terms of supporting infrastructure (highways), frequency of departure times, and until recently, availability. St. Louis' access to major east/west (I-40 and I-70) and north/south (I-55) highways were noted by respondents.

Driver shortages have plagued the industry in recent years, due in part to a large portion of truckers reaching retirement age, 2011 Federal Motor Carrier Safety provisions restricting maximum daily drive-time hours of service, and driver eligibility requirements. Persistent driver shortages have led to concerns over the reliability of the truck mode, as well as inflation of trucking costs. Truck rates have also been subject to highly volatile fuel prices, which have contributed to persistent truck rate volatility. Recent reductions in diesel fuel prices have not translated into lower trucking costs; however, due to widespread shortages of trucks.

In addition to availability and fuel cost factors, truck rates are driven by truck route freight balance. Routes with heavy outbound loads, and light inbound loads generally have relatively lower inbound rates, as truckers compete for scarce outbound cargo rather than returning empty. St. Louis is a "headhaul" market, meaning it has more outbound truckload freight than inbound, which can make inbound truck rates attractive. A truckload imbalance can also cause trucker availability shortages, as the supply of inbound trucks does not meet the outbound demand. High outbound truck rates and driver shortages were reported by several respondents familiar with trucking in St. Louis. Trucker shortages, especially long-range trucker shortages are a national issue, and as mentioned are causing a general shift towards intermodal rail when possible.

### Parcel Package Shipping Companies (e.g. DHL, FedEx, UPS, USPS)

Manufacturers and retailers are taking advantage of parcel shipping companies to distribute to residential and commercial destinations alike. Companies of any size can access sophisticated and far-reaching transportation networks without the need or expense of maintaining a fleet of trucks, expensive shipment tracking systems, or a network of DCs. Parcel shipping companies offer network analytical services that aim to optimize shipper networks by reducing transit times, and delivery costs. Shippers further utilize these companies' services by using a mix of truckload shipping and parcel shipping called "zone skipping." Zone skipping is where a shipper delivers a truckload from St. Louis, "skipping" several pricing zones, directly to a U.S. Postal Service (USPS) collection center in Seattle, for example. The USPS delivers packages the "last mile" to their final commercial and home delivery destinations in the Seattle area. Zone skipping allows shippers to minimize the number of regional DCs, while leveraging USPS local delivery

networks. Parcel shipping companies are increasingly becoming a central requirement of many retail and manufacturing supply-chain networks. A manufacturer respondent uses UPS to ship directly to over 40,000 retail outlets across the country from his Midwest location, and only uses truckloads for the occasional large order or for zone skip shipments.

Parcel shipping companies are also an important logistics partner to logistics site developers, as incorporating the network strengths of parcel shipping companies' services into marketing efforts further enhances the site's logistical advantage.

### Inland Waterway Barge

Barge transportation is comparable with, and in some cases a lower cost alternative to rail. Large volume bulk commodities, such as grains, aggregates, fertilizers, asphalt, and coal, and break-bulk items such as steel coils, large vehicles, and other over-sized or heavy cargo not suitable for over-the-road transportation, favor the barge mode. Inland waterway networks must support cargo origin and destination sites; however, the combination of navigable rivers making up the U.S. Inland Waterway System provides coverage throughout the entire U.S. Midwest. Barge service reaches as far north as ports in Minnesota and other Great Lakes ports via the Mississippi River; East to Pennsylvania on the Ohio River; into the Southeast via the Tennessee River; and importantly, to the deep-sea port of New Orleans. Additionally, barge service extends via the Gulf Intracoastal Waterway (GIWW) west to Texas and east to Florida ports. Transshipment capabilities in New Orleans provide the link between barges and ocean going vessels, connecting St. Louis to international sea lanes and global markets.

A particular advantage of St. Louis is that its terminals are located below the Mississippi River lock system, enabling direct transits to New Orleans that do not incur additional lock transit expenses. As noted in the Rail section above, respondents suggest that a barge/rail transload service in St. Louis would establish a supply-chain capable of delivering resins, for example directly from Houston to St. Louis for distribution to points beyond, or agricultural products from points in the Midwest to New Orleans for export. The expansion of the Panama Canal (scheduled for completion in 2016) will allow larger bulk carriers to transit and may encourage additional shipment of bulk commodities through New Orleans and other Gulf ports. This could stimulate interest in additional barge/ocean vessel transloading and create new opportunities for St. Louis terminals.

Several recent St. Louis terminal developments were mentioned during interviews that suggest growing demand for barge and transload services:

- Lange Stegmann (Missouri)
- America's Central Port (Illinois)
- Bunge (Illinois)

- Gateway Terminals (Illinois)
- Gavilon (ex Cargill) (Illinois)

### Air Cargo

Air cargo is preferred for goods that require expedited transit, such as parts needed in a production line, fresh foods, emergency stock for sales promotions, or very high value cargoes that can justify the high cost of air transit. Local availability of air cargo services is not a requirement of most retail and manufacturing supply chain operations, as lower cost truck and rail modes are either used exclusively or for the vast majority of shipments. In the words of a logistics manager commenting on air cargo services, “If I am using air, something has gone horribly wrong,” meaning that he only pays for air as a last resort if some unrecoverable error has occurred in his production, truck, or rail service schedules.

Air Cargo carriers in St. Louis consist of the big three parcel carriers, DHL, FedEx and UPS, along with “belly” or air-cargo shipped in the cargo hold of passenger airlines serving Lambert-St. Louis International Airport. North American supply chains are increasingly relying on parcel shipping companies, elevating the importance of these services in the study area.

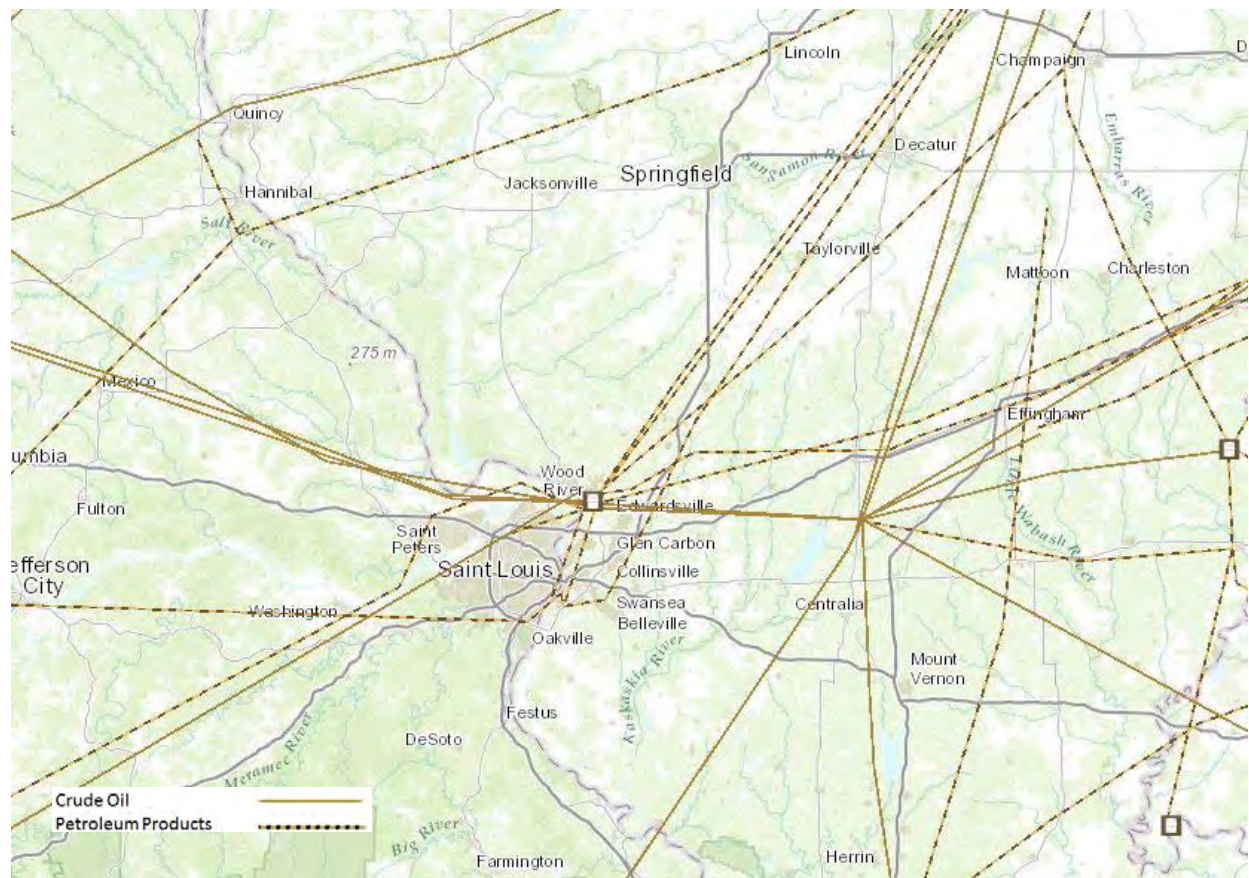
Regularly scheduled major international air cargo carriers, such as Lufthansa, Evergreen, and Cathay Pacific typically call at larger U.S. air cargo hubs, such as Chicago, Dallas, Los Angeles, or New York. Investments in cargo security equipment and established air cargo infrastructure and personnel at these major hubs discourage the expansion of services to additional airports in relatively smaller air cargo markets. International air cargo is generally trucked from one of the international air hubs into St. Louis if a direct charter cannot be arranged.

### Pipeline

The St. Louis area has access to the national crude oil and petroleum pipeline network. The local Phillips 66 petroleum refinery receives crude oil from this network, which includes product carried by the Keystone Pipeline. The extension of the Keystone pipeline to Canada is not viewed as being a driver of local petroleum production growth, as a change in the source of crude oil does not dictate refinery product demand. Interviews did not confirm where the Canadian crude will be transferred to; however, current indications are that it will be piped to Gulf refineries. Interviews suggest that the current pipeline infrastructure was adequate for current and near-term requirements.



**Figure 47: St. Louis Area Crude Oil and Petroleum Products Pipeline Network Map**



Source: U.S. Energy Information Administration

## Labor

A region's labor pool is evaluated based on quality, cost, and availability characteristics. In addition to labor cost, a DC operator looks for a moderately skilled labor force that is able to "flex up" to meet seasonal demand. An eCommerce facility might need to "flex-up" from 600 to over 2,000 workers during peak season according to an interviewee. Modern DC workers must have a mix of warehouse skills, such as an ability to operate a forklift, but are increasingly expected to be capable of operating computerized Warehouse Management Systems (WMS). A WMS manages warehouse inventories and often provides information used to operate automated conveyor systems.

Manufacturers have a higher focus on the labor pool skill level and cost. In some cases, a local labor pool might be a primary reason to choose a site, such as an auto maker's choice of an area because of an existing skilled or cost competitive labor force.

Respondents suggest that St. Louis has a large and talented labor pool, mainly driven by the manufacturing history of St. Louis. Unionized labor considerations were raised during interviews. An interviewee noted that while the construction workers that build buildings are likely to be unionized, small- to medium-sized manufacturing and distribution operations often are not. Union-friendly states are generally not sought out, but as one developer offered, “If the site makes sense from a logistics point of view, right-to-work is not much of an issue.” However, one respondent observed, that Madison and St. Clair counties (and neighboring Illinois counties) close proximity to a state (Missouri) that is viewed to be more business-friendly must be addressed when marketing the area as a potential site selection candidate.

### **St. Louis Transportation Hub Summary**

- Excellent Parcel Shipper presence (UPS, FedEx, DHL)
- Strong river barge service presence, lock free to New Orleans, and Gulf ports
  - Possible barge/rail transload opportunities
- Excellent rail and highway connections
  - Six Class 1 railroads
  - No need to interchange between railroads but service available
  - Efficient intermodal rail service to Eastern markets and Port of Houston
  - Easy access to I-40, I-55, and I-70 for east/west and north/south service
    - Can reach anywhere in the U.S. by truck within three to four days
    - Possible Midwest Regional DC or a DC requiring a service area reach of 300 to 400 miles around the study area
- Skilled labor pool availability
- Is not a leading North America international air hub

### **Distribution Strategies**

A typical DC distribution delivery area, meaning the delivery area that a DC is required to cover, is established based on a balance of delivery time requirements and the lowest cost of goods distribution. The number of DCs determines transit time capabilities, and overall transportation costs. Increasing the number of DCs in strategic areas throughout the U.S. reduces the distance and transit time needed to reach the final destinations from each DC; however, more DCs result in higher overall operating costs, as labor, inventory, real estate, technology, etc. are at least partially duplicated with each additional facility. The objective is therefore to meet delivery time commitments using the fewest DCs possible. If, for example, a DC has a service requirement to reach anywhere in the US within four days, a single DC in St. Louis would be appropriate because the four-day delivery requirement can be met using a combination of trucking and a parcel delivery company. An eCommerce “fulfillment” center (EFC) is a good example of a DC that often requires a three to four day delivery commitment. (Please see the eCommerce Fulfillment Center discussion later in this section.)

St. Louis would be eligible for consideration as an EFC, a Midwest RDC, or a DC responsible for distributing goods within a two-day truck drive, including local deliveries. Several distribution strategies were noted by respondents. The consensus is that St. Louis will be a good fit if it establishes the lowest cost delivery option based on shipper-specific location delivery needs. Interviews offered the following examples of the service area reach or the types of products that are a good distribution fit:

- Regional focus of 5 or 6 surrounding states, but can extend to either Coast depending on the distribution strategy.
- Manufacturers with Midwest customer base
- Low value cargoes (e.g., soap) that do not require regional branding or customization
- St. Louis companies that ship to customers or regional DCs in the West and East. It helps if the commodity is not ultra-time-sensitive, so that the shipper can take advantage of the rail mode

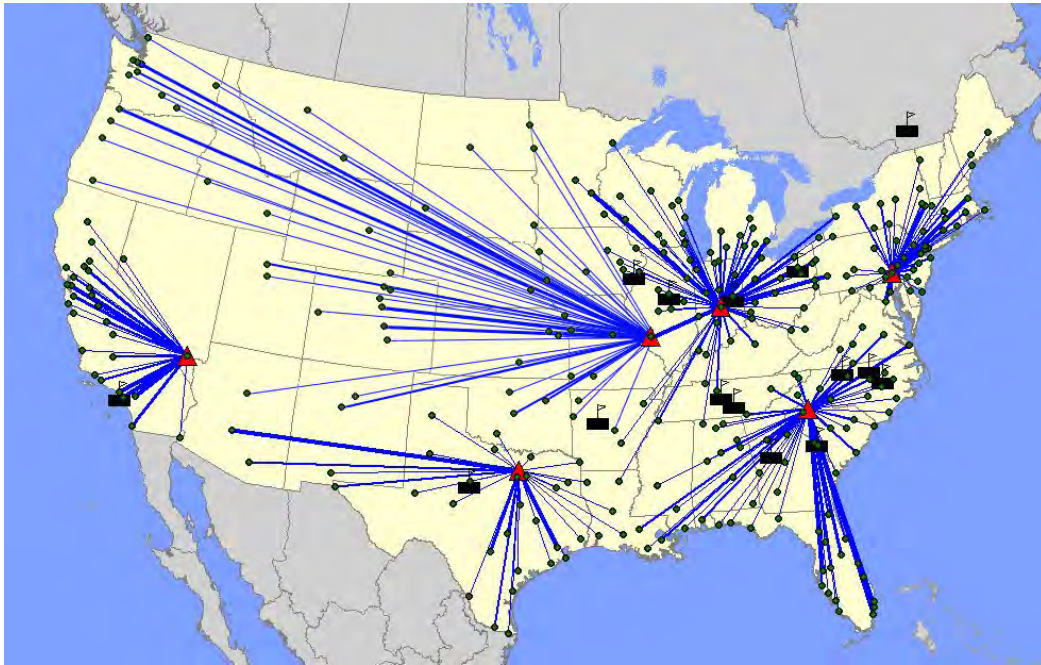
### **Retail Distribution Model Example**

As mentioned, reducing the “last mile” trucking costs remains a key consideration of the DC network design process. Figure 48 illustrates a six DC U.S. retail goods network including St. Louis, that is designed to distribute goods to retail stores throughout the U.S. It is important to note that Figure 48 is a network design that factors in the retail locations of a specific company, and might not be a good design for companies with different retail store locations or with different regional concentrations of retail stores. The blue lines represent truck routes to retail stores or access points to USPS facilities or other small package delivery companies to make “last mile” residential or commercial deliveries.

### **Manufacturing Distribution Model Example**

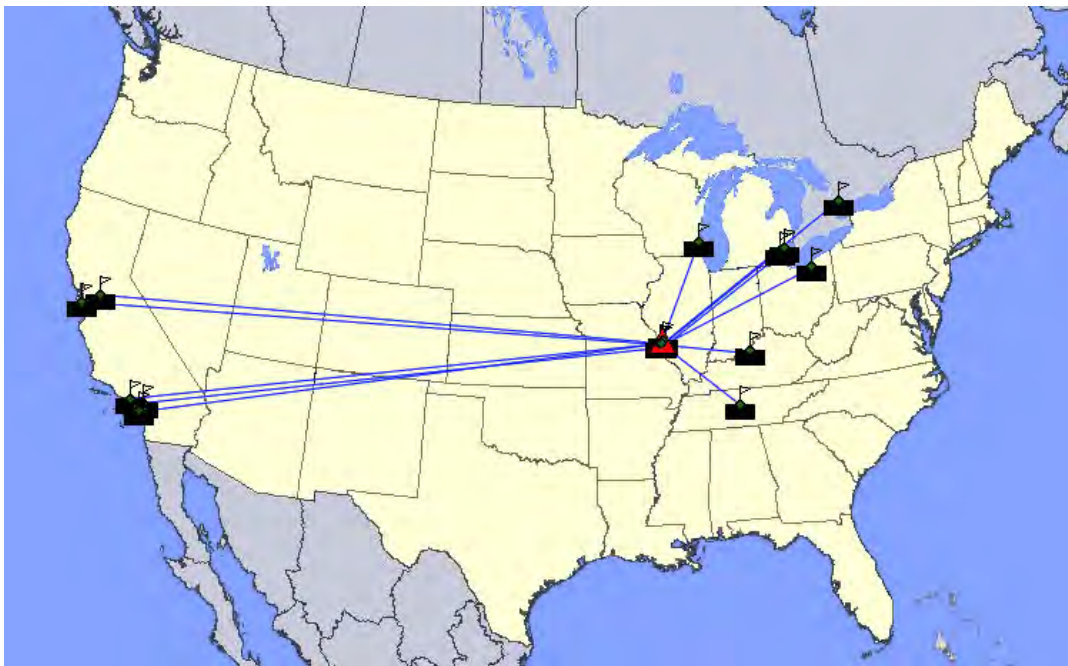
Manufacturers’ distribution requirements to end customers are essentially the same as for retailers; however, as mentioned above, the availability of a skilled labor force or the need to be located near to raw materials or production parts may take precedence over being in close proximity to customers. Manufacturers with local area raw materials or materials transloaded from barges at St. Louis, or local production parts suppliers benefit from low cost and expedited factory delivery capabilities. These manufacturers also take advantage of parcel delivery companies mentioned above. Figure 49 illustrates a manufacturer’s lowest cost distribution model based on a St. Louis manufacturing location. A concentration of customers in the Midwest results in lowest delivery costs and average delivery transit times. Similar to the retail distribution model, this model depends on the specific manufacturer’s distribution location needs.

**Figure 48: North America Distribution Center Network – DCs Including St. Louis**



Source: GKSF

**Figure 49: Manufacturer Distribution Network Example Centered on St. Louis**



Source: GKSF

Several interviewees noted the importance of locally sourced raw materials as key St. Louis advantages. The low cost of delivery, abundantly available resource, or reliable delivery to the manufacturing process is noted:

- The GM Plant was built in the mid-1980's, and is one of their newer facilities. An innovative placement of an on-site stamping plant brought down delivery costs and increased parts delivery reliability. The plant is scheduled for expansion based on the proximity of parts to the assembly process.
- Fresh water supply, chemicals and steel are key resources to local manufacturers including Procter and Gamble, Anheuser Busch InBev, Spectrum Brands, and U.S. Steel among others.

### **eCommerce Fulfillment Center**

eCommerce has quickly emerged as an integral component of domestic supply chains, given the growing popularity of online shopping. eCommerce Fulfillment Centers (EFC) combine air, truck, and rail modes to meet varying nationwide delivery requirements, ranging from high-cost overnight deliveries to low-cost delivery commitments of up to several days, in some cases from a single facility. St. Louis was viewed as a good candidate for an EFC, because of its central U.S. location and because of the existence of UPS and FedEx hubs that provide nationwide access to both residential and commercial markets. An EFC is essentially a DC that fulfills online orders for items destined for residential or retail store delivery throughout the country. A strong presence of a national or international parcel shipping company is therefore a requirement for EFC operations.

Both online companies, such as Amazon.com, and traditional brick and mortar companies like JC Penney, Target Stores, or Macys offer eCommerce deliveries to their customers. Brick and mortar retailers often offer eCommerce customers both a residential delivery and an in-store pick-up option, as they utilize a combined network of EFCs and retail stores. Brick and mortar retailers typically maintain an EFC that is separate from its core DC network. One respondent noted that the use of EFCs in some cases reduces the service area reach requirements of traditional DCs, as EFC deliveries eliminate the need for far-reaching DC coverage.

Online fulfillment delivery requirements range from overnight delivery, to three- or four-day delivery options. A retailer or manufacturer can easily meet these commitments by shipping with a large parcel company; however, a Midwest EFC or manufacturing location in St. Louis, is capable of reaching anywhere in the U.S. within a three- to four-day truck drive, and to key Eastern markets within two days. "Team driver" arrangements reach Eastern markets within 24 hours or less. The central location of St. Louis that is capable of achieving these truck transits is

a key site selection criterion for eCommerce companies. Meeting the same service delivery time standard would be more expensive from points in the Eastern or Western regions, because the use of more expensive air cargo services would likely increase in order to meet service delivery commitments over longer distances and cross-country transits. A St. Louis-based EFC can also achieve low cost parcel shipments to either coast by using a “zone skip” method.

Actual EFC cost advantages depend on the parcel shipment companies’ networks. UPS and FedEx each offer rates based on the strengths of their own networks. One parcel company may have an advantage in a particular route based on their traffic volume or partner trucking rates. It is important to work with the parcel shipping company to identify their strongest service routes and how they fit with a retailer’s or manufacturer’s needs.

Separate studies suggest that a site selection of an eCommerce facility in an area reinforces that area’s viability and elevates it as a suitable site for other companies looking to establish an EFC. The existence of Target.com and Express-Scripts.com are positive indications of St. Louis’ ability to meet the requirements of an EFC site search.

### **Transportation Industry Trends**

The state of freight transportation in the U.S. has more or less been in constant flux for the past two decades, and this was reflected in interview responses. Beginning in the mid-1990’s, railroad infrastructure improvement work caused temporary track closures and slowed rail speeds. The International Longshore and Warehouse Union (ILWU) port labor disputes disrupted international trade in 2002. Volatile fuel prices and a shortage of rail engineers plagued U.S. domestic supply chains well into the 2010’s. In 2011, truck driver shortages began to drive truck rates higher, and continue to negatively impact shippers’ ability to find enough trucks to meet the demand to carry freight. Driver shortages are due in part to limits on maximum daily drive-time allowances imposed by the Federal Motor Carrier Safety Administration and a disproportionately large number of truck drivers reaching retirement age.

Severe snow storms coupled with chassis shortages on both coasts snarled freight shipments in late 2013 and early 2014, while at the same time railroad companies increased the volume of crude oil traveling by rail, crowding key corridors and slowing train speeds. The result of this persistent state of instability has caused logistics managers to continuously plan for contingencies designed to keep their goods moving. This year is no different, as respondents note ongoing truck shortages and delayed cargo caused by recent labor disruptions at West Coast ports. The following transportation trends and events raised during interviews are expected to have an impact on St. Louis, and in some cases might even present opportunities. West Coast labor disruptions are causing logistics manager to consider alternative ports. Cargo potentially diverting from the West Coast to the Port of Houston has the largest implications for St. Louis.

## **Cargo Routing and West Coast Port Disruptions**

Labor disruptions and slow-downs on the West Coast are causing logistics managers to look for alternative Asian import/export gateways. The Port of Houston was mentioned as a potential alternative to the West Coast, and in fact would provide St. Louis with faster service than its regional competitors of Kansas City or Chicago. Shippers looking to diversify their U.S. port gateways mentioned that they would consider shifting a portion of their Asia cargo currently imported through West Coast ports to the north/south Houston/St. Louis corridor. This could position St. Louis to play a more prominent role as a Midwest distribution hub, given St. Louis' central Midwest location.

### U.S. West Coast Longshore Labor Impact on Gateway Diversification

Alternative gateways are being considered, which, if proven to be reliable, will potentially create additional and permanent options for shippers as they reduce dependence on West Coast ports. The current West Coast labor situation is causing shippers to assume that the International ILWU will continue to be a chronic cause of disruption. Labor negotiations at the time of this survey were not perceived to be going well, with many contentious points being raised. One issue is the contract time period. A proposed three-year contract, rather than the six-year terms negotiated in the previous two contracts raised the likelihood that West coast labor disruptions will be back in three rather than six years. Some respondents were at a loss for words when asked to comment on the effects of the shortened contract period. One respondent who could articulate a response said, "It doesn't matter if it is three or six years at this point. We will remember this big time. We will plan a lot earlier, and some of our cargo is not coming back (West Coast ports)." As of May 2015, the ILWU ratified a five-year agreement, but due to the length of the negotiation process, the remaining time left on the new contract is closer to four years. Regardless, supply chain managers are looking for long-term stability beyond a four-year window.

Another incentive for shippers to find permanent alternatives is the sense that problems at the Ports of Los Angeles and Long Beach (LA/LB) will linger beyond the conclusion of contract negotiations. Respondents are concerned that chassis shortages, huge ships, and heavy volume in general will continue to cause delays as the port strains to accommodate mounting operational challenges.

Negative perceptions of using West Coast gateways will provide a short window of opportunity for other ports and gateways to prove their effectiveness. Longer transits through alternative ports will be tolerated, but only if they are proved to be reliable.

### Houston, TX

The Port of Houston, TX was mentioned as an alternative for DCs in the Texas area and even up to St. Louis for an alternative Asia Gateway, but also for European and South and Central American cargo. A Houston-to-St. Louis Gateway would create a distribution point that encompasses key Midwest markets within a five-hour truck drive, including Chicago, Indianapolis, Memphis, Nashville, Louisville, Kansas City, Cincinnati, and reaching east to Columbus, and southwest to Tulsa within six hours. St. Louis' location at the center of key Midwest distribution hubs is a key site selection criterion of many logistics managers and a link to Asia cargo via the Port of Houston would expand St. Louis' distribution reach.

A key current limitation of the Port of Houston is its forty-foot channel depth. A trend towards larger vessels requiring a channel depth of fifty-feet for the largest ships is underway. The Port is dredging to increase its channel depth to forty-five feet by the end of in 2015, which may suffice for the next several years.

### Suez Canal

Perhaps the most likely alternate to the West Coast ports is the Suez Canal route, connecting East Coast ports with trade partners as Far East as Vietnam, Indonesia, and in some cases South China ports. Favorable St. Louis intermodal rail rates to the Eastern region could potentially create an opportunity to rail Southeast Asia from the East Coast to St. Louis for general Midwest distribution

### Lazaro Cardenas

The Mexican Pacific Coast Port of Lazaro Cardenas is served by the KCS rail network. Interviews suggest that recent West Coast labor disruptions have caused shippers to consider the Mexican port as an alternative to LA/LB. Respondents caution that Lazaro Cardenas is largely unproven; however, they would consider it if ocean carriers and railroads dedicate additional resources needed to improve the reliability of the Mexico-U.S. corridor. Mexican cargo security concerns, railroad equipment imbalance and shortages, the lack of a backhaul cargo, and currently weak ocean carrier commitments and ship capacity (for U.S. cargo via Mexico) were all cited as issues in need of resolution. Initially, Midwest shippers might "test" a Lazaro Cardenas port call to gauge how longer transits and potentially less reliability fit current supply-chain delivery requirements as compared to the U.S. West Coast. Continued or increased use of Lazaro Cardenas would then depend on the reliability of the port.

A Lazaro Cardenas gateway has greater implications for Kansas City due to the KCS operation there; however, St. Louis might capitalize on promoting the development of the Houston/St. Louis corridor as a preferred route, as it will be less of a challenge to establish reliability.



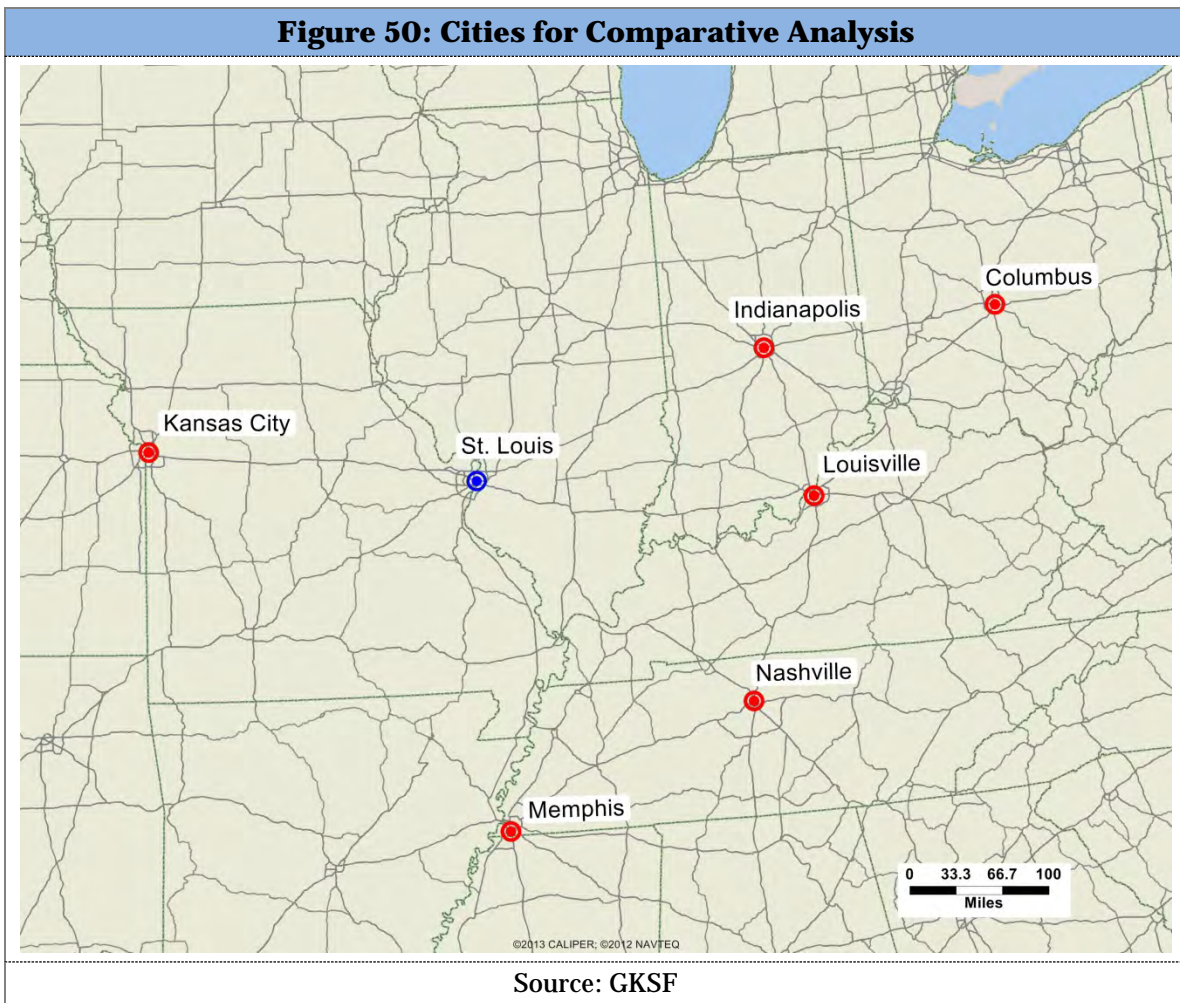
Initial re-routing away from West Coast ports may return over time as reliability returns, but shippers are vowing that some cargo will not return, “We’ve learned our lesson. We need to keep our options open.”

**Modal Choice and Fuel Prices**

Modal choice will continue to favor intermodal rail over truck, driven more recently by driver shortages more than the cost of trucking. Falling fuel prices have made the more flexible trucking option attractive, but “you can’t find any.” Beyond truck unavailability, shippers have integrated lower cost intermodal rail into their supply-chains and they did not express a desire to revert back to the truck mode.

## Section 6 | Comparative Cities Analysis

The objective of section is to perform a macro assessment to determine how the St. Louis area compares to six competitors as a location for warehousing/distribution and manufacturing. The results of this comparative assessment will assist in how St. Louis can further define itself as a freight center and to determine how to grow freight-related economic development. Typically when a business chooses to locate in the St. Louis area, several other cities are also considered in order to determine the best fit for the company. For this analysis, six cities were selected as representative of the market competition faced by St. Louis – Kansas City, Missouri; Columbus, Ohio; Indianapolis, Indiana; Louisville, Kentucky; Nashville, Tennessee; and Memphis, Tennessee.



### Kansas City, Missouri

The Kansas City area economy is supported by a wide variety of businesses and industries. It is considered a leading center of transportation and distribution, manufacturing, animal health, technology and the financial industry. The city is centrally located in the U.S. and has access to extensive highways, railroads, river and air transportation networks.

### Indianapolis, Indiana

Indianapolis considers automobile manufacturing to be one of its most important industries and continues to grow in this field. They balance that with their prominence in the field of life sciences. The second largest FedEx hub in the nation boosts Indianapolis to being the 22nd largest cargo airport in the world.

### Columbus, Ohio

Columbus has a generally strong and diverse economy. Some of its major industries include several restaurant chain headquarters, clothing manufacturers, steel processing, and banking. Its location along both the I-70 and I-71 corridors gives it regional access to markets in the East and Midwest. It is home to Rickenbacker Airport, an inland port with Customs facilities and a U.S. Foreign Trade Zone and is served by two Class I Railroads.

### Louisville, Kentucky

Louisville's economy is focused on manufacturing, business services, food and beverage, healthcare and logistics and eCommerce. Louisville is home to the UPS WorldPort air hub shipping products to almost anywhere in the world overnight. Growth in manufacturing is supported by the extensive logistics operations present in the area.

### Nashville, Tennessee

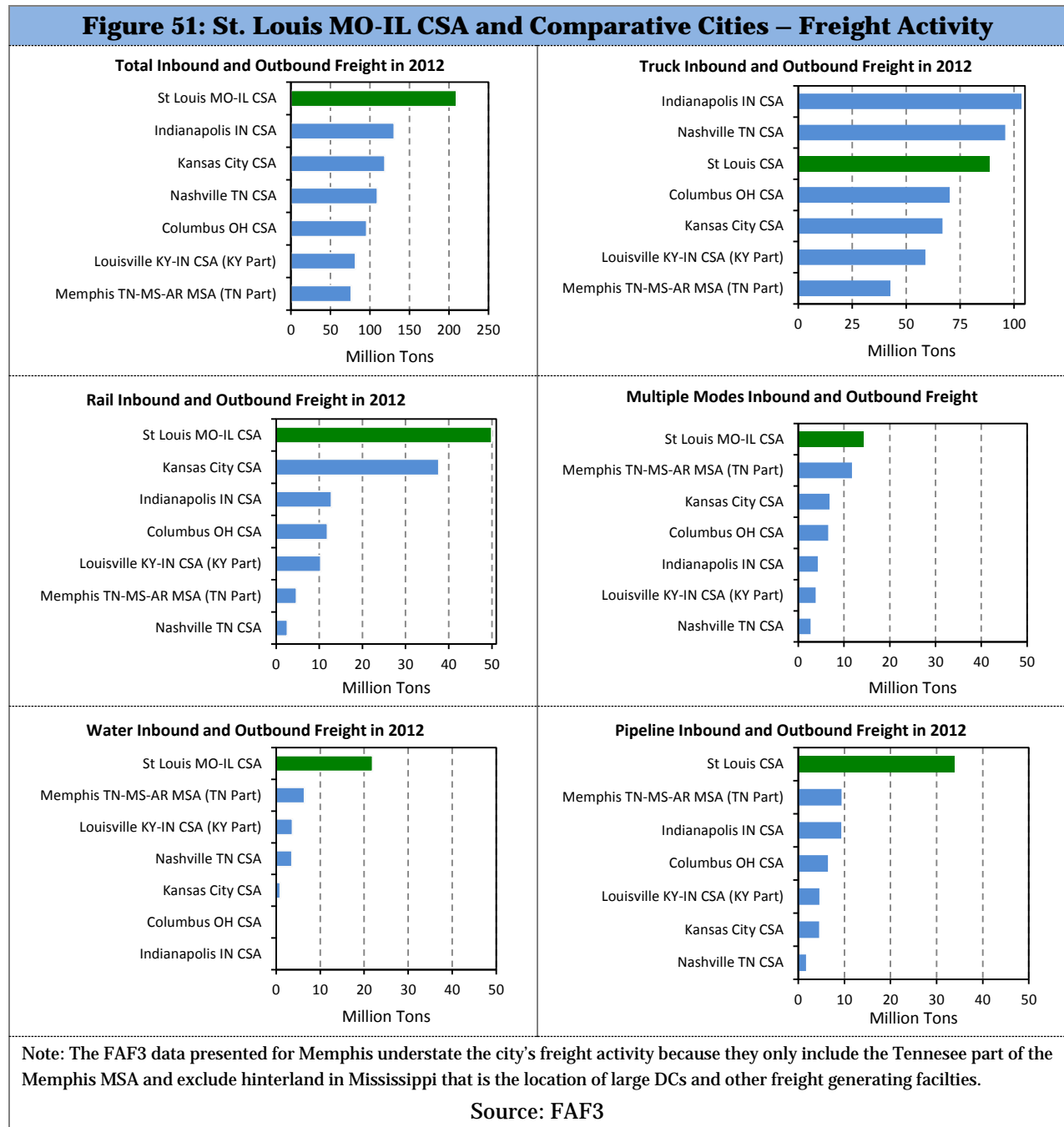
The economy in Nashville is diverse with growing industries in retail professional and business services, health care, transportation, and construction. Nashville is within a 650-mile radius of 50 percent of the country's population. This connectivity has helped fuel its emerging distribution and warehouse center growth. Nashville is connected to I-24, I-40, and I-65 and is directly served by one Class I Railroad-CSX.

### Memphis, Tennessee

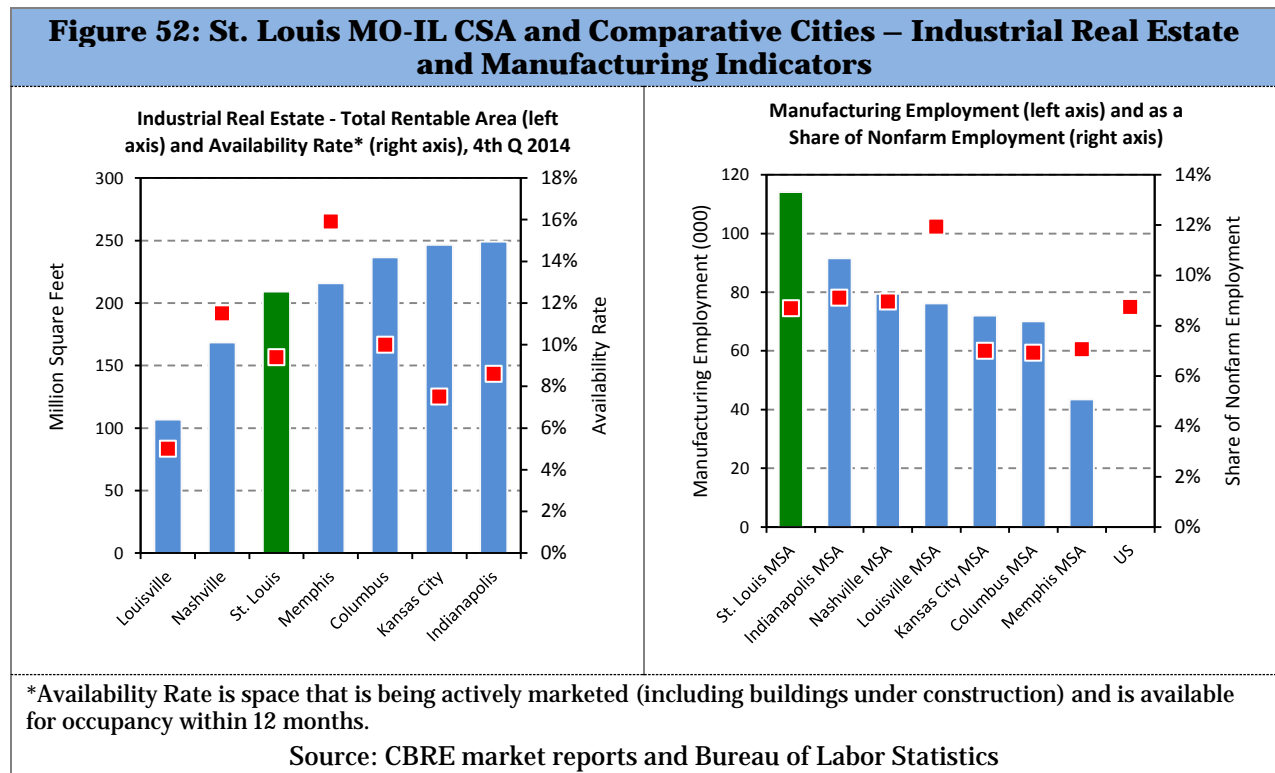
Memphis' logistics presence is anchored by the Memphis International Airport and the presence of FedEx's world headquarters and super-hub. Memphis offers connections to five Class I railroads, four interstates, an inland river port, and numerous logistics providers. Manufacturing has always been a strategic focus for Memphis with its strong rail and river connections. Target industries range from bioscience to food and beverage production to logistics and distribution.

General indicators of freight activity by city are provided in Figure 51. St. Louis emerges as the largest freight hub, a reflection of its significant presence across all transportation modes –

truck, rail, water, multiple modes (e.g., rail-barge and intermodal) and pipeline – compared to the other cities. Note that the FAF3 data presented for Memphis understate the city’s freight activity because they only include the Tennessee part of the Memphis MSA and exclude hinterland in Mississippi that is the location of large distribution centers and other freight generating facilities (i.e., manufacturers, raw material producers, distribution centers).



The comparative cities analysis focuses on evaluating St. Louis and the other cities as locations for distribution and manufacturing activity. As general background, indicators of industrial real estate market size and manufacturing employment (as an indicator of manufacturing activity) are provided in Figure 52. St. Louis and four other cities provide over 200 million square feet of rentable industrial space, which includes facilities for warehousing and distribution, manufacturing, bulk warehousing, flex-space, and other facilities.<sup>11</sup> The St. Louis area has the largest number of workers employed in manufacturing and its manufacturing employment as a share of total nonfarm employment is similar or better than all except one city (Louisville). However, manufacturing employment in St. Louis has been one of the slowest to recover from the 2008/2009 recession. The following are the ratios of March 2015 manufacturing employment to March 2006 manufacturing employment – St. Louis 81 percent, Memphis 79 percent, Indianapolis 86 percent, Columbus 87 percent, Nashville 87 percent, Kansas City 89 percent and Louisville 98 percent.



### Evaluation Criteria

A variety of criteria are used to identify the most suitable locations for freight-related development. Key criteria include market coverage (population within a specified driving

<sup>11</sup> The data on industrial real estate were obtained from market reports published by CBRE. The data include buildings of over 100,000 square feet in size.

distance of the location), truckload shipment costs to major markets, and access to rail service. Labor availability and quality, building lease rates, and availability of developed infrastructure are also important. Other considerations include the tax environment and quality of life factors. As stated in the interview survey (Section 5), the following are the general rankings of location/site selection criteria for retail distribution and manufacturing:

<u>Retail Distribution</u>	<u>Manufacturing</u>
1. Proximity to customers/suppliers	1. Labor force, quality, cost availability
2. Available transportation infrastructure and mode (e.g. air, truck, rail, barge)	2. Proximity to customers/suppliers
3. Labor force, quality, cost, availability	3. Available transportation infrastructure and mode
4. Government programs and tax incentives	4. Government programs and tax incentives

The analysis by evaluation criteria relies on data obtained from a variety of different sources – the U.S. Census Bureau, state and local government agencies, and commercial data sources. Some of the data is based on the Metropolitan Statistical Area (MSA). MSAs are geographic areas defined by the U.S. Office of Management and Budget for use by federal statistical agencies in collecting, tabulating, and publishing federal statistics. An MSA consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

**Market Coverage**

A key decision-making factor is the ability of a location to cover a large customer base or consumption zone within reasonable trucking service windows. For this analysis, two indicative truck service windows are used; the “Local Market” is defined as the estimated population within a one-way driving time of four hours and the “One-Day Market” (or overnight market) is defined as the estimated population falling within a one-way driving time of eight hours. The amount of mileage covered within these two time windows will be dependent on factors that influence average truck speed including road quality and traffic congestion. Market coverage indicators for St. Louis and the six other competitors are provided in Table 55. The estimated population coverages are derived from the drive time maps presented in Figure 53, Figure 54, and Figure 55.

St. Louis ranks fifth in both service windows, ahead of Kansas City and Memphis, and behind Indianapolis, Columbus, Louisville and Kentucky. The results reflect the lower population densities in parts of the Midwest served by St. Louis and the higher population densities served by the four top locations. The results are reasonably consistent with the interview findings (Section 5), which suggest that St. Louis is better suited to a focus on Midwest regional distribution compared to, for example, a location such as Columbus that can provide broader distribution access – both Midwest, Northeast and other population centers. This is a general

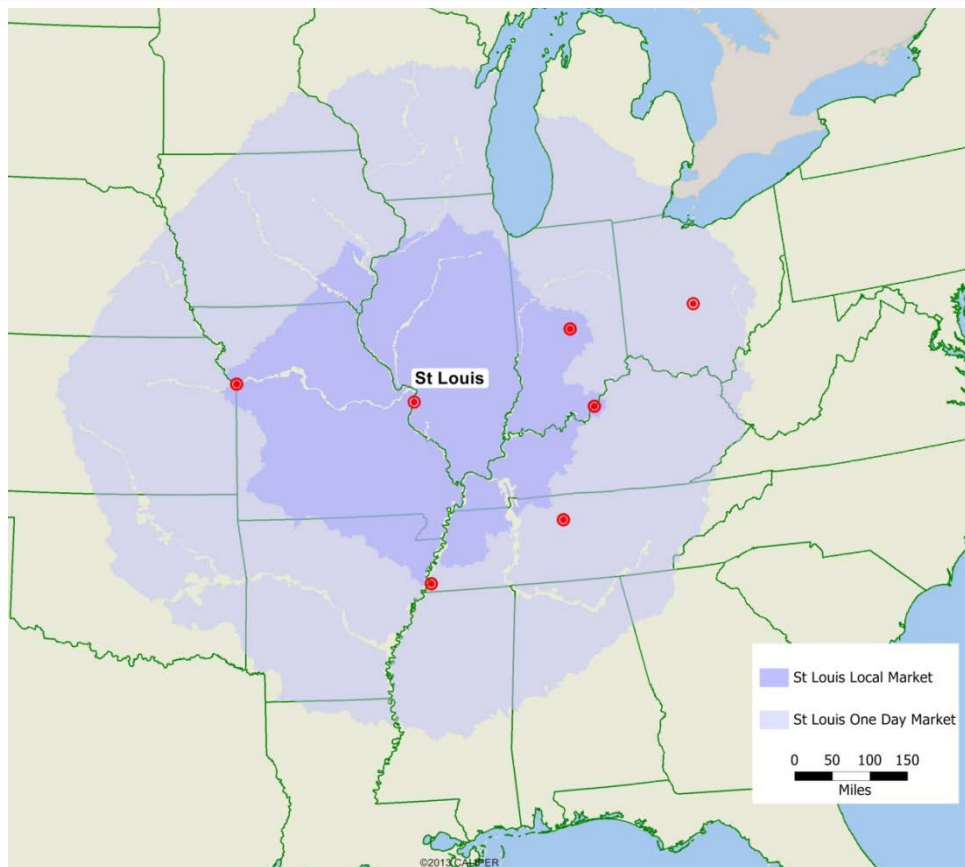
conclusion, and the suitability of St. Louis as a distribution location depends on each company’s specific supply chain needs and the distribution function. As stated previously, eCommerce distribution that requires nationwide customer access via express service (for example, UPS and FedEx) could be suited to St. Louis’ central location.

**Table 5: Estimated Population Coverage**

Population (Millions)	St. Louis	Kansas City	Indianapolis	Columbus	Louisville	Nashville	Memphis
4-Hour Drive Time Band	16.3	12.5	32.9	30.1	21.4	19.9	11.8
<i>Rank</i>	5	6	1	2	3	4	7
8-Hour Drive Time Band	67.2	46.9	79.8	98.9	87.0	75.0	60.5
<i>Rank</i>	5	7	3	1	2	4	6

Source: GKSF and Census Bureau

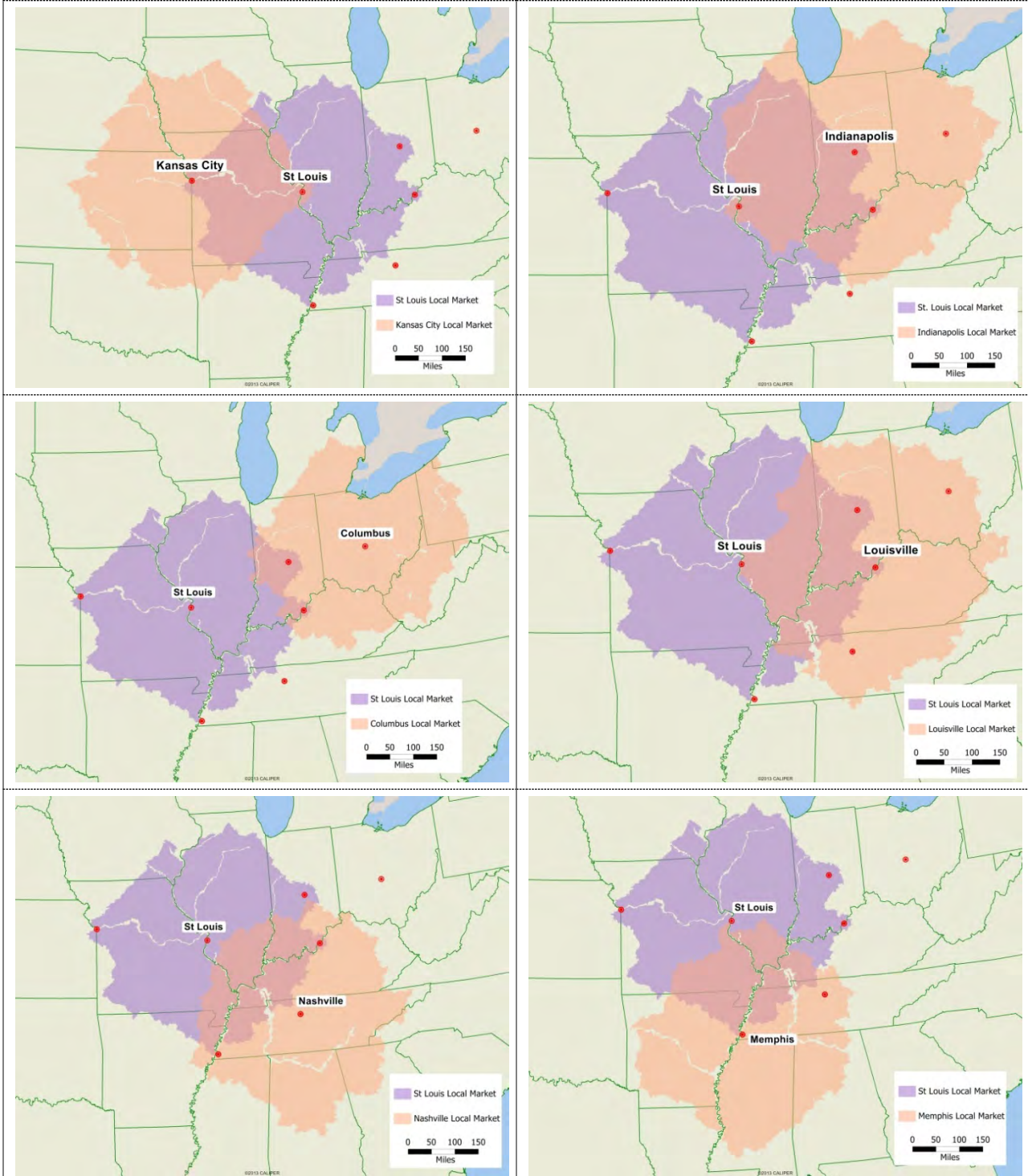
**Figure 53: St. Louis Local and One-Day Market Coverage Map**



Note: Local market coverage is based on 4-hour drive time and One-Day market coverage is based on 8-hour drive time.

Source: GKSF

**Figure 54: Comparative Cities Local Market Coverage**

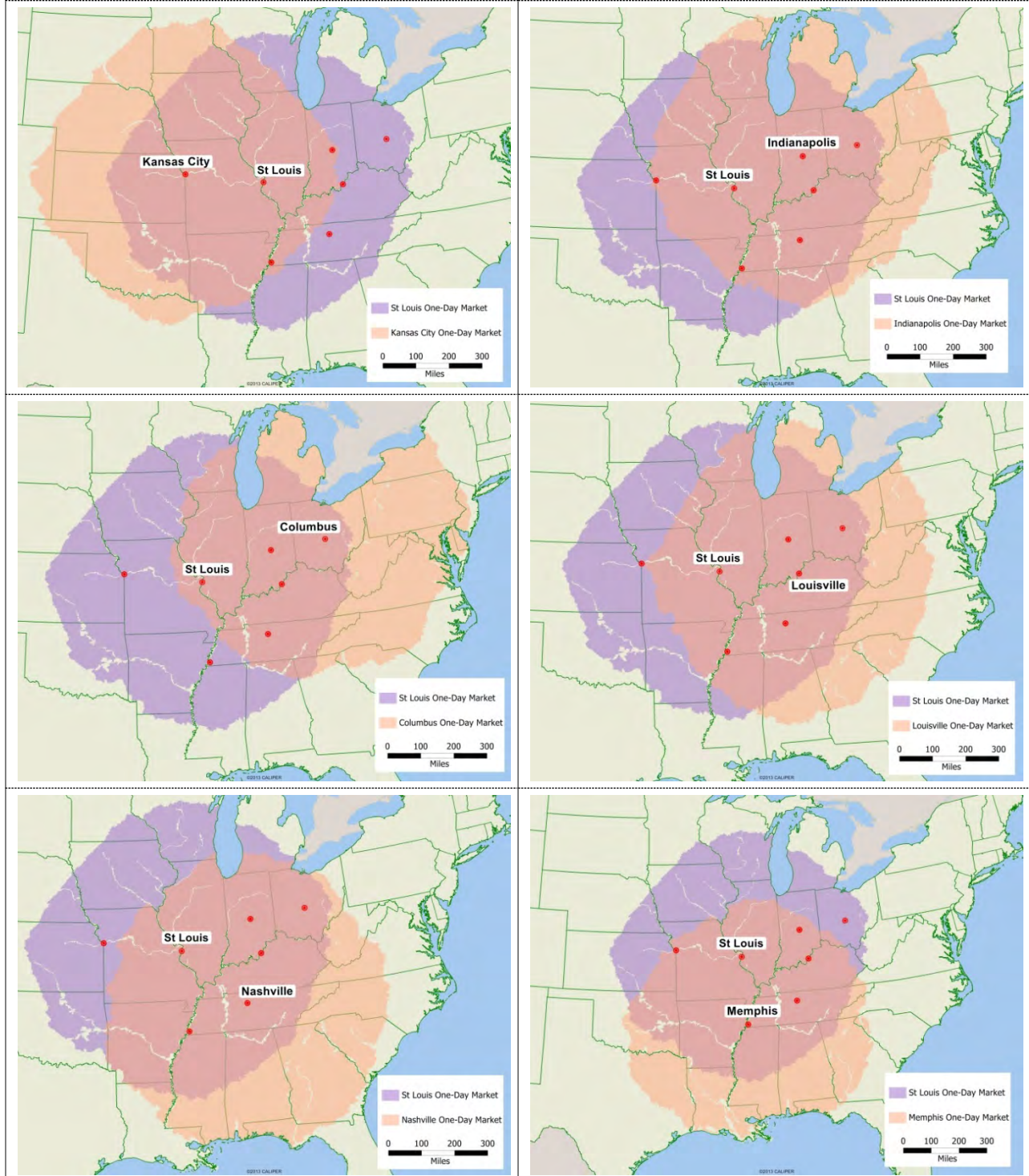


Note: Local market coverage is based on 4-hour drive time.

Source: GKSF



**Figure 55: Comparative Cities One-Day Market Coverage**



Note: One-Day market coverage is based on 8-hour drive time.

Source: GKSF

## Truckload Costs

The Truck Rate Analysis illustrates truck costs based on hypothetical Midwest DC truckload deliveries within a one-week timeframe. Table 6 compares truckload rates from St. Louis to truck rates from the six comparative cities, and for additional context two major distribution and transportation hubs – Chicago and Dallas. Midwest origin logistics hubs (O) are displayed across table column headers, and selected Midwest destination cities (D) appear in the vertical left-hand column. “Est. Truck Trips,” which is the number of truckloads to a given destination in one week, are displayed in column 2.<sup>12</sup> “Total Truck Costs/Lane” under each Logistics Hub is the total cost of all truckload trips for each O/D pair for the week. The lowest “Total Truck Cost” of the Midwest Distribution Hubs to each destination is shaded in green. Total Truck Costs are totaled in the last row of the table, which represents total network trucking costs to service the selected Midwest cities from each Hub city.

In this example, truck distribution from Chicago produced the lowest overall network trucking costs (totaling \$54,364), while St. Louis (\$57,695) is the next lowest cost option, better than Kansas City, Indianapolis, Nashville, Columbus, and Dallas. It is important to note that St. Louis might still be the best choice (over Chicago) for distribution if, for example, manufacturing facilities were in closer proximity to St. Louis, a Gulf Coast port was used to import goods, a lack of traffic or rail congestion existed in the St. Louis area, or more favorable workforce considerations prevailed in St. Louis.

## Labor Cost and Availability

Labor cost is a key evaluation criterion for companies selecting locations for manufacturing and for warehousing and distribution. It is normally the second largest cost component after transportation costs. Table 7 shows the average weekly wage in manufacturing and in warehousing for St. Louis and the competing locations, and other labor indicators (e.g., labor force size). The labor indicators show that St. Louis ranks unfavorably compared to its competitors. Several factors could explain the St. Louis rank.

- In manufacturing, although not specifically identified in employment data, the relatively poor ranking could be partly explained by a greater incidence of higher-skilled manufacturing activity in the St. Louis region, and thus higher average weekly wages compared to some of the other locations.
- St. Louis offers the largest labor force of the comparative cities, but its only one of two cities (the other Memphis) that have experienced a fall in labor force size over the past five years. However, the interview survey (Section 5) was positive about St. Louis labor pool:

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<sup>12</sup> See Appendix B for Estimated Truck Trips and Total Truck Cost per Lane calculation methodology.

- Respondents suggest that St. Louis has a large and talented labor pool, mainly driven by the manufacturing history of St. Louis.
- A higher incidence of union membership and absence of right-to-work status is present in the area. However, the interview survey (Section 5) findings on union membership are worth repeating:
  - Unionized labor considerations were raised during interviews. An interviewee noted that while the construction workers are likely to be unionized, small to medium-sized manufacturing and distribution operations often are not. Union-friendly states are generally not sought out, but as one developer offered, “If the site makes sense from a logistics point of view, right-to-work is not much of an issue.”

**Table 6: Outbound Truck Cost from Selected Midwest Distribution Hubs to a Sample of Midwest Destinations**

Midwest Logistics Hub – Total Truck Cost (\$) per Lane									
Destination City (MSA)	Est. Truck Trips	St Louis	Kansas City	Columbus	Indianapolis	Nashville	Memphis	Chicago	Dallas
Chicago	17.20	13,005	18,917	15,195	<b>10,327</b>	17,711	17,421	n/a	37,821
Cincinnati	3.87	3,087	4,367	<b>1,990</b>	2,234	2,604	3,778	3,302	5,226
Cleveland	3.75	4,818	6,105	<b>2,110</b>	3,107	3,868	5,318	3,304	5,917
Columbus	3.19	2,425	4,144	n/a	<b>1,995</b>	2,566	3,524	2,331	7,050
Dallas	11.33	10,313	9,476	17,704	14,752	10,475	<b>8,020</b>	15,202	n/a
Denver	4.51	4,303	<b>3,352</b>	7,000	6,133	5,853	6,547	5,802	6,775
Des Moines	1.00	729	<b>518</b>	1,162	966	1,107	1,233	777	1,025
Indianapolis	3.08	1,752	3,054	1,801	n/a	1,924	3,096	<b>1,604</b>	6,311
Kansas City	3.60	<b>1,839</b>	n/a	4,605	3,372	4,005	3,557	3,552	4,145
Memphis	2.31	1,445	2,410	2,816	2,113	<b>1,197</b>	n/a	2,304	2,484
Milwaukee	2.79	2,357	2,764	2,795	2,375	3,002	3,145	<b>1,322</b>	3,850
Minneapolis	5.81	7,025	<b>4,642</b>	8,181	6,701	10,544	10,166	4,943	7,958
Nashville	2.79	2,045	3,246	2,596	1,971	n/a	<b>1,721</b>	2,543	4,334
Oklahoma City	2.17	2,553	1,917	4,116	3,726	3,141	2,627	4,145	<b>1,329</b>
St Louis	5.06	n/a	<b>2,904</b>	4,782	3,098	3,318	3,121	3,186	7,449
<b>Total Truck Cost</b>		<b>\$57,695</b>	<b>\$67,816</b>	<b>\$76,853</b>	<b>\$62,870</b>	<b>\$71,315</b>	<b>\$73,273</b>	<b>\$54,317</b>	<b>\$101,672</b>

Source: Truckloadrate.com as of 2/23/15 (Truck rates are subject to change)

**Table 7: Labor Cost and Availability Indicators**

	St. Louis	Kansas City	Indianapolis	Columbus	Louisville	Nashville	Memphis
<b>Average Weekly Wage</b>							
Manufacturing	\$1,265	\$1,066	\$1,252	\$1,079	n/a	\$1,018	\$1,268
Rank	5	2	4	3	n/a	1	6
Warehousing	\$812	\$741	\$700	\$865	n/a	\$687	\$782
Rank	5	3	2	6	n/a	1	4
<b>Union Membership</b>							
Right-to-Work State	No*	No*	Yes	No	No	Yes	Yes
Private Workforce in Union	8.2%	5.7%	4.9%	3.1%	10.4%	2.0%	2.8%
<b>Labor Force Size</b>							
Labor Force Jan 2010	1,465,081	1,068,979	935,749	994,608	622,725	856,535	625,658
Labor Force Jan 2015	1,441,042	1,112,985	996,246	1,033,507	626,169	902,991	606,110
Labor Force Growth	-1.6%	4.1%	6.5%	3.9%	0.6%	5.4%	-3.1%
<b>Unemployment Rate</b>							
Unemployment Rate Jan 2015	6.0%	5.9%	6.2%	5.0%	5.5%	5.6%	7.9%
* St. Louis MSA – Missouri and Illinois are not right-to-work states. Kansas City MSA – Missouri is not a right-to-work state, Kansas is a right-to-work state.							
Source: Bureau of Labor Statistics and unionstats.com							

### Lease Rates

Building lease cost is another important cost element for companies evaluating locations. A location's lease rates will be driven by factors that include supply and demand of properties, demand and supply of land, land costs, construction costs, transportation access (road and rail), age and condition of the property, and building characteristics (ceiling height, etc.). The rate paid by a company will also reflect building location and characteristics, and specific customization needs. Building type will generally fall into the following types:

- Warehouse / Distribution and Manufacturing – these buildings are typically one-story and have low internal specifications with high ceiling clearance, heavy power, suitable storage and manufacturing activities, and various other building amenities. Warehousing / Distribution will require a high ratio of truck doors to building size.
- Flex / Service – these buildings are higher end properties commonly distinguished from warehouse/distribution and manufacturing facilities by a high ratio of office space (typically 50% or more). Tech space and multi-stories are also common features. They are typically used for more specialized activities (for example, technical sectors).

Representative average lease rates for industrial real estate are shown in Table 8. St. Louis ranks midway, its average lease rate behind Memphis, Louisville and Columbus; and more competitive than Nashville, Kansas City and Indianapolis. Memphis offers the lowest average lease rates,

which is a reflection of its position as one of the nation's major freight and distribution hubs and a healthy supply of industrial space to serve that market.

<b>Table 8: Average Industrial Space Lease Rates, 4<sup>th</sup> Quarter 2014</b>							
	<b>St. Louis</b>	<b>Kansas City</b>	<b>Indianapolis</b>	<b>Columbus</b>	<b>Louisville</b>	<b>Nashville</b>	<b>Memphis</b>
Average Rate (\$ / Sq Ft /Year)	\$4.01	\$4.26	\$4.48	\$3.34	\$3.31	\$4.14	\$2.74
<i>Rank</i>	<i>4</i>	<i>6</i>	<i>7</i>	<i>3</i>	<i>2</i>	<i>5</i>	<i>1</i>
Availability Rate (% Q4 2014)	9.4%	7.5%	8.6%	10.0%	5.0%	11.5%	15.9%
Availability Rate (% Q4 2013)	12.3%	11.2%	8.5%	8.7%	n/a	12.3%	16.2%
Source: CBRE market reports							

### **Other Evaluation Criteria**

Companies have other selection criteria they use when comparing prospective locations for their warehousing/distribution and manufacturing facilities, including local and state incentives, tax environment, cost of living, community environment and others. These criteria typically come into play when companies have created a short list of candidates based on their supply chain network needs and the application of the major selection (for example, transportation costs). A brief discussion and sample of the other evaluation criteria is provided below.

#### Local and State Incentives

Local and state support for a business can include a variety of economic, labor, and tax-related incentives. They typically influence the later stages of the selection process once a company has arrived at a short list of location candidates based on its underlying supply chain and other business needs. Incentives examples include:

- Economic development zones
- Infrastructure development assistance
- Property and sales tax incentives
- Employment grants and tax credits
- Job training programs and training grants

Given the complexity of incentives by state and locality, they are not addressed in this macro comparative analysis. Illinois offers a variety of economic development incentive programs that can be tailored to the individual project.

#### Tax Environment

Corporate, individual and other taxes will be factored into the decision between a short-list of candidates. Generally, a lower tax environment would be more attractive than a higher tax environment. Overall, Illinois ranks poorly relative to the other locations, as shown in Table 9. Illinois' poor ranking is partly explained by sharp increases in individual and corporate income

taxes in 2011, to help overcome a deficit in the state budget. The hikes were partly reversed in 2015.

<b>Table 9: State Business Tax Climate 2015</b>							
<b>Category</b>	<b>Illinois</b>	<b>Missouri</b>	<b>Kansas</b>	<b>Indiana</b>	<b>Ohio</b>	<b>Kentucky</b>	<b>Tennessee</b>
Overall Rank	31	17	22	8	44	26	15
Corporate Tax	47	4	38	22	26	29	15
Individual Income Tax	11	29	18	10	47	30	8
Sales Tax	34	29	30	10	32	11	47
Unemployment Ins. Tax	38	12	9	7	5	45	26
Property Tax	44	7	28	5	20	17	37

Note: 1 is best, 50 is worst of 50 states. Rankings do not average to total. Based on tax systems as of July 1, 2014. Does not reflect actual and proposed tax policy changes in 2015.  
Source: taxfoundation.org

### Cost of Living

Cost of living is another factor considered by companies as they evaluate a short-list of location candidates. Cost of living and its rate of change will influence labor cost, labor cost inflation, and labor retention, and the willingness of employees to relocate if the company is moving from another city. St. Louis has comparable cost of living as the other cities considered in this analysis, with Kansas City at the higher end and Memphis at the lower end.

### Community Environment

Companies will also take into consideration the community environment, including factors such as air quality, crime levels and commute times. These may be of importance when seeking to relocate staff from another city.

### Comparison Methodology

A weighted scoring system is used to rank St. Louis against the other six cities. The ranking exercise focuses on the major evaluation criteria (market coverage, transportation costs, labor availability/costs and lease costs). A company typically focuses on the major criteria during the first phase of site selection; once it has determined a short list of candidates it will start evaluating the minor criteria, such as tax environment and quality of life factors, in more detail. (Approaches to location selection were addressed in the Interview Survey in Section 5).

The ranking model presented here, based on the major selection criteria, provides a macro assessment of St. Louis' attractiveness for warehousing/distribution and manufacturing relative to the six other cities, and allows for macro conclusions on the strengths and weaknesses of each location. The model is not intended as a tool for micro evaluation of individual potential

companies or narrow market segments, because in each such case the company/segment will create its own customized evaluation system based on unique requirements.

The weighted scoring system (Table 10) used in the ranking model is broad based and it is derived from the interviews conducted with shippers and the project team’s experience in the logistics industry. For warehousing/distribution sector, higher weights are assigned to market coverage and transportation costs compared to the manufacturing sector, which incorporates higher weighting for labor availability and labor costs.

**Table 10: Comparison City Analysis – Weighting of Evaluation Criteria**

<b>Criteria</b>	<b>Warehouse / Distribution Criteria Weight</b>	<b>Manufacturing Criteria Weight</b>
Market Coverage	35%	25%
Transportation Costs	35%	30%
Labor Costs	15%	20%
Labor Availability	10%	20%
Lease Rates	5%	5%

Source: GKSF

**Comparative Cities Ranking Results**

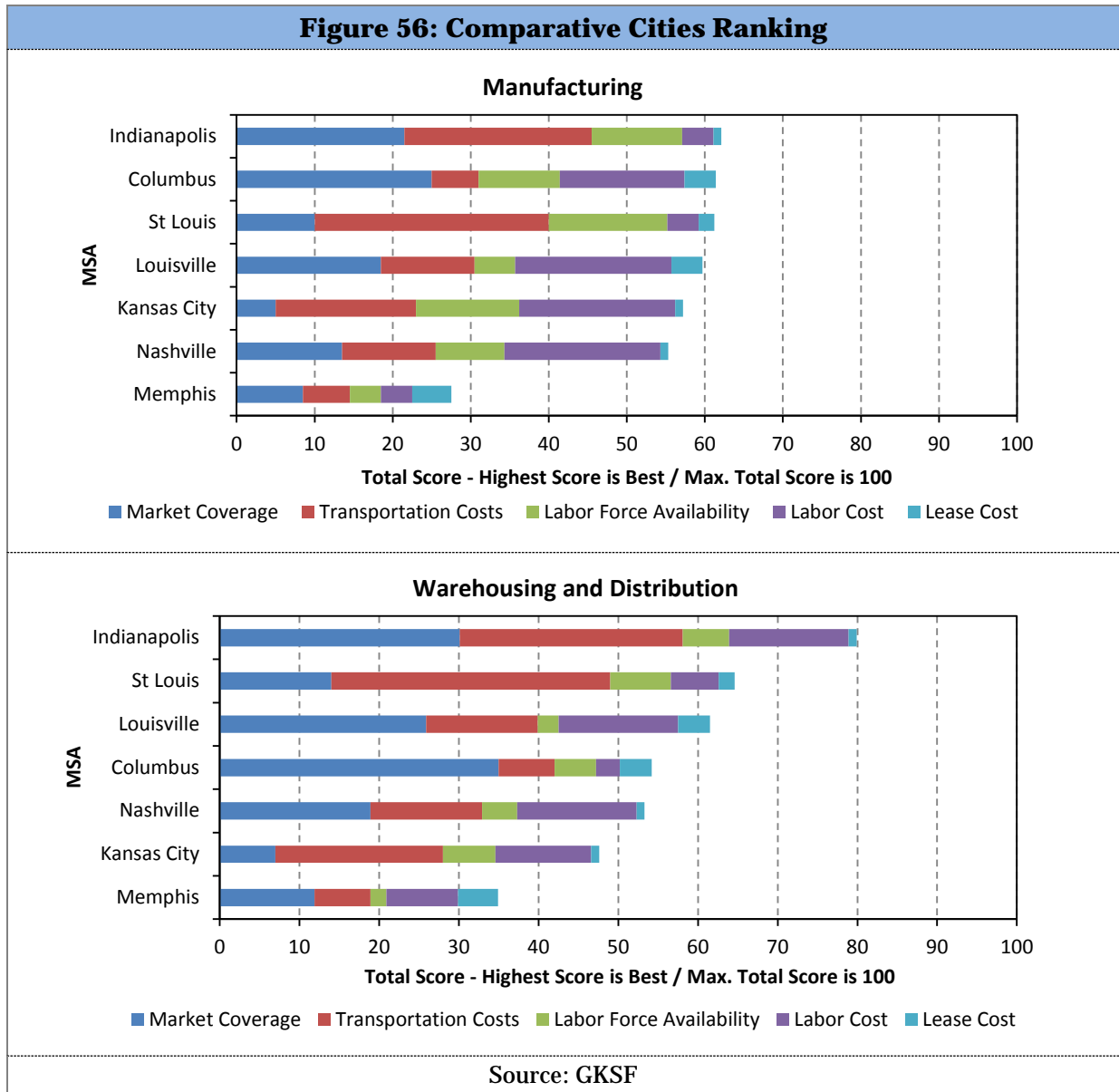
The results of the comparative cities ranking model are presented in Figure 56.

The ranking analysis reveals that St. Louis is nearly tied with Indianapolis and Columbus as the best location for manufacturing. For St. Louis, favorable transportation costs and labor (availability and cost) offset weakness in market coverage. This conclusion is consistent with the interview survey (Section 5) where respondents stated that St. Louis is a favorable location for manufacturing activity.

St. Louis emerges as the second ranked city, behind Indianapolis as a location for regional warehousing and distribution. St. Louis has weaker market coverage, but this is countered by competitive transportation costs and favorable labor conditions (availability and cost). However, other factors not considered in the ranking model come into play that tend to negatively impact on St. Louis and boost some of the other cities. For example, international imports moving over the East coast favor distribution out of locations east of St. Louis, such as Columbus. Similarly, international cargo imported over the West Coast would tend to favor distribution out of Kansas City. While Memphis is ranked lowest based on the data in the model this is partly explained by the trucking cost component, which focuses on truck costs to mainly Midwest locations less favorably served by Memphis compared to the other cities. Memphis has considerable strengths

based on its location and transportation infrastructure that favor, for example, distribution to southern tier states.

**Figure 56: Comparative Cities Ranking**





## Section 7 | Market and Infrastructure Opportunities

The freight outlook, infrastructure inventory, market survey of industry representatives, and comparative cities analysis provided guidance on the types of opportunities available to Southwestern Illinois. Each of these areas of study help to identify quantitative means for Southwestern Illinois to understand its position in the marketplace and measure key indicators to prioritize areas of investment.

### Key Findings

Some key findings for consideration in developing strategies for the Leadership Council Southwestern Illinois to continue advancing investment in freight, logistics and transportation are:

- Freight growth is projected for the St. Louis area, including Southwestern Illinois, with the principal drivers of growth being economic expansion in the St. Louis area and its main domestic trade partners. St. Louis has a long-held, dominant position in lower value/bulk commodities. While growth is expected in lower value/bulk commodities, higher value/warehouseable/manufacturing commodities are projected to grow at a faster rate
- Shipments by rail (carload) are projected to grow at a slower rate than truck and multiple modes (includes intermodal rail). This results from faster growth of truck-friendly and intermodal commodities combined with the dominance of truck in short haul corridors.
- Outbound freight of higher value/warehouseable/manufacturing commodities is projected to grow at a faster pace than inbound shipments reflecting the potential for continued growth of manufacturing activity. A continued imbalance in the intermodal market is expected – the region generates more outbound intermodal freight than inbound consumer-driven intermodal cargo.
- Over \$100 million in roadway and bridge project investments was recently completed in Madison and St. Clair counties. This investment is significant and fosters growth in freight-based industries.
- Over \$700 million in additional roadway and bridge investment is programmed over the next 5 years along with other investment needed in rail and port infrastructure. Continued support for transportation investment is important to foster economic growth.
- Highways in Southwestern Illinois avoid traffic congestion in downtown St. Louis and improve linkages to Chicago, allowing for growth in trucking along highway corridors.

Eastbound rail service is a particular strength for the St. Louis region, especially as compared to Chicago due to congestion or to Kansas City due to St. Louis' closer proximity to eastern states.

- The distribution service area is within a 300 to 400 mile radius of St. Louis; however, shipments originating from St. Louis can reach anywhere in the U.S. within a three-day truck drive. The existence of UPS and FedEx hubs provide additional transportation mode and delivery time options that make St. Louis attractive for eCommerce Fulfillment Centers, manufacturers, and others that require all transit time options, varying from overnight to a week or more, and transport reliability.
- The North America transportation landscape has been in constant flux over the past two decades, which may create openings for St. Louis as logistics managers evaluate the reliability of their existing supply chains and prepare contingency plans.
- The combination of reliable river barge service and access to six Class 1 North American Railroads creates substantial opportunities for bulk and break-bulk transload services serving Midwest, Gulf, and International markets.
- The St. Louis region has 5 airports with cargo capabilities. Currently, air cargo is mostly limited to charter services. MidAmerica Airport has cold storage capabilities for shipping perishable goods via air.
- The St. Louis area has many logistical advantages, but is often overlooked because of competing logistics hubs' aggressive promotional efforts. Aggressive business development campaigns of competing regions tend to overshadow the region's advantages, such as central location to key Midwest markets, ample access to key transportation modes, and available workforce.
- The Port of Houston may receive consideration as an alternative Asia cargo gateway due to the prospect of continued labor disruption on the U.S. West Coast and a key gateway for the Latin America trade. St. Louis has faster intermodal rail service to and from the Port of Houston than do regional rivals, such as Kansas City or Chicago.
- Persistent trucker shortages are causing shippers to divert truck freight to the intermodal rail mode. Favorable intermodal rail service to Eastern markets from St. Louis provides a rail transit-time advantage over competing logistics hubs to the west.
- The local availability of raw materials used in the manufacturing process, notably the abundance of water, was also cited as an important manufacturing consideration.

- Consolidation of operations at large recognized hubs, such as Chicago and Kansas City, may present a challenge for the region.
- Ocean carriers have gradually reduced the share of intact marine containers moving to inland markets by rail due to the high cost of inland equipment management (e.g., finding return export cargo and empty repositioning). This has emerged as a disadvantage for exporters in Southwestern Illinois
- Illinois' hard-to-do-business-with reputation is a disadvantage despite the possible misinformed viewpoint. However, if the site fits logistically, labor union and tax issues are less of a concern. Proximity to a perceived business-friendly location (for example, Missouri) needs to be considered during marketing efforts.
- Of its peer cities, St. Louis is the largest freight hub (measured by total tons moving by all modes), a reflection of its significant presence across all transportation modes – truck, rail, water, multiple modes (e.g., rail-barge and intermodal) and pipeline – compared to the other cities.
- The St. Louis area has the largest number of workers employed in manufacturing and its manufacturing employment as a share of total nonfarm employment is similar or better than all except one city (Louisville).
- In comparing St. Louis to its peer cities, total trucking cost from St. Louis produced the lowest cost option for shippers. St. Louis may be the best choice for truck-based distribution, especially over Chicago, if manufacturing facilities are in close proximity to St. Louis, Gulf Coast ports are used for import goods, and more favorable workforce conditions prevail.
- The comparative city macro ranking analysis reveals that St. Louis is nearly tied with Indianapolis and Columbus as the best location for manufacturing. For St. Louis, favorable transportation costs and labor (availability and cost) offset weakness in market coverage. A history of manufacturing, a large supply of industrial space, a large labor force, and other factors (e.g. transport infrastructure) suggest that St. Louis has the resources to develop and grow its manufacturing base.
- St. Louis emerges as the second-ranked city, behind Indianapolis as a location for regional warehousing and distribution. St. Louis has weaker market coverage, but this is countered by competitive transportation costs and favorable labor conditions (availability and cost). Successful distribution models are demonstrated by the existing presence of international and national businesses that distribute from Southwestern Illinois including Hershey, Unilever, Dial, USF Logistics, and Schneider National.

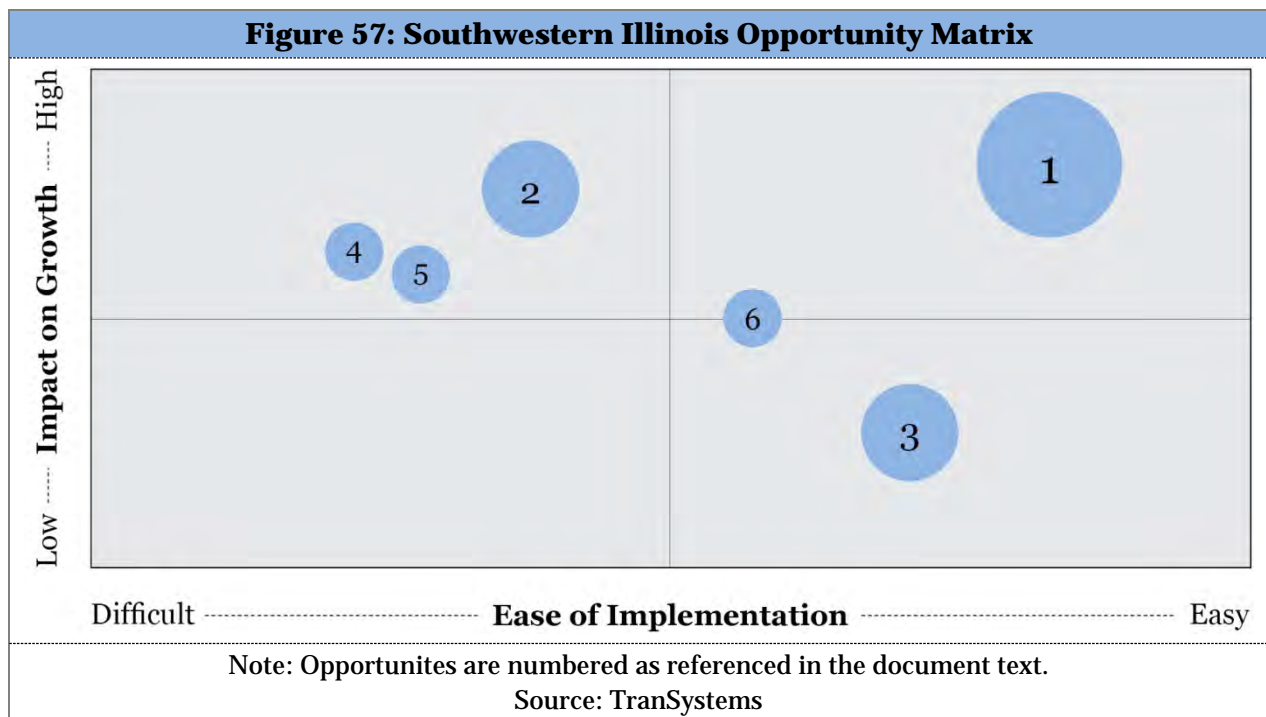
## Opportunities

Based on the key findings six primary opportunities were developed for Southwestern Illinois to consider for advancing investment in freight, logistics and transportation.

1. Bolster Southwestern Illinois as a Leading Logistics Center
2. Increase investment in the Transportation Network for more reliable shipments
3. Build on the long-standing success in Bulk and Break-bulk transload services
4. Promote benefits of Southwestern Illinois for eCommerce
5. Focus attention on growing Regional Distribution Centers and Manufacturing
6. Capture Growth from emerging trends

The Opportunity Matrix shown in Figure 57 is intended to provide a sense of the impact that each opportunity will have on Southwestern Illinois' position in the marketplace. The further to the right on the horizontal axis and closer to the top of the vertical axis means that the opportunity is viewed as having a high impact on regional growth and easier implementation. The size of the bubble is also a relative gauge of the study team's assessment of the weight that should be given to each opportunity when executing implementation efforts. The larger bubbles should receive more attention as they are seen as having a higher return on investment for Southwestern Illinois.

These opportunities should act as critical action areas for Southwestern Illinois to pursue in the next 3 to 5 years. It will be important to identify a "champion" for each action to provide initial support for implementation. Additionally, tracking performance of the actions taken to implement each opportunity will gauge how strategic each opportunity is for Southwestern Illinois.



### **Bolster Southwestern Illinois as a Leading Logistics Center (1)**

Identifying, and communicating Southwestern Illinois' competitive advantages is key to promoting growth in the transportation and logistics sector. Aggressive business development campaigns of competing regions tend to overshadow Southwestern Illinois' advantages. Active efforts to promote the region are expected to enhance growth in the freight and logistics sectors.

Specific items that should be considered are:

- Promote Southwestern Illinois' position as a leading Midwest distribution hub. St. Louis is at the epicenter of key Midwest consumer markets, e.g. Kansas City, Chicago, Columbus, Memphis, Louisville, Oklahoma City.
- Develop information to diminish concerns with the perceived litigious nature of Illinois counties and difficult business environment. Gateway Commerce Center and Lakeview Commerce Park have developed the majority of the St. Louis region's modern warehouse/distribution center buildings. This type of growth is evidence that there are solid logistics reasons for business location in Illinois.
- Provide information on the transportation assets present in Southwestern Illinois.
  - Presence of six Class 1 railroads (no need to interchange or efficient interchange)
  - Good north-south and east-west highway access
  - Competitive Midwest distribution hub trucking costs
  - Possible Asia/Latin America gateway alternative over the Port of Houston
  - Favorable intermodal rail service to Eastern markets
- Actively engage partners in the region to promote labor advantages. Continued efforts to align community college training with industrial recruiting (e.g. Southwestern Illinois College, Lewis and Clark) will expand a skilled labor force capable in the logistics, automotive and aerospace sectors.

### **Increase Investment in the Transportation Network for More Reliable Shipments (2)**

The success of business relies on a safe, effective and accessible transportation network. Economic competitiveness is threatened when investment declines. Continued efforts to support regional priorities should be maintained and kept current.

Specific items that should be considered are:

- Maintain a project priority list. The Leadership Council's SITE committee should maintain their efforts to provide a Multi-modal Priority List each year. Aligning priorities with criteria used by East-West Gateway and Illinois Department of Transportation is important to ensure that projects continue in the funding pipeline.
- Support funding applications. Working in partnership with the private sector or public entities implementing projects that impact freight and logistics, the SITE committee

should provide Letters of Support or execute other advocacy efforts to promote transportation investment.

- Preserve land for future freight use. The Terminal Railroad Association has indicated that past efforts to reduce real estate holdings may limit future growth opportunities. Preservation of real estate for future use (e.g., intermodal facilities, rail-served industries) will be important for Southwestern Illinois to capture opportunities.
- Maintain awareness of national and international trade corridors. Other regions of the U.S. are growing at a faster rate than the St. Louis area, including the South, Southeast, and West. Transportation connectivity to these regions, as well as their international ports of entry, is important for Southwestern Illinois.

### **Build on the Long-Standing Success in Bulk and Break-bulk Transload Services (3)**

Southwestern Illinois has a strong history shipping bulk commodities, such as grains, aggregates and coal, along with break-bulk items, such as steel coils and other over-sized or heavy cargo. A particular advantage of Southwestern Illinois is its location below the Mississippi River lock system, enabling direct transit to New Orleans and the presence of six Class I railroads. Additionally, the central U.S. location in close proximity to agricultural areas, situated in the center of major Midwest population centers and manufacturing centers lends to the long-standing success in bulk and break-bulk.

Specific items that should be considered are:

- Investigate transload opportunities with emerging cargo types. While fracking for oil and gas has recently declined with the drop in price of crude oil, a recovery in oil prices may (relatively quickly) return demand for frac sand shipments (and other energy-related cargo) that would justify the need for a transload facility.
- Research the viability of a dedicated or expanded rail/barge transload facility. Such a facility could position Southwestern Illinois to establish a supply chain capable of delivering resins directly from Houston or agriculture products to New Orleans for export. The expansion of the Panama Canal will allow larger bulk carriers to transit. This could stimulate interest in additional barge/ocean vessel transload opportunities.

### **Focus Attention on Growing Regional Distribution Centers and Manufacturing (4)**

Continued growth of manufacturing activity is expected in the St. Louis area which is an important generator of higher-value, outbound freight. A strong growth in consumption of warehouseable commodities is also expected over lower value or bulk commodities.

Specific items that should be considered are:

- Maintain awareness of equipment shortages and support contingency planning. Persistent long-haul truck shortages and the lack of intermodal containers limits options for Southwestern Illinois shippers. By staying abreast of these topics Southwestern

Illinois leaders can advocate for shippers and promote options for mode shift to domestic intermodal rail.

- Target marketing efforts to shippers looking for regional DC models. The St. Louis area's distribution area is a 300-400 mile radius. This distance fits into a North America 4 to 5 DC network model depending on delivery area locations. Investigation into companies looking for new, consolidated or relocated regional DCs should be made.
- Identify items shipped in congested markets. Through targeted interviews and relationships with carriers, shippers who are facing delays in congested markets can be identified. Once these shippers are identified specific investigation into their supply chains and the matching attributes of Southwestern Illinois can be identified. Specific targeting of these shippers can result in more successful deals but relies on trusted relationships that may take time to build.
- Target marketing efforts to manufacturers that can take advantage of St. Louis strengths (e.g., existing manufacturing base including support network of services and suppliers, large and skilled labor force, central geographic location, and reliable transportation connections).

### **Promote Benefits of Southwestern Illinois for eCommerce (5)**

The growing popularity of online shopping has led to the emergence of eCommerce as an integral component of domestic supply chains. The existence of Target.com and Express-Scripts.com are positive indications of the St. Louis region's ability to meet the criteria of an eCommerce site search.

Specific items that should be considered are:

- Promote Southwestern Illinois benefits for eCommerce distribution. Southwestern Illinois' central U.S. location enables all delivery duration options to anywhere in the U.S. – air, overnight, truck within 3 days, and rail within 5 days+. This is not possible from points further east or west. The labor force skills easily meet DC skill requirements and availability for seasonal fluctuations can be accommodated.
- Support small-package delivery services. St. Louis' UPS and FedEx presence is essential for local eCommerce shipping. Relationships with small-package services should be maintained so that presence and good service in the area continues. The SITE committee should investigate any service delivery issues so that they can be considered for transportation investment priorities. Also, incorporating the network strengths of parcel shipping companies' services into marketing efforts further enhances the area's logistical advantage.

### **Capture Growth from Emerging Trends (6)**

The state of transportation has been in flux for nearly two decades, causing shippers and carriers to continuously seek out new and innovative ways to manage their supply chains. Southwestern

Illinois needs to be aware of these changes and adapt marketing to capture growth from these emerging trends.

Specific items that should be considered are:

- Establish marketing agreements. Agreements with one or more key gateway international ports (e.g., Houston) can leverage efficient freight transportation corridors between Southwestern Illinois and these ports.
- Grow presence in Latin American trade. The Port of Houston has faster intermodal access to the St. Louis region than competitor cities. The Port of Houston is a key gateway for Latin American trade. Investigation into the companies with strong presence in Latin America and that match with the characteristics of Southwestern Illinois could open new opportunities for selection of the area for new DCs or manufacturing facilities. Trade missions by area leaders and company representatives can gain access to customers in Latin America.
- Leverage access to Northeast Ports. A strong alternate to West Coast ports is the Suez route via Northeast ports. This route connects with trade partners as far east as Vietnam, Indonesia, and South China. St. Louis sits at a favorable location with direct intermodal connection to the East Coast that some competitors do not have. When looking to promote alternative gateways it will be important to establish relationships with shipping decision-makers to measure the viability of the opportunity.
- Develop shipment options in the face of equipment shortages. International containers are less readily available in the Midwest market. However, intermodal using domestic containers is growing at a strong rate. Refrigerated box cars, trucks and containers are scarce and demand high shipment costs due to the fragile nature of the cargo. The need for shipment options for manufacturers and retailers is increasingly important. Active research into companies that can match import/export loads could increase the availability of international containers. Additionally, supporting research into new shipping methods using racking systems or rolling floors within rail cars may provide new opportunities for shippers.
- Introduce tools to create shipment efficiencies for the region. Transportation cost is a huge driver of supply-chain decisions. Driving down cost through more efficient modes or optimized routes is highly desired by shippers. While the “sharing economy” has mostly centered on cars, bikes and taxis, it is emerging for freight. Load matching websites have been around for years but advances in passenger-mode technology are now crossing into the trucking industry. Southwestern Illinois could benefit from staying in front of new tools and fostering their development to benefit local shippers.

## Summary

Through a freight outlook analysis, infrastructure inventory, market survey of industry representatives and a comparative cities analysis the study team identified quantitative means



for Southwestern Illinois to understand its position in the marketplace and evaluate key performance indicators to prioritize areas of investment. Each of these areas of study provided data and information that was used to develop opportunities and action items for Leadership Council Southwestern Illinois and identified champions to execute in the next 3-5 years. It is through fostering these opportunities that Southwestern Illinois can benefit from growth in the freight and logistics industry.

## Appendix A: Literature Review

### A.1 | Synthesis of Existing Studies

The Southwestern Illinois region encompasses Madison and St. Clair Counties. While this area is the focus of the study, a broader review of trends and data is often necessary to understand the context of the information and its relationship to the Southwestern Illinois region. As a result, a series of federal, statewide, regional, and local documents were reviewed to inform the consultant team on existing policies, development efforts, and freight flows in the Southwestern Illinois region. The following pages summarize the documents that were examined during information gathering efforts with key highlights identified below.

*State Reports:* The statewide rail and freight plans for both Illinois and Missouri were reviewed. The plans set the overall foundation and framework for making transportation investment decisions in their respective states. Both states consider themselves “connector states” and expect truck- and rail-based pass-through traffic to increase. Specifically in Southwestern Illinois, the plans suggest the region should focus on sustaining and developing multimodal capacity.

*Regional and Local Reports:* Several regional and local reports provide greater insight to freight activities in the St. Louis region, and more specifically, the Southwestern Illinois region. A few of the studies suggest building upon the advantages of the St. Louis region to establish the area as a global multimodal logistics center. The advantages stem from a mix of desirable conditions: economic, geographic, infrastructure, public policy, and community support. Multimodal assets specifically in Southwestern Illinois include regional airports, America’s Central Port, and the Gateway Commerce Center. There are also opportunities for growth related to port traffic and land use. The reports also present concerns to address, such as capacity and congestion related issues. Overall, the reports present several challenges and opportunities that guide freight analysis and recommendations in the Southwestern Illinois region.

*Federal Guidebooks and Related Research:* Several federal organizations share research and guidance for freight-related activities: the National Cooperative Freight Research Program, the National Cooperative Highway Research Program, the Federal Highway Administration, and the National Center for Freight and Infrastructure for Research and Education. The resources provide guidance for policymaking that could inform decisions in Southwestern Illinois, such as how public policy can influence the location selection process. New freight-related trends such as dimensional-weight pricing and omni-channel commerce are also explored.

The review of existing studies provides a foundation for analysis of the freight network in the Southwestern Illinois region.

## A.2 | State Reports

### Illinois Freight Mobility Plan

*Illinois Department of Transportation, 2012*

Illinois is third in the nation for trucking volume, third for rail volume, and second in rail intermodal traffic. The report presents an analysis of Illinois freight traffic by mode, commodity, and geography for a 2010 base year with a 2040 forecast as well as potential market trends affecting freight traffic. The report identifies a number of opportunities and challenges for the Illinois freight transportation system.

Projecting to 2040, Illinois-based volumes are forecast to total 1.7 billion tons, an increase of 34 percent from 2010. Of these, 67 percent are expected to move by truck, 24 percent by rail, 9 percent by water, and 0.2 percent by air. Trucking posts the largest gain in both absolute tonnage and relative mode share compared to the 2010 mode split. Although rail and water will decline in mode share over the next three decades, in absolute terms, rail will see a 24 percent increase and water a 10.3 percent increase. Petroleum or asphalt products (except gasoline), coal, and live animals/animal feed were the largest commodity flows in 2010, reflecting the significance of the agricultural and energy supply chains to the State's economy.

The plan describes three overarching strategies:

- Implement freight performance measures (e.g. safety performance, service reliability, and air quality) so that the quality of performance can be known and enriched, and ultimately employed as a competitive advantage.
- Enhance knowledge of industry transportation needs so that responsive policies and investments can be implemented in the long-term interest of the Illinois economy and jobs. Public-private coordination should be encouraged to ensure efficient freight system operation.
- Expand freight multimodal planning in order to enjoy the benefits of every mode, improve their connections, and sustain the State's position as the primary freight hub of the United States. This will need to occur at the State and local level as well as expanded coordination with neighboring states and other major economic regions where freight moves.

The document briefly mentions Madison and St. Clair Counties as the second largest population cluster in the state with moderate congestion that affects freight mobility. Planned investments that have the potential to positively impact Southwestern Illinois include the construction of 800 miles of Dedicated Truck Lanes (DTLs) that would run from the Ohio/West Virginia border to Kansas City, Missouri along the Interstate 70 corridor. Monroe and St. Clair Counties would also benefit from preservation efforts such as bank banking for logistics and intermodal use.

*Analysis and Relevance to Study: As the statewide freight plan, the document sets the overall foundation and framework for making freight-related transportation investment decisions in Illinois. Freight hubs are essential to Illinois' position in the business logistics systems because of its waterways, modal networks, and industries. While Chicago is the main hub of the freight network in Illinois, the Southwestern Illinois region should focus on sustaining and developing multimodal capacity.*

## **Illinois State Rail Plan**

*Illinois Department of Transportation, 2012*

The State Rail Plan presents existing and future passenger and freight rail services and conditions in Illinois. Rail services in Illinois include rail freight carrier services, Amtrak services, intercity high-speed rail services, and urban commuter rail services. Illinois' comprehensive rail network consists of approximately 7,400 miles of track, making it the second largest rail system in the United States. Illinois is also the only state in which all seven Class I railroads operate.

The State's expansive rail freight network, its 16,500-mile highway system, 300 port terminals, and over 200 intermodal freight transfer facilities serve the manufacturing, warehouse/distribution, agricultural, and energy industries in Illinois. Illinois ranks second in rail tons originating in the state (behind Wyoming) and second in rail tons terminated in the state (behind Texas). One of the plan's primary goals is to promote and expand intermodal connectivity. The report specifically identifies four intermodal terminals and six equipment depots in the St. Louis region. While the plan notes several passenger rail investments, only two rail freight projects are identified—the Illinois Western Railroad Interchange Construction (Smithboro/Greenville) and the Union Pacific Chicago Subdivision Rail Construction (Mount Vernon).

The primary commodities transported by rail include coal/energy, agriculture/food, and chemical products. The Rail Freight Traffic Profile in Chapter 5 expands upon the commodity profile and directional rail flows, both current and projected.

The document provides limited information directly related to the Southwestern Illinois region. The only specific section provides an explanation of the partnership between the City of Alton and Madison County Metro East Transit District to construct constructing a new intermodal transportation center incorporating the Amtrak station. A primary goal for safe and efficient rail is to identify and improve hazardous highway grade crossings. In the Crossing Safety Improvement Program FY 2015-2019, three grade separation projects in the Southwestern Illinois region are also listed:

- City of Collinsville, Lebanon Road and Lockmann Road
- City of Highland, Iberg Road Extension

- City of O'Fallon, Venita Drive

*Analysis and Relevance to Study: As the statewide rail plan, the document sets the overall foundation and framework for making rail-related transportation investment decisions in Illinois. While many passenger rail investments are described, only two statewide rail freight projects are identified. There are three planned grade separation projects in the Southwestern Illinois region to improve safety and efficiency.*

## **Missouri State Freight Plan**

*Missouri Department of Transportation, 2014*

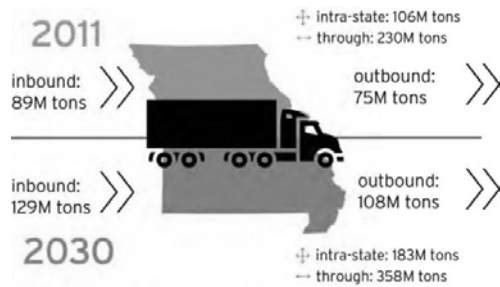
Missouri is a “connector” state with the majority of freight moving across the state’s transportation networks as truck- and rail-based pass-through traffic. Approximately half of Missouri’s economy is substantially affected by freight, either by being directly involved in the movement of freight or by being a user of freight services.

The plan’s recommendations include:

- Maintain and improve the designated Missouri Freight Network to ensure the system continues to move forward toward achieving transportation goals identified in the Missouri Long Range Transportation Plan and the Missouri State Freight Plan.
- Use MoDOT’s freight project prioritization framework to help decision-makers prioritize future investments on the freight network.
- Expand collaboration with the Missouri Department of Economic Development and other partners to address specific freight transportation needs of targeted individuals.
- Develop supportive freight and land use guidance to facilitate the creation of freight supportive policies to ensure practical considerations are incorporated into local planning and design efforts.
- Increase public awareness about freight.
- Continue engaging statewide economic development partners.
- Host an annual Freight and Economic Development roundtable to enhance the exchange of information and communicate about issues and opportunities.
- Consider developing a rail public-private partnership program to improve rail infrastructure, rail terminals, and rail-to-truck intermodal facilities.
- Identify and preserve critical multimodal freight-intensive development nodes and adjoining industrial land assets.
- Partner with other agencies involved in the certified site program.

Based on the 2030 forecast, truck freight growth is expected to increase 55 percent, rail freight growth by 19 percent, waterway freight growth by 27 percent, and air freight growth by 90 percent. The figures below provide more detail about the forecasted projected freight flow in Missouri.

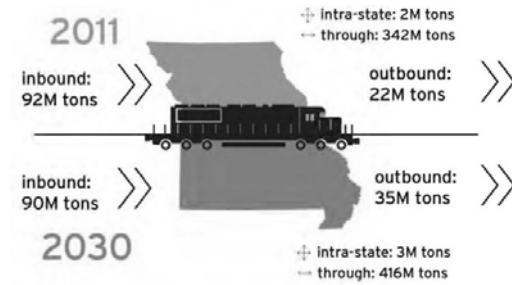
*Analysis and Relevance to Study: As the statewide freight plan, the document sets the overall foundation and framework for making freight-related transportation investment decisions in Missouri. MoDOT's freight project prioritization framework is the most important outcome of the planning process and provides a methodology to identify and fund projects. The final candidate list identifies 122 projects (76 highway, 28 port, 15 freight rail, and 3 aviation projects).*



Total Truck Freight Growth by 2030:

**+ 55.5%**

inbound » + 44.6%    outbound » + 44%  
 intra-state » + 72.9%    through » + 55.5%

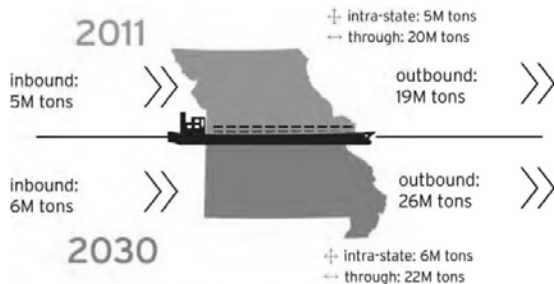


Total Rail Freight Growth by 2030:

**+ 19.0%**

inbound » - 2.3%    outbound » + 64.4%  
 intra-state » + 32.9%    through » + 21.8%

*2030 inbound decrease due to less coal consumption as use of natural gas increases*



Total Waterway Freight Growth by 2030:

**+ 26.9%**

inbound » + 16%    outbound » + 29.8%  
 intra-state » + 93.6%    through » + 10.2%

## Missouri State Rail Plan

*Missouri Department of Transportation, 2012*

The State Rail Plan serves as the strategic framework for developing freight and passenger rail service in Missouri for the next twenty years. Kansas City and St. Louis are the second and third largest rail hubs, respectively, in the nation. More than two-thirds of the rail freight traffic in Missouri is pass-through traffic. Missouri ranks tenth in the United States in railroad miles and fourth in total tonnage of rail traffic originating, terminating, or passing through the state. The primary commodities originating in Missouri are food products, farm products, intermodal, chemicals, and motor vehicles and parts. Coal is the primary commodity terminating in Missouri. Tables 7 and 8 from the plan and included here describe the forecasted rail traffic by commodity.

The projects, priorities, and strategies regarding freight service that are recommended for implementation are as follows:

- **Promote the Efficient Movement of Freight:** This twenty year program will provide new freight programs to support economic development (expand the State Transportation Assistance revolving loan fund, develop a State Freight Rail Economic Development Grant Program, expand the Port Capital Improvement Program, and develop a Rail Asset Management Program)
- **Encourage Intermodal Connectivity:** The freight rail programs will support improved intermodal connections between freight railroads and ports.
- **Enhance State and Local Economic Development:** The new freight rail programs will support communities in improving rail access for industrial and commercial developments and provide rail infrastructure improvements to support specific economic development projects.
- **Promote an Environmental and Socially Responsible Rail Transportation Development:** The improvements supported by this program will allow for the more efficient movement of freight on the state's rail lines.
- **Promote Safe and Secure Railroad Operations:** The program will continue the MoDOT program that fund upgrades the protections provided at highway-rail crossings.

*Analysis and Relevance to Study: As the statewide rail plan, the document sets the overall foundation and framework for making rail-related transportation investment decisions in Missouri. The plan seeks to establish new programs to support freight service, particularly intermodal connections between freight railroads and ports.*

**Table 7: Imports to Missouri by Commodity Group (2011-2031) - Domestic and International Combined**

Top Increasing/ Declining Flows	Commodity	Net Change in Tonnage	Compound Annual Growth Rate
<b>Five Most Increasing Commodity Flows 2011-2031</b>	Fabricated Metal Products	39,172	10.7%
	Miscellaneous Freight Shipments	192,267	10.1%
	Hazardous Materials	1,633,298	5.1%
	Electrical Machinery, Equipment, or Supplies	12,444	4.3%
	Containers, Carriers or Devices, Shipping, Returned Empty	33,637	4.1%
<b>Five Most Decreasing Commodity Flows 2011-2031</b>	Leather or Leather Products	(15)	-3.6%
	Apparel or Other Finished Textile Products	(983)	-1.9%
	Furniture or Fixtures	(276)	-1.2%
	Printed Matter	(143)	-0.9%
	Lumber or Wood Products, excluding Furniture	(100,811)	-0.6%
<b>Other Flows</b>	<i>All Other Commodities</i>	24,519,548	1.6%
<b>Total Forecast Change</b>	<b>All Commodities</b>	26,328,139	1.7%

Source: 2006 and 2009 STB Waybill (Extrapolated Based on IMPLAN and Moody's Forecast)

**Table 8: Exports from Missouri by Commodity Group (2011-2031) - Domestic and International Combined**

Top Increasing / Declining Flows	Commodity	Net Change in Tonnage	Compound Annual Growth Rate
<b>Five Most Increasing Commodity Flows 2011-2031</b>	Electrical Machinery, Equipment or Supplies	23,550	4.9%
	Containers, Carriers or Devices, Shipping, Returned Empty	29,969	3.8%
	Chemicals or Allied Products	538,892	3.8%
	Fabricated Metal Products	16,214	3.6%
	Transportation Equipment	3,348,605	3.6%
<b>Five Most Decreasing Commodity Flows 2011-2031</b>	Textile Mill Products	(13,094)	-2.6%
	Apparel or Other Finished Textile Products	(3,597)	-2.4%
	Furniture or Fixtures	(416)	-1.7%
	Lumber or Wood Products, excluding Furniture	(29,052)	-0.6%
	Pulp, Paper or Allied Products	(2,498)	-0.4%
<b>Other Flows</b>	<i>All Other Commodities</i>	4,676,485	1.4%
<b>Total Forecast Change</b>	<b>All Commodities</b>	<b>8,585,060</b>	<b>1.9%</b>

Source: 2006 and 2009 Waybill and EDR estimates extrapolated using IMPLAN data and Moody's forecasts



## **A.3 | Regional and Local Reports**

### **St. Louis Regional Freight Study**

*East-West Gateway Council of Governments, 2013*

The report explores the status of freight movement through the 16-county St. Louis region and the future ability of local freight infrastructure to sustain growth in jobs and economic opportunity, particularly as the region recovers from the Great Recession. Several core insights emerged throughout the study process.

Chapter 4 discusses the freight infrastructure in the region. From a rail standpoint, the focus of concern should be placed on the capacity of existing local intermodal yards, two rail bridges, and other emerging choke points where Class I railroads cross at-grade. Existing at-grade rail crossings with local roads, particularly with Hall Street and Illinois Route 3, are identified as a concern. Rail crossings of the Mississippi River are critical with the MacArthur rail bridge already at 80 to 90 percent capacity in 2011.

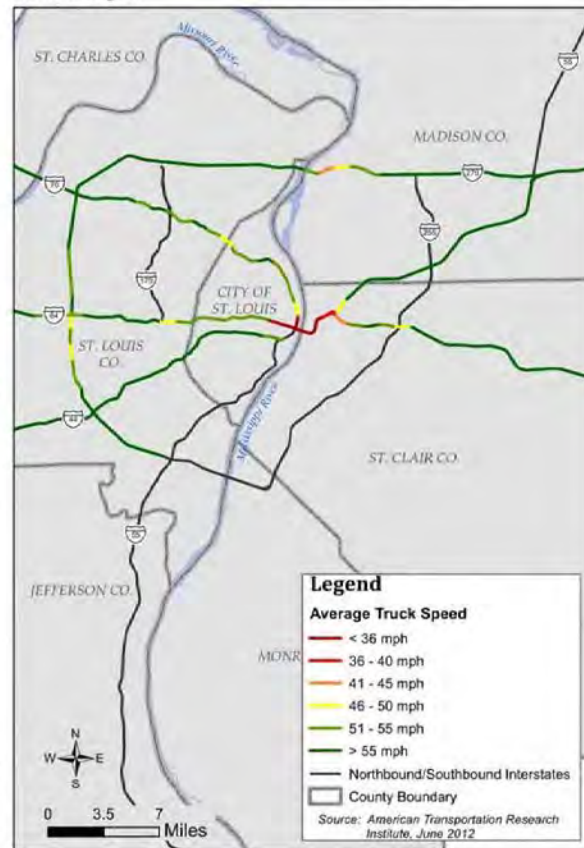
From a trucking standpoint, the region will begin to appreciate the impacts of the new Mississippi River Bridge (Stan Musial Veterans Memorial Bridge) although it is unclear how freight patterns will shift. The new Mississippi River Bridge and approaches will open up considerable underutilized land in the Southwestern Illinois region. The new bridge will create an opportunity for redevelopment of up to 5,000 acres of land associated with access improvements created by the new bridge and the corresponding 20 percent increase in capacity. While the St. Louis region is centrally located in the United States and benefits from connections to several major interstates, the report also identifies specific locations where traffic congestion causes problems for trucks moving through the region.

From a water standpoint, the St. Louis region became a top twenty inland port in 2011, with opportunities for additional growth tied to new transloading facilities. Sustaining the region as a top port district will require deliberate infrastructure investments. While the Mississippi River is a key piece of the U.S freight transportation system, the river infrastructure faces challenges, particularly north of St. Louis where nearly 30 locks are used to ensure navigability. The region will also be directly impacted by legislation and administrative rulemaking for the Missouri River as reportedly 40 to 60 percent of the Mississippi River's flow past St. Louis comes from the Missouri River. With multiple improvements planned in the area, freight velocity along the Mississippi River will increase and impacts should be anticipated.

Eastbound Average Truck Speed (June 2012)  
St. Louis Region



Westbound Average Truck Speed (June 2012)  
St. Louis Region



Chapter 5 and Chapter 6 discuss the regional economic context and economic value of the transportation system. While overall rates of job creation since 2010 have been modest, the economic analysis suggests that the St. Louis region is adding manufacturing jobs at a faster rate compared to the overall economy. The regional labor force has also remained relatively stable, but lower rates of population growth is a general concern. The St. Louis region also has considerable vacant and underutilize land in areas such as East St. Louis and Fairmont City in Illinois.

Chapter 7 discusses freight corridors and land use alignment and presents statistics by county. The chapter highlights major industrial site areas, including descriptions sites in Southwestern Illinois: Downtown Airport (DA), Dupo Yard (DY), East Industrial Gateway (EG), Gateway Commerce (GC), Lewis and Clark North (LC), MidAmerica Airport (MA), and Route 3 North (TN).

Chapter 8 presents freight flows and forecasts by mode. Several implications are noted:

- North-South Traffic: East-west through traffic is expected to continue growing, but there growing connections north and south along all modes of transportation with the St. Louis region potentially serving as a critical value-added point in product supply chains.

- **Container Traffic:** Container traffic will grow by three percent annually through 2030, and the St. Louis region must have the infrastructure to handle intermodal and cross-river rail traffic.
- **Pipeline Opportunities:** The development of cheap, nearby sources of shale oil and gas offer the St. Louis region new opportunities for pipelines. While the area will never compete with the Gulf Coast on volume, it can become a regional hub for refining and chemical production. The region should prioritize the efficient movement of gas, petroleum, and petrochemical raw materials.
- **Auto Manufacturing:** The St. Louis region is a major “mixing center” or hub where automobiles are arriving from many manufacturing centers to be reloaded on new trains towards final destinations.
- **Mississippi River:** Appropriate land-side facilities will need to be in place along the Mississippi River to handle the changing patterns of goods movement. Reducing rail congestion at water terminals is also critical.
- **Pharmaceuticals:** The pharmaceutical industry is a major potential growth area for the St. Louis region and pharmaceutical shipment requires special handling, including potentially air cargo opportunities.
- **Warehouses and Distribution Centers:** As intermodal yards move towards more spacious areas outside of cities, they will require warehousing and distribution centers to be nearby. Coordinating land use and permitting in logical growth areas for exurban intermodal and rail yards should be considered.
- **Co-Dependent Regional Economies:** Co-dependences exist with a number of regions (Chicago, Los Angeles, San Francisco, Dallas, New York, Atlanta, and Miami) and the region needs to be mindful of these economic inter-dependencies.

*Analysis and Relevance to Study: The recently updated regional freight plan provides detailed infrastructure and economic context as well as freight forecasts to support project recommendations in the St. Louis region. The document identifies opportunities and concerns by mode for the St. Louis area. Both rail and road concerns relate to capacity and congestion. There are opportunities for additional growth related to port traffic and land use.*

## **Market Review and Investment Update**

### *Leadership Council Southwestern Illinois, 2013*

The annual report updates stakeholders on recent economic development projects, strategies, and trends in the Southwestern Illinois region. Drawing from the Vision 2020 strategic plan, three key priorities for growth during 2013 and 2014 include retention and expansion of industry, transportation/manufacturing, and entrepreneurship and innovation.

In 2013, project spotlights included:

- The Metro East Levee project, a \$110 million investment to improve the levee system to the 100-year standard to protect the American Bottom in Madison, St. Clair, and Monroe Counties
- Ameren Illinois \$42 million upgrade of the electrical distribution system in the region and a legislative approval to accelerate a natural gas infrastructure program
- Efforts to deliver high-speed rail between St. Louis and Chicago, including studying the feasibility of an additional station between Alton and St. Louis
- Plans to invest more than \$4.7 million in bicycle and pedestrian trails in the Metro East
- Efforts to retain and grow Scott Air Force Base with the formation of the Scott Air Force Base and Southwestern Illinois Defense Assets Retention and Expansion Task Force (Scott Air Force Base is a \$3 billion economic engine for the region and the largest employer in Southwestern Illinois)
- Phase 1 of the I-64/Reider Road project by Scott Air Force Base, a \$38 million investment to pave the way for future additional investment near MidAmerica Airport
- The largest speculative industrial building in the Metro West, a \$40 million, 1.2 million square-foot facility at the Gateway Commerce Park at I-255 and I-270 (Gateway Commerce Park has experienced \$400 million in investment in the past fifteen years)

*Analysis and Relevance to Study: The annual report describes infrastructure and economic development initiatives that affect the freight network in Madison and St. Clair Counties. Transportation infrastructure improvements, land development projects, and the branding initiative solidify the goal of promoting the Southwestern Illinois region as a multimodal hub.*

## **Southwestern Illinois: Where Multimodal Opportunities Abound**

*Illinois Department of Commerce and Economic Opportunity, 2013*

A special edition of the Illinois: A State of Innovation economic development guide identifies the multimodal advantages in Southwestern Illinois. Articles provide brief descriptions of regional airports, America's Central Port, and the Gateway Commerce Center.

- MidAmerica and Downtown Airport: MidAmerica Airport is a designated foreign trade zone and part of an enterprise zone offering tax abatements and state and local credits for companies that locate there. The Downtown St. Louis Airport is located in the American Bottoms Enterprise Zone.
- America's Central Port: The port, owned and operated by the Tri-City Regional Port District, is positioned at the epicenter of multimodal activity in the United States. The 1,200 acre multi-use facility offers a wide range of services and facilities including barge, rail and truck transfer of commodities, development sites, and warehouse and commercial lease opportunities. The port is located within 30 minutes of four regional airports, has access to six Class I railroads, and has connections to multiple interstates via Illinois Route 3. The new South Harbor is currently under construction. The past few

years of private development represent an investment of more than \$300 million on property adjacent to the South Harbor alone.

- Gateway Commerce Center: Located on 2,300 acres, the Gateway Commerce Center is the region's premier bulk distribution park. The park has averaged one million square feet of growth each year since its inception in 1998. Companies include Procter & Gamble, Unilever, and Hershey drive much of the park's business. The infrastructure and road systems can accommodate 400 to 600 truck movements per building per day.

*Analysis and Relevance to Study: The special section of "Illinois: A State of Innovation" highlights several of the Southwestern Illinois region's assets. Multimodal advantages in Southwestern Illinois include regional airports, America's Central Port, and the Gateway Commerce Center.*

### **Illinois Route 3 Corridor Community Impact Assessment**

*Southwestern Illinois Leadership Council, 2013*

Within Southwestern Illinois, the region's economic development leaders developed the Southwestern Illinois Transportation Enhancement (SITE) initiative to expand, promote, and capitalize on the multimodal transportation assets of the area: rivers, rails, runways, roads, and transit. Illinois State Route 3 is the backbone of a nearly 60-mile long, 5-mile wide corridor through the industrial heart of the region. The corridor is dominated by transportation, manufacturing, and wholesale distribution business activity. The transportation-related industries account for approximately \$350 million in annual revenue and provide 4,400 jobs. With the inclusion of indirect impacts, the total impact of the Route 3 transportation industry on the region's economy is an estimated 1.2 billion in annual business revenue.

*Analysis and Relevance Study: The assessment identifies important characteristics of Route 3, the critical backbone of a 60-mile economic corridor in Southwestern Illinois.*

### **Competitive Marketing Analysis, Wholesale Trade in the St. Louis Supermetro Area**

*Ameren Economic Development, 2009*

Ameren, among the Midwest's largest utilities, commissioned a study of opportunity for expanding the robust Wholesale Trade sector through its bi-state service area of Illinois and Missouri. The study area is defined as seven counties in Illinois and six counties in Missouri in addition to the City of St. Louis. According to the findings of the analysis, the mix of conditions place the study area at a high rank among possible central U.S. locations for the distribution and logistics industry. The area has a strong set of assets for distribution centers and related business facilities:

- Selected business costs are 18 percent below national average costs for distribution centers and up to 32 percent below competing locations in the Midwest.

- The population base within an eight-hour driving radius of some sites in the territory approaches 78 million people.
- Most highways in the study area receive high marks for quality of design and maintenance and for absence of traffic congestion. All seven U.S. and Canadian Class 1 railroads serve the area.
- The study area is a location that is likely to benefit from major shifts in international transportation lanes from the West Coast to the East and Gulf Coasts.
- The area has an available labor pool in all aspects of wholesale trade, distribution, and logistics. Local universities have programs specifically oriented to the management of wholesale trade.
- Seventeen intermodal terminals are in and within driving distance of the study area, a critical transportation component as up to 80 percent of the materials passing through some distribution centers travels by dual modes.

*Analysis and Relevance to Study: The competitive market analysis identifies reasons why Wholesale Trade companies can prosper in the greater St. Louis area. The advantages stem from a desirable mix of conditions: economic, geographic, infrastructure, public policy, and community support. The Southwestern Illinois region is located at the core of the analysis study area.*

### **Realizing a Global Freight Hub in St. Louis**

*St. Louis Regional Chamber and Growth Association, 2011*

The intent of the study was to position St. Louis as the primary platform from which China engages the central region of the United States. As the concept has matured, it increasingly has been viewed as a vehicle to leverage all the location and transportation advantages of the bi-state region. As a result, the concept has evolved into the goal of establishing a global multi-modal logistics center for both domestic and international freight movement. Overall, the St. Louis region is a good location for a variety of wholesale distribution, but perception of the region can lag reality. The study identifies several concepts to help build successful multimodal industrial developments:

- Public-private partnerships
- Strong local and multi-modal infrastructure
- Access to significant markets
- Ability to be an inland aggregation port or logistics center
- Strong ties to international trade
- On-site access to Foreign Trade Zones and custom services
- Industry-targeted cost-reducing incentives

*Analysis and Relevance to Study: The study introduces the concept of establishing the St. Louis region as a global multimodal logistics center. Overall, the region is a good location for*

*wholesale distribution, but the perception from the industry's perspective does not always match the reality. A number of ideas a presented to help build successful developments in the region.*

## America's Central Port 2030 Master Plan

*Tri-County Regional Port District, 2014*

America's Central Port, which is managed by the Tri-City Regional Port District, is strategically located in Madison County, Illinois in the heart of the U.S. on the Mississippi River and adjacent to an excellent highway system. The Port is the most northerly ice-free port on the Mississippi River and the river is free-flowing to New Orleans past this point. The Port and its tenants offer a wide range of services and facilities including: barge, rail and truck commodity transfer, industrial, commercial and residential development sites, and warehouse and commercial lease opportunities. The Port owns and operates approximately 1,200 acres of property adjacent to the river, 1.7 million square feet of warehouse space, 70,000 square feet of office space, and 150 apartments. Over a dozen sites, ranging from one acre to over 60 acres in size, are available for commercial and industrial development. The Port transfers in excess of 4 million tons of product annually between river barges, railcars, and trucks.



*Analysis and Relevance to Study: America's Central Port, located in Madison County, is one of the top twenty water ports in the United States in terms of tonnage and the third largest inland port. The 2030 Master Plan identifies several improvements and sites for development to increase freight growth and multimodal connections.*

## **Jefferson County Port Authority Master Plan**

*Jefferson County Port Authority, 2011*

Jefferson County, Missouri seeks to create a group of port facilities and riverfront property by using a public-private partnership for land redevelopment and economic development opportunities. A review of existing site conditions and the current cargo market in the greater St. Louis region determined the parameters would support a river terminal development in Jefferson County. As a result, the report presents a master plan for the Jefferson County Port Authority that coordinates progress among all of the potential port sites and integrates them with recommendations for inland transportation improvements and estimate of probable cost and economic impact.

The report outlines recommendations for three sites: Herculaneum, Crystal City, and Pevely. The recommended phasing for Herculaneum illustrates the best uses by designated areas for specific types of facilities and operations to guide their location throughout the property. The Crystal City site presents a combination of environmental challenges and costly capital and maintenance expenditures. This site requires extra scrutiny, however the site configuration presents the greatest potential for loop track and slackwater harbor. The Pevely site also has limitations for expansion and cannot produce a critical mass for regional port operations. However, the Pevely site requires less extensive reconfiguration/ modification to prepare it for a single rail-to-barge/barge-to-rail user. The Master Plan directs the long-term implementation of ports at these locations and serves as a tool to secure funding from various sources for port development.

*Analysis and Relevance to Study: The Master Plan outlines recommendations for three port-related sites located south of America's Central Port. The study analyzed the opportunities and challenges of each location in order to develop recommendations for the best use of the sites.*



## **A.4 | Federal Guidebooks and Related Research**

### **Impacts of Public Policy on the Freight Transportation System, Report 6**

*National Cooperative Freight Research Program (NCFRP), 2011*

The report describes the numerous ways that government policy decisions can affect the freight system, and, in turn, how understanding the differing concerns and priorities of government is crucial to better consideration of the potential impacts of public policy. Among the types of impacts identified were (1) changes in costs and revenues to freight carriers and shippers, (2) changes in freight volumes or shifts in mode, (3) changes in freight service quality, and (4) changes to freight system operations and safety. The report describes a number of public policies that can affect the freight transportation system: safety, security, land use, environmental, energy and climate change, infrastructure operations and maintenance, infrastructure investment, infrastructure financial, and trade policy and economic regulation.

*Analysis and Relevance to Study: The document provides guidance for policymaking in Southwestern Illinois that can positively influence the freight network. While the freight system is largely a private sector enterprise, public policy decisions have major impacts on its development operations.*

### **Freight Facility Location Selection: A Guide for Public Officials, Report 13**

*National Cooperative Freight Research Program (NCFRP), 2011*

The report describes key criteria that the private sector considers when making decisions on where to build new logistics facilities. By providing insight on location decisions for freight facilities and suggesting best practices for transportation, land use, economic development, and regional partnerships, public sector agencies can benefit from a full understanding of the dynamics of freight movement and the factors affecting private sector location decisions. With this insight, public sector agencies may successfully plan for, attract, locate, and collaborate with freight-related activities in their jurisdiction. The keys to successful implementation of a freight facility, particularly one that has public sector involvement, usually include:

- Understanding the supply chain, carriage requirements, and the flow of goods
- Providing good connections to transportation infrastructure and operating networks
- Appreciating the competitive advantages and disadvantages among supply chains, freight carriers, and the facilities they use
- Examining how proposed developments can affect economic development and local conditions such as traffic flows, noise levels, or utility capacity
- Developing land use regulations that allow for development, efficient operation, and transportation connections while maintaining and promoting sustainability
- Building public willingness and support of these projects

The report also discusses the criteria for location site selection: the ability to access key markets, interaction with the transportation network, modal choice, labor and workforce, total cost

environment, utilities, availability of suitable facilities, permitting and regulation, tax environment, public assistance and incentives, and climate and natural hazards. Typically, the first five criteria are more critical than the others with access to key markets as the single most important factor in determining the location of a freight facility. The remaining factors are used to refine the site selection process to specific, and sometimes competing, sites. The table below outlines site selection criteria by facility type.

*Analysis and Relevance to Study: The document provides insight to private sector location decisions and how public policy can influence the location selection process. The key criteria for location site selection are the ability to access key markets, interaction with the transportation network, modal choice, labor and workforce, and total cost environment.*

LOCATION CRITERIA	TYPE OF LOGISTICS FACILITY						
	Distribution Center	Port	Intermodal Terminal	Transload Terminal	ILC	Hub Terminal	City Terminal
Ability to Access Key Markets or Customers	●	◐	●	●	●	◐	●
Interaction with Transportation Network	●	●	●	●	●	●	●
Labor and Workforce	◐	●	◐	◐	◐	◐	◐
Total Cost Environment	◐	●	◐	◐	◐	●	◐
Availability and Cost of Suitable Facilities	○	○	○	◐	○	◐	●
Utilities	○	○	○	○	◐	○	○
Permitting and Regulation	○	○	◐	◐	○	○	○
Tax Environment	○	◐	○	○	○	○	○
Public Sector Assistance and Incentives	○	○	○	○	◐	○	○
Climate and Natural Hazards	○	◐	○	○	○	◐	○

**Key**

Priority of Criteria:      ● Primary Factor      ◐ Important Factor      ○ Lesser Factor

ILC = Integrated Logistic Center

## **Guidebook for Understanding Urban Goods Movement, Report 14**

*National Cooperative Freight Research Program (NCFRP), 2012*

The report presents information and suggestions for improving public decisions affecting urban commercial motor vehicle movements for goods delivery. The guidebook and cases studies will help decision makers understand the potential impacts of their decisions on urban goods movements among the following categories: (1) transportation infrastructure and operations, (2) land use and site design, and (3) laws, regulations, and ordinances applicable to urban areas. Chapter 4 of the guidebook also includes an overview of freight data and its uses in a local planning context.

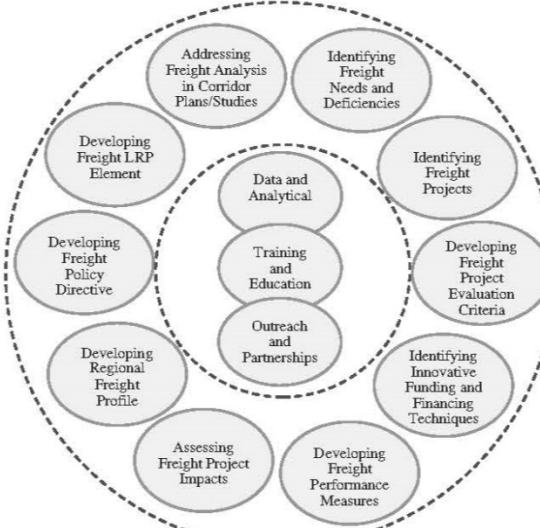
*Analysis and Relevance to Study: The document presents information and suggestions for improving public decisions that affect urban commercial vehicle movements for goods delivery. By understanding the use of freight data and local regulations affecting urban goods movement, the public sector can evaluate and address freight impacts.*

## **Guidebook for Freight Policy, Planning, and Programming in Small- and Medium-Sized Metropolitan Areas, Report 570**

*National Cooperative Highway Research Program (NCHRP), 2007*

The guidebook is specifically tailored to small- and medium-sized Metropolitan Planning Organizations (MPOs), as well as their state and federal partners, as they work to effectively integrate freight into local and regional transportation systems planning, priority programming, and project development planning activities. The guidebook suggests a number of activities to integrate freight into the planning process, including developing a regional freight profile, identifying needs and deficiencies, developing a freight element of a long-range plan, identifying projects, identifying financing techniques, developing performance measures, and assessing project impacts.

*Analysis and Relevance to Study: The document provides resources to undertake freight transportation planning activities in small- and medium-size metropolitan areas. Many of the suggested activities have been completed at a regional level through the St. Louis Regional Freight Plan, but there is opportunity to apply some of the activities locally in the Southwestern Illinois region.*

<p><b>Introduction</b></p>	<p><b>Module 1 – Using the Guidebook</b></p>	<p><b>Module 2 – Getting Started</b></p>	
<p>Provides users with a brief background on the importance of freight transportation policy, planning, and programming activities, and highlights the motivation for the Guidebook development</p>	<p>Provides instructions on how to effectively use the Guidebook</p>	<p><b>Freight Self-Assessment</b> An exercise to assess freight expertise relating to the region's freight system</p> <p><b>Definition of Freight Planning Program Stage</b> Evaluates self-assessment and describes freight planning program as basic or intermediate/advanced</p> <p><b>Identification of Program Elements and Freight Planning Guidelines</b> Identifies appropriate mix of activities to enhance an existing or develop a new freight planning program</p>	
<p><b>Module 3 – Integrating Freight into MPO Activities</b></p>			<p><b>Module 4 – Putting It All Together</b></p>
<p>Provides a range of specific guidelines to stimulate freight policy, planning, and programming activities within established MPO program functions</p>  <div data-bbox="868 556 1209 682"> <p><b>Long-Range Planning</b></p> <p>Long-range planning covers development and maintenance of long-range plans, data collection and analysis programs, identification of needs and projects, and other research and planning initiatives</p> </div> <div data-bbox="868 714 1209 840"> <p><b>Transportation Improvement Programming</b></p> <p>Transportation improvement programming incorporates data and projects from the long-range planning process into an established set of activities that prioritize, select, and fund projects</p> </div> <div data-bbox="868 871 1209 997"> <p><b>Unified Planning Work Program</b></p> <p>The UPWP is the management plan for an MPO, which identifies and schedules all of the planning activities that need to be accomplished on an annual basis</p> </div>			<p>Provides a comprehensive list of sequential steps that could be taken to establish a freight transportation program</p> <ol style="list-style-type: none"> <li>1) Assign lead...</li> <li>2) Establish goals...</li> <li>3) Develop profile...</li> <li>4) Engage partners...</li> <li>5) Define needs...</li> <li>6) Key decisions...</li> <li>7) Refine goals...</li> <li>8) Develop data...</li> <li>9) Establish measures...</li> <li>10) Identify projects...</li> <li>11) Develop criteria...</li> <li>12) Integrate into...</li> <li>13) Fund and deploy...</li> <li>14) Develop process...</li> </ol>
<p><b>Module 5 – Identifying Freight Resources</b></p>			
<p>Provides references to available freight resources. It also includes a complete set of the case studies developed as part of this project</p> <p>Identifies available data, resources, and research that could be used by MPO staff to facilitate freight policy, planning, and programming activities</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="357 1134 487 1186">Professional Development Resources</div> <div data-bbox="552 1134 682 1186">Freight Related Databases</div> <div data-bbox="747 1134 876 1186">Federal Funding Programs</div> <div data-bbox="941 1134 1071 1186">MPO Case Studies</div> <div data-bbox="1136 1134 1266 1186">Freight Glossary References</div> </div>			

## Guidebook for Integrating Freight into Transportation Planning and Project Selection Processes, Report 594

National Cooperative Highway Research Program (NCHRP), 2007

Over the last several years, the incorporation of freight issues into the transportation planning activities of state departments of transportation (DOTs) and metropolitan planning organizations (MPOs) has received significant focus from federal transportation agencies and entities, business and industry leaders, and other key stakeholders. The guidebook presents seven critical elements to the successful integration of freight issues in the statewide and metropolitan transportation planning process:

- Freight point-of-contact/technical lead
- Understanding the statewide or regional freight system
- Link between freight planning activities and transportation planning and programming process
- Freight data needs assessment and collection

- Effective outreach
- Taking advantage of training and education opportunities
- Advocacy

*Analysis and Relevance to Study: The document presents seven critical elements to the successful integration of freight issues into the transportation planning process. The framework could be used to inform project selection in Southwestern Illinois.*

## **Freight and Land Use Handbook**

*Federal Highway Administration, 2012*

Nationally, there is a growing awareness among public stakeholders that land use and freight planning activities should be more closely coordinated. The handbook identifies freight-related land use issues, key considerations, and available resources. Similar to NCFRP Report 13, this handbook identifies some of the key desired land characteristics for freight activities.

- Access to key markets within a given radius
- Interaction with the transportation network (efficient and local connections to interstate highways, railroad terminals and/or major seaports and airports)
- Workforce availability, skill, and cost
- Cost environment (freight and logistics costs, labor costs, utilities, facilities costs, taxes)
- Availability of suitable facilities or developable sites
- Cooperation from local, state, and federal agencies regarding permitting and regulations
- Availability of public assistance and incentives
- Perception of low or reduced risk of natural hazards or climate change impacts

*Analysis and Relevance to Study: The document provides transportation and land use planning practitioners in the public and private sectors with the tools and resources to assess the impacts of decision on freight movements.*

## **Understanding Freight-Built Environment Relationships**

*National Center for Freight and Infrastructure for Research and Education (CFIRE), 2011*

The report aims to advance the understanding of interactions among land use, transportation infrastructure, and movement of freight. The study examines the effects of transportation infrastructure on the freight sector output, employment, and productivity. Then, the study examines the perceptions and knowledge of stakeholders involved in urban freight movement and related commercial real estate development. Over twenty stakeholders in the Chicago region participated in interview questions related to the following four issues:

- **Built Environment:** Trucking firms expressed that infrastructure is better in the suburbs; however, some cities have unfriendly regulations. The government sector noted that curbside loading space and turning radii are issues, as well as the negative externalities trucking can pose on neighborhoods.

- **Congestion and Supply Chain:** Trucking firms expressed that it is not possible to schedule delivery times around congestion and the rates are adjusted for expected congestion. Off-peak delivery times could greatly increase productivity. While the government sector agreed that off-peak delivery is preferred, 24-hour delivery is an unreasonable expectation.
- **Site Selection:** Trucking firms expressed that the characteristics of transportation infrastructure is critical during the site selection process, but taxes, land price, and labor supply are also important elements to consider. Access to the freeways and intermodal facility size are critical as well. The real estate sector expressed that tax incentives are also important to consider and some companies would prefer congestion to paying higher taxes. On the other hand, the government sector believed that even without tax incentives, trucking firms would stay because of a city's access and locational advantages and that congestion is the primary deterrent. The government sector also expressed that land development for freight, trucking, and distribution uses does not typically align with the vision of elected officials.

*Analysis and Relevance to Study: The document examines the effects of transportation infrastructure on freight sector outputs. Findings explore topics such as the built environment, congestion and supply chain, and site selection.*

## **Reemergence of the Iron Horse**

*Jones Lange LaSalle, 2014*

The report highlights four changes related to freight movement in the past several years: freight costs are on the rise, trucking capacity will likely lighten, sustainability initiatives are increasing in importance, and risk mitigation has become a notable priority. As a result, rail and intermodal as a practical way of moving goods will continue to increase. In the United States, rail intermodal volume has experienced a compound annual growth rate of 9.5 percent over the past three decades and is expected to continue to grow as a way to offset the operational challenges noted above.

Supported by rail and freight infrastructure, inland ports will become the new gateways that connect domestic markets in the United States. They have and will continue to play an important role and serve as a catalyst for the development of industrial real estate facilities in the future. Real estate developers and supply chain professionals have come together to identify areas that offer the availability of large land masses necessary to aggregate rail and truck traffic, new modern warehouse and distribution facilities, and related infrastructure.

*Analysis and Relevance to Study: Rail, intermodal, and port freight volume is expected to increase in the future, providing opportunity for new warehouse and distribution facilities and related infrastructure.*

## **The Impact of Omni-Channel Fulfillment on Distribution Systems**

*Fortna, 2014*

Distribution is in the midst of a significant phase in the evolution from single to multi-channel, and most recently, to true omni-channel commerce—where retail, wholesale, and e-commerce channels blend together to provide a seamless experience for the customer across the entire brand. Retailers are expected to ship from anywhere (distribution center, store, vendor), enable in-store pick-up of online orders, accept returns anywhere (distribution center, store), and have complete visibility to manage inventory (shared or separate) across all channels. The retailer's objective is to utilize a variety of fulfillment locations in order to provide a smoother customer shopping experience, improved service time and inventory levels, and lower overall cost.

Current supply chain models that assume the store is the endpoint of the transaction are not suited to an omni-channel world. Even companies with a great deal of experience in retail and wholesale channels often underestimate how difficult it is to efficiently fulfill customer demand from any location and any channel. The report highlights several areas where systems may require changes to accommodate omni-channel commerce.

*Analysis and Relevance to Study: Omni-channel commerce—where retail, wholesale, and e-commerce blend to create a seamless customer experience—will begin to affect shipping and distribution patterns.*

## **Dimensional-Weight Pricing: A Winning Strategy for Charge Changes**

*Mettler Toledo, 2014*

Beginning in 2015, UPS and FedEx are changing their pricing structure to use dimensional-weight pricing for invoicing all domestically shipped parcels. A dimensioning, weighting, and scanning (DWS) system can help build a full data profile. The profile information can be used throughout the entire supply chain to support proper warehouse management, inventory control, and data integrity. Driving the move toward dimensional-weight pricing is an increase in shipments, primarily due to increasing e-commerce and an overall increase in fuel costs. The model allows shippers to improve revenue-per-truck and charge appropriate costs for their services. Accurate data regarding package dimensions also enables vehicles to operate a full capacity, reducing emissions and fuel costs. An estimate 30 percent of ground packages will be impacted by dimensional-weight pricing in 2015, potentially boosting major carriers' operating income by more than \$350 million.

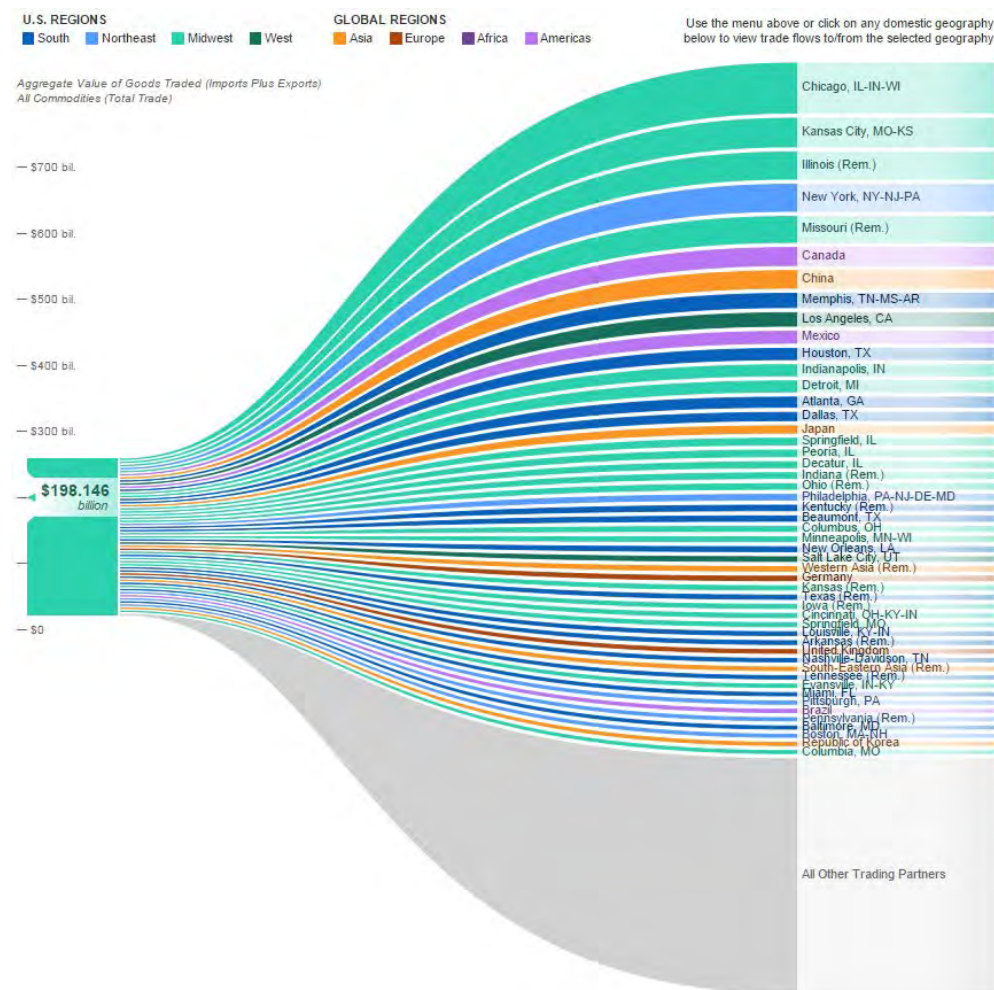
*Analysis and Relevance to Study: Dimension-weight pricing allows shippers to improve revenue-per-truck and charge appropriate costs for services.*

## Mapping Freight: The Highly Concentrated Nature of Goods Trade in the United States

Brookings Institution, 2014

To address the regional trade information gap, the report analyzes domestic and international goods trade data from 2010. Interactive diagrams display commodity trade flows to and from the 75 largest domestic markets and 25 largest global markets of these goods. The diagram below indicates that the St. Louis region's largest trade partners (both imports and exports) by dollar value of all commodities include: Chicago, IL-IN-WI; Kansas City, MO-KS; the remainder of Illinois; New York, NY-NJ-PA; and the remainder of Missouri.

*Analysis and Relevance to Study: The report provides high-level information concerning current domestic and international trade flows. The document also provides freight data and statistics for metropolitan regions, including the St. Louis region, through a series of tables and graphics.*





## Appendix B: Truckload Rate Comparison

Appendix B presents a comparison of selected Midwest logistics hubs based on a hypothetical week of truckload distribution to selected Midwest cities. Figure B-1 compares truckload rates from St. Louis to six competing Midwest logistics hubs. Midwest origin logistics hubs (O) are displayed across table column headers, and selected Midwest destination cities (D) appear in the vertical left-hand column. In order to include the effect of freight volume on total truck cost, Metropolitan Statistical Area (MSA) population is used as a proxy for actual truck-trip data. Population size is a driver of demand for goods and services, and is therefore a useful substitute for demonstration purposes. Estimated truck trips displayed in the second column are calculated based on the MSA population of each city divided by the smallest MSA population used in the study. For example, the smallest MSA population used is 500,000; therefore Est. Truck Trips for a MSA population size of 2 million people would be four trips. The “Truckload Rate” is the rate for a single truckload between the Logistics Hub and the Destination City as provided by Truckloadrate.com. “Total Truck Cost/Lane” is calculated as “Est Truck Trips” X “Truckload Rate”, and is the total Trucking Cost for the week for each O/D Pair.

Rates in Red under the “Truck Rate” columns designate the logistics hub with the lowest truck rate, and rates within \$50 of the lowest rate, to each destination. Rates in Green indicate logistics hubs with the lowest total cost (Truck Rate x Trips) to each destination. Total Truck Costs are totaled in the last row of the table, which represents total network trucking costs to service the selected Midwest cities from each Hub city.

Metropolitan statistical areas (metro areas) are geographic entities delineated by the Office of Management and Budget (OMB) for use by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics. A metro area contains a core urban area of 50,000 or more population. Each metro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core. For demonstration purposes, a MSA population of 500,000 is assumed to generate a full truckload.

**Table B-1: Outbound Truck Rates from Selected Midwest Distribution Hubs to Select US Destinations**

		Midwest Logistics Hub															
		St Louis		Kansas City, MO		Indianapolis, IN		Columbus, OH		Nashville, TN		Memphis, TN		Chicago, IL		Dallas, TX	
Destination City (MSA)	Est. Truck Trips	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane	Truck-load Rate	Total Truck Cost/ Lane
Chicago	17.20	756	13,005	1,100	18,917	600	10,327	883	15,195	1,029	17,711	1,013	17,421	n/a	n/a	2,198	37,821
Cincinnati	3.87	797	3,087	1,127	4,367	576	2,234	513	1,990	672	2,604	975	3,778	852	3,302	1,349	5,226
Cleveland	3.75	1,283	4,818	1,626	6,105	828	3,107	562	2,110	1,030	3,868	1,416	5,318	880	3,304	1,576	5,917
Columbus	3.19	761	2,425	1,300	4,144	626	1,995	n/a	n/a	805	2,566	1,105	3,524	731	2,331	2,212	7,050
Dallas	11.33	911	10,313	837	9,476	1,302	14,752	1,563	17,704	925	10,475	708	8,020	1,342	15,202	n/a	n/a
Denver	4.51	955	4,303	744	3,352	1,361	6,133	1,553	7,000	1,299	5,853	1,453	6,547	1,288	5,802	1,503	6,775
Des Moines	1.00	729	729	518	518	966	966	1,162	1,162	1,107	1,107	1,233	1,233	777	777	1,025	1,025
Indianapolis	3.08	568	1,752	990	3,054	n/a	n/a	584	1,801	624	1,924	1,004	3,096	520	1,604	2,046	6,311
Kansas City	3.60	511	1,839	n/a	n/a	937	3,372	1,280	4,605	1,113	4,005	988	3,557	987	3,552	1,152	4,145
Memphis	2.31	625	1,445	1,043	2,410	914	2,113	1,218	2,816	518	1,197	n/a	n/a	997	2,304	1,075	2,484
Milwaukee	2.79	846	2,357	992	2,764	853	2,375	1,003	2,795	1,078	3,002	1,129	3,145	475	1,322	1,382	3,850
Minneapolis	5.81	1,210	7,025	799	4,642	1,154	6,701	1,409	8,181	1,816	10,544	1,751	10,166	851	4,943	1,370	7,958
Nashville	2.79	734	2,045	1,164	3,246	707	1,971	931	2,596	n/a	n/a	617	1,721	912	2,543	1,555	4,334
Oklahoma City	2.17	1,177	2,553	884	1,917	1,718	3,726	1,898	4,116	1,449	3,141	1,211	2,627	1,911	4,145	613	1,329
St Louis	5.06	n/a	n/a	573	2,904	612	3,098	944	4,782	655	3,318	616	3,121	629	3,186	1,471	7,449
<b>Total Truck Cost per Lane</b>			<b>57,695</b>		<b>67,816</b>		<b>62,870</b>		<b>76,853</b>		<b>71,315</b>		<b>73,273</b>		<b>54,317</b>		<b>101,672</b>

Source: Truckloadrate.com as of 2/23/15 (Truck rates are subject to change)

## **Appendix C: Southwestern Illinois Freight Transportation Study Stakeholder Meeting Summary**

### **INTRODUCTION**

- Mark Harms opened the meeting by welcoming the stakeholders and providing a short overview of the meeting purpose.
- Attendees provided self-introductions.
- Sara Clark presented a set of slides that outlined the study process and provided an overview of the initial data under review for the study.

### **LUNCH TABLE DISCUSSION**

Each table was provided nine different opportunity topics to discuss over the lunch break. Topics discussed were based on each table's interests and knowledge of the topics.

### **REPORT BACK AND NEXT STEPS**

If responses to an opportunity were provided they are listed in italic font following each question.

## Deck of Cards

Number	Opportunity
1	<p>Opportunity: Bolster Southwestern Illinois as a leading Midwest Distribution Hub</p> <p>a. When you hear “leading distribution hub”, what cities do you think of?  <i>Dallas, Detroit, Chicago</i>  <i>Chicago, LA, New Orleans, Houston, Detroit</i>  <i>Chicago, Dallas, Kansas City, LA</i>  <i>Indianapolis, Chicago, Kansas City, Memphis</i></p> <p>b. What attributes of those cities give them that designation?  <i>International airport, direct flights, proximity to border, population to support, room to grow/not landlocked, supply of water</i>  <i>Size, Manufacturing, Coastal, International</i>  <i>Proximity to market, air capacity, infrastructure, low congestion, NAFTA connections, pro-marketing, FedEx, intermodal facilities</i></p> <p>c. What barriers, if any, may prevent SW Illinois from taking a “leading” role?  <i>Unionization, transportation cost, regulations, unsupportive population base</i>  <i>Bulk volume vs. high value, grow manufacturing, Market the area because people don't know, perception of not easy to do business with, State of Illinois fiscal condition, lack of intermodal facilities</i>  <i>No multimodal infrastructure park, TL shortage, Growth rate lags other areas, No heavy haul in Illinois.</i>  <i>Intermodal capacity, bridge and rail network bottlenecks, trucking capacity is not at the level it could be.</i>  <i>Need to identify specific industries that are facing delays routing through/to Chicago and target those to make STL an alternative. It is not enough to note general delays, need to get to specific shippers.</i></p>

2	<p><b>Opportunity: Increase investment in the Transportation Network for more reliable shipments?</b></p> <p>a. What transportation infrastructure (road, rail, etc.) investments are needed in Madison and St. Clair counties?  <i>I-270 bridge, port investment, Merchants Bridge replacement, last mile connections need repair, grade separations.</i>  <i>Reference SITE committee list, 2045 LRTP; Airport hub idea with long range plan for how road and rail infrastructure links to it.</i></p> <p>b. Do you anticipate a higher or lower reliance on trucking versus other modes (rail, barge) for future freight transportation shipments?  <i>Depends on bulk vs. high value mix, concentration on high value as those create more jobs.</i></p> <p>c. What investments are needed in Madison and St. Clair counties to better serve/connect other modes?  <i>Last mile connections, incentives to aid in that infrastructure</i>  <i>Rail bridges, rail network, centralized intermodal facilities</i></p>
3	<p><b>Opportunity: Grow presence in Latin American Trade</b></p> <p>a. How can SW Illinois better leverage connections via Houston, New Orleans, and other Gulf ports?  <i>Improve and build relationships with our 6 Class I railroads to better take advantage of the Panama Canal expansion. If so, use the CREATE model Private-Public Partnership to deliver improvements. Also coordinate these efforts with local distribution/logistics centers.</i></p> <p>b. What types of transportation, industrial real-estate, or other infrastructure would be needed to support this trade?  <i>I-69 development, distribution hub, e-commerce</i>  <i>Explore opportunities to improve rail to truck and container to barge movements.</i></p> <p>c. How can the Leadership Council support Latin American Trade promotion (e.g. Trade missions, training)  <i>Leverage case studies, best practices</i>  <i>Reach out to industry leaders for logistics and shipping and explore opportunities to better take advantage of the opportunities.</i>  <i>Identify what we export from here to Latin America, could we not just distribute it from here, but also manufacture it here; also, how do we tie ourselves increasingly to Houston or Norfolk to gain shipping coming out/through South and Central America; also, we need to ramp up our I-70 trucking presence so that Kansas City has a good east/west connector to feed its own north/south presence out of Mexico.</i></p>

4	<p>Opportunity: Build on the long-standing success in bulk and break-bulk commodities</p> <ol style="list-style-type: none"> <li>a. What types of terminal investments are needed to facilitate barge/rail intermodal shipments? <i>Should we pursue more container on barge, and if so, what do we ship back out of our area, do we need to appeal to sending more grain/farm, or other, commodities out on container on barge.</i></li> <li>b. How can shippers/railroads be encouraged to divert freight over St. Louis, rather than direct rail to New Orleans?</li> <li>c. What manufacturing opportunities can you think of that might use barged or railed bulk freight that is then used in the manufacturing process (e.g. steel coils to finished steel items, resins to finished plastic items)?</li> </ol>
5	<p>Opportunity: Introduce tools to create shipment efficiencies for the region</p> <ol style="list-style-type: none"> <li>a. What new technologies are you using in your everyday life that could translate to freight transportation?</li> <li>b. How can new technologies be adopted faster in Southwestern Illinois?</li> </ol>
6	<p>Opportunity: Promote benefits of SW Illinois for E-commerce</p> <ol style="list-style-type: none"> <li>a. How can SW Illinois better leverage its labor pool considering seasonal fluctuations in workforce need for E-commerce?</li> <li>b. How can Southwestern Illinois leverage its transit time advantages?</li> </ol>
7	<p>Opportunity: Develop shipment options in the face of equipment shortages</p> <ol style="list-style-type: none"> <li>a. What types of shippers need equipment that is hard to find in the Midwest (Refrigerated Trucks, Refrigerated Box Cars, International Containers)?</li> <li>b. Do you have any examples of shippers co-mingling shipments to gain size/weight or deadhead advantages? <i>North Bay "refrigeration on tarmac" at Mid America Airport, this is one of the few in the country like this, it is based on Summer/Winter seasonal supplying fresh fruits from the northern and southern hemispheres and flies it all over the world, we should take advantage of this "technology" and grow the market. We should take advantage of this "technology" and grow the market.</i></li> </ol>
8	<p>Opportunity: Leverage competitive access to Northeast ports</p> <ol style="list-style-type: none"> <li>a. How can SW Illinois better leverage connections via Northeast ports (New York, Norfolk, Baltimore)? <i>Contact logistics companies and find out what they could send to/through St. Louis in support of the northeast markets, and from that, learn if this is a marketing or infrastructure concern for our region.</i></li> <li>b. What types of transportation, industrial real-estate, or other infrastructure would be needed to support this trade?</li> </ol>

9	<p><b>Opportunity: Capture Growth from Emerging Trends</b></p> <p>Supply-chain managers are constantly evaluating the North American transportation network to maintain reliable, efficient, and cost effective freight distribution. Recent uncertainty relating to freight distribution hub site selection decisions is creating both challenges and opportunities.</p> <p>a. What opportunities do you see for Southwestern Illinois in light of recent developments in your field or from emerging trends that you are aware of?</p> <p>b. If the trend is negative, how would you address the situation and turn it into an opportunity?</p> <p>Examples of changing conditions cited in interviews are:  Transportation: West Coast port labor disruptions, trucker shortages, fuel price volatility  Commercial real-estate: Trends towards build to spec vs. build to suite, types of buildings in demand (mix use, manufacturing, distribution center, etc.)  Business climate: National competition based on ease of doing business, taxes, Right to Work, etc.</p>
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Most tables selected the broad, less technical topics that encompassed general economic development and transportation. This was not surprising considering that the audience was made up of public officials, economic developers and advocates in the region. The attendees that were manufacturers or logistics providers did add more technical detail in one-on-one conversations with project staff and through follow-up contact.

Stakeholders did provide confirmation of the need for the region to market and promote its assets better and also the characteristics listed that limit the region confirmed those discovered through interviews and research. This topic received the most responses and confirmed that it should be a top priority for the region.

Stakeholders did not bring up any new topics which confirmed that the research completed did not miss any significant topics on the minds of stakeholders.

# Southwestern Illinois Freight Transportation Study

## Stakeholder Meeting

Monday, May 18, 2015

11:30 AM – 1:00 PM

*Lunch will be provided*

Doubletree Hotel  
1000 Eastport Plaza Dr  
Collinsville, IL 62234

### AGENDA

*Purpose: to provide an overview of the Southwestern Illinois Freight Study initial findings and seek input on transportation system and economic development opportunities.*

#### 11:30 INTRODUCTION

- Leadership Council and TranSystems
- Role of Stakeholder Group
- Study Process and Overview

#### 11: 50 BREAK FOR LUNCH

*Staff will provide instructions for buffet lunch*

#### 12:00 LUNCH TABLE DISCUSSION

- Please identify a Spokesperson and Recorder
- Review the materials provided at your table and discuss
- Summarize your discussion for a report-back to the group

#### 12:30 REPORT BACK AND NEXT STEPS

- Each group will be provided a short time to report-back on their discussion
- TranSystems will outline the next steps for the Freight Transportation Study