

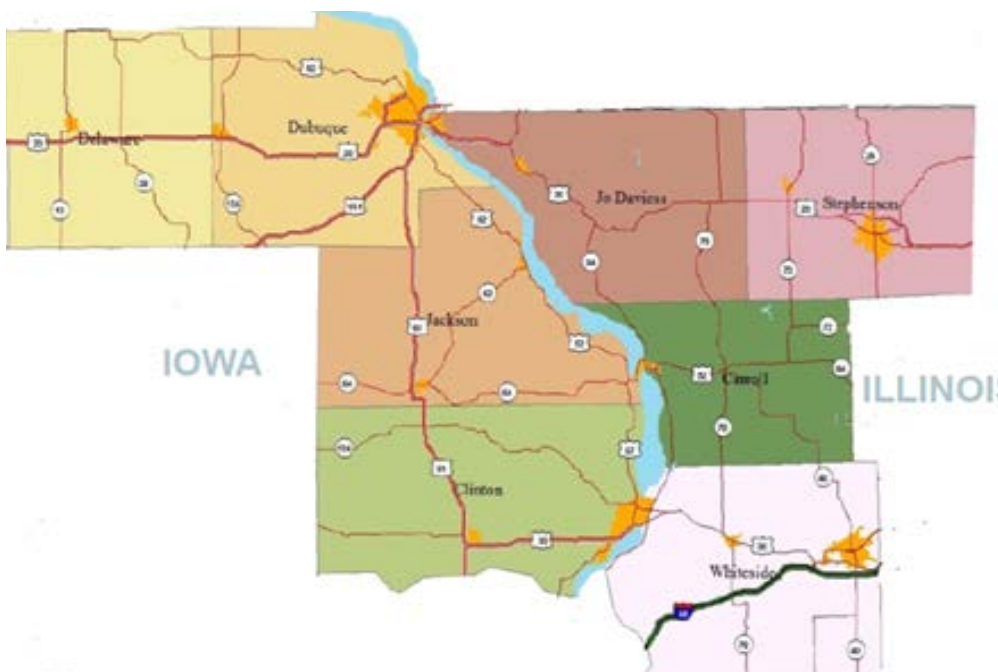
# 7

## FREIGHT

The efficient movement of goods is one of the keys to effective competition in the global economy. As a result, policy makers, industry specialists, and transportation planners have recognized that providing efficient systems for moving goods will help create a competitive advantage in the global market. In 2018, RPA 8 worked with surrounding counties in Iowa and Illinois to prepare a multimodal, intermodal freight plan for the eight county Blackhawk Hills & East Central Intergovernmental Association (ECIA) region. The Eight County Freight Plan will be referenced in this plan. The full Eight County Freight Plan is available at [www.eciatrans.org](http://www.eciatrans.org).

The Eight County Region is at the heart of major US manufacturing and agricultural activity, and is made up of the counties of Carroll, Jo Daviess, Stephenson, and Whiteside counties in Illinois, as well as Clinton, Delaware, Dubuque, and Jackson counties in Iowa. This region, shown in Figure 7.1, relies on the multimodal transportation system of roads, rails, air and water ports to both supply the inputs needed for production and to transport goods to consumers inside and outside of the Region – driving their local economies.

The efficiency of the transportation system affects the competitiveness and growth potential of the Region. In order to enable the competitiveness of existing, as well as attract new business, the Region must understand how the freight transportation system is linked to the local economy, identify needs on the transportation system and define opportunities to improve freight transportation in local planning and policy decisions.



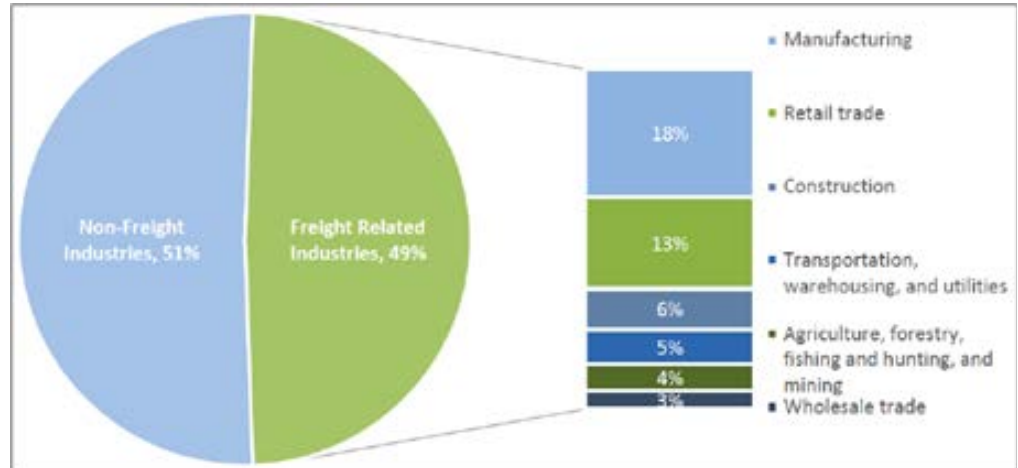
**Figure 7.1 The Eight County Region**

Source: ECIA

## KEY INDUSTRIES AND OUTPUT

This Region has a diverse population and economy in which freight transportation is extremely important. As shown in Figure 7.2, almost 50 percent of the Region’s workers are employed by firms that rely on the movement of freight to support their operations. Key freight-related industries for the region are agriculture, which generates large tonnages of freight (over 31.8 million tons in 2014), and manufacturing, which employs 18 percent of the Region’s workforce.

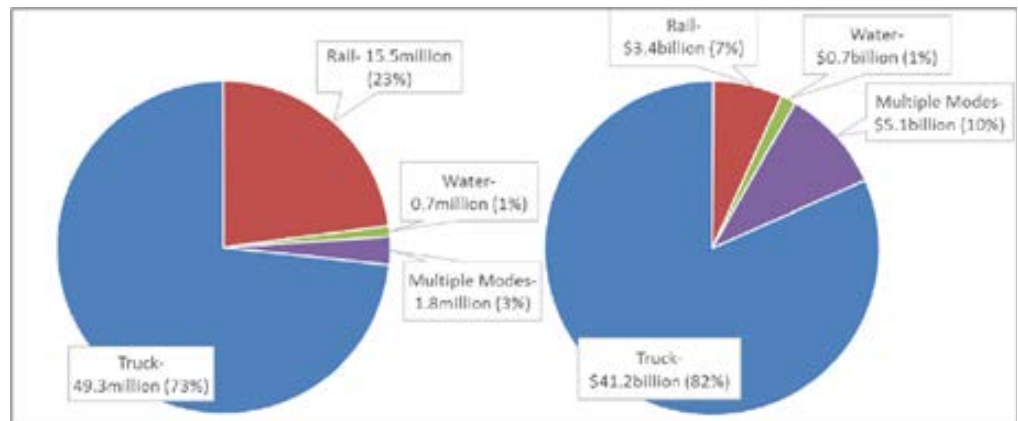
**Figure 7.2**  
**The Relative Employment by Industry**  
*Source: CPCS Analysis of 2015 American Community Survey Data, US Census Bureau*



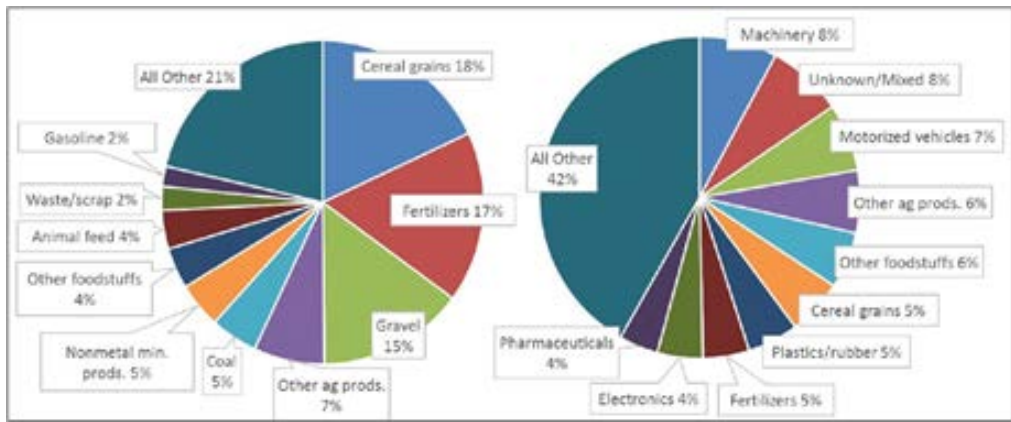
As a result of these local industries, in 2014, the Region’s freight system carried 67.3 million tons of freight worth \$50.4 billion. As shown in Figure 7.3, trucking was the most commonly-used mode, carrying 73 percent of the region’s freight by tonnage, and 82 percent of its freight by value. While trucks carry the majority of the freight in the Eight County Region in terms of both value and tonnage, the Region also has extensive rail lines and major barge facilities. Rail carried the second largest tonnage (23 percent), and multiple-mode shipments (such as truck to barge or truck to rail, or containerized shipments), carried the second largest share of value (10 percent).

**Figure 7.3 Freight System Tonnage (left) and Value (right) by Mode (2014)**

*Source: WSP | PB Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data. Preliminary.*



In terms of specific commodities, bulk cereal grains (such as corn) are the number one commodity by tonnage (18 percent), and machinery is the number one commodity by value (eight percent). Figure 7.4 provides a visual of the top ten commodities by tonnage and value.



**Figure 7.4**  
**Freight System**  
**Tonnage (left) and**  
**Value (right) by**  
**Commodity (2014)**  
 Source: WSP | PB  
 Analysis of FHWA  
 Freight Analysis  
 Framework version 4  
 (FAF4) data. Preliminary

**INFRASTRUCTURE**

In terms of freight system infrastructure, the Region’s road network is made up of different sub-networks including Interstate highways, national highways, state highways, and county roads. However, of note is the small number of Interstate miles in the Region (~46 miles), as compared to national highway system miles (~640 miles). This means trucks must rely on US and State Routes for connections to the broader national freight system.

A similar picture is true for rail infrastructure. The Region is served by five railroads and nine railyards, yet local firms have relatively limited rail access, as rail sidings are required for direct access, and most of the Region’s rail terminals are built for the transfer of bulk materials, such as grain or fertilizer. Because of this orientation towards bulk shipments, few rail connections are available for producers of non-bulk commodities such as manufactured goods. Firms looking to move their goods by rail may have to ship their products by truck to rail intermodal facilities.

The Mississippi River flows for 93 miles through the center of the Region, making it an ideal transportation corridor to the Gulf of Mexico and international markets. The Region is home to 21 groups of barge terminals in seven cities, with the majority clustered around Dubuque, IA and Clinton, IA. All terminals have a truck connection, and ten have rail connections.

The Region may lack its own access points for many mode/commodity combinations, but it benefits from the Midwest’s wealth of transportation assets, in particular the Mississippi River, and the intermodal yards and air-ports nearby in Rockford, Rochelle and greater Chicago.

**FUTURE OUTLOOK**

The freight system (including the transportation network, shippers, carriers, etc.) operates within a dynamic environment that is continually changing and adapting to best meet current market demands. While it is difficult to pinpoint how this environment will change in the future, we do know that there are a number of external factors that will influence it and, in turn, how goods are moved in the Region.

This study does not focus on predicting how the system will change, as much as it considers how to make the Region’s freight transportation system resilient and adaptable to an unknown future.

Initial observations were made related to the Region’s strengths weaknesses, threats, and opportunities (SWOT). Figure 7.5 presents a summary of the SWOT as conducted related to the Region’s population, key industries, and transportation infrastructure. This preliminary assessment was built upon during the development of the Eight County Freight Plan.

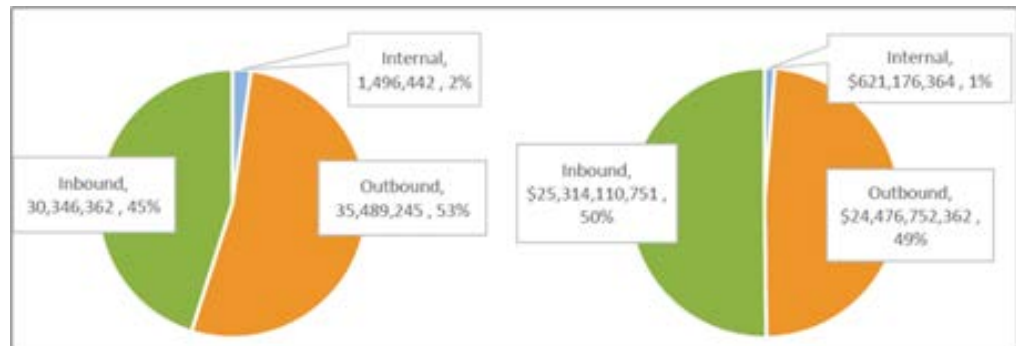
**Figure 7.5 Eight County Region Strengths, Weaknesses, Threats and Opportunities**  
 Source: ECIA Eight County Freight Study

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Relatively stable population</li> <li>• Steady increases in income</li> <li>• Diverse industrial base, including manufacturing and agriculture</li> <li>• Diverse manufacturing sector</li> <li>• Multimodal freight assets</li> <li>• Freight system designed to transport bulk goods</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of skilled and semi-skilled employees</li> <li>• Bridges, river crossings</li> <li>• Distance to major intermodal and transfer facilities</li> </ul>
Threats	Opportunities
<ul style="list-style-type: none"> <li>• Lower population growth compared to peer regions</li> <li>• Shrinking workforce</li> <li>• The importance of manufacturing for the Region appears to be decreasing</li> <li>• Automation (manufacturing-related)</li> <li>• Competitive global market for crops</li> <li>• Infrastructure failure – locks and dams</li> <li>• Unknown social, economic, and policy changes from the adoption of connected and autonomous vehicles</li> <li>• Sea level rise</li> </ul>	<ul style="list-style-type: none"> <li>• Postsecondary workforce programs</li> <li>• On- and Near-shoring</li> <li>• Value-added agriculture</li> <li>• Embrace technology</li> </ul>

## EIGHT COUNTY REGION COMMODITY FLOWS BY TONNAGE AND VALUE

For the year 2014, the Eight County Region handled approximately 67.3 million tons of freight, worth approximately \$50.4 billion dollars, as in-bound-outbound-internal movements, including both domestic and inter-national freight. Figure 7.6 shows that both tonnage and value flows are extremely balanced between in-bound and outbound directions. The tonnage and value moving within the Eight County Region is a very small share of total movement, indicating the Eight County Region economy is largely “outward facing.”

**Figure 7.6 : Total Eight County Region Tonnage (left) and Value (right) by Direction, 2014**  
 Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data.

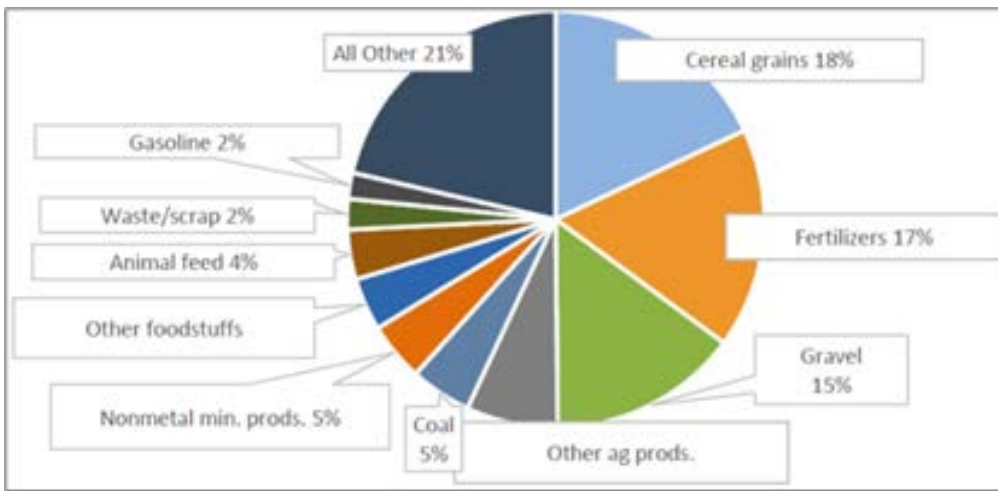




## BY COMMODITY TONNAGE AND VALUE

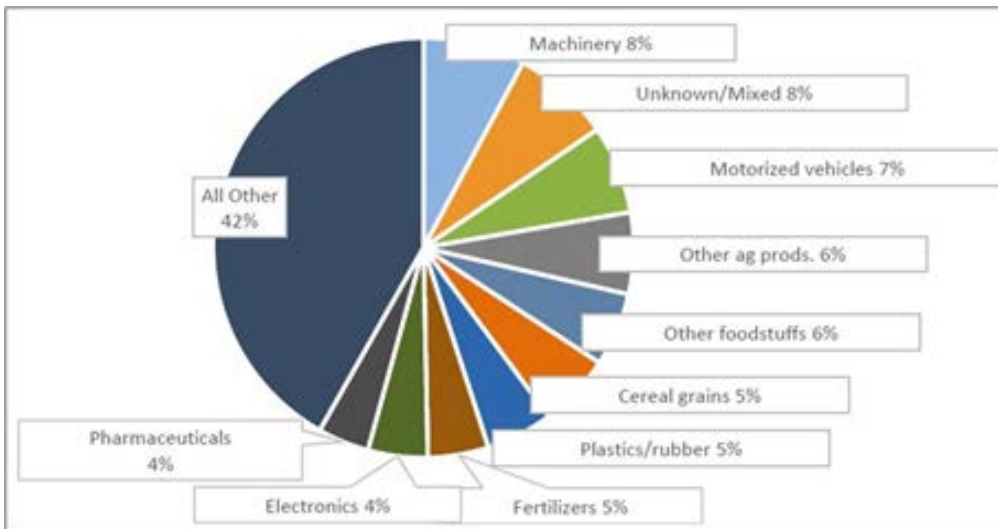
In 2014, the leading tonnage commodities for the Eight County Region included cereal grains, fertilizers, and gravel; these three commodities represented 50 percent of the region's tonnage. Other important tonnage commodities included: other agricultural products; coal; nonmetallic mineral products; other foodstuffs; animal feed, commodity waste/scrap; and gasoline.

The leading value commodities for the Eight County region in 2014 included: machinery; unknown/mixed (primarily containerized goods and mixed shipments of retail goods); motorized vehicles; other agricultural products; other foodstuffs; cereal grains; plastics/rubber; fertilizers; electronics; and pharmaceuticals. Value is broadly dispersed across a wide range of commodities, with none being dominant. Figures 7.7 and 7.8 summarize the region's commodity types by tonnage and value.



**Figure 7.7 : Total Eight County Region Tonnage by Commodity Type, 2014**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data.



**Figure 7.8 : Total Eight County Region Value by Commodity Type, 2014**

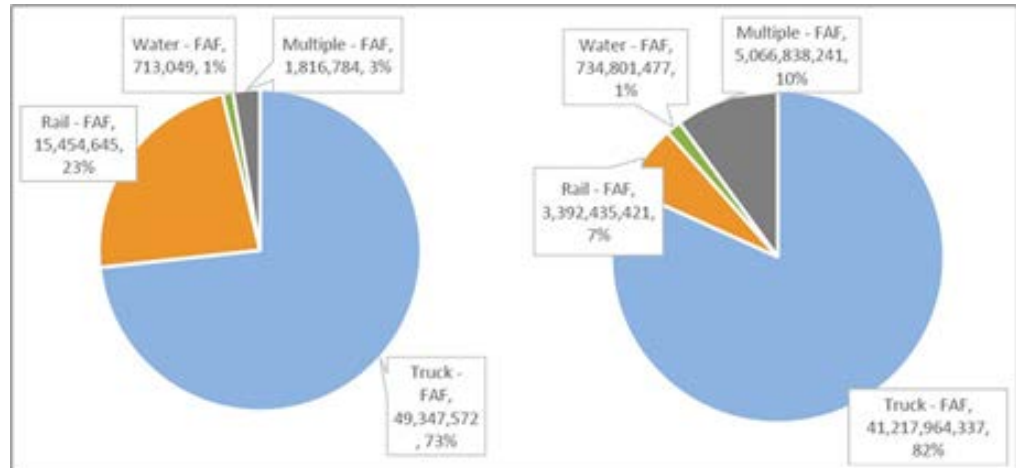
Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

## BY MODAL TONNAGE AND VALUE

**Figure 7.9 : Eight County Region Tonnage (left) and Value (\$) (right) by State-to-State Mode, 2014**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

Looking at state-to-state freight transportation modes in Figure 7.9, trucking represents 73 percent of Eight County Region tonnage and 82 percent of value; rail represents 23 percent of tonnage and 7 percent of value; multiple modes represents 3 percent of tonnage and 10 percent of value; and water represents 1 percent of tonnage and 1 percent of value. Each mode serves a distinct set of commodities and trading partners; the greatest tonnage and value is from trucking between the Eight County Region and the rest of Iowa and Illinois.

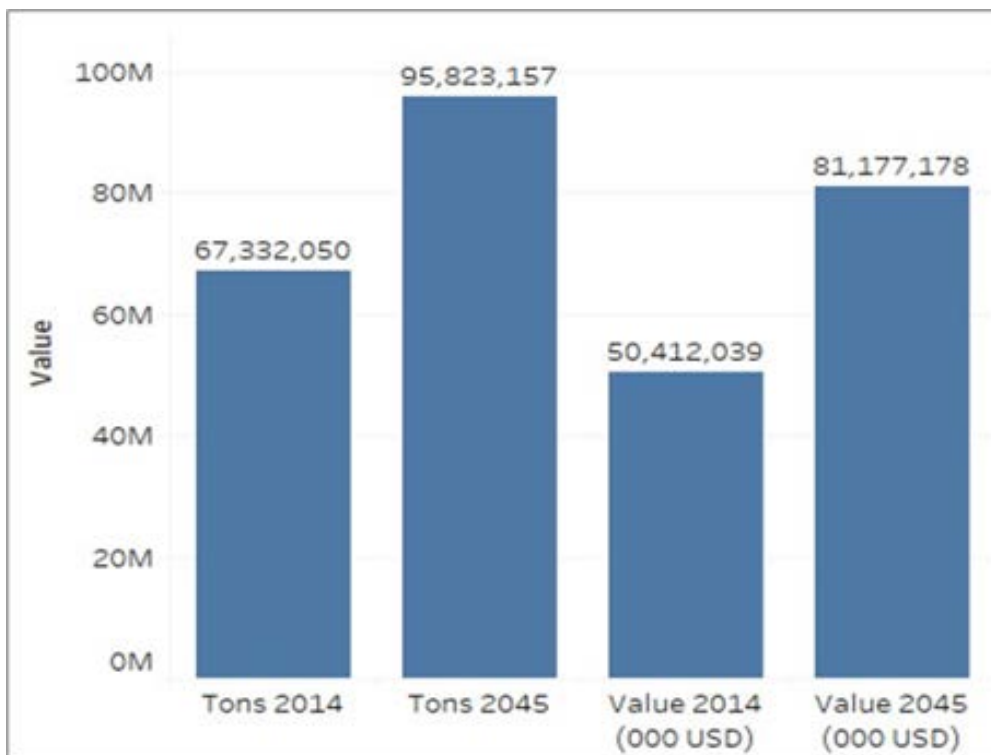


The share of freight value carried by truck (82 percent) is greater than the share of freight tonnage (73 percent), suggesting that trucks are being used to carry the Region's higher-value, lower weight manufactured goods. Rail serves a different purpose, carrying 23 percent of the Region's tonnage, but only seven percent of its value, which suggests rail shipments are being used for relatively high-weight, low-value commodities like agricultural products. An interesting category is multiple-mode shipments, which carried only three percent of tonnage, but accounted for 10 percent of value. This category includes intermodal container shipments, which are often used to carry higher-value goods with low to medium weights.

# EIGHT COUNTY REGION FUTURE COMMODITY FLOWS

## TONNAGE AND VALUE GROWTH

FAF data includes growth forecasts through the year 2045. The FAF forecast provides a useful picture of one possible “baseline scenario” future for the Eight County Region, where the Region and the rest of the country continue to follow historical trends. Between 2014 and 2045, the Eight County Region is projected to add 28.5 million tons of freight (a 42 percent total increase based on an average growth rate of 1.1 percent per year) worth almost \$30.8 billion dollars (a 61 percent total increase based on an average growth rate of 1.5 percent per year). In 2045, the region will handle nearly 96 million tons of freight worth over \$81 billion dollars. Figure 7.10 illustrates the projected change.



**Figure 7.10 : Eight County Tonnage and Value (000 USD) Comparisons, 2014-2045**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

## TONNAGE AND VALUE GROWTH BY COMMODITY

In 2014, the top five Eight County Region tonnage commodities were cereal grains, fertilizers, gravel, other agricultural products, and coal. In 2045, the leading tonnage commodities are forecast to be cereal grains, fertilizers, gravel, other agricultural products, and non-metallic mineral products. See Table 7.1

	Tons 2014	Tons 2045	Tons Added	Percent Growth	Tons CAGR
Cereal grains	12,114,601	17,464,810	5,350,209	44.2%	1.2%
Fertilizers	11,517,022	16,333,601	4,816,579	41.8%	1.1%
Gravel	9,926,427	14,412,942	4,486,515	45.2%	1.2%
Other ag prods.	4,792,338	6,833,904	2,041,566	42.6%	1.2%
Nonmetal min. prods.	3,064,298	5,837,700	2,773,402	90.5%	2.1%

**Table 7.1: Eight County Commodities Ranked by 2045 Forecast Tonnage**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

In 2014, the top five Eight County Region value commodities were machinery, unknown/mixed commodities, motorized vehicles, other agricultural products, and other foodstuffs. In 2045, the leading tonnage commodities are forecast to be machinery, unknown/mixed (generally consisting of higher-value goods shipped in intermodal containers or truck vans), pharmaceuticals, motorized vehicles, and electronics. See Table 7.2.

**Table 7.2:**  
**Eight County**  
**Commodities**  
**Ranked by 2045**  
**Forecast Tonnage**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

	Value 2014 (USD)	Value 2045 (USD)	Value Added	% Growth	Value CAGR
Machinery	3,958,031,328	8,197,190,967	4,239,159,639	107.1%	2.4%
Unknown/Mixed	3,844,393,817	5,445,134,789	1,600,740,972	41.6%	1.1%
Pharmaceuticals	1,993,475,649	4,969,508,368	2,976,032,719	149.3%	3.0%
Motorized vehicles	3,429,676,018	4,802,950,395	1,373,274,377	40.0%	1.1%
Electronics	2,317,293,231	4,751,774,275	2,434,481,044	105.1%	2.3%

## TONNAGE AND VALUE GROWTH BY MODE

Between 2014 and 2045, all Eight County region freight modes are forecast to experience growth. State-to-state truck tonnage is projected to increase by 44.1 percent; rail tonnage is projected to increase by 32.0 percent; water tonnage is projected to increase by 42.2 percent; and multiple modes tonnage is projected to increase by 82.4 percent. The Eight County Region's transportation system will need to accommodate and absorb these increases in freight tonnage while maintaining levels of performance that are acceptable to its freight shippers and receivers. See Table 7.3.

**Table 7.3: Eight**  
**County Tonnage and**  
**Value Growth by**  
**Mode, 2014- 2045**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

	Mode			
	Truck - FAF	Rail - FAF	Water - FAF	Multiple - FAF
Tons 2014	49,347,572	15,454,645	713,049	1,816,784
Tons 2045	71,095,638	20,400,234	1,014,143	3,313,142
Tons Added	21,748,066	4,945,589	301,094	1,496,358
Percent Growth Tons	44.1%	32.0%	42.2%	82.4%
Tons CAGR	1.2%	0.9%	1.1%	2.0%
Value 2014 (USD)	41,217,964,337	3,392,435,421	734,801,477	5,066,838,241
Value 2045 (USD)	63,794,940,850	5,657,484,319	914,339,365	10,810,413,400
Value Added	22,576,976,513	2,265,048,898	179,537,887	5,743,575,158
Percent Growth Value	54.8%	66.8%	24.4%	113.4%
Value CAGR	1.4%	1.7%	0.7%	2.5%

## LEADING OPPORTUNITIES ARE:

- Build on core strengths in established commodity groups (cereal grains, fertilizers, gravel, other agricultural products, machinery, mixed goods, motorized vehicles, and other foodstuffs) and prepare to accommodate growing transportation needs associated with these commodities.
- Look to capture emerging fast-growing commodity groups (pharmaceuticals, precision instruments, plastics/rubber, and other known economic development targets) by providing sufficient and attractive (safe, reliable, cost-effective) freight transportation options and services.
- Focus – first and foremost – on truck corridors and connections linking the Eight County Region to the remainder of Iowa and Illinois. These are critical for today's most important commodities, and for the commodities that are expected to see the most growth in the future.



- Maintain and enhance other modal options – including rail, water, and airport connections – and evaluate the potential for intermodal service improvements to best serve the region.

**Potential risks include:**

- The FAF forecast is a model. Like all models, it is likely wrong in some respects. We believe it has a sound basis, but its findings and implications should be confirmed where possible with local economic development knowledge and industry input.
- There are larger uncertainties that are not reflected in the forecast. Compared to parts of the country that are heavily dependent on energy products (which are highly cyclic), or lack diversity in their economic and freight transportation profile, the Eight County Region is relatively fortunate – it is not exposed to energy uncertainty, and it has diversity in its economic base. However, changes in the production of grain, for example, could significantly affect both grain and fertilizer movements; if those movements decline, construction and industrial activity could decline, suppressing the need for gravel and machinery; and so on.
- From a transportation perspective, the biggest risk is associated with the potential inability or failure to provide competitive transportation services to freight shippers and receivers. Freight system users demand reliability, cost-effectiveness, speed, safety, and (increasingly) resiliency. Different users weigh these factors differently – for example, coal places a premium on low per-unit costs, while container shippers place the highest value on reliability and speed – but they matter to all stakeholders in the freight ecosystem. If the Eight County Region can identify and address existing freight transportation deficiencies, and build new advantages for freight shippers, it should be increasingly competitive for the retention, growth, and attraction of freight-dependent industries. If it does not do so, it risks limited growth and loses opportunities.

**EIGHT COUNTY REGION BENCHMARKING: COMMODITIES, MODES, DISTANCES, AND COSTS**

In addressing the competitiveness of the Eight County Region in providing freight transportation services, it is useful to compare its performance to national average benchmarks for truck, rail, water, and multiple modes tonnage in four areas: commodity shares; mode shares; trip distances; and freight transportation costs.

To examine commodities, FAF data was used to generate two sets of metrics:

- “Commodity Quotients” (CQ) calculated as the ratio of Eight County Region commodity tonnage shares to US commodity tonnage shares. Commodity Quotients greater than 1.0 reflect a strong concentration Eight County Region tonnage in a given commodity, compared to the national average.
- “Commodity Growth Quotients” (CGQ) calculated as the ratio of Eight County Region and US commodity tonnage growth percent-ages. Commodity Growth Quotients greater than 1.0 mean a commodity is faster growing in the Eight County Region than in the US as a whole, on a percentage basis.

**Table 7.4:**  
**Eight County Region**  
**CQ and CGQ for Ten**  
**Leading Tonnage**  
**Groups, 2014**

Source: WSP Analysis of  
 FHWA Freight Analysis  
 Framework version 4  
 (FAF4) data..

	Eight County Region 2014 Tonnage Share	US Total Tonnage Share	Eight County "Commodity Quotient"	Eight County "Commodity Growth Quotient"
Cereal grains	18.0%	7.7%	2.34	1.12
Fertilizers	17.1%	1.6%	10.70	0.95
Gravel	14.7%	12.7%	1.16	1.07
Other ag prods.	7.1%	3.9%	1.84	0.90
Coal	4.8%	6.8%	0.70	0.56
Nonmetal min. prods.	4.6%	7.5%	0.61	1.17
Other foodstuffs	4.1%	4.9%	0.83	0.96
Animal feed	3.9%	2.3%	1.65	0.84
Waste/scrap	2.4%	4.6%	0.52	1.07
Gasoline	2.0%	5.4%	0.37	1.30

Table 7.4 lists the Region's CQ and CGQ values for the ten leading tonnage groups.

**Table 7.5:**  
**Eight County Region**  
**CQ and CGQ for**  
**Ten Leading Value**  
**Groups, 2014**

Source: WSP Analysis of  
 FHWA Freight Analysis  
 Framework version 4  
 (FAF4) data..

	Eight County Region 2014 Tonnage Share	US Total Tonnage Share	Eight County "Commodity Quotient"	Eight County "Commodity Growth Quotient"
Machinery	0.6%	0.9%	0.69	0.84
Unknown/Mixed	1.4%	2.7%	0.53	0.90
Motorized vehicles	0.6%	1.3%	0.45	0.97
Other ag prods.	7.1%	3.9%	1.84	0.90
Other foodstuffs	4.1%	4.9%	0.83	0.96
Cereal grains	18.0%	7.7%	2.34	1.12
Plastics/rubber	1.2%	1.7%	0.70	0.80
Fertilizers	17.1%	1.6%	10.70	0.95
Electronics	0.2%	0.5%	0.34	0.77
Pharmaceuticals	0.0%	0.1%	0.30	0.84

Table 7.5 lists the Region's CQ and CGQ values for the ten leading value groups.

Regarding commodities, the region is more heavily concentrated in fertilizers, cereal grains, and other agricultural products than the nation as a whole; these groups are projected to grow at rates near or exceeding national averages. The region is less heavily concentrated in high-value goods (machinery, electronics, pharmaceuticals, etc.) but growth rates for these commodities are generally near national averages, suggesting the possibility of stronger roles in the regional economy. Overall, the region is expected to grow at the same rate as the nation as a whole.

Similar Modal Quotients (MQ) and Modal Growth Quotients (MGQ) were calculated to examine modes. Table 7.6. summarizes the calculations. The region is substantially more dependent on rail than the nation as a whole, and substantially less dependent on water. The region's use of trucking and multiple modes are slightly below national averages. All modes are expected to grow at roughly the national average rates.

	Eight County Region 2014 Tonnage Share	US Total Tonnage Share (excluding Air, Pipeline, Other)	Eight County "Modal Quotient"	Eight County "Modal Growth Quotient"
Truck	73.3%	79.6%	0.92	1.00
Rail	23.0%	12.4%	1.85	1.04
Multiple	2.7%	3.1%	0.88	1.00
Water	1.1%	5.0%	0.21	1.09

**Table 7.6: Eight County Region MQ and MGQ, 2014**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

Compared to national averages, the region's average length of haul is longer for truck (even though the most significant truck trade is with Illinois and Iowa) and for water, and shorter for rail (much of the market is in the Midwestern states) and multiple modes. See Table 7.7 and 7.8.

	Eight County Region Average Miles per Trip	US Total Average Miles per Trip
Truck - FAF	265	177
Rail - FAF	399	802
Multiple - FAF	557	811
Water - FAF	540	453

**Table 7.7: Eight County Region and US Average Trip Lengths by Mode (Provisional), 2014**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data.

	Rate per Ton-Mile	Ton-Miles, 2014	Estimated Transportation Cost
Truck	\$ 0.108	13,056,538,943	\$ 1,410,106,206
Rail	\$ 0.083	6,159,485,019	\$ 511,237,257
Multiple	\$ 0.097	1,012,159,822	\$ 98,179,503
Water	\$ 0.050	385,064,490	\$ 19,253,224
Total			\$ 2,038,776,190

**Table 7.8: Order-of-Magnitude Freight Transportation Costs for the Eight County Region, 2014**

Source: WSP Analysis of FHWA Freight Analysis Framework version 4 (FAF4) data..

# EIGHT COUNTY FREIGHT SYSTEM VISION AND GOALS

## FREIGHT SYSTEM VISION

In order to appropriately assess the needs of the Eight County Region, the freight plan must first define the overall vision for the transportation system. The vision is an aspirational future point for the transportation system, and guides the development of goals, performance measures and the assessment of transportation needs.

The goals are assigned performance measures that are used to assess the performance of the current freight transportation system and identify needs. Performance measures focus on variables that the freight plan can affect, therefore making the information derived from the performance assessment actionable.

## DEVELOPING THE FREIGHT SYSTEM VISION

An iterative process was used, informed by the Project Steering Committee, to develop the vision for the Eight County Region's freight transportation system. First, existing visions and goals in established Regional and national plans were examined, including those from BHRC and ECIA, Dubuque Metropolitan Area Transportation Study, ILDOT, IADOT, and Federal Legislation.

After identifying reoccurring themes in existing vision documents, an initial vision was developed to guide a discussion with the Project Steering Committee. The vision for the Region was developed using an iterative process of receiving Project Steering Committee comments, revising the vision and presenting the updated vision to the Project Steering Committee for further comment.

The output of the iterative development process is the vision statement shown below. The vision outlines both the desired outcomes used to define the goals (quality of life, growth, business retention, and business attraction) and categories for performance measures (safe, efficient, reliable and connected).

*Eight County Freight System Vision: The Eight County Multimodal Freight System supports quality of life, growth and enables business retention and attraction, by providing safe, efficient, and reliable connections to regional, national, and global markets today and in the future.*

## FREIGHT SYSTEM GOALS

The vision provides the ultimate point that the Region seeks to attain through the implementation of the freight plan recommendations. The vision identifies quality of life, growth, business retention, and business attraction as the goals for the freight plan. These goals provide intermediate targets to focus projects and policies that will advance the overall vision.

Figure 7.11 displays the goals of the Eight County Freight Plan. The goals identify that the freight transportation system should support economic activity and meet community needs in the Region.





**Figure 7.11 : Eight County Freight Plan Goals**

Source: *Eight County Freight Study.*

The goals for the Region are focused on outcomes or outputs. For example, providing freight investment and implementing policies that meet the needs of the community results in higher quality of life. Similarly, enabling a freight transportation system that provides competitive transportation options will aid current businesses and advance the Region’s economy. The goals of the Region are clearly enabled by good transportation investment and policy, but since transportation demand is affected by other non-transportation variables, the investments and policies must fit the needs of system users to be effective.

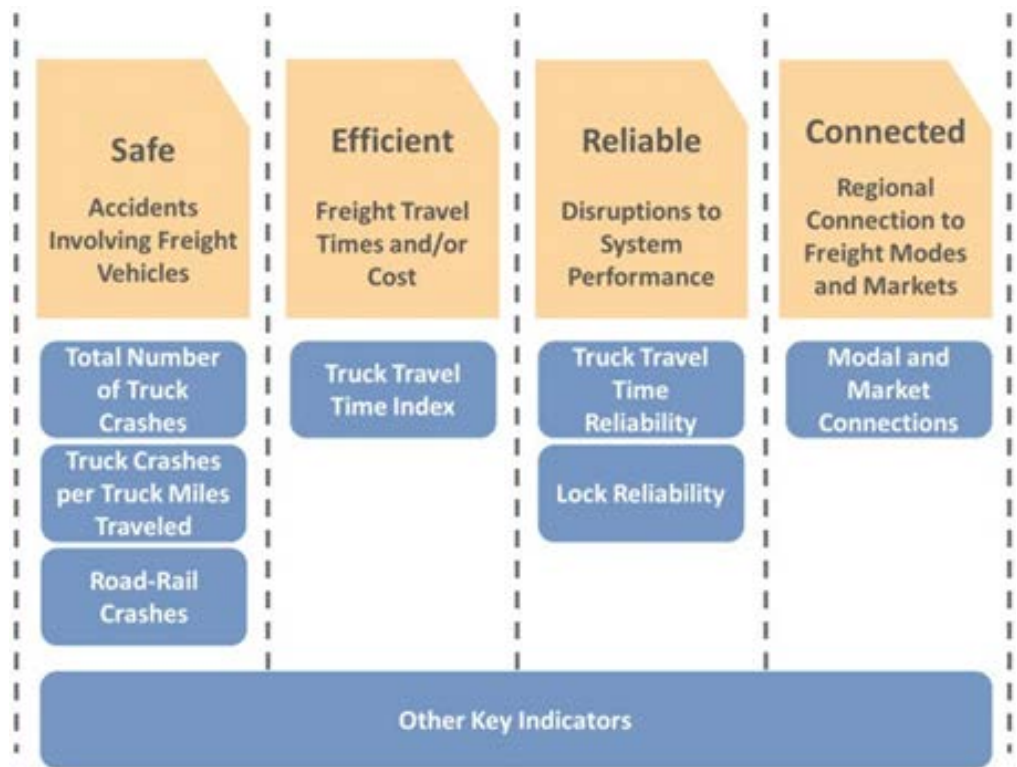
## **FREIGHT SYSTEM PERFORMANCE MEASURES AND INDICATORS**

The approach to performance measures in the Eight County Freight Plan focuses on measuring transportation performance in line with attributes that matter to the Region by linking measures to the plan’s goals. Additionally, the measures serve as a benchmark using available data, to the extent possible, allowing measures to be calculated on an ongoing basis. Benchmarking will allow the Region to identify changes in transportation system performance in the future, as well as assess the impact of emerging trends. The plan positions the Region for future collaboration with Illinois and Iowa DOTs on target setting and freight corridor identification. Additionally, the Region can use performance measures required by MAP-21 as a resource to monitor the performance of the transportation system in the future.

The performance measures used in this plan focus on fewer measures that provide the region with insights into key issues rather than focusing on many measures, some of which would not provide actionable information for decision making.

The vision of the Eight County Region Freight Plan sets the stage for identifying performance measures, by naming safety, efficiency, reliability and connectivity as key components of the future Eight County Transportation System. Safety, efficiency, reliability and connectivity were used as categories to define performance measures. Figure 7.12 displays the performance categories and the measures that will be calculated to assess the performance of the transportation system. Other key indicators have also been included to provide context to the performance measures and to be used to describe and promote the freight system in the Region.

**Figure 7.12 :  
Eight County  
Freight Performance  
Measures**  
*Source: Eight County  
Freight Study.*



## FREIGHT STUDY RECOMMENDATIONS

The Eight County Freight Plan developed a slate of strategic recommendations for the freight system. These strategies will be generally grouped within the “4 P” categories of 1) projects, 2) programs, 3) policies, and 4) partnerships. As shown the top two most frequently cited improvements are project related – new/expanded roadways and pavement improvements.

As shown in Figure 7.13, a slate of strategic opportunities have been identified for the Eight County Region. While stakeholders often find project recommendations to be the most tangible, likely the most critically important category of opportunities is “partnerships.” So much of the multi-modal freight transportation system is outside of the public domain, and partnerships and collaboration will be critical to advancing any efforts off the highways system, and in most cases also those on the highway system due to the myriad jurisdictions that have ownership and operations roles in the Eight County Region.

Projects	Programs
<ul style="list-style-type: none"> <li>• Spot highway improvements to address congestion and safety (next slide)</li> <li>• Pavement improvements</li> <li>• Bridge improvements</li> <li>• New/improved intermodal and/or port facilities</li> <li>• Transload/consolidation facilities</li> <li>• Lock and dam improvements</li> </ul>	<ul style="list-style-type: none"> <li>• Programs focused on highway and railway safety (including grade separations)</li> <li>• Programs focused on enhancing skills of local workforce</li> <li>• Programs focused on technology applications to the (freight) transportation system</li> <li>• Freight planning program to monitor needs, issues and progress</li> </ul>
Policies	Partnerships
<ul style="list-style-type: none"> <li>• Truck regulation harmonization between Iowa and Illinois</li> <li>• Illinois seasonal exemption for agricultural loads (up to 90,000 lbs.)</li> <li>• Truck route guidance</li> <li>• Freight-appropriate design standards</li> </ul>	<ul style="list-style-type: none"> <li>• State, county and local public agency partnerships</li> <li>• Federal transportation agencies, including USDOT and the USACE</li> <li>• Regional and local economic development agencies</li> <li>• Class I and short line railroads</li> <li>• Airports</li> <li>• Water ports</li> <li>• Other local private industry/businesses</li> </ul>

**Figure 7.13: Eight County Freight Study Recommendations**  
*Source: Eight County Freight Study.*

The Eight County Freight Plan identified locations needing improvements by mapping gaps in planned freight projects. Figure 7.14 maps the project gaps and Table 7.9 provides a list of project gaps.

**Figure 7.14 :**  
**Project Gaps Shown**  
**with Safety and**  
**Congestion Data**  
*Source: Eight County*  
*Freight Study.*



**Table 7.9:**  
**Project Gaps Listing**  
*Source: Eight County*  
*Freight Study..*

Route	Location	"Gaps"
US-20	Old Castle Road to Old Hawkeye Road (Between Farley and Dyersville)	Safety
US-20	North Cascade (west end of Dubuque) to US-20 Frontage Road (East Dubuque)	Safety
US-20	N. Main Street to Franklin Street (North of Galena)	Safety, Congestion
US-20	Tapley Woods to IL-84 junction	Safety
US-20	Woodbine to S. Logemann Road	Safety
US-20	W. Salem Road to N. Bolton Road (Eleroy area)	Safety
US-20	Freeport Area (Includes IL-75)	Congestion
US-20	Farwell Bridge Road to Stephenson County Line	Safety
US-30	Grand Mound to DeWitt	Safety
US-30	Downtown Clinton	Safety, Congestion
US-30	IL-136 junction to IL-78 junction	Safety
US-30	Sterling Area (includes IL-2 and IL-40)	Congestion
US-151	Dubuque Area	Safety, Congestion
IA-136	Delmar to Charlotte	Congestion
IL-78	Lowden Road to IL-40 (Mount Carroll area)	Congestion
US-52	Mount Carroll to Lanark	Safety
IL-84	Savanna to Jo Daviess County Line	Safety
I-88	IL-78 to Lincoln Road	Safety