SEPTEMBER, 2017

Will County
Community Friendly Freight Mobility Plan

WILL COUNTY
COMMUNITY FRIENDLY
FREIGHT MOBILITY PLAN

WILL COUNTY CENTER FOR ECONOMIC DEVELOPMENT

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Acknowledgments

Sponsors

A special thank you to Will County residents and freight businesses who provided input at the Open Houses, Forums, and surveys.

Acknowledgments

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Will County Executive
Will County Board
Will County Department of Transportation
Will County Land Use Department
Will County environmental stakeholder organizations
Chicago Metropolitan Agency for Planning
Will County Freight Advisory Council, including:
- Acres Truck Parking
- BNSF Railway Company
- Cadence Premier Logistics
- Caton Commercial Real Estate
- CenterPoint Properties
- Crown Lift Trucks
- Damco Distribution Services, Inc.
- DeLong Co., Inc.
- Elion Partners
- Federal Highway Administration
- Foremost Quality Logistics
- Governors State University
- Hanson Professional Services Inc.
- Illinois Chamber of Commerce
- Illinois Department of Transportation
- Illinois REALTORS
- Illinois Soybean Association
- Illinois Trucking Association
- Joliet Arsenal Development Authority
- Joliet Container Terminal LLC
- Joliet Junior College
- Mid-West Truckers Association
- NAI Hiffman
- Pace Suburban Transit
- Paine/Wetzel Associates, Inc. - TCN Worldwide
- Partners Warehouse of Illinois
- Prairie Creek Logistics Inc.
- Ruettiger, Tonelli & Assoc.
- Saddle Creek Logistics Services
- Schneider Logistics
- Smith Dawson & Andrews
- Three Rivers Association of Realtors
- Union Pacific Railroad
- University of St. Francis
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Will County's unique geographic and demographic attributes make it an asset to the national and regional freight markets and a center for global trade. Multimodal assets provide the County with a competitive advantage. These assets, combined with the availability of land for industrial development and the County's location within the Chicago-region market, have contributed to the growth in freight movement in the County. As a result, the movement of freight has become an important and fast-growing part of the Will County economy, placing increasing demand on its transportation network. To effectively leverage this market opportunity while minimizing the impact on quality of life for residents, the County will need to identify additional resources for transportation funding, develop programmatic solutions, and invest in innovative transportation management strategies that align with the needs of a rapidly changing market.

The County's central Midwest location with strong connections to Chicago has made it a target for regional freight connections and interstate through traffic. Between 2005 and 2015, intermodal lifts in the County more than tripled from approximately 450,000 to 1.5 million lifts.[1] [2] Warehouse and distribution facility square footage in Will County has grown at a similarly high rate, doubling from 76 million to 152 million between 2000 and 2016.[3] Freight movements have grown along with these developments. Freight traffic passing through Will County accounts for an estimated 62.8 percent of all freight movements in the County. In fact, 71.1 percent of truck movements and 81.3 percent of rail movements are through movements.[4] As a result, congestion and roadway maintenance costs in the County have grown, with limited funding available to accommodate this growth and maintain the County's larger transportation infrastructure.

This chapter will present the current state of freight mobility in Will County. The following topics will be covered in this section:

1. Freight Policy and Regulatory Context Influencing Freight Mobility
2. Trends Impacting the Freight Industry

[1] CMAP data on intermodal lift counts, http://www.cmap.illinois.gov/documents/10180/19427/FacilityLiftCountANALYSIS_Revised2015_20170223.pdf/31a31b6d-a02c-48c7-aedf-31d4b7563ccf

[2] Note that lift count varies from container throughput. The term "lift" refers to the process of moving a container or trailer to or from a railcar, however container throughput is calculated in terms of Twenty-Foot-Equivalents (TEUs).

[3] CMAP analysis of CoStar data from http://www.cmap.illinois.gov/about/updates/-/asset_publisher/UIMfSLnFfMB6/content/industrial-development-trends-in-the-cmap-region

[4] CDM Smith analysis of TRANSEARCH data, 2015

3. Existing Conditions
4. Peer Comparisons: Will County in Context
5. Analysis of Freight Corridors, Bottlenecks, and Hotspots
6. Investing in Freight Clusters
7. Overview of Needs and Concerns

1.1 ASSESSING THE CURRENT STATE

Several mechanisms were used to provide input in the process of analyzing the current state of freight and quality of life in Will County. Both quantitative and qualitative information was gathered to provide the most up-to-date information on freight in Will County. In addition to freight data provided by publicly available sources, key datasets were acquired to understand freight in Will County such as:

- TRANSEARCH data was acquired to analyze freight flows by mode and commodity in, out, and through Will County.
- American Transportation Research Institute (ATRI) data was acquired to analyze truck trip origins and destinations within Will County, to identify key truck bottlenecks on the roadway network, and to understand truck movements within the Chicago region.
- An economic model, IMPLAN, was used to analyze freight flow data to evaluate the economic impacts of freight in Will County.
- CoStar data was acquired to analyze industrial development trends and identify clusters of freight-supportive development in Will County

Extensive effort was also made to gather qualitative information to develop recommendations that reflect the needs of the community, the freight industry, workforce leaders, and elected officials. For more information on the outreach process see **Appendix F. Figure 1-1** shows key inputs from the outreach process, including:

- Seven Freight Advisory Committee meetings with 60 public and private representatives
- Three public open houses with Will County residents
- A public survey with over 575 responses
- Two freight forums with freight industry leaders
- Two workforce forums with freight workforce leaders
- A freight survey sent to freight industry leaders
- A workforce survey sent to freight industry leaders
- 29 Interviews conducted with freight industry leaders

FIGURE 1-1: SUMMARY OF COMMUNITY AND INDUSTRY OUTREACH

1.2 HISTORY OF FREIGHT DEVELOPMENT IN WILL COUNTY

Will County has always been at the crossroads of freight movement, starting with the construction of the I & M Canal in the 1800s. For the first time, the canal allowed the movement of goods through the Great Lakes to the Mississippi River and the Gulf of Mexico. Later, the development of the transcontinental railroads began linking the East coast and the Midwest to the Pacific Coast. The Midwest was uniquely situated in the middle and the start of the Chicago region train hub began. In addition to providing crucial links to the developing economies and ports in California, rail development across the country established new and efficient trading routes to the Gulf of Mexico, Canada, and beyond. Key commodities included – and still include to some degree – agriculture and grain products, much of which is grown right here in Will County.

The construction and rapid expansion of the interstate highway system in the 1950s and 1960s provided another alternative for the movement of goods: trucking. Interstates provided an important link for local, regional, and long-distance freight transportation. Will County was again uniquely situated at the crossroads of this freight movement with extensive and efficient connections to interstates, rail, and barge movements.

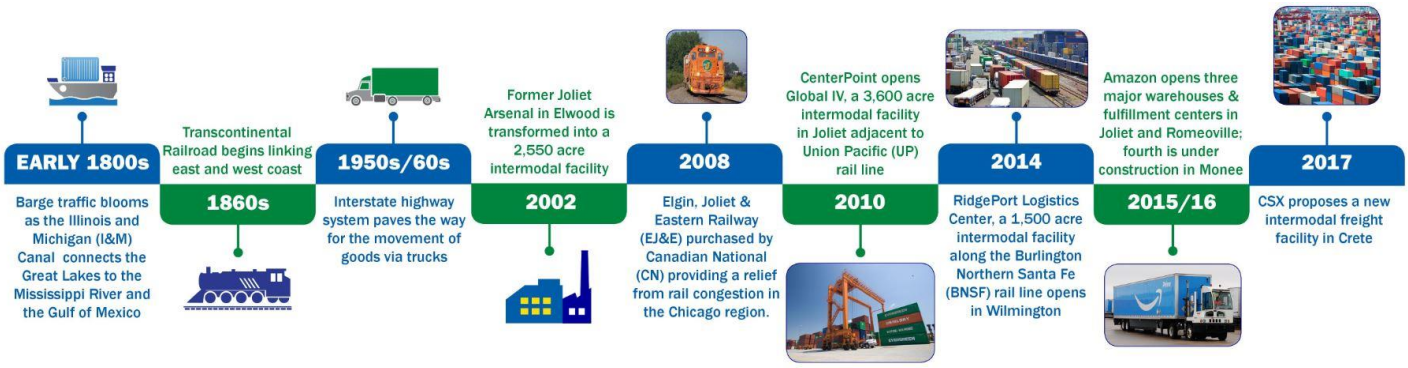
More recently, beginning in 2002, construction of privately owned intermodal facilities has blossomed throughout Will County. The industry sited these facilities in Will County due to the robust transportation network, the growing concentration of freight-related businesses, and to avoid congestion in Chicago. Recent intermodal facilities include the CenterPoint/BNSF Intermodal Center in Elwood; the CenterPoint/Union Pacific Global IV Intermodal Center in Joliet; and the proposed CSX Intermodal Center in Crete. All this intermodal activity has attracted extensive industrial development across the county including manufacturing, warehousing, distribution, and logistics firms such as the RidgePort Logistics Center in Wilmington.

What are Intermodal Facilities?
In general, freight trains bring goods from the Pacific, Atlantic, or Gulf Coast ports via containers that are transferred to trucks or other trains and then transported locally, nationally, and internationally.

While this development has happened, changes in the transportation system have also occurred. In 2008, the Canadian Nation Railway (CN) purchased the Elgin, Joliet, and Eastern Railway (EJ&E), a crucial rail asset that passes through multiple Will County communities that provides relief from rail congestion in the inner-ring suburbs and City of Chicago.

Because Will County lies at the crux of global import and export routes, due largely to its geographical location near the Chicago area trade hub and its extensive transportation and logistics assets, future proposals for freight-dependent businesses will continue to be seen. See **Figure 1-2** for a timeline of freight development in Will County.

FIGURE 1-2. FREIGHT DEVELOPMENT TIMELINE: WILL COUNTY



1.3 FREIGHT POLICY AND REGULATORY CONTEXT INFLUENCING FREIGHT MOBILITY

To develop implementable strategies that will support Will County's freight transportation system, it is important to understand the policy environment in which the freight system functions. Funding programs, statutory and constitutional constraints, state and regional freight planning activities, and the local regulatory context of truck movement, all create the framework for implementation.

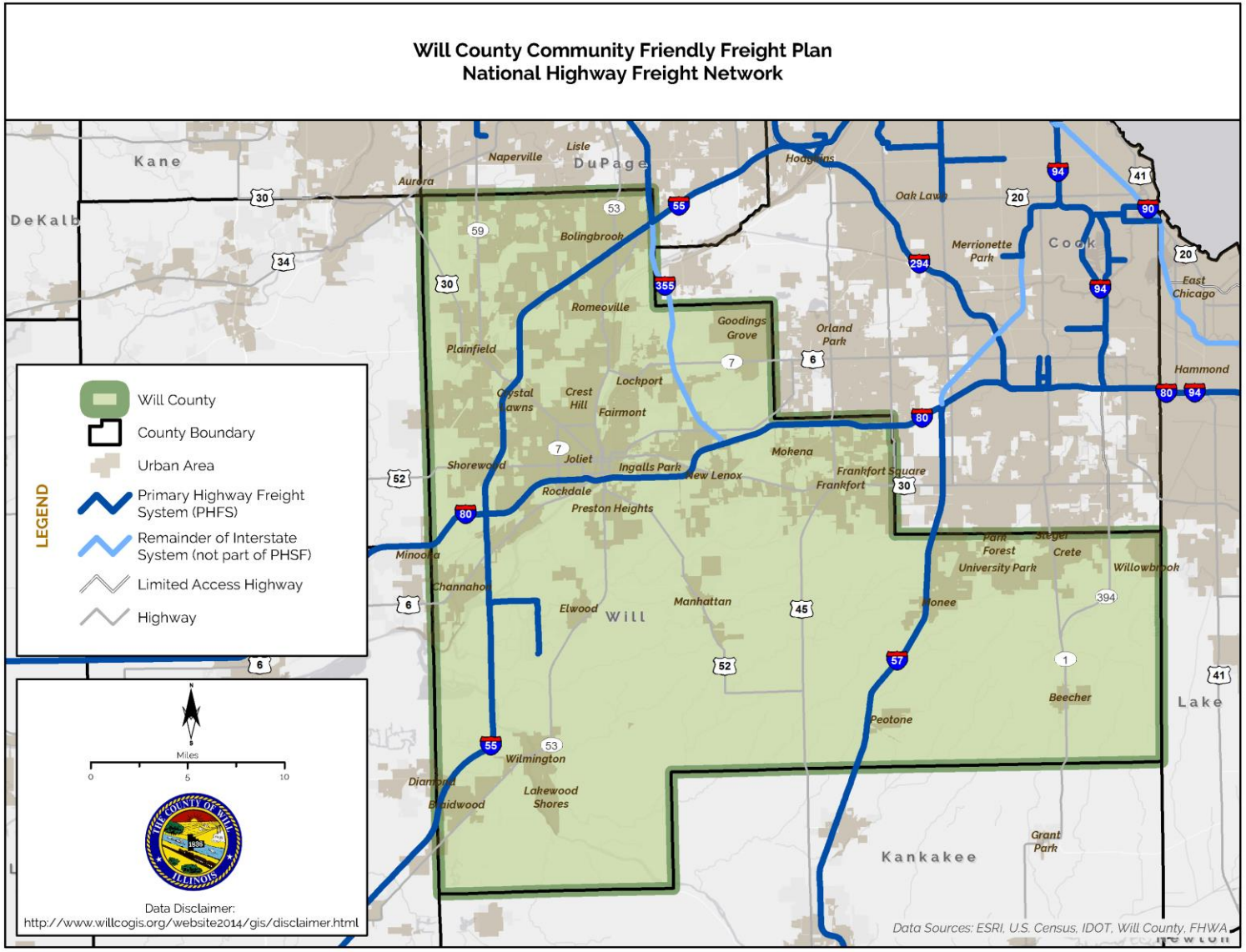
Will County's economic future relies on the ability of the multimodal transportation system to support an increasingly complex supply chain. To accomplish this, the Freight Plan must be an actionable and implementable document. A critical step in building an implementable plan is to understand the overall framework of and relationships among Will County's partners in the freight transportation system. Providing context for the current policy environment will lay the groundwork for identifying strategic steps Will County can take to achieve its goals and objectives.

1.3.1 NATIONAL FREIGHT POLICY

In recent years, the federal government has played a stronger role in developing national freight policy. The two most recent surface transportation reauthorization bills—the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012 and the Fixing America's Surface Transportation (FAST) Act of 2015—established federal freight policy, freight performance measures, and created dedicated funding for freight.

While this legislation is not specifically directed towards local agencies, it is important for Will County to consider this larger context in its freight planning activities. Importantly, states are encouraged to invest in projects that support national goals and improve the national freight network as shown in **Figure 1-3.** Therefore, a freight plan that reflects these goals and performance measures will make Will County more competitive for national, state, and regional funding opportunities for freight that can address the challenges of a freight-reliant economy.

FIGURE 1-3: NATIONAL HIGHWAY FREIGHT NETWORK IN WILL COUNTY



1.3.1.1 ESTABLISHING FREIGHT POLICY IN MAP-21 AND THE FAST ACT – INCLUDING STATE FREIGHT PLANS

It is important that the Will County Community Friendly Freight Mobility Plan not stand alone, but instead align and be informed by national, State and local plans and policies that already exist or are in development. The FAST Act requires states to develop state freight plans to receive funding under the freight provisions in the Act. State freight plans have certain requirements outlined by the federal government—including having a five-year forecast, fiscally constraining projects, and include a list of projects with a freight investment plan.[5] The federal National Strategic Freight Plan serves as a guide post for many of these freight planning efforts.

Additionally, competitive freight funding distributed through the Nationally Significant Freight and Highway Program (NSFHP) (known as FASTLANE/INFRA grants) that Will County freight projects may be eligible for are awarded to projects that align with these goals and other specific goals of the program. MAP-21, the surface transportation authorization prior to the FAST Act, requires U.S. DOT to develop a National Freight Policy that will include the seven goals that state freight plans must also support (referenced in Chapter 3).

FEDERAL FUNDING SOURCES FOR FREIGHT IMPROVEMENTS

The FAST Act expands upon MAP-21's freight emphasis by providing dedicated funding for freight. The FAST Act provides $10.7 billion over five years, amounting to at least $2 billion each year for the freight program through the previously mentioned NSFHP and a new National Highway Freight formula grant described below (**Table 1-1**). Both programs serve as potential funding sources for freight improvements in Will County. This freight plan provides a basis for Will County to provide the context and demonstrate the need of the freight system to be competitive for these and other funding sources.

There are two freight funding programs, one is a formula program known as the National Highway Freight Program (NHFP) and is distributed to states based on highway apportionments, which IDOT distributes. The program is funded nationally at $6.3 billion over five years amounting to an average of $1.25 billion annually. Based on the current highway formula apportionments, Illinois would receive 3.6 percent of these funds, or about $45 million annually to be distributed by IDOT across the state.

The second program, the NSFHP is awarded on a competitive basis and provides competitive grants known as the FASTLANE/INFRA grants. The NSFHP grants are awarded to projects that are nationally and regionally significant freight and highway projects and meet certain goals and criteria of the program. (**Table 1-1**) USDOT selects the projects to award, which are then reviewed by the authorizing committees in Congress.

[5] https://www.fhwa.dot.gov/fastact/factsheets/fpppfs.cfm

TABLE 1-1: NSFHP GRANT FUNDING

Fiscal Year	2016	2017	2018	2019	2020
Funding Authorized (in millions)	$800 M	$850 M	$900 M	$950 M	$1.0 B
Eligible Projects for NSFHP Grants					
• Freight project on the National Highway Freight Network • Highway or bridge project adding capacity to the Interstate System • Intermodal or freight rail project* • Public or private freight rail, water, or intermodal facility to facilitate intermodal activity or access* • Railway-highway grade separation or grade separation					

** indicates project costs over the five-year program cannot exceed $500 million for the non-highway portion of the project*
Source: U.S. DOT Fixing America's Surface Transportation Act Fact Sheet, https://www.fhwa.dot.gov/fastact/factsheets/fastlanegrantsfs.cfm.

Will County and other local governments are eligible applicants for NSFHP grants. Critically for a multimodal freight plan such as Will County's, up to $500 million can be spent on non-highway projects over the five years. That means, freight infrastructure in Will County such as highway projects, freight intermodal projects, freight rail projects, river terminal facilities, and highway-rail grade crossing separations are eligible NSFHP projects.

For projects referenced in a state freight plan, the federal share can increase to 95 percent for interstate highway projects and to 90 percent for non-interstate highway projects. Ensuring the Will County Freight Plan is in alignment with the State's freight plan will help make the County more competitive for limited state dollars for freight projects and be competitive for NSFHP grants. The Illinois Freight Plan is scheduled to be released at the end of 2017, in accordance with the FAST Act in order to be eligible to obligate Federal funds provided through the National Highway Freight Program (NHFP). More information on the State's draft freight goals can be found in chapter 3. This freight plan provides a basis for Will County to demonstrate both the importance of Will County's infrastructure within the state and national freight network and how improvements in Will County will contribute to the achievement of national, state and regional goals.

1.3.1.2 FEDERAL ENVIRONMENTAL REQUIREMENTS FOR PROJECTS - NEPA

Any project receiving federal funds must undergo an environmental review process outlined by the National Environmental Policy Act (NEPA) or a federal action such as obtaining a federal permit. An environmental assessment (EA) or an Environmental Impact Statement (EIS) must first be completed for certain projects that must then undergo an environmental review process. There are several projects that fall under "categorical exclusions" outlined in NEPA and subsequent transportation reauthorization bills that are automatically exempted from the NEPA environmental

review process. Those categorical exclusions are outlined in the Code of Federal Regulations in sections 23 CFR 771.117(c) (d).[6]

For those projects that are not a categorical exclusion, either an EA or an EIS must be completed. An EA is completed if it is uncertain if a transportation project will have significant environmental impacts. If a project will have significant environmental impacts, an EIS must be prepared to identify purpose and need for the project, identify alternatives, outline how the project may affect the environment, and allow time for public comment. Common environmental permits needed for transportation projects include Section 401 and 404 of the Clean Water Act (U.S. Army Corps of Engineers), no rise certification and floodplain development permits (Federal Emergency Management Agency), as well as Section 106 and Section 4(f) of the National Historic Preservation Act (State Historic Preservation Officer/Tribal Historic Preservation Officer). These permits are often required for implementing transportation projects with federal funding.

The NEPA process can be a costly and time-consuming process. An EA and an EIS can both take over two years to complete[7], while a CE can take approximately 6 months (or less if it is programmatic) to complete.[8] In identifying projects where federal funds may be a component of the funding source, stakeholders should be aware of the requirements of the NEPA process and federal action.

1.3.2 STATE AND LOCAL FREIGHT POLICY

States and local governments play an important role in coordinating the distribution of freight-related information and enforcing shared regulations across the state. Two important state and local processes that impact Will County's roadways are the designation of truck routes and provision of oversize and overweight permits for roads through the County. In Illinois, trucks navigate a complicated and mostly uncoordinated system of truck routes to move freight that often causes congestion on roadways and increased truck traffic on local roads. The coordination of truck route information between truckers and these government agencies can ease routing decisions, thus minimizing the impact of trucks on local roadways. For Will County and other local governments, designating truck routes and coordinating oversize and overweight (OS/OW) permitting are partially under local control and have major impacts for freight movement.

1.3.2.1 DESIGNATING TRUCK ROUTES

Designated truck routes are a primary tool to communicate with the trucking industry about where trucks should travel on the state and local system. While trucks do travel on roads that are not designated as a truck route, this is technically an illegal move for

[6] Categorical exclusions are outlined in 23 CFR 771.117(c) and 23 CFR 771.117(d)

[7] See the National Association for Environmental Professionals report, *Annual NEPA Report, 2015. http://www.naep.org/nepa-2015-annual-report*

[8] These are approximate timeframes and may vary depending on the complexity of the project. These timeframes only include the completion of the environmental document, not design or an access justification report.

normal-sized trucks. From any designated state route, a normal-sized truck can travel along county, municipal or township roads for five miles only if they are picking up or dropping off a shipment and the roadway has no sign prohibiting access. However, trucks cannot use local roads to connect to other state designated highways unless it is designated as a truck route. Designating and clearly marking truck routes helps encourage compliance with the law. It also provides an effective tool to communicate to the trucking industry where local governments would prefer truck traffic and which roads are best suited to accommodate their size and weight. In fact, during one freight forum session 50 percent of Freight Forum attendees noted that the "Lack of knowledge about which roads are designated truck routes" represent the most difficult challenge for truck routing. See **Figure 1-4** for the results. Additionally, 88 percent of Freight Forum attendees thought truck routing or permitting is somewhat or very complicated in Will County.

FIGURE 1-4: FREIGHT FORUM TRUCK ROUTING SURVEY RESULTS

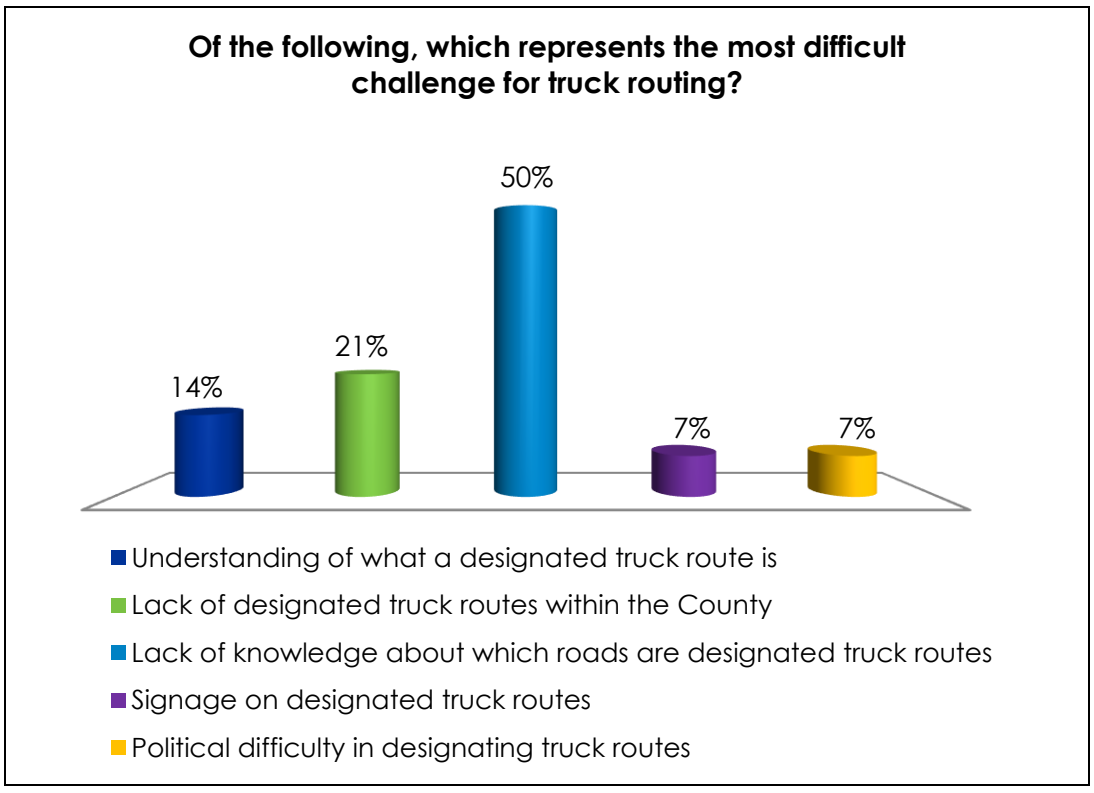
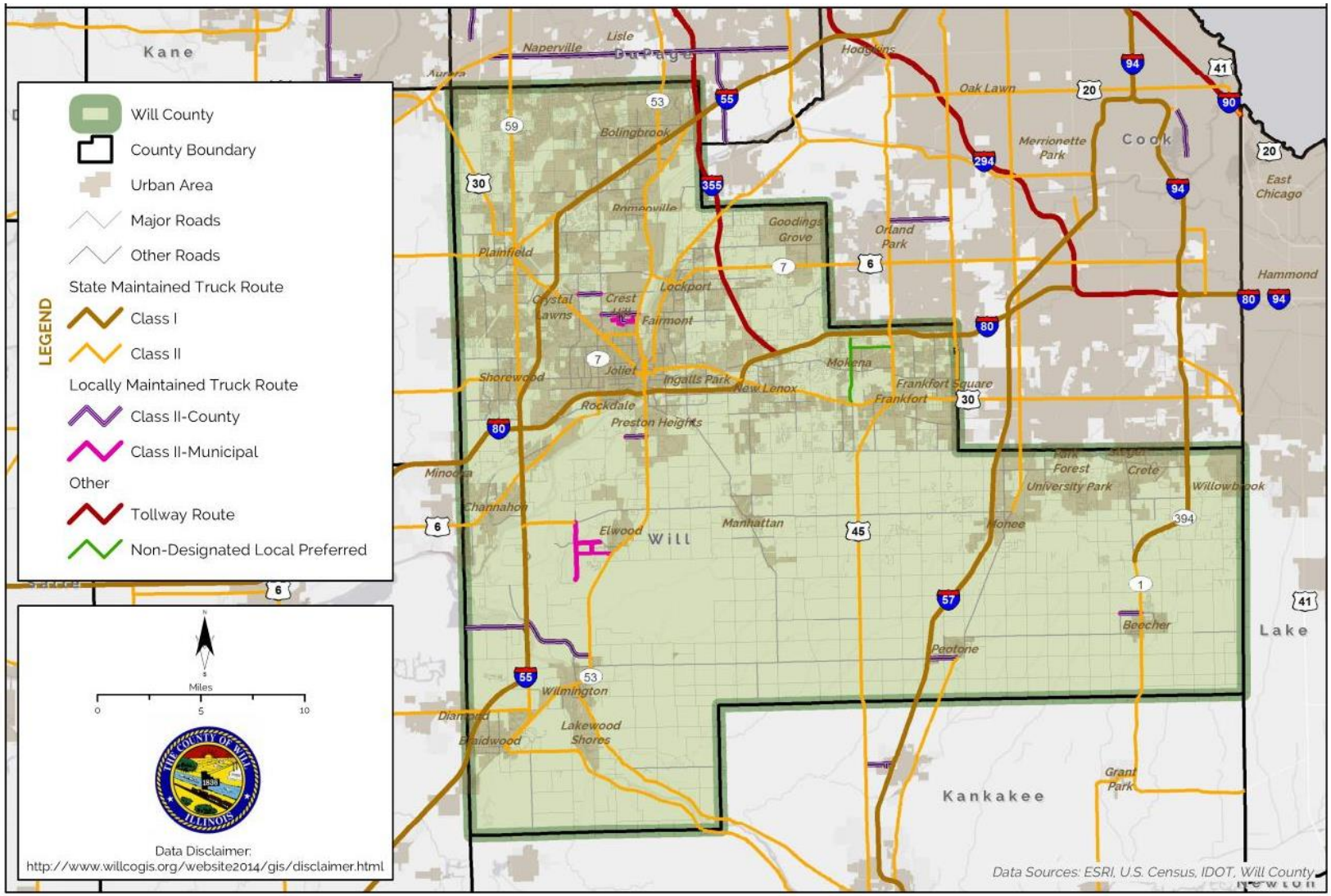


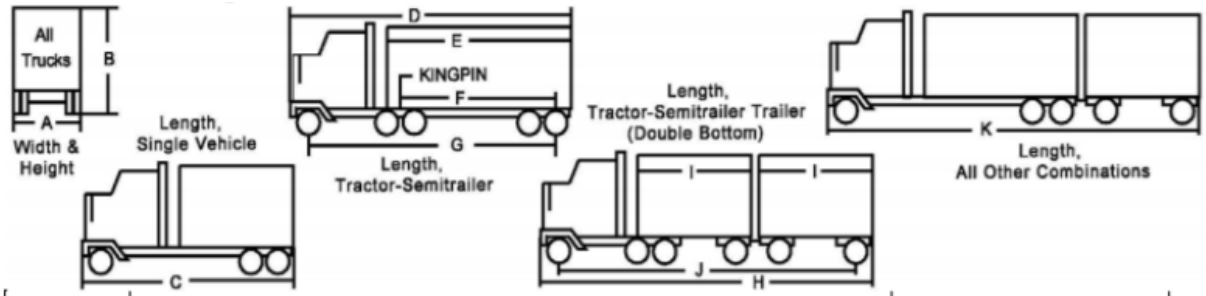
Figure 1-5 presents the truck routes that are currently designated in Will County by state, county, and local governments. A system of coordinated and contiguous routes helps the efficient movement of freight and ensures truckers comply with the law. Funding eligibility is not attached to truck route designation. However, designating a route indicates a commitment to maintaining certain roadways and can help direct investment along the roadway.

FIGURE 1-5: DESIGNATED TRUCK ROUTES



There are three classes of truck routes in Illinois Class I, Class II, and Class III, see **Figure 1-6**. Each of these classifications indicates the legal dimension and weight allowed on that route.[9] There are also locally preferred truck routes that local governments can administratively define. While designating a locally preferred truck route does not change the height and weight limitations on the identified routes, they do indicate to truckers which routes the community prefers them to use.[10]**Figure 1-6** shows the maximum legal dimensions for trucks in Illinois.

FIGURE 1-6. MAXIMUM LEGAL DIMENSIONS FOR TRUCKS BY TRUCK ROUTE CLASSIFICATION



TYPE OF HIGHWAY OR STREET	MAXIMUM LEGAL DIMENSIONS											MAXIMUM WEIGHTS		
	A	B	C	D	E	F *4	G	H	I	J	K	Single Axle	Tandem Axle *2	Gross *3
Class I	8'-6"	13'-6"	42'	N.S.	53'	45'-6"	N.S.	N.S.	28'-6"	N.S.	N.S.	20,000	34,000	II
Class II	8'-6"	13'-6"	42'	N.S.	53'	45'-6"	N.S.	N.S.	28'-6"	65'	N.S.	20,000	34,000	II
Class III	8'-6"	13'-6"	42'	65' *1	53'	42'-6"	55' *1	60'	N.S.	N.S.	60'	20,000	34,000	II
Other State Highway	8'-6"	13'-6"	42'	65' *1	53'	42'-6"	55' *1	60'	N.S.	N.S.	60'	20,000	34,000	II
Local Roads & Streets	8'-6"	13'-6"	42'	55'	N.S.	N.S.	N.S.	60'	N.S.	N.S.	60'	20,000	34,000	II
Special Haul Vehicles on all Above Categories	8- 6"	13'-6"	42'	N.S. *5	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.	60'	20,000	34,000	See *6

N.S. indicates legal dimension not specified.

Source: Illinois Department of Transportation

While the state has designated many truck routes throughout the County, there are a more limited number of routes designated by the County and municipalities—see **Appendix L** for a list of designated truck routes. The lack of contiguous truck routes in the County can make it difficult for trucks to travel the first and last mile of their trip, causing trucks to travel on residential streets or along an undesignated truck route. Additionally, dis-contiguous truck routes can have an impact on the site selection

[9] Due to recent legislation, PA 96-0034 and PA 96-0037, Class III routes are functionally similar to Class II truck routes. The legislation now allows Class III routes to carry 80,000 pound trucks. The difference being that trucks on Class III routes are limited to 65 feet in overall length.

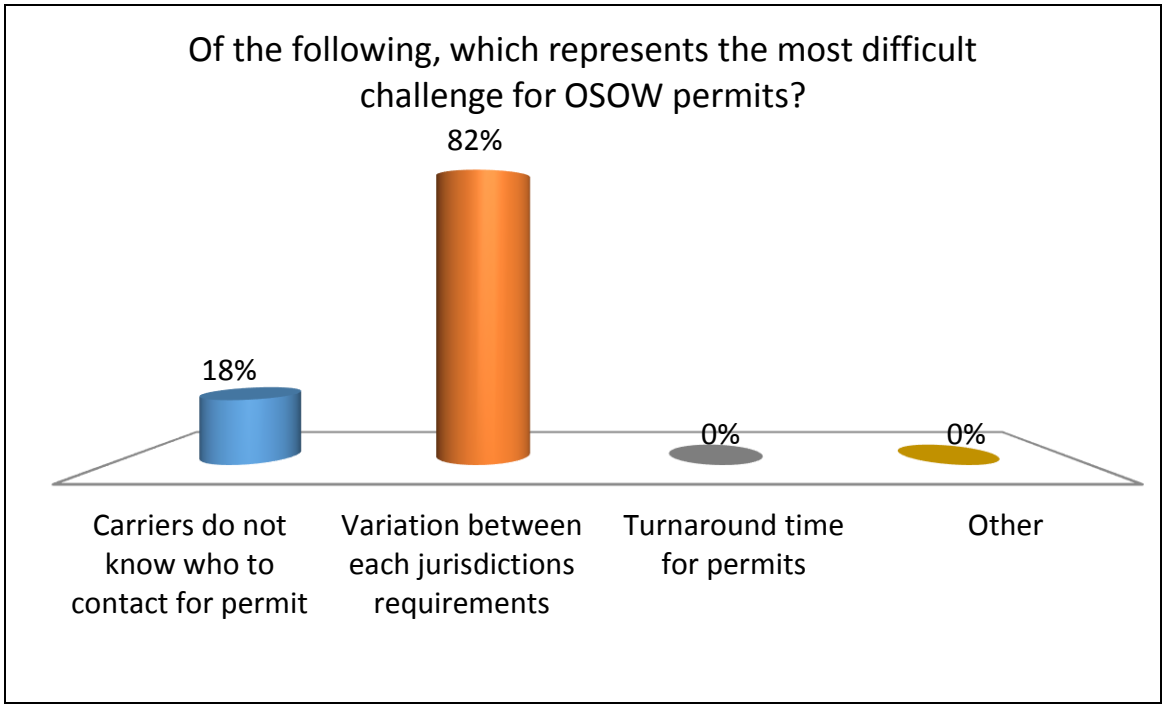
[10] There are several designations of truck routes in Illinois, each designation indicates to truckers what is allowed on that road. Under the Illinois Vehicle Code, the state, counties, and municipalities can designate truck routes. Only the State can designate a Class I route but they may also designate a Class II, or III truck route. Local governments can designate Class II or III routes. For a route to qualify as a Class II route, the lane widths on the road must be at least 11 feet. If a roadway is not designated as a truck route, only trucks that are 55 feet in length or less can legally travel along them. This length limitation excludes most commercial vehicles that typically have a 53-foot container in addition to the cab of their truck. Therefore, while trucks may be traveling along roadways not designated as truck routes, this is in violation of the Illinois Vehicle Code.

process for logistics and other freight-related developments as these businesses rely on ease of access to major roadways for facilities to operate efficiently.

1.3.2.2 OVERSIZE AND OVERWEIGHT PERMITTING

A key economic growth issue identified by the leaders of the seven counties in northeastern Illinois was the lack of a uniform system for OS/OW permits, resulting in a recent CMAP study identifying potential actions. Trucks that are OS/OW are any truck that is over the legal dimensions or weight (typically 80,000 pounds) and are required to get permits from all jurisdictions they must travel across to move their shipment. IDOT has a centralized and automated permitting system that makes it easy for truckers and shippers to apply for and receive an OS/OW permit for trucks traveling along state routes. The difficulty comes typically in the first and last mile of the truck movement, where the OS/OW truck needs to obtain permits from multiple local governments to reach its origin or destination. Often, these local governments have different forms that require various levels of information and varying staff capacity to fulfill requests and field questions. In fact, 82 percent of Freight Forum attendees noted that the "variation between each jurisdiction's requirements" is the most difficult challenge for OS/OW permits, as shown in **Figure 1-7**.

FIGURE 1-7: TOP CHALLENGE FOR OVERSIZE AND OVERWEIGHT PERMITS



This system puts a strain on truckers and the logistics industry and often results in a lack of compliance. Increased coordination across local jurisdictions would result in a more unified and streamlined process for OS/OW trucks traveling in Will County. Providing a template for a common application across communities in Will County could help avoid these trucks spilling onto local roads or roads that are not equipped to handle increased loads. In Will County, many of the commodities are bulk commodities that will

occasionally require an OS/OW permit because of the heavier weight of these commodity types. Many of these OS/OW trucks are trucks carrying grain, fertilizer, limestone, and other goods supporting the agribusiness and other local industries.[11] Many of the commodities moving in and out of Will County are bulk commodities where proximity to the rail or waterways is key for reducing truck travel time.

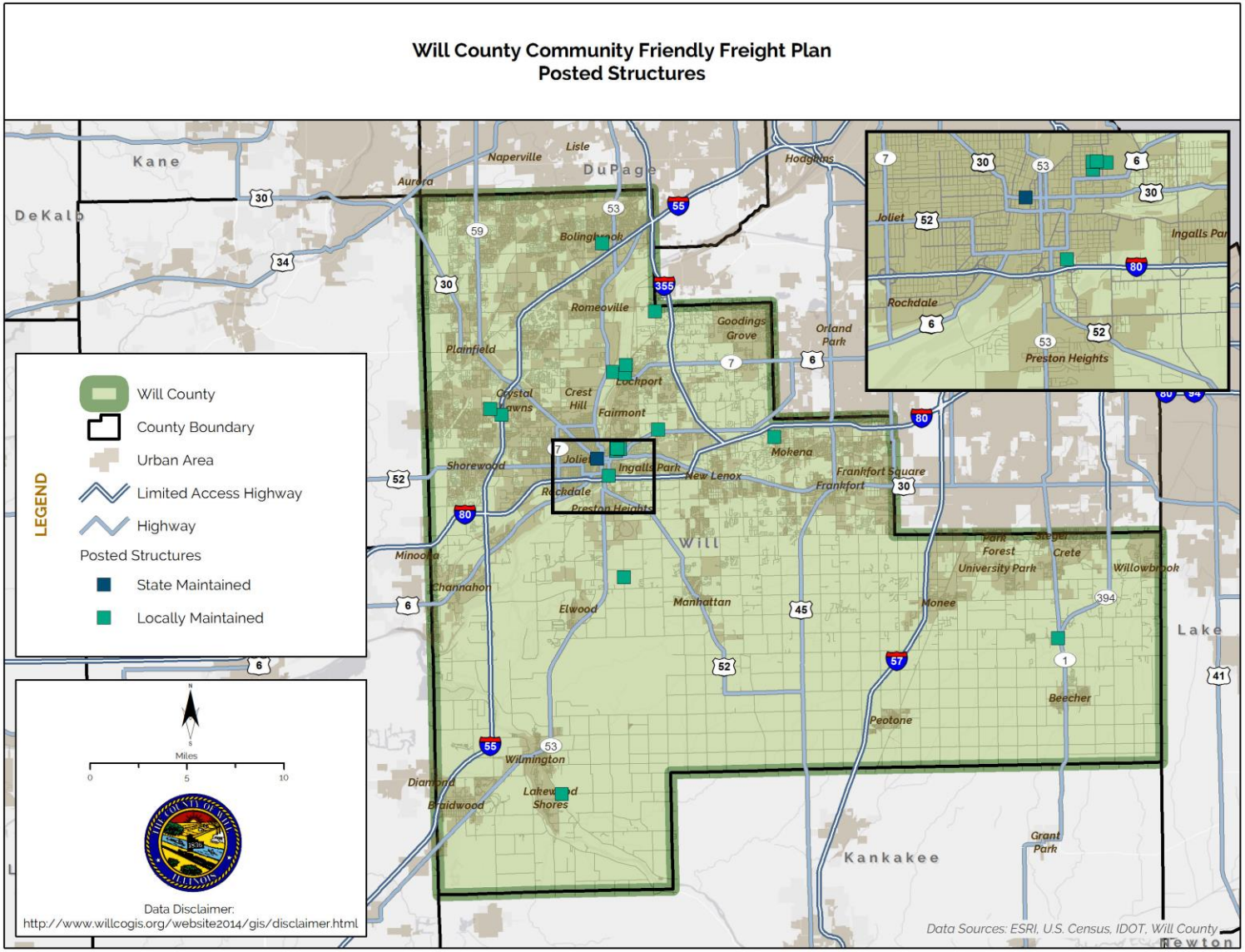
Through interviews with freight industry stakeholders, many local freight businesses in the County referenced obtaining OS/OW permits as a significant issue affecting their business. See **Appendix F** for a summary of the outreach process. In some cases, OS/OW trucks must travel circuitous routes because of bridge weight and/or height limitations or restrictions on local roads for overweight trucks, see **Figure 1-8.** For some Will County agribusinesses, all of their trucks carrying grain using intermodal containers and getting delivered to rail intermodal facilities are overweight trucks. Providing a consistent OS/OW application for these trucks throughout communities in Will County, as well as focusing investment on those routes carrying OS/OW trucks will assist Will County's businesses in moving their freight more efficiently and safely on the network.

1.3.2.3 STATE AND LOCAL FUNDS FOR FREIGHT IMPROVEMENTS

In a political climate where funding sources for transportation are dwindling, costs are increasing, and the needs of the transportation system are growing, it will be difficult for Will County to find funds to meet the needs of the freight system. For Will County particularly, freight is projected to grow by over 57 percent by 2040, increasing the wear and tear on the transportation network.[12] In comparison, the U.S. DOT projects a 42 percent increase in freight activity between 2013 and 2040.[13] The Freight Plan outlines several existing sources of transportation funding the County can leverage to improve their freight system and ensure that the growth in freight can be harnessed for economic growth. See **Appendix M** for more detail on these funding sources.

[11] Source: TDL Industry Interviews
[12] CDM Smith analysis of TRANSEARCH data, 2015
[13] U.S. Department of Transportation, Draft National Freight Strategic Plan.

FIGURE 1-8: POSTED STRUCTURES



1.3.3 TRENDS IMPACTING THE FREIGHT INDUSTRY

As noted in the introduction, Will County has experienced substantial growth in freight activity over the last 15 years. As a result, higher volumes of truck traffic now travel along the County's roadways, impacting local traffic. For the County to most effectively leverage this economic opportunity while maintaining the character of its communities, local decision makers must first understand the factors that have contributed to this growth.

A number of economic and technological changes have contributed to the growing freight activity within Will County. This section focuses on five predominant trends that have emerged over the last 10 years:

- E-Commerce-the rise of electronic shopping and banking;
- Demand for larger warehouse and distribution facilities;
- Increase in intermodal and multimodal shipping;
- Increased need for truck parking; and
- Changes in global trade patterns.

Identification of trends in goods movement and the freight-related economy can help Will County prepare for emerging needs and develop programs and policies to take advantage of the associated benefits while mitigating the challenges.

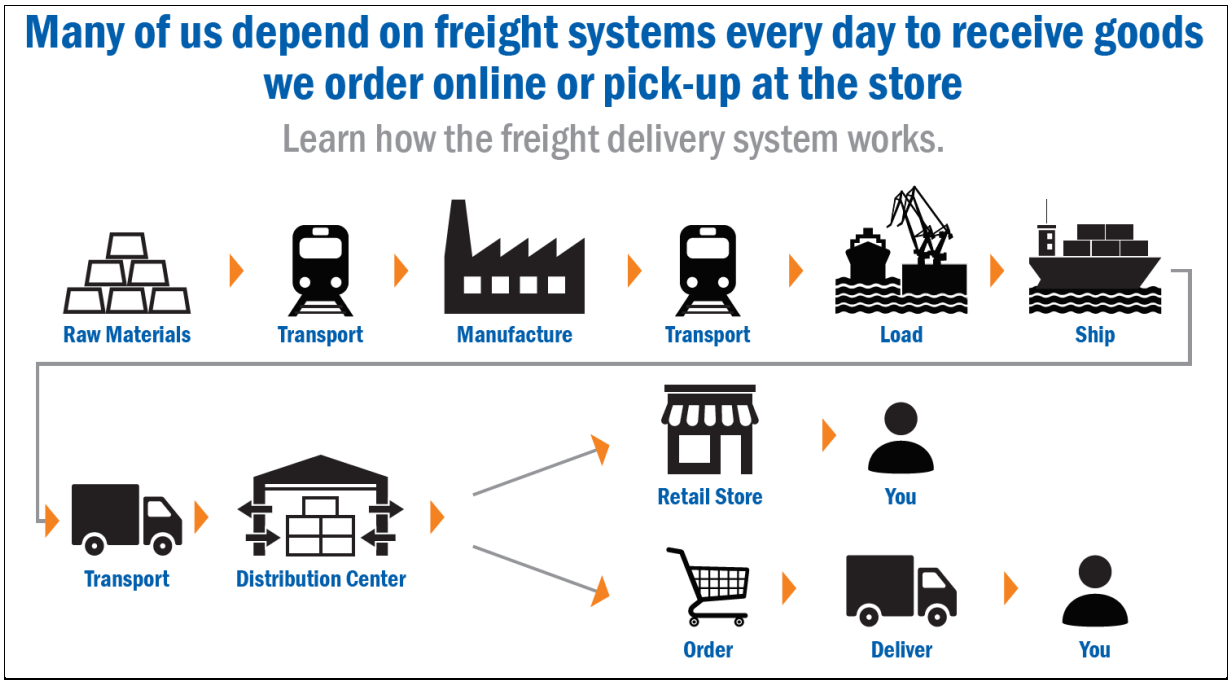
1.3.3.1 E-COMMERCE

Electronic commerce (E-commerce) is the use of electronic devices and technologies to conduct commerce, or trade, including buying products on the internet and electronic banking. Between 1999 and 2014, E-commerce increased from 0.6 percent of total retail activity to 6.7 percent.[14] This emerging and growing approach to shopping has driven two major changes to the traditional supply chain, as shown in **Figure 1-9**:

- Increased number of trucks traveling on local roads to make deliveries to residencies and local businesses.
- Rise in demand for one to two day deliveries—referred to as 'just-in-time' shipping. To meet this demand, major retailers have invested in additional warehouses or regional distribution centers, located just outside of cities where they can hold extra inventory.

[14] U.S. Census Bureau, Quarterly Retail E-Commerce Sales 4th Quarter 2014, http://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf

FIGURE 1-9: SUPPLY CHAIN SYSTEMS



In Will County, this trend has contributed to development of distribution and intermodal centers along major corridors which in turn has increased maintenance needs on local roadways. These impacts are discussed further in the following sections and the workforce chapter.

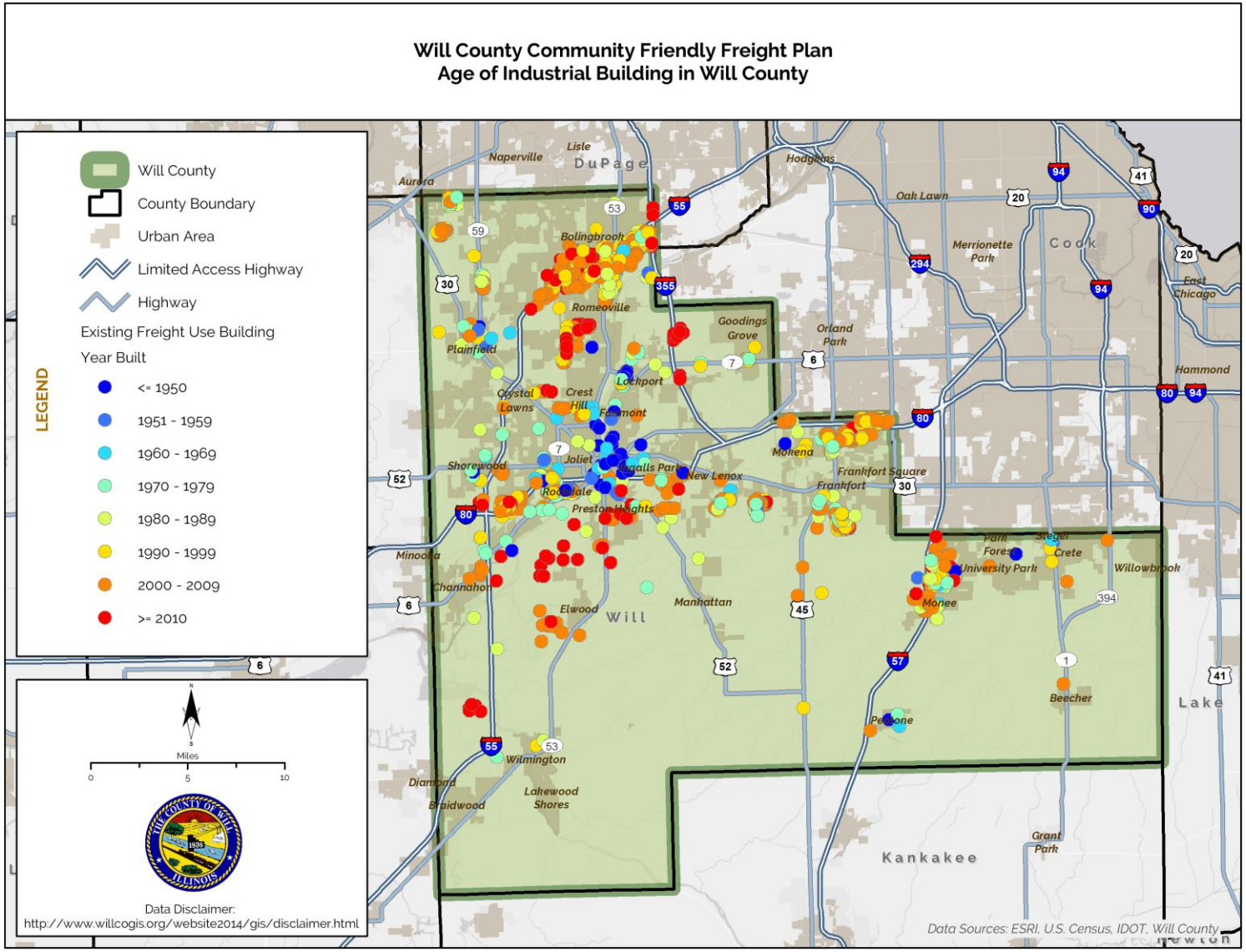
1.3.3.2 INCREASING SIZE OF WAREHOUSE AND DISTRIBUTION FACILITIES

A strong correlation exists between the rise in e-commerce and the demand for larger warehouse and distribution facilities. Many of the existing distribution facilities in the Chicago region are smaller warehouse spaces that were built to handle a more decentralized supply chain process. The demand for larger distribution spaces that serve as regional distribution hubs is increasing. As a result, companies have invested in new facilities located in locations at the edge of the Chicago metropolitan area. Will County has large amount of greenfield space available for the increasingly large distribution developments that are in demand. As a result, Will County has been the target of increasingly large distribution developments in recent years. Will County now has more distribution space than any other County in the northeastern Illinois region.[15]

Figure 1-10 shows the age of industrial buildings in Will County, with many of the buildings built relatively recently, i.e. after 2000.

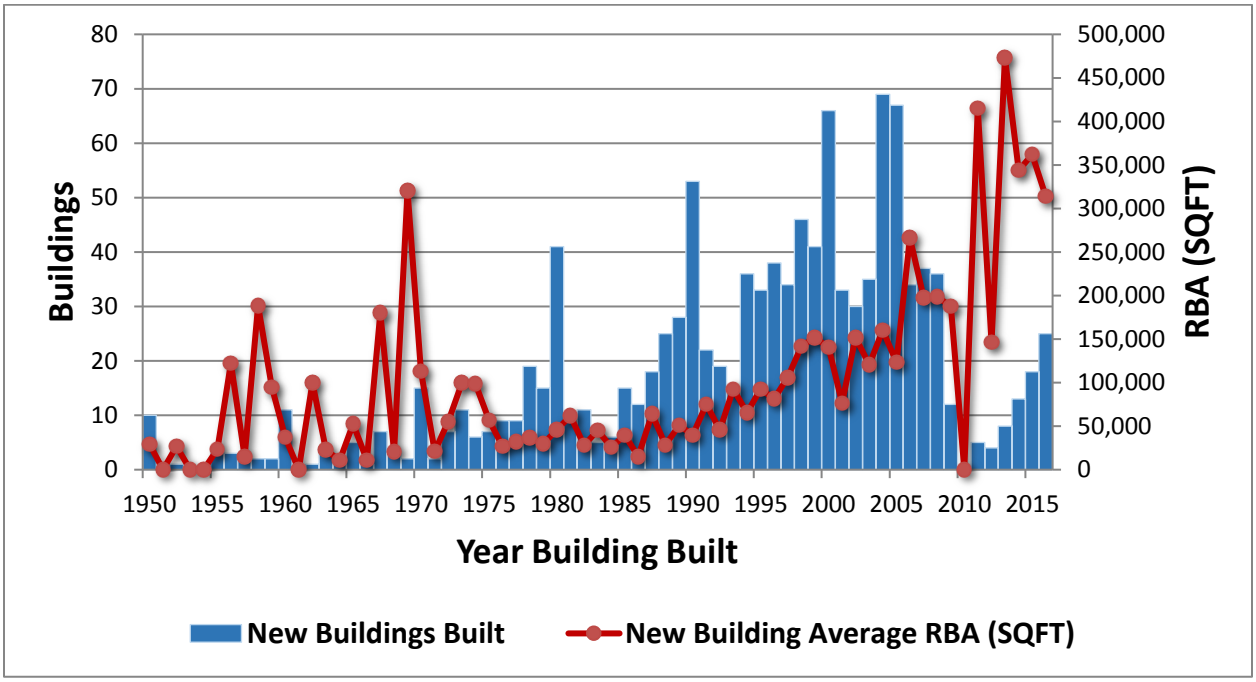
[15] CMAP analysis of CoStar data, 2016

FIGURE 1-10: AGE OF INDUSTRIAL BUILDING IN WILL COUNTY



The existing Industrial Rentable Building Area (RBA) in Will County amounts to over 163 million square feet, with nearly 36 million RBA built since 2015. While there is a large amount of industrial RBA developing in Will County, the RBA is concentrated to fewer but larger developments as indicated in **Figure 1-11.**

FIGURE 1-11: WILL COUNTY RBA



For example, Amazon is currently planning an 850,000-square foot fulfillment center off I-57 in Monee, its fourth Will County facility. A recent report by Colliers International Group, Inc. states that large-scale distribution centers are now topping 1 million square feet.[16] Reflecting this trend, Will County's available land, transportation resources and location make it an attractive place to construct these large-scale distribution centers.

1.3.3.3 INTERMODAL AND MULTIMODAL SHIPPING

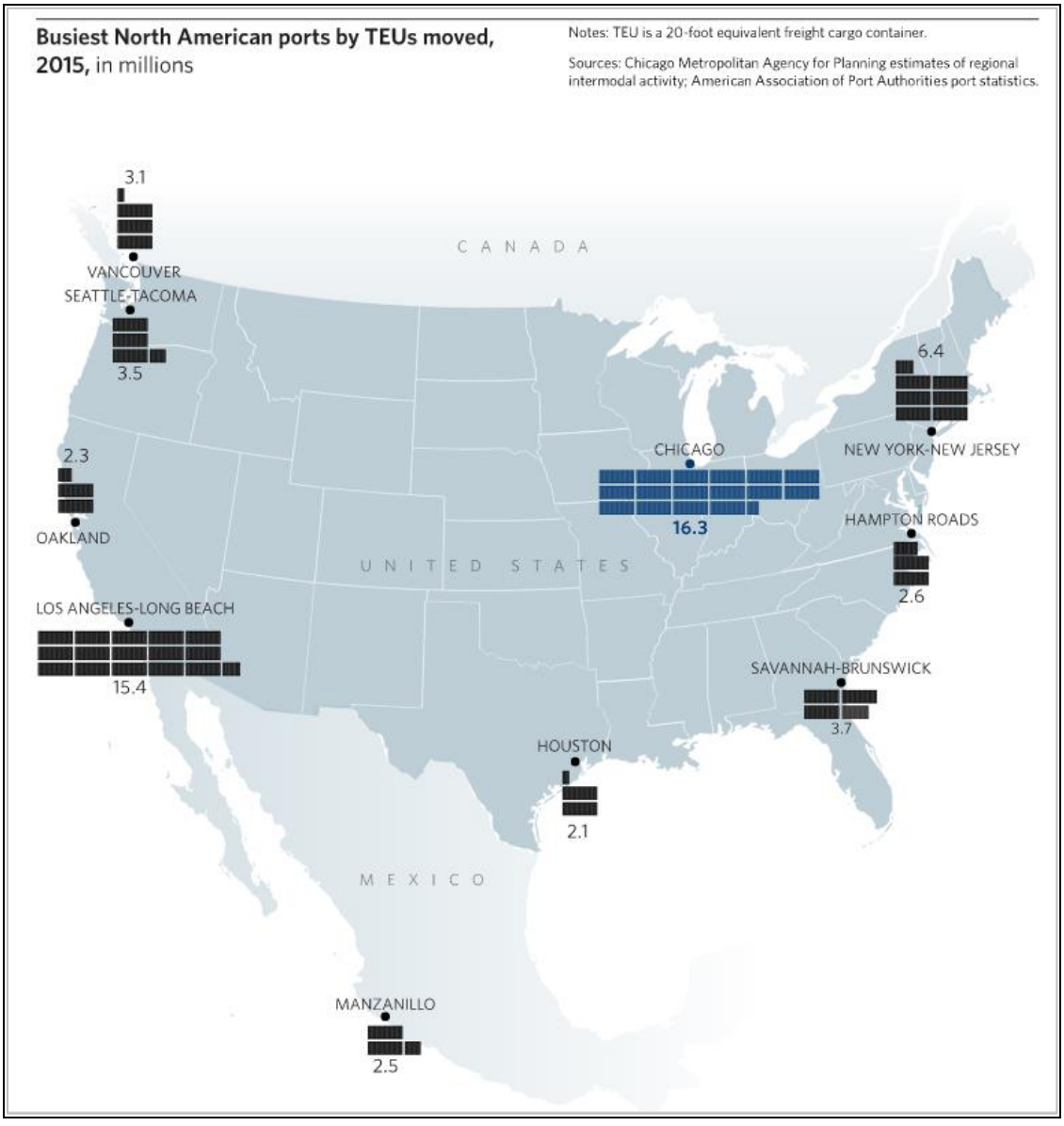
Intermodal freight – the movement of goods in shipping containers and trailers across multiple modes – has grown exponentially over the last few decades. According to the Association of American Railroads, U.S. rail intermodal volume hit a record of 13.7 million containers and trailers in 2015, up from 9.1 million in 2000.[17] This trend has been prompted by several market factors including, increased efficiencies and decreased dependency on a limited supply of drivers.

[16] From First Mile to Last Mile Global Industrial & Logistics Trends. Colliers International Group Inc. 2015. http://www.colliers.com/-/media/files/marketresearch/global/2015-global-reports/global-logistics-2015.pdf?la=en-us

[17] Rail Intermodal Keeps America Moving. Association of American Railroads. May 2016. https://www.aar.org/BackgroundPapers/Rail%20Intermodal.pdf

Will County has all the right assets to leverage the needs of a modern supply chain—with three intermodal facilities and access to multiple freight modes. In addition, the County sits in the southwestern corner of the nation's largest market for intermodal traffic, Chicago (**Figure 1-12**). The Chicago region accounted for 16.3 million TEUs in 2015, an increase of 37 percent since 2009.[18] Will County facilities accounted for an estimated 19.3 percent (1.5 million lifts) of the intermodal activity, up from 7.3 percent in 2005.[19]

FIGURE 1-12: CHICAGO REGION INTERMODAL TRAFFIC'



[18] CMAP estimates of regional intermodal activity: American Association of Port Authorities port statistics.

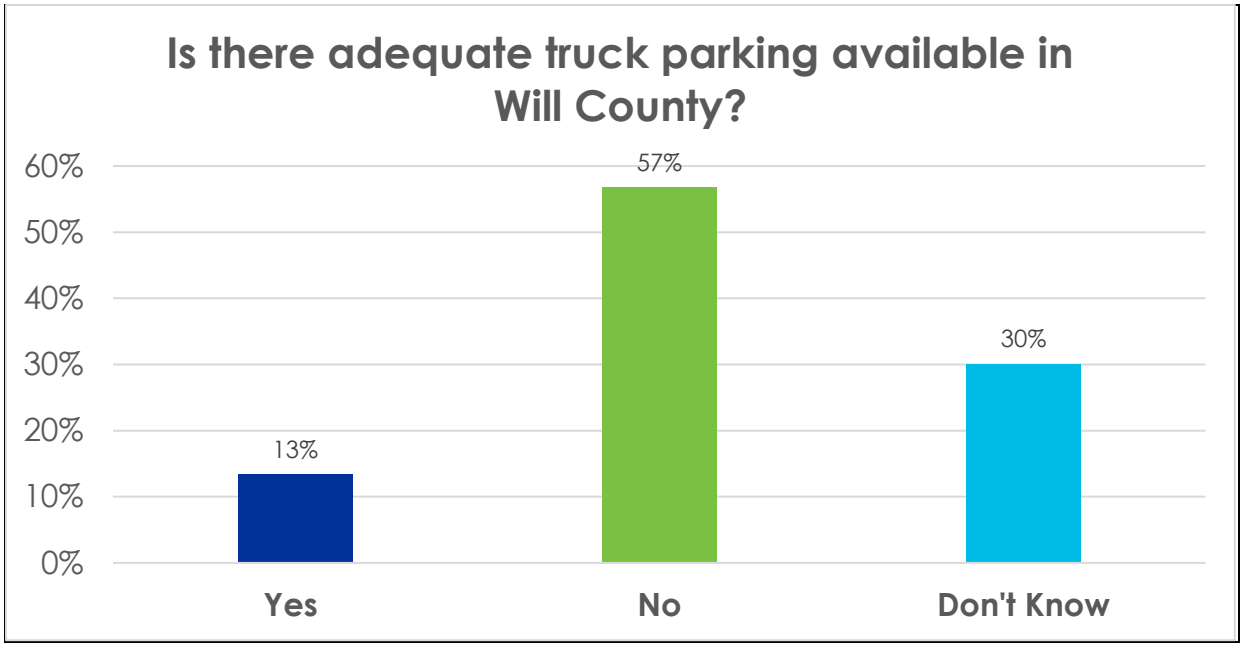
[19] CMAP 200-2016 Lifts by Intermodal Rail Yard with 2016 Regional Twenty-foot Equivalent Unit (TEU) Estimate. May 2017.

1.3.3.4 TRUCK PARKING

Numerous studies have identified a shortage of truck parking throughout the U.S.[20] In addition, where parking opportunities are available, studies have identified a lack of information connecting drivers to these opportunities. This shortage of truck parking is a national and regional safety concern. Without available truck parking, drivers must either park in undesignated areas or continue to drive while fatigued. This issue is exacerbated by a rising demand for truck parking caused by both rising truck traffic and updated regulations limiting truck driver hours-of-service. New regulations have both increased the number of breaks drivers must take in a day and limited the total number of hours drivers can spend behind the wheel.

Will County businesses were asked if adequate truck parking (rest stops, truck stops) is available in Will County. More than half said no. I-80 and I-55 were identified as the corridors in most need of additional truck parking in Will County, as shown in **Figure 1-13.**

FIGURE 1-13: AVAILABILITY OF TRUCK PARKING IN WILL COUNTY



1.3.3.5 GLOBAL TRADE PATTERNS

A significant percent of the container and truck traffic moving through Will County is driven by international trade and, thus, affected by global trade patterns. There are several developments that could divert freight from West Coast ports - which have rail connections to Will County - to East Coast ports or to bypass North America altogether.[21] BNSF and UP also connect to Gulf Coast ports, any disruption to commodity flows deriving from or going to those ports could also alter commodity flows through Will County. This could result in a decreased volume of freight movements

[20] https://ops.fhwa.dot.gov/freight/infrastructure/truck_parking/
[21] CMAP. Metropolitan Chicago's Freight Cluster: A Drill-Down Report on Infrastructure, Innovation, and Workforce

moving through the Chicago region. Two recently completed investments named in this report are the Panama Canal and Suez Canal. The Panama Canal expansion was completed and opened to ships on June 26, 2016. The expanded canal now permits passage of ships that are more than three times larger than the previous Canal would allow. The Suez Canal was widened in 2010. This could become a conduit for imports from India and other Southeast Asian countries as an alternative to China. It is not clear how each will affect intermodal activity in the Midwest, however, both developments are anticipated to increase intermodal activity on the East Coast.

Currently, the rail network in Will County is predominantly connected to West Coast ports, see **Figure 1-14** for a map of Class I rail routes.

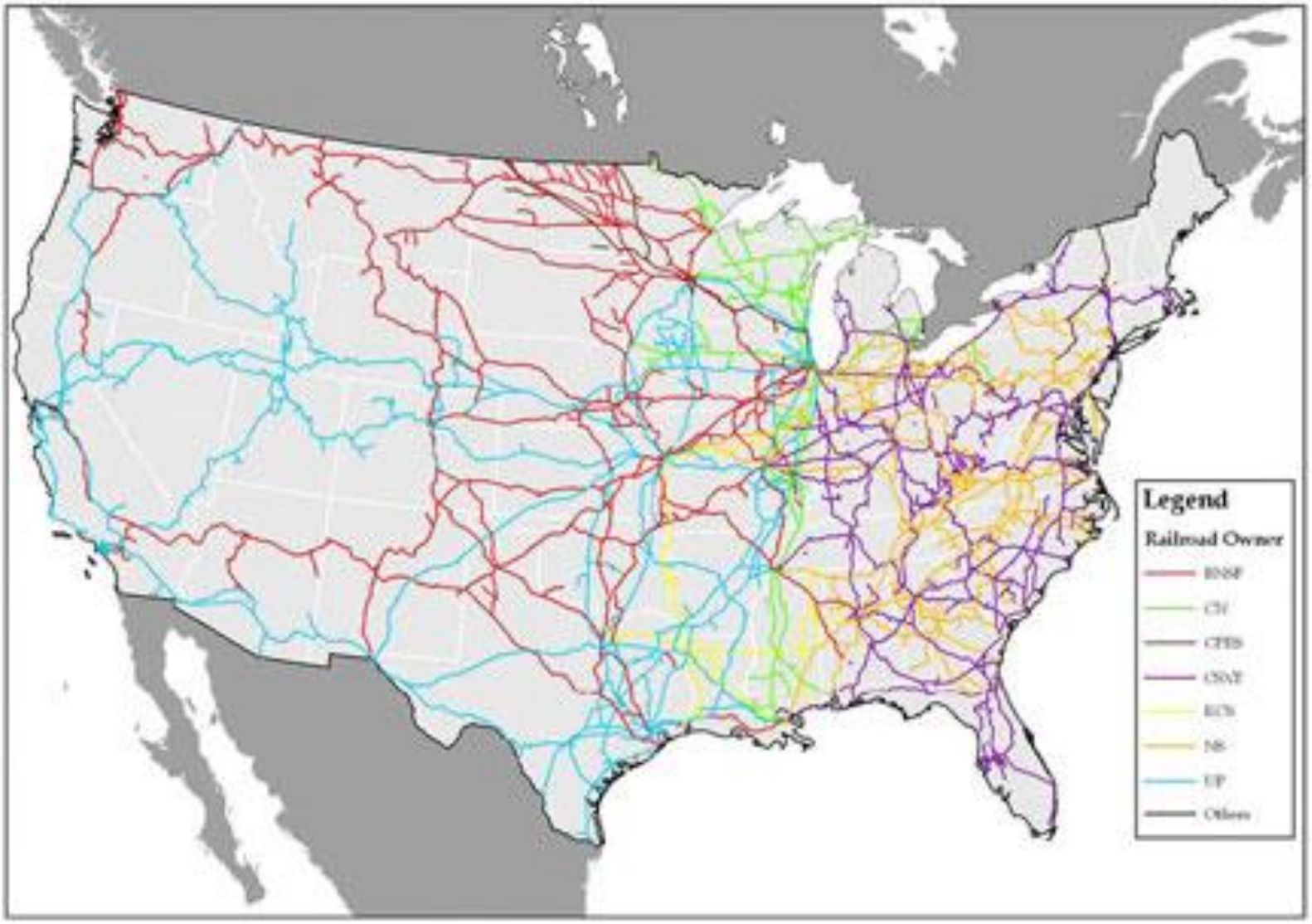
Will County's largest intermodal facility, BNSF Logistic Park, extends from the West Coast through Chicago but does not have tracks to the East coast. The same can be said of the Union Pacific's rail network—it extends throughout the western United States but does not extend to the East coast. The smaller Canadian National yard in Will County does extend to certain portions of the northeast, but primarily connects to Canada. Changes in global trade patterns caused by the Panama Canal widening could divert more intermodal traffic through East Coast railroads where Will County does not have strong rail network connections—however the Chicago region is the meeting place between Eastern and Western railroads, and goods needing to be moved to the West Coast will likely be switched through the region. Increased traffic through Gulf Coast ports may also affect rail traffic through Will County Additionally, a proposed CSX development in Crete could open Eastern rail access through Will County.

These trends are all impacting the freight environment in Will County. Each one of these trends have major implications for the growth and changes in the freight economy and understanding how each are inter-related to create a rapidly expanding and shifting industry in Will County is important. Because of the pace of change, it is important for Will County and other local governments to identify how much of this growth they would like to accommodate in their jurisdiction and develop appropriate land use and transportation plans to support the increased traffic flow.

1.4 EXISTING CONDITIONS

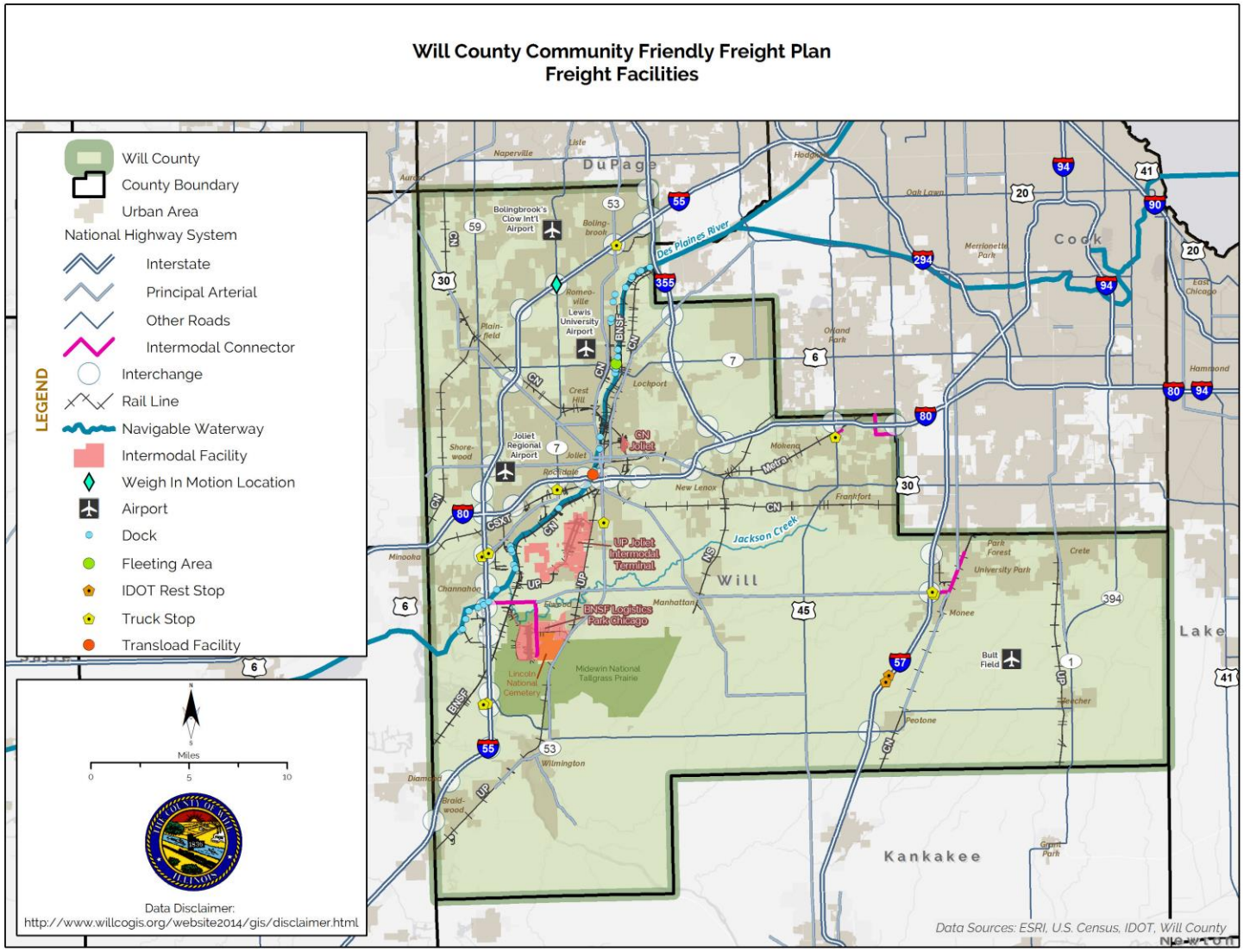
The County's multimodal freight assets are a key factor contributing to the growth of freight movement. With four interstate highways, three rail intermodal facilities as of this report, and the Des Plaines River, the County is well-positioned to support multimodal freight movements. This section will provide an overview of the multimodal freight assets in Will County. The following map outlines the key freight facilities in Will County. Will County has four major interstates, three intermodal rail facilities, three navigable waterways (**Figure 1-15**), and nearly 1,500 miles of pipeline infrastructure. A description of the assets is found in the following sections describing each mode.

FIGURE 1-14: CLASS I RAIL ROUTES



Source: National Surface Transportation Policy and Revenue Study Commission

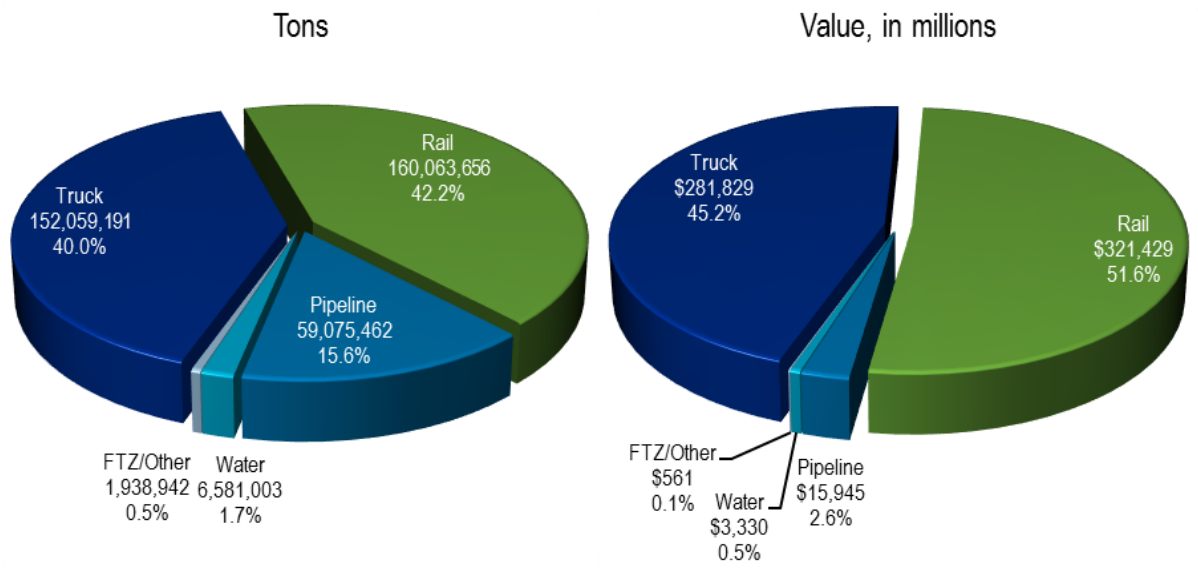
FIGURE 1-15: FREIGHT FACILITIES



1.4.1 FREIGHT FLOWS IN WILL COUNTY

Nearly 380 million tons of freight traversed the Will County transportation infrastructure network in 2015, valued at over $623 billion, as shown in **Figure 1-16.**[22] Truck and rail carry the majority of freight based on both tonnage (82.2%) and value (96.8%), with pipeline, and water movements contributing to the remaining total. The freight tonnage by truck and rail was 40 percent and 42.2 percent, respectively, a fairly even split indicating the strength of the multimodal assets in the County. In comparison, truck and rail accounted for an estimated 69.6 and 9.3 percent of tonnage carried nationwide in 2013, respectively.[23] For more detailed analysis on freight flows, see **Appendix A.**

FIGURE 1-16: TONS AND VALUE BY MODE, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

More freight was shipped *through* Will County than inbound, outbound, and intra-county freight movements combined, illustrating the role Will County plays in regional and national freight movement. [24] The private sector industry in Will County have experienced increased growth in shipments over the past five years. According to the private sector freight survey, 72 percent of respondents saw an increase in outbound shipments over the past five years and 68 percent saw an increase in inbound shipment over the past five years.

A total of over 238 million tons of through movements valued over $447 billion, are moved entirely via truck and rail. Rail through traffic amounts to 130.1 million tons valued at $230.0 billion, more than a third of the freight movements along the Will

[22] Freight flow information is primarily derived from TRANSEARCH and Surface Transportation Board waybill data for 2015. Note, TRANSEARCH does not report any airborne freight movement in Will County for 2015

[23] U.S. Department of Transportation, Draft National Freight Strategic Plan. Table 1, Page 25.

[24] TranSearch-based economic data

County network. Truck through traffic amounts to 108.2 million tons valued at $217.3 billion, more than a quarter of all freight by tonnage, and a third by value.

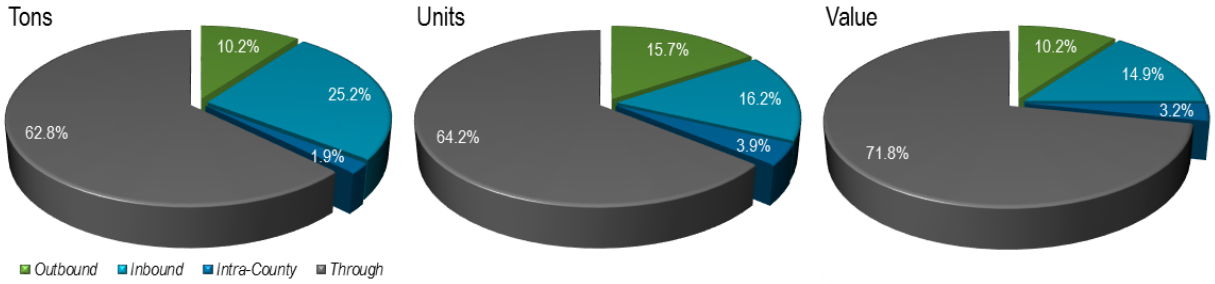
The tonnage of goods shipped directly in and out of Will County was 25.2 percent and 10.2 percent, respectively. Over 38 million tons worth over $63 billion were shipped outbound from Will County and over 95 million tons worth over $92 billion are shipped inbound to Will County. There is comparatively little freight moving solely within Will County—only about 7 million tons worth $20 billion consisting mostly of truck and little rail movements. **Table 1-2** and **Figure 1-17** show a high-level overview of the freight movement in Will County.

TABLE 1-2: FREIGHT MOVEMENT BY MODE IN WILL COUNTY, 2015

	Truck	Rail	Water	Pipeline	Total*
Tonnage (in millions)	152	160	6.6	59.1	377.7
Value (in billions)	$282	$321	$3.30	$15.9	622.2
Units (in millions)	11.3	4.6	NA	NA	15.9
Value/ton	$1,852	$2,008	$506	$270	NA

Source: prepared by CDM Smith, based on Transearch® data for 2015
Totals do not include Foreign Trade Zone freight

FIGURE 1-17: FREIGHT MOVEMENT BY DIRECTION, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

The majority of the tonnage was shipped out of Will County primarily on trucks (57%) and rail (42.4%). More of the value was shipped by rail ($37 billion or 58%) compared to trucks ($24 billion or 38%). A high share of the inbound tonnage is comprised of pipeline movements ($59 million or over 62%). However, because of the lower value/ton for inbound pipeline, the inbound value is dominated by rail ($54.6 billion, 59.0%) and truck ($20.3 billion, 22.0%), shown in **Figure 1-18** and **Figure 1-19**)

FIGURE 1-18: TONNAGE SHARE BY MODE AND DIRECTION, 2015

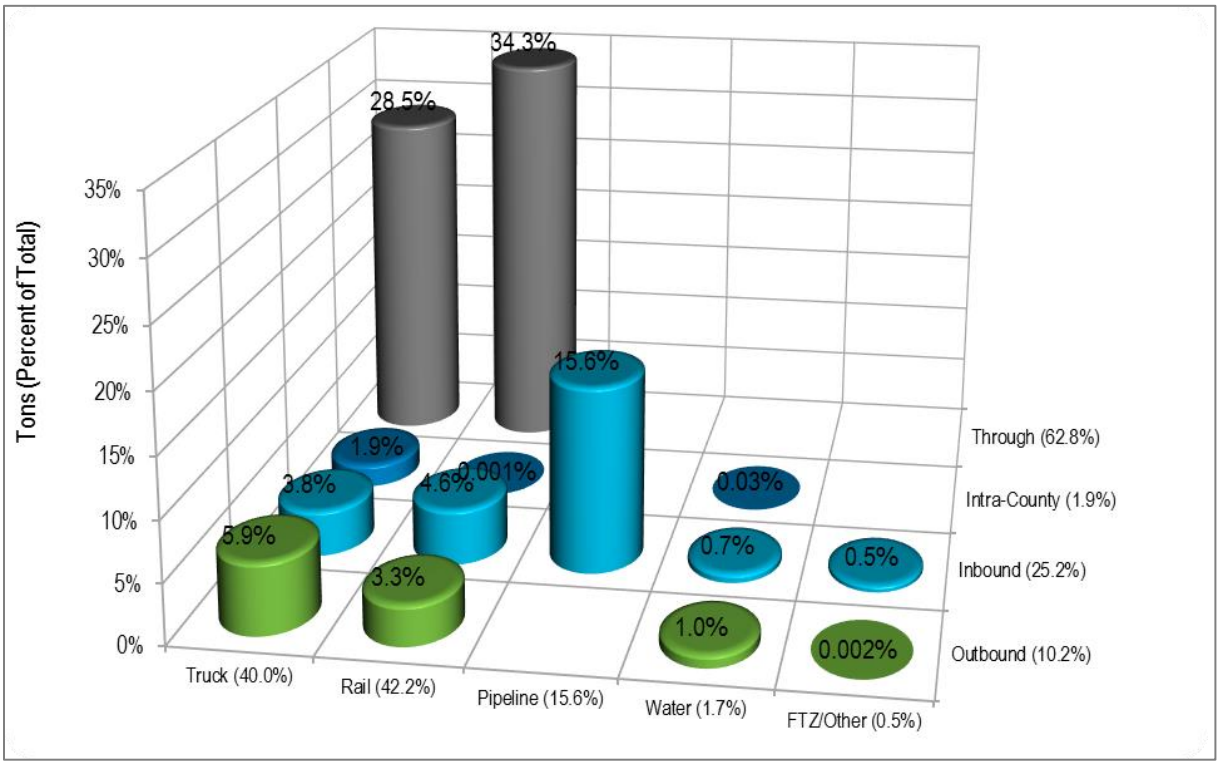
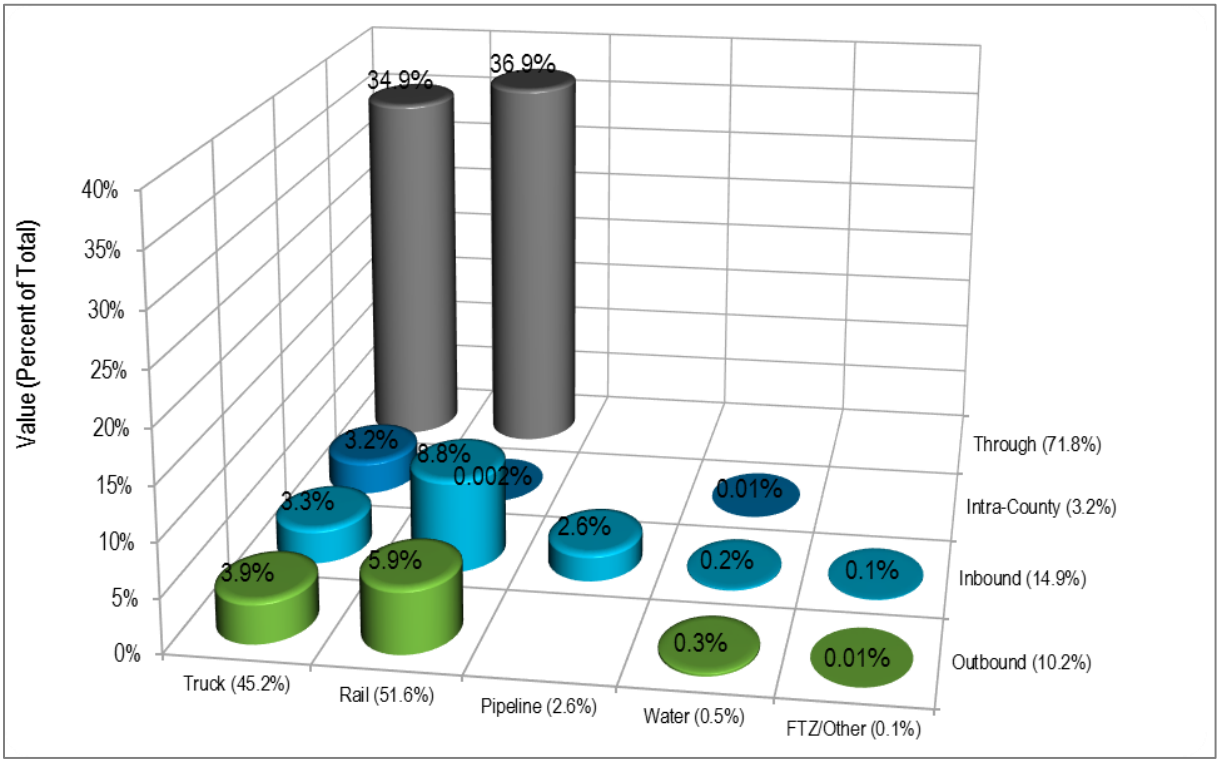


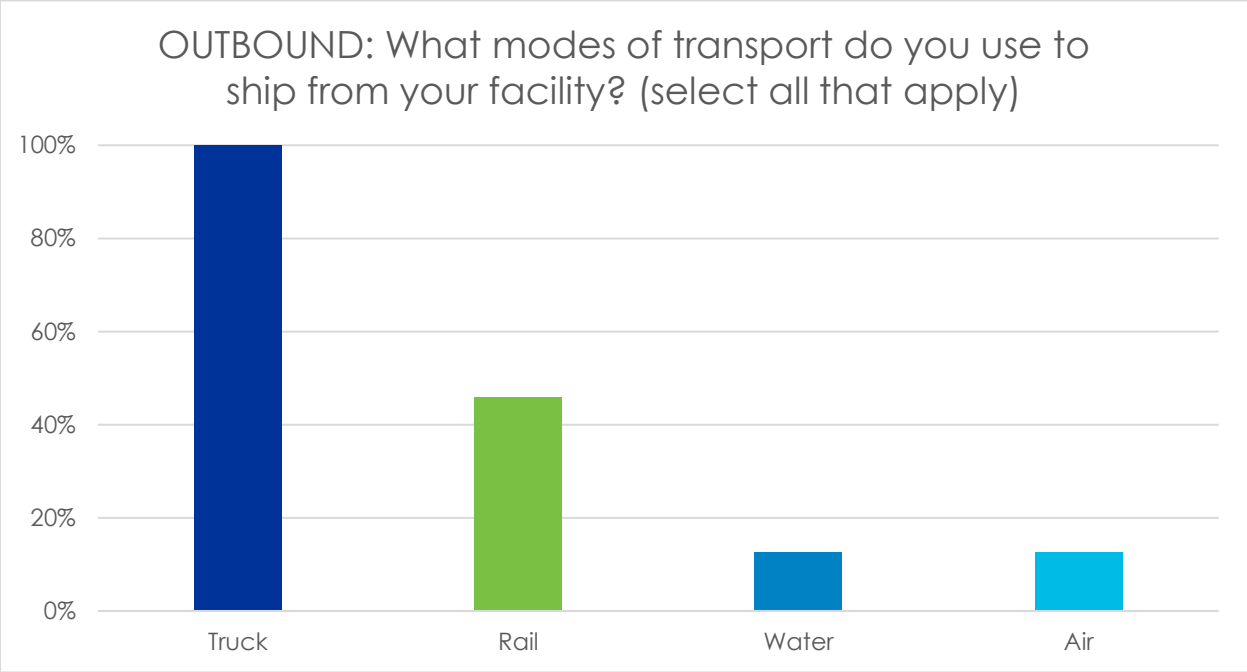
FIGURE 1-19: VALUE SHARE BY MODE AND DIRECTION, 2015

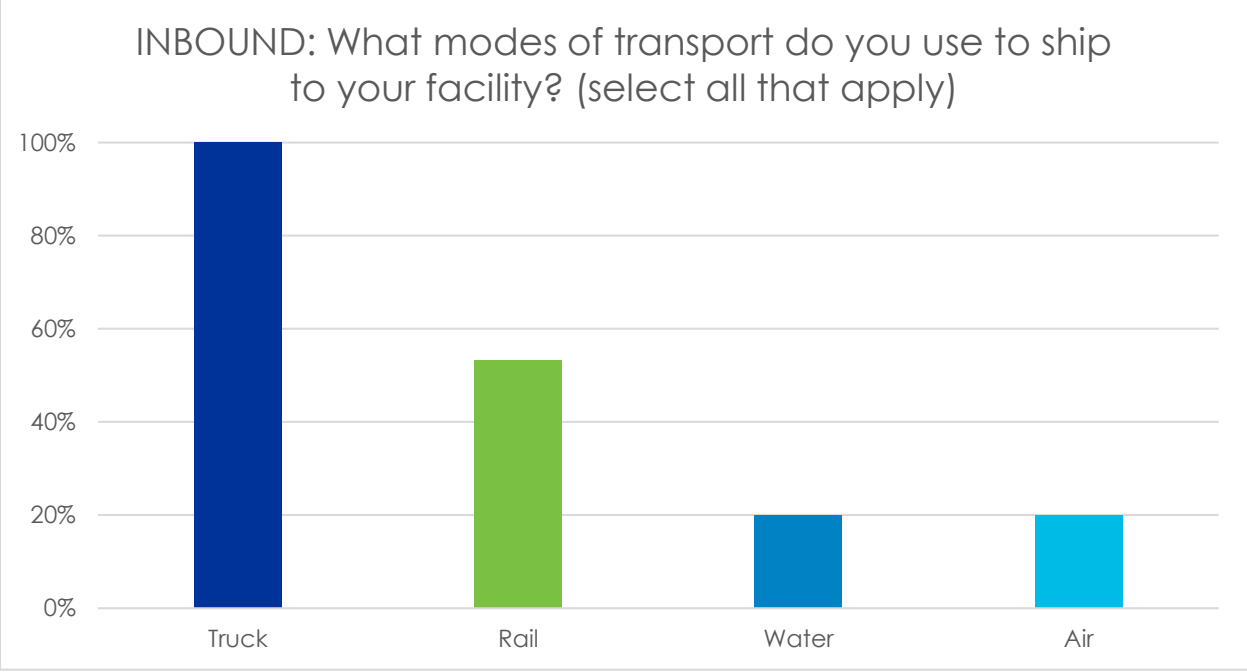


Source: prepared by CDM Smith, based on Transearch® data for 2015

Through the industry interviews and surveys, many freight businesses in Will County emphasized that their decision to locate in Will County was because of the proximity to the rail facilities, easy access to the highway network, and for some businesses, proximity to the Des Plaines River. Many of the businesses interviewed relied on a mix of rail and truck facilities. **Figure 1-20** shows freight survey results from freight industry stakeholders indicating that those businesses surveyed rely heavily on truck as well as rail.

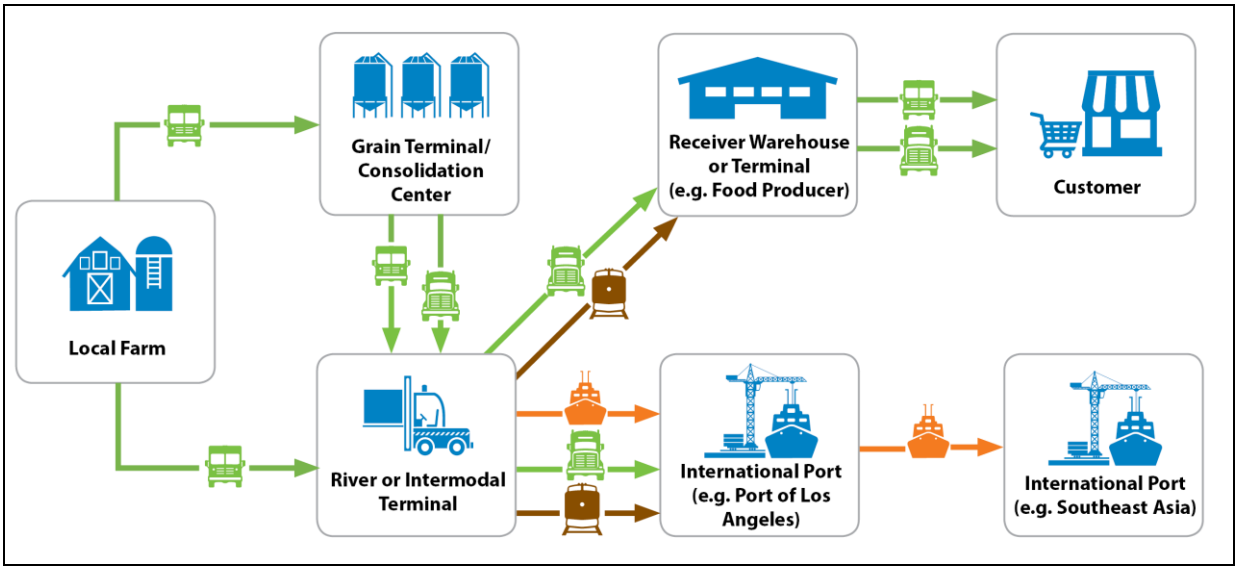
FIGURE 1-20: SURVEY RESULTS: TRANSPORT MODES





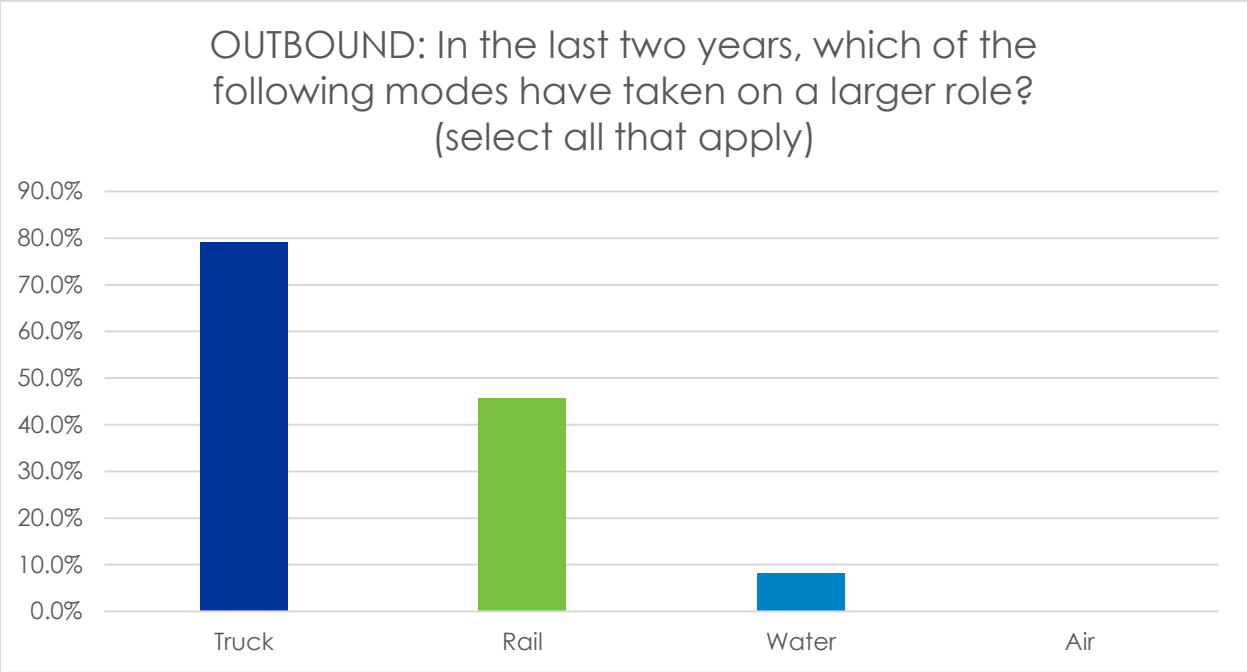
As an example of freight movements in Will County, some companies in the warehouse industry pick up bulk goods such as sugar or food stuffs from the intermodal yards and haul it the short distance to their facility for storage until shipping out via truck to their customers in the greater Midwest. Another example is in the agribusiness industry, some companies bring empty containers from the rail yard in to their facility, load these containers up with grain, and truck the container back to the intermodal yard for trains to deliver it back to the coast and ultimately, overseas. See **Figure 1-21** for an illustration of agribusiness supply chains.

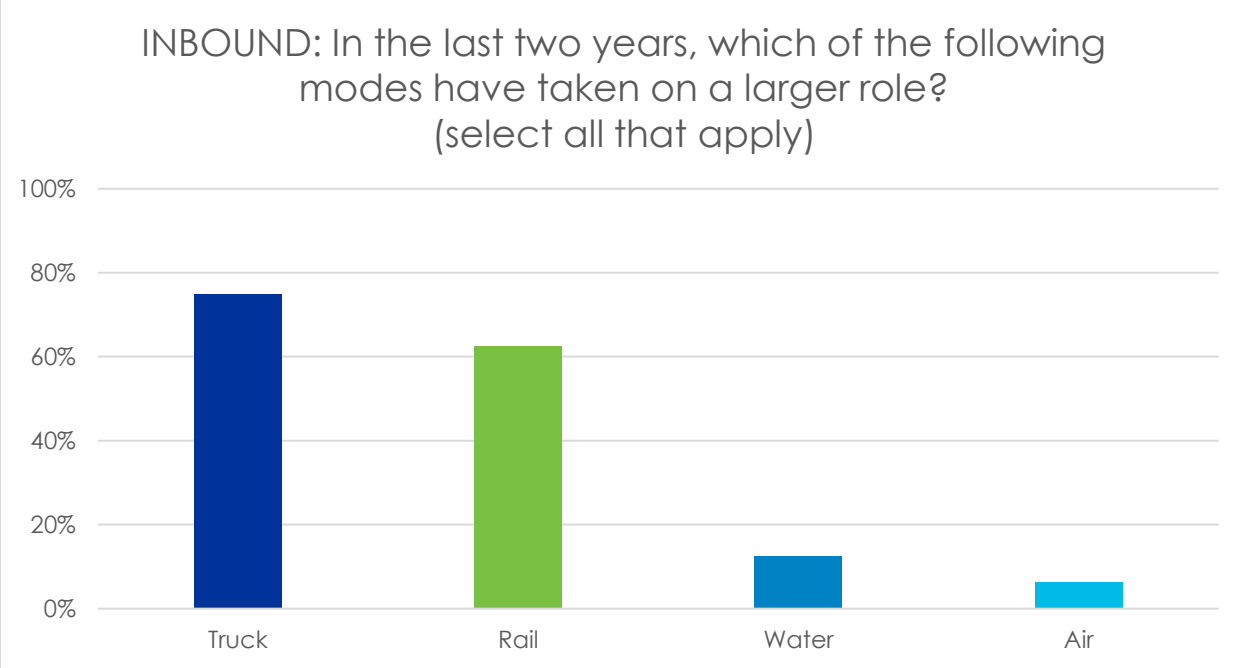
FIGURE 1-21: EXAMPLE AGRIBUSINESS SUPPLY CHAIN MODAL MOVEMENTS



Through the freight survey results, freight industry stakeholders indicated that there has been increased reliance on trucking in recent years, see **Figure 1-22,** and that this reliance on trucking will continue in the near future. However, freight survey results also indicate the increasing and continued reliance on rail. These results emphasize the multi-modal advantage of Will County and indicate that businesses locating here are dependent on multiple modes for their supply chain. More information on survey results can be found in **Appendix F.**

FIGURE 1-22: SURVEY RESULTS: LARGER MODAL ROLE





1.4.2 COMMODITY FLOW

Figure 1-23 and **Figure 1-24** show the top commodities by tonnage and value in Will County. Each mode has a different dominant commodity given tradeoffs between time-sensitivity, weight, and value of the shipment. Six commodities make up nearly two-thirds of all freight tonnage[25]:

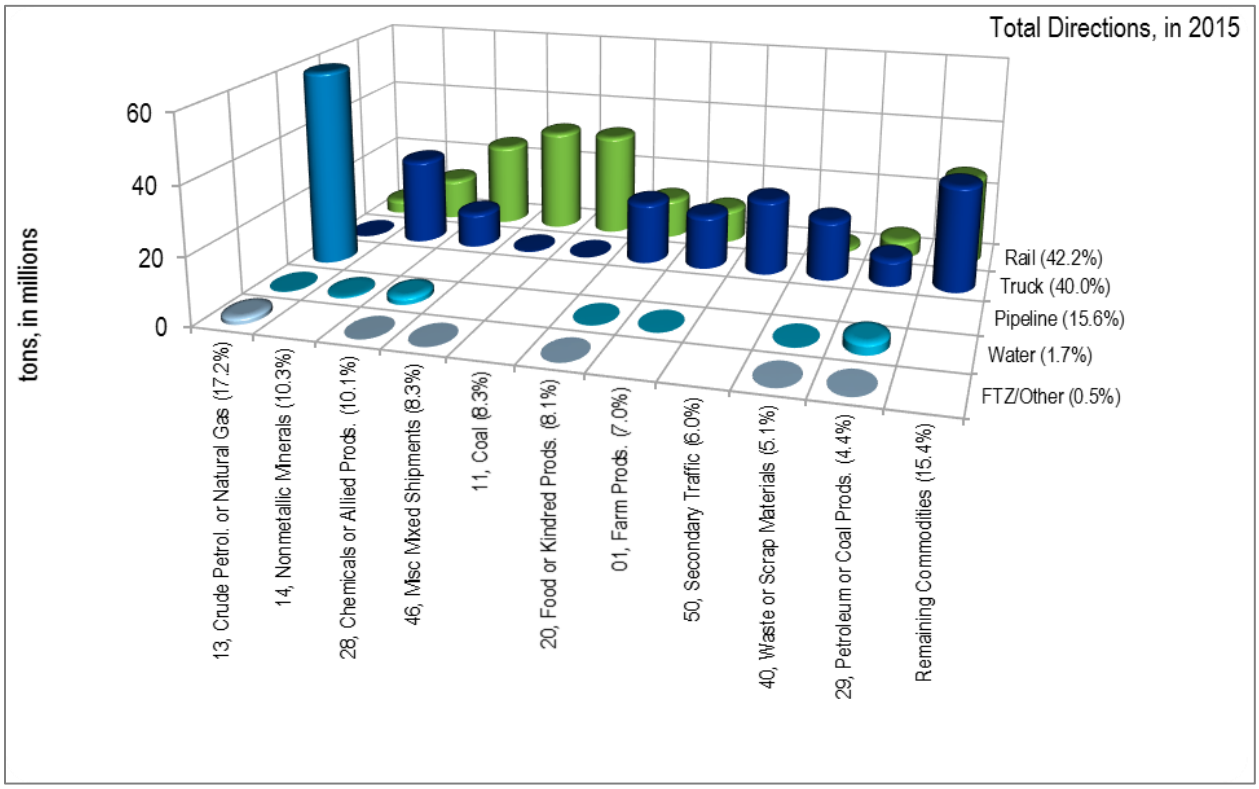
- Crude Petroleum and Natural Gas (via pipeline)
- Nonmetallic Minerals (mostly truck and rail)
- Chemicals or Allied Products (rail then truck, some water)
- Miscellaneous Mixed Shipments (mostly rail)
- Coal (also mostly rail); and,
- Food or Kindred Products (truck and rail).

The top commodities by value are quite different given the differences in value per ton where lower value commodities, such as coal and minerals, are replaced with higher value goods like transportation equipment.

Many of these commodity flows were captured through industry surveys and interviews in Will County. For example, non-metallic minerals were captured via interviews with businesses mining the vast limestone resources. Interviews with the Class I railroads showed that miscellaneous mixed shipments are the many types of goods coming in the intermodal terminals in Will County and picked up by trucks to move throughout the region. There is also a prominent chemical and plastics industry, making plastic products or chemicals for national and international shipment.

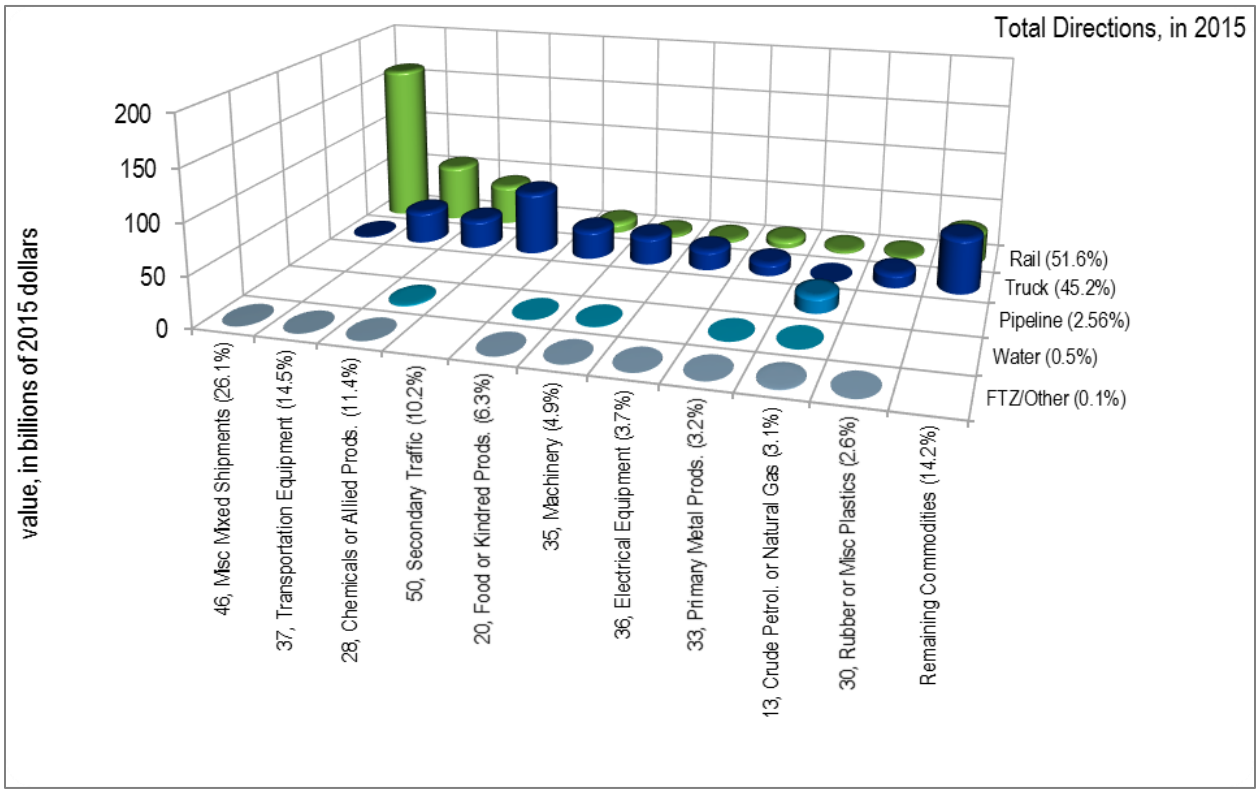
[25] For a description of what products are contained within each commodity code, see https://www.railinc.com/rportal/standard-transportation-commodity-code. Standard Transportation Commodity Code (STCC) is a seven-digit numeric code, categorized by 40 aggregate commodity groupings.

FIGURE 1-23: TOP COMMODITIES BY TONNAGE AND MODE, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

FIGURE 1-24: TOP COMMODITIES BY VALUE AND MODE, 2015



Source: prepared by CDM Smith, based on TRANSEARCH® data for 2015

1.4.3 TRUCK

The roadway network in Will County consists of four interstate highways, state highways (IL), U.S. routes, and the local roadway network. **Table 1-3** highlights the total miles of roadway by jurisdiction, which together comprise 4,915 miles.[26]

TABLE 1-3: MILES BY JURISDICTION

Jurisdiction	Approximate Mileage
Federal	199
State	378
County	267
Local	3,943
Private	125

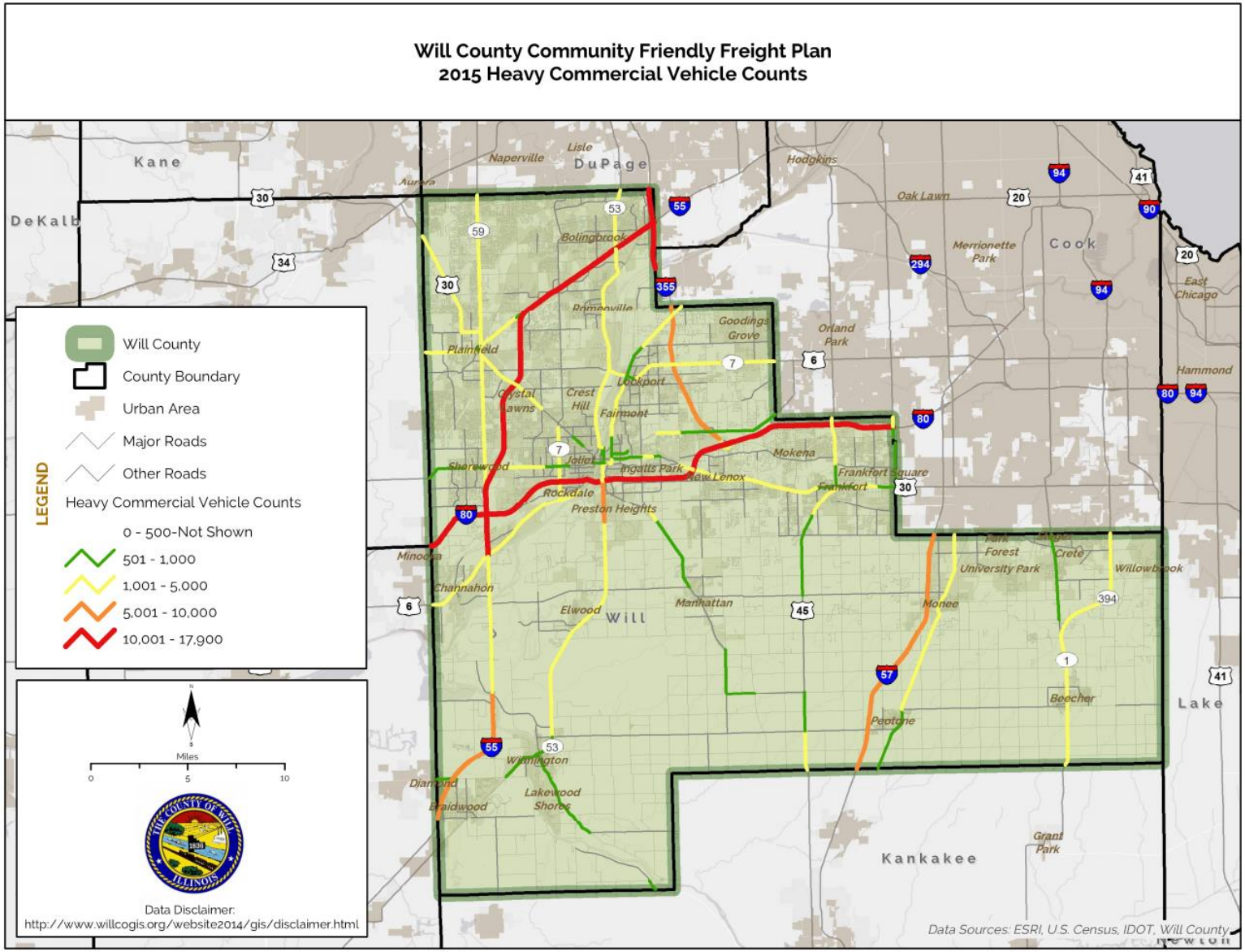
Several key intestates connect Will County to the surrounding region and neighboring states. Interstate 55 (I-55) is a northeast-southwest route, to and from Chicago, that parallels the east bank of the Des Plaines River. Interstate 80 (I-80) is an east-west route through Joliet in the central section of the county. I-55 and I-80 intersect in Joliet providing high accessibility. Interstate 355 (I-355) is a north-south inter-suburban tolled route between Will and Western Cook Counties from the northwestern section of the county. Interstate 57 (I-57) is a north-south route to and from Chicago from the central and eastern sections of the county.

As noted in **Figure 1-16,** 40 percent of freight in the County moves on truck, the majority is through movement (28.5%) The key truck corridors are I-80, I-55, and I-57, and to a lesser extent, IL-53 as measured by Heavy Vehicle Counts, shown in **Figure 1-25**.

As noted in the Will Connects 2040 Long Range Transportation Plan (LRTP) and illustrated in the map above, there is only one primary East-West route thatcurrently exists for use by trucks—I-80. There are several redundant North-South routes that provide options to trucks moving through Will County, but there is limited East-West mobility. I-80 carries upwards of 17,000 trucks a day. Given the expected growth in truck movement, improvements to both I-80 and East-West corridors will be important for relieving congestion, improving safety, and increasing reliability on the transportation system.

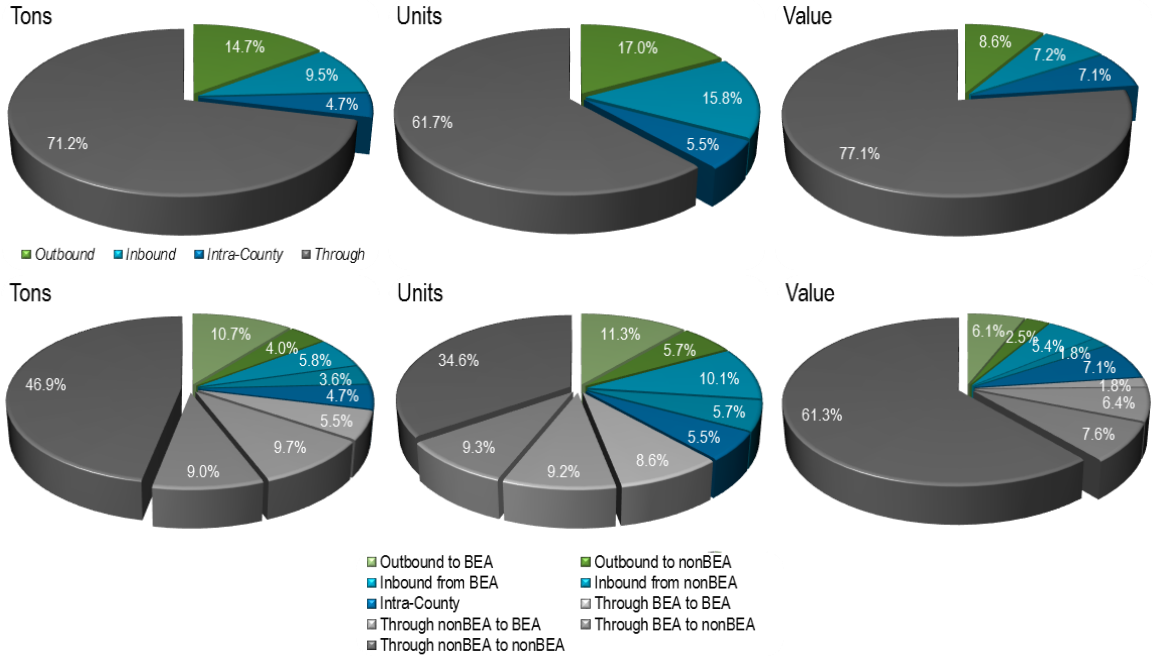
[26] Used ArcGIS to calculate

FIGURE 1-25: 2015 HEAVY COMMERCIAL VEHICLE COUNTS



Truck freight in Will County totaled over 152 million tons valued at nearly $282 billion. The primary outbound destination for trucks was to other parts of the greater Chicago region. Over 72 percent of outbound truck traffic was destined for this region. (**Figure 1-26**) A similar dynamic can be observed regarding inbound truck movement, where over 61 percent of inbound truck freight to Will County was from the greater Chicago region. For through traffic, the dominant directional movement for truck traffic in Will County, 66 percent of the truck movement by tonnage, was moving from outside the Chicago region to another destination outside the region. However, the top origin-destination was from the Chicago region to downstate Illinois (9.2%) and from the Chicago region to another place in the Chicago region (7.8%).[27] See **Appendix A** for more detail on destinations and top commodities by truck. Highway truck traffic density, as measured by 2015 tons, is depicted in **Figure 1-27** showing the most-trafficked routes in the County include the major interstates: I-355, I-55, and I-80.

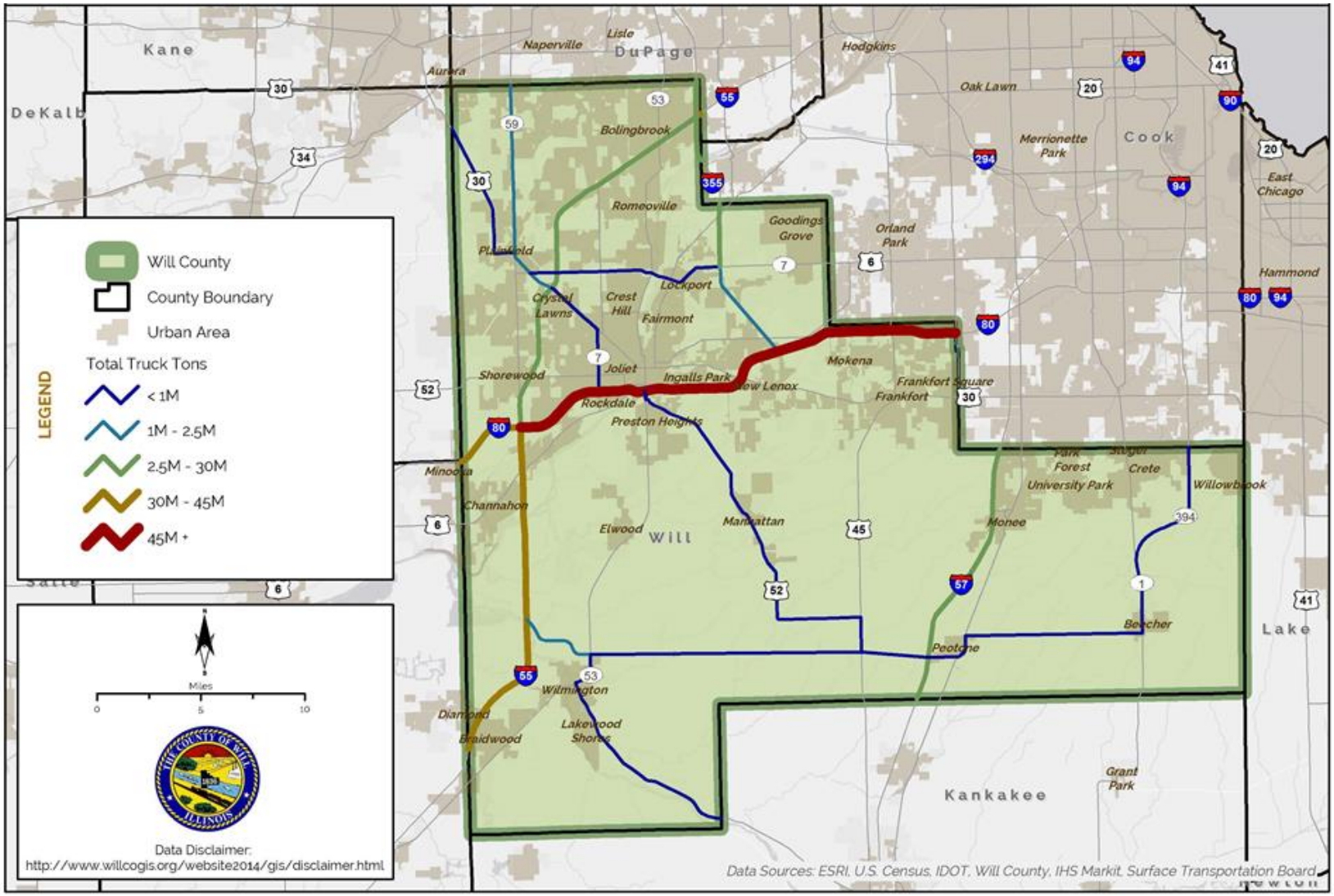
FIGURE 1-26: TRUCK PERCENTAGES BY DIRECTION, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

[27] Note that BEA indicates the Bureau of Economic Analysis Statistical Areas. More information can be found here: https://www.bea.gov/regional/docs/msalist.cfm

FIGURE 1-27: TRUCK DENSITY, 2015 TONS



Source: prepared by CDM Smith, based on Transearch® data for 2015

1.4.3.1 TRUCK FLOWS

Using data from the American Transportation Research Institute (ATRI) inter-regional truck flows originating and terminating in Will County can be tracked. ATRI data is truck probe data that tracks flows and speed of a sample of trucks, providing high-quality origin and destination information. **Figure 1-28** and **Figure 1-29** show the zones were trucks are originating and terminating in Will County. There is very little difference between the volume of trucks originating or terminating within each zone, thus the maps looks very similar. Interestingly, the top truck trip zones largely overlap with the prominent freight clusters of Romeoville/Bolingbrook, the Intermodal Cluster, and the Eastern Will cluster as outlined in **Figure 1-43**.

COUNTY-TO-COUNTY INTRAREGIONAL FREIGHT FLOWS

ATRI data also provides detailed information on truck flows between Will County and the larger Chicago region. **Figure 1-30** shows the quantity of daily truck movements between Will County and each of the other 20 counties in the larger Chicago area. Truck trip flow going to or coming from each County are very similar, the total truck trips are shown below. As shown, most counties located immediately adjacent to Will County have high truck movement compared to most counties located further away. Cook and Grundy Counties in Illinois and Lake County in Indiana have the greatest percentage of total truck flow to and from Will County—with 28.5 percent, 11.5 percent, and 10.9 percent, respectively.

FIGURE 1-28: WILL COUNTY TRUCK DESTINATIONS

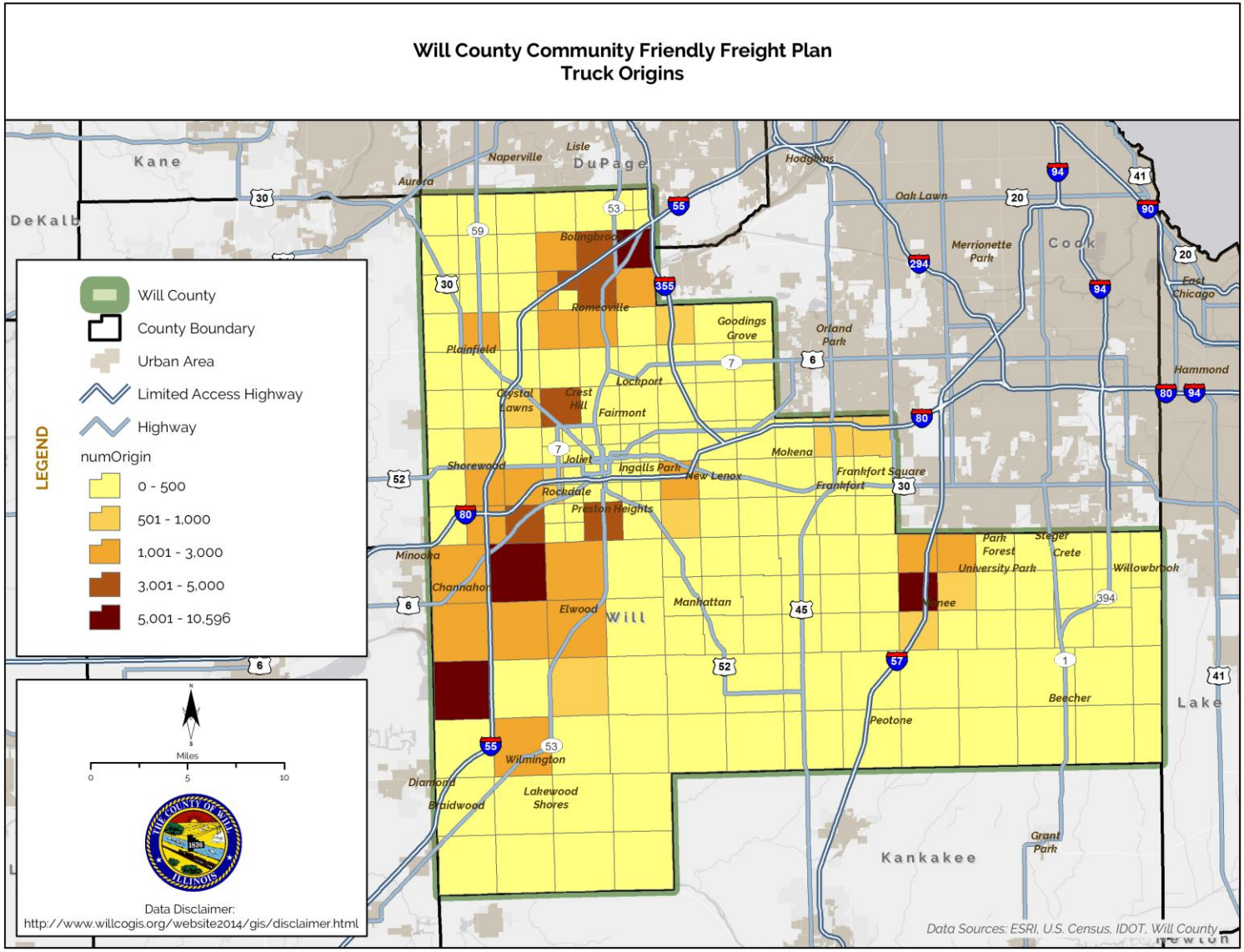


FIGURE 1-29: WILL COUNTY TRUCK TRIP ORIGINS

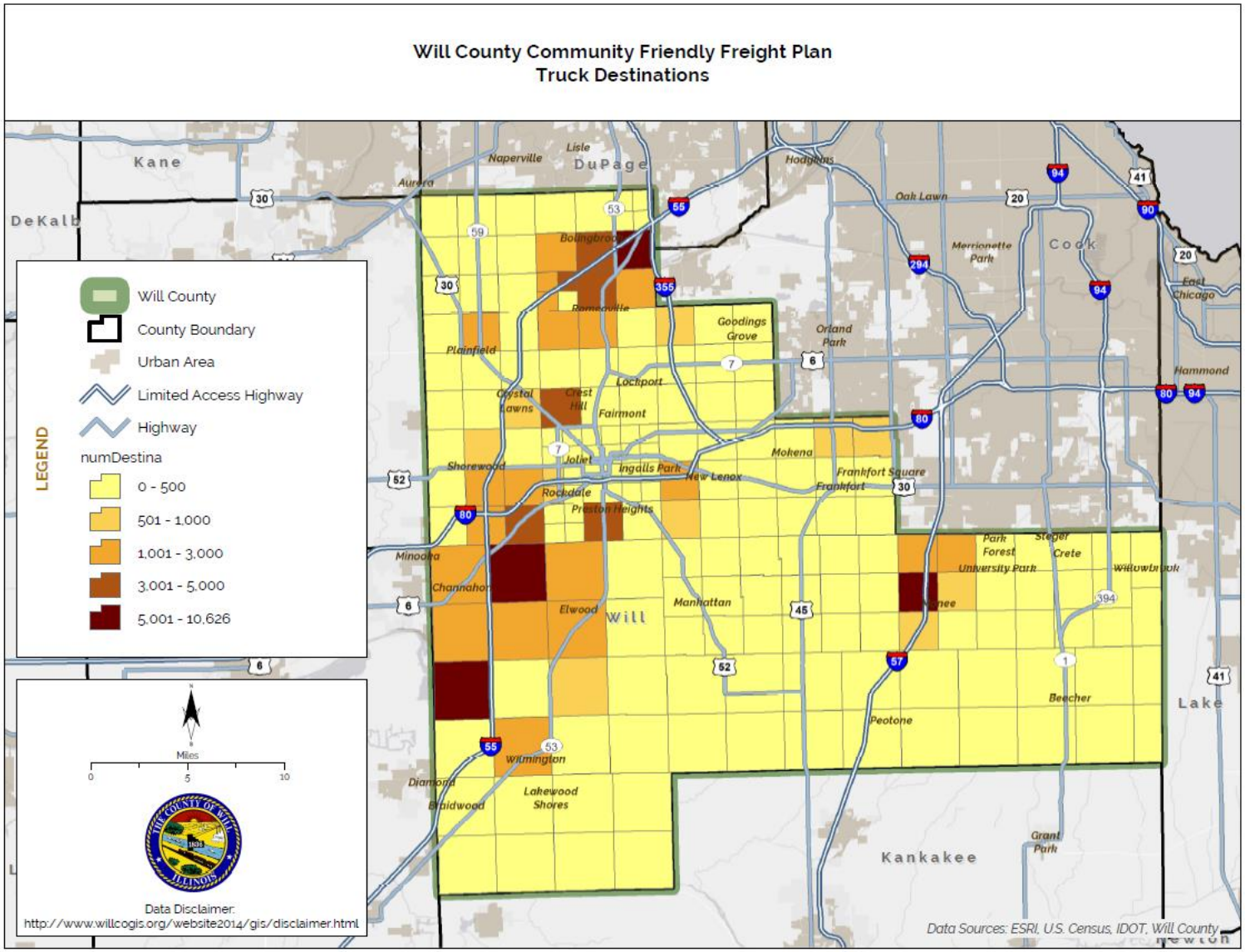


FIGURE 1-30: INTER-COUNTY TRUCK MOVEMENTS WITHIN THE CHICAGO REGION

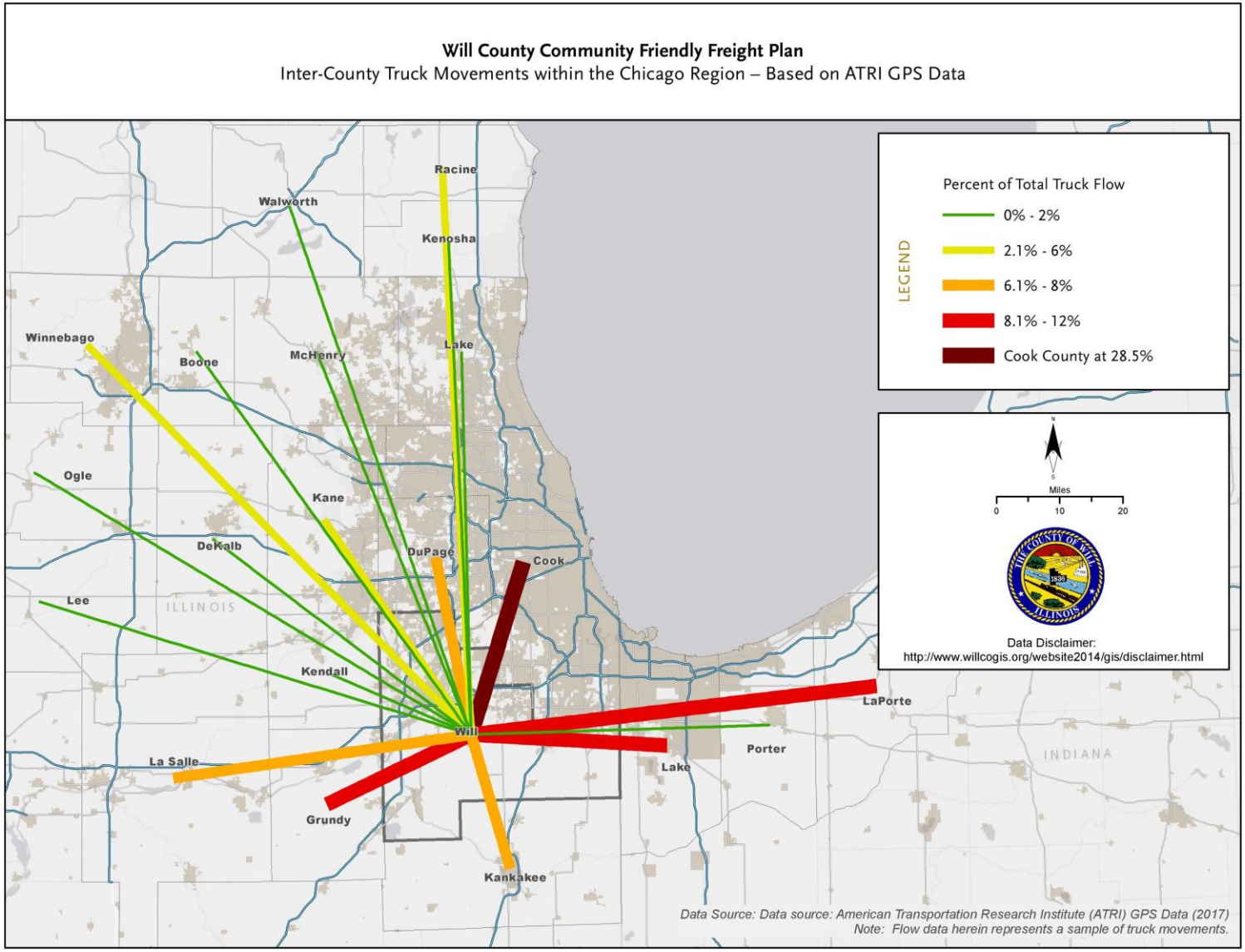


Table 1-4 provides both the percentage of the total flows and the raw number of truck trips between Will County and the 20 other counties. The largest share of trips is between Cook and Will Counties, over 28 percent. Grundy County, Illinois and Lake County, Indiana have 11.5 percent and 10.9 percent respectively.

TABLE I-4: DAILY TRUCK TRIPS BETWEEN WILL COUNTY AND SURROUNDING COUNTIES

County	Total Truck Flows	Percent of Total
Cook, IL	9,108	28.5%
Grundy, IL	3,682	11.5%
Lake, IN	3,488	10.9%
LaPorte, IN	2,596	8.1%
DuPage, IL	2,401	7.5%
Kankakee, IL	2,223	7.0%
La Salle, IL	2,097	6.6%
Winnebago, IL	1,270	4.0%
Kane, IL	1,147	3.6%
Racine, IL	918	2.9%
Lake, IL	581	1.8%
Kendall, IL	434	1.4%
Porter, IN	400	1.3%
Ogle, IL	383	1.2%
Kenosha, IL	352	1.1%
DeKalb, IL	178	0.6%
Lee, IL	194	0.6%
McHenry, IL	179	0.6%
Walworth, IL	189	0.6%
Boone, IL	84	0.3%

1.4.4 RAIL

Rail and intermodal facilities are a key freight asset in Will County—with over 532 miles of rail lines, three intermodal facilities, and five Class I railroads operating in the County. There are three intermodal facilities in Will County as of this report that contribute to the County's status as the largest inland port in the nation. The two intermodal facilities that are within the CenterPoint development—BNSF's Logistic Park and Union Pacific's Global IV - handle over three million twenty-foot equivalent (TEUs) international containers every year.[28] BNSF's intermodal facility has the most intermodal lifts of any of the intermodal facilities in the region—with over 962,000 lifts in 2015. Union Pacific's

[28] Will County Center for Economic Development. http://www.willcountyced.com/transportation-assets.html

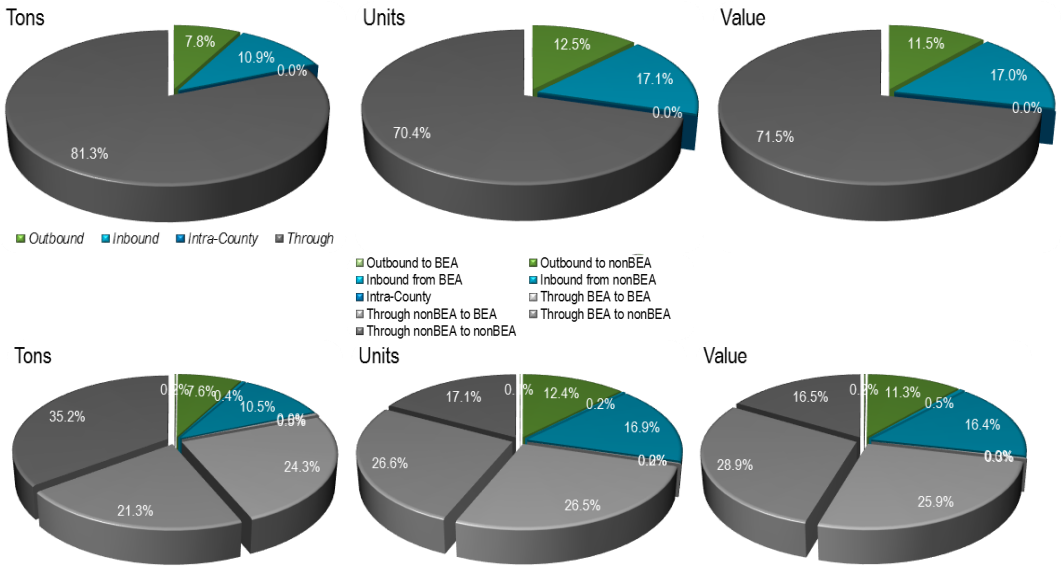
Global IV facility handled 490,023 lifts in 2015. Additionally, the transload facility at CenterPoint exports 76 million bushels of grain annually. The third intermodal facility is in the Canadian National facility in Joliet, it has a smaller operation of about 49,000 lifts.

A new distribution facility, Ridgeport Logistics Center, is proposed/under construction near the City of Wilmington, southwest of BNSF Logistics Park Chicago.[29] It would be located on 2,500 acres, with plans for more than 20 million square feet of industrial distribution space and rail-served buildings.[30]

Rail freight in Will County totaled over 160 million tons valued over $321 billion. Similar to truck movement, most of the rail traffic is through movement—over 81 percent. Outbound rail comprises 7.8 percent of rail movements. Over 76 percent of outbound rail heads toward California, making it the primary destination for freight coming out of Will County. The most likely cause of these large outbound shipments to California, destined for the port of Los Angles and/or the port of Long Beach, where the containers may then be shipped overseas. Inbound rail comprises nearly 11 percent of rail movement. However, the inbound rail originations are more varied than outbound—35 percent come from Wyoming, 31 percent from California, and 13 percent from Washington (**Figure 1-31**).

Railroad density, as measured by 2015 tons, is depicted in **Figure 1-32**, showing the most-trafficked routes are on the major Class 1 networks: BNSF, UP, and CN. CSX also carried freight traffic but to a lesser extent than other Class Is in the County.

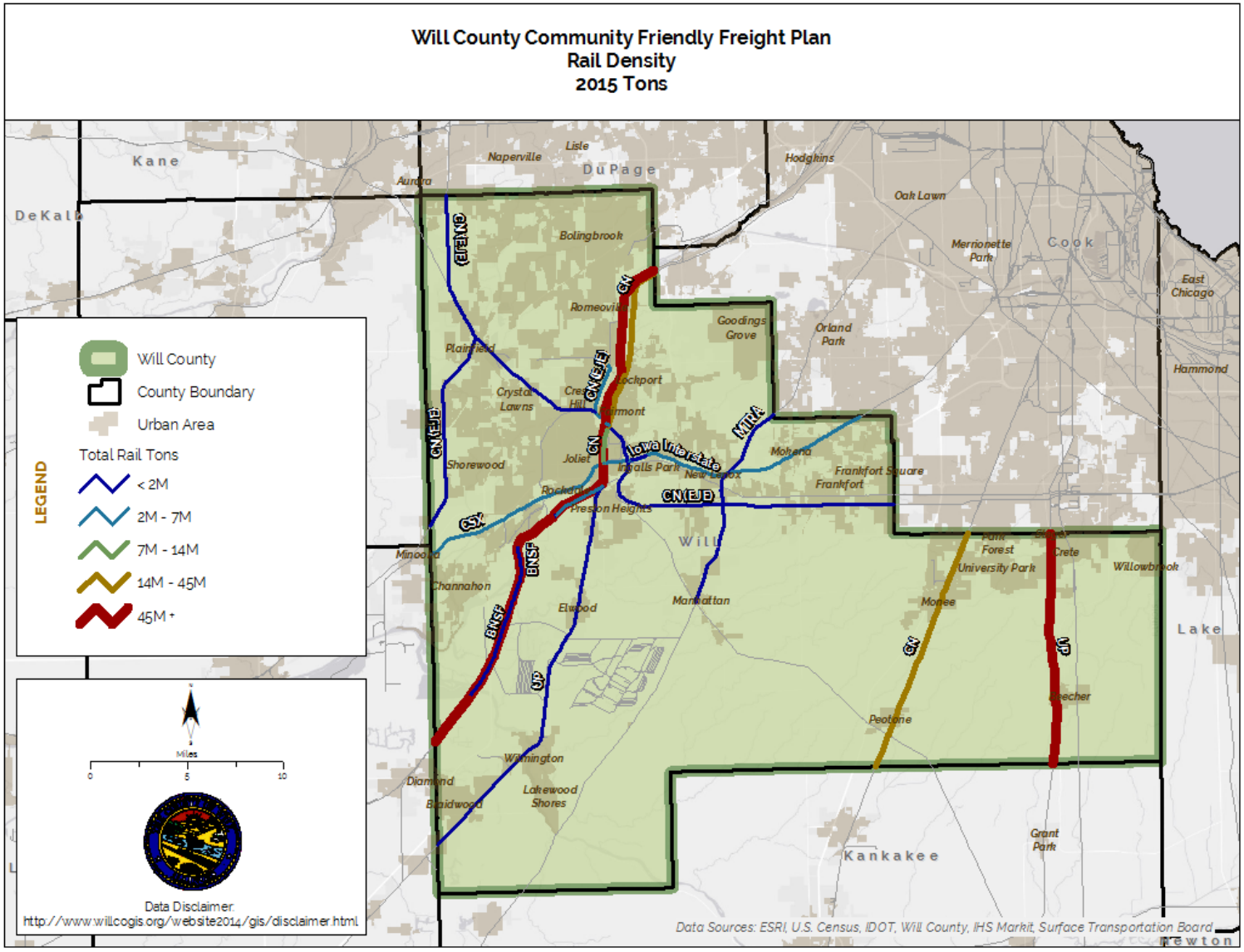
FIGURE 1-31: RAIL PERCENTAGES BY DIRECTION, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

[29] http://www.ridgeportlogisticscenter.com/
[30] http://www.willcountyced.com/inland-port-assets.html

FIGURE 1-32: RAIL DENSITY, 2015 TONS



1.4.5 WATER

Of 1,095 miles of the Illinois Waterway System[31], 25 miles traverse through Will County.[32] Two major rivers, the Des Plaines River and the Kankakee River, join just beyond the western boundary of Will County to form the Illinois River.[33] This waterway supports freight movements because it provides connections to the Great Lakes and St. Lawrence Seaway via the canals near Chicago and the Gulf of Mexico via the Mississippi River.

The nine-foot deep channel along the Illinois River is supported by two navigation locks in Will County—the Lockport Lock and the Brandon Road Lock and Dam.[34] Will County is home to 48 dock facilities—the third greatest number of public and private terminals that operate in any one county along the Illinois River in the State.[35] **Figure 1-33** shows the water facilities in Will County.

[31] The Illinois Waterway System is composed of seven waterways: the Illinois River, Des Plaines River, Chicago Sanitary and Shipping Canal, South Branch Chicago River, Cal-Sag Channel, Little Calumet River and the Calumet River as well as the parts of the Mississippi and Ohio Rivers that border the State of Illinois.

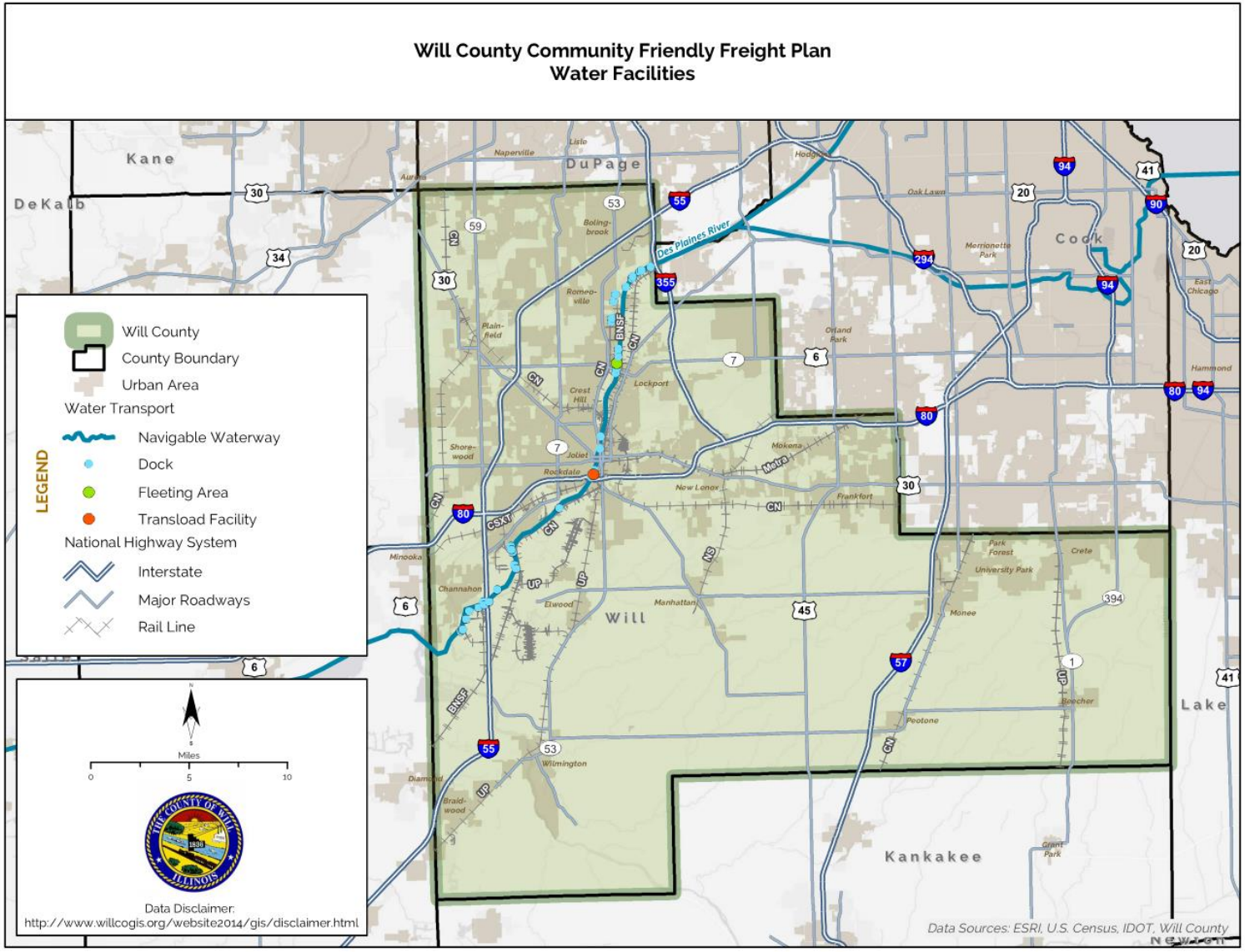
[32] Used ArcGIS to calculate

[33] Will County Rural Historic Structural Survey: Green Garden Township. Chapter 1

[34] U.S. Army Corps of Engineers. U.S. Waterway Data: Lock Characteristics. Available online at: http://www.navigationdatacenter.us/data/datalck.htm

[35] Illinois Chamber of Commerce Foundation, 2016. An Economic Impact and Cluster Analysis of Illinois River Lock and Dam Facilities for Beneficial Users. Available online at: http://ilchamber.org/wp-content/uploads/2011/08/IL River-Economic-Impact-and-Cluster-Analysis-Report-Aug-2016-.pdf

FIGURE I-33: WATER FACILITIES



Barge freight ships a variety of commodities to domestic and international markets, including coal, petroleum, chemicals, and farm and food products. As shown in **Table 1-5** and **Table 1-6**, tonnage through the Lockport and Brandon Road locks by commodity are virtually identical. Non-fuel crude products were the largest tonnage category in 2015.

TABLE 1-5: LOCK COMMODITY TONNAGE, 2015

	Brandon Road	Lockport
All Coal, Lignite, and Coal Coke	1,001,211	1,007,211
All Petroleum and Petroleum Products	1,899,400	1,896,350
All Chemicals and Related Products	1,545,360	1,461,260
All Crude Materials, Inedible, Except Fuels	3,758,116	4,190,336
All Primary Manufactured Goods	2,918,223	2,712,023
All Food and Farm Products	535,410	467,710
All Manufactured Equipment & Machinery	52,175	43,600
All Waste Material	4,200	4,600
All Unknown or Not Elsewhere Classified	31,500	31,500

Source: U.S. Army Corps of Engineers. U.S. Waterway Data: Lock Characteristics, 2015.

TABLE 1-6: LOCK TRAFFIC, 2015

	Brandon Road	Lockport
Average Delay (Tows) (Hrs)	1.25	1.84
Average Processing Time (Hrs)	0.89	1.07
Barges Empty	4,147	4,414
Barges Loaded	7,040	7,049
Commercial Vessels	3,273	3,498
Commercial Flotillas	3,025	3,149
Commercial Lockages/Cuts	3,177	3,273

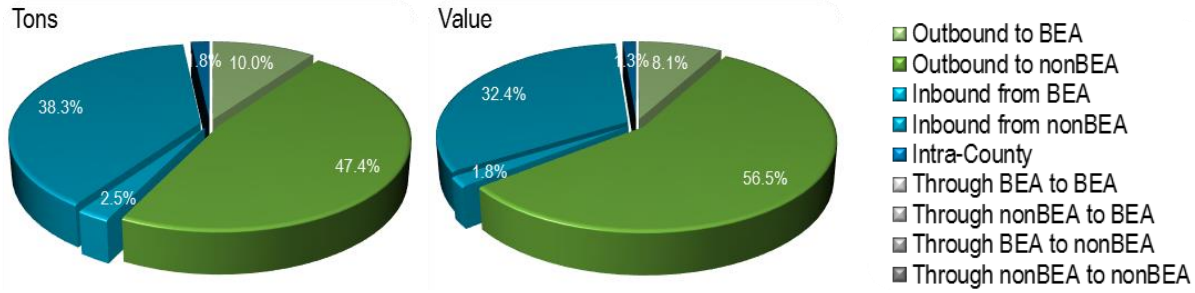
Water freight totals over 6.6 million tons valued at over $3 billion. The key water-borne commodities by both value and tonnage are petroleum and coal products along with nonmetallic minerals. Outbound water freight totals 3.8 million tons. The destination for Will County's water freight is quite varied—from Louisiana (34%) the Chicago region (17%), Indiana (15%), to Texas (11.7%). Inbound water freight consists of just 2.7 million tons and the locations are more concentrated from Louisiana (66%), Texas, (12%) and the Chicago region (6%) among others. (**Table 1-7** and **Figure 1-34**)

TABLE 1-7: WATER BY DIRECTION, 2015

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Outbound	3,777,249	57.4%	$2,150	64.5%	$569
Outbound to BEA	657,535	10.0%	$269	8.1%	$409
Outbound to nonBEA	3,119,714	47.4%	$1,881	56.5%	$603
Inbound	2,686,689	40.8%	$1,138	34.2%	$424
Inbound from BEA	163,353	2.5%	$60	1.8%	$368
Inbound from nonBEA	2,523,336	38.3%	$1,078	32.4%	$427
Intra-County	117,065	1.8%	$43	1.3%	$365
Through	#N/A	#N/A	#N/A	#N/A	#N/A
Total	6,581,003	100.0%	$3,330	100.0%	$506

Source: prepared by CDM Smith, based on Transearch® data for 2015

FIGURE 1-34: WATER PERCENTAGES BY DIRECTION, 2015



Source: prepared by CDM Smith, based on Transearch® data for 2015

1.4.6 PIPELINE

Will County hosts more miles of underground oil pipelines than any other County in the state with over 1,472 miles of pipeline infrastructure.[36, 37] As a result, the State of Illinois leads the Midwest in crude oil refining capacity, as of January 2016.[38] The network includes four crude oil pipelines, nine petroleum product pipelines, three hydrocarbon gas liquid pipelines, and eight interstate natural gas pipelines. (**Table 1-8**) Most of the pipeline network is privately owned and operated. In addition, pipeline-related facilities include four petroleum product terminals, two petroleum refineries, one natural gas market hub, and one crude oil rail terminal, which generate truck traffic on the roadway network.

TABLE 1-8: PIPELINE ASSETS

Will County Pipeline Assets
4 Crude Oil Pipelines
9 Petroleum Product Pipelines
3 Hydrocarbon gas liquid pipelines
8 interstate natural gas pipelines
4 petroleum pipeline terminals
2 petroleum product refineries
1 natural gas market hub
1 crude oil rail terminal

A significant tonnage of gas and hazardous liquids move through the County and goes directly to end users in other locations. Like the rail network, most of the pipeline network is privately owned and operated. Pipeline facilities are shown in **Figure 1-35.**

Pipeline freight in Will County totals over 59 million tons valued at $15.9 billion. The refineries obtain crude oil produced mostly in Alberta, Canada, and ship out the hazardous liquid by truck. Pipeline movement comprised inbound Crude Petroleum or Natural Gas, entirely from Canada (99%+ from Alberta). Crude petroleum inbound into Will County via pipeline is predominately used in the petroleum refining industry, converted into various refined petroleum products (gasoline, diesel, asphalt, etc.), which are used within Will County and also shipped outbound via water, truck, and rail. (**Table 1-9**)

[36] http://www.nbcchicago.com/news/business/romeoville-oil-gas-pipeline-infrastructure-102914604.html
[37] NPMS
[38] U.S. Energy Information Administration https://www.eia.gov/state/?sid=IL

FIGURE 1-35: PIPELINES

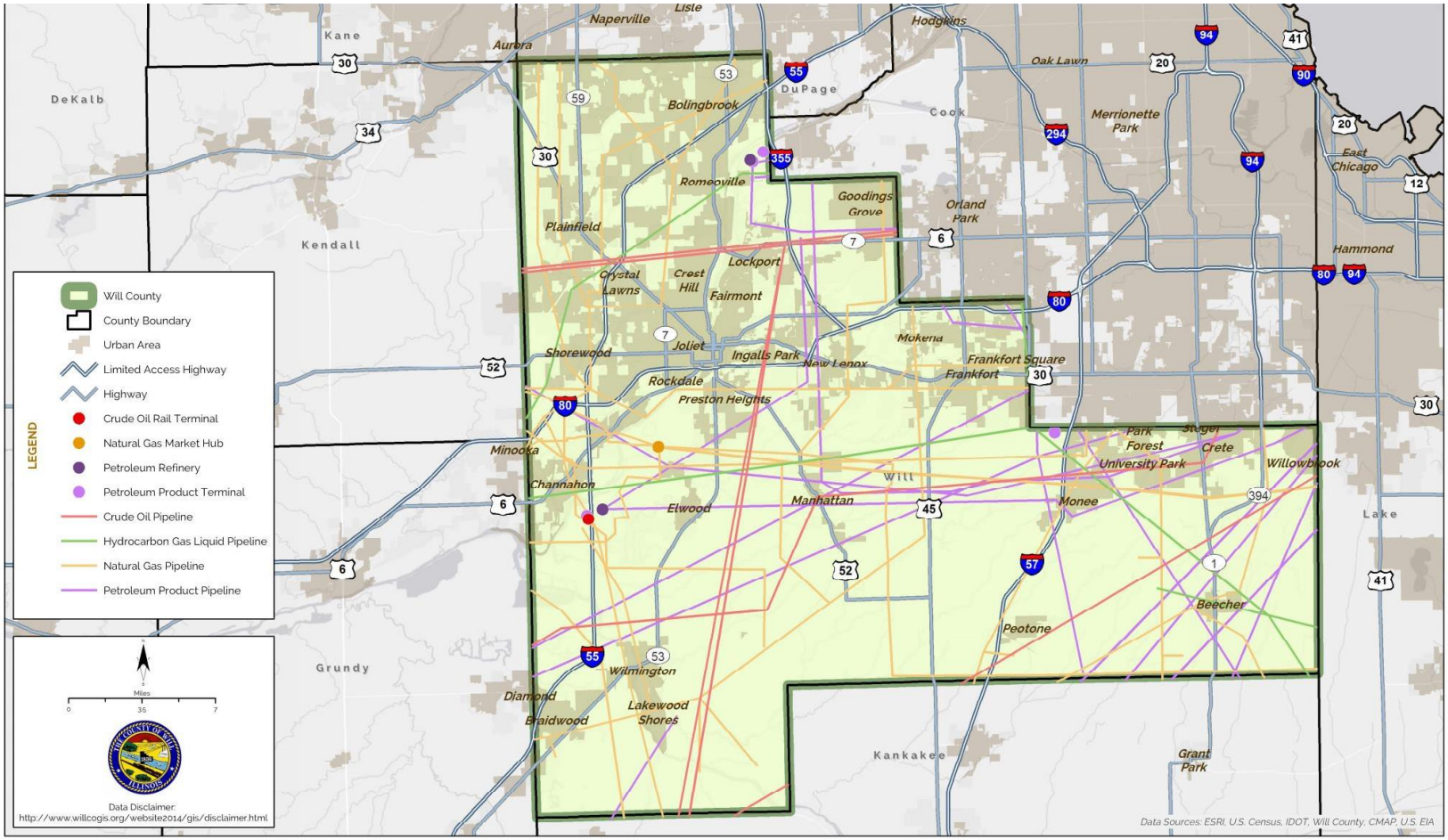


TABLE 1-9: PIPELINE BY DIRECTION, 2015

Direction	Tons		Value (in millions)		Average Value/Ton
	Amount	Percent	Amount	Percent	
Outbound	#N/A	#N/A	#N/A	#N/A	#N/A
Inbound	59,075,462	100.0%	$15,945	100.0%	$270
Inbound from BEA	#N/A	#N/A	#N/A	#N/A	#N/A
Inbound from nonBEA	59,075,462	100.0%	$15,945	100.0%	$270
Intra-County	#N/A	#N/A	#N/A	#N/A	#N/A
Through	#N/A	#N/A	#N/A	#N/A	#N/A
Total	**59,075,462**	**100.0%**	**$15,945**	**100.0%**	**$270**

Source: prepared by CDM Smith, based on Transearch® data for 2015

1.4.7 AIR

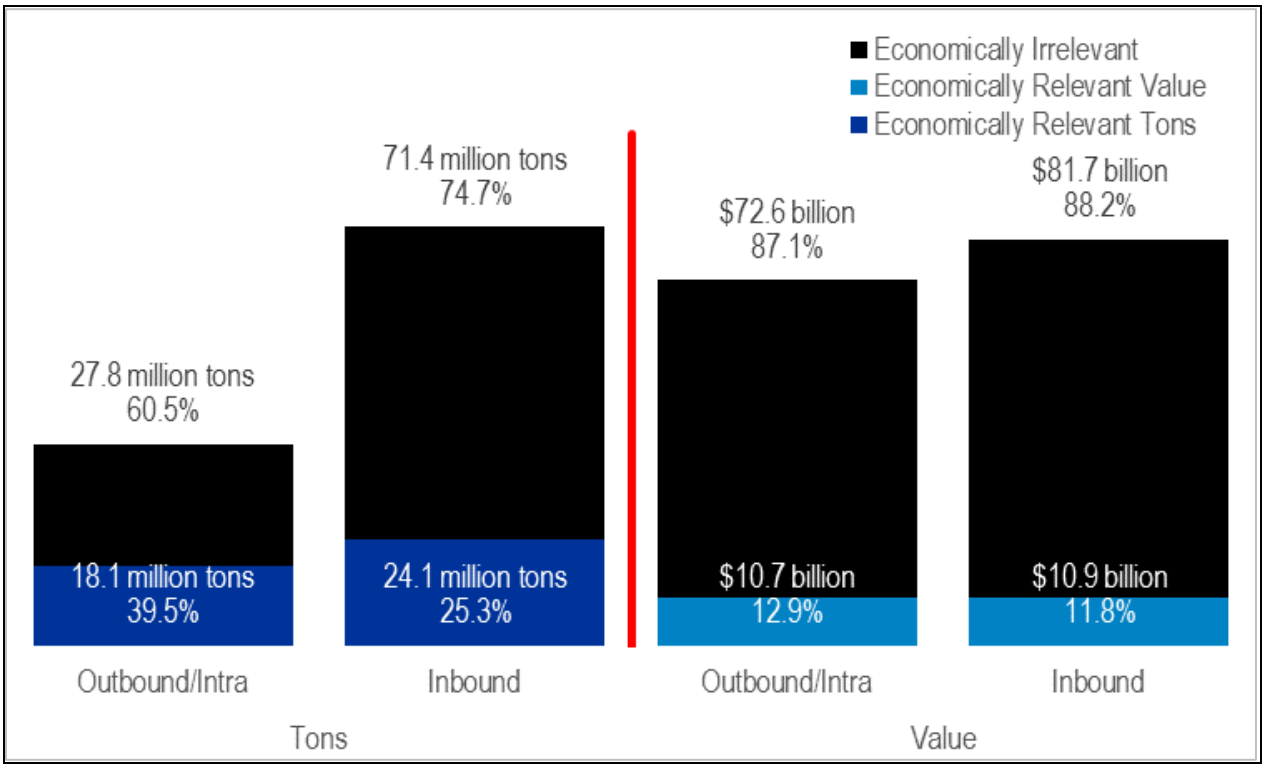
Presently, there are no air cargo hubs located within Will County. However, in addition to passenger transport, several general aviation airports in Will County may have the capability to provide air cargo service in and out of the region, such as: Bolingbrook's Clow International Airport, Lewis University Airport, Joliet Regional Airport, Bult Field, and the proposed South Suburban Airport. Although air freight facilities do not currently exist in Will County, there is potential for logistics operations given its proximity to the Chicago metropolitan area. In the freight industry survey, some freight businesses noted that they use air cargo facilities.

1.4.8 ECONOMIC IMPACTS OF FREIGHT IN WILL COUNTY

Freight movement and associated facilities in Will County facilitate local production and consumption of goods and stimulate economic activity. Using an economic model (IMPLAN) based on the value of goods movements with TRANSEARCH, this section provides an overview of the economic impacts from freight services, and local shippers/receivers who use such services. The economic impacts represent the value-added services supported by the freight industry in Will County, rather than the value of goods shipped on Will County's transportation system. As such, it provides insight in to the economic activity attributed to the freight industry. It includes economically-relevant commodities to Will County, rather than commodities such as scrap metal or waste. See **Appendix B** for a detailed methodology and analysis of the economic impacts.

For Outbound/Intra-County movements—over 18 million tons of economically-relevant freight valued at $10.7 billion came from Will County in 2015. There was over 24 million tons and $10.9 billion of economically-relevant freight moving in to Will County in 2015. See **Figure 1-36** for a summary of the economically-relevant values.

FIGURE 1-36: ECONOMICALLY-RELEVANT FREIGHT (COMPARISON WITH TOTAL FREIGHT)



Source: CDM Smith based on TRANSEARCH®

The top outbound/intra commodities that are most economically-relevant are Chemical or Allied Products (36% of the value) and Petroleum or Coal products (23% of the value). The top inbound commodities are Crude Petroleum or Natural gas (22% of the value), chemical or allied products (18% of the value) and Food or Kindred products (10% of the value. See **Table 1-10** for detailed economically-relevant commodities.

Each mode has a different economic impact in Will County. There are also different types of economic impact that factor in to determining how much an industry adds value to a local economy:

- Direct impact that accounts for trade between the freight carriers and the receiver or shipper.
- Indirect impacts that account for suppliers that provide intermediate goods and services to those directly impacted industries (in this case the carriers or receivers).
- Induced impacts that are associated with re-spending of earned income from both the direct and indirect industries in the study region.

TABLE 1-10: ECONOMICALLY-RELEVANT FREIGHT (DIRECTION/COMMODITY)

STCC2	Commodity	Tons		Value (in millions)		Average Value/Ton
		Amount	Percent	Amount	Percent	
OUTBOUND/INTRA						
28	Chemicals or Allied Prods.	1,953,682	10.8%	$3,899	36.3%	$1,996
29	Petroleum or Coal Prods.	4,641,898	25.6%	$2,502	23.3%	$539
20	Food or Kindred Prods.	779,984	4.3%	$951	8.9%	$1,220
35	Machinery	66,851	0.4%	$650	6.1%	$9,726
34	Fabricated Metal Prods.	91,295	0.5%	$366	3.4%	$4,010
36	Electrical Equipment	20,269	0.1%	$355	3.3%	$17,508
33	Primary Metal Prods.	113,949	0.6%	$307	2.9%	$2,693
30	Rubber or Misc Plastics	67,899	0.4%	$271	2.5%	$3,996
41	Misc Freight Shipments	73,227	0.4%	$255	2.4%	$3,482
01	Farm Prods.	823,992	4.5%	$176	1.6%	$214
	Remaining Commodities	9,477,946	52.3%	$1,012	9.4%	$107
	Total	*18,110,992*	*100.0%*	*$10,745*	*100.0%*	*$593*
INBOUND						
13	Crude Petrol. or Natural Gas	8,873,922	49.0%	$2,396	22.3%	$270
28	Chemicals or Allied Prods.	1,298,618	7.2%	$1,920	17.9%	$1,478
20	Food or Kindred Prods.	1,011,011	5.6%	$1,111	10.3%	$1,098
29	Petroleum or Coal Prods.	1,978,309	10.9%	$928	8.6%	$469
37	Transportation Equipment	132,313	0.7%	$888	8.3%	$6,709
35	Machinery	62,864	0.3%	$668	6.2%	$10,628
36	Electrical Equipment	32,714	0.2%	$370	3.4%	$11,313
33	Primary Metal Prods.	203,460	1.1%	$342	3.2%	$1,682
01	Farm Prods.	767,248	4.2%	$303	2.8%	$395
41	Misc Freight Shipments	77,075	0.4%	$268	2.5%	$3,482
	Remaining Commodities	9,704,743	40.2%	$1,680	15.4%	$173
	Total	*24,142,280*	*100.0%*	*$10,873*	*100.0%*	*$450*

Source: CDM Smith based on TRANSEARCH®

The *direct economic impact* of the freight carriers and shipper/receivers in Will County amounts to the following:

- Over 64,000 jobs, earning $3.9 billion by producing $9.0 billion in value-added (or gross-regional product, GRP)
- All this amounts to $22 billion in direct economic output.
- This economic output yields $524 million in taxes to local, state, and federal coffers.

The *indirect and induced impacts* result in an additional 42,000 jobs earning $2.0 billion by producing $3.8 billion in value-added GRP. The *total economic impact* of the direct, indirect, and induced impacts associated with freight activity in Will County amounts to the following:

- The total economic impact of freight activity is over 106,000 jobs earning $5.0 Billion by producing $12.8 billion in GRP.
- This equates to $28.8 billion in total economic output in Will County.
- This economic output yields $916 million to local, state, and federal coffers.

This equates to a job multiplier of 1.65 total jobs per every direct freight related job. Or in other words, for every job added in the freight-related industry, 1.65 jobs are created in Will County. (**Table 1-11**)

1.4.8.1 IMPORTANCE OF THE FREIGHT INDUSTRY TO WILL COUNTY'S ECONOMY

It is important to contextualize what share of Will County's economy these freight-related impacts contribute to when considering the entirety of the county's economy. The freight-related industry is a critical component of the county's economy. The magnitude of the following analysis underscores how reliant the Will County economy is on the transportation infrastructure network. In fact, truck movement has the greatest direct impact of any mode to Will County's economy, comprising nearly 21 percent of the employment in the County, 21 percent of the income, nearly 22 percent of the value-added activity, nearly 25 percent of the economic output, and nearly 17 percent of the total tax revenue. See **Table 1-12** for more details. As a proportion of Will County's total economy, the freight industry contributes:

- As a proportion of **all** economic activity in Will County the direct impacts associated with Will County freight movement accounts for 21.5 percent of total tax revenue and over 42 percent of the total output of the county's economy.
- When including indirect and induced economic impacts, these numbers increase to 37.6 percent of tax revenue and over 55 percent of the county's economy.

TABLE 1-11: TOTAL FREIGHT IMPACTS BY MODE AND ECONOMIC MEASURE/TYPE

Measure/Type	Truck	Rail	Pipeline	Water	Total
EMPLOYMENT*					
Direct	35,900	23,640	1,210	3,360	64,110
Indirect	11,130	6,760	1,450	1,780	21,130
Induced	11,150	7,200	1,220	1,570	21,150
Total	58,190	37,600	3,890	6,720	106,390
INCOME**					
Direct	$2,055	$1,349	$199	$268	$3,871
Indirect	$604	$366	$93	$107	$1,170
Induced	$448	$289	$49	$63	$849
Total	$3,107	$2,005	$341	$438	$5,891
VALUE ADDED**					
Direct	$3,900	$2,543	$1,645	$953	$9,041
Indirect	$1,076	$649	$161	$191	$2,078
Induced	$882	$569	$97	$124	$1,672
Total	$5,859	$3,762	$1,903	$1,269	$12,792
OUTPUT**					
Direct	$9,298	$6,069	$4,066	$2,606	$22,040
Indirect	$1,992	$1,204	$306	$361	$3,863
Induced	$1,550	$1,000	$170	$219	$2,939
Total	$12,840	$8,273	$4,542	$3,186	$28,841
TAX REVENUE**					
Direct	$205	$197	$86	$36	$524
Indirect	$97	$62	$17	$19	$195
Induced	$104	$67	$11	$15	$197
Total	$406	$326	$114	$70	$916

** employment rounded to nearest ten jobs, totals may not sum due to rounding*
***in millions of 2015 dollars*
Source: CDM Smith based on TRANSEARCH® and IMPLAN®

TABLE 1-12: TOTAL FREIGHT IMPACTS AS PERCENT OF ECONOMY

Measure/Type	Truck	Rail	Pipeline	Water	Total
EMPLOYMENT					
Direct	12.8%	8.4%	0.4%	1.2%	**22.8%**
Indirect	4.0%	2.4%	0.5%	0.6%	**7.5%**
Induced	4.0%	2.6%	0.4%	0.6%	**7.5%**
Total	*20.7%*	*13.4%*	*1.4%*	*2.4%*	***37.8%***
INCOME					
Direct	13.9%	9.1%	1.3%	1.8%	**26.2%**
Indirect	4.1%	2.5%	0.6%	0.7%	**7.9%**
Induced	3.0%	2.0%	0.3%	0.4%	**5.7%**
Total	*21.0%*	*13.6%*	*2.3%*	*3.0%*	***39.9%***
VALUE ADDED					
Direct	14.4%	9.4%	6.1%	3.5%	**33.5%**
Indirect	4.0%	2.4%	0.6%	0.7%	**7.7%**
Induced	3.3%	2.1%	0.4%	0.5%	**6.2%**
Total	*21.7%*	*13.9%*	*7.0%*	*4.7%*	***47.4%***
OUTPUT					
Direct	17.9%	11.7%	7.8%	5.0%	**42.4%**
Indirect	3.8%	2.3%	0.6%	0.7%	**7.4%**
Induced	3.0%	1.9%	0.3%	0.4%	**5.7%**
Total	*24.7%*	*15.9%*	*8.7%*	*6.1%*	***55.5%***
TAX REVENUE					
Direct	8.4%	8.1%	3.5%	1.5%	**21.5%**
Indirect	4.0%	2.5%	0.7%	0.8%	**8.0%**
Induced	4.3%	2.8%	0.5%	0.6%	**8.1%**
Total	*16.7%*	*13.4%*	*4.7%*	*2.9%*	***37.6%***

Source: CDM Smith based on TRANSEARCH® and IMPLAN®

1.5 PEER COMPARISONS: WILL COUNTY IN CONTEXT

The Chicago region has a clear competitive advantage across all freight modes. Chicago's central location in the nation provides access to major markets in the Mid-West and on both the East and West coast, making the efficiency of Chicago's freight movement a critical component to supporting global, national, and local economies. With access to six interstates, six Class I railroads, 20 intermodal terminals, and two major waterways, the Chicago region provides a true multimodal freight system.

This section compares the Chicago region and Will County's freight assets and freight flows to other peer regions. The peer regions were selected because they are also critical freight hubs throughout the country or are also a Midwestern freight hub. The Will County Freight Advisory Committee also provided direction on which peer regions were most comparable to the Chicago and Will County area from its perspective. Understanding other peer region's freight growth and assets helps contextualize Will County's position as a freight hub. Note that for this analysis different years are used due to availability of data. For the peer regions, FHWA's Freight Analysis Framework data is used which is based on 2012 data and for Will County, TRANSEARCH and STB waybill data was used based on 2015 data.

Freight plays an outsized role in supporting the region's economy as the Chicago region is the largest freight hub in the nation, moving over 802 million tons of freight valued at over $1.3 trillion dollars.[39] Will County plays a critical role in contributing to the region's role as a freight hub, moving 380 million tons valued at over $623 billion dollars of freight (**Table 1-13**).[40] Although the datasets and years of comparison for the Chicago region and Will County vary, Will County's freight tonnage roughly equates to 47 percent of the region's freight tonnage.

TABLE 1-13: FREIGHT TONNAGE AND VALUE IN WILL COUNTY AND THE CHICAGO REGION

	Tons in Millions	Value
Will County (2015)	380.0	$623 Billion
Chicago Region (2012)	802.9	$1.3 Trillion

Source: Federal Highway Administration Freight Analysis Framework data, 2012; TRANSEARCH data 2015

Will County is home to some of the Chicago region's key intermodal assets and industrial developments, making it an attractive location for the freight and logistics industry. In fact, Will County is the largest inland port in North America with over 3 million containers moving through the port annually and over 100 million square feet of new industrial space built since 2002.[41]

[39] Federal Highway Administration Freight Analysis Framework data, 2012
[40] CDM Smith analysis of Transearch data, 2015
[41] Will County CED

Will County also holds a unique position within the region because of its geographic placement outside of the City of Chicago and suburban Cook County. Its proximity to such a large population hub and its availability of land has contributed to Will County's success as the home to a new generation of intermodal freight and logistics centers. Since 2000, Industrial Rentable Building Area (RBA) in Will County has doubled—growing from 76 million square feet in 2000 to 152 million square feet in 2016.[42] **(Table 1-14).** *Over one-third of the distribution space within the seven-county region of Northeastern Illinois is located in Will County.* This provides the County with the opportunity to play a leading role in accommodating industrial growth with the larger building footprints required for modern supply chains.

TABLE 1-14: RENTABLE BUILDING AREA BY INDUSTRIAL DEVELOPMENT TYPE IN NORTHEASTERN ILLINOIS, 2016 YEAR TO DATE

	Will	Chicago	Suburban Cook	DuPage	Kane	Kendall	Lake	McHenry	NE Illinois Region
Warehouse	75.1	70.4	141.7	95.9	35.4	1.6	30.6	9.9	460.6
Manufacturing & Food Processing	20.5	70.2	101.5	32.5	20.8	6.9	25.6	12.6	290.5
General Industrial	5.5	30.7	36.2	17.3	12.7	0.2	11.1	4	117.7
Distribution	**46.5**	10	29.2	21.5	10.5	3.1	6.8	2.3	129.8
Flex	4.3	14.3	29.4	17	5.4	0.4	7.3	3.3	81.5
TOTAL	152	195.6	338	184.1	84.9	12.2	81.4	32	1,080.1

Source: CMAP analysis of CoStar data, 2016 Year to Date

1.5.1 COMPARING ACROSS PEER REGIONS

Will County's assets and geographic location make it a leader at a national scale as well as within the Chicago region. **Table 1-15** shows how Will County and the greater Chicago region's transportation assets stack up against other major freight regions, including Columbus, Kansas City, Los Angeles, and Memphis.[43]

TABLE 1-15: FREIGHT ASSETS IN WILL COUNTY AND PEER REGIONS

	Interstates	Class I Railroads	Intermodal Terminals	Cargo Airports	Major Waterways
Will County	3	5	3	No cargo airports	3
Chicago	6	6	20	1—4th busiest	2
Columbus	2	2	4	1	None
Kansas City	4	5	4	1	1
Los Angeles	2	2	11	2	2 Seaports
Memphis	3	5	5	1—busiest in nation	1

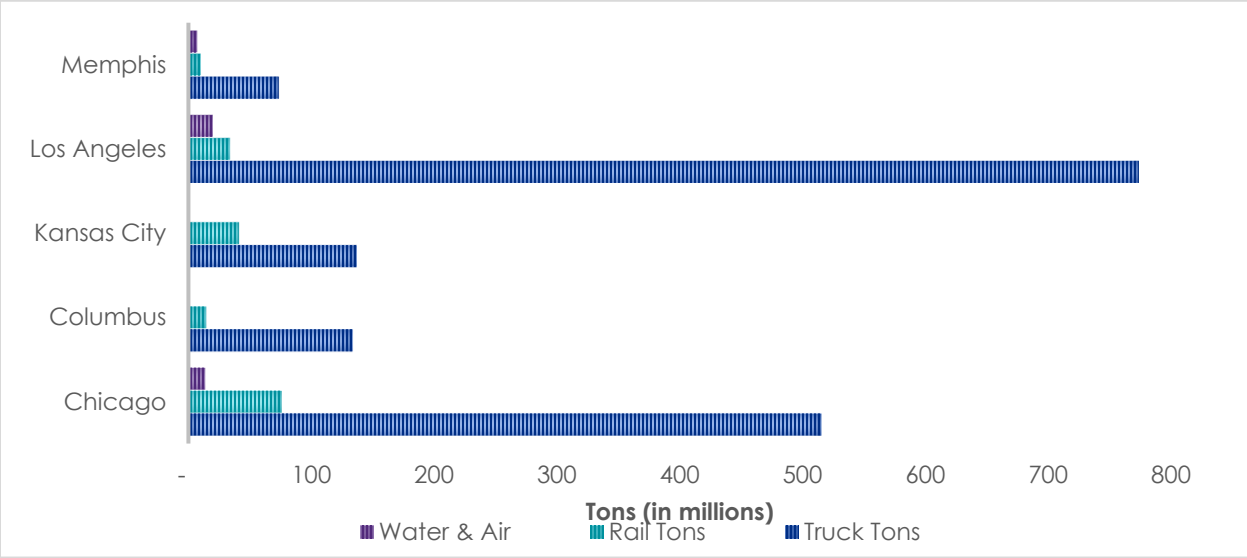
[42] CMAP analysis of CoStar data

[43] Four peer regions for comparison were selected by the Will County Freight Advisory Committee.

1.5.1.1 FREIGHT TONNAGE AND VALUE

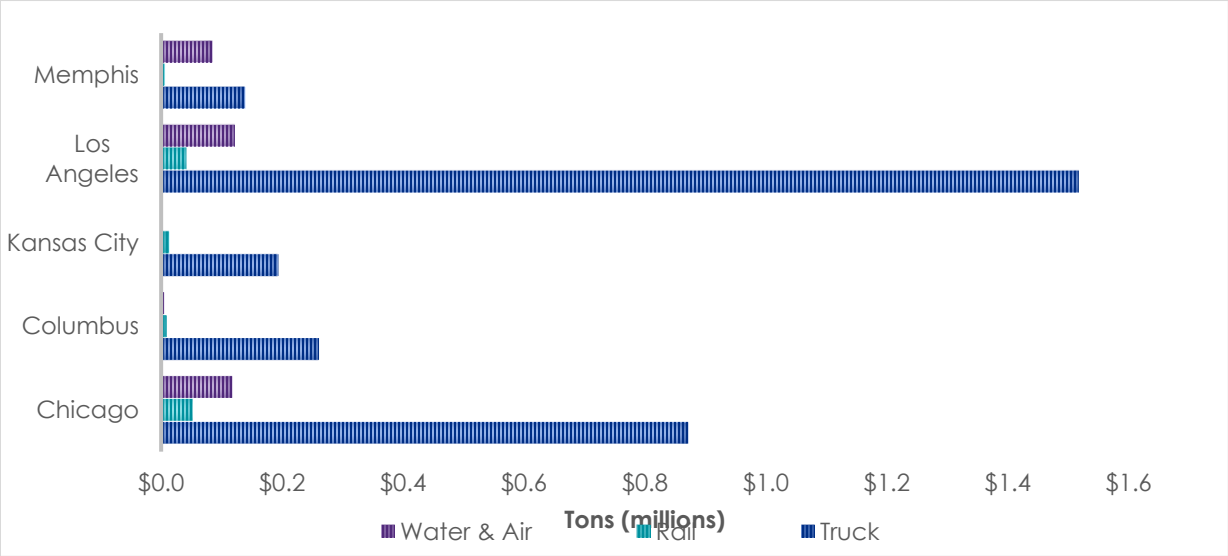
Looking at freight value and tonnage, the Chicago region's stance as freight hub of the nation is clear. The Chicago region ranks number two in total tonnage and value of freight shipped and ranks first for rail tonnage and value. **Figure 1-37** and **Figure 1-38** only reflect freight movement moving directly into, out of, or within the region and do not record through movement. Through movement is typically a large proportion of freight movement in many regions, but the FHWA data source for freight movement does not report these movements. The predominant freight flow in Will County is through movement, so Will County is analyzed separately.

FIGURE 1-37: FREIGHT TONNAGE, PEER REGIONS



Source: FHWA Freight Analysis Framework data, 2012

FIGURE 1-38: FREIGHT VALUE, PEER REGIONS



Source: FHWA Freight Analysis Framework data, 2012

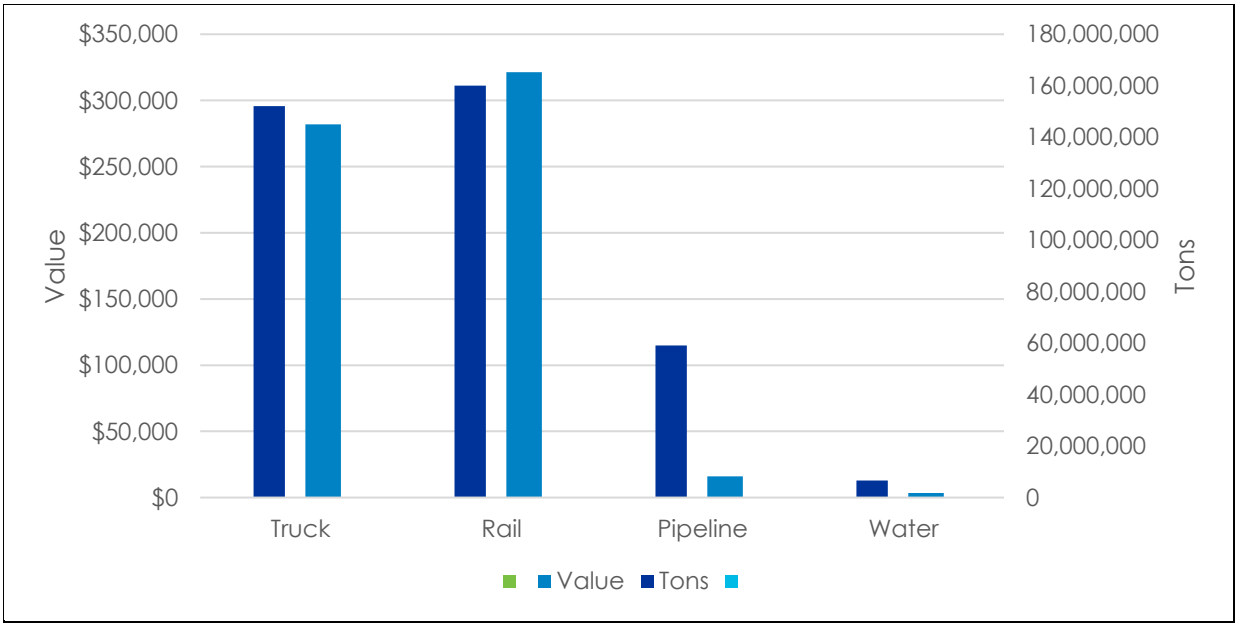
For Will County freight movements, a separate data source was used to get specific County movements. In addition to the inbound and outbound movements, this data also reports through movements which accounts for the majority of Will County freight flows. Compared to the other peer regions, minimal freight movement in any surface transportation moves directly in or out of Will County. However, Will County has over 59 million tons of goods coming directly in to the County by pipeline. Additionally, there are no air cargo movements in the County. **Table 1-16** and **Figure 1-39** show directional movements and total freight flow by tonnage and value.

TABLE 1-16: TONS AND VALUE BY MODE AND DIRECTION, 2015

Direction	Truck	Rail	Pipeline	Water	FTZ/Other	Total
TONS						
Outbound	22,364,563	12,536,702	#N/A	3,777,249	5,827	38,684,342
Inbound	14,379,471	17,441,032	59,075,462	2,686,689	1,933,115	95,515,768
Intra-County	7,097,066	4,275	#N/A	117,065	#N/A	7,218,406
Through	108,218,091	130,081,647	#N/A	#N/A	#N/A	238,299,739
Total	152,059,191	160,063,656	59,075,462	6,581,003	1,938,942	379,718,254
VALUE, IN MILLIONS						
Outbound	$24,197	$36,895	#N/A	$2,150	$39	$63,281
Inbound	$20,340	$54,586	$15,945	$1,138	$522	$92,532
Intra-County	$20,010	$10	#N/A	$43	#N/A	$20,062
Through	$217,283	$229,938	#N/A	#N/A	#N/A	$447,220
Total	$281,829	$321,429	$15,945	$3,330	$561	$623,095

Source: prepared by CDM Smith, based on TRANSEARCH® data for 2015

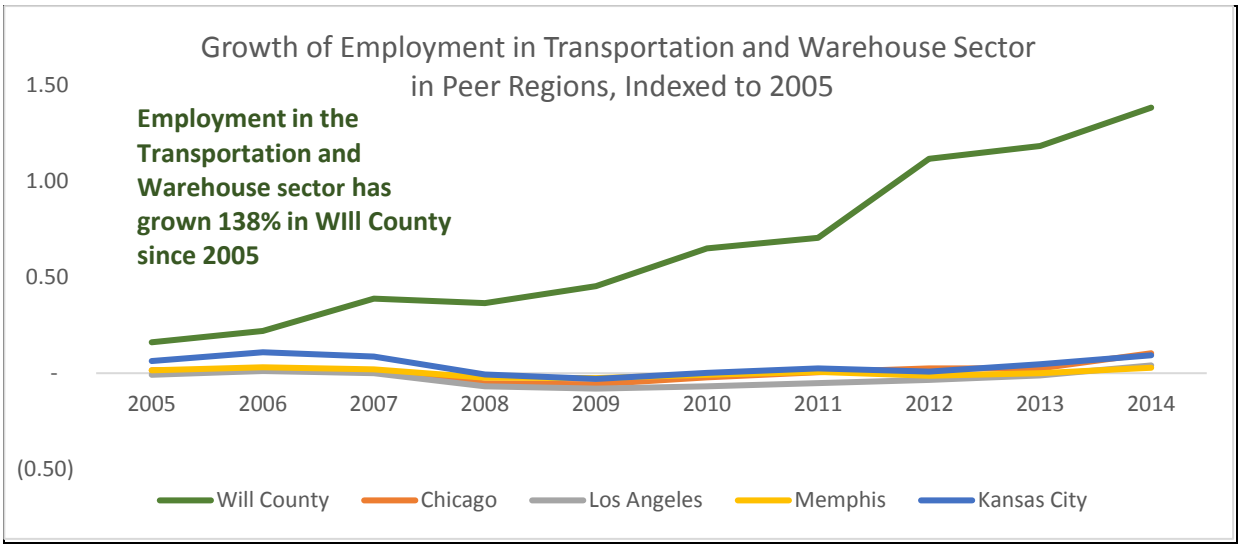
FIGURE 1-39: FREIGHT MOVEMENTS BY TONNAGE AND VALUE, 2015



1.5.2 EMPLOYMENT AND WAGES

One of the most significant attributes of Will County's freight and logistics industry continues to be the rapid growth of employment and businesses as compared to the region and other peers. Since 2005, employment in the Transportation and Warehouse Sector in Will County has grown 138 percent, faster than any other peer; Will County currently employs over 14,000 workers in this sector. (**Figure 1-40**) The growth in employment in this sector far outpaces total employment growth in both Will County and the region. Will County saw 34 percent growth in total employment and 38 percent growth in established businesses.

FIGURE 1-40: GROWTH OF EMPLOYMENT



Source: U.S. Bureau of Labor Statistics data, 2005-2015. Note: Data was not available for the Columbus region

Will County is also establishing more businesses in this sector than any other peer region, where business establishment has grown 109 percent since 2005. The County now has 1,126 businesses in Transportation and Warehousing, up from 540 in 2005 (**Table 1-17).**

TABLE 1-17: GROWTH OF TRANSPORTATION AND WAREHOUSE ESTABLISHMENTS, 2005-2015

	TDL Number of Establishments		
	2005	2015	% growth
Will County	540	1,126	109%
Chicago	7,361	12,735	73%
Kansas City	1,623	1,581	-3%
Los Angeles	6,314	7,106	13%
Memphis	966	1,102	14%

Source: U.S. Bureau of Labor Statistics data, 2005-2015
Note: Data was not available for Columbus

However, Will County is not keeping pace with the larger Chicago region and with most peers in average annual pay in the Transportation and Warehouse industry. Will County has a lower growth in average annual pay compared to the Chicago region and has lower average annual pay in absolute numbers, where the average salary in the T&W industry in Will County is $44,275 where in the Chicago region it is $54,374, over $10,000 less than similar jobs throughout the region. This discrepancy in wages within the same industry and within the same region could have implications for Will County's ability to attract and retain the workforce necessary to support this growing industry. As this sector grows in Will County, the wage discrepancy presents an opportunity for Will County's freight sector to see increased wage growth in this sector (**Table 1-18**).

TABLE 1-18: EMPLOYMENT AND WAGE GROWTH IN THE TRANSPORTATION AND WAREHOUSE INDUSTRY, 2005-15

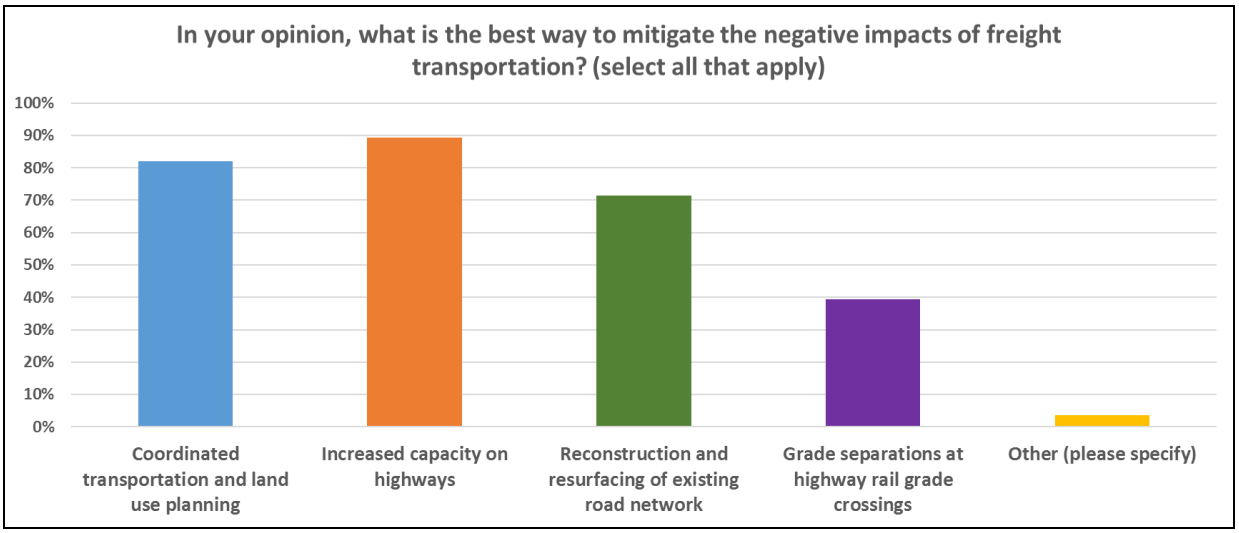
	TDL Employment			TDL Average Annual Wages		
	2005	2015	% growth	2005	2015	% growth
Will County	6,015	14,339	**138%**	36,316	44,275	22%
Chicago	169,517	187,138	10%	43,871	54,374	24%
Kansas City	36,161	39,562	9%	37,285	43,542	17%
Los Angeles	168,240	175,068	4%	43,810	56,319	29%
Memphis	61,369	63,151	3%	48,905	59,551	22%

Source: U.S. Bureau of Labor Statistics data, 2005-2015
Note: Data was not available for Columbus

1.6 INVESTING IN FREIGHT CLUSTERS

As noted earlier in this chapter, Will County has experienced a large amount of industrial growth over the past decade. One of the objectives of the Freight Plan is to better coordinate transportation and land use planning so that the County's roadway system can accommodate the increased truck traffic resulting from this industrial development growth and also better prepare the infrastructure for future developments. Survey results from the private sector freight industry shows that one of the best ways to mitigate the negative impact of freight transportation is through coordinated transportation and land use planning, see **Figure 1-41**.

FIGURE 1-41: SURVEY RESULTS: MITIGATE IMPACTS



Identifying key freight clusters in the region is an effort to prioritize infrastructure investment that will better equip the transportation system to handle the increased freight traffic. These clusters represent concentrations of freight-related land use (shown in **Figure 1-42**) combined with concentrations of Industrial Rentable Building Area (shown in **Figure 1-43).**

FIGURE 1-42: FREIGHT RELATED LAND USE

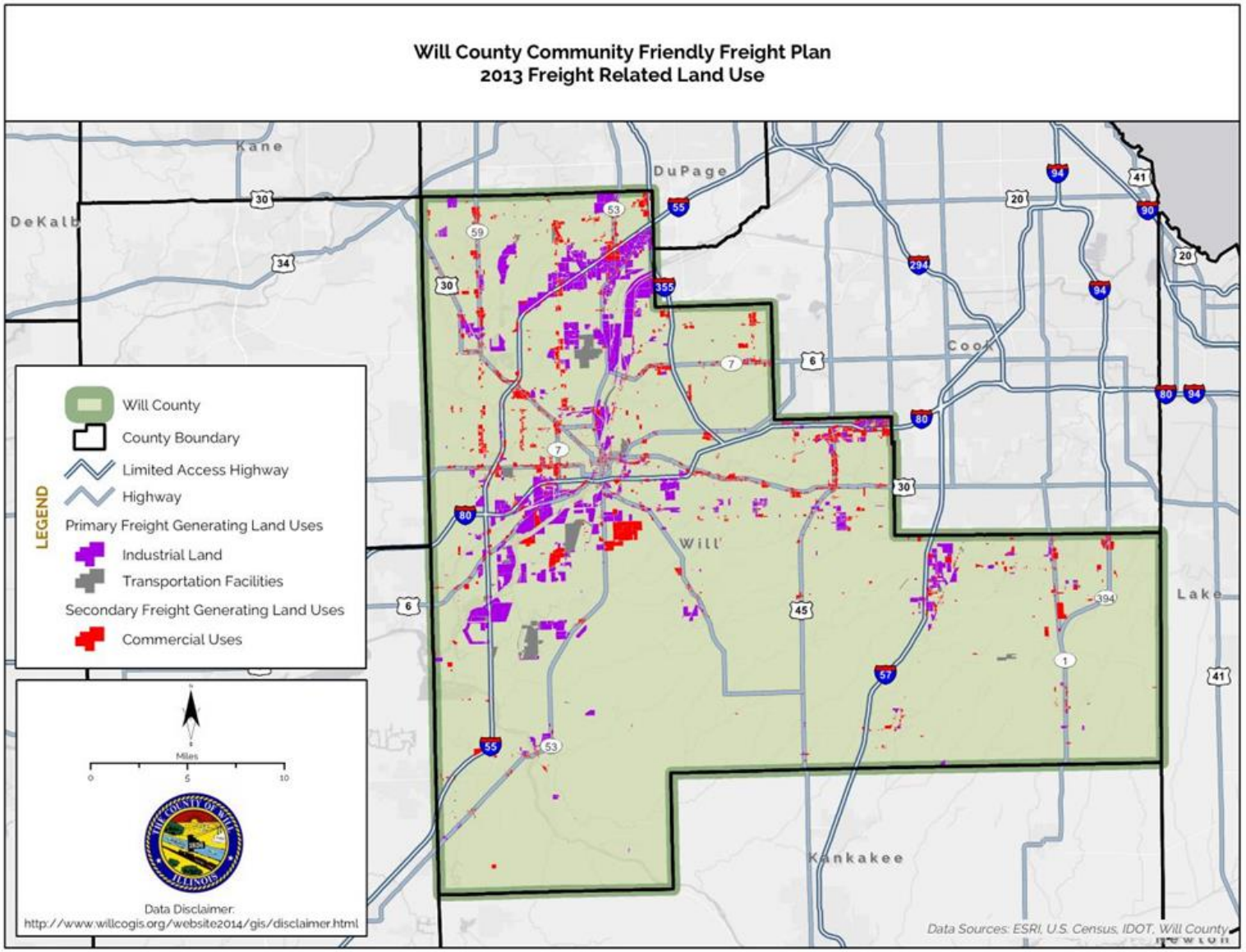
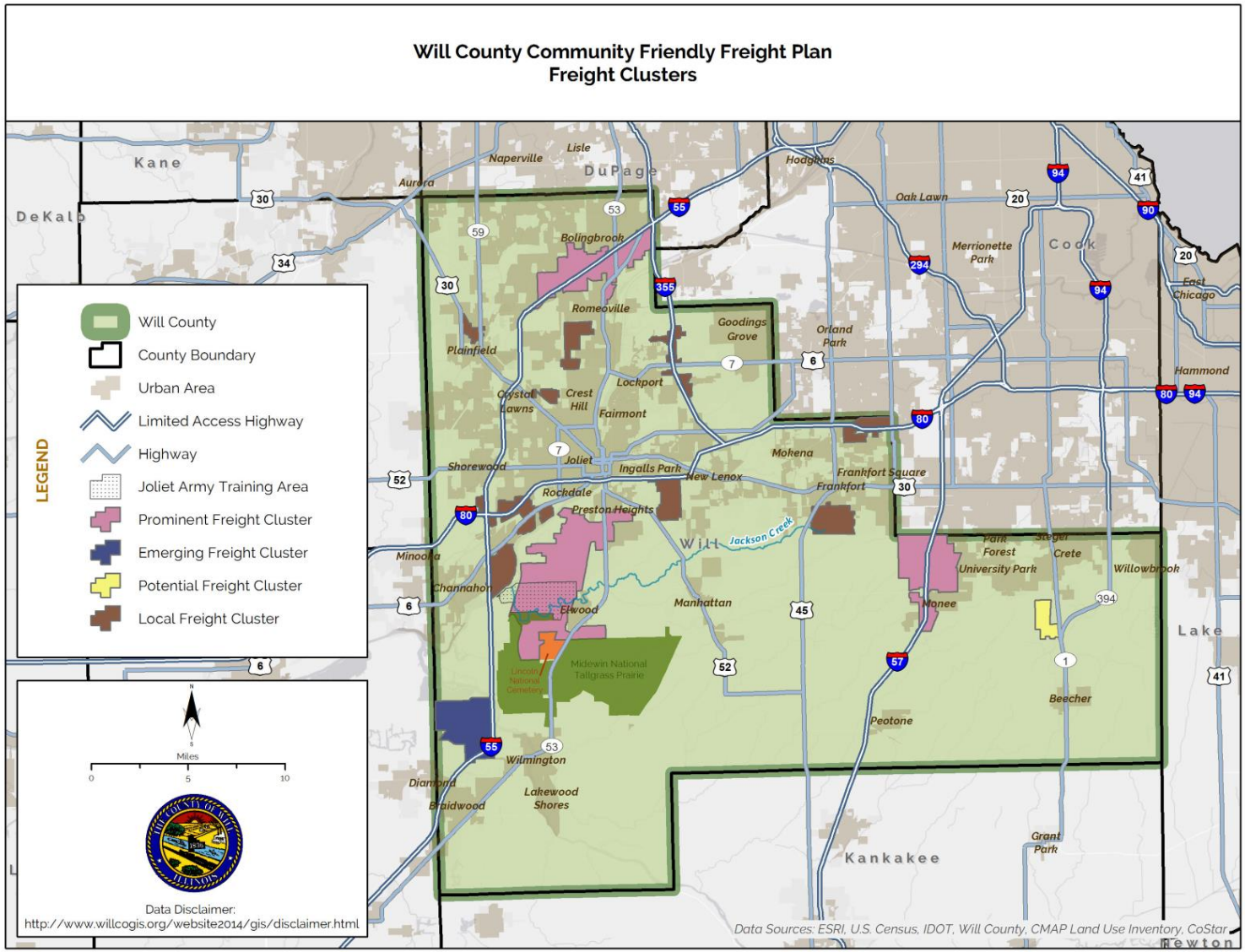


FIGURE 1-43: INDUSTRIAL DEVELOPMENT CLUSTERS



There are clear concentrations of industrial development in the County shown in **Figure 1-43**. Each cluster has varying degrees of significance on a County-wide scale for freight movement. Each has unique attributes for the businesses, employment, freight assets, and growth potential. Three distinct existing freight clusters supporting activity in the County—the Romeoville/Bolingbrook cluster, the Elwood/Joliet cluster, and the cluster in Eastern Will County around I-57 and Monee. These three clusters support the largest industrial RBA in the County and supporting infrastructure around each of these clusters will be critical to increasing the efficient movement of freight.

Two additional clusters that will play a larger role in freight movement in the County. The first is the emerging freight cluster around Wilmington. A new distribution facility, Ridgeport Logistics Center, is located on 2,500 acres, with plans for more than 20 million square feet of industrial distribution space and rail-served buildings.[44] BNSF will serve this facility and this cluster will have infrastructure needs related to freight and workforce movement in the near future.

The second cluster that may be of potential significance for freight movement is the cluster around Crete in Eastern Will County. Two major proposed developments could affect the future potential of two freight clusters—the proposed CSX intermodal facility in Crete and the South Suburban Airport in Peotone. Both of these developments would drastically reshape the freight landscape in Eastern Will County and require increased investment in the transportation system to support the increased traffic around these developments. However, neither one of these developments are officially moving forward as of the date of this report.

Should the proposed CSX development or South Suburban Airport come to fruition, these communities will want to prepare their infrastructure and truck routing system for an increase in freight traffic. Chapter 3 will discuss these proposed developments in more detail and outline how it may affect future investment in freight infrastructure. An in-depth assessment of the characteristics within each cluster are found in **Appendix C**.

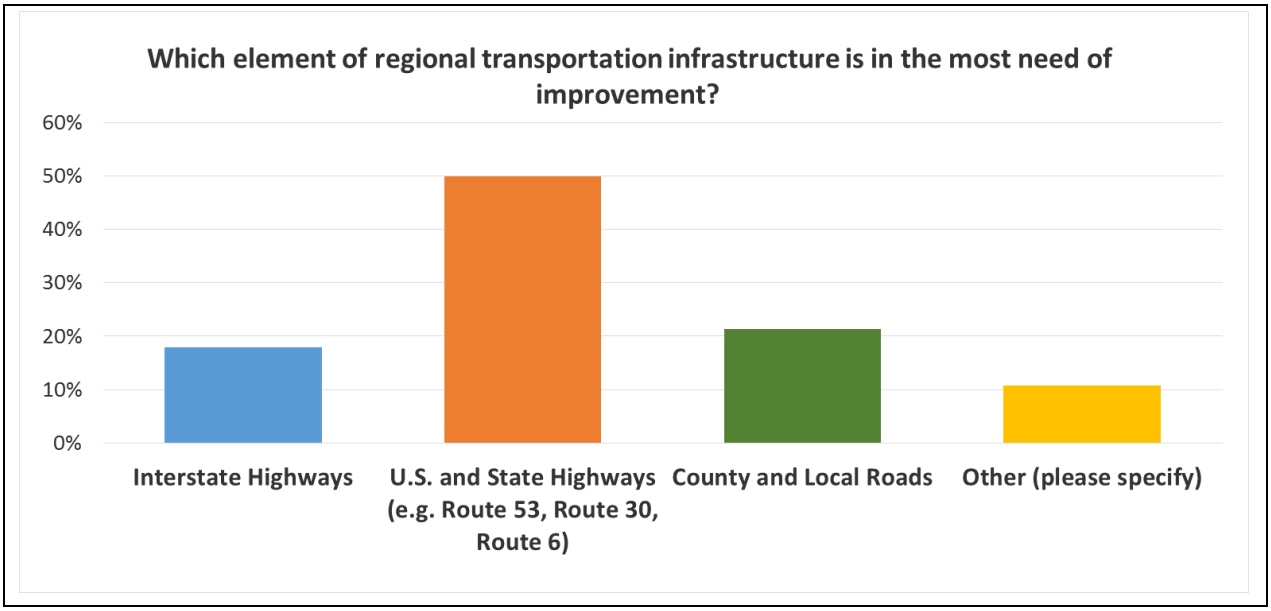
Four of these freight clusters will play a critical role for the near-term investment and programmatic efforts of the County and surrounding municipalities. The fifth potential freight cluster may become a priority should one of these proposed developments occur. These clusters will serve as key inputs to the project evaluation process for freight projects in the future state chapter. In establishing these geographies, the County will be able to better prioritize their freight-related investments and efforts.

[44] http://www.willcountyced.com/inland-port-assets.html

1.7 ANALYSIS OF FREIGHT CORRIDORS, BOTTLENECKS, AND HOTSPOTS

This section will highlight analysis of the key multimodal freight corridors in Will County and identify freight needs and deficiencies based on available data. Through outreach to the freight industry, the infrastructure in most need of improvement are U.S. Routes and State Highways as shown in **Figure 1-44.**

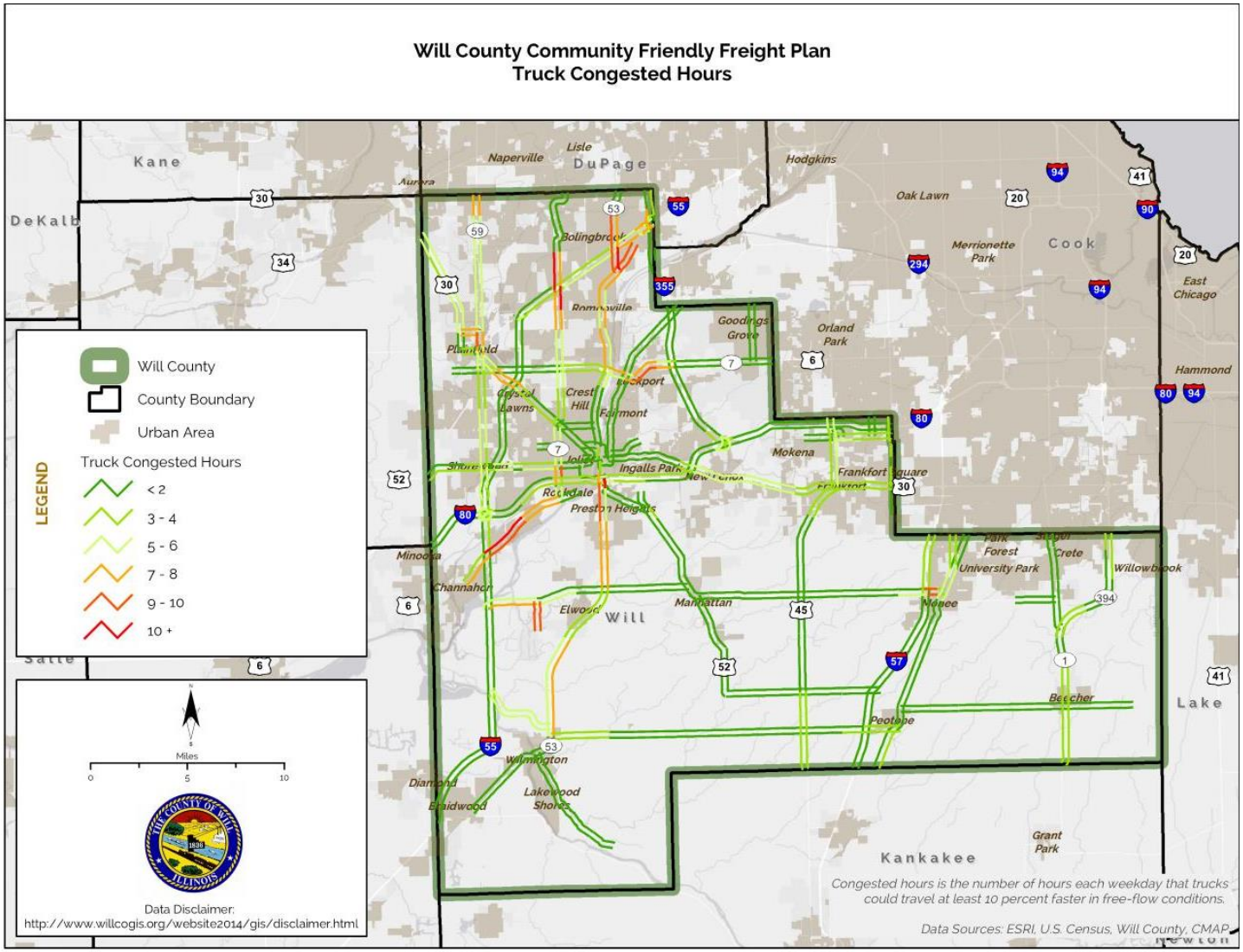
FIGURE 1-44: SURVEY RESULTS: INFRASTRUCTURE IMPROVEMENTS NEEDED



1.7.1 CONGESTION

These results are supported by **Figure 1-45** showing congested hours for trucks based on National Performance Management Research Data Set (NPMRDS). The congested hours reflect the number of hours each weekday that trucks could travel at least 10 percent faster in free-flow conditions. Key routes experiencing greater than 10 hours of congestion for trucks each weekday are Il-53 south of Joliet, Il-59 north of Renwick Rd., U.S. 6 south of Joliet, and a few other key segments. While the interstates have the highest Heavy Vehicle Counts (shown in **Figure 1-25**) many of the state routes experience the greatest truck congestion. Mitigating congestion is also one of the top concerns from the public survey results, **Figure 1-44**.

FIGURE 1-45: TRUCK CONGESTED HOURS



1.7.1.1 TRUCK BOTTLENECKS

According to ATRI data analysis which looks at truck speeds on the roadway system, there are five major truck bottlenecks in Will County. To identify the bottlenecks, truck GPS data was selected off each road (with a 60-foot buffer applied to capture local road traffic) and truck speeds were averaged for each hour of the day. The level of congestion at each bottleneck varies by time of day. **Appendix N** shows in-depth photos of the truck speeds and congestion by time of day for each intersection. Shown in **Figure 1-46**, the bottleneck locations are:

- The I-57 interchange at Manhattan-Monee Road
- I-80 at U.S. 52/IL 53
- U.S. 30 and Gougar Road
- Main Street/U.S. 66 and Division Street in Plainfield, IL
- U.S. 30, northwest of I-55

1.7.1.2 GRADE CROSSING DELAY

One contributor to congestion are grade crossings. Will County has 163 grade crossings, some of which cause passenger delay. Many have safety implications for residents. The three top grade crossings contributing to congestion are located in the vicinity of Joliet, shown in **Figure 1-47.** Not all grade crossings interact with the roadway system, but grade separating those crossings can improve safety and potentially decrease congestion. Additionally, local officials in Will County note that grade crossings also cause issues for emergency access to health care facilities or for ambulances needing to quickly reach a resident.

FIGURE 1-46: TRUCK BOTTLENECKS

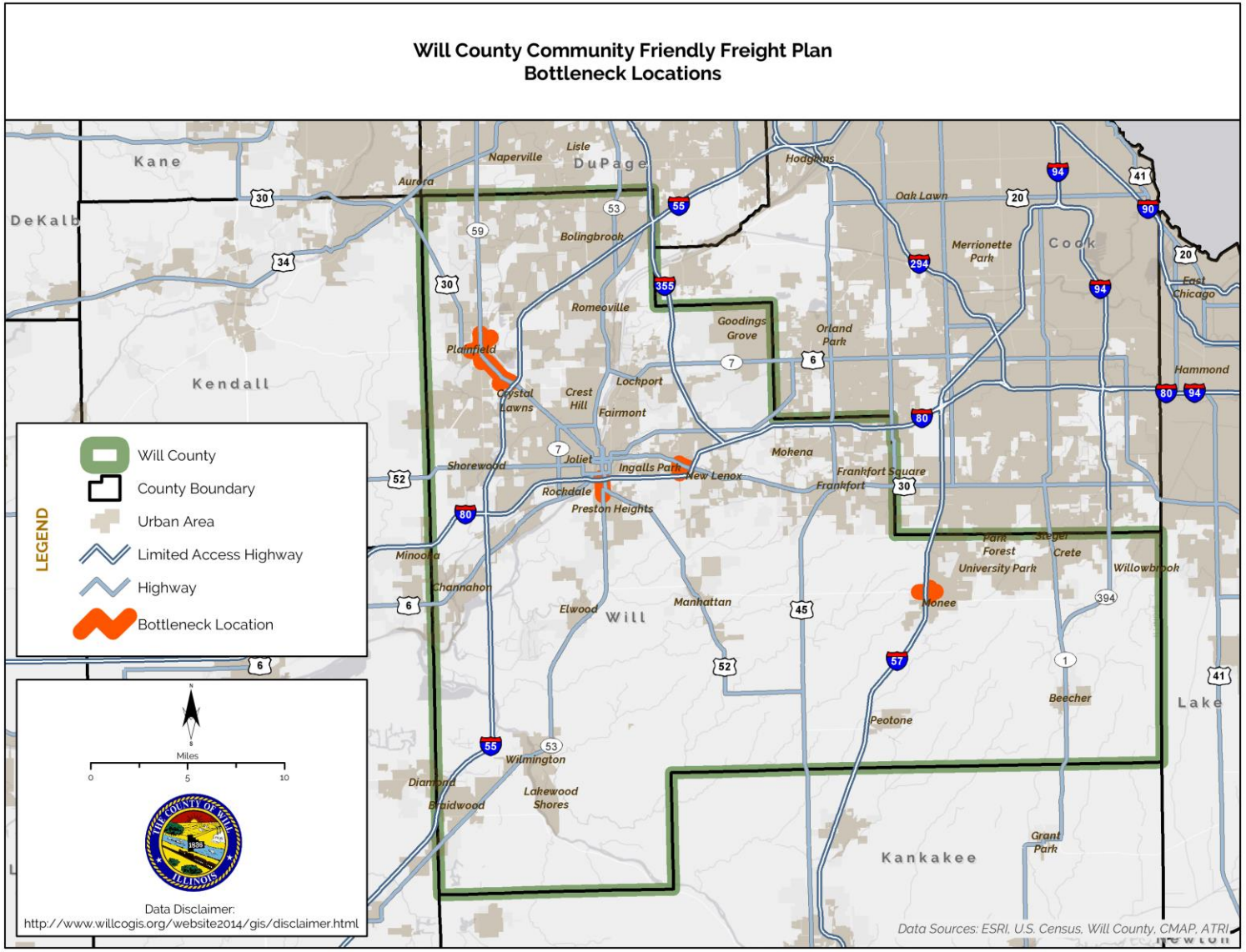
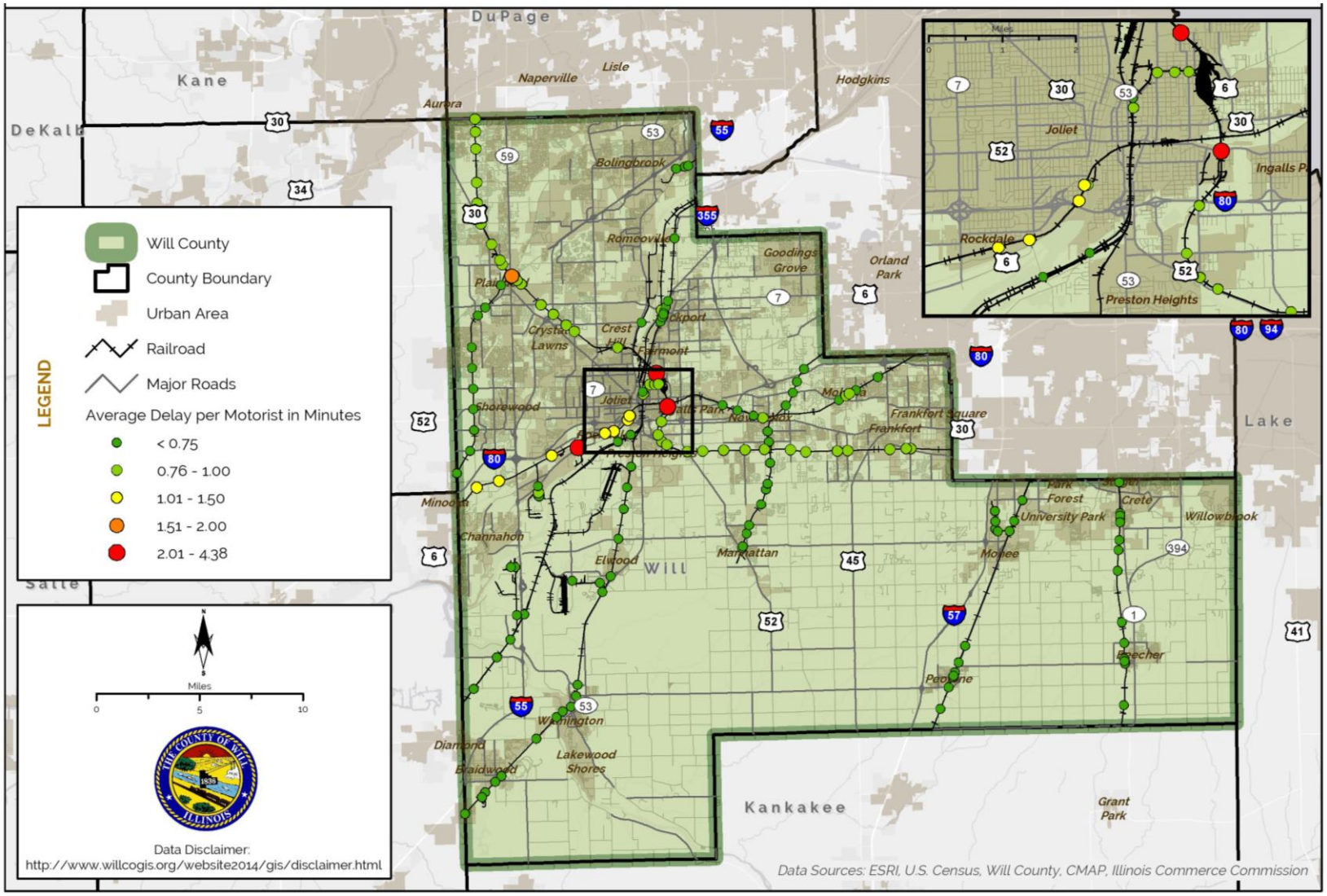


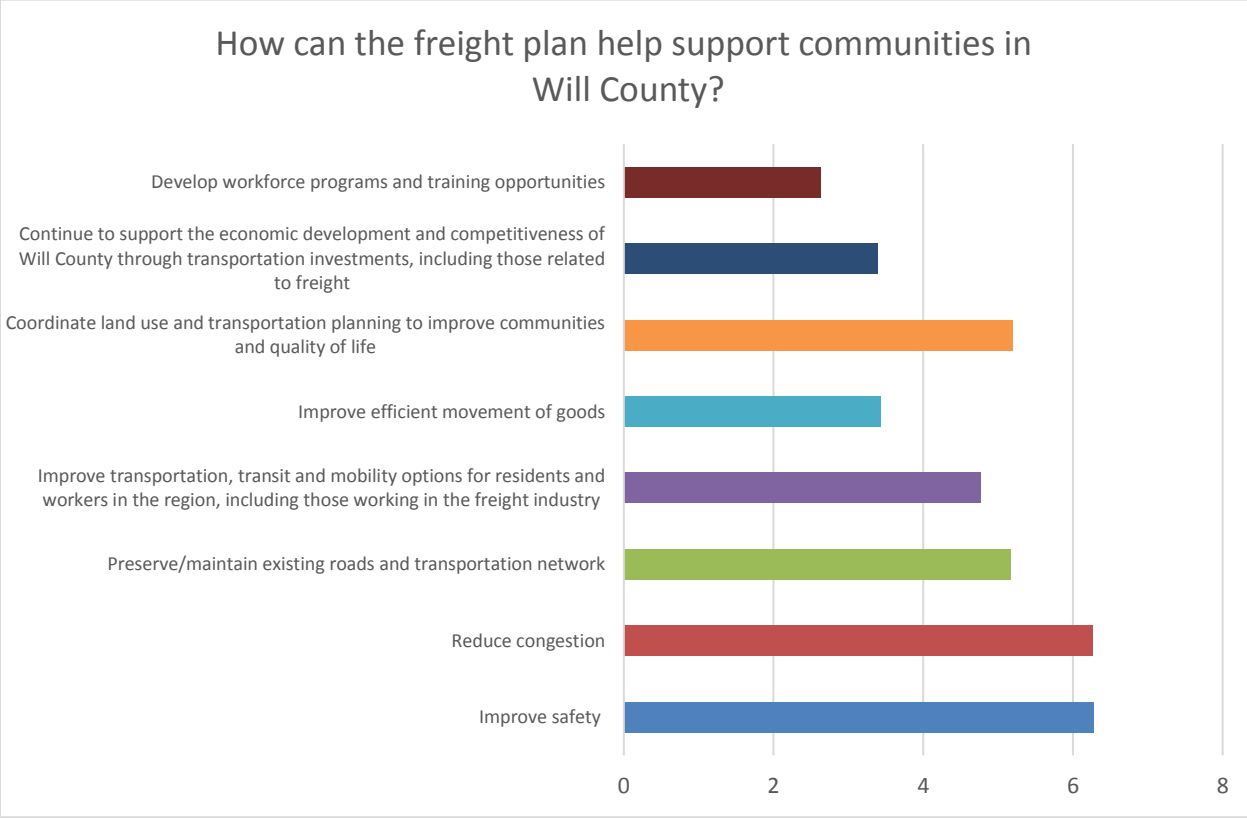
FIGURE 1-47: MOTORIST DELAY AT GRADE CROSSINGS



1.7.2 SAFETY

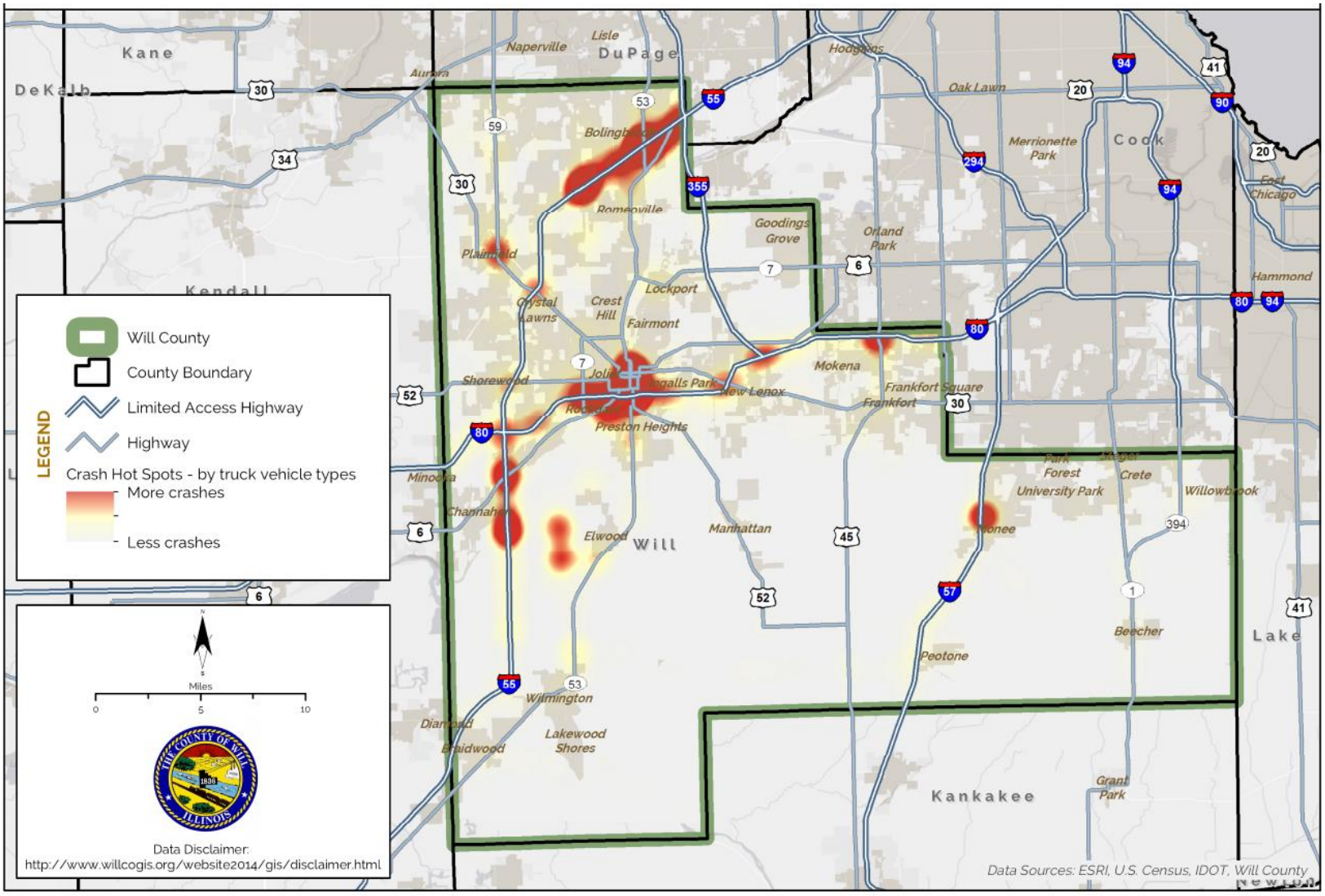
Safety is one of the six goals of the Freight Plan and is one of the top concerns from Will County's residents and freight businesses. According to the public survey, improving safety is the top way the freight plan can help support communities, see **Figure 1-48** or **Appendix G** for a summary of the public survey. The public survey also reflected that the top consideration for quality of life for residents are also safety related—feeling safe getting around and using the streets, roads, etc.

FIGURE 1-48: SURVEY RESULTS: COMMUNITY SUPPORT



Using truck crash data over the past five years from 2010-2014, there are several key routes that have the highest crash rates. **Figure 1-49** shows the truck crash hot spots in Will County. Clearly, most of the hot spots follow areas with high heavy vehicle counts such as I-55 and I-80 and some align with the bottlenecks identified previously. There are also several hotspots that emerge such as near CenterPoint, on I-57 near Monee, and the entire highway system around Joliet.

FIGURE 1-49: CRASH HOT SPOTS



1.7.3 BRIDGE CONDITION

Improving bridges to a state of good repair is often one of the highest priorities for departments of transportation. Bridges are often the most vulnerable places in the roadway network, hence monitoring the condition and investing in bridges is essential. Trucks place increasing strain on bridges and DOTs at all levels of government identify those bridges that cannot handle the strain of truck traffic and post weight limits on those bridges, see **Figure 1-5.**

IDOT tracks all bridges that are considered structurally deficient in Illinois. Will County has several bridges that fall in to this category, see **Figure 1-50**. While a structurally deficient bridge does not always translate in to an unsafe bridge, these are the bridges that are the focus of investments for improvements. In fact, one of IDOT's top investment priorities for bridges is the Des Plaines River Bridge on I-80. Through the outreach efforts in this plan, the Des Plaines River Bridge was frequently mentioned as the most critical infrastructure investment needed in Will County.

Based upon the data provided in **Figure 1-51**, many of Will County's bridges are in good condition. **Table 1-19** provides a summary of the bridge condition in Will County and describes each bridge condition category.

TABLE 1-19: BRIDGE CONDITION IN WILL COUNTY

Bridge Condition	Number of Bridges	Percent of Bridges
Satisfactory to Excellent Condition	502	75.15%
Poor to Fair Condition	142	21.26%
Critical to Serious Condition	23	3.44%
Failed Condition	1	0.15%
Totals	668	100%

**Source: Illinois Highway Information System Structure Information and Procedure Manual, May 2016*

FIGURE 1-50: STRUCTURALLY DEFICIENT BRIDGES

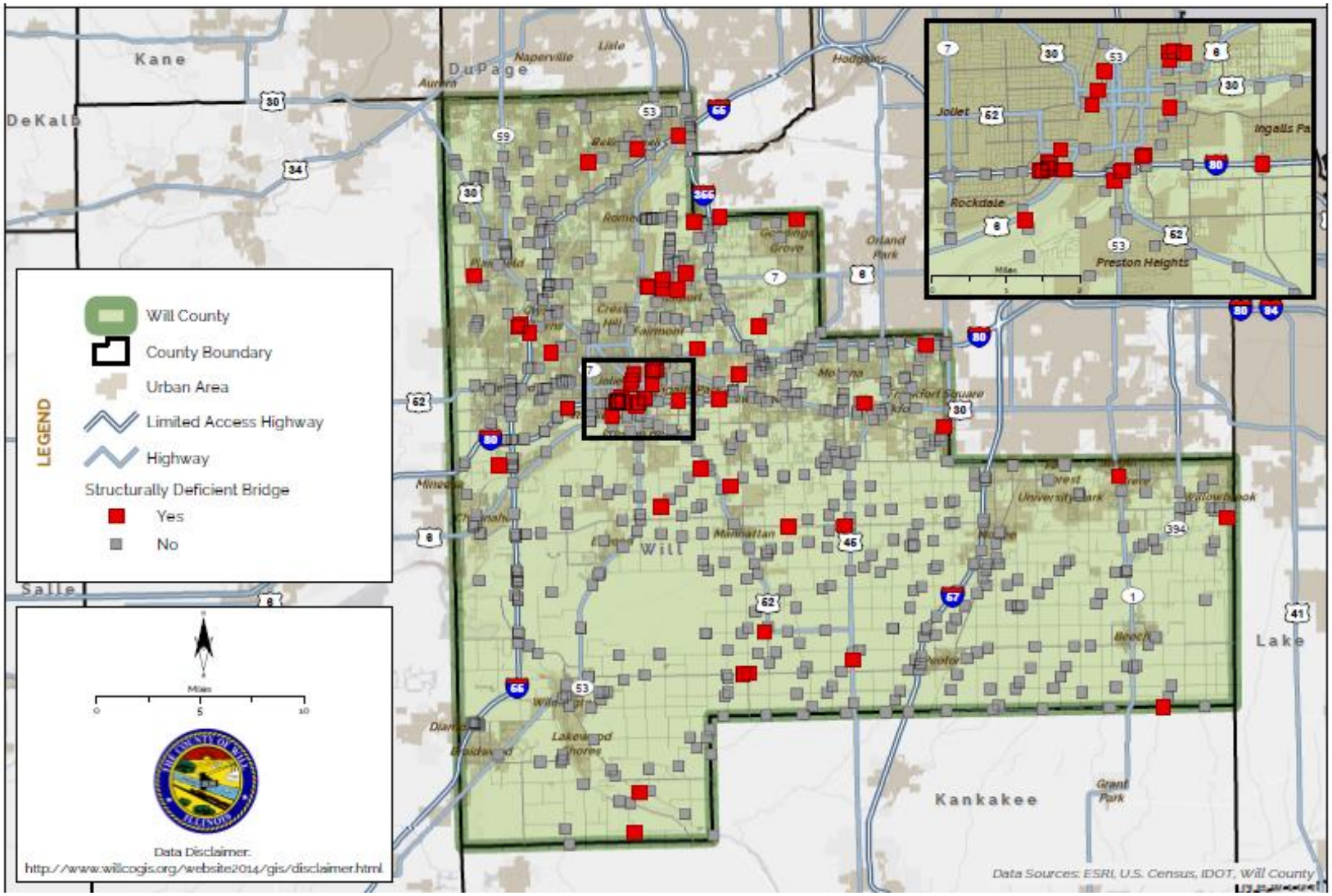
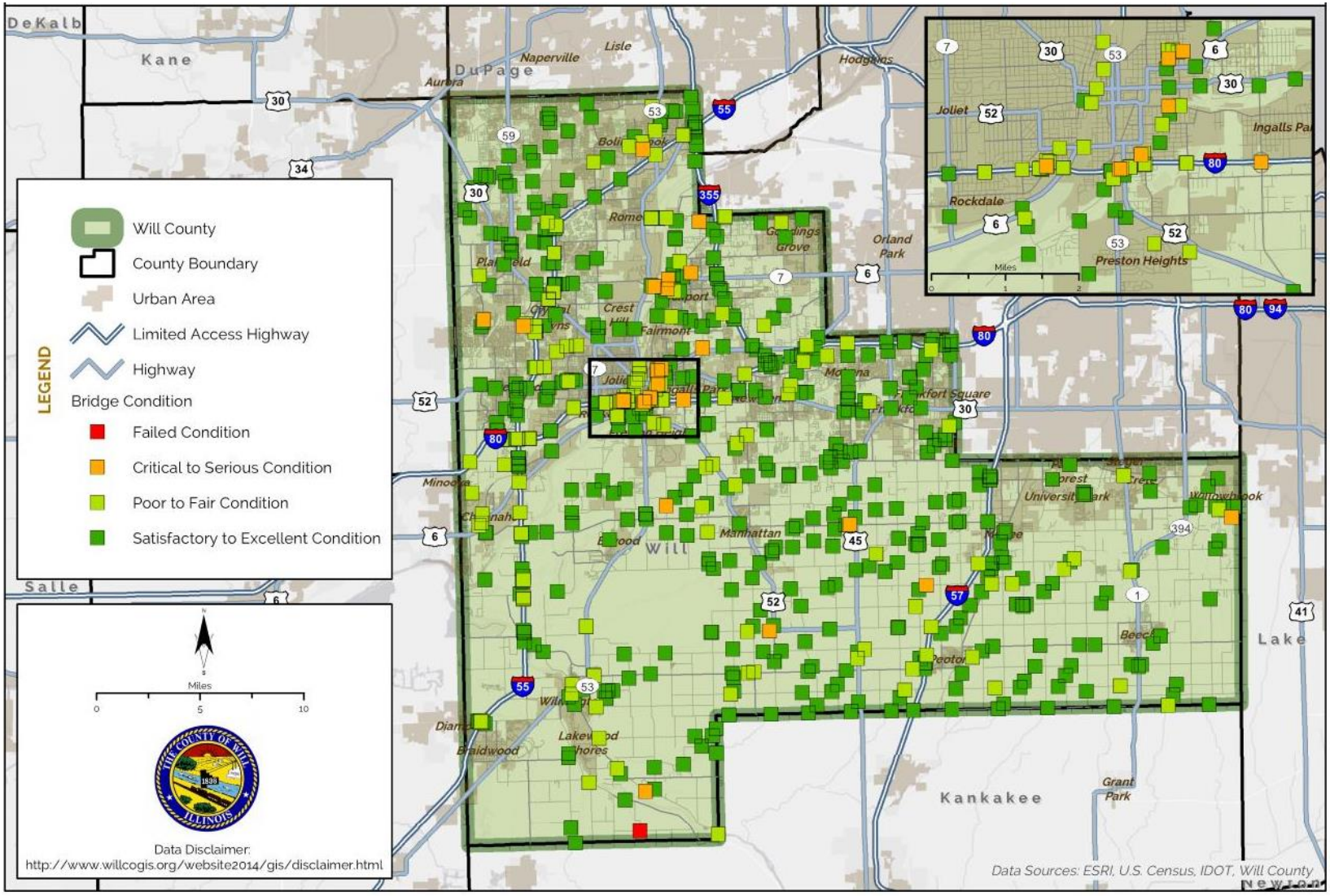


FIGURE 1-51: BRIDGE CONDITION



1.7.4 FREIGHT DEFICIENCIES

Figure 1-52 provides an index of freight deficiencies provided by CMAP on the roadway network that consider factors such as truck congestion, truck reliability, truck crashes, and condition of the roadway. The key areas of concern include I-80, I-55, I-57, Route 53 near Joliet, Route 7, and other segments on local routes. Additionally, the I-80 and I-55 interchange has the highest deficiency score of any segment on the network.

Additional deficiencies were also identified through the freight industry surveys, the truck driver survey, and the public survey. According to the public survey, the areas most commonly identified needing improvements included:

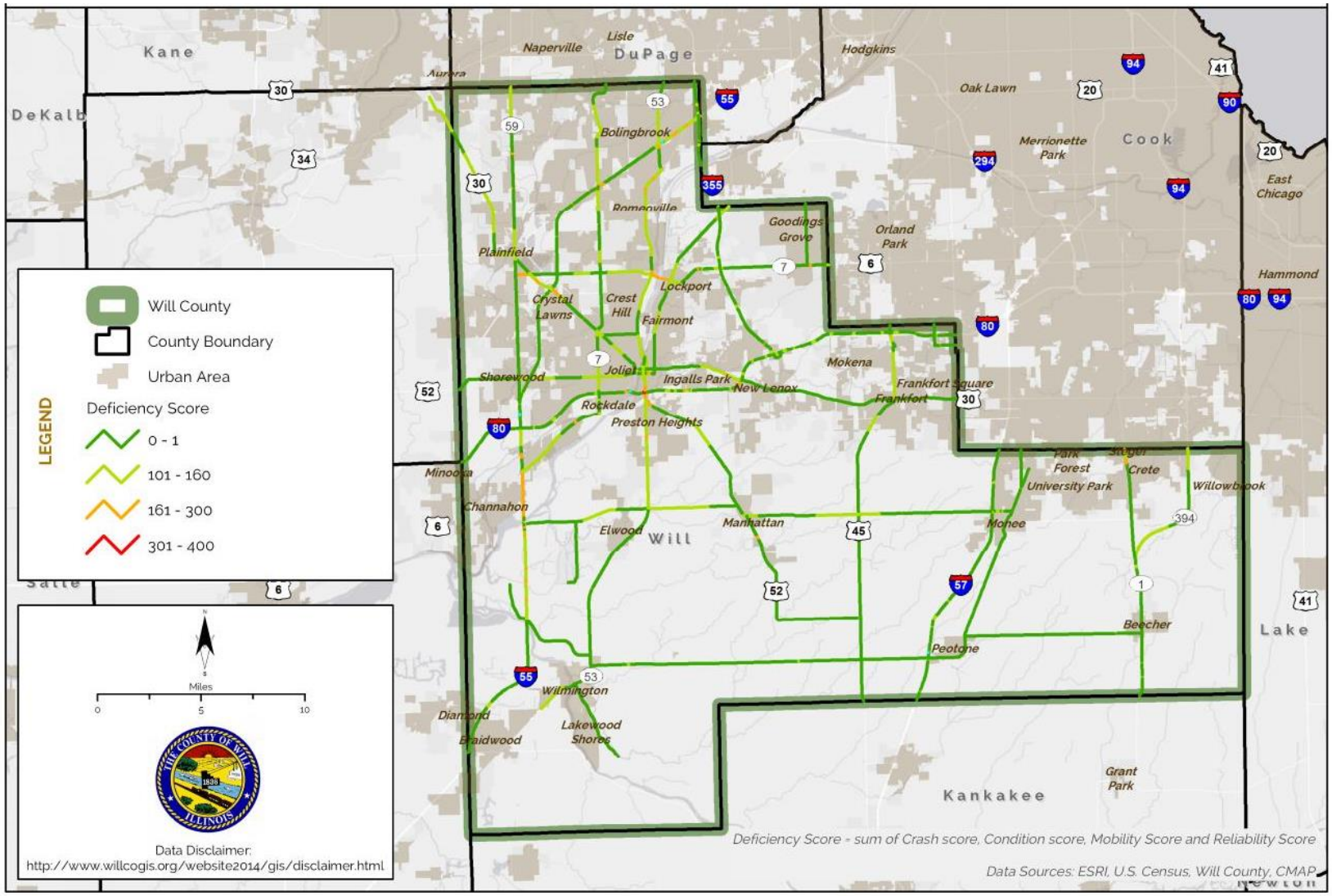
- IL Rte. 53
- I-80, I-55
- Laraway Rd
- IL Rte. 30
- IL 394
- IL Rte. 1
- U.S. Route 6
- Manhattan Rd
- Gougar Road
- Weber Rd[45]
- Wilmington Peotone Rd.

These locations were named as a whole by some survey takers and at specific locations by others.

Phrase	Number of Mentions
53	401
80	338
55	200
Laraway	146
30	93
394	60
59	44
52	32
river	30
Wilmington	29
Manhattan	27
Chicago	27
Peotone	26
Weber	26
Arsenal	25
126	24
Gougar	21
Bridge	20
57	20

[45] A project to address the I-55 interchange and widen Weber to 6 lanes between 135th Street and 119th Street should begin construction in 2018.

FIGURE 1-52: FREIGHT DEFICIENCY SCORE



Truck driver outreach was also completed to better understand infrastructure needs and deficiencies. In order to obtain feedback directly from freight operators and drivers, the project team coordinated with over a dozen businesses to display maps of Will County roads in the break rooms and loading docks of local trucking companies. Some of the key infrastructure needs identified through this process are:

- The intersection of Laraway and IL Rte. 53
- I-55 & Weber Road (Interchange)
- IL Rte. 53 to I-55 North
- The area of IL Rte. 53 near I-80
- Baseline Road
- I-80 near Chicago St. and its ramps.

1.7.5 QUALITY OF LIFE – COMMUNITY CONCERNS

In addition to the data-driven infrastructure needs, Will County residents have additional concerns about freight movement in Will County that help inform recommendations on projects and programs. Three open houses and an online public survey were used to obtain public input on the Freight Plan. For more detail on community concerns, see section 3.5 in Chapter 3. The key items of community concern heard through the three public meetings are as follows:

- Rerouting trucks off local streets
- Right-sizing land use in the County—balancing warehouse and distribution development with other uses
- Planning for transportation investments along with freight industrial development
- Reducing truck noise
- Improving safety for residents by separating truck traffic from residential traffic

According to the public survey, the top five concerns related to freight in Will County according to residents are:

1. Safety
2. Conversion of farmland or open space for freight developments/use
3. Truck traffic
4. Roadway congestion
5. Congestion related to warehouse distribution and intermodal sites

1.7.6 KEY FREIGHT CORRIDORS

As a part of the FAST Act, states and regions can designate Critical Urban Freight Corridors and Critical Rural Freight Corridors. Certain federal funding sources may be directed towards these routes so designation is important for funding opportunities. The National Highway Freight Network (NHFN) includes the following subsystems of roadways:

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerlines miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. In Will County, these cover all of the Interstate miles in Will County and the Intermodal Connector to the CenterPoint Intermodal Center for a total of about 95 miles.

- **Other Interstate portions not on the PHFS:** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.

- **Critical Rural Freight Corridors (CRFCs):** These are public roads not in a Census Designated urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.

- **Critical Urban Freight Corridors (CUFCs):** These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.[46]

A draft list of CUFCs and CRFCs have been proposed by the Metropolitan Planning Organization (MPO) in consultation with the Counties and IDOT. CUFCs are designated on a rolling basis. These corridors have not been finalized by IDOT, but **Figure 6-10** shows the draft preferred critical freight corridors in Will County. In addition to the National Highway Freight Network which consists of I-80, I-55, and I-355, there are other county roadways proposed to be designated as CUFCs and CRFCs. These routes include those that[47]:

[46] https://ops.fhwa.dot.gov/freight/infrastructure/nfn/

[47] http://www.cmap.illinois.gov/documents/10180/543327/CriticalUrbanFreightCorridors_MemotoTC_20160513.pdf/1080479a-5a32-4160-824f-ea8e55260f24

- Connect to the intermodal facilities in Will County
- Address freight bottlenecks and truck congestion
- Provides access for a planned facility in the future that will address a truck bottleneck

The proposed key freight corridors to be designated as a CUFC or in the Primary Freight Network that provides access to the intermodal facilities at CenterPoint are:

- Arsenal road from I-55 to Baseline Road[48]
- Baseline Road from Arsenal in to CenterPoint

The key freight corridors that connect to the UP Joliet intermodal facility and surrounding manufacturing, warehouse, and industrial land include:

- U.S. 53 from I-80 to Laraway Road
- U.S. 6 and IL 7 from U.S. 6 at I-55 to IL 7 at I-80
- The Houboldt Parkway Extension—is proposed because it will address a key truck bottleneck and provide access to the intermodal facilities.

The other key freight CUFCs proposed that will decrease truck congestion and provide access to manufacturing, warehouse, and industrial land are:

- Weber Road from 119th Street to Taylor Road
- IL 53 from I-55 to Normantown Road

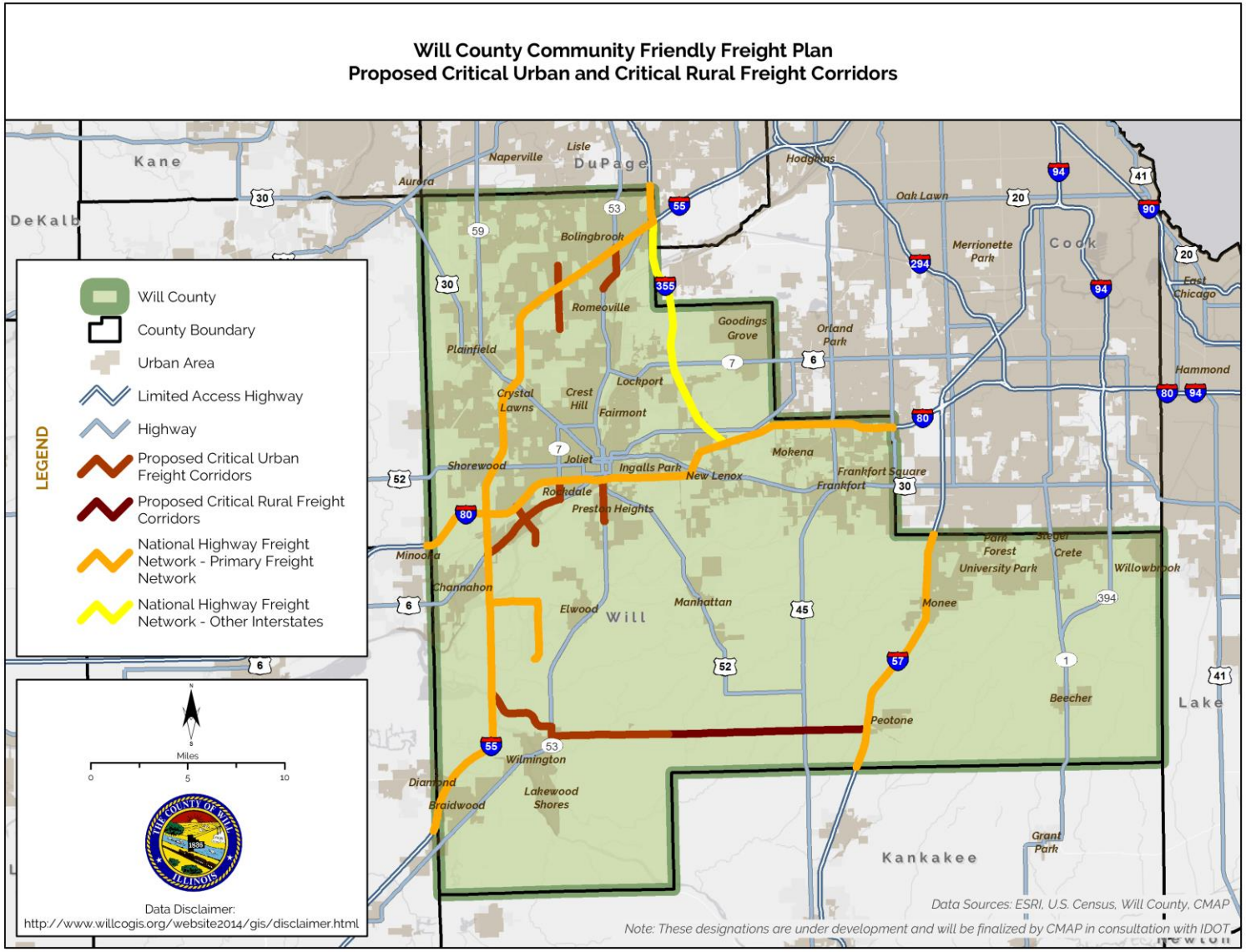
The other key CRFC provides a key East-West connection from I-55 to I-57:

- Wilmington-Peotone Road to I-57

Identifying Wilmington-Peotone road as a key freight corridor is critical for the continued mobility of freight movement in Will County. In the absence of the Illiana, this route serves as the primary East-West connection in the County outside of I-80. This roadway is identified in Will County's LRTP but was not prioritized for investment beyond intersection and spot improvements. (**Figure 1-53**)

[48] Note that this roadway is no longer a County roadway but now a State roadway

FIGURE I-53: FREIGHT CORRIDORS



1.7.6.1 ADDITIONAL FREIGHT CORRIDORS

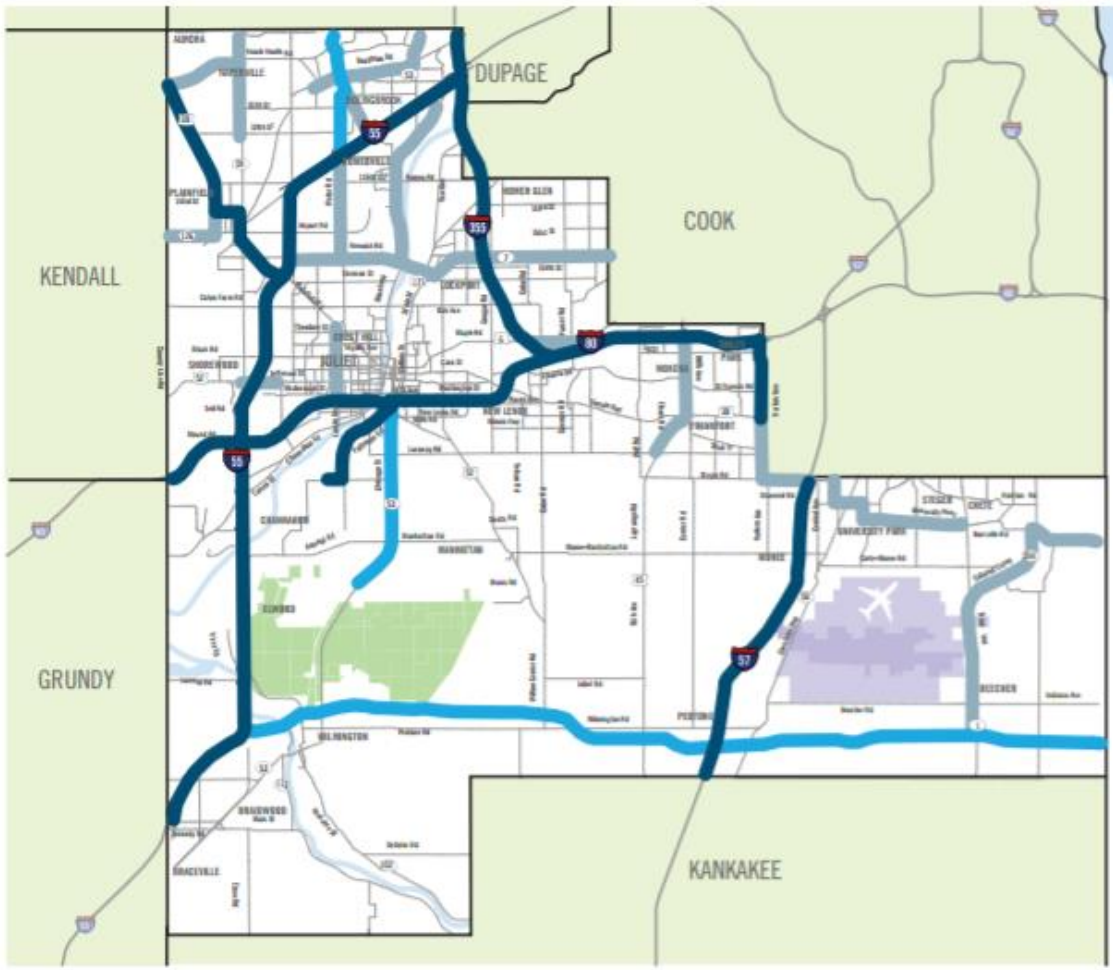
While these are the current proposed critical urban freight corridors based on Will County's input in to the needs. There may be additional corridors that are currently used by trucks that could be considered as a key freight corridor in the County. The additional freight corridors outlined in Will Connects 2040 should also be considered a freight corridor, shown in **Figure 1-54**.

Additional local routes should also be under consideration for further freight investment and local freight corridor designation. These routes were identified through the industry outreach efforts via survey and interviews in addition to freight forum and Freight Advisory Committee meetings. Additional potential local freight corridors include:

- Manhattan-Monee Road between U.S. 52 and I-57
- Laraway Road between CenterPoint Way and Route 53
- Brandon Road between Laraway Road and Patterson Road
- Caton Farm Road between I-55 and I-355
- Weber Road between I-55 and Route 30
- Route 6 between I-80 and I-355
- Route 30 between I-55 and I-80
- Chicago Street between U.S. 52 to Grove Road

Not all of these routes will be routes that the community wants trucks to travel along. However, currently trucks do travel along these routes and are using them to access their first and last mile destination. These routes should be considered as potential freight routes for investment and if trucks are not wanted along these routes, alternative routes should be indicated and clear signage should be posted as to which routes should be used.

FIGURE I-54: WILL CONNECTS 2040 CORRIDORS



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2. GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

A key component of the Will County Community Friendly Freight Plan is the establishment of goals and objectives that create the Plan's strategic framework.

- A **goal** is a broad statement that defines a desired end state when the plan is implemented.
- An **objective** is a specific, measurable statement that supports the achievement of a goal.

Goals and objectives provide a foundation for the development of performance measures and establish the strategic direction that will drive future freight investment decisions and track progress toward achieving desired outcomes.

To understand the current condition of the transportation system and to track the impact of projects, programmatic changes and investments over time, this Plan includes freight and community specific performance measures. Good transportation, workforce, and economic competitiveness performance measures that are aligned with the Community Friendly Freight Mobility Plan goals and objectives provide Will County officials the tools and information needed to implement the Plan and to monitor and track progress. The following definitions from FHWA provide context about performance management, performance-based planning and programming, and performance measures.

- **Performance Management**: "Performance management is the practice of setting goals and objectives; an on-going process of selecting measures, setting targets, and using measures in decision-making to achieve desired performance outcomes; and reporting results."
- **Performance Based Planning and Programming**: "Involves using data to support long-range and short-range investment decision-making. It generally starts with a vision and goals, selection of performance measures, and use of data and analysis tools to inform development of investment priorities, which are then carried forward into shorter-term investment planning and programming."
- **Performance Measure**: "A metric used to assess progress toward meeting an objective."[49]

[49] Federal Highway Administration, Performance Based Planning and Programming Guidebook, 2013.

2.1 GOALS, OBJECTIVES AND PERFORMANCE MEASURES DEVELOPMENT PROCESS

The Will County Community Friendly Freight Mobility Plan goals and objectives were developed through review of transportation goals in current statewide, regional, and local plans, review of the national freight goal areas introduced in MAP-21, and through coordination with the Freight Advisory Council (FAC) and the Will County Freight Forum. Refer to **Appendix H** Goals and Objectives Technical Memorandum for more details about the development of the goals and objectives. **Figure 2-1** illustrates the elements used to develop the goals and objectives.

The following process assisted in identifying performance measures for the Will County Community Friendly Freight Plan:

1. **Define desired performance measures** based on Will County's Community Friendly Freight Mobility Plan vision, goals, and objectives by:
    a. Coordinating and obtaining input from state, regional, and county staff, and from private freight and logistic businesses to ensure the measures represent a balanced approached through the coordination with the FAC and Freight Forum.
2. **Assess each performance measure** by answering the following questions:
    a. Is the measure meaningful?
    b. Is the measure useful in assessing progress in achieving the objectives?
    c. Is the measure simple enough to be understood by the public?
    d. Is the measure focused on public and private sector needs and demands?
    e. Is reliable data available to track the measure?
    f. Is the data cost-effective to collect and report?
    g. Can the data be compared over a given time period?
3. **Select measures** that are focused on achieving the Community Freight Friendly Mobility Plan objectives.
4. **Determine the amount of information needed** for each measure by answering the following questions:
    a. What performance information is currently being used? Is it useful information for the Community Freight Friendly Plan?
    b. What other information needs to be collected? Is data currently available or is new data required?
    c. What resources (time and cost) will be needed to collect and process the data?
    d. How often will the data need to be collected to assess progress?
5. **Define each performance measure** by identifying:
    a. The data source to assess the measure.
    b. The method used to calculate the measure.
    c. The reporting period for the measure.

FIGURE 2-1. GOALS, OBJECTIVES, AND PERFORMANCE MEASURES DEVELOPMENT PROCESS

2.2 GOALS, OBJECTIVES AND PERFORMANCE MEASURES

The Community Friendly Freight Mobility Plan goals, objectives, and performance measures are consistent with the Will County LRTP, CMAP Freight Plan and Comprehensive Plan, State Freight Plan, and are aligned with MAP-21 national goals and performance measures.

A survey was conducted with the FAC to identify the issues, barriers, and factors affecting goods movement in Will County. The responses to the following five freight movement questions played an integral role in developing meaningful goals, objectives, and performance measures.

Top four critical freight issues:

1. Ability to attract and retain future TDL workforce
2. Wear and tear on infrastructure
3. Availability of qualified, skilled truck drivers to meet current and future demand
4. Trucks affecting local traffic movement

Most important factors for moving freight more efficiently and supporting the regional economy:

1. Infrastructure condition
2. Direct and indirect cost of congestion

Top three most encountered barriers:

1. Peak-period congestion
2. Congestion due to the presence of freight
3. Congestion due to incidents on the roadway

Top three most beneficial improvements:

1. Highway capacity (more lanes)
2. Highway connector improvements (first and last mile)
3. Highway ramp improvements

2.2.1 GOAL AREAS

Based on the review of existing plans and outreach with the FAC, Freight Forum and Will County freight stakeholders, six goal areas were established and finalized. The six goal areas are safety, mobility, preservation enhancement, workforce, economic competitiveness, and community livability. The following sections describe the six goal areas and associated objectives and performance measures.

2.2.2 SAFETY

Improving safety on Will County highways is critically important. Approximately 12 percent of all highway related fatalities involve large trucks.[50] Several factors affect roadway safety including driver behavior, enforcement, education, infrastructure conditions, and technology innovations. Improving safety requires coordination among federal, state, regional, and local agencies as well as private stakeholders. The following graphic provides the safety goal, associated objectives, and performance measures that will lead to improved safety on Will County's multimodal transportation system.

Goal

- Provide a safe multimodal transportation system for motorized and non-motorized users

Objectives

- Emphasize safety in all elements of transportation planning and project development and incorporate freight safety counter measures based on the context in which a project is proposed
- Mitigate safety issues that arise from freight movement
- Provide alternative routes in case of emergencies and extreme weather events
- Reduce the incidence of crashes on the system, particularly at high-crash locations
- Reduce crashes at at-grade rail crossings

Performance Measures

- Total number of fatalities involving trucks in Will County
- Total number of serious injuries involving trucks in Will County
- Rate of collisions at pedestrian, private, and public at-grade rail crossings in Will County per number of at-grade rail crossings in Will County

[50] Federal Highway Administration, Freight Management and Operation, February 1, 2017.

2.2.3 MOBILITY

Mobility is defined as the ability to move or be moved freely and easily. Moving people and goods efficiently, affordably, and reliably is vital to Will County's economic competitiveness and quality of life. Local businesses depend on the highways, rail, and waterways to deliver the goods needed to succeed in today's global economy. As confirmed by the FAC and Freight Forum stakeholders, goods movement can negatively impact mobility. Eliminating or reducing congestion caused by freight bottlenecks improves mobility for all system users, in turn making it more efficient for local companies to import materials and export final goods to markets. A delicate balance exists between addressing freight and community mobility needs, but as noted in Will Connects 2040, Will County's transportation system must strike a balance between honoring its rural history and adapting the transportation system to meet the demands of the 21st Century. The following graphic provides the mobility goal, associated objectives, and performance measures that will lead to improved access to markets for Will County businesses.

Goal

- Provide improved access to local, regional, national, and international trade markets, preserving and enhancing people's quality of life, natural resources, and agriculutural businesses

Objectives

- Incorporate features to enhance freight movement and provide adequate design to accommodate large freight vehicles in proposed transportation projects
- Maintain an effective and efficient multimodal regional freight transportation system to support the region's economy
- Improve cooperation between public agencies and the private sector to improve freight movement and regional economic competitiveness
- Improve the existing system through investments designed to reduce congestion and freight bottlenecks or "choke points"
- Improve freight mobility and last/first mile connectivity between freight modes and major generators
- Reduce deficit of truck parking
- Review Incident/Emergency Management Plan and work with appropriate public agencies to improve incident clearing times
- Provide efficient local connectivity to the state system
- Reduce the number of at-grade rail crossings
- Increased access to air service for existing and new logistics businesses

Performance Measures

- Number of truck congested hours on the NHS roadway network within Will County per CMAP data.
- Percentage of Will County NHS roadway system mileage providing for reliable Truck Travel Time Reliability (TTTR)
- Number of designated truck parking spots identified within freight clusters defined by this plan

2.2.4 PRESERVATION ENHANCEMENT

Illinois DOT (IDOT), Will County, USDOT, and the private sector have invested billions of dollars constructing roads, bridges, rail networks, intermodal facilities, airports, and water ports over the last century. Regular maintenance and routine improvements are required to keep infrastructure assets operating efficiently and safely. Properly preserving these assets extends the useful life and delays the cost to reconstruct or replace infrastructure assets.

Based on the FAC survey results, the "wear and tear on infrastructure" ranked as the highest freight concern. When asked to rate the importance of 15 factors for moving freight more efficiently and supporting the regional economy, the top ranked factor was "infrastructure condition". The following graphic provides the preservation enhancement goal, associated objectives, and performance measures that preserve and maintain Will County's transportation assets.

Goal

- Preserve and maintain transportation assets and manage their operations using a spectrum of strategies, tools, and technologies

Objectives

- Coordinate with agencies that own critical freight bridges to ensure weight restrictions are not imposed or, if needed, improvements are made
- Maintain pavements along high truck traffic corridors and intersections to eliminate rutting and cracking
- Consider innovative funding and finance options
- Improve technology
- Improve local and state roads and bridges to maximize the benefits to Will County as a result of completed and proposed regional projects

Performance Measures

- Percentage of NHS roadway on the truck route system in Will County in good condition
- Percentage of NHS roadway on the truck route system in Will County in poor condition
- Percent of bridge deck area on the Will County Truck Route System in good condition
- Percent of bridge deck area on the Will County Truck Route System in poor condition

2.2.5 WORKFORCE

The transportation workforce of tomorrow will require different skill sets than those of today. Changes over time will require the transportation and warehousing workforce to adapt by altering curriculums, partnerships, and training to meet the challenges of the rapidly changing 21st Century TDL sector of the economy. The following graphic provides the workforce goal, associated objectives, and performance measures that will assist in the attraction and retention of TDL workforce in Will County.

Goal

- Retain and attract TDL Workforce to meet the needs of current and future employers by working collaboratively with employers, educators, nontraditional workforce, trade and professional organizations, and the economic development community.

Objectives

- Continue to prepare the TDL workforce for today's jobs and future TDL job opportunities
- Improve workforce retention and attraction programs
- Attract under-represented groups to TDL sector
- Foster continued communication between training professionals and TDL sector to integrate technology applications
- Create a vehicle to engage TDL HR and workforce managers to discuss common issues and collaborative solutions
- Develop a TDL workforce collaborative to develop partnerships between private sector employers
- Develop and disseminate a vacancy survey and wage/salary survey to TDL businesses
- Continue to improve TDL workforce skills
- Continue to invest in strategic training/educational programs for TDL cluster
- Share best practice strategies to improve retention and attraction of current TDL workforce
- Improve the understanding of workforce commute patterns and future needs
- Coordinate with PACE bus service and Metra to move people from where they live to TDL job clusters
- Work with employers, private transit providers and public transit providers to close the gap in first and last mile connections for workers
- Improve transportation systems (transit, carpooling, ride-sharing, etc.) that enhance TDL workforce mobility (journey to work) connecting employees to jobs

Performance Measures

- Average commute distance/commute time of TDL commuters
- Vacancy rate of TDL jobs based on vacany survey
- TDL employer satisfaction via regular survey
- TDL wage growth
- Employer engagement with collaborative partnership to share best practices

2.2.6 ECONOMIC COMPETITIVENESS

Will County is home to an increasing number of intermodal facilities, distribution centers, warehouses, and other logistics based industries, which have made it a freight hub in the Chicago Metropolitan Area and the Midwest. Several coordinated economic development efforts identified in the Will County CED Transportation Blueprint capitalized on the County's existing freight assets and these efforts improved mobility for its businesses and residents. Economic competitiveness is directly tied to Mobility discussed earlier in this section. Transportation infrastructure investments reducing congestion and increasing the efficient movement of goods and people create economic benefits that support the community. The following graphic provides the economic competitiveness goal, associated objectives, and performance measures that support economic development and competitiveness in Will County.

Goal

- Support economic development and competitiveness through the provision of a safe, reliable, and accessible multimodal transportation system to move people and goods.

Objectives

- Coordinate with all jurisdictions to:
  - Identify the top 10 first and last mile freight connections improvements
  - Ensure that implementation of transportation freight projects and strategies do not contribute to congestion in adjacent jurisdictions
  - Enhance economic development by cooperatively developing regional community friendly freight solutions, projects, and policies.
- Review load/unload restrictions and identify if improvements can be made to improve safety and accessibility
- Promote and leverage Will County's rail access to retain and attract major industries
- Promote the maintenance and preservation of the County's navigable waterway system including the Illinois River, Des Plaines River, and the Cal-Sag Channel
- Share resources among jurisdictions to accomplish more with less and eliminate duplication of data collection

Performance Measures

- Percentage of intermodal connectors in good condition
- Number of local governments that have adopted a standard permit form
- Number of bridges with weight restrictions on truck routes
- Number of bridges on truck routes that provide sufficient height for truck movment-13.6"
- Percent of commodity moved by truck in Will County (based on tonnage)
- Percent of commodity moved by rail in Will County (based on tonnage)
- Percent of commodity moved by air in Will County (based on tonnage)
- Lane miles of designated truck routes

2.2.7 COMMUNITY

Balancing the needs of a vibrant and growing TDL economy with maintaining the character of the County's communities and ensuring citizens' quality of life is a driving force for the development of this plan. Safe, secure, and environmentally friendly freight movement is vital to the well-being of communities in Will County. As freight movement increases, strategies require updating, development, and implementation to protect against adverse impacts such as air, water, and noise pollution, and diminished access to jobs, healthcare, and education.

We understand that land use and freight planning activities require close coordination. Consequently, it is critically important that freight transportation system improvements are planned within the context of adopted land use plans to accommodate freight-generating industries and businesses, and at the same time protect the health, safety, and quality of life of Will County residents.

Goal

- Coordinate land use and transportation planning with partner agencies and municipalities to retain or improve the character of communities, enhance quality of life and enhance natural and agricultual resources through sustainable transportation investments across all forms of travel

Objectives

- Coordinate transportation planning activities among jurisdictions to ensure that implementation of freight transportation projects and strategies do not negatively impact regional air quality
- Conduct public meetings to ensure local citizens have a say on future neighborhood improvements
- Review transportation improvements to ensure they do not negatively impact neighborhood access to goods and services
- Consider freight and truck utilization and impacts on adjacent land uses and environmental resources, including in designating preferred truck routes
- Provide resources to help communities better mitigate the impacts of freight

Performance Measures

- Number of Designated Truck Route miles in residential and recreational areas
- Number of comprehensive plans that integrate freight planning and land-use decision-making activities
- Percent of truck traffic volume traveling on non-designated Truck Route System
- Multijurisdictional collaboration on planning large logistics facilities on a case-by-case basis

2.3 NEXT STEPS

2.3.1 ANALYZE DATA

Will County and the Freight Advisory Committee identified and recommended various performance measures for each goal area through the development of the Community Friendly Freight Mobility Plan. The next effort is to gather the necessary data and analyze the data. This will require a collaborative effort between Will County and IDOT, CMAP, local governments, and the TDL industry. A Will County designated plan implementation team, working with the County Department of Transportation, will lead this effort. For some performance measures, the effort is straight forward while others will take a concerted effort. **Appendix J** provides details on performance measure data sources and availability, timeframe, cost to collect, and reporting period.

2.3.2 SET TARGETS

Once the necessary data has been identified and analyzed to develop a benchmark for each performance measure, Will County will coordinate with IDOT, CMAP, and the TDL industry to develop reasonable performance targets. Target setting is defined as "the use of baseline data, information on possible strategies, resource constraints, and forecasting tools to collaboratively establish a quantifiable level of performance the agency wants to achieve within a specific timeframe."[51] The target setting process includes sharing data, understanding base conditions, exploring factors that influence performance, and that provides the information to establish targets.

2.3.3 PROJECT SELECTION PROCESS

Aligning the goals, objectives, and performance measures to the project selection process is essential. The Community Friendly Freight Mobility Plan project evaluation criteria were identified based on the goals, objectives, and performance measures. This alignment will help Will County identify projects that help meet performance targets.

[51] TPM Toolbox: Target Setting. Available at https://www.tpmtools.org/guidebook/chapter-02/chapter-02-home/.

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3. FUTURE STATE

3.1 INTRODUCTION

Will County requires a future freight plan which balances freight and transportation needs with the needs of the distribution and logistics industry, while also maintaining the character and quality of life within local communities. To achieve this, Will County needs to address Current State infrastructure challenges and anticipate likely freight trends for the next five to ten years and beyond. This chapter builds on the Current State chapter by examining how current freight conditions, land use, modal movements, needs, and community concerns need to change in the future. It includes an assessment of the following:

- Freight modal needs and opportunities
- Existing and future freight cluster growth
- Commodity movement forecasts and how they may impact the transportation system and the community
- Community and environmental impacts of freight
- International, national and regional freight trends and protentional effects on the county
- Technology advances and trends
- Key findings and their link to potential programs, policies and projects
- A Strategic Implementation Plan containing potential program responses that the County and its partners could use to address key needs and trends

The chapter also recommends a project prioritization process, developed with FAC and stakeholder input, which is coupled with a GIS based tool for identifying prioritization tiers of freight projects recommended to be moved forward by various transportation system owners in the county.

3.1.1 GUIDING VISION

This chapter provides potential tools, programs and projects to help Will County control its freight future and achieve a balance between freight and community needs. **Chapter 2** presented goals, objectives and performance measures to help guide the future implementation of this plan as well as measure progress. The plan goals related to safety, preservation/ enhancement, mobility, economic competitiveness, community

and workforce development provide an integrated guiding vision for the analysis and recommendations in this chapter.

3.2 INVENTORY OF FUTURE FREIGHT MODAL NEEDS AND OPPORTUNITIES

This section examines Will County's freight modal needs, deficiencies, and opportunities by looking at projections for growth of Freight clusters, examining overall freight growth, and linking this growth to key corridors and connections.

3.2.1 FUTURE FREIGHT CLUSTERS – LINKED TO THE EXISTING FREIGHT CLUSTERS

As outlined in **Section 1.6**, there are three clear 'superclusters' of industrial/freight oriented development in the county:

- The Romeoville/Bolingbrook supercluster includes five individual clusters in northern Will County. They are the I-55/I-355/Joliet Road, Crest Hill, I-355, Romeoville/Airport Road, and Plainfield freight clusters;
- The Elwood/Joliet supercluster is in west central Will County and includes the Intermodal, I-80/Houbolt Road, Channahon, and New Lenox freight clusters;
- The Eastern Will County supercluster is situated around I-57 and Monee and consists of the University Park/Monee, Mokena, and Frankfort clusters.

Together, these three superclusters account for more than 138 million square feet of industrial space in Will County. More than 60,000 people are employed within these superclusters, of which about 21,000 are employed in the Transportation, Trade, and Utilities sector. It should be noted that the employment numbers cited in this section rely on 2014 data provided by the U.S. Census. As such, the 2014 data does not reflect current employment totals in this sector, especially in those clusters that have experienced rapid growth in industrial development. Total proposed developments on these properties would add nearly 83 million square feet over the next 10 years.

In addition to these established superclusters, there is the emerging RidgePort Logistics Center supercluster and a potential Crete supercluster that may drive freight and industrial growth in the future:

- The Wilmington supercluster is centered on the RidgePort Logistics Center which is under construction west of the I-55/Lorenzo Road interchange. This facility already comprises nearly four million square feet with proposed additions of two buildings and 2.3 million square feet of space. At full build-out this development will have a capacity of more than 20 million square feet of industrial distribution space.
- Development of the Crete supercluster is dependent on two potential developments in Will County. The first is the proposed CSX Crete intermodal facility which, if it is built, would be located south of Crete near the IL 394 and IL 1

intersection. The second is the proposed South Suburban Airport which would be located near Peotone.

The construction of either or both would drastically reshape the freight landscape in Eastern Will County and require new investments in multimodal freight capacity.

These superclusters are identified in **Figure 3-1**.

Romeoville/Bolingbrook Supercluster contains five individual clusters located in the northern portion of Will County. Key data for each cluster is presented in **Table 3-1** and additional detail can be found in **Appendix C**. The five clusters include.

- I-55/-355/Joliet Road Freight Cluster
- Crest Hill Freight Cluster
- I-355 Freight Cluster
- Romeoville/Airport Road Freight Cluster
- Plainfield Freight Cluster

TABLE 3-1. ROMEOVILLE/BOLINGBROOK CLUSTER DATA

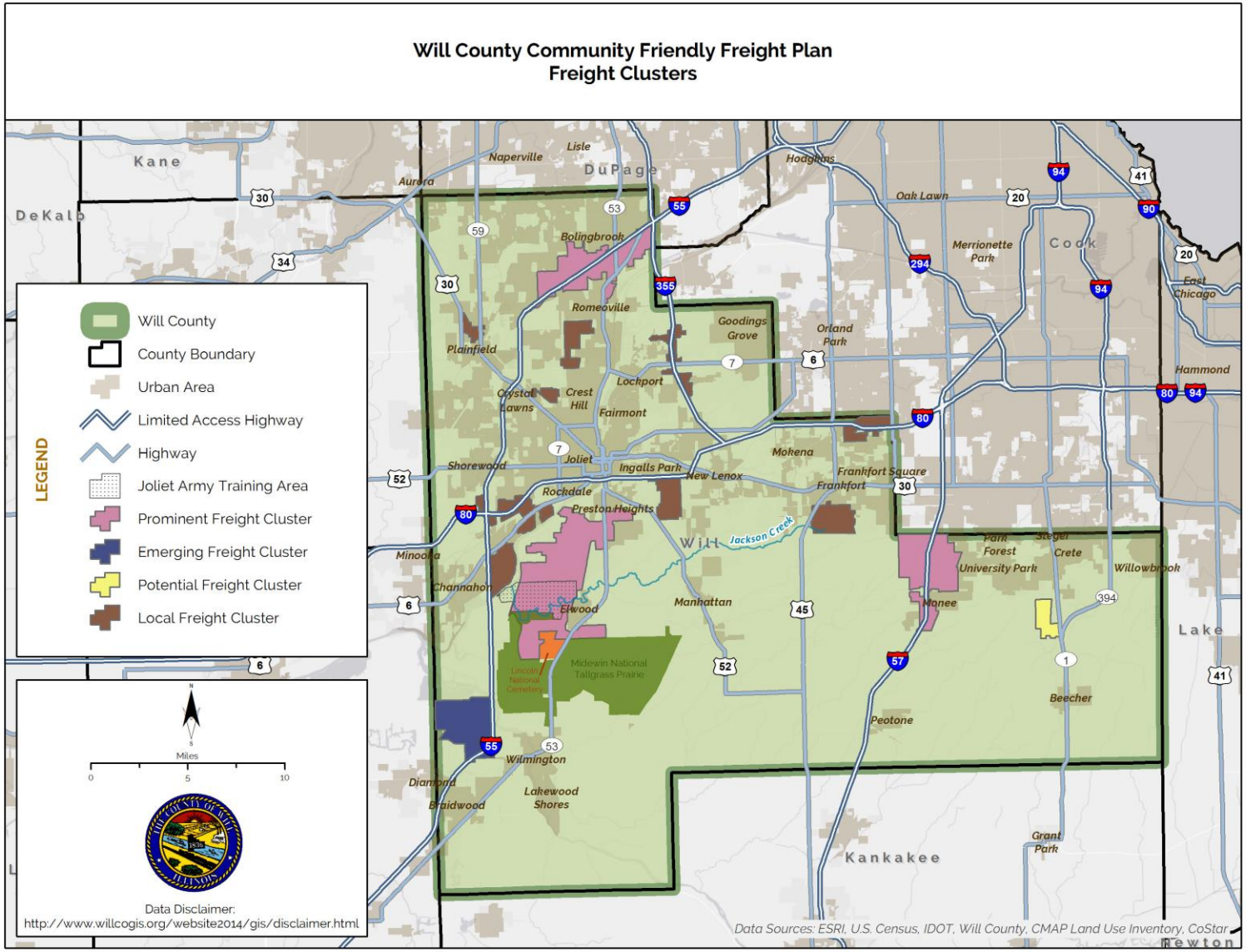
Cluster	Industrial			Current Employment (2014)			Future Employment (2026)
	Existing Building Area (s.f.)	Anticipated Growth in Building Area (s.f.)	Percent Build Out (2026)*	Cluster Total	Transportation/ Trade/Utilities	Percent	
I-55/I-355/Joliet Rd	59,831,168	14,790,000	100%	28,432	10,832	38.1%	33,329
Crest Hill	1,993,017	1,900,000	94%	210	79	37.6%	974
I-355	3,176,690	7,840,000	88%	1,213	554	45.7%	3,891
Romeoville/Airport	10,041,940	8,490,000	100%	1,542	886	57.5%	4,049
Plainfield	1,566,563	180,000	79%	1,218	581	47.7%	1,260
Total	76,609,378	33,200,000		32,615	12,932	39.7%	43,503

** The percent build out refers to the rentable building area required to fill all of the industrial space in each cluster.*
Source. RT&A, Industry Cluster Analysis

I-55/I-355/Joliet Road cluster is generally bisected by I-55 with extensions north along Veteran's Highway and south along IL 53. This cluster contains over 59.8 million square feet of industrial space and employs 28,432 persons of which 10,832 (38%) are in the transportation/trade/utilities industry. Anticipated industrial development totals 14.7 million square feet by 2026.

Crest Hill cluster is situated south of Division Street between U.S. 30 and Weber Road. The Crest Hill cluster has nearly two million square feet of industrial space and employs 210 persons of which 79 (38%) are in the transportation/trade/utilities industry. There are 1.9 million square feet of growth anticipated in this cluster by 2026.

FIGURE 3-1. FREIGHT CLUSTERS



I-355 cluster is bisected by I-355 north and south of IL 7. This cluster has over three million square feet of industrial space and employs 1,213 persons of which 45 percent (554) are in the transportation/trade/utilities industry. The anticipated growth totals 7.8 million square feet in area by 2026.

Romeoville/Airport Road cluster is generally located between Weber Road and the Lewis University Airport. This cluster contains over 10 million square feet of industrial space and employs 1,542 persons of which 58 percent (886 persons) are in the transportation/trade/utilities industry. Anticipated industrial development totals over 8.5 million square feet of additional industrial building area by 2026.

Plainfield cluster generally sits between U.S. 30 and IL 59 around W. 143rd Street. The Plainfield cluster has over 1.5 million square feet of industrial space and employs 1,218 persons of which 581 (48%) are in the transportation/trade/utilities industry. There are 180,000 square feet of growth anticipated in this cluster by 2026.

Elwood/Joliet supercluster is in west central Will County and rests approximately between I-55 and IL 53 from I-80 to south of the CenterPoint Intermodals and includes the New Lenox cluster southwest of the I-80/Gougar Road area. Key data for each cluster is shown in **Table 3-2** and additional detail can be found in **Appendix C**. The four clusters include:

- Elwood/Joliet Freight Cluster
- I-80/Houbolt Road Freight Cluster
- Channahon Freight Cluster
- New Lenox Freight Cluster

TABLE 3-2. ELWOOD/JOLIET CLUSTER DATA

Cluster	Industrial			Current Employment (2014)			Future Employment (2026)
	Existing Building Area (s.f.)	Anticipated Growth in Building Area (s.f.)	Percent Build Out (2026)*	Cluster Total	Transportation/ Trade/Utilities	Percent	
Elwood/Joliet	22,879,553	24,490,000	48%	2,290	1,429	62.4%	10,984
I-80/Houbolt Rd	9,698,466	4,740,000	61%	4,486	1,757	39.2%	6,055
Channahon	2,109,612	2,590,000	34%	955	316	33.1%	1,891
New Lenox	5,088,882	5,400,000	56%	1,738	800	46.0%	2,723
Total	39,776,513	39,220,000		9,469	4,302	45.4%	21,653

** The percent build out refers to the rentable building area required to fill all of the industrial space in each cluster.*
Source. RT&A, Industry Cluster Analysis

The Elwood/Joliet cluster is approximately located from Laraway Road to the south edge of CenterPoint Intermodal between I-55/Des Plaines River and IL 53. This cluster contains nearly 23 million square feet of industrial space and employs 2,290 persons of which 62 percent (1,429 persons) are in the transportation/trade/utilities industry. Proposed industrial development totals 2,650,000 square feet by 2026. One proposed development is the Elwood Compass Business Park. Developers have put forth a conceptual plan for a 2,000-acre warehousing, distribution, and light manufacturing park in Elwood to be built out over a 10-year time frame. To alleviate community concerns about increased truck traffic, the plan includes a new bridge over IL 53 that would link to I-55 and the future Houbolt Road Bridge onto I-80. This would be the only truck access point to the new facility.

I-80/Houbolt Road cluster is situated from the I-80/I-55 Interchange area east past Houbolt Road to the Des Plaines River. The I-80/Houbolt Road cluster has over 9.5 million square feet of industrial space and employs 4,486 persons of which 1,757 (39%) are in the transportation/trade/utilities industry. There is 4.7 million square feet anticipated in this cluster by 2026.

Channahon cluster is south of U.S. 6 between I-55 and the Des Plaines River. This cluster contains over two million square feet of industrial space and employs 955 persons of which 316 persons (33%) are in the transportation/trade/utilities industry. Anticipated industrial development totals nearly 2.6 million square feet of additional industrial area by 2026.

New Lenox cluster generally sits southwest of I-80 and Gougar Road. The New Lenox cluster has over five million square feet of industrial space and employs 1,738 persons of which 800 (46%) are in the transportation/trade/utilities industry. The expected industrial building growth within the New Lenox cluster is 5.4 million square feet of industrial space by 2026.

Eastern Will County Supercluster around I-57 and Monee is the third prominent freight cluster in Will County. The Eastern Will County cluster consists of three individual clusters.

- University Park/Monee cluster straddles I-57 from the Cook County Line to Pauling Road,
- Mokena cluster straddles I-80 from east of U.S. 45 to the Cook County line, and
- Frankfort cluster straddles Laraway Road east of U.S. 45.

Key data for each cluster is shown in **Table 3-3** and additional detail can be found in **Appendix C**.

TABLE 3-3. EASTERN WILL COUNTY CLUSTER DATA

Cluster	Industrial			Current Employment (2014)			Future Employment (2026)
	Existing Building Area (s.f.)	Anticipated Growth in Building Area (s.f.)	Percent Build Out (2026)*	Cluster Total	Transportation/ Trade/Utilities	Percent	
University Park/ Monee	15,326,289	10,080,000	40%	5,336	1,770	33.2%	10,541
Mokena	4,769,854	800,000	56%	10,020	2,088	20.8%	10,620
Frankfort	1,987,363	360,000	11%	2,954	245	8.3%	3,419
Total	22,083,506	11,240,000		18,310	4,103	22.4%	24,580

** The percent build out refers to the rentable building area required to fill all of the industrial space in each cluster.*
Source. RT&A, Industry Cluster Analysis

University Park/Monee cluster contains over 15 million square feet of industrial space and employs 5,336 persons with 33 percent (1,770 persons) in the transportation/trade/ utilities industry. Expected industrial development totals 10.8 million square feet of added industrial space by 2026.

Mokena cluster has nearly five million square feet of industrial space and employs 10,020 persons with 2,088 persons (21%) in the transportation/trade/utilities industry. Anticipated industrial development includes 800,000 square feet of industrial area by 2026.

Frankfort cluster contains nearly two million square feet of industrial space and employs 2,954 persons of which 245 (8%) are in the transportation/trade/utilities industry. There is 360,000 square feet anticipated in this cluster by 2026.

3.2.2 LINKED FREIGHT AND COMMUTER CORRIDORS/CONNECTORS

One common element needed across Will County freight clusters to reach their full potential is a high performing transportation network. The transportation system not only moves the freight into and out of the distribution and manufacturing facilities but shares the highways with commuter and other passenger vehicles. It becomes more and more challenging for freight movements as the highway traffic volumes increase and the infrastructure wears out. These challenges not only impact freight movements but also the employees commuting to these freight clusters, workers traveling from Will County to places of employment, and commuters that travel within Will County.

Over the last three decades, Will County has been one of the fastest growing counties in the United States. From 1990 to 2000, the county's population grew from 357,313 to 502,295 residents, a 71 percent increase. The county's population grew an additional 35 percent between 2000 and 2010, from 502,295 to an estimated 677,560 residents. While growth has leveled off since the recession of the late 2000s, the population has continued to increase, growing 1.8 percent between 2010 and 2016. Illinois Department of Public Health estimates Will County's population will grow to 853,596 by 2025. CMAP

forecasts that Will County will add 487,955 people through 2040.[52] This would bring Will County's population to over a million persons by 2040.

Population growth presents a two-fold challenge to freight movement: competition for land and competition for road space. Freight-related land uses are becoming increasingly land-intensive. Amazon's new fulfillment center off I-57 in Monee will encompass 850,000-square feet. A recent report by Colliers International Group, Inc. states that large-scale distribution centers are now topping 1 million square feet.[53] Residential development and the associated commercial development competes directly with these types land uses. Commercial development values key locations near major highways and interchanges that are appropriate for freight-related uses.

The **Romeoville/Bolingbrook** supercluster relies heavily on I-55 and I-355 for long distance travel and IL 53 for regional travel. The I-55/I-355/Joliet Road cluster has three interchanges with I-55 at Weber Road, IL 53, and Joliet Road with 3.6 miles of railroad within the cluster. The smaller local clusters depend on highways such as U.S. 30, IL 59, and IL 7 in addition to the highways noted above. I-355 cluster has two interchanges with I-355 at W. 143rd Street and W. 159th Street. Crest Hill and Plainfield clusters also have rail service within the cluster. From these highways, there are a series of county and local streets providing the first and last mile access to the individual freight facilities within the Romeoville/Bolingbrook cluster.

Elwood/Joliet supercluster is bound by the Des Plaines River to the northwest. The closest existing river crossings are on I-55 and I-80. IL 53 plays a major role in serving the ground transportation needs of the Elwood/Joliet cluster. IL 53 intersects I-80 to the north and county/local roads connect the cluster to I-55 to the west. The smaller clusters have interstate access at I-80 and Houbolt Road, I-55 at U.S. 6, and I-55 at Bluff Road. Each of the four clusters have rail service within them and the I-80/Houbolt Road cluster contains over 121 miles of rail lines because of the two intermodal facilities.

Eastern Will County supercluster around I-57 and University Park/Monee is bisected by I-57 which is the primary highway for this cluster with interchanges at Stuenkel and Monee-Manhattan roads. The small local cluster south of Frankfort uses U.S. 45 as its primary highway which runs north-south to intersect with U.S. 30 and I-80. The Mokena cluster straddles I-80 with interstate access at Harlem Avenue. County and local roads connect the freight generating facilities to I-57. All three of the clusters have rail service within them.

[52] GO TO 2040 Socioeconomic Forecast Update Overview. Chicago Metropolitan Agency for Planning. http://www.cmap.illinois.gov/documents/10180/332742/Update+Socioeconomic+Forecast+FINAL.pdf/41d87400-d211-4763-b941-b487022d8032. Retrieved on March 6, 2017.

[53] From First Mile to Last Mile Global Industrial & Logistics Trends. Colliers International Group Inc. 2015. http://www.colliers.com/-/media/files/marketresearch/global/2015-global-reports/global-logistics-2015.pdf?la=en-us. Retrieved on March 6, 2017.

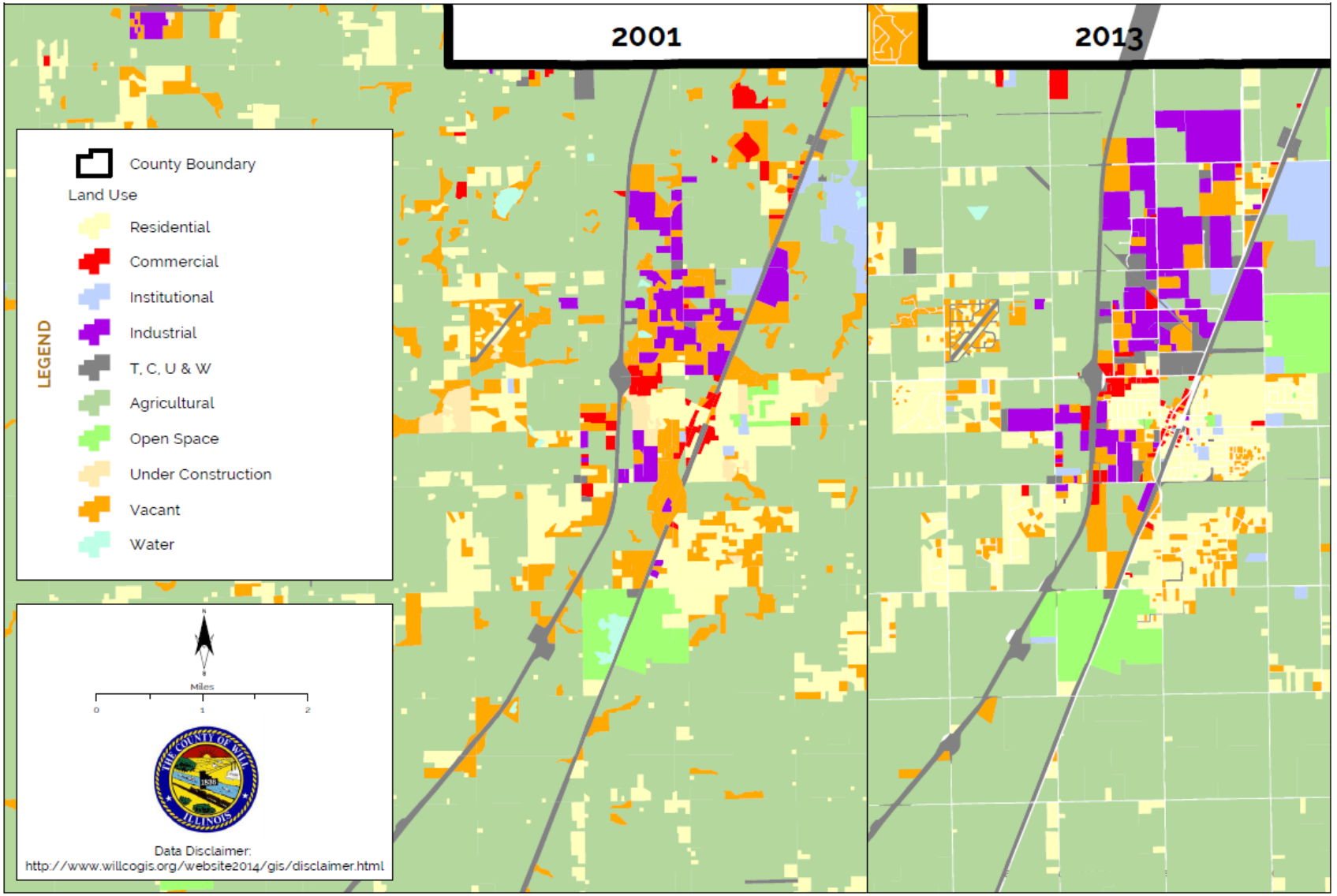
RidgePort Logistics Center near Wilmington is adjacent to and has access to/from I-55. County and local roads will provide the access to the freight facilities when they are constructed. If the CSX Intermodal facility is constructed, CSX officials are considering a location south of **Crete** near the IL 394 and IL 1 intersection. These highways would serve as the primary routes for the potential CSX intermodal facility.

The potential **South Suburban Airport** has been considered near Peotone. If the airport comes to fruition near Peotone, the primary highway serving the airport would be I-57.

With the exception of the Romeoville/Bolingbrook cluster, the remaining freight clusters discussed above all have primary highway access to north-south oriented highways. There is an absence of east-west highways within the southern portion of Will County.

Figure 3-2 shows land use changes along the North I-57 corridor from 2001 to 2013. It is clear that development in this corridor has been characterized by the conversion of agricultural and vacant land to industrial and residential uses. Industrial development has been dominated by manufacturing facilities, warehouses, and distribution centers. Residential growth is the result of workers moving to access those job centers as well as continued outward expansion of the greater Chicago region.

FIGURE 3-2. LAND USE CHANGE IN THE I-57 CORRIDOR, 2001-2013



3.3 FUTURE FREIGHT GROWTH

Two freight growth forecasts have been developed to help understand the future infrastructure needs of Will County. One is based on overall freight growth for the county as forecast from the TRANSEARCH model.[54] The other is developed based on a market analysis of likely absorption of freight land uses based on market and interview data. These two forecasts, when combined create a combined scenario for Will County to consider in planning for freight and workforce transportation needs as well as likely community effects.

According to TRANSEARCH, the volume of freight moving to, from, through, and within Will County is forecast to increase 63.6 percent (2.0 percent annually) by 2040, and its value is expected to increase 126.7 percent (3.3 percent annually). The following sections discuss the modal growth forecasts for truck, rail, marine, and air cargo.

3.3.1 TRUCK

Table 3-4 and **Figure 3-3** depict trucking-related forecasts for Will County between 2015 and 2040 for all directions (including sub-directional detail) by tons and value. According to TRANSEARCH, truck tonnage in Will County will grow by 97 million tons by 2040, to nearly 249 million tons. Truck freight will continue to be dominated by through movements, which will account for about 72 percent of the growth in the truck mode. This will lead to substantial traffic growth on interstates in Will County and other major highways favored by through trucks. Intra-county truck movements will grow at the fastest pace (3.2 percent annually), reflecting the importance of Will County for intermodal transfers of rail freight. This will create additional demand on the local streets and intermodal connectors that these trucks must use. **Figure 3-4** depicts tonnage growth on the highway network and **Figure 3-5** depicts tonnage in percentage growth terms.

These forecasts correspond well to industry surveys, in which all respondents stated that they rely on trucks to some extent for shipments from their location, while 94 percent indicated that they use trucks for inbound transportation. Respondents reported receiving in the range of from less than 10 to 1,500 truckloads of freight at their facilities each week, in addition to various Less Than Truckload (LTL), container, and parcel deliveries. (Refer to the Current State chapter for more details on the industry and stakeholder outreach conducted for this plan.)

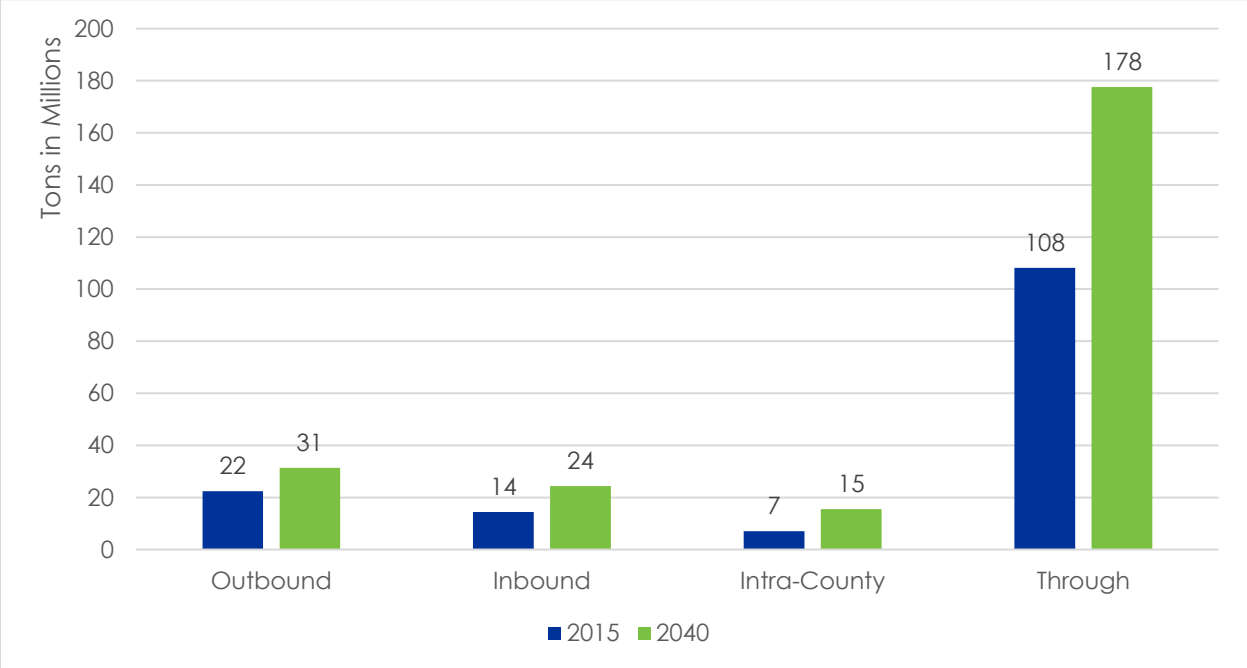
[54] TRANSEARCH arguably provides the most comprehensive, internally consistent single source of commodity flow data, but it does rely on a number of key assumptions and has some limitations with respect to modal coverage and non-NAFTA trade flows. These issues are detailed in the *TRANSEARCH Data Freight Analysis* technical memorandum.

TABLE 3-4. TRUCK FORECAST BY DIRECTION, 2015 TO 2040

Direction	2015	2040	'15-'40		
	Tons	Tons	Growth in Tons	Growth	CAGR†
Outbound	22,364,563	31,341,887	8,977,324	40.1%	1.4%
Outbound to BEA*	16,288,925	24,203,025	7,914,100	48.6%	1.6%
Outbound to nonBEA	6,075,638	7,138,862	1,063,224	17.5%	0.6%
Inbound	14,379,471	24,328,503	9,949,032	69.2%	2.1%
Inbound from BEA	8,832,572	12,893,846	4,061,274	46.0%	1.5%
Inbound from nonBEA	5,546,899	11,434,657	5,887,758	106.1%	2.9%
Intra-County	7,097,066	15,472,123	8,375,057	118.0%	3.2%
Through	108,218,091	177,575,212	69,357,121	64.1%	2.0%
Through BEA to BEA	8,392,087	14,122,624	5,730,537	68.3%	2.1%
Through nonBEA to BEA	14,800,102	24,546,183	9,746,081	65.9%	2.0%
Through BEA to nonBEA	13,703,527	21,090,581	7,387,054	53.9%	1.7%
Through nonBEA to nonBEA	71,322,376	117,815,823	46,493,447	65.2%	2.0%
Total	152,059,191	248,717,725	96,958,834	63.6%	2.0%

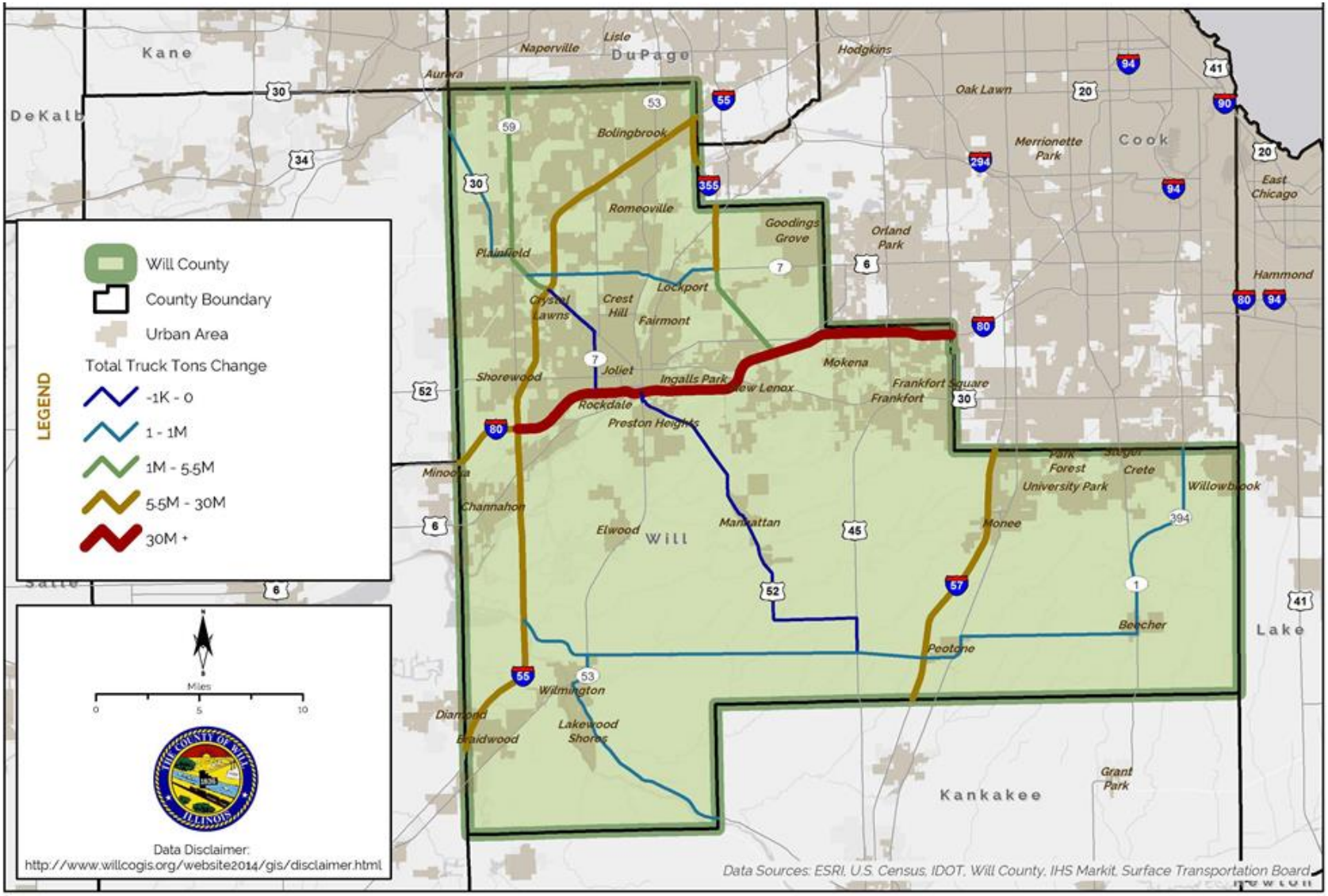
Source. prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040
** Bureau of Economic Analysis regions.*
† Compound Annual Growth Rate.

FIGURE 3-3. TRUCK FORECAST BY DIRECTION, 2015 AND 2040



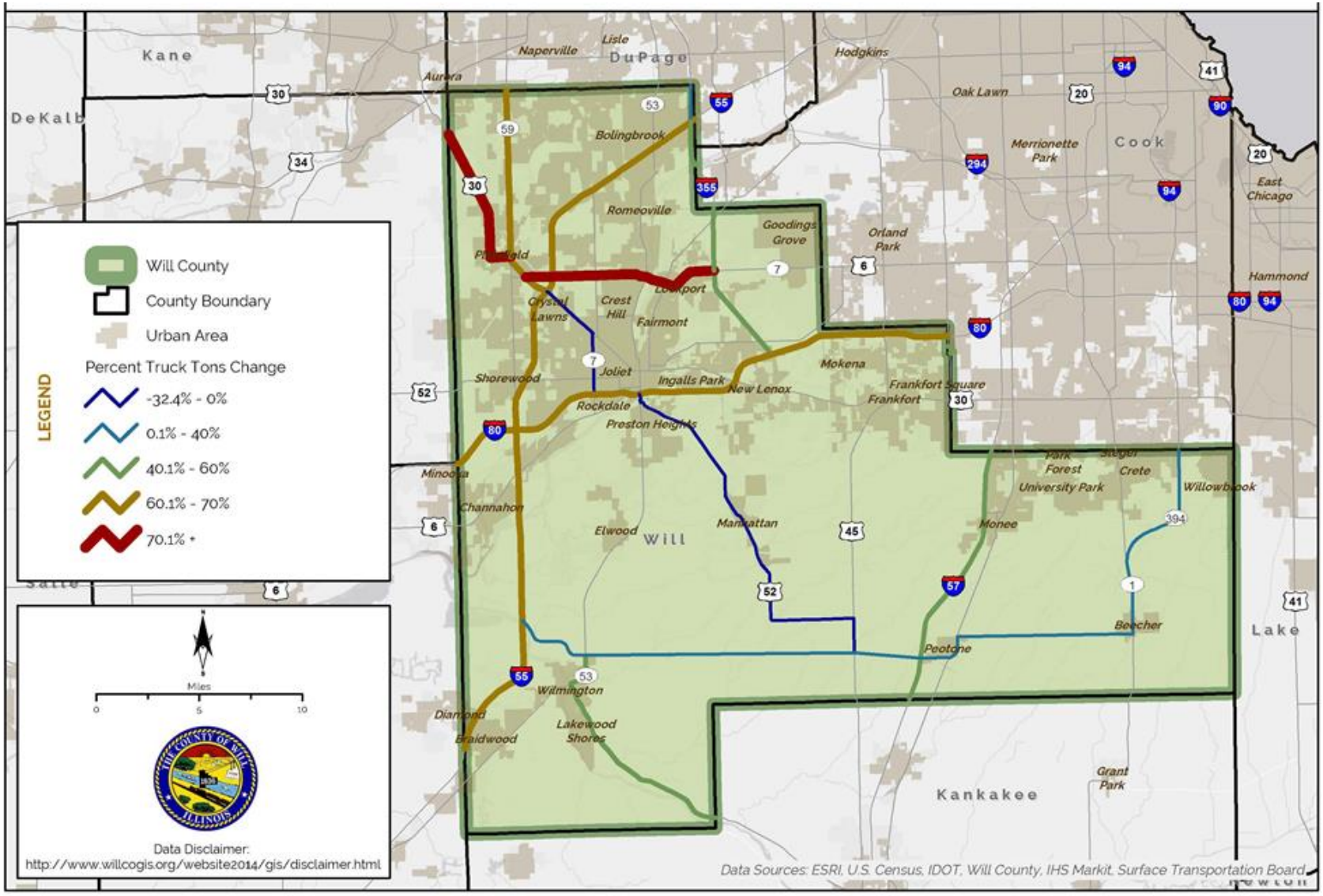
Source. Prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040

FIGURE 3-4. TRUCK TONNAGE GROWTH, 2015 TO 2040



Source. Prepared by CDM Smith, based on Transearch® data for 2015 and 2040

FIGURE 3-5. TRUCK DENSITY PERCENTAGE GROWTH, 2015 TO 2040



Source. Prepared by CDM Smith, based on Transearch® data for 2015 and 2040

According to TRANSEARCH, the top five truck-borne commodities by weight in 2040 will be Secondary Traffic (51.4 million tons), Nonmetallic Minerals (30.1 million tons), Food or Kindred Products (29.3 million tons), Waste or Scrap Materials (26.2 million tons), and Farm Products (25.6 million tons). The top five commodities by value will be Secondary Traffic ($159.2 billion) [short drayage movements and repositioning of empty containers], Machinery ($79.1 billion), Transportation Equipment ($76.6 billion), Chemicals or Allied Products ($61.3 billion), and Electrical Equipment ($58.6 billion). Secondary Traffic is also expected to be the fastest growing commodity moved by trucks in Will County on a tonnage basis, growing by almost 21 percent by 2040 to 51.4 million tons. This is significant because Secondary Traffic is composed of short-haul drayage moves and repositioning of empty containers, much of which will occur on Will County's already congested local streets.

More detailed truck commodity flow data can be found in **Appendix A**.

3.3.2 RAIL

TRANSEARCH forecasts rail traffic to increase 53.1 percent (1.7 percent annually) by weight through 2040, and 77.7 percent (2.3 percent annually) by value. Substantial rail growth will be experienced by all railroads, especially the Class I railroads – BNSF, UP, CSX, and CN. The emerging BNSF RidgePort Logistics Center will be a key contributor to rail growth in Will County. Rail volume serving the RidgePort Logistics Center will increase with the development build out of this center.

Table 3-5 and **Figure 3-6** show the overall rail-related forecasts for Will County between 2015 and 2040 for all directions (including sub-directional detail) by tons and value. As with the truck mode, rail volumes will continue to be predominately through freight by both weight and value, although rail through freight will not grow as fast as inbound, outbound, and intra-county movements. **Figure 3-7** depicts growth on the rail network and **Figure 3-8** does likewise with percentage growth terms.

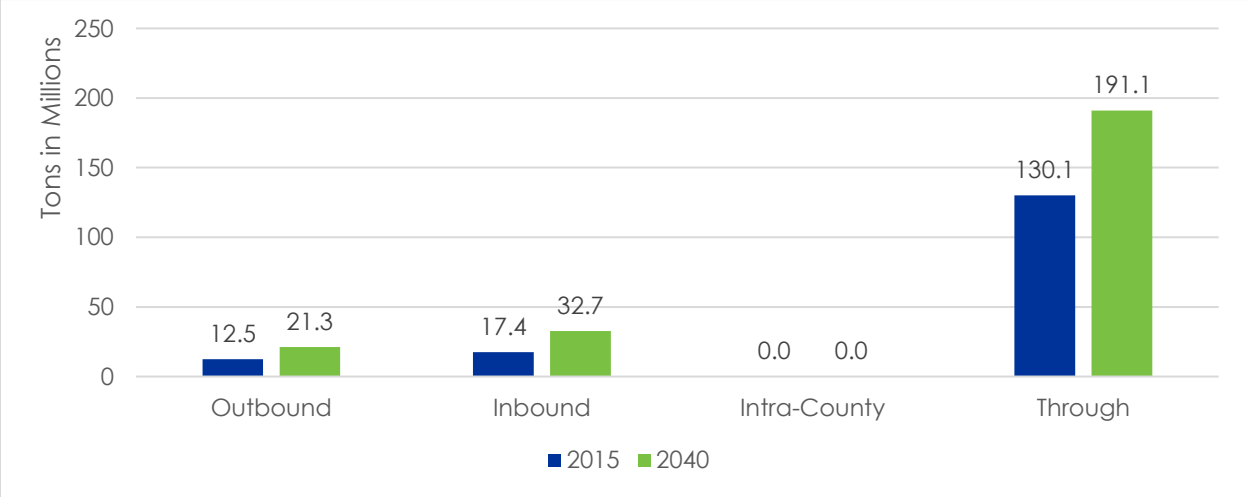
The freight industry surveys conducted for the Current State task reinforce the importance of the rail mode for freight mobility in Will County. More than 60 percent of the freight businesses surveyed for this plan indicated they use rail service to ship or receive cargo. Of these, almost 94 percent acknowledge use of a Class I railroad, pointing to Will County's importance in facilitating the shipment and distribution of goods moved long distances over the nation's transcontinental rail network. Intermodal rail facilities are especially important to these shippers – 60 percent utilize Will County's intermodal yards to ship or receive goods, while a similar share stated that intermodal facilities are the most important rail facilities for their future business. However, obstacles to the increased use of rail were also noted. Some examples include better/more predictable delivery times, better communication between railroads, and the separation of freight rail and commuter corridors. (Additional detail on the freight industry surveys can be found in **Chapter 2, Current State**.)

TABLE 3-5. RAIL FORECAST BY DIRECTION, 2015 TO 2040

Direction	2015		2040		2015-2040	
	Tons	Percent	Tons	Percent	Growth %	CAGR†
Tons						
Outbound	12,536,702	7.8%	21,273,777	8.7%	69.7%	2.1%
Outbound to BEA*	310,687	0.2%	775,960	0.3%	149.8%	3.7%
Outbound to nonBEA	12,226,015	7.6%	20,497,818	8.4%	67.7%	2.1%
Inbound	17,441,032	10.9%	32,747,957	13.4%	87.8%	2.6%
Inbound from BEA	608,239	0.4%	1,400,765	0.6%	130.3%	3.4%
Inbound from nonBEA	16,832,792	10.5%	31,347,192	12.8%	86.2%	2.5%
Intra-County	4,275	0.0%	29,276	0.0%	584.8%	8.0%
Through	130,081,647	81.3%	191,077,427	77.9%	46.9%	1.5%
Through BEA to BEA	808,962	0.5%	1,104,588	0.5%	36.5%	1.3%
Through nonBEA to BEA	38,960,752	24.3%	51,084,996	20.8%	31.1%	1.1%
Through BEA to nonBEA	34,023,784	21.3%	51,309,204	20.9%	50.8%	1.7%
Through nonBEA to nonBEA	56,288,149	35.2%	87,578,639	35.7%	55.6%	1.8%
Total	**160,063,656**	**100.0%**	**245,128,438**	**100.0%**	**53.1%**	**1.7%**
Value, in millions						
Outbound	$36,895	11.5%	$71,757	12.6%	94.5%	2.7%
Outbound to BEA	$605	0.2%	$1,635	0.3%	170.2%	4.1%
Outbound to nonBEA	$36,290	11.3%	$70,122	12.3%	93.2%	2.7%
Inbound	$54,586	17.0%	$124,195	21.7%	127.5%	3.3%
Inbound from BEA	$1,752	0.5%	$3,205	0.6%	82.9%	2.4%
Inbound from nonBEA	$52,834	16.4%	$120,990	21.2%	129.0%	3.4%
Intra-County	$10	0.0%	$67	0.0%	584.8%	8.0%
Through	$229,938	71.5%	$375,293	65.7%	63.2%	2.0%
Through BEA to BEA	$890	0.3%	$1,313	0.2%	47.5%	1.6%
Through nonBEA to BEA	$83,120	25.9%	$120,115	21.0%	44.5%	1.5%
Through BEA to nonBEA	$92,874	28.9%	$145,925	25.5%	57.1%	1.8%
Through nonBEA to nonBEA	$53,053	16.5%	$107,940	18.9%	103.5%	2.9%
Total	**$321,429**	**100.0%**	**$571,313**	**100.0%**	**77.7%**	**2.3%**

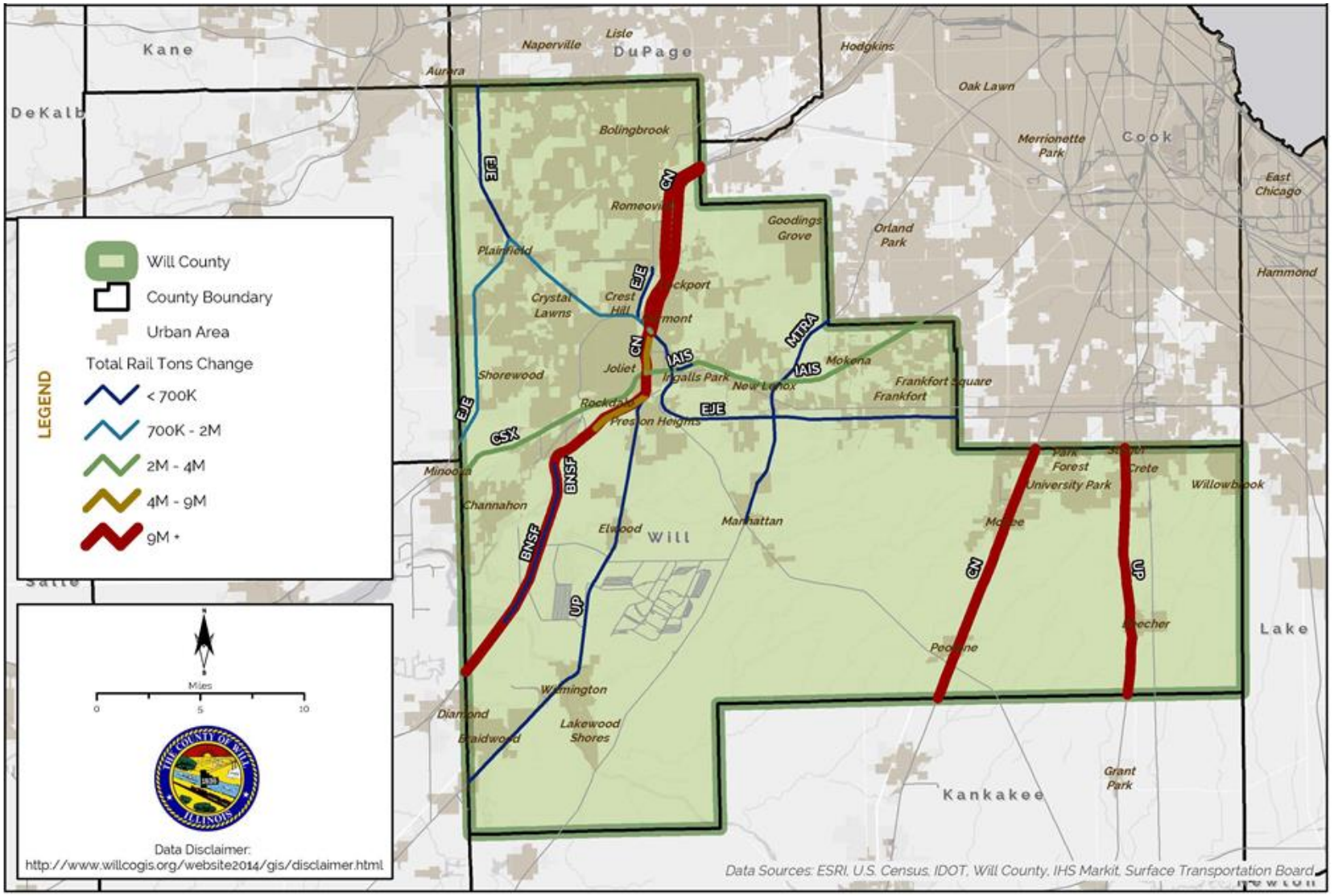
** Bureau of Economic Analysis regions.*
Compound Annual Growth Rate.
Source. Prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040.

FIGURE 3-6. RAIL FORECAST BY DIRECTION, 2015 AND 2040



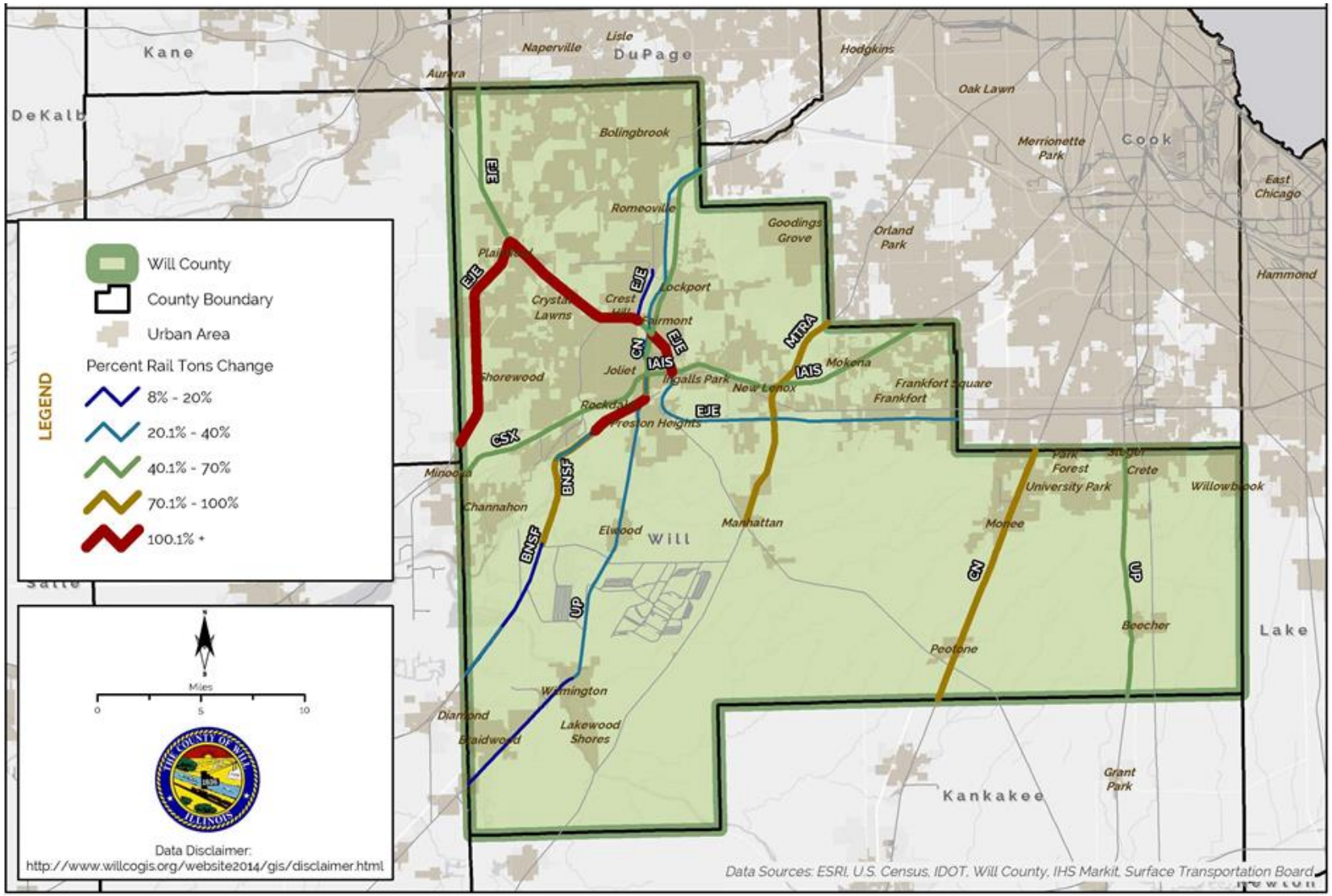
Source. Prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040

FIGURE 3-7. RAIL TONNAGE GROWTH, 2015 TO 2040



Source. Prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040

FIGURE 3-8. RAIL DENSITY PERCENTAGE GROWTH, 2015 TO 2040



Source. Prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040

Top rail commodities in 2040 by weight will include Miscellaneous Mixed Shipments (58.4 million tons), Chemicals or Allied Products (48.8 million tons), Coal (30.2 million tons), Nonmetallic Minerals (19.2 million tons), and Food or Kindred Products (17.1 million tons). On a value basis, the top five commodities will be Miscellaneous Mixed Shipments ($301.6 billion), Chemicals or Allied Products ($86.6 billion), Transportation Equipment ($86.3 billion), Food or Kindred Products ($14.9 billion), and Primary Metal Products ($12.0 billion). The Miscellaneous Mixed Shipments category includes consumer products mostly moved via intermodal rail; this is also expected to be the fastest growing rail commodity group by weight on a tonnage basis through 2040.

Detailed rail commodity data can be found in **Appendix A**.

3.3.3 WATER

Waterborne tonnage in Will County is expected to increase 43.6 percent (1.5 percent annually) by 2040 while value is forecast to increase 53.1 percent (1.7 percent annually) according to TRANSEARCH. **Table 3-6** and **Figure 3-9** depict water-related forecasts for Will County between 2015 and 2040 for all directions (including sub-directional detail) by tons and value. Most of this growth will come from inbound shipments, accounting for 55 percent of the total waterborne tonnage growth by 2040. Increases in inbound tonnage of Chemicals and Allied Products (which includes agricultural fertilizers to supply area farming operations), Nonmetallic Minerals, and Crude Petroleum or Natural Gas will drive this growth. The first two commodities will likely be transferred to other modes for final distribution to end users, while crude petroleum and natural gas shipments will help supply Will County refineries and utilities.

TABLE 3-6. WATER FORECAST BY DIRECTION, 2015 TO 2040

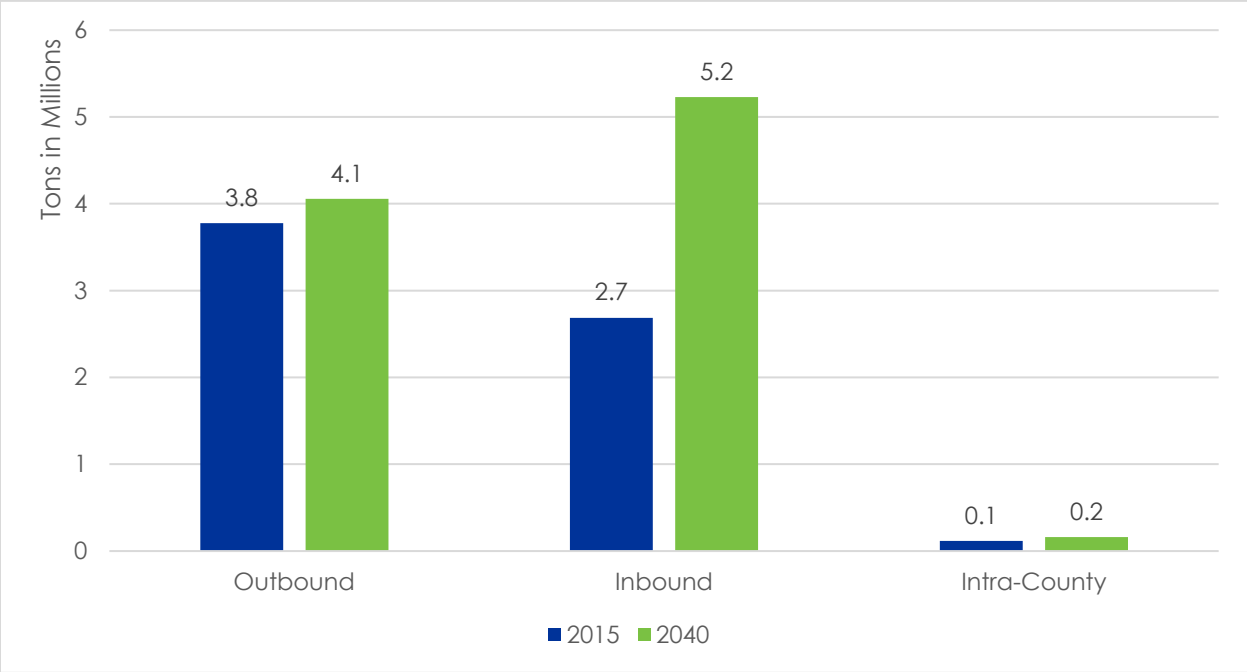
Direction	2015		2040		2015-2040	
	Amount	Percent	Amount	Percent	Growth %	CAGR†
Tons						
Outbound	3,777,249	57.4%	4,056,571	42.9%	7.4%	0.3%
Outbound to BEA*	657,535	10.0%	862,549	9.1%	31.2%	1.1%
Outbound to nonBEA	3,119,714	47.4%	3,194,022	33.8%	2.4%	0.1%
Inbound	2,686,689	40.8%	5,229,819	55.3%	94.7%	2.7%
Inbound from BEA	163,353	2.5%	229,718	2.4%	40.6%	1.4%
Inbound from nonBEA	2,523,336	38.3%	5,000,101	52.9%	98.2%	2.8%
Intra-County	117,065	1.8%	162,857	1.7%	39.1%	1.3%
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	**6,581,003**	**100.0%**	**9,449,247**	**100.0%**	**43.6%**	**1.5%**
Value, in millions						
Outbound	$2,150	64.5%	$2,837	55.6%	32.0%	1.1%
Outbound to BEA	$269	8.1%	$390	7.6%	45.0%	1.5%
Outbound to nonBEA	$1,881	56.5%	$2,447	48.0%	30.1%	1.1%
Inbound	$1,138	34.2%	$2,197	43.1%	93.1%	2.7%
Inbound from BEA	$60	1.8%	$82	1.6%	37.4%	1.3%
Inbound from nonBEA	$1,078	32.4%	$2,115	41.5%	96.2%	2.7%
Intra-County	$43	1.3%	$64	1.3%	50.7%	1.7%
Through	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total	**$3,330**	**100.0%**	**$5,099**	**100.0%**	**53.1%**	**1.7%**

** Bureau of Economic Analysis regions.*

† Compound Annual Growth Rate.

Source. prepared by CDM Smith, based on TRANSEARCH® data for 2015 and 2040

FIGURE 3-9. WATER FORECAST BY DIRECTION, 2015 AND 2040

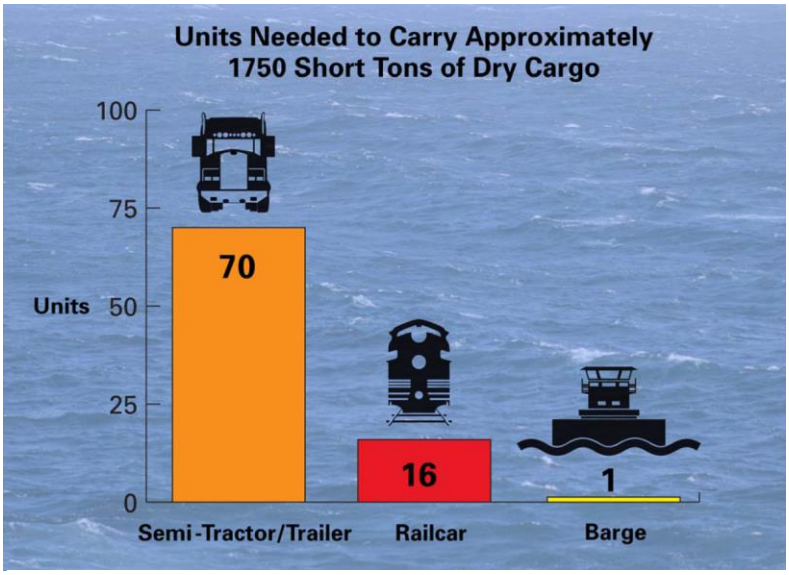


Overall, products transported by barge in Will County will continue to be dominated by basic commodities such as Chemicals, Petroleum or Coal Products, Primary Metal Products, and Nonmetallic Minerals. The fastest growing commodities include higher value goods like Machinery and Food Products, some of which could be moved via container on barge in the future. Additional waterborne commodity flow detail can be found in **Appendix A**.

Although waterborne freight will continue to play a relatively small role in Will County's overall cargo mix (totaling less than 2 percent of total volumes by both weight and value), it continues as an important mode for the movement of basic commodities like cement, chemicals, fertilizer, and agricultural products. In fact, inbound waterborne tonnage is expected to increase 94 percent by 2040. By keeping such shipments off the highway and rail networks, barge shipping helps extend the life of those systems. The recently completed expansion of the Panama Canal has enabled much larger 'post-Panamax' vessels to sail through the canal, and this may provide additional capacity for waterborne exports of Illinois agricultural goods.

During industry outreach conducted for the Current State task, several survey respondents reported making use of the Des Plaines River in their supply chains to connect to other inland ports on the Mississippi River system as well as deep water ports such as New Orleans and Houston (more details about the survey and outreach effort for this plan can be found in **Chapter 1, Current State**).

The waterway system is a highly important element of the entire freight system. One barge carries an equivalent to 16 railcars or 70 tractor trailers. This reduces the demand on the rail and highway systems. The U.S. Army Corps of Engineers (USACE) must continue to maintain the river and canal system through the region for the inland waterway system to continue to meet the growing demands. Routine dredging to ensure channel depth is important to maintaining a navigable waterway.



Note. One short ton equals 2,000 pounds.
Source. Texas Transportation Institute, Center for Ports and Waterways

In addition to channel maintenance, a growing waterway concern is the need for rehabilitation of the locks and dams at both Brandon Road and Lockport dams. This issue is not unique to Will County as many of the nation's locks and dams need to address rehabilitation or replacement demands. In its quadrennial Infrastructure Report Card, the American Society of Civil Engineers notes overall funding needs of almost $5 billion for inland waterways over the next 20 years, reporting that nearly half of vessels experience delays when using the system. Overall, the inland waterways system received a grade of D.[55]

3.3.4 PIPELINE

According to TRANSEARCH, pipeline freight in Will County will increase by 55 percent by weight through 2040, to approximately 91.7 million tons valued at nearly $25 billion dollars. This will comprise about 15 percent of Will County's total freight volumes and 2 percent of its freight value. These shipments will all be inbound, consisting of Crude Petroleum and Natural Gas which are used as inputs for area refineries and utilities. They will continue to be sourced primarily from Alberta, Canada.

Specific volume equivalencies (e.g. the number of trucks or rail cars needed to move the same volume of product as one pipeline) would vary depending on the size of the pipeline under consideration. However, according to the Pipeline and Hazardous Materials Safety Administration (PHMSA), about 750 tanker trucks or one train of 75

[55] American Society of Civil Engineers, *2017 Infrastructure Report Card. Inland Waterways,* retrieved June 19, 2017 from https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Inland-Waterways-Final.pdf.

2,000-barrel tank cars per day would be required to move the same amount of product as one modest pipeline.[56]

3.3.5 AIR

Although Will County businesses currently rely on air cargo facilities elsewhere in the region there are ongoing discussions about ways to bring air cargo service to Will County. The Lewis University Airport (LOT) indicates it is air cargo ready (www.flylot.com). The primary runway is 6,500 feet by 100 feet. LOT currently needs a new air traffic control tower.

LOT is adjacent to the Romeoville/Airport Road Freight Cluster which may provide some immediate warehousing opportunities. An increase in truck freight traffic is expected on the primary highways around the Lewis University airport including IL 53, Renwick Road, and Weber Road if this potential air cargo opportunity develops.

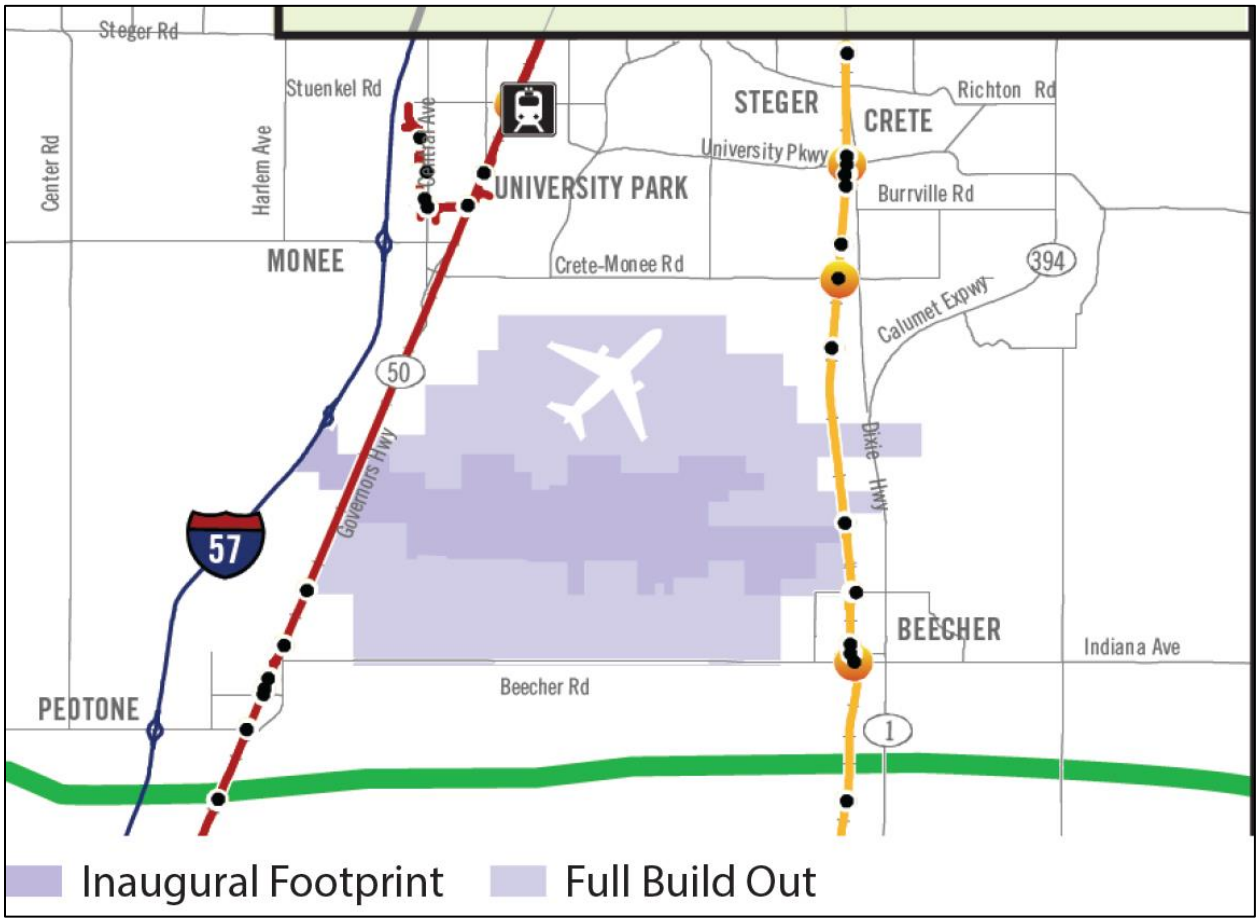
Another air cargo option is the proposed South Suburban Airport (SSA), which is currently on hold. Although planning activities are not moving forward, IDOT is exploring options for public-private partnership (P3) development of this facility. The potential location for the airport is identified near Peotone between the CN and UP rail lines north of Beecher Road to Crete-Monee Road. Proposed primary access to the terminal is from I-57 with an interchange at IL 50. Highways 394 and 1 will likely experience an increase in traffic if the SSA is constructed.

The potential CSX Crete Intermodal facility is located northeast of the proposed SSA and could offer additional freight opportunities should both facilities be constructed. (Refer to the Cluster Analysis for additional details on this development.)

Relatively few freight survey respondents indicated that they use air cargo service currently, but some indicated periodic use when a customer requires fast delivery of a product or input. Of those that do use air cargo, Chicago O'Hare appears to be the gateway of choice.

[56] PHMSA, General Pipeline FAQs, retrieved June 19, 2017 from https://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=a62924cc45ea4110VgnVCM1000009ed07898RCRD&vgnextchannel=f7280665b91ac010VgnVCM1000008049a8c0RCRD&vgnextfmt=print.

FIGURE 3-10. PROPOSED SOUTH SUBURBAN AIRPORT FOOTPRINT



Source: Will Connects 2040 Plan

3.4 FUTURE TRAFFIC GROWTH ON KEY CORRIDORS

From the analysis in Section 3.3, it is clear that truck freight will continue to play an important role in Will County goods movement. It is therefore important to understand how growth in the truck mode might impact key Will County roads, including the interstates as well as freight-intensive arterials and local facilities. Accordingly, the project team developed estimates of future truck traffic on key Will County freight corridors.

Two methods were used to estimate future truck traffic growth.

- **Top-down Method.** This method is based on existing truck traffic volumes coupled with expected truck volume growth within Will County from the future commodity flow estimates as described above. This method forecasts truck traffic out to 2040 since that is the horizon year of the TRANSEARCH database.
- **Bottom-up Method.** The second method used the Institute of Traffic Engineers (ITE) Trip Generation Manual to estimate the anticipated traffic from proposed industrial and warehouse developments. Information on new industrial

developments in Will County (from the land use and cluster analysis task) was combined with trip generation rates to develop a bottom-up estimate of future truck traffic. The Will County Long Range Plan estimates were used for total traffic growth including passenger vehicles. Note that this method projects truck traffic only to 2026 since that is the forecast year of the freight cluster analysis.

3.4.1 TOP-DOWN METHOD

This method applied the truck traffic growth rates by direction (inbound, outbound, and through) from TRANSEARCH to truck volume data available for key routes in Will County to arrive at a high-level truck traffic forecast for freight-critical routes.

3.4.1.1 TRUCK DIRECTIONAL SPLITS AND GROWTH RATES

The interstates were assumed to carry trucks passing through Will County (80%), inbound (10%), and outbound (10%). The key non-interstate routes were assumed to carry trucks inbound to Will County (20%), outbound from Will County (20%), and within Will County (60%). The 2040 growth percentages for trucks (highlighted in blue in **Table 3-7**) were taken from the TRANSEARCH Freight Data Analysis prepared for this study.

TABLE 3-7. FORECAST PERCENT GROWTH BY MODE AND DIRECTION, 2015-2040

Direction	Truck	Rail	Pipeline	Water	Total
Tons					
Outbound	40.1%	69.7%	#N/A	7.4%	46.5%
Inbound	69.2%	87.8%	55.3%	94.7%	64.4%
Intra-County	118.0%	584.8%	#N/A	39.1%	117.0%
Through	64.1%	46.9%	#N/A	#N/A	54.7%
Total	63.6%	53.1%	55.3%	43.6%	57.5%
Value					
Outbound	200.3%	94.5%	#N/A	32.0%	132.8%
Inbound	56.0%	127.5%	55.3%	93.1%	98.6%
Intra-County	195.4%	584.8%	#N/A	50.7%	195.3%
Through	118.8%	63.2%	#N/A	#N/A	90.2%
Total	126.7%	77.7%	55.3%	53.1%	99.2%

Source. Prepared by CDM Smith, based on Transearch® data for 2015 and 2040.

3.4.1.2 APPLICATION OF GROWTH FACTORS

The existing truck volumes were separated into the presumed directional components noted above. Then the appropriate growth percentages were applied to the directional volumes and totaled to get the truck growth. The growth factor was calculated and applied to interstate or non-interstate routes as appropriate. As an example, **Table 3-8** shows the inbound, outbound, and through truck growth factors and resulting truck traffic estimates for I-80 on the east side of Will County and IL 59 in the northern portion of Will County.

TABLE 3-8. GROWTH FACTORS APPLIED TO INTERSTATE OR NON-INTERSTATE ROUTES

Direction	Total	Inbound	Outbound	Through	Intra-County
Interstate	I-80 East	10%	10%	80%	
Existing (by Directional Movement)	17,250	1,725	1,725	13,800	---
Growth (Existing * Growth Percentage)	10,731	1,191	692	8,846	---
Future Total (Existing + Growth)	27,981	2,919	2,417	22,646	---
Percent Growth	62.21%				---
Non-Interstate	IL 59 North	20%	20%		60%
Existing (by Directional Movement)	3,150	630	630	---	1,890
Growth (Existing * Growth Percentage)	2,919	436	253	---	2,230
Future Total (Existing + Growth)	6,069	1,066	883	---	4,120
Percent Growth	92.66%			---	

These growth factors were then applied to the key routes throughout the county. The results are shown in **Table 3-9**.

TABLE 3-9. GROWTH FACTORS APPLIED TO KEY ROUTES

Route	2015 Truck	Growth %	2026 Truck	2040 Truck	2040 Will Connects – Future Volumes
I-80 E	17,250	0.6221	21,972	27,981	125,000+
I-80 W	14,550	0.6221	18,533	23,602	50-75,000
I-55N	17,300	0.6221	22,035	28,062	100-125,000
I-55S	5,750	0.6221	7,324	9,327	25-50,000
I-355 N	12,200	0.6221	15,539	19,790	100-125,000
I-57N	6,875	0.6221	8,757	11,152	75-100,000
I-57S	6,500	0.6221	8,279	10,544	50-75,000
U.S. 30W	2,450	0.9266	3,449	4,720	25-50,000
U.S. 6 (Maple)	600	0.9266	845	1,156	25-50,000
IL 53S	1,400	0.9266	1,971	2,697	25-50,000
IL 59N	3,150	0.9266	4,434	6,069	50-75,000
IL 7E	1,250	0.9266	1,760	2,408	25-50,000
IL 126W	1,200	0.9266	1,689	2,312	25-50,000
U.S. 52W (Jefferson)	1,250	0.9266	1,760	2,408	25-50,000
IL 394S	1,350	0.9266	1,900	2,601	<25,000
IL 394N	3,200	0.9266	4,505	6,165	25-50,000

It should be noted that the future truck estimates were built from 2015 truck volumes. The 2040 Will Connects volumes are built around specific development assumptions though these did not include the Illiana Expressway.

3.4.1.3 BOTTOM-UP METHOD

This method used trip generation rates from the ITE Trip Generation Manual to estimate truck trips likely to be created by the new industrial developments identified in the freight cluster analysis.

3.4.1.4 TRIP GENERATION

The Trip Generation Manual provides estimated trip generation rates by land use. Land Use Code (LUC) 150 (Warehousing) was used in this analysis, as shown in **Table 3-10**. This data was used to estimate truck trip generation from the proposed warehouse and industrial developments.

TABLE 3-10. FREIGHT CLUSTER ANALYSIS

Land Use Code	Measure	No. Studies	Average Rate	Range of Rates	Fitted Curve Equation
150. Warehousing*	1,000 s.f.	18	3.56	1.51-17.00	0.86 Ln(X) + 2.24

**Truck trips accounted for 20 percent of weekday traffic*

The trip generation method takes advantage of the most recent workforce and cluster information available to build a ground up truck traffic estimate in Will County. The cluster investigation included forecasting building area growth in square feet within each cluster from which the ITE growth rate was applied, resulting in a total number of daily trips. The trip generation manual also indicated the daily traffic produced consisted of 20 percent trucks. The new truck trips resulting from the cluster growth and developments are shown in **Table 3-11**.

3.4.1.5 GROWTH FROM INTERMODAL ACTIVITY

This only accounts for the growth in warehousing/distribution space within each cluster. The growth from intermodal activity was also estimated based on a BNSF Logistics Park fact sheet that noted average daily and monthly lifts as well as daily ingate and outgate estimates.[57] This data calculated to a rate of 2.17 trucks per lift. (Note that intermodal yards have extra truck activity to return chassis or pick up empty containers for off yard packing/filling that may not result in an intermodal lift.) CMAP monitors the annual lifts at the Chicago area intermodal facilities and indicated the 2015-2016 growth in annual lifts at BNSF Logistics Center at 0.251 percent and at UP Global IV at 1.859 percent. Extrapolating these growth rates over the next 10 years results in growth in annual lifts of 125,520, which equates to an estimated 344 more daily lifts or 748 additional trucks in 2026 from these two intermodal facilities.

[57] http://www.mininginternational.com/pdfs/BNSF%20Logistics%20Park%20Chicago%20Facts.pdf

TABLE 3-11. TRUCK GROWTH FROM EXPECTED DEVELOPMENT

Cluster	2026 Anticipated Growth (s.f.)	Daily Trip Gen Rate	Daily Trips	Pct. Trucks	Additional 2026 Truck Trips
ROMEOVILLE/BOLINGBROOK					
I-55/I-355/Joliet Rd	14,790,000	3.56	52,652	20%	10,530
Crest Hill	1,900,000	3.56	6,764	20%	1,353
I-355	7,840,000	3.56	27,910	20%	5,582
Romeoville/Airport	8,490,000	3.56	30,224	20%	6,045
Plainfield	180,000	3.56	640	20%	128
Total	33,200,000		**118,192**		**23,638**
ELWOOD					
Intermodal	26,490,000	3.56	94,304	20%	18,861
I-80/Houbolt Rd	4,740,000	3.56	16,874	20%	3,375
Channahon	2,590,000	3.56	9,220	20%	1,844
New Lenox	5,400,000	3.56	19,224	20%	3,845
Total	39,220,000		**139,623**		**27,925**
EASTERN WILL COUNTY					
University Park/Monee	10,080,000	3.56	35,884	20%	7,177
Mokena	800,000	3.56	2,848	20%	570
Frankfort	360,000	3.56	1,281	20%	256
Total	11,240,000		**40,014**		**8,003**
EMERGING CLUSTERS					
RidgePort (full build)	6,750,000	3.56	24,030	20%	**4,806**
CSX Intermodal	7,460,000	3.56	26,558	20%	**5,312**

The CSX railroad has also recently announced plans to construct an intermodal terminal south of Crete near IL Route 394. The intermodal terminal would occupy about 400 acres, will have an annual processing capacity of 500,000 lifts and will host 2,600 container spaces. Truck access will be provided via IL Route 394. Unlike the Joliet-area intermodal terminals which connect to West Coast ports via the BNSF and UP railroad, the Crete development would connect Will County to CSX's Southeastern Corridor which links Will County markets, such as Chicago, with the western gateways of St. Louis and Memphis; the cities of Nashville, Birmingham and Atlanta; and the East Coast ports of Savannah, Jacksonville, and Tampa. This development could position Will County to handle additional freight shipped through the expanded Panama Canal.

The proposed CSX Intermodal facility truck trips were estimated using the same truck trip generation rate of 2.17 trucks per lift for the potential lift scenarios below. The most conservative potential annual lifts (500,000 lifts per year) were used to estimate the 2026 truck volumes at the new CSX facility (**Table 3-12**). This was based on the assumption

that the site would be built and operational within about five years and by using the growth of UP Global IV (which reached about a half million lifts after five years of operation) as a reference point.

TABLE 3-12. ESTIMATED CSX INTERMODAL LIFTS AND TRUCK TRIPS

Potential 2026 Annual Lifts	2026 Daily Lifts	Est. 2026 Truck Trips
500,000	1,370	2,978
750,0000	2,055	4,467
1,000,000	2,740	5,956

The estimated increase in intermodal activity was combined with the warehouse/ distribution space to arrive at the final truck growth in each cluster.

3.4.1.6 TRIP DISTRIBUTION

The trip generation volumes were distributed to the key road network using same non-interstate distribution of Inbound (20%), Outbound (20%), and Intra-county (60%) with attention given to the roadways near the cluster in which trips are generated. The results are shown in **Table 3-13**.

TABLE 3-13. TRIP GENERATION FACTORS APPLIED TO KEY ROUTES

Route	2015 Truck	Estimated Growth	2026 Truck	Estimated Truck Percent Growth	2040 Will COnnects – Future Volumes
I-80 E	17,250	10,737	27,987	62%	125,000+
I-80 W	14,550	6,947	21,497	48%	50-75,000
I-55N	17,300	7,270	24,570	42%	100-125,000
I-55S	5,750	3,761	9,511	65%	25-50,000
I-355 N	12,200	4,103	16,303	34%	100-125,000
I-57N	6,875	1,645	8,520	24%	75-100,000
I-57S	6,500	2,044	8,544	31%	50-75,000
U.S. 30W	2,450	7,333	9,783	299%	25-50,000
U.S. 6 (Maple)	600	2,443	3,043	407%	25-50,000
IL 53S	1,400	6,115	7,515	437%	25-50,000
IL 59N	3,150	9,428	12,578	299%	50-75,000
IL 7E	1,250	3,741	4,991	299%	25-50,000
IL 126W	1,200	4,887	6,087	407%	25-50,000
U.S. 52W (Jefferson)	1,250	5,505	6,755	440%	25-50,000
IL 394S	1,350	2,072	3,422	153%	<25,000
IL 394N	3,200	6,217	9,417	194%	25-50,000

3.4.2 CONCLUSIONS

The percent growth method used existing traffic volumes and incorporated TRANSEARCH 2040 truck growth rates. The trip generation method used results from the freight cluster growth estimates prepared as part of the workforce analysis. Overall the trip generation method projected higher truck volumes compared to the percent growth method incorporating TRANSEARCH future year estimates. This is likely the result of recent localized data and knowledge of the potential and infill developments that would impact the truck and freight volumes throughout the county.

Substantial truck traffic growth can be expected regardless of the forecasting methodology used. Will County's key interstate highways – I-80, I-55, and I-57 – will continue to carry the majority of truck traffic. This will lead to worsening travel conditions on I-80 through Will County (which is already a national freight bottleneck) as well as I-55 and I-57 heading into Chicago. State and U.S. highways within Will County will experience the greatest growth in truck flows. For example, under the bottom-up forecast, U.S. 6, IL 53 South, IL 126 West, and U.S. 52 West would all experience truck traffic growth of more than 400 percent by 2026. Additionally, CenterPoint Properties provided proposed traffic volumes for the Houbolt Parkway Extension project. These traffic volumes were cross-referenced with the truck traffic growth projections above and are generally consistent with the truck traffic projections for Will County.

These results reinforce the concerns put forth by industry stakeholders during interviews. Many interviewees expressed concerns about existing bottlenecks on I-80, I-55, and I-57 which will only get worse with increasing truck and passenger traffic. The deteriorating condition of the I-80 bridge over the Des Plaines River was noted several times. But local and state routes were also noted problem areas. The condition and capacity of IL 53, Laraway Road, the IL 53/U.S. 52(Chicago Street)/I-80 interchange, and U.S. 30 were all called out by freight stakeholders as areas of concern for efficient goods movement. IL 53 was also noted for safety issues.

3.5 COMMUNITY AND ENVIRONMENTAL EFFECTS OF FREIGHT

Crucial to this plan is the balancing of freight industry needs and the necessity of maintaining the character and quality of life for residents and communities in Will County. Actions to avoid and address potential environmental impacts of freight on both the human and natural environments are necessary. To better understand the effects of freight on communities, residents and the environment, the plan team used a wide array of activities to solicit input. These are described in detail in **Appendix F** and included:

- Building on the results of the public outreach conducted for the Will Connects 2040 Long Range Transportation Plan
- Meetings with local officials
- A public survey with over five hundred respondents

- Three public forums
- A meeting with environmental stakeholders

The following two sections present the common community and environmental issues and concerns identified, a desired future state to address those concerns and potential tools that can be used to improve the balance between freight needs and quality of life. The results of this analysis were used to inform the program recommendations discussed in **Section 3.8** and the project prioritization process included **Section 3.9**.

3.5.1 ADDRESSING COMMUNITY EFFECTS OF FREIGHT

From the public survey conducted for this plan, the top ten community concerns related to freight were:

1. Safety
2. Conversion of farmland or open space for freight developments/use
3. Truck traffic
4. Roadway congestion
5. Congestion related to warehouse distribution and intermodal sites
6. Changes in community character due to growth in freight industry
7. Road maintenance and repairs
8. Rail crossing delays
9. Truck routes
10. Truck noise

The most common write-in responses to the survey on quality of life and community livability related to open space, natural areas, agricultural communities, and country living. Public respondents chose improving safety, reducing congestion, and coordinating land use and transportation planning as the top three ways this freight plan could help support communities in Will County.

The following paragraphs discuss key community effects related to freight related development, transportation and ways the County and its partners can address these issues as part of implementing a community friendly freight planning approach.

3.5.1.1 SAFETY

Safety related to the movement of freight is a top focus of stakeholders and local residents. Chapter 1. Current State provided a discussion of key safety issues and locations of concern in the county. Specific resident concerns also include safety related to trucks in residential and community sensitive locations where conflicts may occur with pedestrians and cyclists. Truck parking is also a safety issue since truckers may be forced to park in unsafe locations when designated parking spaces are unavailable. Therefore, trucks parked illegally (such as on the road shoulder) may present a collision risk for other motorists. Improving safety is a critical focus of this plan and is included in several of the recommendations and in criteria related to selecting projects that address safety concerns.

3.5.1.2 TRUCKS ON LOCAL ROADS

In the public survey, the most frequent response regarding the best way to mitigate the impacts of freight transportation was to decrease truck traffic on local and neighborhood roads. A repeated principle resulting from public and stakeholder coordination was that freight related facilities should be located as close as possible to interstates so that trucks can make quick and easy entrances and exists. Routes and facilities should be planned to move truck traffic efficiently to the interstate without using roads that are not designed effectively for trucks and run through neighborhoods and other community sensitive areas. This focus is supported by the analysis in this plan that shows that a high percentage of freight handled in the county is through freight, which does not originate from and is not going to Will County destinations.

There are several actions that Will County and its partners can take to improve the current situation and ensure future truck activity avoids local roads. Coordination between local governments including cities, villages, and townships, and the County on designating truck routes is critical for a continuous and logical truck routing system as each local government has authority over designating truck routes in their jurisdiction. The first is to improve the designation of truck routes to reduce conflicts particularly in residential areas using IDOT's truck route designation process. This needs to be followed with enhanced electronic communication of these routes to carriers and drivers in partnership with IDOT through GPS systems. The County and local communities should work together to ensure new freight related developments address traffic growth and circulation through approved traffic plans and potential private sector cost sharing for the improvements needed.

3.5.1.3 CONGESTION

Chapter 1. Current State discusses current congestion issues related to freight movement in the County and Sections 3.3 and 3.4 discuss how future freight growth will continue to put pressure on critical IDOT, County and local roads to adequately move traffic. Residents expressed concerns with how truck related congestion affects their daily commutes to work, whether or not their job is freight related, and ability to access community resources and facilities in a timely manner. The most frequent routes of concern cited in public surveys and meetings were U.S. 53, I-80, I-55, and Laraway Road. Addressing congestion was a key factor in the prioritization of projects, as discussed in Section 3.9. County and local officials can support mitigation of future congestion issues by ensuring new freight related developments address traffic growth and circulation through required and approved traffic plans including potential private sector cost sharing for roadway related improvements needed.

3.5.1.4 NOISE

Residents and stakeholders identify noise related to freight movement and facilities as an issue. While technology has greatly reduced noise levels of equipment in the newest intermodal sites, noise from freight movements still affects neighboring land uses. Freight related noise sources include: train horns at grade crossings, trucks with larger diesel engines, trucks using engine brakes, and the combination of these at intermodal, warehouse facilities, and distribution centers. Aviation noise also could be an issue if the South Suburban Airport is constructed. Noise is problematic for wildlife in environmentally sensitive areas. Sound travels more widely through the prairie areas of southern Will County which affects wildlife and bird habitat as well as the ability of residents and visitors to enjoy recreational activities in these locations.

Will County and its communities should partner with industry to reduce noise levels and their effects on local residents. This includes implementing land use and zoning/site plan standards across the County that include requirements for buffer areas and noise standards, particularly for new freight related development.

Communities have the opportunity to investigate potential quiet zones for rail while understanding safety requirements for trains and costs of safety improvements to put these in place The Federal Railroad Administration has specific guidelines for creating Train Quiet Zones. The process involves a cooperative effort between the road authority, railroad, and agencies with jurisdiction over crossing and roadway safety. To be considered for a quiet zone, the crossing must meet these minimum requirements.

- Each crossing within the desired quiet zone must have gates, flashing lights, constant warning time devices, and power out indicators.
- The quiet zone can include one crossing or multiple crossings, but must be at least ½ mile in total length.
- The quiet zone must not have any other non-quiet zone crossings within ¼ mile before the first crossing in the zone or after the last crossing in the zone.
- If another crossing is within the ¼ mile minimum distance, the quiet zone must be extended through that adjacent crossing and then be without a non-quiet zone crossing for an additional ¼ mile away.

Localities desiring to establish a quiet zone are required to mitigate the increased risk caused by the absence of a horn. Additional supplemental safety measures, must also be installed to further minimize the risk associated with not blowing the horn. These basic improvements can include a combination of features such as railroad gates, flashers, upgraded railroad circuitry and construction of raised medians. As a result, implementing a quiet zone can introduce costs measured in hundreds of thousands or even millions of dollars. To determine if one or more crossings is eligible to become a quiet zone, the crossing(s) must be below certain thresholds. The FRA has an online

calculator that assigns a Quiet Zone Risk Index score assuming the crossing(s) have been improved with one or more safety features.

3.5.1.5 EMERGENCY ACCESS

Freight transportation may create concerns related to emergency access. Truck related congestion is a concern as an impedance to emergency access vehicles, particularly on roads with insufficient shoulders. In assessing truck routes and necessary improvements, the County, local governments, and its partners should examine the need for shoulder improvements, particularly on two-lane first and last mile routes.

Emergency access and overall delay is an issue with long stretches of rail with at-grade rail crossings. Longer trains, particularly if slow moving, can lead to multiple crossings being blocked at the same time, creating a risk if emergency services are located on one side of the track and an incident occurs on the other. Particular concerns were raised during the public consultations regarding the CN rail-line in the eastern part of the County and the number of at-grade crossings. Grade separations are expensive and the County and its partners should prioritize future rail grade separations not only on roads with higher traffic volumes and level of crossing delay but also consider connectivity of routes with emergency facilities.

3.5.1.6 IMPACTS ON AGRICULTURAL LAND

Agriculture is an important component of Will County's economy as indicated in the freight industry interviews (see **Appendix F** for more information on the outreach effort). Agriculture industries also rely on the rail network to move their product and the road network to move equipment; freight and economic analysis shows the benefits that Will County experiences because of this nexus between agriculture and freight. At the same time, many members of the public and stakeholders expressed concerns regarding the impacts of freight on agricultural land. Much of southern and eastern Will County contains high quality farmland and many Centennial Farms are located in the County. The small town and rural nature of the area is part of the quality of life for residents. A key part of ensuring a balance between freight and quality of life is to reduce the impacts on adjacent land uses and resources. The annexation powers of local communities can lead to freight development in areas that affect agricultural land—for example, truck parking sites can negatively impact water quality if not designed properly—and create unplanned travel impacts for other county and local roads. This can create safety and livability issues. The County and its partners should create a County land use plan and strategy that engages local communities in strategies and zoning that focuses new freight development on existing/planned freight clusters. **Appendix I** discusses some of the tools and techniques that the county and communities can use to reduce impacts in the future.

3.5.1.7 EMPLOYMENT OPPORTUNITIES

Residents are concerned that the employment opportunities connected with freight are not an advantage to the county. They do not believe that warehouses necessarily create all that many jobs and that they are often low paying and temporary. Residents want to see a better mix of higher paying jobs. As discussed in **Chapter 4**, analysis shows a mix of jobs at different wage levels tied to freight related industries. This very issue is one of the key reasons that a workforce component was included in this freight plan and the recommendations of the workforce chapter are important parts of the plan's implementation.

3.5.1.8 LIGHT POLLUTION AND AESTHETICS

Another set of issues that have been raised by residents who live in the vicinity of freight facilities are concerns related to light pollution and aesthetics. Approaches identified above that include enhanced land use planning and site review of proposed facilities, decisions on truck routing and the design of truck routing (including illumination), and the creation of buffer zones will help prevent and mitigate these issues in the future. Light pollution can also have environmental impacts as well.

3.5.1.9 **Addressing Community Effects Summary**

Table 3-14 provides a brief summary of how the county and its partners should enhance community quality of life in balance with improvements for freight transportation and related development. **Appendix I** provides a checklist of specific practices the County should consider in planning for future freight sites and associated transportation routes.

TABLE 3-14. COMMUNITY ENHANCEMENT AND FREIGHT IMPROVEMENTS

Issue	Desired Future State Objectives	Measures to Address
Safety	• Mitigate safety issues that arise from freight movement • Reduce the incidence of crashes on the system, particularly at high-crash locations • Reduce crashes at at-grade rail crossings • Improve safety for truck drivers and other motorists	• Prioritize projects that address higher truck crash locations • Address critical at-grade rail crossings with safety concerns • Designate and clearly post truck routes to reduce conflicts particularly in residential areas • Identify and develop designated truck parking facilities
Trucks on Local Roads	• Consider freight and truck utilization impacts on adjacent land uses and environmental resources including designating preferred truck routes.	• Designate truck routes to reduce conflicts particularly in residential areas • Enhance communication with truckers and companies so they understand the designated routes • A FRATIS project as discusses in **Section 3.9.10** could assist • Ensure new freight related developments address traffic growth and circulation through approved traffic plans and potential private sector cost sharing for improvements needed
Congestion	• Ensure that implementation of transportation freight projects and strategies do not contribute to congestion in adjacent jurisdictions. • Review transportation improvements to ensure that they do not negatively impact neighborhood access to goods and services.	• Prioritize projects that address high congestion locations including consideration of both truck and passenger vehicle traffic • Ensure new freight related developments address traffic growth and circulation through approved traffic plans and potential private sector cost sharing for improvements needed
Noise (also an environmental issue)	• Consider freight and truck utilization impacts on adjacent land uses and environmental resources including noise impacts.	• Implement land use and zoning/site plan standards that include requirements for buffer areas and noise standards, particularly for new freight related development • Further investigate potential quiet zones for rail while understanding safety requirements for trains and costs of safety improvements to put these in place
Emergency Access	• Provide alternative routes in case of emergencies and extreme weather events	• Prioritize future rail grade separations on roads connecting with emergency facilities
Impacts on Agricultural Land	• Enhance economic development by cooperatively developing regional community friendly freight solutions, projects, and policies including land use. • Provide resources to help communities better mitigate the impacts of freight.	• Create a County land use plan and strategy that engages local communities in strategies and zoning that focuses new freight development at existing/planned freight clusters

Issue	Desired Future State Objectives	Measures to Address
Light Pollution and Aesthetics (also an environmental issue)	• Consider freight and truck utilization impacts on adjacent land uses and environmental resources including lighting and aesthetics.	• Implement land use and zoning/site plan standards that include requirements for buffer areas and lighting standards, and aesthetic considerations, particularly for new freight related development

3.5.2 ADDRESSING ENVIRONMENTAL EFFECTS OF FREIGHT

Discussions with stakeholders, environmental groups and the public helped identify several key environmental issues of concern which planning for future freight related improvements needs to address. These included air quality, water quality, hazardous materials transportation, and impacts of freight uses on environmentally sensitive land. The following paragraphs briefly discuss these issues. **Table 3-15** summarizes the issues and potential means to address them.

TABLE 3-15. ADDRESSING ENVIRONMENTAL EFFECTS

Issue	Desired Future State Objectives	Measures to Address
Air Quality	• Coordinate transportation planning activities among jurisdictions to ensure that implementation of freight transportation projects and strategies do not negatively impact regional air quality.	• Partner with industry to continue to enhance the use of technology to minimize air quality impacts from freight • Partner on strong anti-idling regulations and technology to support anti-idling • Plan for buffer zones around new /expanding freight developments, particularly intermodal sites
Water Quality	• Avoid and minimize water quality impacts related to site selection of freight facilities and truck routing.	• Employ best management practices for avoidance and minimization of impacts to wetlands and for storm water management • Consider water quality impacts in truck route selection • Implement storm water best management practices in roadway and truck parking facility design
Hazardous Materials Transportation	• Avoid conflicts between hazardous materials routes and residential and environmentally sensitive areas.	• Regularly review and update route designations with partners • Ensure emergency management plans are reviewed and updated regularly
Impacts on Sensitive Areas	• Implement land use strategies to avoid impacts on environmentally sensitive areas. • Provide resources to help communities better mitigate the impacts of freight.	• Create a County land use plan and strategy that engages local communities in strategies and zoning that focuses new freight development at existing/planned freight clusters Focus new freight development in to existing identified freight clusters • Review truck routing to minimize impacts to adjacent environmentally sensitive areas

3.5.2.1 AIR QUALITY

Air quality is another freight impact on the community and the environment raised by both environmental stakeholders and the public. All modes of freight transportation produce vehicle emissions. Specific air quality concerns relate to regional air quality associated with ozone and greenhouse gases and more localized air quality concerns related to mobile source air toxics from high concentrations of diesel vehicles. At intermodal yards these include trucks, rail locomotives, and some equipment.

Of particular concern is idling vehicles, which occur as a result of queues at facilities, rail crossings, congested intersections, and locations where trucks park while staging to pick-up or drop-off a load. All strategies and projects that reduce congestion will assist with truck emissions during idling but particular efforts may be needed in planning for new truck parking and staging areas.

Strategies to reduce emissions are generally divided into one of two categories – Technology Strategies and Operational/System Management Strategies.

TECHNOLOGY STRATEGIES

- Examples of engine treatments include diesel pollution filters, diesel oxidation catalyst, flow through filters, and selective catalytic reductions.
- Repowering is the replacement or retrofitting of older locomotives or trucks with cleaner burning engines/equipment.
- Alternative Fuels is the adoption of cleaner burning fuels such as natural gas or biodiesel.
- Energy Efficiency Improvements include improve aerodynamics, hybrid/electric vehicles, marine vessel efficiencies, and 'green' locomotives. The private sector is actively engaged on all of these listed technologies.

OPERATIONAL AND TRANSPORTATION SYSTEM MANAGEMENT STRATEGIES

- Anti-Idling efforts, such as truck stop electrification, could be put in place with private sector partnerships, development of new truck parking facilities and better enforcement.
- Congestion Management techniques, e.g. bottleneck mitigation and signal coordination/timing.
- Operational Changes, for example speed reduction, weigh in motion, and reducing empty mileage.

3.5.2.2 WATER QUALITY

The movement of freight and the development of sites related to freight dependent industries both have potential impacts on water supply and water quality. Any new site development must work with the local community to ensure adequate water supply

and connection to municipal systems. Plans need to be in place to effectively handle detention, retention and filtering of stormwater. This is of particular concern with freight facilities because of the heavy use of diesel powered vehicles including trucks, rail, and certain on-site equipment. Best management practices for handling stormwater and spill prevention need to be in place. Siting of new facilities needs to account for measures to avoid impacts to wetlands and waters of the United States.

In addition, truck routing, including detours from construction, is a concern for environmentally sensitive areas of the County. Effective stormwater management for County roads that were not originally designed for heavy truck traffic should be addressed as part of planned upgrades. Truck routes and major freight corridor improvements should avoid routing trucks through environmentally sensitive areas of the County and the project prioritization process discussed in **Section 3.8** took this into account.

3.5.2.3 HAZARDOUS MATERIALS TRANSPORTATION

Related to the water quality issues discussed above is the specific management of hazardous materials cargo including chemicals. All modes of freight used in Will County, including truck, rail, barge, and pipeline carry materials that could be hazardous to the natural and human environment if spillage occurs. Freight carriers are required to take proper precautions and follow protocols in the hauling of these materials. The County's role, in partnership with local communities and environmental agencies must be to ensure routing of any hazardous materials transportation avoids environmentally sensitive areas of the County and ensuring proper emergency response plans are in place. As new sites for freight related development are considered along with their associated truck movements, the County should take a lead role to ensure that emergency management and spill prevention plans are in-place and updated regularly. According to the Federal Emergency Management Agency (FEMA), formal Emergency Operations Plans should be updated every two years at a minimum, although some jurisdictions choose to update portions of their plans up to once a month.[58]

3.5.2.4 IMPACTS ON SENSITIVE AREAS

Will County is home to 27 identified natural/preservation areas including forest preserves and particularly the Midewin National Tall Grass Prairie. Many of the sites, including Midewin, are located in the less developed southern areas of the County. Residents, public officials, and environmental stakeholders are particularly concerned with the impacts of freight on these critical natural resources and on agricultural land (as discussed in **Section 3.5.1**). Many of the environmental and community issues identified in this section, including safety, noise, light pollution, air quality, water quality, and

[58] Federal Emergency Management Agency, *Developing and Maintaining Emergency Operations Plans*, November 2010, retrieved June 27, 2017 from https://www.fema.gov/media-library-data/20130726-1828-25045-0014/cpg_101_comprehensive_preparedness_guide_developing_and_maintaining_emergency_operations_plans_2010.pdf.

hazardous materials transportation, are of particular concern in relation to sensitive natural areas. Will County has opportunities for eco-tourism related to Midewin and other natural resource facilities that would be threatened by impacts of incompatible freight uses. To address this issue, the County and local communities should take similar measures as discussed for agricultural impacts in **Section 3.5.1** including the development of a County land use plan and strategy, focusing new freight development into existing identified freight clusters, and reviewing truck routing to minimize impacts to adjacent environmentally sensitive areas.

3.6 ANALYSIS OF INTERNATIONAL, NATIONAL AND REGIONAL FUTURE TRENDS

Freight growth and change in Will County will be affected by several international, national, and regional freight trends. It is important for Will County officials, freight stakeholders, and residents to understand these future trends since they will impact the types of policy responses that are appropriate for freight and community planning efforts. This section summarizes the results of a scenario planning workshop held in Will County to elicit input on potential future freight scenarios. It also assesses a number of key local, national, and international trends that will affect goods movement in Will County in the future.

3.6.1 RESULTS FROM SCENARIO PLANNING EXERCISE

On February 7, 2017, a scenario planning exercise was held during the Will County Freight Advisory Council (FAC) meeting. Scenario planning is a methodology that explicitly accepts the unpredictability of the future, in contrast to traditional visioning methods that develop overarching goals and specific strategies to achieve them. Scenario planning is especially useful for freight planning because goods movement is largely driven by private sector actors responding to economic trends that are inherently volatile.

At the scenario planning workshop, participants were presented with three future scenarios that were based on several uncertain but plausible future trends including changes in global trade volumes, the Panama Canal expansion, technological advances such as 3D printing and autonomous vehicles, population change, Big Data, and political divisions, among other things. The three scenarios considered were:

- **Fresh Coast –** This scenario focuses on a fundamental realignment of trade patterns from increasing globalization toward multiple regional trading blocs with the re-shoring of North American manufacturing contributing to a renaissance in Great Lakes and Chicagoland manufacturing activity, thereby increasing Will County's importance as a trading hub.
- **High-Tech, Convenient Living –** A future where Illinois residents gravitate towards denser, mixed use communities made possible by increased telecommuting and online shopping, on-demand custom manufacturing, and increased substitution

of robots for workers. This scenario is characterized by a reduction in driving for work and shopping but an increase in residential delivery of goods.

- **Shrinking State –** The continued slow population and economic decline of the Rust Belt and reduced federal and state funding for infrastructure and other needs.

Workshop participants were asked to more fully develop each scenario including potential freight impacts; identify specific pieces of Will County's freight transportation infrastructure that would be put under stress under each future state; and identify the associated risks to the transportation infrastructure associated with them. FAC members were then asked to identify policy responses for each scenario including proper areas of emphasis (e.g., maintenance, preservation, and expansion), funding strategies, and procedural or regulatory changes.

Table 3-16 summarizes the results of the workshop including the expected impacts on Will County's transportation infrastructure and potential policies and investment strategies under each scenario.

TABLE 3-16. SUMMARY OF SCENARIO PLANNING WORKSHOP RESULTS

Scenario	Impacts on Freight Volumes and Transportation Networks	Policy Responses
Fresh Coast	• Reorientation of freight routing away from West Coast port-driven rail traffic and towards Great Lakes trade to support increased regional manufacturing • Increased truck traffic on existing east-west connectors such as I-80 • Increased maritime cargo volumes and associated landside impacts • Growth in air cargo to transport higher value goods	• Add capacity on key east-west corridors such as I-80, Manhattan-Monee Road, and Wilmington-Peotone Road • Develop new east-west connection from I-55 to I-65 in Indiana • Improve DuPage River Corridor to handle increased maritime traffic • Develop new port and airport facilities, and improve locks and dams • Improve last-mile connections • Secure additional transportation funding, potentially including user fees or tolling
High Tech, Convenient Living	• Overall volumes increase, but mode share will change with increased truck and air cargo flows • More large delivery vehicles making home deliveries on local roads (but this could be mitigated somewhat by the use of drones for smaller packages) • Greater stress on last-mile connectors • Reduced role for marine freight	• Improved freight and land use coordination to deal with increase in warehousing activity, and to re-purpose redundant big box stores • Develop a regional truck route network • Identify shared drop-off points for freight in communities
Shrinking State	• Local road deterioration due to lack of maintenance funds • Two-tiered system with generally well-maintained Interstate and highway facilities but only the most critical local roads receiving maintenance dollars • Declining use of waterways as manufacturing shrinks • Dispersion of local truck traffic as drivers choose routes based on road condition rather than level of congestion	• Secure partnerships with private industry and other levels of government to prioritize maintenance of key freight routes • Support businesses with a competitive advantage in Will County in order to retain them

Given the inherent uncertainty associated with predicting future trade and logistics trends, it is unlikely that any one of these scenarios will come to pass exactly as envisioned. But the value of scenario planning lies in developing strategies and policies that can be deployed effectively regardless of how the future turns out. Hence, the following common conclusions across the 3 scenarios highlight ways Will County can support its freight system going forward, making adjustments as needed to deal with changing conditions in the economy:

- **Strong Partnerships** – Partnerships with local municipality and township jurisdictions, regional and state agencies as well as with the private sector will be necessary to ensure agreement around key projects and to secure funding for them.
- **Prioritized Investment** – The needs of the system will always be greater than the resources available. Will County will need to work with stakeholders and gather data to ensure that its investment decisions are meeting the needs of its businesses and residents.
- **First and Last Mile Connections** – Will County should focus on critical first and last mile connections within the freight network. If possible, the needs for these connections should be considered during the local land development permitting process.
- **Increased Air Cargo Capacity** – New technology and consumer demands will require additional air cargo capacity.
- **Coordinated Transportation and Land Use Planning** – Investment priorities should emerge from a coordinated planning process.
- **Transparent Truck Routing** – Trucks that move through Will County need a clear truck routing system to ensure efficiency of freight movement and to reduce negative impacts on residents.

Specific recommendations related to these conclusions are provided in **Section 3.8**.

3.6.2 FUTURE FREIGHT TRENDS AND IMPACTS ON WILL COUNTY

In addition to the Will County-specific futures envisioned during the scenario planning workshop, there are many other trends that are likely to impact freight flows in Will County going forward. The draft National Freight Strategic Plan (NFSP) identified several factors affecting future freight transportation.[59] Will County must be prepared to plan for and adapt to these key trends.

- **Expected growth** in freight traffic
- **Underinvestment** in the freight transportation system

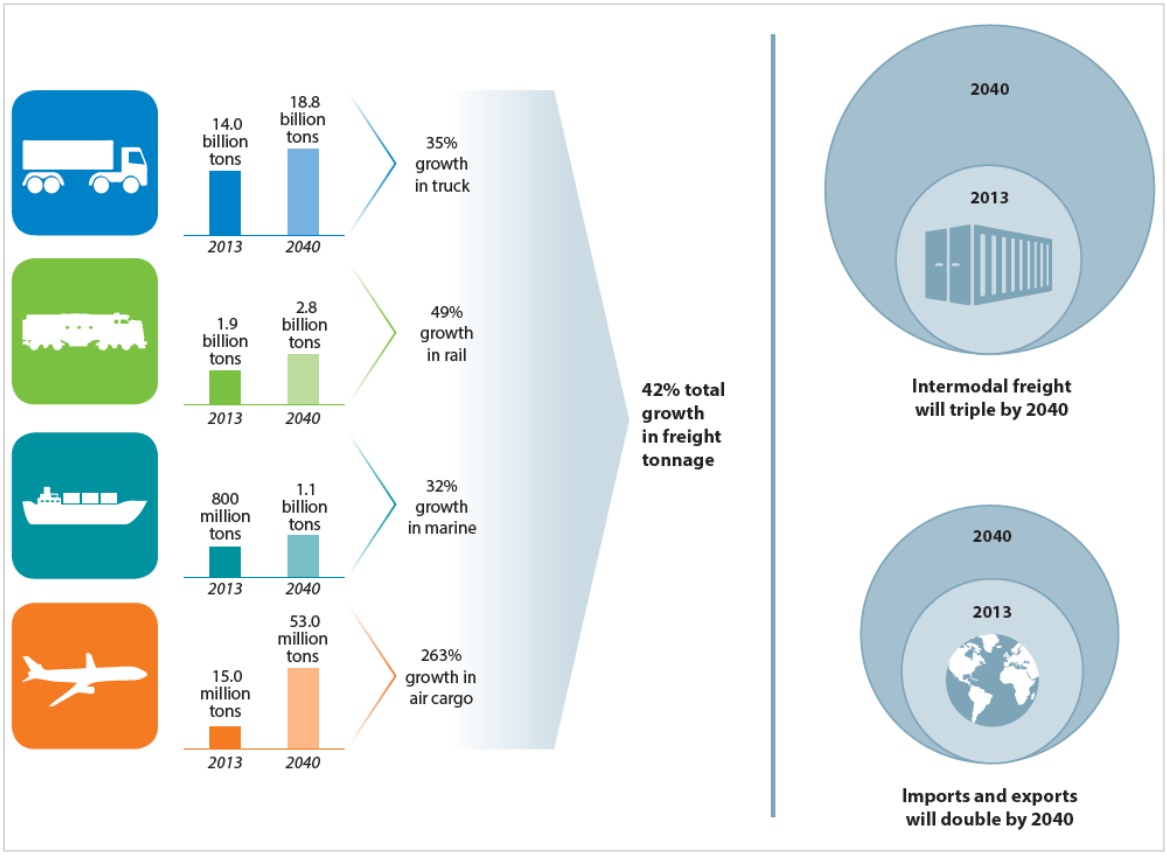
[59] Federal Highway Administration. 2015. Draft National Freight Strategic Plan

- **Difficulty of planning and implementing** freight projects under our current governance structure
- **International trade** and freight transportation
- **New technologies** affecting freight

3.6.2.1 NATIONAL GROWTH IN FREIGHT TRAFFIC

As shown in the **Figure 3-11**, overall freight movements in the U.S. are expected to increase by 42 percent by weight by 2040. Most of this growth (nearly 5 billion tons) will be driven by increases in truck shipments, although rail and marine cargo will also grow substantially. Air freight shipments will grow the fastest but do not account for a significant share of freight tonnage since shipping by air is generally limited to low weight but high-value commodities. Intermodal shipments (mostly containers) are expected to triple by 2040, while international import and export cargo will double in volume. These latter two trends will impact Will County disproportionately, given the volume of port-driven intermodal import and export freight that flows through the County.

FIGURE 3-11. NATIONAL GROWTH IN FREIGHT TRAFFIC, 2013-2040



Source. USDOT, Draft National Freight Strategic Plan.

This will occur on a multimodal transportation system that is having difficulty accommodating existing demand, let alone future growth. Freight systems across all modes are already experiencing bottlenecks and rising maintenance costs. Much of the anticipated growth in freight traffic will occur at key nodes in the transportation network. These are geographic locations where significant volumes of freight are concentrated, such as major seaports, intermodal rail terminals, and international border crossings. In Will County, the rapid growth in port-driven rail intermodal traffic will lead to more trains moving to, from, and through the region and localized truck traffic growth as freight is handed off between modes.

Growth in freight movement is not expected to occur in a linear fashion. As the United States continues its decades-long shift from a manufacturing to a service economy, freight movement is expected to shift as well. The NFSP outlines three major trends – each of which are linked and are driving the massive growth in freight movement in Will County.

- **Consumption Patterns.** Increasing volumes of high-value, time-sensitive freight will drive growth in air freight and trucking. Facilities will become more decentralized and located to allow for just-in-time delivery. This trend is demonstrated by e-commerce giant Amazon, which is currently constructing a fulfillment center in Monee and a distribution center in Crest Hill, making for five Amazon locations in Will County. Will County is a prime location for these types of facilities.

- **Foreign Trade.** Growth in foreign trade has led to an increase in containerized shipping, which is concentrated in key rail corridors that connect population centers with connections to international ports. Will County's inland port is the prime example of this. The BNSF Logistics Park Chicago and UP Joliet Intermodal Terminal (Global IV) connect to the ports of LA and Long Beach, California and other West Coast ports. These rail connections carry manufactured and finished goods produced in Asia to the Chicago and Midwest consumption markets. Containers are then filled with local agricultural products such as corn and soybeans for the back-haul trip to the ports where they are loaded onto oceangoing vessels for export to feed growing Asian markets. Recent/current discussions regarding foreign trade agreements such as NAFTA could cause uncertainty in trade activity affecting Will County if these agreements are eliminated or substantially changed.

- **Urbanization and Suburbanization.** Americans are increasingly migrating from rural areas and concentrating in cities and suburban regions, where jobs and lifestyle options are more plentiful. Moving freight in these congested areas increases cost and the potential for conflict between passenger and freight vehicles. This trend is interacting with the changes in consumption patterns mentioned previously. Consumers in denser urban and suburban areas are increasingly using online retail outlets offering same- or next-day delivery service to buy goods they would have previously purchased in a store. This necessitates

additional parcel delivery shipments in already congested areas, some of which lack sufficient freight access points such as alleys or loading docks. These new retail consumption patterns also do not necessarily mesh well with a transportation network that largely developed around major retail centers.

3.6.2.2 UNDERINVESTMENT IN THE FREIGHT TRANSPORTATION SYSTEM

The overall gap in freight transportation funding has not been quantified, because a national set of unfunded freight transportation projects has not been developed. The Will County 2040 Long Range Transportation Plan identifies a capital funding gap of over $1.3 billion between now and 2040.[60] That analysis focused only on roads under the County's jurisdiction, and not the needs of municipalities, IDOT, the Illinois Tollway, and all non-highway modes. Other regional, state, and national estimates provide a more comprehensive view of the problem.

- In the GO TO 2040 Regional Plan, CMAP identified unfunded transportation needs of $100-$220 billion for the Chicago region.[61]
- In its 2012 Long Range Transportation Plan, IDOT "estimated the funding shortfall for Illinois highway improvements [between 2012 and 2015] to be more than $39.5 billion. For public transportation, intercity rail, high speed rail, CREATE and rail freight programs, the funding shortfall for the next five years is estimated to be more than $25 billion."[62]
- In its most recent Infrastructure Report Card, the American Society of Civil Engineers estimates national infrastructure needs totaling $713 billion for highway maintenance, expansion, and enhancements; $123 billion for bridge rehabilitation; $42 billion for aviation improvements; $18 billion for landside road and rail connections to marine ports; and $4.9 billion for inland waterways including lock and dam structures.[63]

Underinvestment in the freight system, however, is not merely a result of a lack of dedicated funding. Several institutional factors come into play. These include.

- Lack of data about the freight network, particularly the local network, to quantify freight benefits and identify freight projects. Will County does not maintain traffic counts for County or local roads, which can hamper its ability to identify the most effective freight projects. A key outcome of this plan is the

[60] Will County Executive, *Will Connects 2040 Long Range Transportation Plan*, retrieved June 20, 2017 from http://willconnects2040.org/uploads/3/4/8/6/34865704/will_county_transporation_report_2017_final4_web.pdf.

[61] Chicago Metropolitan Agency for Planning, *GO TO 2040 Comprehensive Regional Plan*, retrieved June 20, 2017 from http://www.cmap.illinois.gov/documents/10180/17842/long_plan_FINAL_100610_web.pdf/1e1ff482-7013-4f5f-90d5-90d395087a53.

[62] Illinois Department of Transportation. *Illinois Long Range State Transportation Plan*. Transportation Funding. December 2012. http://illinoistransportationplan.org/pdfs/final_report/06_transportation_funding.pdf. Retrieved March 7, 2017.

[63] American Society of Civil Engineers, *2017 Infrastructure Report Card. Inland Waterways,* retrieved June 19, 2017 from https://www.infrastructurereportcard.org/wp-content/uploads/2017/01/Inland-Waterways-Final.pdf.

identification of information necessary to better tell the story of freight in Will County and provide a solid foundation for planning critical improvements to make the entire system work better for all users.

- Lack of a definition of what constitutes a "freight project." Because freight is multimodal and multijurisdictional, there is no common definition of a freight project. Just because a given project may impact freight does not mean that it is freight-focused. Moreover, most project prioritization tools are unable to compare freight project costs and benefits across modes, making it hard to select and execute the best freight projects.

- Multi-jurisdiction differences in decision-making between townships, municipalities, Will County, CMAP, IDOT, and the federal government (inland waterways). Different decision-making frameworks and timeframes make it hard to develop and implement coordinated freight mobility solutions across jurisdictions.

- Differences in decision-making processes among private sector transportation system owners, public sector transportation system owners and market-driven developers. Private sector transportation system owners (e.g., railroads), highway system owners (e.g., local, state, and federal government agencies), and private developers all have different interests and priorities, some of which conflict, which further complicates effective planning.

- Difficulty of planning for a freight market which changes rapidly. Most government infrastructure plans take years to develop and much longer to implement. But the freight market is evolving rapidly, and even the most robust planning efforts have trouble keeping up, especially in a place like Will County where goods movement conditions are changing on a monthly basis.

- Lack of multimodal funding programs – Nationally this is being partially addressed by the TIGER, NSFHP, FASTLANE, and Infrastructure for Rebuilding America (INFRA)[64] programs, though all of these combined fall far short of addressing needs. In 2016, the USDOT received 585 applications totaling $9.3 billion for the TIGER grant program but was only able to award $500 million. In the first call for FASTLANE grants, USDOT received 212 applications totaling nearly $9.8 billion for grants and awarded $759.2 million. Moreover, although the FASTLANE/INFRA program does contain funding for multimodal freight projects including rail and waterborne, traditional highway projects still receive the bulk of the funds as multimodal projects have been capped at $500 million out of the five years covered by the FAST Act. Of the formula freight funds that a state receives, only up to 10 percent may be used on non-highway projects.

[64] USDOT recently changed the name of the FASTLANE program to the Infrastructure for Rebuilding America (INFRA) program. Some of the program criteria changed but the overall program goals are similar.

In Will County, fiscal challenges include uncertain federal funding (driven by Congress's failure to develop a sustainable transportation funding strategy), compounded by a state budget crisis (the State had gone without a budget for the past two years, but the State recently approved a budget for Fiscal Year 2018 at the time of this writing). This is occurring against a backdrop of a steady but slow recovery from the Great Recession.[65] Taken together, these factors limit the dollars available for transportation, which must be allocated among multiple priorities including freight.

3.6.2.3 DIFFICULTY OF PLANNING AND IMPLEMENTING FREIGHT PROJECTS UNDER OUR CURRENT GOVERNANCE STRUCTURE

The freight transportation system is the product of decisions made by a variety of public and private entities, sometimes with competing priorities. In Will County alone, there are 69 transportation agencies. For example, states, MPOs and local governments are the primary players in the planning and construction of the road network while the private sector plays a primary role in planning and implementing investments in freight rail, pipeline, and in some cases, airport projects. Port authorities in Illinois are public entities with taxing, bonding, and revenue generating authority, but most river terminal projects are planned and executed by private firms. Waterway system improvements are the purview of the U.S. Army Corps of Engineers.

According to the NSFP, this decentralized approach can be effective for individual projects, but it does not always guarantee that system-wide issues are addressed. This hampers the ability to implement freight projects which often reflect multi-state, national and global supply chains – such as the containerized goods chain that is transferred from rail to truck in Will County. The project team completed a brief review of the transportation-related responsibilities assigned to various public agencies in Will County, see **Table 1-3** in Chapter 1 to see lane miles by jurisdiction. As shown in **Table 3-17**, this review shows that an array of public agencies – including IDOT, Will County, local townships and municipalities, CMAP, the toll authority, and transit agencies, among others – all have key responsibilities in relation to the regional transportation network, many of which affect goods movement. Although Will County itself only controls a small portion of the total multimodal network, it must work with these agencies and various private sector partners to plan and execute freight projects.

[65] Will Connects 2040 Long Range Transportation Plan, March 2017.

TABLE 3-17. AGENCY RESPONSIBILITIES RELATED TO FREIGHT TRANSPORTATION

Agency	Responsibilities				System
	Planning	Funding	Oversight	Operations and Maintenance	
Illinois Department of Transportation	•	•	•	•	Interstate, National Highway, Marked and Unmarked State Routes, Bridges
Illinois State Toll Highway Authority	•	•	•	•	Toll roads
Chicago Metropolitan Agency for Planning	•	•			Federal-Aid Highway and Transit System for Cook, DuPage, Kane, Kendall, Lake, McHenry and Will Counties; Interstate, State Highways, Toll Roads, National Highway System
Regional Transportation Authority	•	•	•		Transit System for Cook, DuPage, Kane, Lake, McHenry and Will counties
Metra	•	•		•	Commuter Rail System for Cook, DuPage, Kane, Lake, McHenry and Will Counties
Pace Suburban Bus Service	•	•		•	Suburban Bus System for Cook, DuPage, Kane, Lake, McHenry and Will Counties
Will County	•	•	•	•	County Highways and Bridges
Municipalities	•	•	•	•	Local Roads
Townships	•	•	•	•	Township Roads
U.S. Army Corps of Engineers	•	•	•	•	Inland Waterways
Federal Highway Administration	•	•	•		Highways and Federal Aid Highway Program
Private Sector	•	•	•	•	Railroads, pipelines, some airports and river terminals

An example of the difficulty associated with executing a major freight project is the Illiana Expressway, which is a proposed 50-mile toll road through southern Will County that would link I-55 near Wilmington to I-65 in Indiana. This project would provide an alternate route to I-80 (which is a national freight bottleneck) and would benefit the logistics sector in Will County. However, the project is not moving forward due to several factors including community opposition, lack of funding, and environmental concerns. Without the Illiana (or another east-west alternative to I-80), much of the truck traffic is forced to use local and County streets which are not designed for heavy traffic and do not offer the same level of safety and mobility as a limited access freeway.[66] The lack of

[66] Ibid.

functional solutions to local road usage issues is a root cause of the discontent between freight and community related interest groups.

Additionally, there is a distinctly economic element to freight movement which further complicates decision-making. Local governments, which control land use planning, may seek investment in freight-generating businesses to provide jobs for their residents and property taxes for the public coffers, without the ability to fund the transportation improvements needed to accommodate them. Localities also often compete with one another to attract businesses by offering tax breaks and other incentives. While this makes sense from a strictly local standpoint, it can lead to development decisions that directly impact and spill over to the transportation system of other jurisdictions. The fragmented ownership and management of the local road network provides little incentive for individual localities to plan for and address the regional transportation issues brought on by such developments. Conversely, localities may eschew freight development to attract commercial development that produces a higher level of tax revenue. Finally, the priorities of the private sector differ from those of the public. Private companies seek to maximize their return on investment and may not take into consideration the public costs or benefits of new development projects.

A particular challenge for Will County relates to the acquisition of data to evaluate freight projects and to determine their effectiveness over time. Performance measurement is a key planning concept that is now being required at the federal and, in some cases, state levels. However, the federal and state data sets are primarily confined to the federal and state highway systems and private freight operators such as railroads and barge operators are not required to provide the type of detailed data that would be helpful in establishing performance measures. A robust local data collection system would enhance Will County's ability to manage its assets, invest effectively, and compete for national, state, and regional transportation infrastructure funding.

3.6.2.4 INTERNATIONAL TRADE AND OUR FREIGHT TRANSPORTATION

According to the draft National Freight Strategic Plan (NFSP), growth in international trade has outpaced U.S. economic growth over the last 30 years. All indications are that growth in imports and exports will continue in the future. Growth in imports and exports is primarily driven by growth in global consumption. In Will County, growth in imported containerized goods is expected to increase along with exports in agricultural products.

The primary links to the global economy in Will County are the BNSF and UP railroads, two Class I railroads serving western U.S. coastal ports that have developed modern intermodal yards in Will County. Between 2010 and 2014, combined annual lifts at the BNSF Logistics Park Chicago and the UP Joliet Intermodal Terminal have increased by 33

percent to nearly 1.5 million lifts.[67] (The term "lift" refers to the process of moving a container or trailer to or from a railcar. Nearly every lift requires an accompanying 2.17 truck moves.) A forecast of the truck traffic that is likely to arise from these facilities – as well as new intermodal and warehouse developments that have been proposed or are already under construction – is provided in Section 3.4.1.4.

Will County ports on the Des Plaines River also provide a link to global, national, and regional markets via the Mississippi River and the Port of New Orleans. Major commodities that are transported on the inland waterway system include food and farm products, petroleum and petroleum products, fertilizer and other chemicals. While barge traffic represents a small percentage of the total freight moved in and out of Will County, it is significant to certain industries such as agriculture and provides an economical option for moving many basic commodities. Waterways shipments take pressure off the surface transportation system, keep trucks off the highways and reduce the demand for increased train capacity possibly resulting in longer grade-crossing delays.

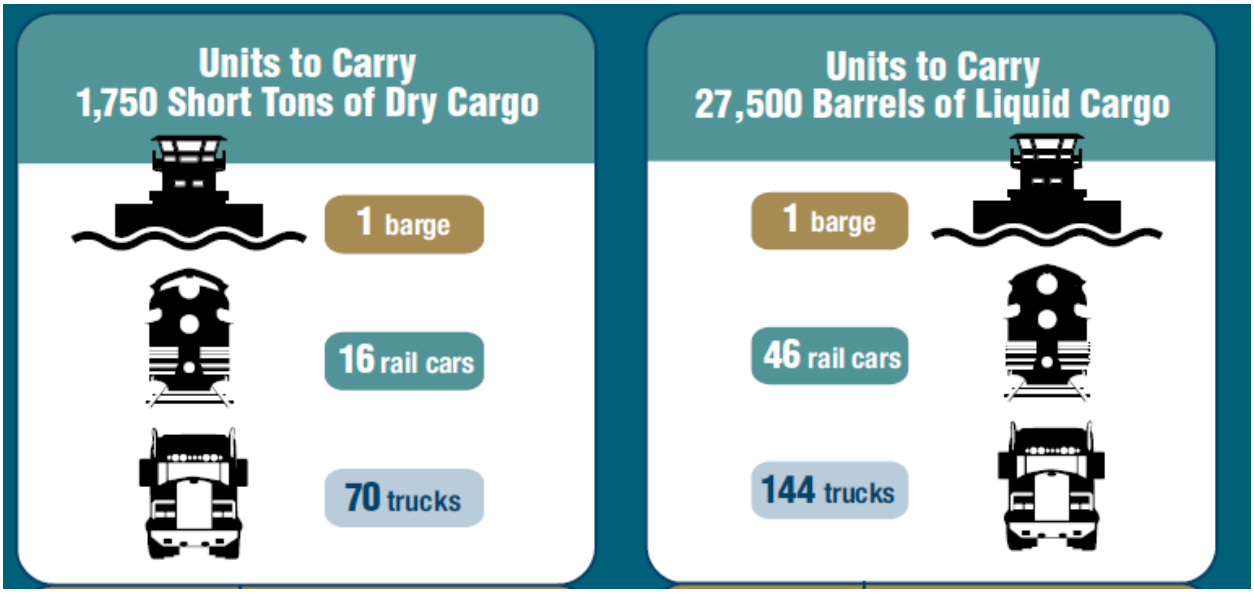
As an example, Mokena-based Ozinga Bros. Inc., a vertically integrated concrete supplier, operates multiple marine terminals along the Chicago-area inland waterway system, including a full-service barge-to-truck transloading facility on the Des Plaines River in Joliet. These terminals are valuable links in their supply chain. The Joliet terminal provides Ozinga access to the inland waterway system to import their raw materials – primarily cement. Perhaps most critically, though, Ozinga can load sand, stone and cement into barges at Joliet and ship directly to its terminals in the heart of the City of Chicago. Since one barge can move as much dry cargo as 70 trucks (see **Figure 3-12**), marine transportation allows Ozinga Bros. to operate efficiently and cost-effectively, supporting a growing economy while reducing truck traffic in Will County and on the already congested expressways leading into Chicago. Key benefits of this arrangement include cleaner air and reduced wear and tear on the highway system.

The rail and barge terminals provide a conduit for imported goods, but they also provide a channel for exporting Will County's agricultural products. Commodities such as corn and soybeans are loaded into containers for the backhaul trip to the West Coast ports or into barges for export through the Port of New Orleans. According to the United States Department of Agriculture, the value of U.S. oilseed and product exports doubled during the 2000s from an average of $9 billion to over $20 billion by the end of the decade.[68] The growth of the Chinese economy and the westernization of the Chinese diet has been a major factor in the increasing exports of soybeans, which are used as livestock feed in Asia.

[67] Chicago Intermodal Facility Lift Counts and Regional TEU Estimate (February 2017). Chicago Metropolitan Agency for Planning. http://www.cmap.illinois.gov/documents/10180/19427/FacilityLiftCountANALYSIS_Revised2015_20170223.pdf/31a31b6d-a02c-48c7-aedf-31d4b7563ccf. Retrieved on March 22, 2017.

[68] USDA Economic Research Service. Retrieved at https://www.ers.usda.gov/topics/crops/soybeans-oil-crops/trade.aspx. March 22, 2017.

FIGURE 3-12. BARGE, RAIL, AND TRUCK EQUIVALENT DRY AND LIQUID BULK CARGO CAPACITIES



Source. National Waterways Council

3.6.2.5 NEW TECHNOLOGIES AFFECTING FREIGHT

As noted in the draft NFSP, the freight industry is on the cusp of a technological revolution driven by innovations in communication and information technologies.[69] Firms are increasingly using the Internet of Things (IoT), big data applications, automatic vehicle and container identification systems, and satellite navigation systems to find new supply chain efficiencies and drive down costs. Sophisticated logistics management systems allow firms to analyze freight routes, travel times, infrastructure capacity, and inventory levels/location, often in real-time or near real-time, enabling just in time 'pull' supply chain planning where inventory and supply inputs arrive only when needed and freight vehicles effectively become mobile warehouses. Companies like Amazon, Walmart, and Google are experimenting with drone delivery for small parcels. Fully autonomous trucks have been tested on highways in Nevada, Ohio, and Colorado. Truck platooning (which reduces truck fuel consumption by wirelessly linking multiple trucks so they can follow each other more closely on the highway) has also been demonstrated in Ohio, Texas, California, and Europe. Logistics companies and intermodal terminal operators are also looking at ways to automate operations, such as warehouse robots that pick and pack shipments and automated intermodal freight yards.

[69] USDOT, *Draft National Freight Strategic Plan*, retrieved on March 2, 2017 from https://www.transportation.gov/sites/dot.gov/files/docs/DRAFT_NFSP_for_Public_Comment_508_10%2015%2015%20v1.pdf

Public agencies, for their part, are seeking ways to partner with freight stakeholders to effectively plan for growth, improve safety, and mitigate community concerns. Some states are deploying freight-focused intelligent transportation systems (ITS) to provide truck drivers with route and weather alerts tailored to their needs. For example, the Mid-America Association of State Transportation Officials (MAASTO), of which Illinois is a member, is developing a Truck Parking Information and Management System (TPIMS) using a TIGER grant and state matching funds. The system will monitor truck parking availability and provide real-time information to drivers in eight Midwestern states via dynamic signs, smart phone apps, and traveler information websites. As shown in **Figure 3-13**, I-80 in Iowa is one of the corridors slated for deployment, but Illinois is not participating in the project.

3.6.2.6 SUMMARY OF EMERGING FREIGHT TECHNOLOGIES AND IMPACTS ON WILL COUNTY

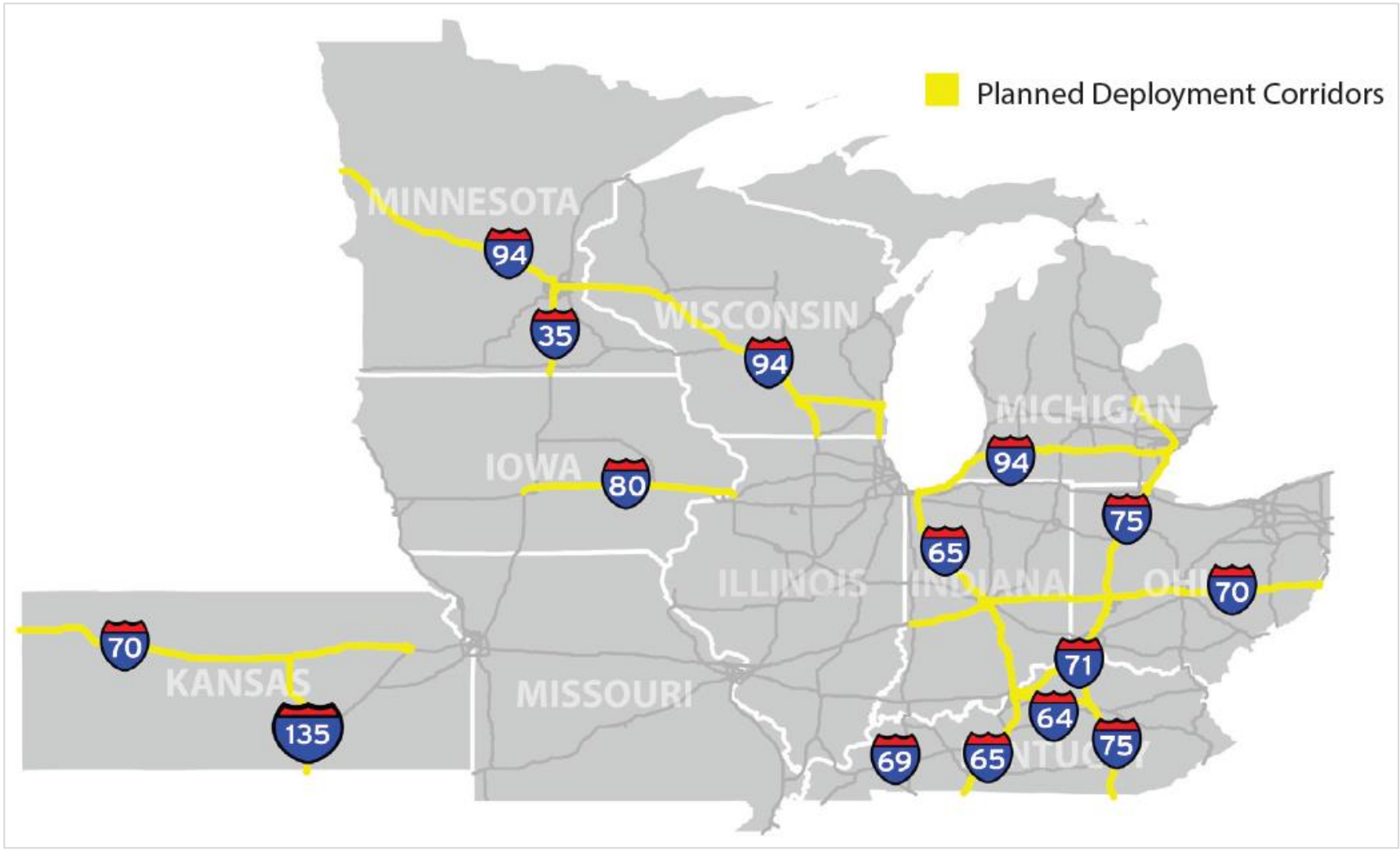
Table 3-18 lists several key new freight technologies, describes how they may impact goods movement in Will County, and categorizes potential involvement levels by Will County using the following rubric:

●	**Lead –** Will County opportunity to lead research and/or deployment.
◕	**Partner –** Will County may wish to partner with private industry, research institutions, and/or other government agencies (potentially including other states) to encourage innovation, research, or deployments.
○	**Monitor –** Technology or activity is largely a private sector endeavor, but Will County should monitor developments for potential impacts on employment and economy and develop mitigation strategies if appropriate.

These developments could have a number of impacts on Will County:

- Intermodal terminals and warehouse operators in the region may increasingly deploy automated systems for yard and internal warehouse operations. Aspects of yard operations that can be automated include gate systems, cranes, and equipment for moving containers around in the terminal such as yard hostlers. Intermodal terminal automation may increase the number of containers a terminal can handle, potentially leading to more truck traffic outside the gates. These decisions will be driven by the private sector, but they have the potential to change the number and types of logistics sector jobs in the area.

FIGURE 3-13. MAASTO TRUCK PARKING INFORMATION AND MANAGEMENT SYSTEM PLANNED DEPLOYMENT CORRIDORS



Source. Mid-America Association of State Transportation Officials.

TABLE 3-18. NEW FREIGHT TECHNOLOGY DEVELOPMENTS AND POTENTIAL INVOLVEMENT BY WILL COUNTY

Technology	Description	Impacts on Will County	Public Sector Involvement
Autonomous trucks	Partial or total automation of the driving task.	Initial research is focusing on the long-haul highway portion of freight trips rather than regional drayage moves, but longer-term deployment is possible on I-80.	●
Truck platooning	Wireless link between trucks to enable reduced headways at highway speeds, reducing drag and improving fuel economy.	Platooning is designed for longer-distance trips (>50 miles) at highway speeds and does not offer a compelling business case for short drayage moves; however, it could be used by I-80 through trucks.	●
Warehouse automation	Use of robots for routine warehouse tasks like pick and pack, loading, and unloading.	Minimal from an operational standpoint, but could impact the numbers and types of jobs in the local logistics sector.	○
Freight yard automation	Automated gate systems, cranes, trucks/ yard hostlers, and other equipment in intermodal container yards.	Increased efficiencies within the terminal will create additional capacity and potentially more traffic outside the gates.	●
Positive train control (PTC)	Systems for monitoring train operations to automatically prevent collisions, derailments, incursions into work sites, and movement over switches in the wrong position. Class I and commuter railroads are required to implement PTC by 2018.	Improved freight and passenger rail safety in the region.	●
Managed lanes	Managed lanes for trucks and passenger vehicles to improve safety, reduce congestion, and reduce wear and tear on general purpose lanes.	Could potentially be implemented on the I-80 corridor and between I-80 and Centerpoint or for other new/emerging freight clusters. Could include tolling option to fund necessary improvements.	●
Vehicle-to-Infrastructure and Vehicle-to-Vehicle Communications	IoT communications systems allowing vehicles to talk to each other and to the infrastructure. Freight applications include virtual enforcement facilities for truck size and weight, truck platooning, and signal priority for trucks.	Virtual enforcement facilities could improve freight safety and operations. Freight signal priority and/or timing could improve truck travel times, increase safety, and reduce congestion on key freight arterials.	●
Drone delivery	Use of unmanned aerial vehicles for last mile parcel delivery.	Unlikely to be used for deliveries in Will County in the short term, but Will County could become a hub for drone deliveries to larger/more congested cities like Chicago. The County could explore options for county-based drone usage standards, if applicable.	●
Freight-specific intelligent transportation systems (ITS)	Freight-focused intelligent transportation systems (ITS) to provide truck drivers with route, parking, weather, and other alerts tailored to their needs.	Will County could lead or partner with other agencies to deploy systems that help optimize regional freight movement, provide truck parking information, or deliver other travel information relevant for freight. FHWA's Freight Advanced Traveler Information System (FRATIS) program could serve as a foundation for this.	●

- Initial deployment and testing of autonomous trucks will focus on the long-haul highway portion of freight trips, which is easier to automate than the shorter drayage trips that dominate freight movement in Will County. Similarly, truck platooning is designed to save fuel at highway speeds over longer distances and does not offer a compelling business case for local moves on city streets. However, both technologies could be deployed by trucks moving through-freight on I-80. Truck automation technologies – especially driverless trucks – will also have to overcome public acceptance hurdles prior to widespread adoption.
- Managed lanes could be developed along I-80 and elsewhere to better direct trucks to the various intermodal terminals and warehouses in the area. These lanes could be deployed as toll facilities to help pay for the necessary improvements.

Freight-specific ITS applications offer an opportunity for Will County to lead research and deployment. An example is the FHWA's Freight Advanced Traveler Information System (FRATIS) application packages, which were designed to improve communication between intermodal terminals and drayage firms/warehouses and reduce unproductive moves. Such an application could be paired with other ITS technologies such as Freight Signal Priority, which can reduce congestion on freight-intensive arterials by adjusting signal timing to reduce unnecessary truck starting and stopping. More specific recommendations related to freight technology are provided in **Appendix E.**

3.7 KEY FINDINGS AND LINKS TO STRATEGIC PLANNING

From the analysis contained in this Chapter, several key findings are evident that must be addressed by strategic plan recommendations.

3.7.1.1 FREIGHT IS CRITICAL TO THE ECONOMIC SUCCESS OF WILL COUNTY

Over the last two decades, Will County has become the largest inland port in the entire nation, handling more than 3 million containers annually. Its proximity to Chicago (the nation's largest intermodal rail hub), superior multimodal transportation network, and availability of land have made Will County a magnet for warehouse, industrial, and distribution center development. Growth has been so explosive that since 2000, the total rentable building area of freight and industrial space in Will County has doubled to 152 million square feet. This growth has generated equally impressive jobs and business expansion. Since 2005, total employment in Will County's Transportation and Warehouse sector has grown by 138 percent, while new business establishments have expanded by 109 percent. More than 60,000 people work in Will County's three logistics "superclusters" in Romeoville/Bolingbrook, Elwood, and Eastern Will County around Monee.

Will County's robust multimodal transportation network is one of the driving forces behind this expansion. In their survey responses, freight and logistics stakeholders

indicated that access to highways and rail shipping are some of the top contributors to Will County's economic success. Will County logistics businesses leverage the County's rail, highway, and inland waterway networks to optimize their supply chains and choose the modes that meet their needs at the lowest cost.

The economic impact of freight in Will County reaches far beyond the movement of the goods themselves because those movements facilitate value-added trade and manufacturing activities that generate jobs, earnings, and tax revenues in freight-dependent industries such as Warehousing and Distribution, Manufacturing, and Retail Trade. Overall, freight-related economic activity in Will County generates more than 106,000 jobs, nearly $6 billion in earnings, $12.8 billion in economic output, and $916 million in tax revenues. More than half of these jobs are in the Transportation and Warehousing, Manufacturing, Retail Trade, and Accommodation and Food Services industries.

3.7.1.2 WILL COUNTY FREIGHT MOVEMENT IS CRITICAL TO THE STATE AND THE NATION

Will County's transportation infrastructure is also critical to the Illinois and national economies. The total value of freight moving to, from, through, and within Will County was $623.1 billion in 2015, which equates to nearly the entire Gross Regional Product (GRP) of the Chicago-Naperville-Elgin Metropolitan Statistical Area ($640.7 billion in 2015). It is also equivalent to about 80 percent of Illinois' Gross State Product ($776.9 billion) and 3.5 percent of U.S. Gross Domestic Product ($17.9 trillion).[70] While survey responses from freight businesses indicate that they predominately sell Will County distributed products into Illinois (70 percent of respondents) and/or other Great Lakes states (75 percent of respondents), many also sell into the Northeastern/Mid-Atlantic states as well as markets west of the Mississippi River (35 percent each). Another 15 percent of respondents sell their products internationally to markets including China, Southeast Asia and Mexico.

An example of the national and global trade that depends on Will County infrastructure is the movement of inbound containers loaded with consumer goods from West Coast ports. These shipments are transferred between railroads or onto trucks in Will County for further distribution or as inputs to manufacturing processes. The empty containers are then loaded with Illinois agricultural products for export. Agricultural and chemical shippers in the region also rely on the inland waterways to move large volumes of basic commodities, which would otherwise have to be moved on Will County's road and rail networks. The Des Plaines River provides a link to the Mississippi River system which in turn provides a link to export markets via Gulf Coast seaports.

[70] U.S. Bureau of Economic Analysis, https://www.bea.gov/index.htm.

3.7.1.3 TRADITIONAL PLANNING APPROACHES CANNOT HANDLE THE PACE OF FREIGHT DEVELOPMENT EXPERIENCED IN WILL COUNTY

Rapid growth in Will County's freight and logistics sector is outpacing local, regional, and state planning efforts. Infrastructure and land use plans have long time horizons and therefore do not respond well to quickly changing business conditions. Even since this plan development process began in late 2016, several significant new freight-related developments have been announced or broken ground, including a new Amazon distribution center in Monee, the CSX Crete intermodal facility, and the proposed Compass Business Park in Elwood. Local governments frequently lack the planning capacity to keep up with such accelerated growth. In some cases, they may also seek freight and industrial development opportunities without regard to the infrastructure capacity needed to accommodate them. Publicly available data sources, meanwhile, frequently do not provide the data necessary for effective freight planning, and may be outdated by the time they are published. Will County needs to enhance their local truck count data for County and local roads through a counting program and should consider freight related enhancements to the County's travel demand model. This will enhance the County and its partners' ability to respond to new freight development proposals.

This has led to several key challenges in Will County including large volumes of truck traffic on local roads that are not designed to handle it, freight traffic spilling over into residential areas or other sensitive areas, safety concerns, and community livability issues (additional details about the community impacts of goods movement, and potential avoidance and/or mitigation strategies, can be found in Section 3.5.1). In community surveys for this plan, residents ranked safety, changes in community character, truck traffic, and freight congestion as some of their top freight-related concerns. Decreasing truck traffic on local and neighborhood roads was viewed as the single best way to mitigate the negative impacts of freight transportation.

Rapid growth in this sector has also led to operational problems and inefficiencies that affect the freight industry. Some municipalities in Will County have designated truck routes, but they are not coordinated throughout the County. Sometimes the routes lack adequate signage, leading to a disjointed truck route system that is difficult for trucking companies and drivers to understand and follow. In addition, complicated paper-based permitting processes that vary between local jurisdictions make it hard for trucking companies to plan OS/OW moves, introduce delays in the efficient movement of such loads, and may lead to non-compliance.

3.7.1.4 FREIGHT VOLUME GROWTH WILL AGGRAVATE EXISTING BOTTLENECKS AND OPERATIONAL ISSUES

Trends suggest that the freight, trade, and logistics growth Will County has experienced over the last decade will continue. Total proposed new developments in Will County's three industrial superclusters could create 83 million additional square feet of industrial space over the next 10 years. Meanwhile the emerging RidgePort/Wilmington

supercluster could add more than 20 million square feet of space at full build out, while the proposed CSX Crete Intermodal and South Suburban Airport facilities would drastically alter goods movement and traffic patterns in eastern Will County and necessitate additional transportation infrastructure investment.

These new developments and expansions will drive continued growth in freight volumes. According to the TRANSEARCH database, freight volumes in Will County will reach nearly 600 million tons valued at about $1.2 trillion by 2040. This growth will be concentrated in the truck and rail modes, which combined will handle 83 percent of the freight by weight in Will County in 2040, totaling nearly half a billion tons of cargo. New freight developments will lead to substantial growth in Will County truck volumes. According to one forecast developed for this plan, truck traffic from new warehouses, distribution centers, and intermodal facilities in Will County will increase by more than 60 percent on some interstates (notably I-80 East and I-55 South) by 2026. Perhaps more alarmingly, truck volumes are expected to triple or even quadruple on key state and U.S. highways including IL 53, U.S. 30, U.S. 6, and IL 7.

This new volume will move over a transportation network that is already reaching or exceeding capacity in many places. Key concerns for freight mobility include I-80 through the County, the interchange of I-80 and U.S. 52/IL 53, and limited access points to the intermodal yards. Without strategic investments in infrastructure, these bottlenecks will get worse as volumes continue to grow. Through trucks will continue to be the dominant truck movements in Will County by both weight (71 percent of total truck tonnage) and value (74 percent of the total truck freight bill). This through freight will put pressure on the Interstate system and intensify the shortage of truck parking noted by stakeholders, especially along I-80 and I-55.

The Interstate highways in Will County will continue to handle the most truck traffic on a volume basis, however there are key U.S. and state routes that experience greater truck congestion. Freight industry stakeholders noted that roads such as IL 53, Laraway Road, IL 30, and IL 6 are even more in need of improvement than the Interstates. As noted above, truck traffic on state roads and U.S. highways is expected to grow faster than on the interstates. This will aggravate existing truck bottlenecks, such as U.S. 30 northwest of I-55, West Main Street/U.S. 66 and North Division Street, and the I-80/U.S. 52 interchange.

Intra-county truck movements – which are expected to grow the fastest, more than doubling by 2040 – will be driven by intermodal handoffs between railroads and local drayage moves from Will County intermodal yards to regional distribution centers. This growth will contribute to overall congestion, increase wear and tear on local facilities, and make existing truck collision hot spots and emissions issues worse. It will also lead to more congestion on critical first- and last-mile routes that connect distribution centers, warehouses, and intermodal facilities to the rest of the transportation network.

3.7.1.5 CONTINUED GROWTH WITHOUT PLANNING AND NEW TRANSPORTATION INVESTMENTS WILL THREATEN WILL COUNTY'S ECONOMIC COMPETITIVENESS AND QUALITY OF LIFE

Such rapid freight volume growth may pose a threat to Will County's economic success as well as its quality of life. Two thirds of the freight stakeholders surveyed for this plan noted "local transportation issues" as the single greatest threat to Will County's continued economic success. The lack of travel time reliability is already forcing freight businesses to adjust their operations to ensure timely delivery of goods. In the absence of major capacity expansions, particularly an alternate east-west through truck route in southern Will County, growing truck traffic on Will County's Interstates and key freight arterials will create additional congestion and impact regional, national, and international supply chains. It will also contribute to the deterioration of key infrastructure assets. The I-80 bridge over the Des Plaines River, for example, is structurally deficient and in need of replacement.

Will County residents, meanwhile, are concerned about heavy truck volumes on neighborhood streets, conflicts between freight-intensive land uses and other types of development, and safety – all of which will be intensified if the expected growth in freight volumes is not properly planned for and mitigated. Will County rail traffic, for instance, is expected to increase 53 percent by weight (to 245 million tons) and nearly 78 percent by value (to $571 billion) by 2040. This will lead to additional delay at key grade crossings, as well as emergency access and noise issues. Truck traffic will grow even faster – 63 percent by weight (to about 249 million tons) and 126 percent by value (to $639 billion). Existing truck crash hotspots, which are concentrated around Will County's major intermodal and distribution facilities, may be aggravated as increasing truck traffic continues to use local access routes for first- and last-mile deliveries. The continued expansion of the truck mode continues contributing to issues related to emissions, noise, and conflicts with other uses/modes including bicycles and pedestrians. As Will County infrastructure becomes even more congested, workers may have difficulty accessing key regional job centers – impacting not only the job opportunities accessible to county residents but also the competitiveness of the logistics industry.

3.7.1.6 FUNDING AND INSTITUTIONAL CHALLENGES MAKE IT DIFFICULT TO INVEST IN FREIGHT PROJECTS

Freight needs must compete with other priorities for transportation funding which is already significantly below levels needed to get the transportation system in to a state of good repair. Several factors conspire to limit the funds available for Will County infrastructure investment, including the lack of a sustainable federal funding model, and a somewhat sluggish economic recovery that is limiting local tax revenues that might be used for transportation. Federal grant programs for freight, including TIGER and INFRA discretionary grants as well as freight formula funding under the FAST Act, fall far short of addressing needs.

The distinct lack of key freight volume and performance metrics for first- and last-mile infrastructure makes it hard to identify and prioritize the most beneficial local projects. Detailed performance measures for non-highway modes are usually not available, especially for smaller geographies. There can also be disagreement about what exactly constitutes a freight project – some jurisdictions may consider a freight project to be any improvement to a road that carries truck traffic, but this is probably too expansive to be useful in identifying and advancing the most beneficial projects for goods movement. Meanwhile, the multitude of public and private actors involved in freight decision-making can make coordinated planning and project execution difficult.

3.7.1.7 WILL COUNTY NEEDS REGIONAL, STATE, AND NATIONAL FUNDING SUPPORT

The scale of transportation needs facing Will County combined with the importance of Will County goods movement to the regional, state, and national economies means that outside support is warranted and necessary to ensure the continued free flow of goods to, from, within, and through Will County and to preserve the area's quality of life. In its latest Long-Range Transportation Plan, Will County identified unfunded road needs of $1.3 billion *for the County system alone*.[71] See **Table 1.3** for the number of centerline miles by jurisdiction. This does not include the substantial needs for roads outside of Will County's jurisdiction (i.e., IDOT, the Tollway, and local municipalities), let alone privately-owned systems such as railroads and port terminals. Nor does it include the needs of the locks and dams on the Des Plaines River.

Over the last few decades, Will County has become a critical transfer and distribution point for port-driven intermodal cargo coming from the West Coast. More than 16 million TEUs moved to, from, or through the Chicago region in 2015, making it the busiest intermodal hub in the country. Congestion and the lack of land available for freight-intensive development in Chicago is driving more and more of this traffic to Will County. Will County's share of Chicagoland intermodal traffic has grown from 7.3 percent in 2005 to 19.3 percent in 2015.[72] Recent developments suggest that this trend will continue. New developments such as the proposed Elwood Compass Business Park, RidgePort Logistics Center, and CSX Crete intermodal yard will continue to drive intermodal freight growth in Will County, as will growth at existing facilities such as UP Global IV and BNSF Logistics Park Chicago.

The recent expansion of the Panama Canal will likely contribute to additional intermodal growth. The new Panama Canal locks permit the passage of larger post-Panamax container vessels from Asia that could previously only be served by West Coast ports. A Boston Consulting Group analysis conducted before the new locks opened found that East and Gulf Coast ports could gain an additional 10 percent of the East Asia to U.S. container market by 2020 than they would have without the canal

[71] Will County Executive, *Will Connects 2040 Long Range Transportation Plan*, retrieved June 20, 2017 from http://willconnects2040.org/uploads/3/4/8/6/34865704/will_county_transporation_report_2017_final4_web.pdf.

[72] CMAP 200-2016 Lifts by Intermodal Rail Yard with 2016 Regional Twenty-foot Equivalent Unit (TEU) Estimate. May, 2017.

expansion.[73] Although the exact supply chain shifts created by the new locks remain to be seen, it has already precipitated a major shift in global trade patterns – in the year since the expanded canal opened in June 2016, total tonnage shipped through it has grown by 22.2 percent.[74] The proposed CSX Crete intermodal facility will position Will County to handle some of the increased East Coast intermodal traffic generated by the canal.

3.7.1.8 CONCLUSIONS

It is clear from these key findings that new freight planning, program, and policy approaches are required to ensure continued economic growth and vitality in Will County while preserving quality of life for its residents. Immediate project needs must be identified, advanced, and executed in a coordinated way, which will require ongoing partnership between the county, freight stakeholders, municipalities, and the state and federal governments. This will also require new data sources that can respond to the rapidly changing freight market in Will County while supporting periodic re-evaluations of area transportation needs. There are also some policy changes and 'quick-hit' projects that could improve goods movement conditions in the short term while building the foundation for long-term success.

3.8 PROJECT PRIORITIZATION PROCESS

The Will County Community Friendly Freight Mobility Plan project prioritization process was developed to assist the county in identifying and reaching consensus behind a discrete set of strategic, high-priority projects. A project ranking process is necessary to ensure that Will County is optimizing its transportation improvement resources and maximizing return on investment. The County can use this methodology as a tool to review new project concepts and evaluate their existing programs to ensure they are investing in projects that will improve freight mobility while implementing smart growth principles focused on maintaining and enhancing community livability and the natural resources within Will County. The general prioritization process is outlined below.

While this tool is focused on evaluating freight-related projects within Will County, there are certainly projects outside of Will County's boundaries that affect freight movement within the County. As freight crosses jurisdictional borders, it is best viewed as an interconnected network. For example, there is a grade crossing on State Route 113 just over Will County's borders in the Village of Coal City near the intermodal facilities. As this is an unseparated grade crossing, which leads to traffic congestion and delays and community impacts in the Village of Coal City and surrounding areas along State Route 113. While Will County's tool does not have the data to evaluate projects outside of its

[73] Boston Consulting Group, 'How the Panama Canal Expansion is Redrawing the Logistics Map,' June 16, 2015. Retrieved June 28, 2017 from https://www.bcgperspectives.com/content/articles/transportation-travel-tourism-how-panama-canal-expansion-is-redrawing-logistics/?chapter=2#chapter2.

[74] Scully, D., 'Panama Canal shows how it's changed global trade one year since expansion,' retrieved June 28, 2017 from http://splash247.com/panama-canal-shows-how-its-changed-global-trade-one-year-since-expansion/.

boundaries, projects outside of Will County are certainly important to the efficient movement of freight within its borders.

3.8.1 STEP 1. IDENTIFY PROJECTS

A project universe was developed – a list of existing and proposed projects from the 2017-2021 Will County Transportation Improvement Program, the Will County 2040 Long Range Transportation Plan, the 2017-2021 Chicago Metropolitan Agency for Planning Regional Transportation Improvement Program, the Will County Center for Economic Development 2017 Transportation Blueprint, and the Illinois Department of Transportation State Transportation Improvement Program. Additional project ideas were generated through the multiple stakeholder engagement activities conducted as part of the planning process, including a freight stakeholder survey, freight industry interviews, Freight Advisory Council input which included a Scenario Planning Workshop, a Freight Industry Forum held in February 2017, a trucker survey, and public meetings and surveys.

3.8.2 STEP 2. INITIAL SCREENING

After compiling the list of projects, they were screened by the project team. Resurfacing, ADA upgrades, and maintenance projects were removed because these projects are near term/short timeframe with minimal freight benefits. The remainder of the projects were classified as freight-supportive, freight-related or non-freight.

3.8.2.1 FREIGHT-SUPPORTIVE

The Freight-Supportive category includes the following.

- **Projects on the National Highway Freight Network (NHFN)**. The NHFN includes the following subsystems of roadways:
  - ***Primary Highway Freight System (PHFS).*** *This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. In Will County, these cover all of the Interstate miles in Will County and the Intermodal Connector to the CenterPoint Intermodal Center for a total of about 95 miles.*
  - ***Other Interstate portions not on the PHFS.*** *These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.*

- ***Critical Rural Freight Corridors (CRFCs).*** *These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. There is a limited area in Will County that could be designated as a CRFC.*

- ***Critical Urban Freight Corridors (CUFCs).*** *These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.*[75]

CRFCs are designated by IDOT. In metro areas with a population greater than 500,000 people, Metropolitan Planning Organizations (MPOs) are responsible for designating public roads for the CUFCs in consultation with IDOT, in accordance with section 1116 of the FAST Act. CMAP is Will County's MPO. The following road segments have been proposed by Will County, but not adopted by CMAP, as CUFCs. A map of proposed CUFCs can be found in **Figure 1-53.**

- IL 53 from I-55 to Normantown Road
- Houbolt Parkway Extension (Proposed) from I-80 to UP Joliet Intermodal Terminal
- U.S. 52/IL 53 from I-80 to Laraway Road
- U.S. 6 Eames Street and IL 7 Larkin Road U.S. 6 at I-55 to IL 7 at I-80
- Weber Road from 119th Street to Taylor Road
- River Road from I-55 to IL 53 to Wilmington-Peotone Road

- **Projects on Designated Truck Routes**

  - *Class I truck routes, designated by the State. In Will County, this includes Interstates 55, 57, 80 and 355 – which overlap with the NFHN – as well as IL 394.*

  - *Class II truck routes, which includes the state highway system and local roads designated by the local government, see Figure 2-3 for Designated Truck Routes*

3.8.2.2 FREIGHT-RELATED

The Freight-Related category has a less direct freight benefit and includes projects that meet one of the following.

- Provides access to an industrial park, intermodal facility, airport or port
- Located in an industrial district
- Identified by stakeholders in a Freight Industry Forum

[75] https://ops.fhwa.dot.gov/freight/infrastructure/nfn/

3.8.2.3 NON-FREIGHT

The Non-Freight category includes all projects not categorized as freight-supportive or freight-related.

3.8.3 RANKING OF PROJECTS - ESTABLISH STRATEGIC DIRECTION

The Will County Freight Advisory Council developed and ranked a list of goals and objectives related to the movement of freight in Will County. The goals and objectives relate to the future state of Will County's freight transportation network. They establish the focus of the program and outline the future state that Will County is hoping to achieve through its project investments. The goals are related to major policy areas as detailed in Chapter 2. Goals, Objectives, and Performance Measures.

3.8.4 DETERMINE DATA AVAILABILITY

Robust and reliable data is needed to ensure that the projects can be measured and that progress toward goals can be tracked. The consultant team developed a universe of publicly available data sets and, potentially more importantly, current local data sets and local knowledge that provide information on the condition and/or performance of the transportation network. These data sets are the foundation for the project selection criteria that will be used to evaluate projects. The data sets were then linked to the goals and objectives. Data sets that did not reinforce goals or objectives were discarded.

3.8.5 DEVELOP PROJECT EVALUATION FILTERS

The data sets were reformatted into project evaluation filters. The criteria in **Table 3-19** were selected.

TABLE 3-19. PROJECT EVALUATION FILTERS

Goal	Freight Filter
Preservation and Enhancement	Improves system condition
Mobility	Addresses a high congestion location on the freight network Addresses a freight bottleneck Improves truck travel time reliability Reduces number of substandard bridges
Safety	Addresses a high crash location Separates a highway-rail grade crossing
Economic Competitiveness	Supports an existing freight cluster Improves access to a freight generator
Community	Provides access for sensitive populations Reduces impacts of freight movement on residential areas and sensitive land uses such as schools and parks Reduces impacts of freight movement on agricultural and natural areas

These goals and filters were refined into a multi-criteria analysis rubric using metrics established for the Will County Community Friendly Freight Mobility Plan. The analysis used GIS and manual methods to acquire metrics used in project scoring. All scores for each project were entered in a spreadsheet for analysis. The analysis relied on the Highway Performance Monitoring System (HPMS) for the physical network data necessary to calculate volume to capacity ratios and vehicle miles traveled and the TRANSEARCH network data for link economic impact estimates, supplemented with IDOT data as available.

The following sections describe the ranking criteria and scoring.

3.8.5.1 PRESERVATION ENHANCEMENT

Preservation Enhancement was assessed through three metrics, all of which were identified using IDOT Illinois Roadway Information System (IRIS) 2015 data:

- **International Roughness Index (IRI)** - Projects that address roadways in poor condition received the most points while fewer points were allocated to roadways already in good condition. With IRI higher index ratings indicate poorer road condition. Roadways with an IRI rating less than 200 received no points, IRI ratings between 200 and 300 received three points, IRI ratings between 300 and 400 received seven points, and any IRI greater than 400 received ten points.
- **Condition Rating Survey (CRS)** - The most points were allocated to projects with lower condition rating and fewer points were allocated to roadways with higher condition ratings. Roadways with a CRS greater than seven (very good condition) received no points, CRS ratings of five or six received five points, CRS ratings of three or four received 7 points, and any CRS less than two received ten points.
- **Bridge Structural Condition** – Projects containing a bridge with lower condition ratings received the most points while fewer points were allocated to projects containing a bridge with a higher condition rating. Bridges with a rating greater than seven (good condition) received no points, a rating of five or six received five points, a bridge rating of three or four received seven points, and any bridge with a rating of less than two received ten points.

3.8.5.2 MOBILITY

Mobility was assessed through five metrics:

- *Congested Hours of Travel* used CMAP data to determine those roadways that travel ten percent below the free flow speed. If a project has such a roadway segment it received ten points, otherwise no points were given.
- *Freight bottlenecks* were identified using ATRI bottleneck data. A project that is on an identified bottleneck received ten points; others got no points.

- *Grade Crossing Delay* was identified using CMAP-ICC data. A project that included an at-grade rail crossing with a grade crossing delay rating greater than one received ten points; others got no points.
- *Substandard Bridges* were considered across three factors: structure condition, load posted weight limits, and vertical clearance, using IDOT IRIS 2015 data. Bridge conditions of two or less received ten points, three or four got seven points, five or six were allocated five points, and seven or better received no points. Projects addressing weight posted or low vertical clearance bridges received ten points.
- *Truck Travel Time Reliability* scores were based on the National Performance Measure Research Data Set (NPMRDS). A project containing a roadway segment with travel time reliability below ten percent of the posted speed limit reliability received ten points; others got no points. However, In this case, truck reliability data was not available and the points assigned were allocated to the high congestion location freight filter as it is based on the same data set. In future runs of the tool, Will County may want to request truck travel time reliability from the Metropolitan Planning Organization (MPO).

3.8.5.3 SAFETY

Safety was assessed using truck crash density based on IDOT safety data and rail/highway grade crossing from CMAP-ICC data. Projects within a high crash area received ten points, otherwise no points were awarded. If a project included a highway-rail grade separation, it received ten points; otherwise no points were given.

3.8.5.4 ECONOMIC COMPETITIVENESS

The economic development impacts of highway freight projects were evaluated on three metrics:

- *Improved access to freight clusters* used the identified clusters from the workforce development analysis developed for this study. This metric awarded ten points to projects that touch a freight cluster; those that do not touch a freight cluster received zero points.
- *Top origin or destination location* leveraged the ATRI analysis. This metric awarded ten points to projects that touch a top ten origin or destination location while those that do not touch such a location got zero points.
- *Intermodal connections* awarded ten points if a project connected to an intermodal facility; those that do not connect to an intermodal facility received no points.

3.8.5.5 COMMUNITY IMPACTS

Community impacts were evaluated through three metrics, all assessed using CMAP data:

- *Environmental Justice and excluded communities* - Projects that improve mobility and access through improved highways in Environmental Justice and excluded communities are desirable. This metric awarded ten points to projects that touch an Environmental Justice community while those that do not will received no points. Individual project implementation and environmental review processes would evaluate any negative impacts associated with constructing projects near or within Environmental Justice communities.
- *Sensitive land uses* - This metric awarded ten points to projects that do not touch a sensitive land use while those that do received no points. Sensitive land uses include hospitals, cemeteries, and public schools in K-12.
- *Residential areas* - This metric allocated ten points to projects that do not touch residential areas; those that do received no points.

3.8.5.6 ENVIRONMENTAL IMPACTS

Environmental impacts were evaluated with two metrics: agricultural land and preservation areas. Projects that avoid agricultural land impacts and preservation areas are desirable. Projects that do not impact agricultural land got five points and those that do received zero points. Similarly, projects that do not impact preservation areas were awarded ten points; those that are adjacent to up to 500 linear feet of preservation areas got five points; projects adjacent to between 500 and 1,000 linear feet of preservation area got three points; and projects adjacent to more than 1,000 linear feet of preservation area received zero points.

3.8.6 PROJECT WEIGHTING AND RANKING

The freight advisory committee provided guidance on the scoring metrics weighting of the project filters. The resulting weighting is shown in **Table 3-20**.

The project scores were complete after applying the freight filter weights to the points each project receieved. The projects were sorted into tiers as a final step in the prioritization process. The ranked tiers are provided in **Table 3-21**.

TABLE 3-20. PROJECT WEIGHTING EVALUATION FILTERS

Freight Goal Weight	Freight Filter	Freight Filter Weight
Preservation and Enhancement 19.1	Improves highway condition Project addresses other modes	10.57 8.55
Mobility 28.6	Addresses a high congestion location Address a freight bottleneck Improves truck travel time reliability* Reduces number of substandard bridges	7.11 6.02 8.57 6.95
Safety 22.8	Addresses a high crash location Separates a highway-rail grade crossing	13.50 9.32
Economic Competitiveness 14.2	Supports an existing freight cluster Improves access to a freight generator	6.60 7.63
Community 15.2	Provides access for sensitive populations Reduces impact of freight movement on residential areas Reduces impact of freight movement on agricultural and preservations areas	5.01 5.90 4.27

** In this case, truck reliability data was not available and the points assigned were allocated to the high congestion location freight filter as it is based on the same data set. In future iterations of the tool, Will County may want to request truck travel time reliability data from the Metropolitan Planning Organization.*

TABLE 3-21. PRIORITIZATION RESULTS BY CORRIDOR

Tier	Map ID	Project	Project Type	Jurisdiction	Estimated Cost from Program Documents	Corridor	First and Last Mile
INTERSTATE CORRIDORS							
1	20	I-80 from I-355 to Harlem Ave	Add Lanes	IDOT	$123,839,000	I-80	
1	14	I-80 from Ridge Rd to U.S. 30	Add Lanes	IDOT	$1 billion+	I-80	
1	22	I-80 at IL 43 Interchange	Interchange Project	IDOT	Unknown	I-80	
2	18	I-80 Interchange at Briggs Street	Interchange Project	IDOT	$30,000,000	I-80	
2	15	I-80 at Houbolt Rd Interchange	Interchange Project	IDOT	Unknown	I-80	
3	16	I-80 at IL 7/ Larkin Avenue	Interchange Project	IDOT	Unknown	I-80	
3	21	I-80 at LaGrange Road Interchange	Interchange Project	IDOT	Unknown	I-80	
4	19	I-80 at U.S. 30	Interchange Project	IDOT	$43,700,000	I-80	
1	17	I-80/U.S. 52/IL 53 Interchange	Interchange Project	IDOT	$30,000,000	IL 53/I-80	
1	27	I-57 from Manhattan-Monee Interchange	Interchange Project	IDOT	$30,000,000	I-57	
1	26	I-57 from Wilmington-Peotone Road to I-80	Add Lanes	IDOT	$247,238,000	I-57	
1	1	I-55 (I-355 to Coal City Road)	Add Lanes	IDOT	$1 billion+	I-55	
1	10	I-55 at IL 53	Bridge/Overpass Project	IDOT	$1,660,000	I-55	
1	4	I-55 at Lorenzo Road	Interchange Project	IDOT	$141,000,000	I-55	
2	8	I-55 at Airport/Lockport Road	Interchange Project	IDOT	$30,000,000	I-55	
2	9	I-55 at IL 126	Interchange Project	IDOT	$30,000,000	I-55	
2	11	I-55 at Joliet Road Exit	Bridge/Overpass Project	IDOT	$1,660,000	I-55	
2	2	I-55 at Coal City Road	Interchange Project	IDOT	Unknown (part of project 1)	I-55	
4	7	I-55 East Frontage Rd , 0.1 MI SW of Black Rd	Add Lanes	IDOT	$600,000	I-55	
4	5	I-55 at U.S. 6	Interchange Project	IDOT	$22,500,000	I-55	
4	6	I-55 at IL 59	Interchange Project	Will County (Local)	Unknown	I-55	
4	3	I-55 at Route 129	Interchange Project	IDOT	$141,000,000	I-55	
2	12	I-355 Veterans' Memorial Tollway from Army Trail Road to I-55	Road Improvements	ISTHA	$16,457,143	I-355	
2	13	I-355 at East Boughton Road	Bridge/Overpass Project	ISTHA	Unknown	I-355	

Tier	Map ID	Project	Project Type	Jurisdiction	Estimated Cost from Program Documents	Corridor	First and Last Mile
4	25	I-355 at IL 171 Archer Ave	Bridge/Overpass Project	ISTHA	Unknown	I-355	
4	24	I-355 at IL 7	Bridge/Overpass Project	ISTHA	Unknown	I-355	
4	23	I-355 at U.S. 6	Bridge/Overpass Project	ISTHA	Unknown	I-355	
U.S. ROUTE CORRIDORS							
1	31	U.S. 6 from IL 53 to I-355	Add Lanes	IDOT	$103,344,000	U.S. 6	
1	95	U.S. 6 from Hollywood Boulevard to I-55	Add Lanes	IDOT		U.S. 6	
3	38	U.S. 6 IL 7 159th St from I-355 Veterans Memorial Tollway to Will-Cook Rd (HPP0295)	Add Lanes	IDOT	$100,968,000	U.S. 6	
4	32	U.S. 6 (Southwest Highway) East of Cedar Road to Will-Cook Road	Bridge/Overpass Project	IDOT	$15,000,000	U.S. 6	
2	29	U.S. 52 (Jefferson St.), at I-55	Interchange Project	IDOT	$4,000,000	U.S. 52	
2	28	U.S. 52 at River Road	Intersection Project	Will County (local)	$3,300,000	U.S. 52	
3	34	U.S. 52 from IL 53 to Laraway Road	Add Lanes	IDOT	Unknown	U.S. 52	
3	35	U.S. 52 from Manhattan-Monee Road to Laraway Road	Add Lanes	IDOT	$70,778,000	U.S. 52	
1	36	U.S. 45 from Stuenkel Road to Nebraska Road	Add Lanes	IDOT	$47,431,000	U.S. 45	
2	37	U.S. 45 from 191st Street to Will County Line	Add Lanes	IDOT	$27,677,000	U.S. 45	
1	39	U.S. 30 from Wolfs Crossing Road to IL 59	Add Lanes	IDOT	$101,506,000	U.S. 30	
2	30	U.S. 30 from Briggs Road to Washington Street	Add Lanes	IDOT	$22,462,000	U.S. 30	
3	40	U.S. 30 Lincoln Hwy at 119th St, at Heggs Rd	Road Improvements	IDOT	$2,000,000	U.S. 30	
STATE ROUTE CORRIDORS							
1	47	IL 53 At Laraway Road	Intersection Project	IDOT	$15,000,000	IL 53	
2	49	IL 53 IL 7 Broadway St from Caton Farm Rd to IL 7 Theodore Street & Under EJ & E RR	Road and Grade Separation Improvements	IDOT	$34,725,000	IL 53	

Tier	Map ID	Project	Project Type	Jurisdiction	Estimated Cost from Program Documents	Corridor	First and Last Mile
3	45	IL 53 at North River Rd	Intersection Project	IDOT	$407,000	IL 53	
1	50	ILL 50 at Dralle Rd.	Intersection Project	IDOT	$2,200,000	IL 50	
1	51	ILL 50 at Governor's Highway	Intersection Project	IDOT	$2,200,000	IL 50	
3	43	IL 129 (Washington St) at Strip Mine Rd	Intersection Project	IDOT	$930,000	IL 129	
4	42	IL 129 (Washington St) at Coal City Rd	Intersection Project	IDOT	$1,680,000	IL 129	
4	44	IL 113 at Horse Creek 4.5 miles East of IL 53	Bridge/Overpass Project	IDOT	$1,200,000	IL 113	
4	41	IL 113 from I-55 to Will Road 1200' East of Will Road to 200 Feet West of Frontage Road	Road Improvements	Will County (local)	$1,722,000	IL 113	
ARTERIAL CORRIDORS							
3	52	Wilmington-Peotone Road at IL 53	Intersection Project	IDOT	Unknown	Wilmington-Peotone Road	
3	54	Wilmington-Peotone Road at U.S. 52/U.S. 45	Intersection Project	IDOT	Unknown	Wilmington-Peotone Road	
3	55	Wilmington-Peotone Road at I-57	Interchange Project	IDOT	Unknown	Wilmington-Peotone Road	
3	53	Wilmington-Peotone Rd from IL 53 to I-57	Add Lanes	Will County DOT	$356,378,000	Wilmington-Peotone Road	
1	72	Weber Road from Airport Road to 135th Street (Romeo Rd)	Road Improvements	Will County DOT	$13,250,000	Weber Road	X
1	73	Weber Road from 119th St (Rodeo Rd) to 135th St (Romeo Rd) including the I-55 interchange	Add Lanes	Will County DOT/IDOT	$43,850,000	Weber Road	X
4	56	South Suburban Airport Access - IL 50 (3) from IL 50 to Airport Access Road	Road Project	IDOT	$3,206,000	South Suburban Airport Access	X
4	57	South Suburban Airport Access - Western Airport Access (1) from IL 50 to SSA Passenger Terminal	New Road	IDOT	$11,010,000	South Suburban Airport Access	X
3	65	Schweitzer Road from Rowell Avenue to U.S. 52	Add Lanes	Will County (Local)	$28,729,000	Schweitzer Road	X
4	64	Schweitzer Road extension from U.S. 53 to Rowell Rd	New Road	Undetermined	Unknown	Schweitzer Road	X

Tier	Map ID	Project	Project Type	Jurisdiction	Estimated Cost from Program Documents	Corridor	First and Last Mile
3	58	Pauling-Goodenow Road from IL Route 50 to Plum Creek	Road Improvements	Will County DOT	$48,799,000	Pauling-Goodenow Road	
4	59	Pauling Goodenow Road Over Plum Creek	Bridge/Overpass Project	Will County DOT	$1,540,000	Pauling Goodenow Road	
1	60	Manhattan-Monee Road (1) from U.S. 52 to U.S. 45	Add Lanes	IDOT	$76,720,000	Manhattan-Monee Road	
1	63	Monee-Manhattan Road at Hamilton Avenue/Cleveland Avenue	Intersection Project	Will County (Local)	$3,570,000	Manhattan-Monee Road	
1	62	Manhattan-Monee Road (2) from Center to I-57	Add Lanes	Will County DOT	$181,315,000	Manhattan-Monee Road	
3	61	Manhattan-Monee Road (2) from U.S. 45 to Center	Add Lanes	IDOT	$20,588,000	Manhattan-Monee Road	
3	67	CH 74 Laraway Road from U.S. 52 to IL 43 Harlem Ave	Add Lanes	Will County DOT	$186,509,000	Laraway Road	
3	66	Laraway from IL 53 to U.S. 52	Add Lanes	Will County (Local)	Unknown	Laraway Road	
1	71	Gougar Road (1) from Laraway Road to U.S. 6	Add Lanes	Will County DOT	$53,302,000	Gougar Road	X*
1	70	Gougar Road/CN Grade Separation	Grade Separation	Will County (Local)	Unknown (part of project 71)	Gougar Road	X*
3	68	Cherry Hill Road from U.S. 52 to Mills Road	Add Lanes	Will County (Local)	$24,196,000	Cherry Hill Road	
3	69	Cherry Hill Road at New Lenox Road	Intersection Project	Will County (Local)	$2,275,000	Cherry Hill Road	
OTHER STATE PROJECTS							
3	80	New Avenue from IL 171 (Archer Avenue) to 135th Street	Add Lanes	IDOT	$60,583,000	New Avenue	X
1	79	IL 7 at IL 171	Road Project	IDOT	$4,010,000	IL 7	
3	78	IL 59 At U.S. 52	Intersection Project	IDOT	$15,000,000	IL 59	
3	75	IL 394/IL 1 from U.S. 30 to Illiana	Add Lanes	IDOT	$750,000,000	IL 394	
3	81	IL 126 (Plainfield Rd) at Essington Ave	Bridge/Overpass Project	IDOT	$2,250,000	IL 126	
2	82	IL 53 Bolingbrook Dr at Royce Rd	Road Project	IDOT	$1,012,000	Bolingbrook Dr	
4	74	Illiana Corridor	New Road	IDOT/INDOT	$1,400,000,000	Illiana Corridor	

Tier	Map ID	Project	Project Type	Jurisdiction	Estimated Cost from Program Documents	Corridor	First and Last Mile
1	77	Houbolt Parkway Extension Bridge connecting I-80 with the CenterPoint Intermodal Center.	Bridge Project	IDOT	$30,000,000	Houbolt Parkway Extension	X
4	76	Beecher Bypass (IL 1) from Ashland Avenue from Goodenow Road and IL 394/IL 1 to Corning Road	New Road	IDOT	$115,058,000	Beecher Bypass (IL 1)	
OTHER COUNTY/LOCAL/PRIVATE PROJECTS							
4	84	Walter Strawn Drive	New Road	Local	Unknown	Walter Strawn Drive	X
4	89	University Parkway at Governors Highway and CN Railroad	Bridge/Overpass Project	Will County (Local)	$43,218,000	University Parkway	X
4	94	143rd street extension - extend 143rd St to IL 59/Division St.	New Road	Will County (Local)	Unknown	143rd Street extension	X
4	83	Strip Mine Road extension over I-55	Bridge Project	Local	Unknown	Strip Mine Road	X
4	86	Moen Avenue from Mound Road to IL 7 Larkin Avenue	Add Lanes	Will County (Local)	$4,233,900	Moen Avenue	X
3	93	FAU 328 Gaylord Road at Division Street	Intersection Project	Will County (local)	$996,000	Gaylord Road	X
2	90	Crete-Monee Road Overpass over UP/CSX	Grade-Separation	CSX	$17,000,000	Crete-Monee Road	
3	88	Central Ave from Monee/Manhattan Rd to Steger Road	Add Lanes	Will County (Local)	$34,766,000	Central Ave	
4	91	Cedar Road at Francis Road	Road Improvements	Will County DOT	$40,323,000	Cedar Road	X
3	92	Caton Farm Road from U.S. 30 to IL 7 (159th Street) at Cedar Road	New Road	Will County DOT	Unknown	Caton Farm Road	
3	85	Centerpoint Way at W Schweizer Rd (UP Global IV entrance)	Intersection Project	Centerpoint	Unknown	Centerpoint Way	X

3.8.7 PRIORITIZATION RESULTS

Table 3-21 provides the results of the project scoring and prioritization process. The projects are sorted into four tiers. Estimated project costs are provided where known (in most cases provided from the IDOT or CMAP Transportation Improvement Program, or Will County's LRTP). **Figure 3-14** shows a map of all freight-related projects categorized by corridor. Note that the project numbers do not correlate with project rankings, but refer to the project identification number referenced in the table.

Figure 3-15 is a map showing the locations of the Tier 1 projects. **Appendix D** contains more details on the prioritization process and results.

3.9 PROGRAM RECOMMENDATIONS

Will County's freight network provides the backbone for the tremendous amount of economic growth the County has experienced over the last decade and half. This growth has not come without a cost, though. The global, national, and regional attractiveness of Will County to the transportation, distribution, and logistics industry has placed demands on a network already reaching capacity in many places, resulting in transportation, land use and environmental conflicts. Costs to maintain, enhance, and expand the system will continue to grow. In order for Will County to maintain its position as the epicenter of inland intermodal freight, the County, region, state, and federal government agencies must find a way to make the strategic investments and policy changes needed to support continued growth while also balancing quality of life concerns.

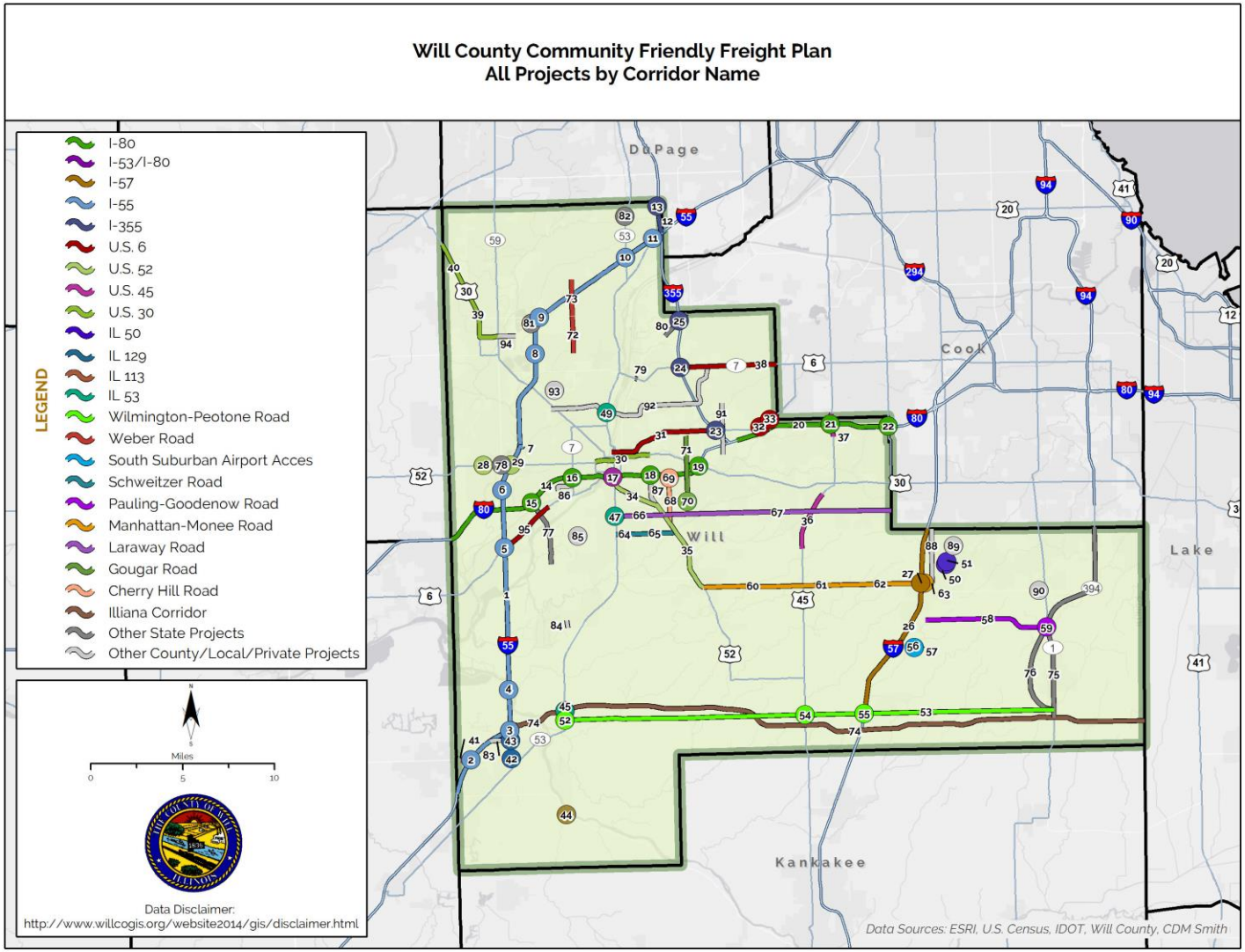
The following program recommendations were developed for Will County and are rooted in outreach conducted with the private sector users of the freight system, public sector officials responsible for maintaining the system and residents of Will County – all of these stakeholders have a vested interest in the continued economic growth and quality of life in Will County. These program recommendations will build on proposed infrastructure recommendations, but can be implemented on their own.

3.9.1 ESTABLISH STRONG PARTNERSHIPS

A significant portion of the freight needs and freight projects identified in Will County are located on systems that are not within the county's jurisdiction – these include.

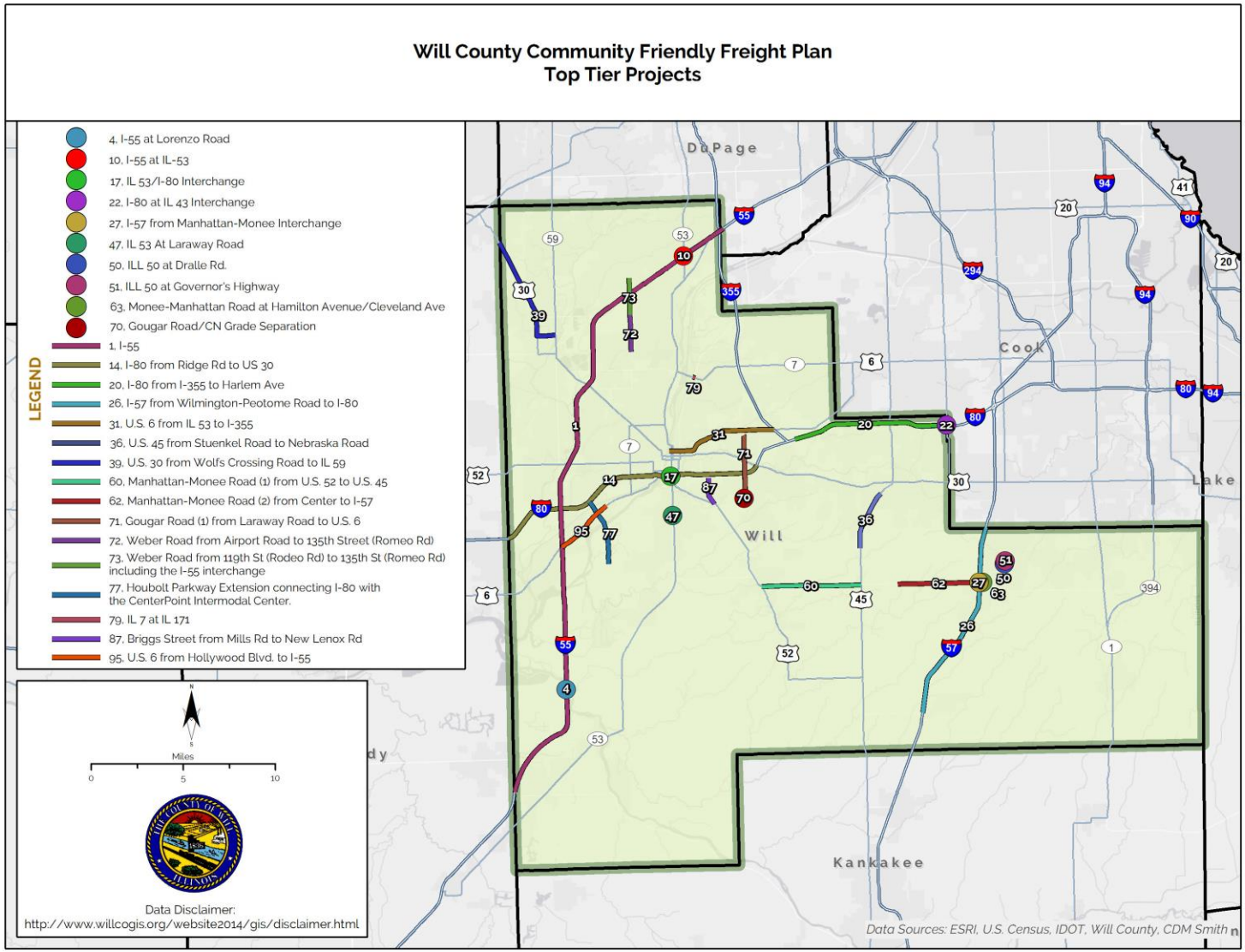
1. The state-maintained system, which includes the Interstate system;
2. Fifty-five local, municipal, and township systems; and
3. Privately-owned systems such as railroads and port terminals.

FIGURE 3-14. ALL PROJECTS BY CORRIDOR



Source. CDM Smith

FIGURE 3-15. MAP OF TOP TIER FREIGHT PROJECTS



Source. CDM Smith

Strong partnerships will therefore be needed to implement the recommendations of the plan, to secure funding, to advance high priority projects, to leverage investments in larger projects that will benefit Will County, the nation, state, and region, and to monitor the performance of the transportation system.

- **Coordinate with IDOT on high-priority infrastructure projects** – Significant investment is called for on the Interstate System, particularly I-80 and I-55, and on critical state routes such as Route 59 and Route 394 – which are under the jurisdiction of IDOT. Improvements may also be required on the Illinois Tollway (I-355). Will County will need to coordinate investments on connecting and adjacent roadways to leverage these projects. Will County will also need to continue to communicate its needs to IDOT through regular meetings and briefings. A lower cost example would be to coordinate on better signing to direct trucks off the interstate to the correct exits for intermodal and other facilities

- **Maintain strong representation at CMAP** – As the metropolitan planning organization for Northeastern Illinois, CMAP is charged with developing a regional comprehensive plan and a regional Transportation Improvement Program. CMAP also provides resources related to community and transportation planning and policy. To ensure that these work products reflect the diversity of needs throughout Northeastern Illinois, CMAP has developed an elaborate committee structure. Will County leadership is currently present in this structure and will need to expand representation proportional to its regional and state impact. Will County should continue participating in the regional conversation to lobby for key projects, lend its support for projects in other counties, generate regional support for major grant applications such as an INFRA grant, and to steer the provision of data, funding and technical assistance resources to Will County.

- **Continue reaching out to state and federal legislators** – State and federal resources will be an essential component of funding Will County's freight program, but funding from these sources has been uncertain in recent years. The State of Illinois has not passed a major capital bill since 2009, but the current administration has indicated that some form of transportation revenue enhancement is a high priority. Similarly, the federal government administers key grant programs including TIGER and INFRA, but competition for such grants is intense. Will County should continue to communicate its priorities and its role in the regional, state and national economies to its state and federal legislators as it seeks funding for its projects.

- **Identify opportunities for Public-Private Partnerships**—As noted in this plan, funding for freight projects can be difficult in a limited fiscal environment that does not provide adequate funding for transportation projects. Projects that improve freight movement may be particularly ripe for private-sector investment

as improving freight movement improves the economy and helps businesses stay competitive by improving their logistics. Public-Private Partnerships (P3s) may be a viable option for certain freight projects identified in this plan and may make federal funding options more viable given federal interest in leveraging private dollars per the recent INFRA grants. However, there are certain legislative requirements for P3s in Illinois that must be addressed for any potential P3 project. The State of Illinois enacted the Public-Private Partnerships for Transportation Act in 2011 that allows IDOT and the Illinois Tollway to enter in to P3 agreements for new projects. The General Assembly must then authorize the P3 project by joint resolution before the project can proceed. Will County and its transportation partners should engage in conversations that identify any projects that may attract and leverage private investment.

3.9.2 IMPLEMENT INVESTMENT PRIORITIES

In order to address current and future freight growth and reduce the economic and community costs of freight related congestion, Will County needs to advance a series of high priority freight projects as identified through the project prioritization process. The freight project prioritization tool developed for this plan has been used to develop a list of projects with high freight benefits that can be implemented over the next 10 years. These projects will reflect the goals of private sector freight stakeholders and the public representatives that have been involved in the planning process. Planning is a dynamic process, though, and project concepts and priorities change over time. The tool is designed to be dynamic, replicable and updateable, which will allow Will County to incorporate new data and evaluate new project proposals without waiting for an update to the LRTP or other planning instruments. More detail on the prioritization tool is provided in **Section 3.8.**

3.9.3 IMPROVE EAST-WEST CONNECTIVITY

Interstate 80 is the only designated truck route that traverses Will County from east to west and is a national freight bottleneck. The Illiana Corridor and upgrades to existing roads have been identified as alternatives to I-80 in Will Connects 2040. Will County, CMAP, and IDOT should continue to pursue one or more of these options to reduce truck traffic on local roads.

3.9.4 DEVELOP AND COMMUNICATE A TRANSPARENT FREIGHT NETWORK

Representatives of the trucking industry pointed to a need for predictability and consistency in the freight network which would allow them to know if they are in compliance with local ordinances. Will County should partner with its local communities, IDOT and the private sector to develop and communicate a more transparent freight network.

- **Install Consistent Truck Route Signage.** Installation of standard and clear truck route signage is a quick win project for Will County and an inexpensive means of reducing instances of trucks traveling onto local roads. Will County should also

work with IDOT and the Illinois Tollway to implement better directional signage on the Interstates.

- **Review and Update Truck Route Network**. Cross jurisdictional coordination of truck-prohibited and preferred truck routes should be routinely reviewed and updated to determine whether they reflect the priorities of businesses and residents. Detour routes should be considered to protect roads that cannot handle detoured truck traffic.
- **Develop tools to better communicate truck routing to carriers and drivers.**

3.9.5 IMPROVE COORDINATION OF OVERSIZE/OVERWEIGHT PERMITTING BETWEEN JURISDICTIONS

A key economic growth issue identified by the leaders of the seven counties in northeastern Illinois is the lack of a uniform system for oversize and overweight (OS/OW) permits, resulting in a recent CMAP study identifying potential actions. Trucks that are OS/OW are any truck that is over the legal dimensions or weight (typically 80,000 pounds) and are required to get permits from all jurisdictions they must travel across to move their shipment. IDOT has a centralized and automated permitting system that makes it easy for truckers and/or shippers to apply for and receive an OS/OW permit for trucks traveling along state routes. The difficulty comes typically in the first and last mile of the truck movement, where the OS/OW truck needs to obtain permits from local governments to reach its origin or destination. Often, these local governments have different forms that require various levels of information and varying staff capacity to fulfill requests and field questions.

This lack of a coordinated system puts a strain on truck drivers and the logistics industry and often results in a lack of compliance. Increased coordination across local jurisdictions would result in a more unified and streamlined process for OS/OW trucks traveling in Will County. Providing a template for a common application across communities in Will County could help avoid these trucks spilling onto local roads or roads that are not designed to handle the increased load and help lower enforcement costs for local governments.

3.9.6 INCREASE AIR CARGO CAPACITY

Freight industry representatives have consistently pointed to the accessibility of multiple modes of transportation – highway, rail, and barge – as Will County's greatest strength. Air transport is a key component of high-value supply chains. Chicago's O'Hare International Airport is ranked in the world's top 20 cargo airports and is accessible from Will County, but Will County lacks an airport capable of accommodating cargo aircraft. The two airports that hold the most promise are the long-planned South Suburban Airport (SSA) near Peotone, an IDOT facility, and the Lewis University Airport in Romeoville, owned by the Joliet Regional Port District. Will County should continue to support the development of the SSA and to seek funding to implement upgrades to the Lewis University Airport, including construction of an air traffic control tower.

3.9.7 FOCUS ON FIRST AND LAST MILE CONNECTIONS

First and last mile connections – the final leg of the supply chain in which goods are moved in and out of their local Will County destinations – are often the least efficient component of shipping. As Will County continues to develop, these connections will become even more congested. First and last mile routes are also more likely to be under local jurisdiction and may not be built to withstand sustained heavy truck traffic. As noted in recommendation 3.9.9, investing in first-and-last-mile connections will require coordination with land use planning efforts.

3.9.8 EXPAND DATA COLLECTION – FOCUS ON FREIGHT CLUSTERS AND CORRIDORS

A common issue with local freight planning relates to the lack of current and reliable data. Truck counts and pavement condition ratings, as well as other more detailed data sets including congestion and delay indices, are available for the state and national networks – which carry the clear majority of freight. However, the first and last miles of a truck trip are often the most complicated, often take place on local roads and are often the least efficient component of the trip. Will County does not have a data collection program that would quantify freight activity on these local roads. An expanded data collection program focused on the local network would enable Will County to identify needs and respond with targeted investments. Will County DOT should use this additional data to update and improve their travel demand model and include a freight model component. The specifics of these data collection efforts—the funding and performance of collection activities, as well as data storage and access—should be clarified through further discussion and coordination.

An analysis of freight clusters and corridors is being developed as a component of the Freight Plan. Focusing County data collection efforts on identified clusters and corridors would enable the County to capture data for that critical first and last mile. Collecting truck counts will establish a sense of the magnitude of freight activity on County and local highways. Routinely collecting pavement condition data will assist the County in maintaining the roads that support its freight economy in a state of good repair.

3.9.9 COORDINATE TRANSPORTATION AND LAND USE PLANNING

Stakeholders from both the public and private sector identified a need to coordinate transportation and land use planning to prevent or mitigate conflicts between freight traffic, workers and residents. To focus freight growth at existing and planned freight clusters the County, along with local communities and its partners, should develop tools to coordinate freight transportation and land use planning.

- **Identify Locations and Develop Partnerships to Provide Truck Parking** – The availability of truck parking is an important safety issue for the trucking industry. A lack of adequate truck parking can force a driver to choose between driving beyond their available hours-of-service without rest and recovery from fatigue or parking in an undesignated area along the roadside, posing a hazard to

themselves and other highway users. In December of 2015, the Federal Motor Carrier Safety Administration issued a final rule mandating the use of electronic logging devices by drivers required to prepare hours-of-service logs. This mandate, scheduled to take effect in December 2017,will eliminate any flexibility in drivers exceeding hours-of-service and will require them to find parking within a shorter window of time or risk having their vehicle automatically shut down. This, coupled with growth in truck traffic generally points to the need for local jurisdictions – which exercise land use control – to identify locations along major freight corridors, such as I-80 and I-55, where public or private truck parking facilities can be developed.

- **Promote Sharing of Best Practices for Freight-Supportive Zoning and Land Use** – Communities in Will County range in size and planning capacity. Communities with greater capacity to plan for the impacts of a major freight generator, such as an Amazon fulfillment center, can share best practices with communities that lack that capacity. This will ensure that practical freight considerations are incorporated in local planning and design efforts including good neighbor development strategies for freight facilities and practices to promote safe movement of freight. The County, along with local communities and its partners, should form the necessary partnerships to create a 'Freight Resource Center' to capture and disseminate local best practices and provide advice to local governments on freight issues. An example would be suggesting that the distribution center development permitting process includes evaluating first and last mile improvement costs. Communities can also work together on corridor studies on key freight corridors to ensure consistent zoning and land use policies across jurisdictional lines.

- **Develop a County Land Use Plan in Coordination with Local Communities and Townships**— A key part of ensuring a balance between freight and quality of life is to reduce the impacts of freight uses on agricultural land. The annexation powers of local communities can lead to freight development in areas that encroach on agricultural land and create unplanned travel impacts for other County and local roads. This can create safety and livability issues. The County and its partners should create a County land use plan and strategy, in coordination with local governments, that engages local communities in strategies and zoning that focuses new freight development on existing/planned freight clusters. The County land use plan could also identify zones to protect agricultural areas that may be locally defined. **Appendix I** discusses some of the tools and techniques that the County and communities can use to reduce impacts in the future.

- **Establish shared drop-off points for freight in local communities –** As shopping continues to migrate online, urban freight deliveries are expected to continue to grow, creating additional congestion in Will County. One way to mitigate urban freight congestion is to establish shared freight drop-off points. For example, cities

can mandate the inclusion of package rooms in new buildings (as well as other freight-friendly features such as extra loading zones and docks). Centralized drop-off lockers allow package trucks to deliver all parcels destined for a single building to one place, rather than having to deliver them individually. Such consolidated delivery points can eliminate the extra traffic caused by multiple delivery attempts.

3.9.10 USE TECHNOLOGY TO IMPROVE HIGHWAY OPERATIONS

There are many existing and emerging technologies that Will County might leverage to improve highway operations for both freight and passenger traffic. For example, in coordination with IDOT, Will County could look at ways to participate in the MAASTO Truck Parking Information and Management System (TPIMS) deployment. Better collection and dissemination of truck parking availability data could help truckers in Will County find suitable parking spaces before their hours of service (HOS) expire. Another option to investigate is the USDOT-developed Freight Advanced Traveler Information System (FRATIS). FRATIS was developed by the USDOT to help improve intermodal goods movement efficiency through various applications including trucking company to intermodal terminal communications, optimized load planning to reduce unproductive moves, and dynamic routing for trucks. The FRATIS source code is available from the USDOT open source software portal and can be customized for the needs of individual regions.

Other technologies that can improve freight highway operations include autonomous trucks, managed lanes (potentially with tolls to help finance the improvements), truck platooning, and freight-specific ITS such as advanced weather and congestion alerts for trucks. These and other technologies are described in more detail in Section 3.6.2.5.

3.9.11 INCREASE WORKFORCE MOBILITY TO JOB CENTERS

There is a growing recognition that workers in the TDL industry in Will County could benefit from ride sharing and transit services for their journey to work trips. The dispersed nature of warehousing and the shift work, creates difficulty in planning. To better balance commuter travel needs of the freight related workforce, Will County should investigate a potential freight workforce transit hub to increase mobility to job centers. In addition, representatives from Pace Suburban Bus have met with Will County officials and representatives from the Transportation, Distribution, and Logistics (TDL) industry and should continue work to coordinate bus service with industry shift schedules. A coordinated transit plan will open up opportunities for workers, mitigate congestion and increase the efficiency and opportunity for transit options. Improving bicycle and pedestrian connections between communities and major job centers would also provide more commuting options or assist workers with last mile connections.

As a part of the WCCFFP, a mobility report was completed by the Joliet Arsenal Development Authority (JADA) to provide recommendations on improving transit options for Will County's workforce. Using the freight clusters found in **Figure 3-1**, the mobility study outlines key transit improvements to improve access and mobility to each

cluster. Additionally, the report provides implementation strategies for Metra, Pace, Will County, and other partners to improve transit options. Within the recommendations, emphasis is placed on line haul service and, to a lesser extent, last mile connections. These common recommendations include:

- Last Mile
  - Promote Pace's Employer Shuttle Vanpool program
  - Consider bike trail connections to cluster
  - Encourage use of ride-hailing services
- Door-to-Door
  - Promote Pace's Employee Vanpool program
  - Expand the hours and eligibility of local dial-a-ride service
  - Promote Pace's RideShare Carpool program

More details about the study can be found in **Chapter 4**.

3.9.12 STRATEGIC IMPLEMENTATION MATRIX

Based on the above program recommendations and considerations, a potential strategic implementation matrix was developed and outlined in **Table 3-22**. The matrix identifies the recommendations, key actors, early actions, and potential timeframes.

3.10 LINK TO FUNDING OPPORTUNITIES

Table 3-23 is a matrix of potential funding programs that Will County can leverage to execute the priority freight projects identified in this plan. Will County should review the specific criteria for these and other programs against the prioritized freight project list to identify the best funding sources (or package of funding sources) for each.

TABLE 3-22. STRATEGIC IMPLEMENTATION MATRIX

Strategy	Example Projects or Initiatives	Key Stakeholders	Lead Agency	Next Steps	Time Frame
Strong partnerships will be needed to implement the recommendations of the plan. To secure funding, to advance high priority projects, to leverage investments in larger projects for the good of Will County, the region and state, and to monitor the performance of the transportation system.	• Continue to coordinate with IDOT and Tollway on high-priority infrastructure projects • Maintain and enhance strong representation at CMAP based on importance to the region • Continue reaching out to state and federal elected officials	• Will County • IDOT • Tollway • Will County Center for Economic Development (CED) • Trucking and logistics companies • Railroads • Freight Advisory Committee (FAC) • Environmental groups • CMAP	• Will County, Will County Governmental League, and Will County CED	• Form an Infrastructure Planning Group with the key stakeholders to advance plan implementation. The FAC could serve a role in this process. • Use plan materials in future elected official/policy maker conversations at all levels of government. • Schedule meetings with IDOT, the Tollway, and elected officials to review the results of the Plan and discuss opportunities to leverage relationships.	Short to Medium
In order to address current and future freight growth and reduce the economic and community costs of freight related congestion, Will County needs to advance a series of high priority freight projects as identified through the project prioritization process.	• Capacity projects on freight-critical regional routes such as I-80, I-55, SR 59, and SR 394 • Improve east-west connectivity in the southern portion of the county to provide alternatives to the I-80 corridor • Partnerships on rail projects including priority rail grade separations • New South Suburban Airport	• Will County • IDOT • Tollway • Will County Center for Economic Development (CED) • Local governments • Trucking and logistics companies • Railroads • Freight Advisory Committee (FAC) • CMAP	• Will County and the Will County Governmental League in Partnership with Individual Communities	• Form an Infrastructure Planning Group with the key stakeholders to advance plan implementation. The FAC could serve a role in this process. • Advocate for key projects to state and federal legislators • Develop detailed improvement plans for local roads near freight-critical Interstate and state routes as identified in the project prioritization process • Periodically re-evaluate freight project prioritization. Review every two years is recommended • Advocate for improved cargo capacity at regional airports • Develop partnerships around priority rail grade separations • Select project(s) for an INFRA and TIGER grant application.	Medium to Long

Strategy	Example Projects or Initiatives	Key Stakeholders	Lead Agency	Next Steps	Time Frame
To address critical local freight access, Will County should focus on first and last mile freight connections	• Additional access to BNSF Intermodal • Evolving local access needs for CSX Crete, South Suburban Airport, and/or RidgePort • Designation and advocacy for Will County's CUFCs and CRFCs	• Will County • Railroads • Will County Governmental League • Will County CED • Trucking and logistics companies • Freight Advisory Committee • CMAP • Will County Workforce Investment Board	• Will County	• Implement 'quick hit' projects such as pothole repairs, geometric improvements, signal projects and pavement overlays that will provide near-term benefits to industry. A list of potential 'quick hit' projects is included in **Appendix D.** • Develop partnerships to implement new access points for intermodal facilities including evaluation of last-mile managed lane facilities. • Continue coordination with CMAP to include Will County's preferred routes as CUFCs. • Periodically revisit CUFC and CRFC needs; propose additional routes as needed.	Short to Medium
Will County should partner with its local communities, IDOT, CMAP and the private sector to develop and communicate a more transparent freight network.	• Develop a county-wide truck route network including IDOT, county and local routes • Improve truck route signage • Develop tools to better communicate truck routing to carriers and drivers	• Will County • Will County Governmental League • Will County CED • Trucking and logistics companies • Freight Advisory Committee • Local law enforcement • CMAP • Railroads	• Will County and the Will County Governmental League in Partnership with Individual Communities	• Identify a grant resource to assist this effort • Review existing truck route signage to identify and fill gaps • Review existing truck routes (see Figure 2.1 in the Current State chapter); consult localities and trucking groups to assess need for changes • Focus new freight-intensive development on the truck route network when possible • Develop truck route design guidelines • Partner with IDOT to improve signage from the interstates to key facilities.	Short to Medium
To facilitate freight access and increase truck routing compliance, Will County should improve oversize/overweight (OS/OW) permit coordination between jurisdictions.	• Develop an on-line common regional OS/OW application. This does not mean common fees.	• Will County • Will County Governmental League • Will County CED • Trucking and logistics companies • Freight Advisory Committee • Local law enforcement • IDOT • CMAP	• Will County and the Will County Governmental League in Partnership with Individual Communities	• Provide contacts for each community's permit staff in one location • Assess options for software packages to facilitate routing and permitting • Standardize application as much as possible across jurisdictions	Short

Strategy	Example Projects or Initiatives	Key Stakeholders	Lead Agency	Next Steps	Time Frame
To better facilitate future freight planning activities, inform decision-making, and understand usage of freight facilities, Will County should expand data collection programs with a focus on freight clusters and corridors identified in this plan.	• Establish a freight data program covering truck counts on key corridors, asset management data, and rail crossing delay.	• Will County • Will County Governmental League • Will County CED • Freight Advisory Committee • IDOT • CMAP	• Will County Department of Transportation	• Assemble existing truck count data from traffic studies around the region in a library at Will County Governmental League. • Collect truck count data on critical first and last mile corridors. • Periodically assess pavement condition • Collect and monitor truck-involved incident data to mitigate emerging crash hot spots • Develop a risk-based asset management approach at the county level • Develop a scope of work for improving the county travel demand model and including freight model components	Short to Medium
To focus freight growth on existing and planned freight clusters the County, along with local communities and its partners, should develop tools to coordinate freight transportation and land use planning.	• Public or private truck parking projects • Form a 'Freight Resource Center' to provide advice to local governments on freight issues • Develop shared drop-off points for freight deliveries in urban/suburban areas	• Will County • Will County Governmental League • Will County CED • IDOT • USDOT • Private truck stops • Freight Advisory Council • Trucking and logistics companies • CMAP	• Will County, Will County CED in coordination with the FAC	• The County should prepare a comprehensive land use plan • Identify best practices for coordinating freight with existing land uses and new development approvals. Develop a checklist to identify potential freight conflicts and mitigation strategies. • Inventory existing truck parking (formal and informal) and identify the best locations for new parking facilities, identify opportunities for public private partnerships to develop overnight truck parking facilities. • Develop model zoning and development regulations for freight-intensive land uses • Investigate options to establish consolidated consumer freight drop-off points in new or existing developments, to reduce truck traffic on local streets	Medium

Strategy	Example Projects or Initiatives	Key Stakeholders	Lead Agency	Next Steps	Time Frame
To maintain its cutting-edge position in freight movement, Will County should position itself for one or more freight technology pilot projects.	• First or last mile managed lanes connection between the interstate system and an intermodal facility. • Partner with FHWA to implement Will County as a FRATIS demonstration project for the use of real time data to assist with the movement of freight. • Participate in MAASTO freight technology projects.	• Will County • Will County Governmental League • Will County CED • IDOT • FHWA • Freight Advisory Council • Trucking and logistics companies • Will County Universities and Colleges	• Will County CED in coordination with the FAC	• Review technology discussion and recommendations contained in this Plan. • Host expert sessions on potential technology implementation. • Develop a technology partnership through the FAC. • Investigate opportunities to participate in ongoing or planned technology deployments through MAASTO. • Partner with FHWA to explore options for implementing a FRATIS demonstration project in Will County.	Short to Midterm
To better balance commuter travel needs of the freight related workforce, Will County should investigate a potential freight workforce transit hub to increase mobility to job centers.	• Develop one or more freight related transit hub locations. • Coordinate PACE services with TDL job centers	• Will County • Workforce Investment Board • Pace Suburban Bus/RTA • Industry representatives • Freight Advisory Council • CMAP	• Pace Suburban Bus	• Complete a feasibility study on potential transit hub(s) • Review existing schedule against major TDL shifts for potential adjustments • Identify opportunities for on-demand and van pool services to better serve TDL industry	Medium

TABLE 3-23. MATRIX OF FUNDING PROGRAMS FOR WILL COUNTY FREIGHT PROJECTS

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
State Road Fund	FHWA through IDOT	Highway construction, reconstruction, or rehabilitation	IDOT Highway or local roads/streets	Highway reconstruction or rehabilitation	Programmed by IDOT
State Construction Account Fund	IDOT - State Motor Fuel Tax and Driver Fees	State Highway construction, reconstruction, or rehabilitation	IDOT Highway or Bridge	Highway construction, reconstruction, or rehabilitation; Bridge reconstruction or rehabilitation	Programmed by IDOT
Illinois Grade Crossing Protection Fund	IDOT - State Motor Fuel Tax	Grade crossing improvements	Improves safety at a grade rail crossing with a local road	Grade separations; Warning device /crossing signal upgrades; Adjacent/connecting roadway improvements	Administered through the ICC
Truck Access Route Program (TARP) Funds	IDOT	Road construction, reconstruction, or rehabilitation	Roadway improvements to accommodate heavy trucks; Must provide a connection between two truck routes or a truck route and a truck trip generator; count of daily truck volume	Upgrading Wilmington-Peotone road to a truck route, Highway construction, reconstruction, or rehabilitation. Capped at $600,000 per project	Administered by IDOT
Highway Safety Improvement Program (HSIP)	FHWA through IDOT	Road construction, reconstruction, or rehabilitation; Bike/Pedestrian infrastructure improvements	Address a priority in the State's SHSP; identified through data-driven process; Targets an identified safety problem; contributes to a reduction in fatalities and serious injuries	Traffic calming solutions; signage; lighting; safety barriers; bike lanes, crosswalks, signage	Programmed by IDOT based on performance measures (crash data analysis) and through an application process

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
Highway Safety Improvement Program (HSIP)—non-infrastructure improvements	FHWA through IDOT	Non-infrastructure improvements	Address a priority in the State's SHSP; identified through data-driven process; Targets an identified safety problem; contributes to a reduction in fatalities and serious injuries	Road safety audits, enforcement, data collection and analysis improvements	Programmed by IDOT based on performance measures (crash data analysis); up to 10 percent of HSIP funds
Economic Development Program (EDP)	IDOT	Road construction, reconstruction, or rehabilitation	Provides access to new or growing industrial, distribution, or tourism developments; contributes to creation or retention of primary jobs; local match	Capped at $2 million per project	Administered by IDOT
Rail Freight Local Program	IDOT	Rail line improvements	Contributes to economic development; improves access to local markets	Construction or rehabilitation of industrial service tracks	Financing not funding; provides low interest loans to finance improvements. Under special circumstances grants may be considered.
Surface Transportation Program (STP) Funds	FHWA through CMAP	Road construction, reconstruction, or rehabilitation; Bicycle/Pedestrian infrastructure improvements; Traffic Management; Transportation supportive infrastructure	Varies by subregional council	Road construction, reconstruction, rehabilitation, resurfacing, or operational improvements. Bridge construction or reconstruction.	All STP-L funds in Will County are programmed by the WCGL through a call for projects allowing a maximum funding of $4.5M per project every 4 years. WCGL is currently fully programmed through 2021.

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
Congestion Mitigation and Air Quality (CMAQ) Funds	FHWA through CMAP	Traffic management; transit improvements	Improves air quality and mitigates congestion; Completion of phase I engineering; cost-effective solution; local match	traffic flow projects (e.g. roundabouts); Transit facility ; truckn parking electrification; construction or reconstruction	
Transportation Alternatives Program (TAP) Funds	FHWA through CMAP	Improvements for non-motorized transportation	Improves transportation for non-motorized modes	Bike lanes, crosswalks, signage; address stormwater management and water pollution prevention or abatement strategies	
Illinois Transportation Enhancement Program (ITEP)	FHWA through IDOT	Improvements for non-motorized transportation	Improves transportation for non-motorized modes	Bike lanes, crosswalks, signage; address stormwater management and water pollution prevention or abatement strategies	
Local Transportation Assistance Program	CMAP	Non-infrastructure improvements		Truck routing plan; updates to zoning, capital improvement plan creation, comprehensive planning	
Tolling Mechanisms	ISTHA, Local Governments	Highway construction, reconstruction, or rehabilitation; Bridge reconstruction or replacement		Houbolt Parkway Extension	

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
Value Capture	Local governments, regional governmental partnerships	One tool, Tax Increment Financing, is a mechanism that enables local governments to pay for improvements by capturing the expected increase in property or sales taxes generated by development or redevelopment in a designated area.	Project likely to generate additional tax revenues as a result of new development or enhancement of existing development and the additional taxes provide an adequate revenue stream to cover the debt service required to make proposed infrastructure improvements.	CenterPoint Intermodal Center leverage TIF funding for infrastructure development	
Airport Improvement Program	FAA through IDOT	runway construction/rehabilitation, taxiway construction/rehabilitation, land acquisition, airfield lighting, and airport layout plans	Funding is based on national priorities with allocations for significant entitlement categories such as cargo, primary aviation, and general aviation programs.	Airport improvement projects in infrastructure, planning, and development for public-use airports	Administered by IDOT
MARAD America's Marine Highway Program	U.S. Maritime Administration	On designated marine highways that support freight	Provides funds for projects on designated "marine highways" to provide additional freight transportation capacity that helps to enhance the capacity of land based freight and passenger corridors.	Illinois container on barge shuttle project to provide shuttle services for agricultural customers to UP and BNSF rail ramps	
TIGER	U.S. DOT	Road, Rail, Transit, and Port projects	Plays a critical national role on moving freight; can be multi-modal and multi-jurisdictional	Major freight corridor expansion in Will County, such as I-55 or I-80	Competitive grant program programmed through U.S. DOT

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
National Highway Performance Program	FHWA through IDOT	Roadways on the National Highway System	Provides funding for infrastructure project on the National Highway System	Reconstruction or rehabilitation of a bridge on the NHS system; installation of vehicle-to-infrastructure equipment	Allocated by IDOT
National Highway Freight Program	FHWA through IDOT	Highway projects that improve freight movement	Provides funding for projects the improve efficient freight movement on the National Highway Freight Network	Environmental and community mitigation for freight movement; ITS, including intelligent freight transportation systems; certain truck parking facilities, etc.	Up to 10 percent of NHFP funds can be used for intermodal or freight rail projects every year; allocated by IDOT
INFRA	U.S. DOT	Project on the National Highway Freight Network; an intermodal or freight rail project; a grade separation project	Replaces FASTLANE grants. Revises project evaluation criteria focusing on economic outcomes, mobility outcomes, safety outcomes, financial leverage, and innovation. For national and regionally significant freight and highway projects that address a critical freight need	Expanding I-80 and replacing the Des Plaines River Bridges	Competitive grant program through U.S. DOT

Funding Source	Agency	Project/Program Type	Eligibility Criteria	Examples	Notes
WORKFORCE FUNDING OPPORTUNITIES					
America's Promise Job Driven Grant Program	U.S. DOL	Program to develop and expand regional partnerships and training program	Innovative workforce training programs and services		
American Apprenticeship Initiative	U.S. DOL	Program to expand and diversify registered apprenticeship programs, support state apprenticeship programs providing funds for regional industry partnerships and innovative strategies to diversify apprenticeship programs locally.	Funding available to support industry partnerships in fast-growing and high technology industries for employers to start apprenticeship programs.	Funding for Transportation and Logistics Workforce Center apprenticeship programs	
Statewide Workforce Innovation Program	Illinois Department of Commerce and Economic Opportunity, Office of Employment and Training	Illinois Workforce programs that integrate workforce, education, and economic development			
Illinois Workforce Pipeline Grant	Illinois Department of Commerce and Economic Opportunity	Program to provide funding to build or expand the pipeline of workers in a specific industry.			
Planning and Local Technical Assistance Program	U.S. Department of Commerce, Economic Development Administration	Program to strengthen capacity to undertake and promote effective economic development programs.			

4. TDL WORKFORCE ACTION PLAN

The WCCFFMP is a holistic freight planning effort to improve both the efficient movement of freight and the workforce required to support the Transportation, Distribution, and Logistics (TDL) industry.[76] This chapter outlines a workforce action plan that supports and strengthens the workforce pipeline of the Will County TDL industry. The Workforce Action Plan will help attract, retain, and build the pipeline of the TDL workforce in Will County.

The workforce actions were developed by identifying key issues and opportunities facing the TDL workforce. A key component of this action plan is also understanding the transit and mobility barriers to the workforce in Will County to better connect the workforce with freight-related job centers. The workforce action plan is intended to respond to industry workforce needs and provide actionable strategies to build and maintain the pipeline of the freight-related workforce in Will County.

4.1 DEVELOPING THE ACTION PLAN

The TDL workforce action plan was developed in consultation with private sector TDL businesses, Human Resource professionals, workforce leaders, Will County Workforce Investment Board, transit agencies, residents, and public-sector representatives to better understand the workforce challenges and action strategies best suited to the TDL industry. Private sector input is a critical component to the action plan to optimize recommendations, and implementation. A multi-pronged engagement effort was conducted that included several meetings with the Freight Advisory Committee, two TDL workforce forums, a TDL workforce survey, 29 interviews with the TDL industry, three public meetings, and a public survey. This chapter outlines the workforce action plan that contains the following components:

- Importance of workforce to the freight industry
- Goals and Objectives of the TDL Workforce Action Plan
- Transportation and Warehouse Workforce Profile in Will County
- Cross-cutting Challenges Facing the TDL Workforce in Will County
- Mobility solutions for the TDL workforce
- Best practices to attract, retain, and build the TDL workforce
- Measuring progress towards implementing the action plan

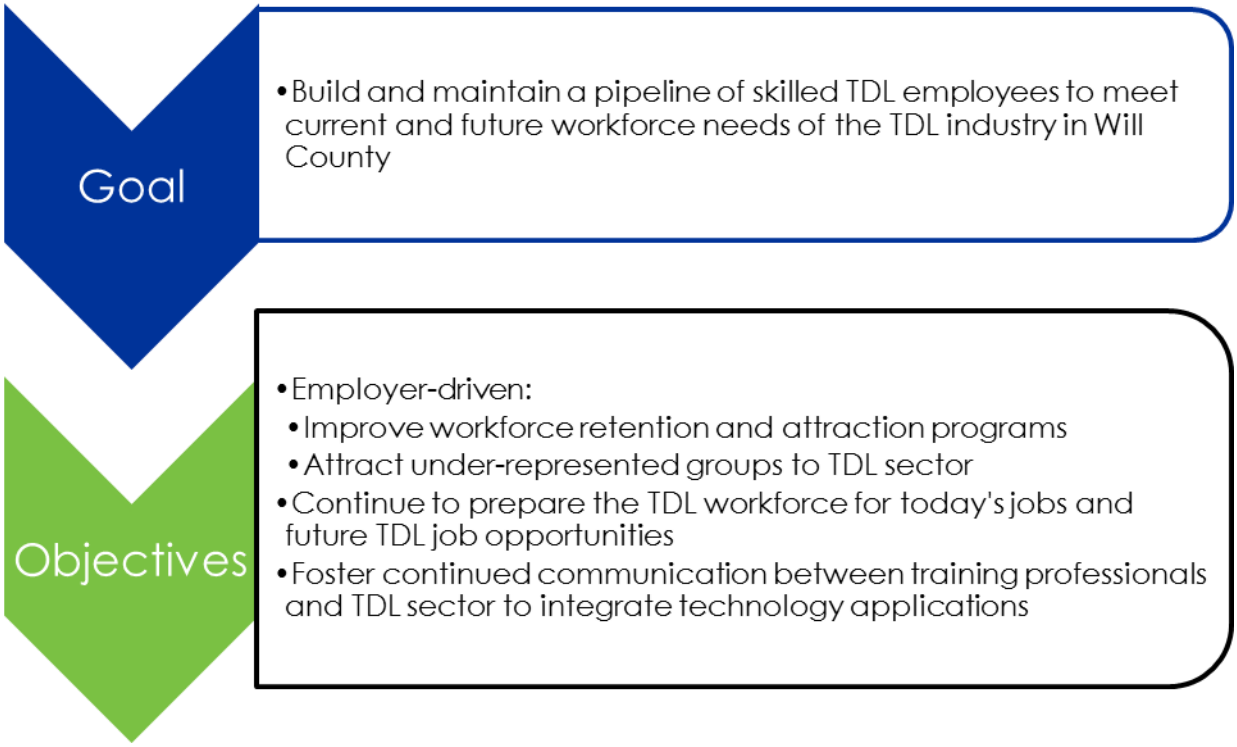
[76] Defined here as either NAICS codes 48 and 49 or SOC code 53 depending on the component of data analysis.

4.2 GOALS AND OBJECTIVES OF THE TDL WORKFORCE ACTION PLAN

There are four goals, and several related objectives for each goal, outlined for the TDL workforce action plan. These goals were developed in consultation with the Will County Freight Advisory Committee, TDL private sector businesses at two workforce forums, and with guidance from the Will County Workforce Investment Board. These goals serve as a guidepost for the TDL action plan where success is determined by the ability to meet these goals and objectives. In **Section 4.14** of this chapter, performance measures are outlined to assess progress towards meeting the goals and objectives of this plan.

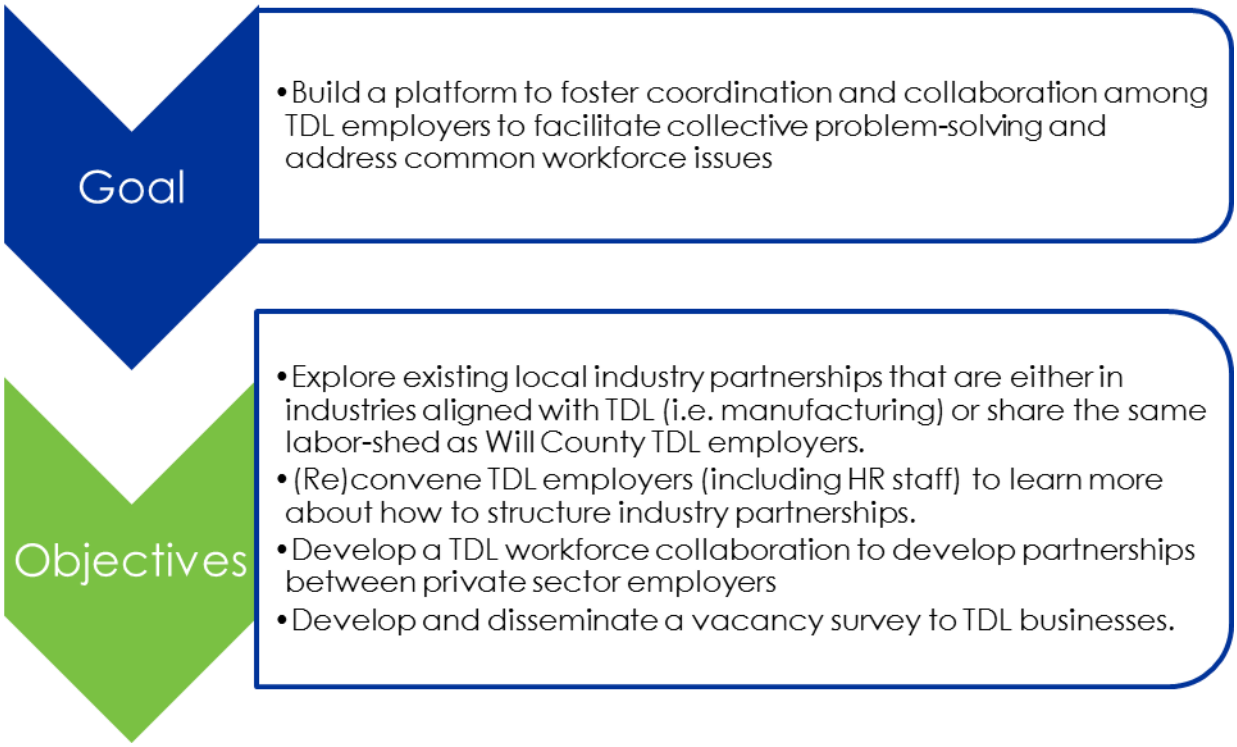
4.2.1 EXPAND THE WORKFORCE PIPELINE

Expanding the pipeline of workers is critically important to supporting the TDL industry in Will County. As noted in the survey and through interviews with TDL industry leaders, the availability of TDL workforce is a critical issue facing these businesses. Many Will County TDL businesses struggle to fill positions in their businesses and are concerned with continuing to attract workforce in an industry that is growing aggressively, putting increased pressure on the already limited pool of available workforce. One of the goals of this plan is to develop strategies to expand the overall number of workers attracted to the TDL industry.



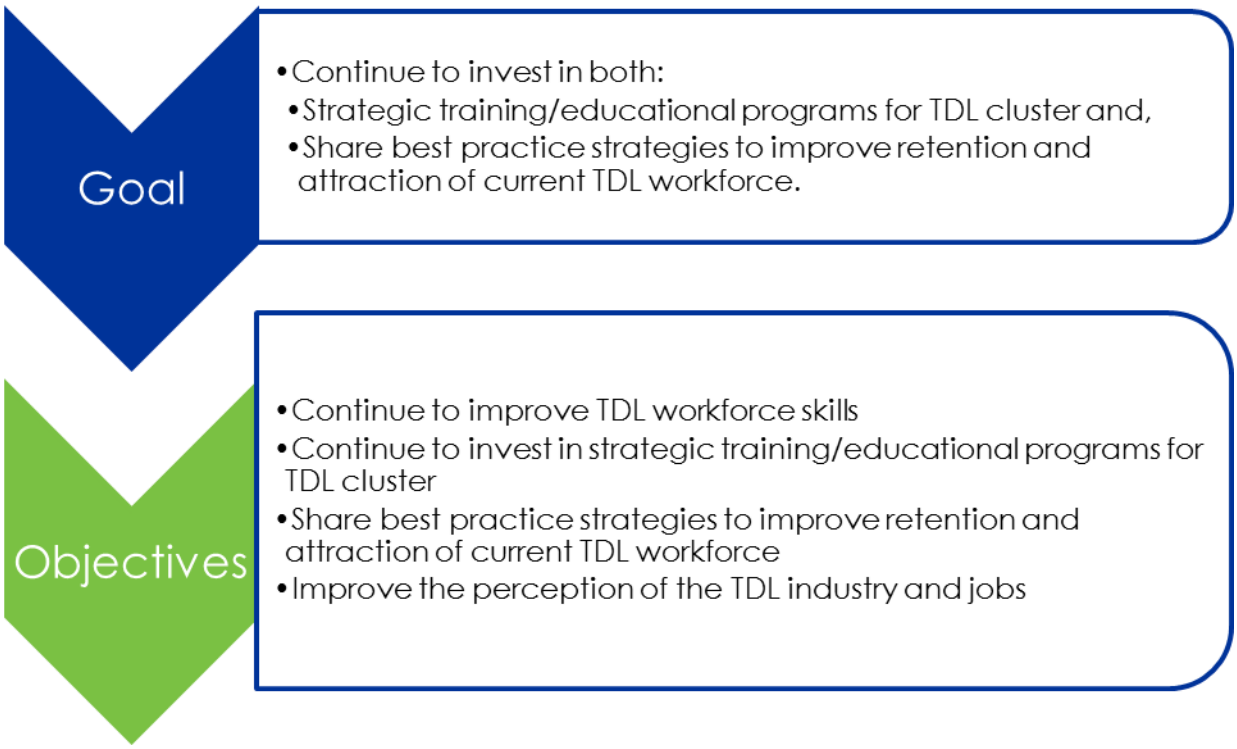
4.2.2 FOSTER COORDINATION AND COLLABORATION ACROSS THE TDL INDUSTRY

One of the best practices identified through this process was to increase coordination and collaboration within the TDL industry. This was a common issue voiced by workforce leaders and TDL businesses in Will County and speaks to the need for a space to provide solutions to common issues facing the industry. A national and local best practice in workforce development identified in this chapter was the existence of employer-lead partnerships to address workforce issues that cut across all employers in a specific industry. Furthermore, there are many models throughout the region and nation that demonstrate the importance of building partnerships within an industry sector to strengthen workforce issues. For example, the Three Rivers Manufacturing Association in Joliet was formed to provide training and support for local manufacturers. Other best practices are identified in **Section 4.13** of this chapter.



4.2.3 CONTINUE TO ENHANCE WILL COUNTY TDL WORKFORCE

Providing opportunities for employees to continue to develop in career pathways, grow professionally, develop skills, and realize wage growth is of primary importance to enhancing the TDL workforce. A primary concern voiced throughout the industry was the lack of opportunities for career growth within the industry that results in attrition and job-switching. Providing strategies to invest in TDL employees will result in increased retention and attraction of employees, and create a more attractive TDL industry for employees.



4.2.4 IMPROVE WORKFORCE MOBILITY

One key strategy to increasing the availability of the workforce is to provide enhanced mobility to connect employees to TDL job centers. Improving transportation options allows employees increased access to their job clusters and reduces commute time. By providing better mobility options, the TDL industry is expanding the "labor-shed" or the pool of potential employees within a typical commute distance. Additionally, these mobility options could also improve use of non-motorized commute options by expanding biking options to access TDL job centers. In interviews with TDL business leaders, a long commute time was often cited as a barrier to retain employees. Essentially, the longer the commute to the job, the less likely that employee would stay on the job. Some employers mentioned that the ideal commute distance was within 30 to 45 minutes of their job.

Goal

- Improve transporation options for TDL workers to easily access job centers through an interconnected network of private and public transportation systems.

Objectives

- Improve the understanding of workforce commute patterns and their future needs
- Improve transportation systems that reduce travel time for workers employed in TDL job centers in Will County
- Coordinate with PACE bus service and Metra to move people from where they live to TDL job clusters
- Work with employers, private transit providers, and transit providers to close the gap in first and last mile connections for workers
- Coordinate with Will County's Bikeway Plan to identify opportunities to improve non-motorized commute options for the TDL workforce

4.3 BEST PRACTICES TO ATTRACT, RETAIN, AND BUILD TDL WORKFORCE

As outlined above, the goals of the workforce chapter of the Plan include building partnerships among employers within the sector and with transit system owners, strengthening relationships with training and education providers, building the pipeline of workers in TDL in Will County, and implementing strategies to retain workers and help them advance in their careers within the sector. Sector Partnerships (also called Industry Partnerships or Workforce Partnerships) are considered by many in the workforce development field to be a best-practice to achieve these goals. Sector Partnerships are a collaboration of local or regional employers in a particular economic sector, such as TDL, working together with the assistance of a workforce intermediary. Successful sector partnerships often have the following characteristics:

1. Develop and maintain employer leadership
2. Produce excellent outcomes for individuals and employers
3. Serve low-skill, low-wage individuals
4. Operate through a knowledgeable workforce intermediary that communicates effectively with stakeholders
5. Promote career advancement and industry recognized credentials [77]

Sector Partnerships are well established in the Chicago region, including in Will County. The Three Rivers Manufacturing Association Education Partnership (TREP) is a long-established workforce partnership in the Manufacturing Industry operating in Will County and the surrounding area. TREP ensures relevancy of local training programs to employer needs, career exploration for high school students, and other programming to ensure the competitiveness of employers in the region. Similarly, the Metropolitan Chicago Healthcare Council (MCHC) is a sector partnership that works in the healthcare industry in Will County and the rest of the Chicago region. MCHC works with local colleges and universities to address the nursing shortage in the region and provides pre-employment screening for area healthcare employers, among other services.

This section will provide examples of workforce partnerships operating in the TDL industry collected from a national scan of workforce-related initiatives in the industry. These examples were chosen because they illustrate the characteristics of a best practice workforce partnership outlined above (1-5). Where applicable, the best practice characteristics are referenced in each example in parenthesis.

[77] Adapted from the National Fund for Workforce Solutions "Sector Strategy Approaches" From U.S. DOL Region 4 & 6 Sector Strategies Conference January 2015 Oakland, California available at http://labor.hawaii.gov/wdc/files/2015/02/Sector-Strategy-Approaches.pdf

It is important to note that the priorities, structure and specific activities of any workforce partnership are determined locally to ensure responsiveness to current industry needs. Every example below is both unique because of the local context, but also showcases common structural features.

4.3.1 ATLANTA CAREERRISE LOGISTICS WORKFORCE PARTNERSHIP

Atlanta's Logistics Workforce Partnership was developed by a local regional workforce funders collaborative, Atlanta CareerRise, to help individuals gain the skills they need for career advancement and to meet the employers' need for a skilled workforce (4). Atlanta CareerRise partnered with employers to determine the best curriculum and what credentials would represent the skills employers needed in their employees (1). Two training programs were developed, one entry-level program in materials management and an incumbent worker training program for customs brokering to assist existing employees to become import administrators. [78]

This example can be useful as a best practice for Will County's workforce action plan in that the partnership developed relied on intense collaboration with TDL employers to identify what training would best fit the industry needs. Will County's TDL sector is rapidly evolving and having TDL businesses define their training needs will assist in better filling their employment needs and equip Will County's workforce to meet those needs. Additionally, identifying a program for low-skill and low-wage employees will help provide career development opportunities and improve job quality, one of the key action strategies in this plan.

In this example, employers identified common workforce challenges for entry-level employees, including lack of basic skills and warehouse experience. The entry-level program serves low-skill and low-wage individuals and provides essential skills training and screening of candidates for employers (3); more than 80 percent of graduates of the program have been placed in jobs (2). The program is a Warehousing and Distribution Certificate Program from the Manufacturing Skills Standards Council in which participants earn the Certified Logistics Associate and Certified Logistics Technician credentials as well as participate in internships and practice operating a forklift and working in a warehouse (5). The Associate curriculum includes an introduction to the logistics environment, safety and quality control, communications, teamwork, and workplace behavior as well as computer systems and equipment training. The Technician curriculum includes receiving and stocking, order processing, shipping product, inventory control, hazardous materials, transportation modes, dispatch, routing and tracking and measurements and metric conversions. Employers have found significant savings in hiring and retention costs after hiring from the program, estimated at more than $8,000 per employee.

The import administrators program is provided as a continuing education course at a local college. Customs Brokers must have expertise in the entry procedures, admissibility

[78] For more information see http://www.atlantacareerrise.org/logistics.asp.

requirements, classification, valuation, and the rates of duty and applicable taxes and fees for imported merchandise. Existing entry-level employees are granted 9 days of time off from work to attend the training, which is funded in part by the employer. Employers also volunteer to serve on an advisory committee (1). Employers agree to workplace advancement for successful completers including increased wages, a promotion and/or additional benefits. The results of the program for the first cohort of students at 6 months post-program completion include: 75 percent retained in jobs, 50 percent received a promotion, 75 percent received a pay increase and 63 percent received increased hours or benefits. The program was expanded to include job seekers without any direct experience in the industry in 2016 so that cohorts are mixed job seekers and incumbents. All completers are eligible to sit for the National Customs Brokers and Freight Association of America's National Education Institute credential exam of Certified Customs Specialist.

4.3.2 SOUTHERN ARIZONA LOGISTICS EDUCATION ORGANIZATION

The Southern Arizona Logistics Education Organization (SALEO) was developed by employers in the logistics industry (1) to support regional economic development and continues to support education and advancement in the industry. The workforce intermediary, in the case of SALEO, is a non-profit organization created by the employers (4). Projects have included curriculum development for a supply-chain management program at a local community college, which has been articulated in bachelor degree programs at state universities (5). In addition, SALEO provides abundant networking opportunities for its members as well as raises funds for scholarships.[79]

This example can be useful as a best practice for Will County's TDL workforce action plan in that it was first, employer led. Through the workforce industry forums, employers in Will County expressed that a successful partnership for the TDL industry must be employer led and driven by private sector needs. In this case, the partnership created a new entity to host the partnership. Will County's future potential TDL industry partnership will need to explore whether to establish a new entity or leverage an existing entity, such as the Will County Center for Economic Development, to host the partnership (as outlined in the implementation matrix).

4.3.3 CENTRAL IOWA WORKS TDL WORKFORCE PARTNERSHIP

Des Moines's TDL Workforce Partnership was developed by a local non-profit, Central Iowa Works, to bring together employers and workers, public and private funding streams, and relevant partners to create and implement pathways to employment and advancement (4). With employer direction, Central Iowa Works developed a training program in warehousing which also awards certificates from the Manufacturing Skills Standards Council (Certified Logistics Associate and Certified Logistics Technician). The training includes OSHA certification, forklift experience and a workplace simulation (5).

[79] For more information about SALEO see https://www.saleo.org/.

In addition, in partnership with the U.S. Attorney's Office, Central Iowa Works delivers a "re-entry simulation" for employers, which helps employers to understand the challenges that job-seekers with criminal records face. The program is successful serving individuals with criminal records and 39 percent of the graduates were women (3). 75 percent of graduates were placed in jobs (2) from the last cohort. [80]

This example can be useful as a best practice for Will County's TDL workforce action plan in that it focuses on how to improve the quality of jobs in the TDL sector and provide pathways for advancement. This was one of the key challenges voiced in the TDL workforce forums. It will be critical for the TDL industry to develop pathways for advancement, such as in the Des Moines example, to retain quality workforce. Also, this example provides guidance on how to train potential employees that have criminal records, a potential opportunity for Will County's TDL industry to explore as it attempts to increase the pipeline of eligible employees.

The training program utilizes workplace simulation, an emerging best practice in workforce development. Workplace simulation immerses participants in the culture of work and provides participants with the opportunity to practice new skills in an environment where they can learn from their mistakes without repercussions. In the simulation, participants encounter a variety of typical workplace problems and can practice resolving them. Central Iowa Works leases the simulation from Training, Inc. Working in departments, trainees perform all the work to keep the company operating, including customer service, order processing, recordkeeping, and management. A main goal of the simulation is to assist participants in gaining the important soft-skills needed for employment.

4.3.4 HARPER COLLEGE SUPPLY CHAIN APPRENTICESHIP

The Supply Chain Apprenticeship program at Harper College in Lake County, Illinois, is structured to provide a pipeline of skilled workers to replace retiring professionals in the supply chain field. Harper College serves as the workforce intermediary and provides college course-work to mid-level workers interested in supply-chain management (4). Students work at local companies while attending school. Employers provide input into the curriculum and other aspects of the program as well as pay tuition, wages and benefits (1). The employer chooses a mentor to be responsible for training and developing the employee on the job and Harper provides train-the-trainer programming for these mentors. Students graduate with an associate's degree as well as a U.S. Department of Labor certified apprenticeship credential (5). Harper College is responsible for all administrative work involved with registered apprenticeship for the U.S. DOL. [81]

[80] More information about the Central Iowa Works TDL Workforce Partnership can be found at http://centraliowaworks.org/training-transportation-distribution-and-logistics-tdl

[81] For more information see http://goforward.harpercollege.edu/academics/apprenticeships/

This example can be useful as a best practice for Will County's TDL workforce action plan in that the TDL industry in Will County is also facing an aging workforce. At the workforce forums, there was intense interest in partnering with colleges and high-schools to develop interest in the TDL industry. This example provides guidance on how to develop curriculum and implement this in classrooms to build the pipeline of the TDL workforce.

4.3.5 LONG BEACH CITY COLLEGE COMMERCIAL TRUCK DRIVING

Long Beach City College was approached by the Harbor Trucking Association, an employer association, to address driver shortages in the area. The existing training programs in Long Beach were not meeting the needs of the companies looking to hire. The College worked with employers and the Association to develop a program that provided the necessary training as well as relevant credentials. The College worked with the local workforce development system, community-based organizations and veteran's organizations to recruit new students. [82]

This example can be useful as a best practice for Will County's TDL workforce action plan in that Will County too experiences a driver shortage. Will County's trucking firms voiced a great need to attract new drivers both as their existing workforce retires and as the need for more drivers increases. The region already has driver training programs, but this example could provide guidance on how to refine these training programs to better serve the needs of Will County's trucking firms.

Each student earns the necessary permits for driving in the Harbor, a Transportation Worker Identification Credential (TWIC) card, a Class A CDL License with all relevant endorsements, and the certification from the Council of Supply Chain Management Professionals. In addition, insurance needs were making it difficult for companies to make new hires, as companies were required to only employ drivers with experience. The Long Beach City College and the Association worked with insurance brokers and carriers to overcome this barrier by obtaining waivers to these requirements for graduates of the training program.

While the program was entirely grant-funded at the outset, going forward employers and students will share in the costs. These employers will be a part of a consortium that will direct decisions about the program, including curriculum and how often the program is offered.

4.3.6 EXISTING WORKFORCE PROGRAMS IN WILL COUNTY

Currently in Will County, the Workforce Investment Board funds sector focused initiatives. The Workforce Investment Board identified four key industry drivers in Will County: Healthcare, Manufacturing, TDL, and Professional Services/IT. All outreach, training, services, and programming is targeted around these four sectors.

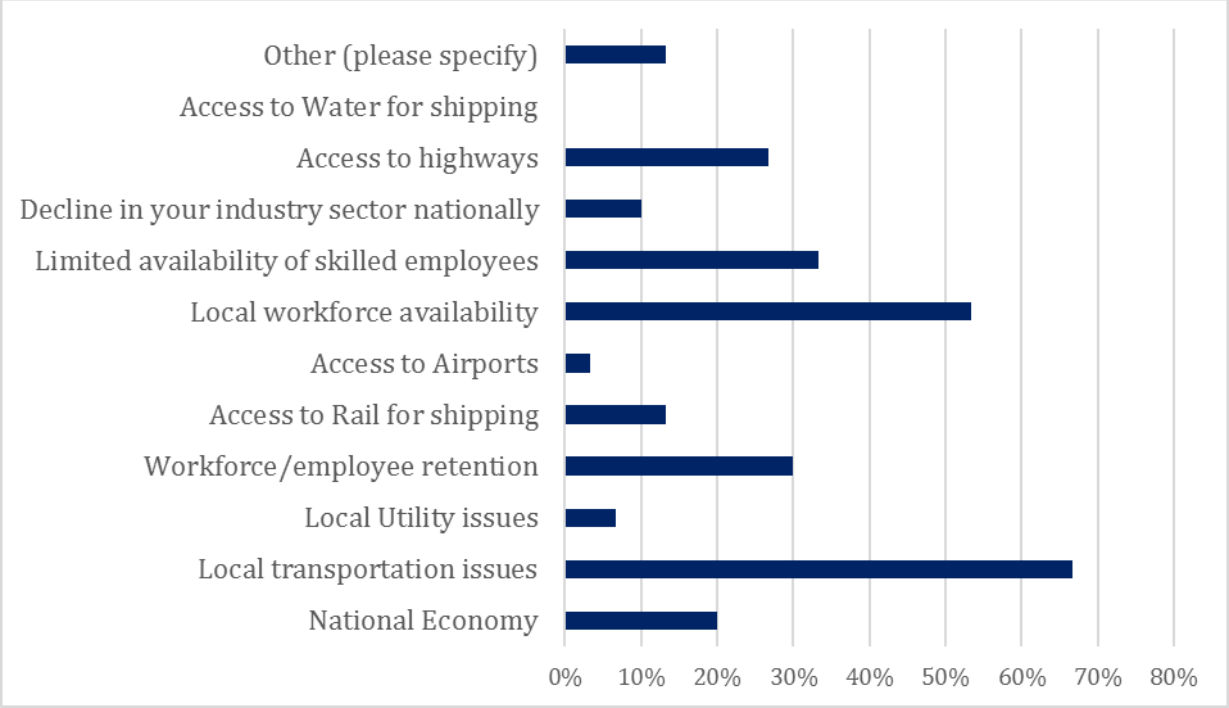
[82] For more information see http://www.lbcc.edu/CAED/CDL.cfm.

Career planning materials were developed in each key sector, which provide an overview of the industry as a whole.[83] Occupations that require training for employment are detailed in occupation specific documents. Orientation sessions are held for job seekers interested in training in the industry. The information provided is intended to give job seekers a good understanding of the industry, occupation, and employment opportunities.[84] In addition, all employer services are targeted to the four key industry sectors. Both the On-the-Job training and Incumbent Worker training programs focus on these sectors because they have been identified as the ones with the best opportunities for stable employment and good job opportunities.

4.4 IMPORTANCE OF WORKFORCE TO THE FREIGHT INDUSTRY

According to the TDL industry survey, local workforce availability ranked as the second highest challenge to Will County's economic success—over 50 percent of respondents identified this as one of the greatest threats. Additional challenges included limited availability of skilled employees and workforce retention as the third and fourth greatest threats to economic success, respectively. See **Figure 4-1** for details.

FIGURE 4-1. WHAT ARE THE THREE GREATEST CHALLENGES OR THREATS TO WILL COUNTY'S ECONOMIC SUCCESS?



The TDL workforce plays a critical role in supporting the vitality of the freight industry. Workers in TDL businesses move finished goods to customers around the country, deliver raw materials to local manufacturers, and fill shelves with merchandise consumers and

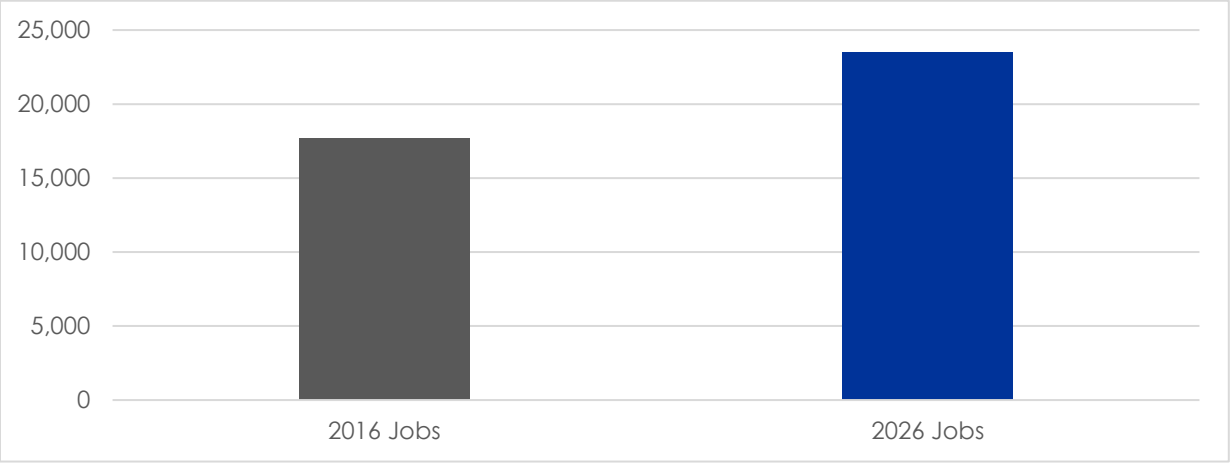
[83] Sample industry materials can be found at http://jobs4people.org/media/30040/industry_brochure_tdl.pdf).
[84] A sample of the orientation calendar can be found at http://www.jobs4people.org/job-seekers/calendar.

businesses buy every day. Freight is the economy in motion, and that freight movement depends on a skilled TDL workforce.

Across the globe, the TDL industry is facing a workforce shortage as this industry continues its rapid growth. There is ever-increasing demand for workers in this industry everywhere and particularly in Will County. But, with an aging workforce in an industry that is rapidly changing and susceptible to automation, the future pipeline of this workforce is uncertain.[85] The industry also faces a perception issue—where many job seekers may view positions in this industry as lower-quality jobs that lack wage growth—a commonly voiced concern during the workforce forums with TDL industry leaders during this process. These issues are felt across this industry globally, and most acutely in Will County where the TDL industry is experiencing explosive growth. Developing a TDL workforce action plan in Will County will help attract, train, and grow the pipeline of this workforce, which is more critical than ever.

Over the past 15 years, Will County has experienced rapid growth in TDL employment, outpacing other metropolitan freight employment growth as referenced in Chapter 2. The TDL sector currently employs over 17,000 people in Will County.[86] Employment in the transportation and warehouse industry has grown 138 percent since 2005[87] and is expected to continue growing with a projected 33 percent growth in industry jobs by 2026, as shown in **Figure 4-2**.[88] This projected growth may understate the growth potential of this industry given much of this growth has already taken place with major new developments such as Amazon expanding operations in Will County, the build out of Ridgeport Logistics Center and the announcement of the CSX Intermodal near Crete.

FIGURE 4-2. EXPECTED JOB GROWTH IN TDL SECTOR



Source: EMSI data, 2016

[85] *Transportation & Logistics 2030 Volume 5: Winning the talent race*. PwC, www.pwc.com/tl2030
[86] BTS Quarterly Census of Employment and Wages, 2015
[87] BTS Quarterly Census of Employment and Wages, 2005-2015
[88] EMSI data, 2016-20126

4.5 ASSESSING THE CURRENT STATE

Understanding the profile of the TDL workforce in Will County will assist in providing tailored recommendations for growing the pipeline of this workforce. This section will present the data analysis for the transportation and warehouse workforce in Will County.

4.5.1 DEMOGRAPHIC PROFILE OF THE TDL WORKFORCE

The race/ethnicity profile of the TDL workforce in Will County largely reflects the race/ethnicity profile of the County as a whole. About 61 percent of the TDL workforce in Will County is white and 66 percent of Will County's overall population is white, as shown in **Figure 4-3**.[89] About 75 percent of the TDL workforce is male and 25 percent is female, as shown in **Figure 4-4.**

The age distribution of TDL workers is more dispersed, where over 21 percent are between 25-34, 24 percent are between 35-44, and about 24 percent are from 45-54. Over half of the TDL workforce is over the age of 45, which will create additional pressures over the next 10 to 15 years. **Table 4-1** shows the age range of TDL workers in Will County.

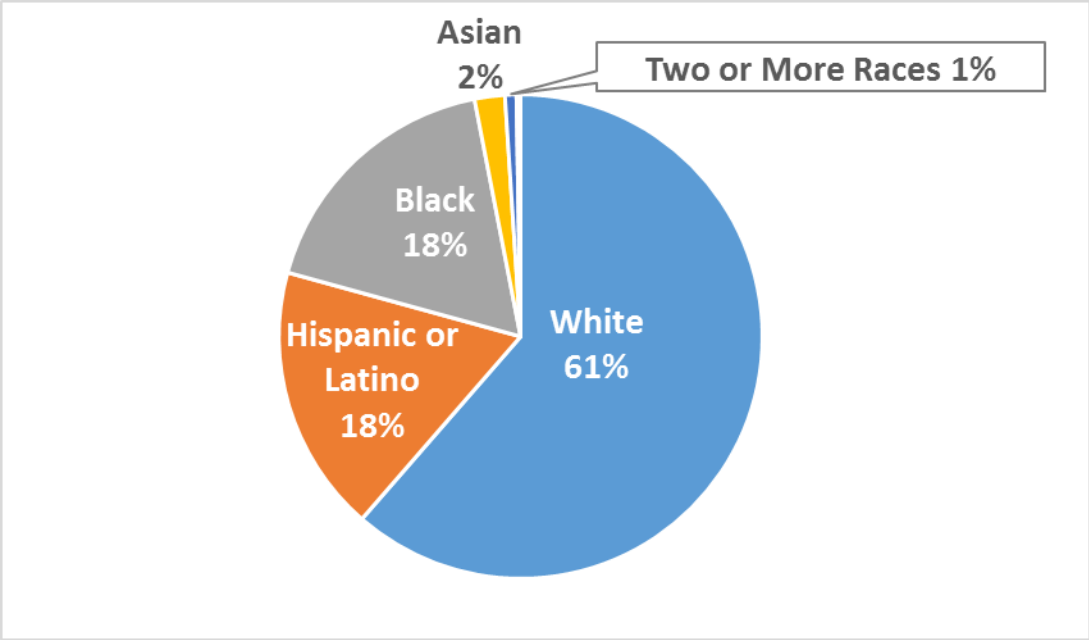
TABLE 4-1. AGE OF TDL WORKERS IN WILL COUNTY, 2016

	Age	2016 Jobs	2016 Percent	
●	14-18	100	0.6%	
●	19-24	1,675	9.5%	
●	25-34	3,797	21.5%	
●	35-44	4,293	24.3%	
●	45-54	4,224	23.9%	
●	55-64	2,764	15.7%	
●	65+	801	4.5%	

Source: EMSI, 2016

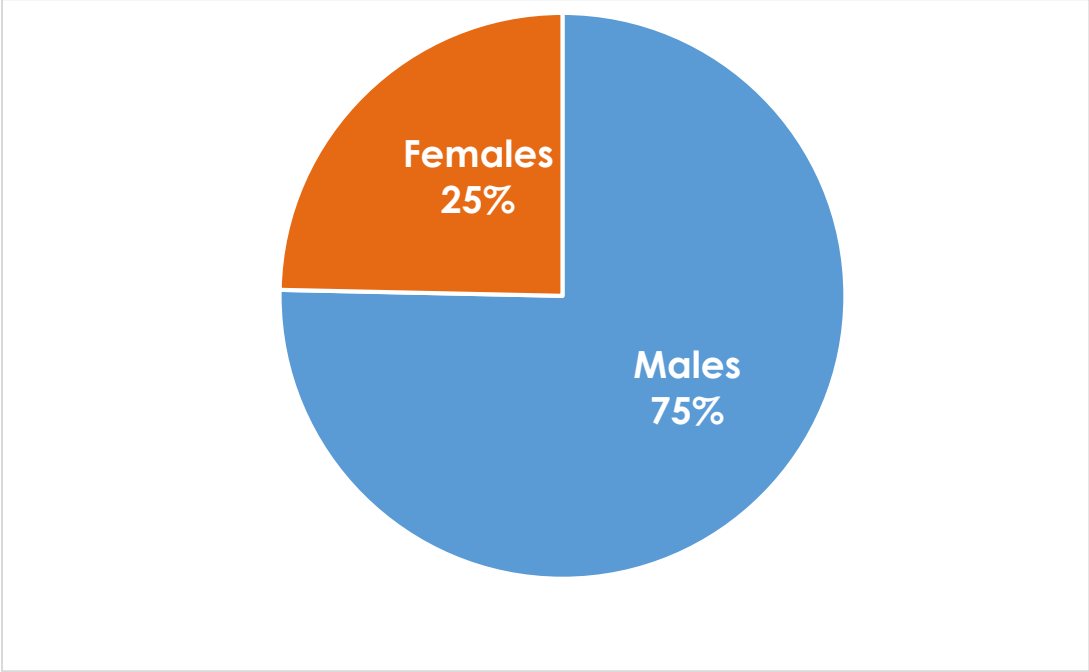
[89] American Community Survey data 2010-2014; EMSI data, 2016

FIGURE 4-3. RACE AND ETHNICITY OF THE TDL INDUSTRY IN WILL COUNTY, 2016



Source: EMSI, 2016

FIGURE 4-4. GENDER PROFILE OF TDL INDUSTRY IN WILL COUNTY, 2016



Source: EMSI, 2016

4.5.2 WAGES IN THE TDL INDUSTRY

The perception that the TDL industry contains primarily low wage jobs is a key concern of public-sector officials, the general public, and TDL businesses. There is a large share of TDL industry jobs that are lower-wage; nearly 60 percent of TDL jobs are between $10 and $15 dollars an hour. However, 40 percent of jobs in the industry are above $16 an hour. See **Table 4-2** for a breakdown of wages in the TDL sector.

TABLE 4-2. WAGES BY EMPLOYEES FOR TDL SECTOR

Hourly Wages	Employees	Percent of Total Employment*
$9-$15	7,322	59.7%
$16-$20	164	1.3%
$21-$25	3,709	30.2%
$26-$30	1,023	8.3%
$31+	53	0.4%

Source: EMSI
**Employment numbers include all occupations within the Transportation and material moving occupation for which data are available. Wage data were not available for all occupations, so percentages are based on occupations for which wage data are available.*

However, the largest and one of the fastest growing jobs in this sector are the lower-paying occupations—laborers and freight, stock, and material movers which have grown 140 percent since 2010 in Will County and has a median hourly wage of $10.63. Other fast-growing occupations in this sector, such as stock clerks and order fillers (187 percent growth) or Packers and Handlers (182 percent growth) also have hourly earnings of around $10 an hour, as shown in **Table 4-3.** While there has been growth in some of these lower-earning occupations, there is also growth from one of the largest occupations of truck drivers. Truck drivers earn a median hourly rate of $21.30 in Will County, higher than the wages of other fast-growing occupations such as material movers and packagers and handlers. With over 3,000 employed in this occupation, it is the second largest job category in this industry with 47 percent growth since 2010.

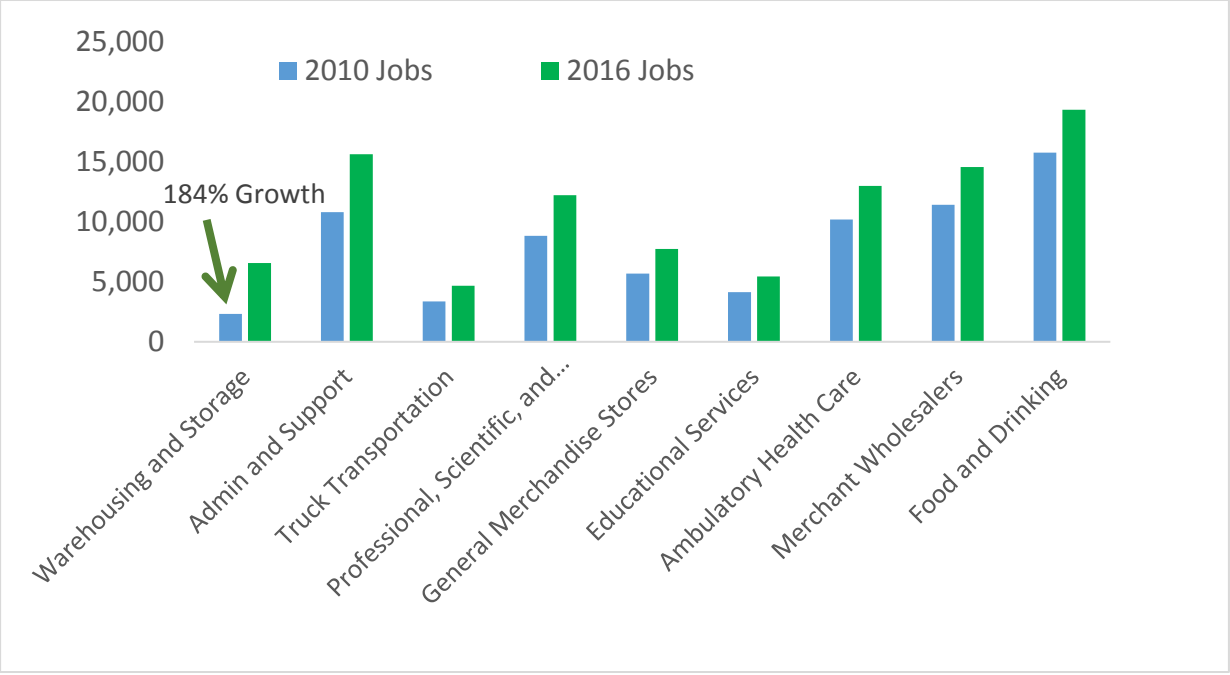
The warehousing and storage industry is also the fastest growing industry in Will County. There has been 184 percent growth in jobs in the warehousing and storage industry since 2010—more than any other industry in Will County. Although, the warehouse and storage industry has relatively less absolute job numbers compared to other Will County industries, starting with only around 2,000 jobs in 2010, it does not represent the largest number of jobs, but rather the fastest growing. **Figure 4-5** shows the fastest growing industries in Will County. One of the key challenges to supporting the industry in Will County will be for the TDL industry to ensure there are career pathways for these lower-wage employees to grow in to higher-paying occupations within the industry.

TABLE 4-3. EARNINGS AND EDUCATION FOR SELECT JOBS IN TRANSPORTATION AND WAREHOUSE INDUSTRY IN WILL COUNTY, 2016

Description	Number Employed (2016)	Percent change in employment (2010-2016)	Median Hourly Earnings	Typical Entry Level Education
Laborers and Freight, Stock, and Material Movers	3,444	140%	$10.63	No formal educational credential
Heavy and Tractor-Trailer Truck Drivers	3,294	47%	$21.30	Postsecondary nondegree award
Industrial Truck and Tractor Operators	1,156	155%	$14.76	No formal educational credential
Packers and Packagers, Handlers	693	182%	$10.03	No formal educational credential
Stock Clerks and Order Fillers	664	187%	$10.44	No formal educational credential
Light Truck or Delivery Services Drivers	653	100%	$13.86	High school diploma or equivalent
Shipping, Receiving, and Traffic Clerks	422	150%	$14.02	High school diploma or equivalent
Railroad Conductors and Yardmasters	323	23%	$27.72	High school diploma or equivalent

Source: EMSI, 2016

FIGURE 4-5. FASTEST GROWING INDUSTRIES IN WILL COUNTY, 2016

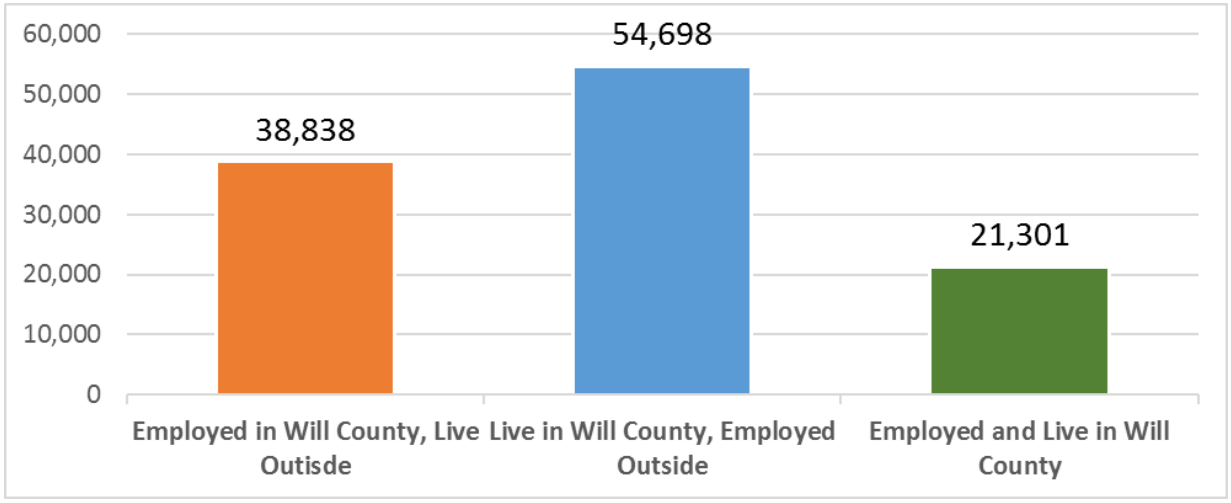


Source: EMSI 2016

4.5.3 COMMUTE TRENDS OF THE TDL WORKFORCE

Providing mobility options is a goal of the TDL Workforce Action Plan to better connect the workforce to TDL job centers. In Will County, more employees in this sector live outside of Will County than in Will County. Also, there are over 54,000 employees in this industry that live in Will County but work in another County. The commute of freight industry workers undoubtedly contributes to the current traffic conditions in and around major freight facilities. With the anticipated growth of this industry, the traffic growth will not only be truck traffic but commuter traffic to access these developments as well.[90] **Figure 4-6** shows the commute flows of employees within this broader sector.

FIGURE 4-6. COMMUTE FLOWS IN TRADE, TRANSPORTATION AND UTILITY INDUSTRY IN WILL COUNTY

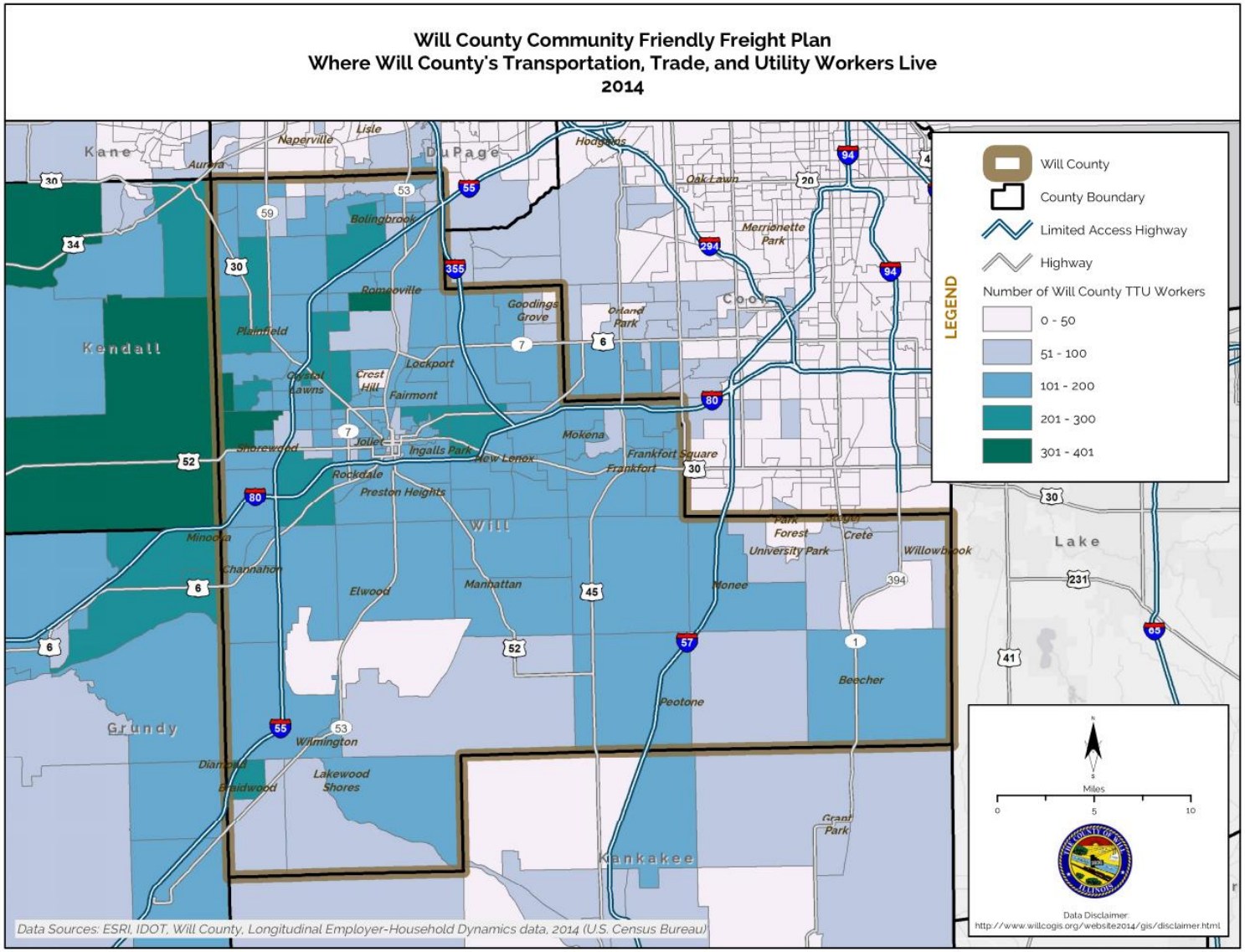


Source: Longitudinal Employer Household Dynamics Data, 2014

Figure 4-7 illustrates where employees live that work in Will County's TTU businesses. As the figure on page 208 shows, there are a large number of Will County TTU workers that live in Kendall County and Grundy County, as well as the northern part of Will County. Understanding these geographies can help tailor mobility solutions for TDL employees.

[90] Note: this analysis relies on a dataset that includes a wider set of jobs in the Trade, Transportation, and Utility (TTU) sector than used elsewhere in this chapter or in **Chapter 1**.

FIGURE 4-7. WHERE WILL COUNTY'S TTU WORKERS LIVE

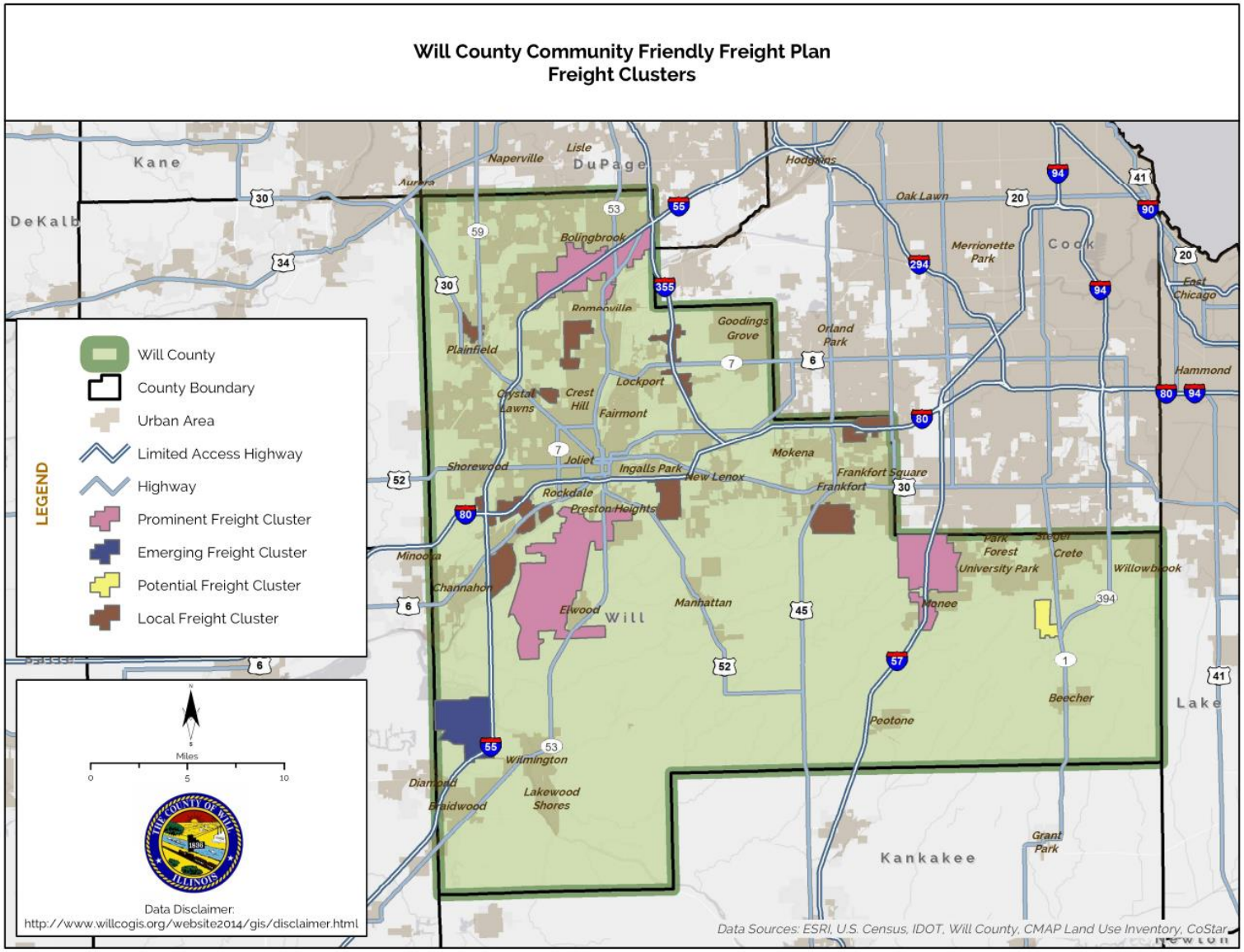


4.5.4 TDL WORKFORCE SHEDS IN WILL COUNTY'S PRIMARY FREIGHT CLUSTERS

Will County has three primary freight clusters as shown in **Figure 4-8:** one in the Bolingbrook/Romeoville area, one in the area around the intermodal yards near Elwood/Joliet, and the other near University Park on I-57 in the Eastern portion of the County. See **Appendix C** for a detailed description of each cluster. The map referenced highlights the key freight clusters.

In interviews with TDL business leaders, the length of commute played an important role in retaining employees. The following analysis evaluates the number of TDL employees within 30 minutes of the three prominent freight clusters in Will County.

FIGURE 4-8. FREIGHT CLUSTERS



4.5.4.1 WORKFORCE-SHED NEAR ELWOOD/JOLIET CLUSTER

In the cluster around the Intermodal yards near Elwood and Joliet there are 24,441 TDL workers living within 30 minutes of the cluster and 21,251 TDL jobs accessible within 30 minutes. Out of all three clusters, this cluster has the most limited access to employees within 30 minutes, likely due to the lower-density residential areas surrounding the cluster. **Figure 4-9** illustrates the geographies within a 30-minute drive of this cluster.

4.5.4.2 WORKFORCE-SHED NEAR ROMEOVILLE/BOLINGBROOK CLUSTER

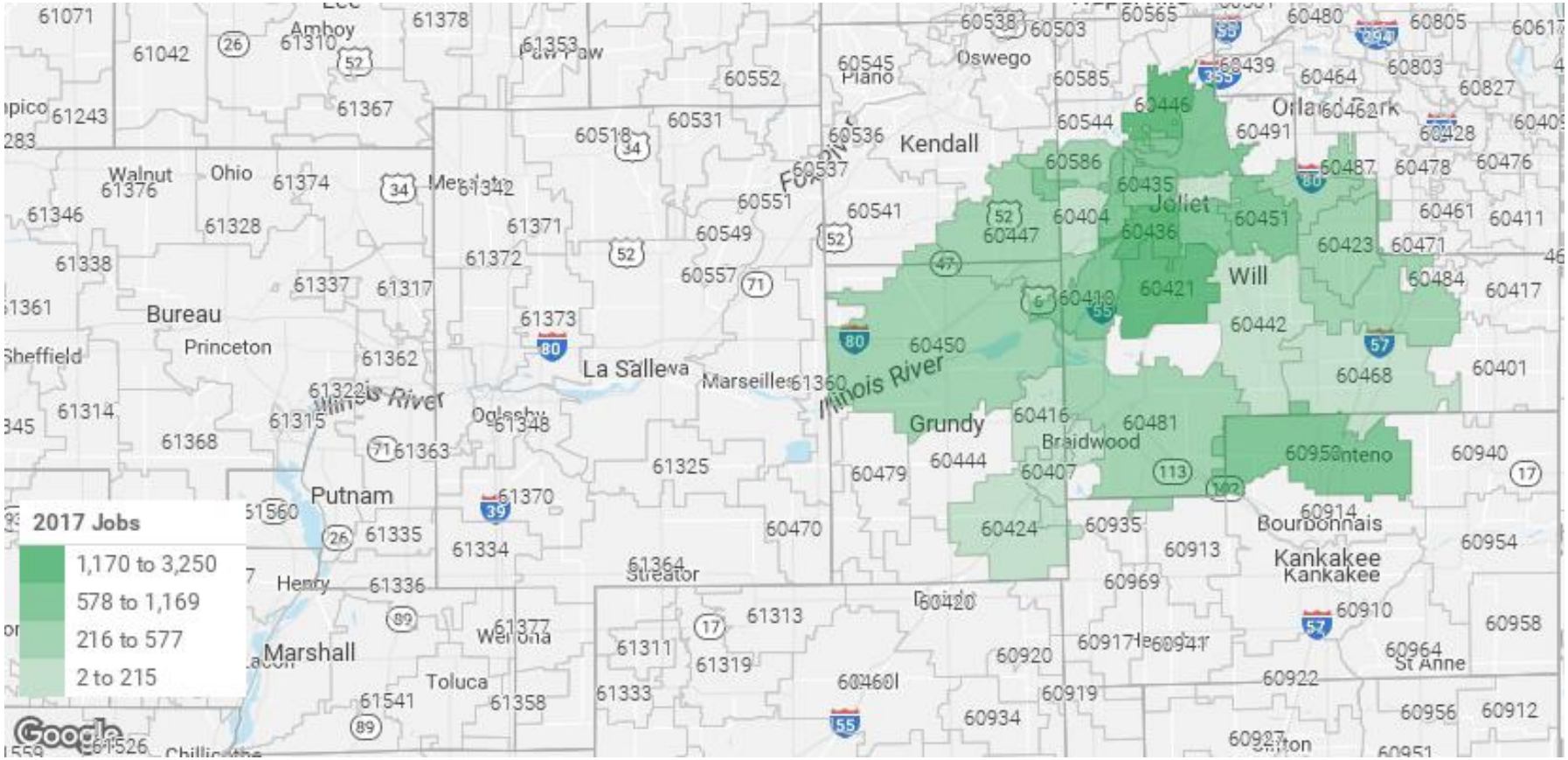
The Romeoville/Bolingbrook cluster has the highest number of both TDL employees and jobs within 30 minutes of the cluster. There are 111,638 TDL workers living within 30 minutes of the cluster and 121,879 TDL jobs accessible within 30 minutes. This cluster has easier access to higher-density residential areas in DuPage and Cook County.

Figure 4-10 illustrates the work-shed of this cluster.

4.5.4.3 WORKFORCE-SHED NEAR UNIVERSITY PARK/EASTERN WILL COUNTY CLUSTER

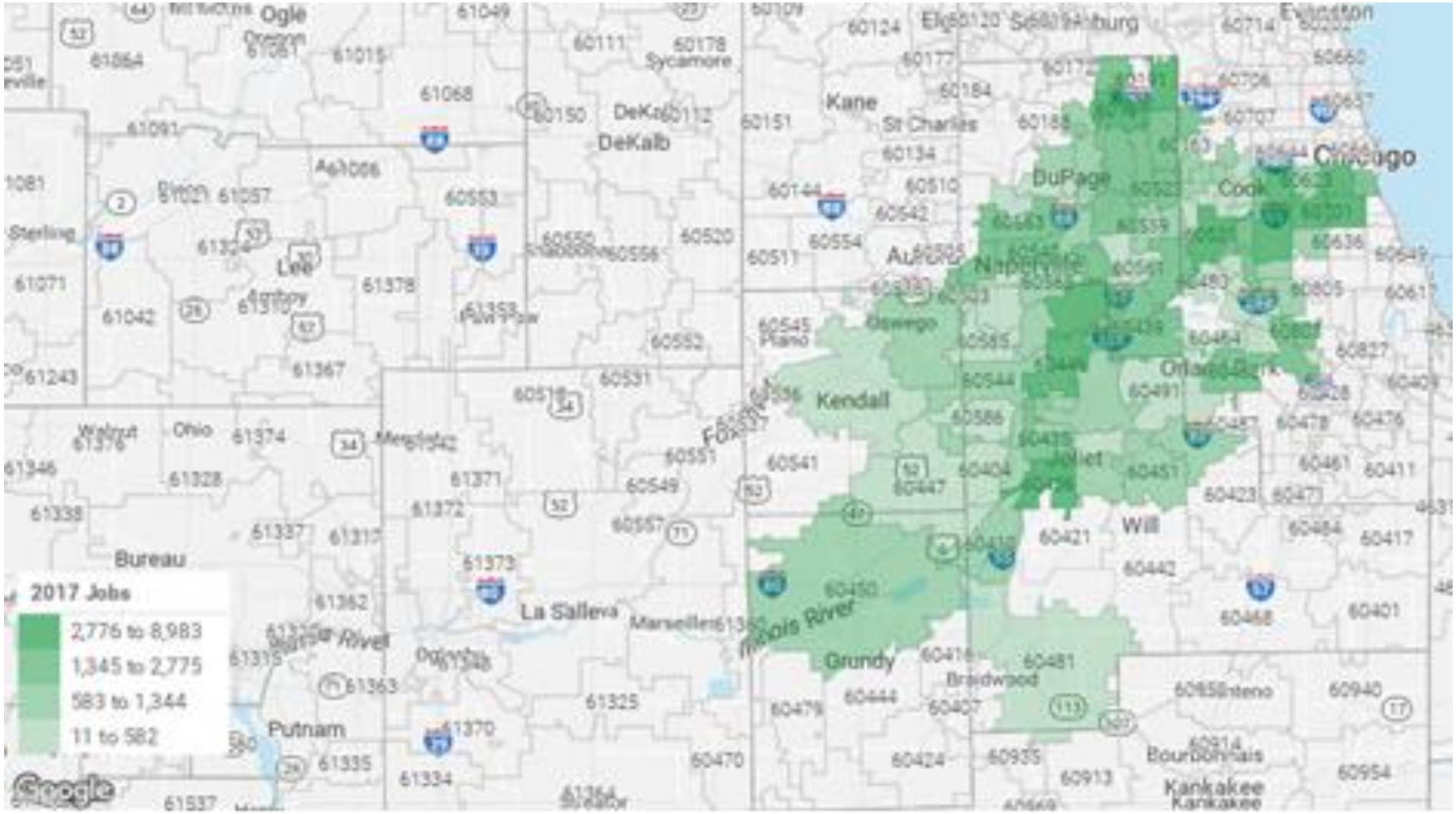
In the third cluster around University Park in East Will County, there are 64,407 workers living within 30 minutes of the cluster and 54,002 TDL jobs accessible within 30 minutes. This cluster provides easier access to residents in South Cook County and Kankakee County. **Figure 4-11** shows the workforce-shed around this cluster.

FIGURE 4-9. TRANSPORTATION OCCUPATIONS WITHIN 30 MINUTES OF ELWOOD/JOLIET, 2016



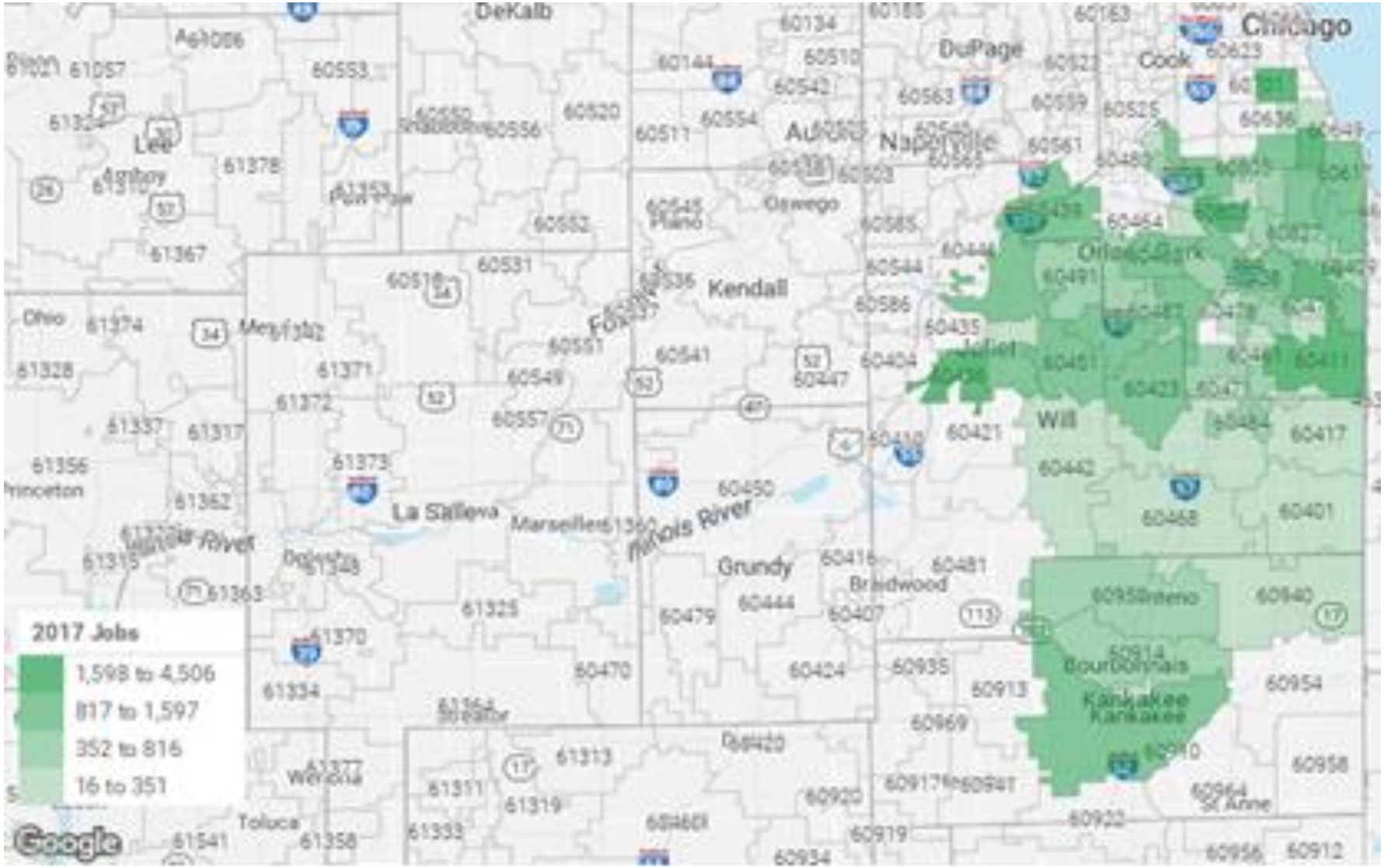
Source: EMSI, 2016

FIGURE 4-10. TRANSPORTATION OCCUPATIONS WITHIN 30 MINUTES OF BOLINGBROOK/ROMEOVILLE, 2016



Source: EMSI, 2016

FIGURE 4-11. TRANSPORTATION OCCUPATIONS WITHIN 30 MINUTES OF RICHTON PARK AREA, 2016



Source: EMSI, 2016

4.6 FUTURE TDL JOB GROWTH AND PREPARING THE FUTURE WORKFORCE

Job growth is expected to occur in varying degrees across occupations in the TDL industry, as shown in **Table 4-4**. For example, the greatest job growth by percentage is projected to occur in long-distance trucking—increasing by 75 percent from 392 jobs in 2016 to 686 jobs in 2026. But, the greatest increase in the *number* of jobs is projected to occur in the warehousing and storage occupation which already comprises the largest occupation in the TDL industry in Will County—accounting for 33 percent of the jobs in the sector. By 2026, there may be an additional 3,236 warehouse and storage jobs added in this sector—increasing 55 percent from 5,900 in 2016 to 9,136 in 2026.

TABLE 4-4. PROJECTED GROWTH IN SELECT TRANSPORTATION AND WAREHOUSING INDUSTRIES IN WILL COUNTY, 2016-2026

Description	2016 Jobs	2026 Jobs	2016 - 2026 % Change
Long-Distance Freight Trucking	392	686	75%
Warehousing and Storage	5,900	9,136	55%
Express Delivery Services	646	1,000	55%
Inland Water Freight	58	88	52%
Port and Harbor Operations	126	189	50%
Support Activities for Transportation	70	100	43%
Specialized Freight Trucking	254	350	38%
Natural Gas Pipeline	136	183	35%
Other Warehousing and Storage	345	455	32%
Local Freight Trucking	1,568	2,028	29%
TOTAL	**17,654**	**23,479**	**33%**

Source: EMSI data, 2016

With this expected job growth, and potentially greater growth as employers bring thousands of TDL jobs to the County, the challenge of attracting and training enough of the workforce will undoubtedly be compounded. Will County's TDL industry, in partnership with the public sector and workforce leaders, has an opportunity now to begin to aggressively address these workforce issues to support ongoing robust economic expansion in this sector. In short, today's TDL industry in the County experiences difficulty in attracting enough workforce to sustain their current business operations. With the expected continued rapid growth of this industry and increasing demand for these employees, TDL businesses can expect to find an even scarcer TDL workforce pool if strategic actions are not taken to increase the size of the labor pool

and improve the image of the TDL industry to make it more attractive to the eligible workforce.

Another key issue affecting the future need of the TDL workforce is the level of automation that can be expected in this industry. Because of the routine nature of many of these occupations, such as packing boxes or picking packages to sort for deliveries, are ripe for automation. A recent PricewaterhouseCoopers study estimates that 56 percent of the transportation and storage sector could be automated, the highest potential automation of any industry studied.[91]

Although, it may be more likely that automation affects certain tasks within an occupation rather than serve as a full replacement for these occupations. For example, there could be a portion of an employee's job, such as packaging a product, that gets automated but the occupation may then transform in to programming the tool to package product. Many of the larger TDL companies such as Amazon and Ikea have automated processes in their distribution centers. However, the cost of implementing some of these technologies to completely automate these jobs may be cost prohibitive to implement in the foreseeable future for many of the medium to small TDL businesses in the County.

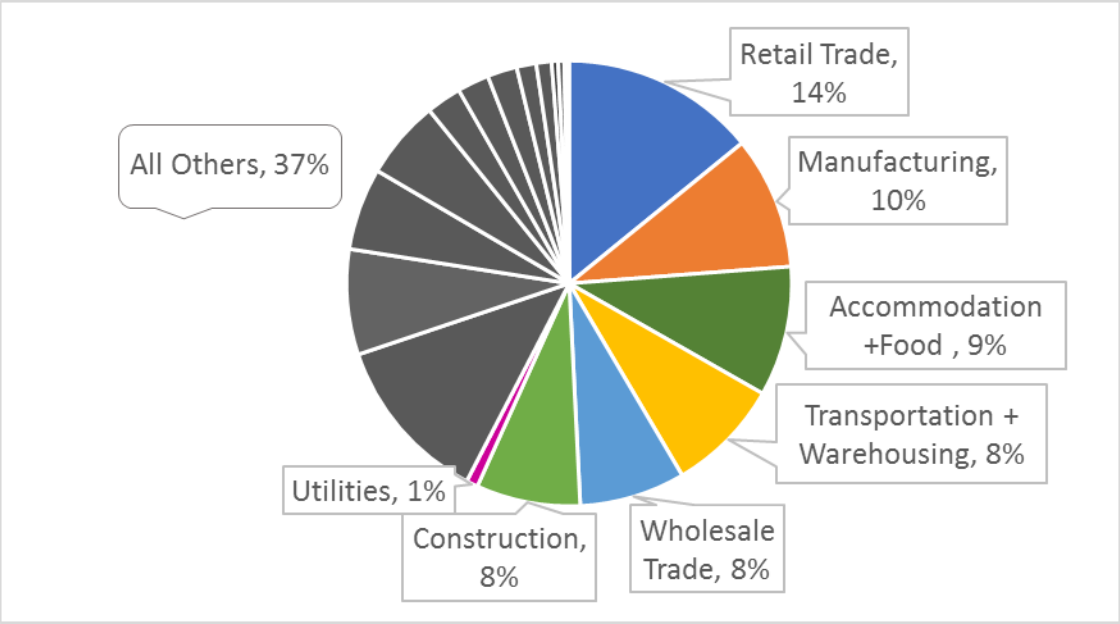
In addition to the effect that automation could have on the increase (or decrease) of certain occupations, additional new development and expansion of warehouse and distribution facilities will also have an impact. It is important to note that this job growth is based on projections and may be more or less depending on the rate of warehouse and distribution development in the County (due to the rapidly increasing development in this sector, these projections could adjust each quarter). Thus, Will County stakeholders should adjust their understanding of workforce needs and projected growth as often as new job numbers are provided. Greater automation of the TDL industry will change the skills needed by employers, requiring a higher skilled, more technologically experienced workforce.

Many transportation and warehouse businesses already struggle to attract and retain their workforce and without action to address pipeline issues, the availability of workforce could limit the growth of the industry in Will County. Not only does the TDL sector directly provide 17,000 jobs, supporting the freight industry is critical to economic growth in Will County. The TDL workforce helps support more than 122,000 freight-dependent jobs in Will County, representing over 57 percent of the private sector employment in the County, as shown in **Figure 4-12**.

Focusing on recruiting, retaining, and building the pipeline of freight workers in Will County is therefore critical for continued economic vitality of the TDL sector and other freight-reliant private sector industries.

[91] *The Potential impact of automation on the UK and other major economies.* PricewaterhouseCoopers, 2017. http://www.pwc.co.uk/economic-services/ukeo/pwcukeo-section-4-automation-march-2017-v2.pdf

FIGURE 4-12. PRIVATE SECTOR JOBS SUPPORTED BY TDL INDUSTRY IN WILL COUNTY, 2016



Source: EMSI data, 2016

4.7 CROSS-CUTTING CHALLENGES FACING THE TDL WORKFORCE IN WILL COUNTY

There are many diverse workforce issues within the TDL industry depending upon the type of business, regional or national service areas, and unique workforce needs of the firm. This section summarizes the cross-cutting, issues, challenges, and opportunities for the TDL workforce. The first workforce forum held with Will County TDL industry leaders focused on identifying the key challenges. Additionally, TDL businesses were asked to complete a workforce survey to better understand the issues and opportunities within this sector.

Businesses that locate in Will County have several workforce advantages: a large metro labor market to recruit employees; the quality of current employees; the availability of a skilled workforce; and the quality of community colleges. On the other hand, the top three workforce issues affecting Will County businesses are the limited availability of skilled employees, the ability to attract and retain workforce, and employees or applicants needing better soft skills. According to the workforce survey, the most important issues facing the future workforce pipeline for Will County's freight business are:

- Limited understanding of career opportunities in the industry
- Entry level wages for TDL occupations
- Employee access to transit/transportation services

Figure 4-13 and **Figure 4-14** summarize these findings from the workforce survey.

There are 10 cross-cutting issues and opportunities identified through the workforce forum with TDL leaders which are outlined below. An implementation matrix outlines the next steps for each action, including the lead agency, and timeframe, shown in **Table 4-5.**

FIGURE 4-13. WORKFORCE ADVANTAGES

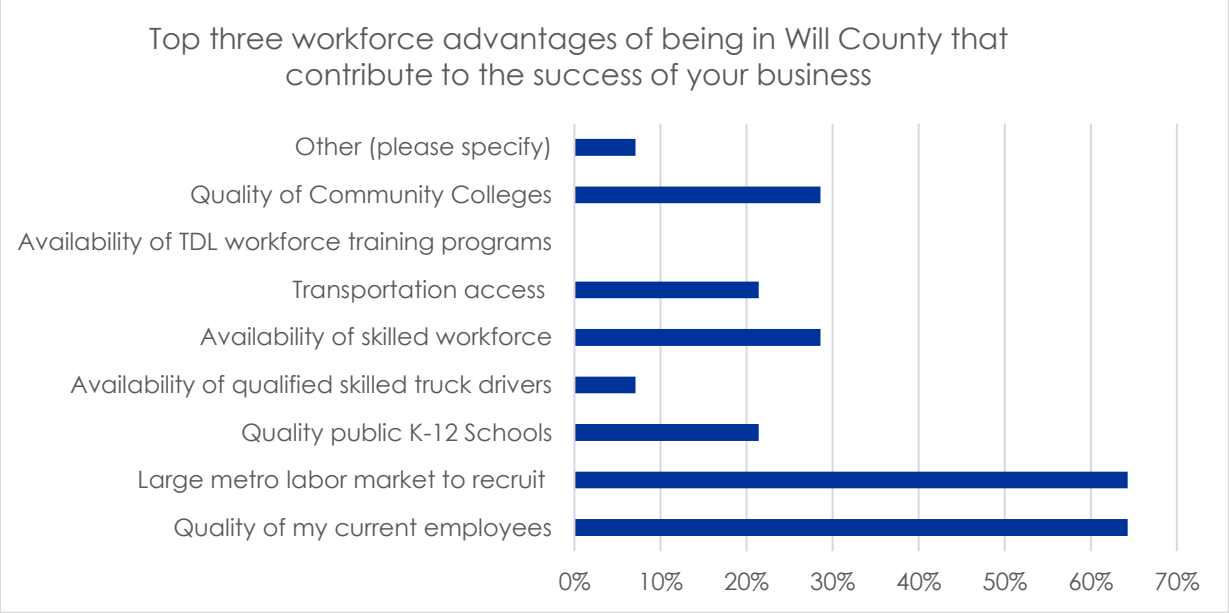
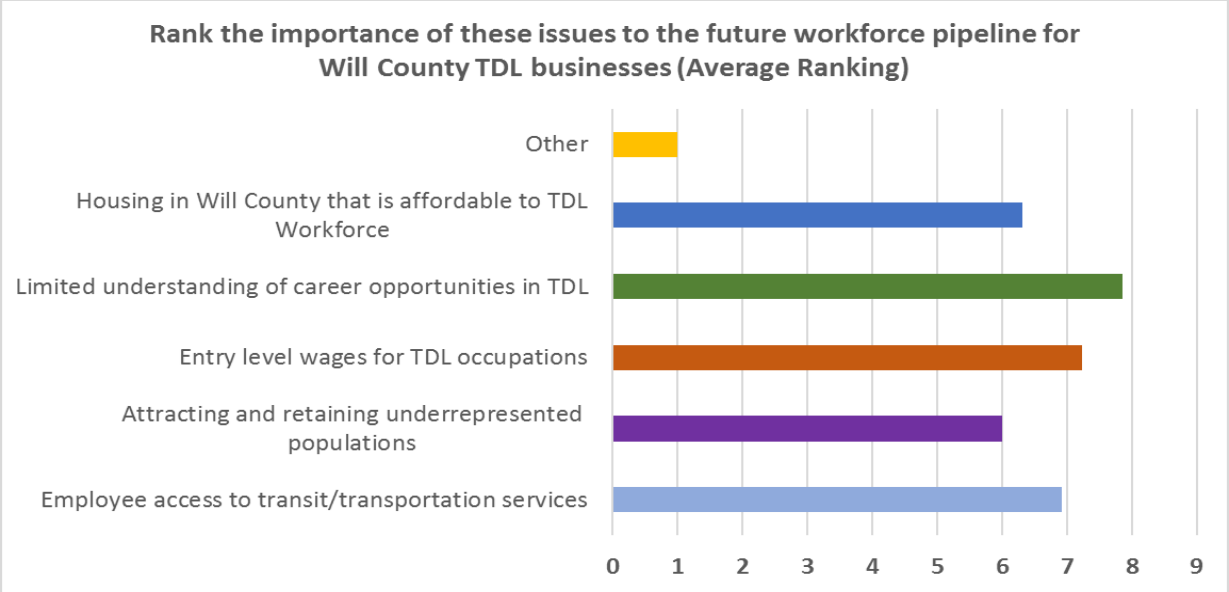


FIGURE 4-14. RANKING OF ISSUES



4.7.1 DIFFICULTY IN RETAINING ENTRY-LEVEL TDL EMPLOYEES

Because of the relatively low entry-level wage for many of the TDL jobs in this industry, and because of the number of job openings, it is difficult for employers to retain entry-level employees. Many employers noted that employees would often switch to another company within the TDL industry for a slight increase in wages or leave the industry completely for higher wages in another sector such as construction.

4.7.2 LIMITED SUPPLY OF TDL WORKFORCE IN WILL COUNTY

Will County is one of the fastest growing counties in the country and region. However, the County still has a relatively low residential density particularly in the southern part of the County, making it difficult to attract and retain employees within a reasonable commute time. As noted in the section on commute flows, many TDL employees come from outside of the County.

4.7.3 LACK OF SOFT SKILLS NECESSARY TO WORK IN THE TDL JOB INDUSTRY

Employee soft skills include skills such as regular attendance, coming to work on time, communicating effectively with team members, among other skills. Employers noted that because of the relatively low entry-level wages and minimal training and educational requirements for many employees in this industry, it is difficult to attract employees that are willing to commit to a job longer-term and regularly.

4.7.4 DIFFICULTY ATTRACTING A YOUNGER WORKFORCE

Particularly in the trucking industry, attracting a younger workforce has been difficult for TDL employers. Although this is a national trend, businesses voiced concern that younger generations were not attracted to certain careers in the TDL industry that require manual labor such as packaging and handling.

4.7.5 LONG COMMUTE TIMES AND MINIMAL TRANSIT OPTIONS FOR TDL EMPLOYEES

As noted in previous sections within this chapter, many employees in this sector live outside of Will County or have longer commute times to get to their place of employment. Compounding the issue is a lack of transit options from the TDL clusters to concentrations of TDL employees. Some employers noted that they hire private transportation companies to provide a shuttle service from downtown Chicago to TDL job centers.

4.7.6 DRUG USE LIMITS ELIGIBLE APPLICANT POOL

Compounding the issue of difficulty in retaining employees and a limited pool of skilled applicants is that drug use further constrains the application pool. Because of the physical and machine operations required for many of these jobs, drug use is heavily regulated in the TDL industry. Drug testing is a requirement for many job openings and eliminates many applicants from being able to get hired in the industry.

4.7.7 ADDRESS CHALLENGING REGULATORY ISSUES IN THE TRUCKING INDUSTRY

The TDL industry is facing a truck driver shortage on the national level. Regulatory requirements further limit the pool of available drivers. Employers in Will County noted

that the age (21 years of age) for obtaining a commercial driver's license reduces the likelihood that the younger population will get involved and trained for truck driving. The cost of insuring truck drivers is also a limiting factor for many small truck driving companies. These smaller firms usually have insurance requirements that can only insure drivers after two years of driving experience. Other regulatory issues the truck driving industry face include disconnected truck routes in Will County and complicated oversize and overweight permitting.

4.7.8 LACK OF PARTNERSHIPS BETWEEN BUSINESSES IN THE TDL INDUSTRY

Currently, there is no established partnership in Will County for TDL businesses. Employers noted that there is an opportunity to create better partnerships to collaborate to solve common problems.

4.7.9 TRAINING AND EDUCATION SERVICES CAN BE DISCONNECTED FROM PRIVATE SECTOR NEEDS

The industry is experiencing rapid changes in technology and the skills required to deploy technologies. As a result, training programs often cannot keep pace with the needs of the industry. Business leaders expressed that a collaboration with TDL industries could result in better training provided.

4.7.10 DIVERSITY OF ISSUES WITHIN THE TDL INDUSTRY

Depending on the type of business, size, needs of the firm, there are a variety of different workforce issues. For example, the trucking industry does not face an employee retention issue so much as it suffers from an aging workforce and is struggling to attract new, younger drivers. Whereas the warehouse industry struggles to retain employees over the long-term and with low entry-level wages.

4.8 A WORKFORCE ACTION PLAN FOR THE FREIGHT INDUSTRY

The workforce actions were developed through the forums, best practice review, and input from the Will County Freight Advisory Councilland other relevant stakeholders. This section outlines the six key action strategies needed to attract, retain, and build the freight workforce pipeline.

4.8.1 ACTION 1. CREATE A CORE PARTNERSHIP OF INTERESTED AND ENGAGED TDL BUSINESSES TO INCREASE COLLABORATION AND ADDRESS COMMON ISSUES

TDL employers expressed the need and interest for developing partnerships within the TDL industry to solve common problems. Establishing an entity that is designed to facilitate collaboration within the industry could be the vehicle for realizing many of the actions and goals outlined in the workforce action plan. Either an existing organization or a new entity could serve as the backbone of the partnership. The following attributes were desired of a TDL partnership:

- Employer led, privately funded
- Has the ability to identify and address the needs of both employees as well as employers
- Has the expertise to support a range of education and training, including leadership training and career options

4.8.2 ACTION 2. RAISE AWARENESS OF THE TDL INDUSTRY THROUGH STRATEGIC PARTNERSHIPS IN HIGH SCHOOLS, COMMUNITY COLLEGES, UNIVERSITIES, AND OTHER WORKFORCE TRAINING PROGRAMS

This action strategy can increase the visibility of this industry to a wider pool of applicants and help prepare the future pipeline of the TDL industry. TDL businesses should partner with high schools, education centers, and other training programs to develop an educational component around TDL opportunities.

4.8.3 ACTION 3. RAISE AWARENESS WITHIN THE TDL INDUSTRY ON KEY PROGRAMS AND SERVICES THAT PREPARE AND TRAIN THE TDL WORKFORCE

As noted, there is a lack of communication between businesses in the TDL industry. To leverage existing training and partnerships, the TDL industry needs to be aware of the resources that are already in existence. The creation of an industry partnership (Action 1) could be used to better inform TDL businesses and provide more education to TDL businesses on existing programs.

4.8.4 ACTION 4. PROVIDE A CLEARER CAREER DEVELOPMENT PATH FOR THE TDL WORKFORCE, AND COMMUNICATE THOSE CAREER PATHS THAT ALREADY EXIST

In order to increase retention in the TDL industry, businesses need to communicate and develop better career paths in the industry. Many of the available entry-level jobs in the industry are lower-wage jobs so to encourage employees to stay longer-term more career development opportunities should be developed and provided.

4.8.5 ACTION 5. CREATE BETTER QUALITY JOBS IN THE TDL INDUSTRY WITH OPPORTUNITY FOR WAGE GROWTH AND CAREER MOBILITY

As noted previously, many jobs in the TDL industry are lower-wage jobs. The TDL industry in Will County also has many jobs that are physically demanding or are not perceived as higher quality jobs. Efforts should be made to increase the quality of these jobs and provide opportunities for wage growth. One key strategy for doing this would be for TDL businesses to develop a corporate culture strategy that provides a vision and mission for employees. The corporate culture strategy can also:

- Provide leadership training
- Develop mentoring programs
- Connect managers with employees

- Create opportunities to listen to employees and address concerns
- Communicate with employees on company updates, vision and how they fit in
- Increase employment amenities such as employee recognition and networking programs

4.8.6 ACTION 6. INCREASE TRANSPORTATION OPTIONS BETWEEN POPULATION CENTERS AND TDL EMPLOYMENT CENTERS

As outlined previously in this chapter, there is a need for increased mobility options and increased access to the TDL job clusters. Coordinating with PACE, Metra, private sector ride sharing and TDL businesses can provide better solutions for TDL employees. For example, PACE could provide service to a hub within a TDL job cluster, where a local shuttle could route employees throughout the TDL business park.

Table 4-5 provides an implementation matrix of example initiatives, key stakeholders, lead agency, next steps, and the time frame for implementing the action strategies.

TABLE 4-5. WORKFORCE ACTION PLAN IMPLEMENTATION MATRIX

Action	Key Stakeholders	Lead Agency	Next Steps	Time Frame
Create a core partnership of interested and engaged TDL businesses to increase collaboration and address common issues	• Private-Sector TDL Leaders • Will County Center for Economic Development (CED) • Will County Workforce Investment Board (WIB)	Will County CED	• Identify a group of interested and committed TDL Industry Leaders to develop a TDL Center • Explore how to structure the partnership either through an existing entity or a new entity • Convene a core group of TDL business leaders to develop a launching plan for the TDL partnership • Partnership should be: employer led, privately funded; serve the needs of employees as well as employers; provide leadership training and develop career options	Short to Medium
Raise awareness of the TDL industry through strategic partnerships in high schools, community colleges, and other workforce training programs.	• Community colleges and high schools • Private-sector TDL Industry • Will County WIB	Educators and TDL industry	• Form a sub-group of interested private-sector companies and educators to develop a TDL education module. • Develop education modules on the TDL industry to bring to high schools and community colleges. • Coordinate with existing workforce training programs to develop coursework for educators surrounding the TDL industry.	Short to Medium
Raise awareness within the TDL industry on key programs and partnerships that prepare TDL workforce.	• Will County WIB • Workforce Partners • TDL Industry	Will County WIB	• Leverage the TDL partnership developed under Action 1 to communicate key workforce initiatives • Will County WIB and other workforce leaders develop key programs to educate TDL industry leaders • Workforce Partners establish rotating meetings with TDL Industry to educate on existing programs	Short to Medium

Action	Key Stakeholders	Lead Agency	Next Steps	Time Frame
Provide a clearer career development path for the TDL workforce, and communicate those career paths that already exist.	• TDL Industry Leaders • Will County WIB • Workforce Partners	TDL Industry Leaders and WIB	• TDL industry leaders to identify key career paths for various occupations through the TDL partnership. • Communicate these career paths within the TDL industry • Provide training assistance to TDL Industries on how to communicate career paths with workforce	Medium to Long
Create better quality jobs in the TDL industry with opportunity for wage growth and career mobility.	• TDL Industry Leaders	TDL Industry Leaders and WIB	• Convene a core group of interested TDL Industry leaders to identify opportunities to create quality jobs • Leverage existing workforce programs to develop leadership training and mentoring programs • Develop a long-term implementation plan for improving job quality in the TDL Industry	Long
Increase access between population centers and TDL employment centers.	• Pace and Metra • Local governments • TDL industry and Pace • Will County CED, TDL Industry leaders • Will County DOT	Pace, Will County DOT, and WCGL	• Identify a group of interested and committed TDL Industry Leaders to develop a TDL Center (referenced in sections below) • Partner with Pace and Metra to develop a plan to invest in key transit routes • Partner with the TDL industry to identify opportunities to provide a transit service hub in TDL business parks • Identify opportunities to partner with ride-sharing services such as Lyft, to provide last-mile connections to TDL job centers • Identify opportunities to coordinate with Will County's Bikeway Plan efforts to expand bicycle access to TDL job centers	Short to Medium

4.9 MOBILITY SOLUTIONS FOR THE TDL WORKFORCE

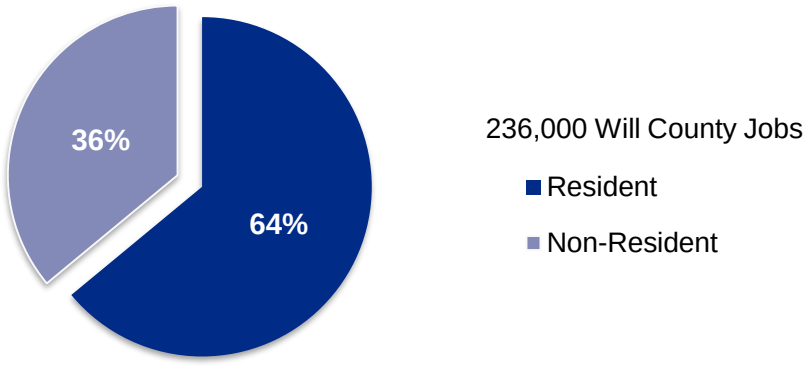
As part of the *Will County Community Friendly Freight Mobility Plan*, this Workforce Mobility Report evaluates the existing transportation system and recommends alternatives to driving alone as a commute mode in Will County. The full mobility study can be found in **Appendix K** and a summary of proposed transit improvements is shown in **Figure 4-15**. This summary includes the following,

- Key findings on current worker travel patterns and options,
- Overview of approach and methodology used to identify possible transportation improvements,
- Recommendations for transportation improvements by freight cluster, and
- Suggestions for follow-up actions.

4.9.1 KEY FINDINGS ON CURRENT WORKER TRAVEL PATTERNS AND OPTIONS

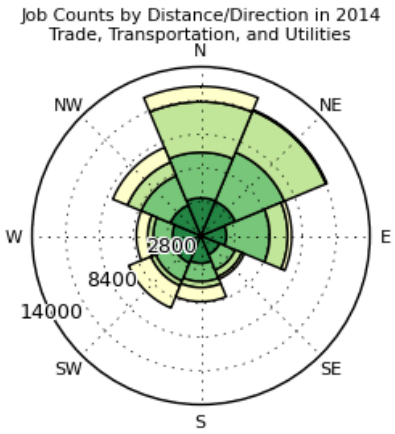
Key points from the research of background issues include:

- Of the 236,000 jobs in Will County, 64 percent were held by residents and 36 percent by non-residents. Nearly ¾ of the workers commuting into Will County reside in Cook, DuPage and Grundy Counties (U.S. Census, Journey to Work, based on ACS 2013 (5-year estimates).



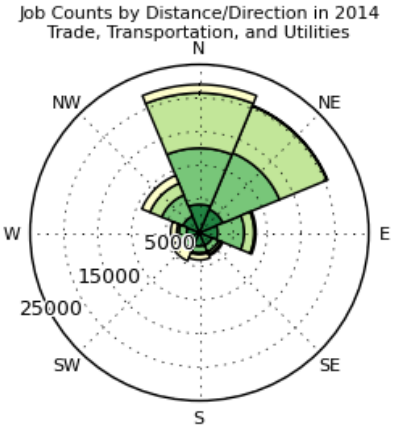
- Of the 60,294 Trade, Transportation and Utilities (TTU) Industries jobs within Will County 21,301 workers live and work within Will County and 38,838 live outside of Will County but work within the County. Additionally, 54,698 Will County residents employed in the TTU industries work outside of Will County (U.S. Census, LEHD, 2014).

- Of the 60,294 TTU Jobs within Will County, workers overwhelmingly commute from the North and Northeast (U.S. Census, LEHD, 2014 Home Block to Work Block).



Will County TTU Jobs Worker Origins		
	Count	**Share**
Total All TTU Jobs	60,294	100.0%
Less than 10 miles	19,834	32.9%
10 to 24 miles	20,522	34.0%
25 to 50 miles	12,613	20.9%
Greater than 50 miles	7,325	12.1%

- Of the 76,603 TTU Will County residents that work in TTU industries, an overwhelming majority commute to the North and Northeast (U.S. Census, LEHD, 2014 Home Block to Work Block)



Will County Residents in TTU Industries Worker Destinations		
	Count	**Share**
Total All TTU Jobs	76,603	100.0%
Less than 10 miles	21,126	27.6%
10 to 24 miles	28,663	37.4%
25 to 50 miles	20,402	26.6%
Greater than 50 miles	6,412	8.4%

- Over 80 percent of Will County workers drive alone to reach their work locations. Use of carpool (9%) and other modes (8%) (e.g., walk, bike, and work from home) accounted for the majority of the other travel modes. Less than 1 percent of Will County workers use transit to reach their workplace.

- A Regional Transportation Authority study of 20 employment areas in northeastern Illinois showed that the top 6 areas by job density had transit mode shares ranging from 10 percent to 64 percent.
  - The remaining 14 employment corridors had significantly lower job densities and transit shares of roughly 2 percent. Most of these areas exhibited job densities above rates that are typical for Will County.

- Metra has four lines operating in Will County: the Rock Island District (RID), Metra Electric (ME), Heritage Corridor (HC) and Southwest Service (SWS). In addition, Metra's BNSF route through DuPage County is accessible to Will County commuters.
  - A shortcoming with Metra service is that service is oriented to the downtown Chicago commute. Lines offering reverse commuter service may not operate early or often enough to meet work start times in Will County.

- Pace operates a wide array of services in Will County, including express and fixed-route buses, employee shuttles, and call-n-ride services. Employee shuttles have comparatively low ridership, and fixed route services generally do not directly serve job sites in business and industrial parks in the County.

- Non-traditional transit services are provided in the County, including vanpools, dial-a-ride, and ride-hailing. They do not have significant impacts today, but they may play a larger role in addressing workforce mobility in the future.

4.9.2 ANALYSIS

The freight planning process identified 14 clusters of current and future freight-related employment activity in Will County and developed employment projections for each cluster. This section describes the transportation improvements that were developed for the clusters based on their projected growth and opportunities. Full profiles of each cluster can be found in **Appendix C**.

In recommending an initial set of solutions for each freight cluster, a high-level suitability assessment of each transportation mode was made. Specific solutions were based largely on professional judgement, guided by the following factors:

- Number of employees, job density, and general pattern of worker origin
- Modifying existing services was of higher priority than introducing new services
- Opportunities to serve other travel markets

The approach to recommending transportation improvements involved assessing the applicability of the following options to each of the 14 clusters: line haul services (commuter rail, express bus, fixed-route bus), last mile connections (flexible bus, employer shuttle or vanpool, ride-hailing, biking), and door-to-door service (rideshare vanpool, dial-a-ride, and carpool).

The transportation improvements recommended for consideration were first defined at a very high level. A second step involved evaluating the impact of the specific recommendations, which resulted in dropping or refining some of the initial concepts. The evaluation methodology involved assessing the number of potential riders served based on a growth factor from the 2026 projections and an assumed transit mode share of 2 percent.

4.9.3 TRANSPORTATION RECOMMENDATIONS BY CLUSTER

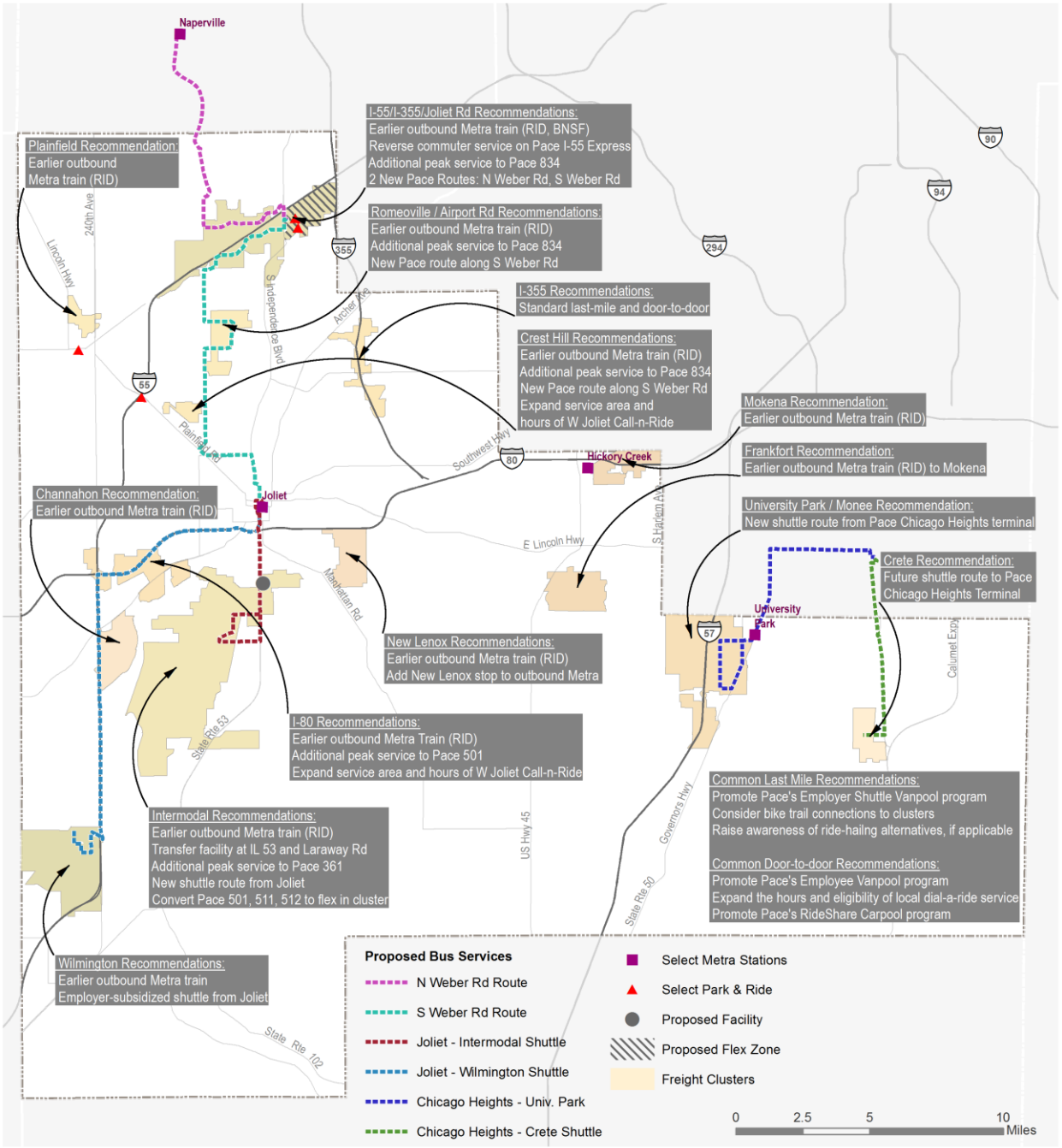
The following sections summarize the key characteristics of each cluster and highlight their unique transit recommendations. **Appendix C** provides detailed descriptions of each cluster. Within the recommendations, emphasis is placed on line haul service and, to a lesser extent, last mile connections. The cost of each service varies, and as a portion of TDL jobs are lower-wage jobs, cost may play a factor in determining the likelihood of employees taking each mode. For example, ride-hailing services may be more expensive, if left unsubsidized, than taking a Pace bus. Cost factors should be taken in to consideration when identifying opportunities to expand transportation options. In many cases, the last-mile and door-to-door service recommendations are consistent across the clusters, as well as providing earlier Metra outbound service. These common recommendations include:

- Last Mile
  - Promote Pace's Employer Shuttle Vanpool program
  - Consider bike trail connections to cluster
  - Consider incorporating sidewalks to improve connectivity to transit and improve safety near industrial development
  - Encourage use of ride-hailing services

- Door-to-Door
  - Promote Pace's Employee Vanpool program
  - Expand the hours and eligibility of local dial-a-ride service
  - Promote Pace's RideShare Carpool program

A map depicting proposed transit improvements at a sketch level is provided in **Figure 4-15.**

FIGURE 4-15. PROPOSED TRANSIT IMPROVEMENTS



4.9.3.1 COINCIDENT CORRIDORS—IMPROVING FREIGHT AND COMMUTER MOBILITY

In addition to providing transit solutions, other broader mobility solutions can be addressed as well to improve vehicle commuting for the TDL workforce. As 80 percent of Will County residents commute via car, decreasing congestion along key routes to access the TDL clusters will greatly enhance workforce and freight mobility. For example, relieving congestion along Arsenal Road that connects to the prominent freight cluster around CenterPoint and the intermodals (as shown in **Figure 3-12**) will improve commute time of the TDL workforce. Thus, there are coincident corridors where improving congestion will not only improve freight fluidity but workforce mobility as well. Along with serving as the freight network, corridors such as I-80, I-55 and I-57 are primary commuter highways, connecting workers to the job centers in downtown Chicago and the western suburbs. These coincident corridors include but are not limited to:

- Arsenal Road
- Wilmington-Peotone Road
- Manhattan-Monee Road
- River Road
- Gougar Road
- Weber Road
- Briggs Street
- Caton Farm Road

4.9.3.2 WILMINGTON

The 5,000-acre Wilmington Freight Cluster is served by a BNSF freight rail line and has access to I-55 at Lorenzo Road. Much of the area is being developed as the Ridgeport Logistic Center, a 20 million square foot park of distribution and manufacturing space.

Transit service to the Wilmington Cluster includes limited access to Metra service and no fixed route bus service. Due to low density, bike trail connections are unlikely to be successful.

Recommendations for the Wilmington Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID
- Last Mile
  - New employer-subsidized shuttle bus service from downtown Joliet, which could operate flex within the cluster

4.9.3.3 I-55/I-355/JOLIET ROAD

This 6,500-acre corridor is generally centered on I-55 near Bolingbrook. The area includes manufacturing, warehousing, and commercial uses and is approaching full build-out. It has far more workers than any other cluster, and I-55 and I-355 provide a

high level of truck accessibility from all directions. Employment in 2014 was roughly 28,500, which is nearly three times more than the next highest cluster.

The cluster has access to both rail and bus transit services. Metra has three lines that are relatively proximate to the area, including HC (5 miles), BNSF (8 miles), and RID (11 miles). Pace Route 834 (Joliet-Downers Grove) provides a fixed service schedule along IL 53 in the eastern portion of the cluster. Pace bus-on-shoulder I-55 express routes provide peak-direction service to downtown Chicago and the Illinois Medical District.

Recommendations for the I-55/I-355/Joliet Road Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID and BNSF lines
  - Add reverse commuter service on Pace's I-55 express bus routes serving Bolingbrook
  - Add peak service to Route 834 (Joliet-Downers Grove)
  - Create a new North Weber Road Route between Naperville and the cluster
  - Create a new South Weber Road Route between Joliet and the cluster

- Last Mile
  - New Weber Road routes could operate flex in the cluster
  - Consider bike trail connections to cluster

4.9.3.4 ELWOOD/JOLIET

This cluster includes portions of Joliet and Elwood, and is the largest of the 14 clusters at 13,600 acres. The area includes two major intermodal rail yards: the BNSF Logistics Park Chicago and the Union Pacific (UP) Joliet Global IV Intermodal Terminal. Combined with access to two major interstate roadways (I-80 and I-55), the area has evolved to become North America's largest inland port. Over 2,000 people worked in the Elwood/Joliet cluster in 2014.

In terms of transit, the nearest Metra service is at Joliet Station (2.5 miles from the nearest edge of the cluster, 11 miles from the farthest), which serves RID, HC, and Amtrak trains. Pace Route 361 (Harvey-Laraway Crossing Express, partially subsidized by Amazon) connects the northeast corner of the cluster to the Pace Harvey Transportation Center using I-80. Pace Route 504 (South Joliet) serves the Laraway Crossing Business Park with a connection to downtown Joliet. Pace Routes 511 (Joliet-Elwood) and 512 (Joliet CenterPoint) operate in the cluster from downtown Joliet, and are designed to serve cluster workers.

Recommendations for the Elwood/Joliet Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID
  - Add peak period service to Route 361
  - Build transit transfer facility near IL 53 and Laraway Road

  - Add peak trips to Route 511

- Last Mile
  - Add shuttle route from Joliet, covering areas not served by existing routes
  - Convert Routes 504, 511, 512, and proposed shuttle to flex routes within cluster

4.9.3.5 ROMEOVILLE / AIRPORT ROAD

The 1,400-acre Romeoville / Airport Road Cluster is located east and north of the Lewis University Airport. The nearest expressway interchange is three miles north at Weber Road and I-55. Employment was approximately 1,500 in 2014.

The cluster is served by two Metra lines that are relatively proximate to the area, including HC (3 miles) and RID (7 miles). A new HC station at 135th Street in Romeoville is in construction. Pace Route 834 (Joliet-Downers Grove) provides a fixed service schedule along IL 53, with the Taylor Road stop ¾-mile east of the nearest building in the cluster.

Recommendations for the Romeoville Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID
  - Add peak period service to Route 834
  - Create a new South Weber Road Route from Joliet without diversion from Weber Road into business park (also serving I-55/I-355/Joliet Road and Crest Hill Clusters)

4.9.3.6 PLAINFIELD

The Plainfield Cluster includes mostly long-established industrial uses that were attracted by the availability of freight rail service. I-55 is about 3 miles to the east at the Route 126 interchange. The cluster is relatively small at 560 acres, and employed roughly 1,200 workers in 2014.

The cluster is comparatively far from existing Metra lines: the BNSF is about 11 miles north and the RID is 10 miles southeast. Several Pace express routes originate from Plainfield and use I-55 to serve area residents traveling to work locations in downtown Chicago and the Illinois Medical District (IMD). The western terminal of Pace Route 507 (Plainfield) is four miles from the cluster at U.S. 30 and I-55.

Recommendations for the Plainfield Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID

4.9.3.7 CREST HILL

The Crest Hill Freight Cluster is east of the Louis Joliet Mall in the Cities of Joliet and Crest Hill. The 426-acre area is less than 2 miles from the U.S. 30/I-55 interchange. Current uses include a distribution center and several trucking facilities. Employment in 2014 was reported at about 200.

In terms of transit, Metra's Lockport Station on the HC is 4 miles east and Joliet Station (HC, RID, Amtrak) is 4½ miles southeast. Pace Route 507 (Plainfield) operates between downtown Joliet and Louis Joliet Mall on U.S. 30 (Plainfield Road-Lincoln Highway), which provides direct access to the westernmost part of the cluster. The West Joliet Call-n-Ride service (#510) offers reservation-based curb-to-curb service for the general public in a defined area on the west side of Joliet. U.S. 30 is the northern boundary of the service area, which would allow access to the west portion of the cluster, including a ¼-mile walk.

Recommendations for the Crest Hill Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID
  - Create a new South Weber Road Route from downtown Joliet (also serving I-55/I-355/Joliet Road and Romeoville/Airport Road Clusters)

- Last Mile
  - Expand service area and hours of the West Joliet Call-n-Ride

4.9.3.8 I-355

The 1,400-acre I-355 Freight Cluster spans a corridor nearly 4 miles north to south along both sides of I-355 in Lockport and Homer Glen. Access to I-355 is provided at 159th and 143rd Streets. Employment in 2014 was approximately 1,200.

Commuter rail access includes Metra's Lockport Station (HC) 3 miles west of the cluster, New Lenox (RID) 6½ miles to the south, and Orland Park 153rd Street Station (SWS) 8 miles to the east. Pace Route 832 (Joliet-Orland Square) traverses the center of the cluster on 159th Street, but given the length of the corridor, this is 2 miles from the north end and 1½ half miles to the south end.

Recommendations for the I-355 Cluster include the common last mile and door-to-door recommendations outlined at the beginning of **Section 4.0**.

4.9.3.9 I-80 / HOUBOLT ROAD

The I-80/Houbolt Road Freight Cluster includes the I-80/I-55 interchange in Joliet and Shorewood and spans both sides of I-80 for nearly 4 miles. The proposed Houbolt Parkway Extension over the Des Plaines River could alter the development pattern in the area and affect the level of transit in the future. The site includes a major Caterpillar manufacturing plant as well as warehouses and logistics facilities. The most developed

area is north of I-80, on both sides of Houbolt Road. The 2,400-acre area was estimated to have roughly 4,500 employees in 2014.

The cluster is served by Metra's Joliet Station (HC, RID, and Amtrak) 5 miles to the east and Pace Route 501 (West Jefferson), which serves the area west of Houbolt Road and north of I-80. The Pace West Joliet Call-n-Ride (#510) service area is comparatively close, with the south boundary at Jefferson Street. Hours are from 6 AM to 6:15 PM.

Recommendations for the I-80/Houbolt Road Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID
  - Add peak period service on Pace Route 501
- Last Mile
  - Expand service area and hours of the West Joliet Call-n-Ride

4.9.3.10 UNIVERSITY PARK / MONEE

The University Park / Monee Freight Cluster is a corridor centered on I-57 in University Park and Monee. The 6,300-acre area is less than 50 percent developed with most existing facilities on the east side of I-57. I-57 access is provided at Stuenkel Road. Employment in 2014 totaled roughly 5,300, which was the third-highest among the 14 clusters.

The cluster's transit options include Metra service at the University Park Metra Electric District (ME) and Pace Route 367 (University Park), which only serves areas east of the CN/ME and not the cluster.

Recommendations for the University Park/Monee Cluster include:

- Line Haul – None
- Last Mile
  - Implement new shuttle bus route from Pace Chicago Heights Terminal; consider operating flex within cluster

4.9.3.11 FRANKFORT

The Frankfort Freight Cluster is located east of U.S. 45 LaGrange Road and south of U.S. 30 Lincoln Highway. The site includes a closed general aviation airport. Interstate access is at interchanges about five miles from the cluster. The cluster is 2,000 acres with about a third of the area developed and employment totaling nearly 3,000.

The cluster has limited transit service: the Metra RID Mokena Station is 4 miles to the north and there is no Pace fixed-route service.

Recommendations for the Frankfort Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID serving Mokena

4.9.3.12 MOKENA

The Mokena Freight Cluster spans I-80 between Harlem Avenue and west of 90th Avenue, a distance of 2½ miles. Interstate access is at the IL 43 Harlem Avenue interchange. In addition to light manufacturing, warehousing and distribution facilities, the site includes a DeVry University campus. The cluster contains 1,400 acres and employed about 10,000 workers in 2014—the second most jobs among the 14 clusters, and the highest job density at 7.4 jobs per acre (followed by 4.4 in I-55/I-355/Joliet Road).

The cluster is served by 2 Metra RID stations: 80th Avenue / Tinley Park and Hickory Creek / Mokena, both of which are within ½ mile of the cluster. Pace Route 356 (Harvey-Tinley Park) operates between the Pace Harvey Transportation Center and the area northwest of Harlem and I-80 at consistent 30-minute frequencies in both directions. Route 386 (South Harlem) has the same south terminal as Route 356 and a north terminal at the Midway Station of the CTA Orange Line with similar headways. Tinley Park Call-n-Ride Route (#595) provides general population reservation-based, curb-to-curb service in an area that covers all of the cluster north of I-80, and the east portion south of I-80 that is in Tinley Park.

Recommendations for the Mokena Cluster include:

- Line Haul
  - Add earlier outbound train on Metra's RID serving 80th Avenue / Tinley Park and Hickory Creek / Mokena Stations

- Last Mile
  - Expand service area and hours of Tinley Park Call-n-Ride service

4.9.3.13 NEW LENOX

The New Lenox Freight Cluster is on the south side of I-80 between Gougar Road and Cherry Hill Road in the Village of New Lenox and City of Joliet. Access to I-80 is within two miles at either the Briggs Street or U.S. 30 interchanges. The 1,700-acre area is approximately 40 percent built-out, primarily on the portion nearest I-80. Most of the uses are large warehouse/logistics centers. Employment in 2014 was approximately 1,700, which may be understated due to more recent development.

Transit service at or near the cluster includes the RID New Lenox Station, which is 3 miles to the east. No Pace fixed route service operates near the area. To provide the last-mile connection in this cluster, ride-hailing or ride-sharing services could be explored, or the possibility of increasing bicycle amenities.

Recommendations for the New Lenox Cluster include:

- Line Haul
  - Add New Lenox Station stop to the existing 1st outbound train on Metra's RID; add earlier AM outbound RID train

4.9.3.14 CHANNAHON

The Channahon Cluster is west of the Des Plaines River, east of I-55, and south of U.S. 6 Eames Street in the Village of Channahon and the City of Joliet. Access to I-55 is available at U.S. 6 and Bluff Road. The Des Plaines River is an important inland waterway that conveys large volumes of bulk commodities. Docking facilities exist in the cluster. The area is a mix of manufacturing, refining, warehousing, trucking and facilities handling barge traffic. The 1,900-acre area employed nearly 900 workers in 2014, and had one of the lowest job densities among the fourteen clusters.

Existing transit is limited to Metra service at Joliet, which is eight miles to the northeast. There is no Pace fixed route service to the cluster. To provide the last-mile connection in this cluster, ride-hailing or ride-sharing services could be explored, or the possibility of increasing bicycle amenities.

Recommendations for the Channahon Cluster include:

- Line Haul
  - Add earlier AM outbound RID train

4.9.3.15 CRETE

The Crete Freight Cluster is presently vacant; the site is proposed for a CSX Intermodal Terminal. The terminal would use approximately 100 acres of the 1,100-acre cluster. The expectation is that the terminal would attract similar development to that experienced by the BNSF Logistics Park Chicago and the Union Pacific (UP) Joliet Global IV Intermodal Terminal, as discussed for the Elwood/Joliet Cluster. The site is west of IL 1, Dixie Highway, and is a half mile from IL 394, a partially limited-access roadway that links to I-80/I-94/I-294 further north in South Holland.

Metra's University Park Station is about six miles to the northeast. Pace operates two routes north of the cluster: Route 367 (University Park) serves the ME station and Governor's State University and Route 358 (Torrence) operates from the southeast side of Chicago to the Pace Chicago Heights Terminal, generally along Torrence Avenue.

Recommendations for the Crete Cluster include:

- Line Haul - None
- Last Mile
  - Develop new shuttle route from Pace's Chicago Heights Terminal

4.10 NEXT STEP / IMPLEMENTATION STRATEGIES

The recommendations identified in this section all require follow-up by the entity likely to be responsible. This will involve their agreement in concept with the proposals, refinements to the concepts, and their willingness to take on the responsibility for implementation. There may be overlap among parties for certain improvement proposals.

Proposed improvements/actions are organized by the anticipated entity responsible below. Implementation timeframes are roughly grouped into three periods: near-term (1-3 years), mid-term (4-7 years) and long-term (8-10 years).

- **Metra** | Proposed improvements to be discussed with Metra, relating to changes or additions to current service.

Improvement Option	Proposal	Cluster(s)	Timing
Added Service	Add 7 Main Line stations to RID Train 401	1, 2, 3, 4, 5, 6, 8, 10, 11, 12, 13	Near-term
Added Service	Add earlier AM outbound from Chicago Main Line train on RID, preferably using Beverly Branch	1, 2, 3, 4, 5, 6, 8, 10, 11, 12, 13	Near-term
Added Service	Add earlier AM outbound train on BNSF to Downers Grove Main Street	2	Near-term

- **Pace** | Proposed improvements to be discussed with Pace. The timing for some improvements may be constrained by the availability of buses and capacity of area bus maintenance facilities.

Improvement Option	Proposal	Cluster(s)	Timing
Express	Add reverse commute trips to Routes 755 & 851	2	Near-term
Express	Add peak period trips to Route 361	3	Mid-term
Fixed Route	Add peak trips on Route 834	2, 4	Near-term
Fixed Route	Implement new North Weber Road Route	2	Near-term
Fixed Route	Implement new South Weber Road Route	2, 4, 6	Near-term
Fixed Route	Add peak trips & weekend service to Route 511	3	Mid-term
Fixed Route	Add peak trips to Route 501	8	Near-term
Shuttle Route	New route Joliet to Wilmington	1	Long-term

Improvement Option	Proposal	Cluster(s)	Timing
Shuttle Route	New route Joliet to Intermodal	3	Long-term
Shuttle Route	New route Chicago Heights to University Park /Monee	9	Near-term
Shuttle Route	New route Chicago Heights to Crete	14	Long-term
Flex Routes	Expand service area of West Joliet Call-n-Ride	6, 8	Near-term
Flex Routes	Expand service area & hours of Tinley Park Call-n-Ride	11	Near-term
Bus Transfer Facility	Develop site near IL 53 & Emerald Dr.; or nearby alternative location	3	Mid-term

- **Will County** | As the sponsor for the *Will County Community-Friendly Freight Mobility Plan*, it is suggested that Will County be responsible for following up on:
  - Promoting Pace's Vanpool programs to employers, including the Employer Shuttle program and the rideshare program.
  - Research local ride-hailing services, include documenting any state and local regulations that govern ride-hailing companies.
  - Monitor status of regional trails and local bike lane projects, continuing the planning associated with the Countywide Bikeway Plan and Will County Long Range Transportation Plan.
  - Promoting Pace's carpool programs to employers.
  - Assisting in coordination with local dial-a-ride operators to explore relaxing eligibility criteria (such as age or residency) and expanding hours of service.

- **Other Implementation Partners** | In addition to the County and transportation operators, area employers should have a role in planning and implementing transportation improvements that will address area workforce mobility issues. These efforts could coordinate with the TDL partnership identified in Workforce Action 1 outlined in this plan. One approach would be to organize a County-wide association of employers, or multiple associations serving subareas of the County. In addition to being responsible for some or all of the proposed actions listed for Will County, the association(s) could also:
  - Be a forum for coordinating start and quit/shift times, which would make transit more effective,
  - Set recommendations on employer funding participation in transportation programs, which could also facilitate the pooling of resources,
  - Be a conduit for transportation program information that can be readily disseminated to workers (e.g., Pace's RideShare),

- Heighten awareness on the need to develop facilities with transit in mind. Pace's Transit Supportive Guidelines (http://www.pacebus.com/guidelines/) is a useful resource. Note that this would likely require the involvement of developers.
- Serve as a unified voice in lobbying for major transportation investments.

4.11 MEASURING PROGRESS TOWARDS IMPLEMENTING THE ACTION PLAN

In order to realize the goals of the workforce action plan, it is important to develop performance measures that build in accountability. Performance measures track progress towards the goals of the action plan. The TDL workforce partnership in collaboration with the Will County Workforce Investment Board should evaluate each performance measure every year in order to evaluate progress.

As the TDL partnership develops, more performance measures should be considered as the actions are more defined and data is made available. **Table 4-6** displays the four initial performance measures for the TDL workforce action plan.

TABLE 4-6. WORKFORCE ACTION PLAN PERFORMANCE MEASURES

Performance Measures	Data Sources
TDL wage growth	EMSI data
Average commute distance/commute time of TDL commuters	LEHD data
Vacancy rate of TDL jobs	Potential WIB vacancy survey
TDL employer satisfaction	Potential WIB survey deployment
Employer engagement with Collaborative partnership	Will County WIB to collect

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