DRAFT Transportation System Performance Report (TSP)

Illiana Corridor

Prepared for

Illinois Department of Transportation and
Indiana Department of Transportation

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1.0 Introduction

The Illiana Corridor Tiered Environmental Impact Statement (EIS) is being conducted by the Illinois Department of Transportation (IDOT) and the Indiana Department of Transportation to evaluate the need for future transportation improvements in the southern portion of the northeastern Illinois and northwestern Indiana metropolitan region. The Illiana Corridor Study takes an in-depth look at current and future transportation needs in an area that is experiencing growing regional development demand and increased traffic congestion. The general study area is approximately 950 square miles in size and encompasses portions of Will and Kankakee Counties in Illinois and portions of Lake County in Indiana.

The Transportation System Performance (TSP) Report documents existing and future transportation system characteristics and performance within the study area. The TSP Report is based on data collection and assembly, development of a geographic information system to manage and display the data, future year (2040) population and employment forecasting, travel demand modeling, analysis of transportation system performance, and extensive public involvement. The findings of the TSP Report are used to develop a Purpose and Need Statement for the Tiered EIS and will provide the information to proceed with additional planning, environmental, and engineering work to identify and evaluate transportation improvement alternatives.

1.1 Previous Studies

The Illiana Corridor was first envisioned as a vital link of an outer encircling highway in the Chicago region in the early 1900s, and has since been studied in a number of forms over the last 40 years. Previous studies have indicated possible benefits from the development of an east-west transportation corridor extending from I-55 in Illinois to I-65 in Indiana. These include providing an alternate route for motorists travelling the I-90/94 corridor, relieving traffic on the I-80 Borman/Kingery Expressway and U.S. 30, serving as a bypass for trucks around the congested metropolitan area highways, providing access to one of the largest intermodal freight areas in the U.S., providing access to the proposed South Suburban Airport, supporting area economic development, and the potential for substantial job creation. As traffic volumes on other highways in the region have increased, the associated congestion has resulted in travel delays with substantial economic impacts to industries that depend on the ability to efficiently move freight within and through the region.

In late 2006, the states of Indiana and Illinois, through their respective Departments of Transportation, entered into a bi-state agreement that provided a framework for further development of the Illiana Corridor. The Indiana Department of Transportation (INDOT), in cooperation with the Illinois Department of Transportation (IDOT) conducted the *Illiana Expressway Feasibility Study*, which was completed in June 2009. IDOT initiated two additional studies, the *Strategic Role of the Illiana Expressway* (April 2010) and the *Illiana*

Expressway Economic Opportunities Analysis (April 2010). Both studies investigated the economic and social benefits that could result from the proposed expressway in the south and southwestern portions of the Chicago region. An *"Extended" Illiana Expressway Traffic and Revenue Analysis* was completed in April 2011 by INDOT that also referred to an extension of the previously considered study area for the Illiana Corridor project.

The *Illiana Expressway Feasibility Study* concluded that a new transportation facility between I-57 in Illinois and I-65 in Indiana would have a positive impact on congestion relief on I-80 and US 30, improving traffic operations, providing regional economic benefits (including logistics and supply chain effects), improving freight mobility, improving transit linkages, and improving safety.

Following the release of the *Feasibility Study*, IDOT initiated two additional studies, the *Strategic Role of the Illiana Expressway* (April 2010) and the *Illiana Expressway Economic Opportunities Analysis* (April 2010). Both studies investigated the economic and social benefits that could result from a proposed expressway in the south and southwestern portions of the Chicago region, and by extending the western terminus of the facility from I-57 to I-55. The *Illiana Expressway Economic Opportunities Analysis* concluded that a new transportation facility between I-55 in Illinois and I-65 in Indiana could provide a new east-west connection as an alternative to the congested I-80 facility and produce substantial regional economic benefits over a 30 year period.

An *"Extended" Illiana Expressway Traffic and Revenue Analysis* was completed in April 2011 by INDOT that updated previous analyses to include an extension of the western terminus for the Illiana facility from I-57 to I-55 and which provided traffic and revenue projections for a range of proposed toll and non-toll highway options between I-55 and I-65.

In addition, both states have passed legislation enabling public-private partnerships (P3) for the Illiana Corridor. The Illinois Expressway Act (Public Act 096-0913) and the Indiana Senate Enrolled Act No. 382 allow a collaborative planning effort for a "new fully access controlled interstate highway connecting Interstate Highway 55 in northeastern Illinois to Interstate Highway 65 in northwestern Indiana, which may be operated as a toll or non-toll facility."[1] The legislation allows the States to enter into P3s with one or more private entities to develop, finance, construct, manage, or operate a roadway connecting I-55 and I-65.

On June 9, 2010, Governors Pat Quinn of Illinois and Mitch Daniels of Indiana signed a Memorandum of Agreement (MOA) for a mutual commitment to the project by both states.

In April, 2011 Illinois DOT and Indiana DOT initiated the Illiana Corridor Study. To assist in the development of the environmental and engineering studies for the Illiana Corridor

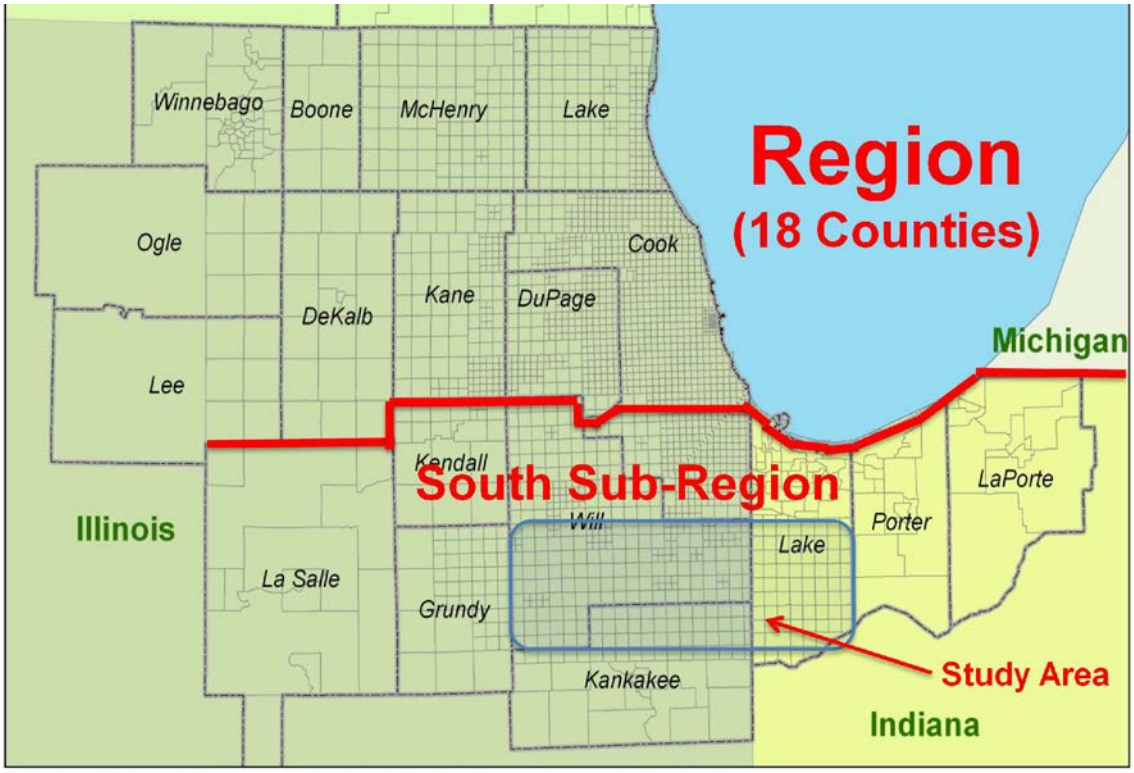
[1] Illinois Public Act 096-913, Public Private Agreements for the Illinois Expressway Act

Study, a Context Sensitive Solutions approach has been established. Through this process, the public and stakeholders have provided input, and have shared their perspectives regarding issues and concerns.

1.2 Study Area Setting

The northeastern Illinois and northwestern Indiana Region is influenced by three key travel sectors. This Region (including 18 counties in Illinois and Indiana shown in Figure 1-1 for purposes of this study) serves as a vital national link for inter-state and national transportation and commerce movement. The Region is also a key national intermodal logistical area for transfer of rail, port, and truck freight between modes, which adds substantial trucking demand throughout the region. Portions of the Region have evolved into fully developed population centers having balanced and long established transportation networks that serve local, regional and long-distance travel. Other areas are not developed, but are projected to experience substantial population and employment gains, but lack the full range of functional classification roadways. As the travel demands throughout the Region increase, the impact on performance and the corresponding needs are quite different due to the varying character of existing areas of the Region.

Figure 1-1. Region and South Sub-Region Map



For this reason, the South Sub-Region has been defined to include the 9-county area south of Lake Michigan, as shown in Figure 1-1. The South Sub-Region includes regional transportation facilities such as I-80, the Indiana Toll Road, and portions of I-55, I-57, and I-65. The northern portion that includes I-80 is fully developed with limited infill opportunities. This area also has a long-established and balanced transportation system with a fully developed functional network of roadways. The roadways in the northern portion of the South Sub-Region are congested, and improvements are underway to address the congestion. With the recent rebuilding and capacity improvements to the I-80/94 Borman Expressway by INDOT, I-80 lane additions currently under construction by IDOT, and current studies on I-80 for additional capacity by IDOT, I-80 is projected to be expanded to its maximum capacity and is included as such in the "no build" 2040 transportation network.[2]

The southern portion of the South Sub-Region is less developed and also includes the Illiana Corridor Study Area, which is shown in Figure 1-2. It is approximately 950 square miles in portions of southern Will County and northern Kankakee County in Illinois and southern Lake County in Indiana. The general location of the Study Area is between I-55 in Illinois on the west, I-65 in Indiana on the east, the areas south of U.S. 30 to the northern

[2] The "no build" 2040 transportation network includes transportation improvements within the entire Region anticipated to be in place by the year 2040, excluding a major investment within the Illiana Corridor Study Area.

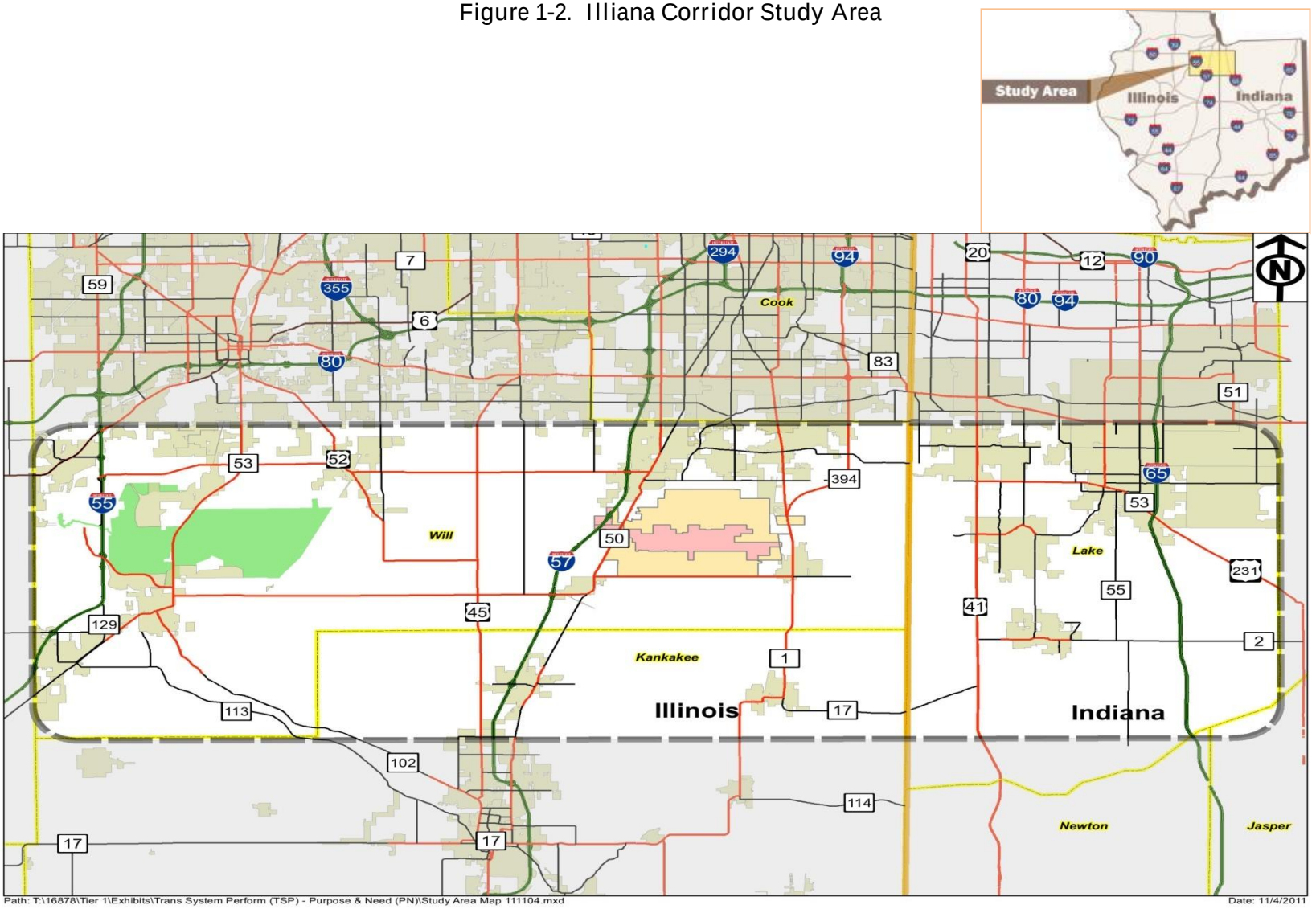
portion of Kankakee County and southern Lake County. The Study Area is projected to see greater population and employment growth than the South Sub-Region as a whole, and has a lesser balanced functional highway network to handle growth demands than the more developed areas in the northern portion of the South Sub-Region. Additionally, emerging intermodal freight centers, as well as the bypass effects of the national freight demands, further strain the existing Study Area transportation network.

A line extending from approximately one mile south of Laraway Road on the west to U.S. 30 on the east was determined as the northern boundary of the Study Area due to its location as the general southern edge of developed land in the region. Much of the area to the north of this boundary is suburban or urban in character and served by a well-developed transportation system. The area south of the northern boundary of the Study Area is more rural in nature, served by a lesser-developed transportation system and poised for continued major population and employment growth. The southern boundary of the Study Area was selected to be north of the Kankakee-Bradley-Bourbonnais developed area in Kankakee County and southern boundary of Lake County.

The eastern and western boundaries were developed to be consistent logical termini at I-55 in Illinois and I-65 in Indiana. Both I-55 and I-65 are rational end points because they are major north-south interstate routes that are major traffic generators, with I-55 connecting the Chicago region with Springfield and St. Louis, Missouri, and I-65 connecting the northwestern Indiana metro region with Indianapolis and Louisville, Kentucky. The distance between I-55 and I-65 is approximately 55 miles.

Improvements within these limits would offer independent utility, and are broad enough to address environmental matters. Major cross-roads between these limits include US-52, US-45, I-57, and US-41, as well as several state and county-marked routes. To the west of I-55 and the Study Area, is Grundy County, which is a less developed county with a 2010 population of approximately 50,000 persons, and is mostly outside the metropolitan planning organization's jurisdiction. To the east of I-65 and the Study Area, the southern four townships in Porter County are primarily rural and have a 2010 population of approximately 24,000 persons. This proposed action will not restrict consideration of alternatives for other reasonably foreseeable transportation improvements west of I-55, or east of I-65.

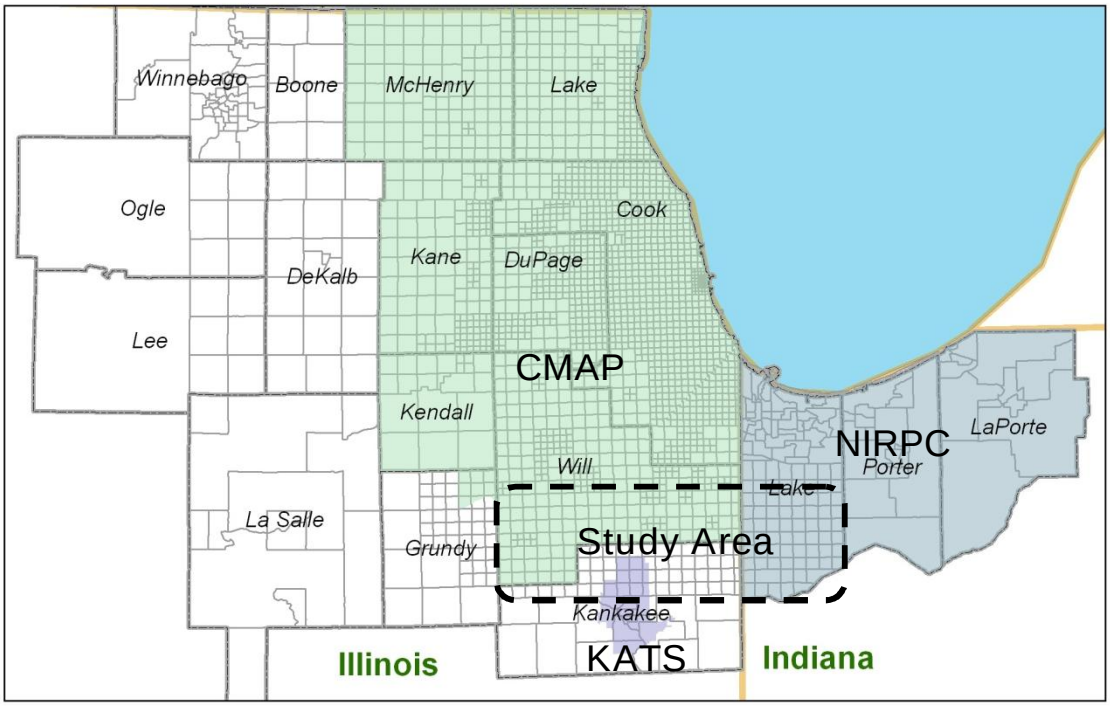
Figure 1-2. Illiana Corridor Study Area



1.3 Regional Planning Context

The Illiana Study Area is included in the planning areas of three regional Metropolitan Planning Organizations (MPOs): the Chicago Metropolitan Agency for Planning (CMAP), the Northwestern Indiana Regional Planning Commission (NIRPC), and the Kankakee Area Transportation Study (KATS), as shown in Figure 1-3. All three MPOs have recently updated their long range transportation plans to a 2040 planning horizon; accordingly, the Illiana Corridor EIS will use a 2040 planning horizon for consistency with these regional planning processes.

Figure 1-3. Metropolitan Planning Organizations



The Illiana Corridor is included as an unconstrained project in the current 2040 long-range transportation plans of CMAP, NIRPC and KATS. CMAP's GO TO 2040 Plan includes the Illiana Corridor as an unfunded need and "supports initiating Phase 1 engineering for the project in order to narrow the scope to a few feasible alternatives, and recommends that these activities begin as a high priority." NIRPC's 2040 long-range transportation plan also includes the Illiana Corridor as an illustrative (unfunded need) project. The KATS adopted 2040 Long Range Transportation Plan includes the Illiana Corridor as a solution to the problem of through trucks using Kankakee County as a connection between Illinois and Indiana. In addition, the Illiana Corridor Tiered Environmental Impact Statement is included in the Transportation Improvement Programs for CMAP and NIRPC.

Population and employment projections for the "no build" 2040 planning horizon were developed for the Study Area by the project study team. These projections are formed by the 2040 projections of the three regional planning agencies, and also include information from market-based projections suitable for design and revenue forecasting decisions that are based on past and current development trends, community land use and development plans, and private-sector growth forecasts. Other transportation agencies in the Region, including the Illinois State Toll Highway Authority, have used this market-based methodology to provide population and employment inputs to determine future travel demand for major project planning purposes. The Illiana Corridor Study is coordinating with the MPOs to ensure the methodology is appropriate for the purposes of this study.

1.4 TSP Report Objectives

The Transportation System Performance (TSP) Report documents characteristics and performance of the existing transportation system for the Illiana Corridor study area and provides a projection for system performance in 2040 assuming no major improvements other than those already committed and planned for implementation by 2040. These improvements do not include an Illiana corridor or other major investment that would be considered by this study.

The objective of the TSP Report is to understand the existing and future socio-economic and transportation conditions in the general study area. Based on the results of these analyses, the transportation deficiencies in the study area will be identified. Specifically, the objectives of the TSP Report include:

- Description of the existing and planned transportation systems
- Analysis of historic, current, and projected 2040 socio-economic and land use
- Analysis of current and projected 2040 traffic characteristics
- Analysis of existing and projected 2040 transportation system performance
- Public perceptions of transportation needs through stakeholder meetings

1.5 TSP Report Approach

1.5.1 Data Collection

This task involved identifying data requirements, contacting relevant source and regulatory agencies and securing the data and putting the data in a usable form for analysis. The data assembled included obtaining pertinent engineering and environmental data; existing transportation data; reviewing previous feasibility study information from IDOT and INDOT; and land use planning and community characteristics from existing sources.

1.5.2 Geographic Information System (GIS)

A comprehensive GIS database encompassing the entire study has been developed. The GIS database serves as a single source for storing, retrieving, editing/updating, analyzing, and displaying project related information. The GIS database serves as the basis for efficient data management and data exchange between the travel demand model, traffic operation analysis and the alternatives evaluation for seamless post processing and analysis efforts.

1.5.3 2040 Socio-Economic Forecasts

The socioeconomic forecasts will focus on land use, demographics, and socio-economics. Each of these aspects of the study area will be characterized to better understand the future growth that is projected for the study area. The 2040 socio-economic forecasts are the primary input to the regional travel demand model that is used to forecast future travel demands and emerging travel patterns.

The 2040 population and employment forecasts are developed for a No Build (Baseline) scenario for the study area which includes only committed projects. Therefore, the 2040 No Build scenario does not include any proposed Illiana Corridor facilities.

1.5.4 2040 Travel Demand Forecasts

Analytical studies of the transportation system using a travel demand forecasting model were conducted. Specifically, travel characteristics on the existing 2010 transportation system and the 2040 No Build Alternative were evaluated with the aid of the travel demand model, which forecasts travel patterns and origins and destinations of trips for the region and in the study area. The model developed for this project is based on a CMAP regional travel model that encompasses the seven-county planning area for CMAP, the three county planning area for NIRPC, Kankakee County for KATS, and LaSalle, Grundy, DeKalb, Ogle, Lee, Boone, and Winnebago Counties in Illinois (referred to as the “Region” for the purposes of this report).

Existing and projected future travel demand forecasts are prepared based on the 2010 and 2040 socio-economic forecasts. The outputs from the travel demand forecasts are the basis for much of the transportation system performance analysis.

1.5.5 Transportation System Performance Analysis

The information assembled and developed in the preceding tasks was then used to analyze the ability of the transportation system within the general study area to handle current and future travel demand. This included the analysis of historical, current and projected 2040 socioeconomic and transportation system characteristics and performance. Performance measures were developed and used to evaluate the adequacy and ability of the transportation system in accommodating current and future travel demand. These performance measures include transportation congestion, accessibility/mobility, and safety measures. This analysis is described in the TSP Report.

1.5.6 Transportation Needs Assessment

Based on the results of the transportation system performance analysis, transportation deficiencies and needs have been identified. In addition, public and stakeholder input has been used to identify transportation deficiencies and need.

1.5.7 Public Input

IDOT and INDOT recognize that a proactive, effective communications effort enhances the project's outcome. A Stakeholder Involvement Plan (SIP) for Agency and Public Involvement has been developed for the Illiana Corridor study. The purpose of this plan is to provide a guide for implementing stakeholder involvement for the study. The SIP is used as a blueprint for defining methods and tools to educate and engage all stakeholders in the decision-making process for this project. The SIP has been designed to ensure that stakeholders are provided a number of opportunities to be informed and engaged as the project progresses.

Per IDOT and INDOT's Context Sensitive Solutions (CSS) procedures, a stakeholder is anyone who could be affected by the project and has a stake in its outcome. This includes property owners, business owners, state and local officials, interested groups, and motorists who utilize the facility. Early coordination and/or meetings have been conducted with communities, within the study area, as a means of identifying interested parties and stakeholders.

Stakeholder involvement is a key feature of the planning process, with a pair of Stakeholder Working Groups having a central role. The Corridor Planning Group (CPG) includes County and Municipal officials, as well as representation from the regional Metropolitan Planning Organizations in the study area. The second group will be a Technical Task Force (TTF), which consists of staff, agencies, organizations, and interested groups. The purpose of these groups is to provide study information and input on every major aspect of the NEPA process.

Other outreach opportunities include Public Meetings, a Public Hearing, newsletters, a project website (www.illianacorridor.org), small group meetings, and a Speakers Bureau. These stakeholder events take place periodically, with monthly or bi-monthly CPG/TTF meetings and public meetings at key milestones throughout the study process.

1.6 TSP Report Structure

The TSP report is organized into sections beginning with this section, which presents an introduction. Section 2 provides a description of the transportation system in the study area. Section 3 of the report describes the socio-economic and land-use characteristics. Section 4 the study area transportation system demand. Section 5 presents the transportation performance measures that were developed for this study. Section 6 presents a summary of public involvement, and the final section, Section 7, presents the overall findings and conclusions.

2.0 Study Area Transportation System

The transportation infrastructure within the Illiana Corridor study area consists of highways, freight facilities, airports, public transportation, intercity passenger, and non-motorized (pedestrian, bicycle, etc.) facilities. An important prerequisite to transportation planning is an understanding of the components and operations of the existing transportation system. This section describes the roadway, transit, freight, and bicycle and pedestrian systems in the study area.

2.1 Roadways

The road network in the study area is shown on Figure 2-1. The system includes facilities with different functional classifications to accommodate a variety of trip types in a manner consistent with historical travel patterns.

2.1.1 Functional Classification

The roadway functional classification system provides the foundation for highway planning, and the framework for determining the geometric design of individual roadways. The designation of a functional classification for a road establishes the intended trip type that is projected to use the facility. This designation also establishes the design parameters for the road to meet the intended and projected trip types, and associated operational characteristics for the type of trip. Within a transportation system, the different functional classifications create a hierarchy of facilities designed to serve a range of travel demands from the local trip that is generally slower, shorter, and higher accessibility to the regional trip that is generally higher speed, longer distance and with fewer access options. The functional network is established over time, so adjustments are required to provide appropriate travel opportunity and design for new or planned facilities that are developed to accommodate the region's growth.

The roadway functional classification system recognizes that streets and highways serve two basic and often conflicting functions: access to property and travel mobility. Each street or highway will provide varying levels of access and mobility, depending upon its intended service. The basic characteristics of the three general categories within the functional classification system are described below:

- Arterial Roads. Generally characterized by their ability to quickly move relatively large volumes of traffic with restricted access for abutting properties. The arterial system typically provides for high travel speeds and the longest trip movements. The rural and urban arterial systems are connected to provide continuous through movements at approximately the same level of service.

- Collector Roads. Generally characterized by even distribution of access and mobility functions. Traffic volumes and speeds are typically lower than those of arterials.

- Local Roads. All public roads and streets not classified as arterials or collectors. Local roads and streets are characterized by the many points of direct access to adjacent properties and the relatively minor value in accommodating mobility. Speeds and volumes are usually low and trip distances short.

The hierarchy of the functional classification systems for rural and urban areas generally consists of principal arterials, minor arterials, collectors, followed by local roads and streets, as depicted in Table 2-1 and described below.

Table 2-1. Functional Classification System.

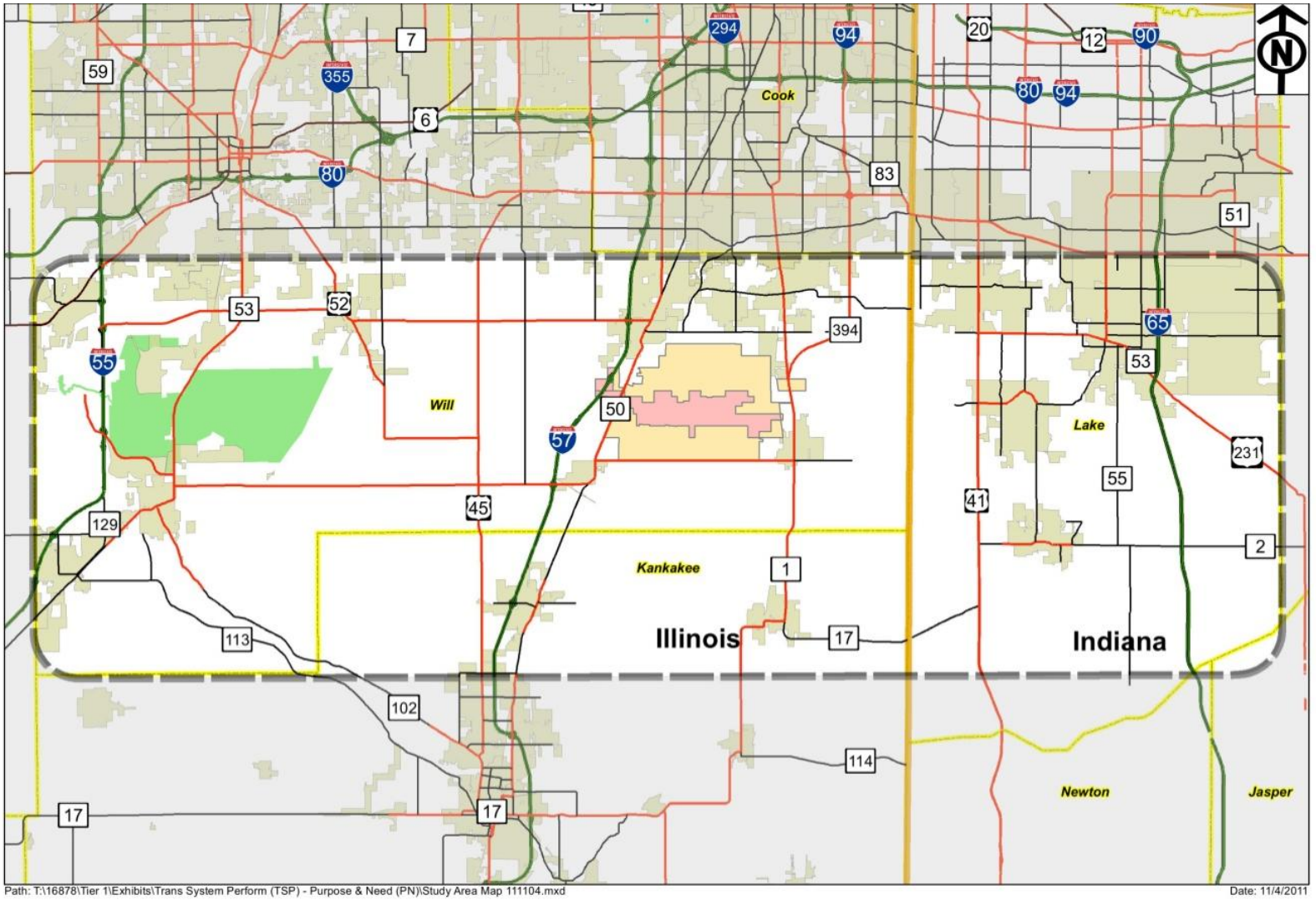
Rural	Urban
Principal Arterial System	Principal Arterial System
• Interstates	• Interstates
• Other Principal Arterials – Rural	• Non-Interstate Freeways and Expressways
	• Other Principal Arterials-Urban
Rural Minor Arterials	Urban Minor Arterials
Collector Roads	Collector Streets
• Rural Major Collectors	• Urban Collectors
• Rural Minor Collectors	
Local Roads	Local Streets

2.1.1.1 Rural Functional Classification Categories

The functional classification of rural systems includes the following:

- Principal Arterial System: Provides connections between major urban areas and Other Principal Arterials. They provide a level of service suitable for statewide or interstate travel.
  - Interstates: A connected rural network of continuous multi-lane routes that are fully access controlled and constructed for high design speeds.
  - Other Principal Arterials: A connected rural network of continuous routes that interconnect various regions of the State not served by the Interstate system with either a non-Interstate freeway, expressway (partial access control), or high-type two-lane highway.
- Minor Arterials: Provides relatively high overall travel speeds with minimum interference to through movements. Partial access control can be considered on these routes as they approach urbanized areas. They should form an integrated network of routes connecting to Other Principal Arterials and should provide inter-regional or inter-county service.

Figure 2-1. Study Area Roadways



- Collector Roads: Generally includes those routes where the predominant travel distances are shorter than trips on arterial routes, but greater than the short trips characteristic of the local road system. These facilities have been subdivided into two separate functional classifications:

  - Major Collectors: Serve the more important intra-county or intra-regional travel corridors not served by higher route classification and serve larger towns not directly served by higher route classifications.

  - Minor Collectors: Provide service to any remaining small communities with populations of 100 or more and which are not served by a higher classified route designed for more emphasis on property access than mobility.

- Local Roads: Provides access to abutting property and connections to higher classified routes. They reflect minimal design criteria with primary consideration to access needs.

2.1.1.2 Urban Functional Classification Categories

The functional classification of urban systems includes the following:

- Principal Arterial System: Carries the highest traffic volumes and accommodates the greatest trip lengths. Almost all fully and partially access-controlled facilities are part of the principal arterial system, although not restricted to access-controlled routes. To preserve the identification of access-controlled facilities, the principal arterial system consists of:

  - Interstates: A connected urban network of continuous routes. They are fully access controlled and constructed for high design speeds.

  - Non-Interstate Freeways and Expressways: Connecting links in the urban area, they provide access to circumferential routes around the city or provide links to the central city.

  - Other Principal Arterials: A connected urban network of continuous routes that provide service to, through, or around urban areas from rural minor arterial routes. They can be an expressway design, a major two-way city street, or a one-way couple system. These roads may warrant management of access to the highway.

- Minor Arterials: Accommodate shorter trip lengths and lower traffic volumes, provide lower travel speeds, and provide more access to property. These routes interconnect and supplement the urban principal arterial system and provide service for trips of moderate length and at a somewhat lower level of mobility than urban principal arterial routes.

- Collector Streets: Serve as intermediate links between the arterial system and points of origin and destination. These facilities typically provide both access and traffic circulation within residential neighborhoods and commercial and industrial areas. They may penetrate residential neighborhoods or commercial/industrial areas to collect and distribute trips to and from the arterial system.

- Local Streets: Provide direct access to abutting land. They offer the lowest level of mobility and discourage through traffic movements.

2.1.1.3 Study Area Roads and Functional Classification

The majority of streets and highways within the study area are rural. They consist of state, county, township and local roads. The existing study area road system covers approximately 2,600 miles. The functional classification of study area roads is depicted in Figure 2-2. Table 2-2 summarizes the lane miles by functional classification for the study area categorized by general direction: north-south and east-west. The study area contains 210 miles of interstate and 365 miles of principal arterials. However, the vast majority of roadways (2,093 miles) are local or municipal streets.

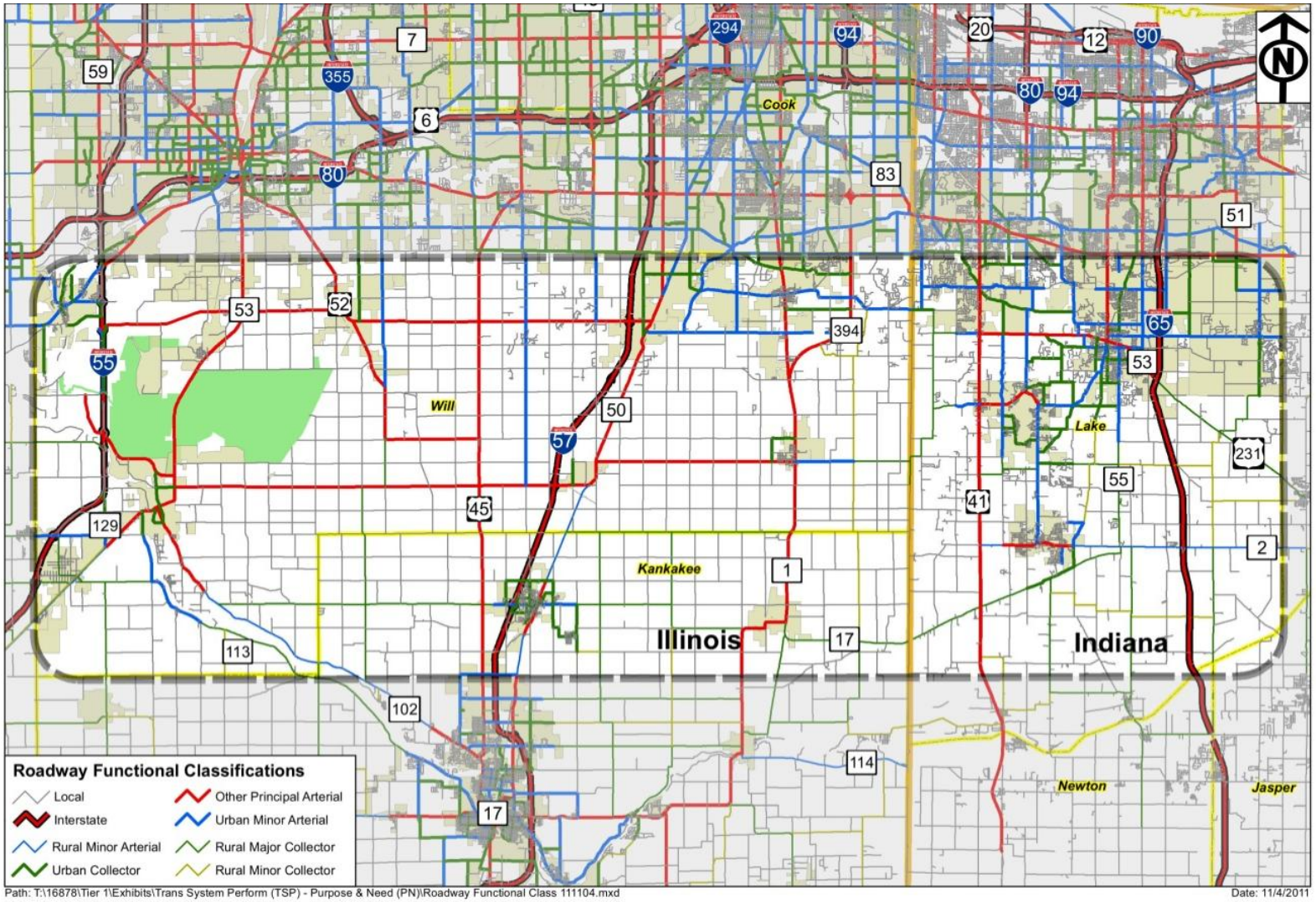
Table 2-2 summarizes the lane miles by functional classification for the study area categorized by general direction: north-south and east-west. As seen in this table, there are no east-west interstates in the study area. Further, no east-west interstate routes are available between I-80/94 and I-74, a distance of approximately 100 miles. In addition, there are approximately 140 east-west lane miles of other principal arterials in the study area. Given that the study area is approximately 50 miles wide in the east-west direction, there appears to be a relatively small proportion of other principal arterials in the east-west direction.

In contrast, the north-south direction has a more balanced functional classification, which is more desirable to serve the multitude of trip types in the study area. There are 210 lane miles of interstates in the north-south direction in the study area and 224 lane miles of other principal arterials in the north-south direction for a study area that is approximately 20 miles long in the north-south direction.

Table 2-2. Study Area Lane Miles by Functional Class and Direction

Functional Classification	North-South	East-West
Interstate	210	0
Other Principal Arterial	224	141
Minor Arterial (Urban)	76	123
Minor Arterial (Rural)	33	24
Collector (Urban)	54	100
Major Collector (Rural)	66	129
Minor Collector (Rural)	52	39
Local Road	1,203	890
Total	1,914	1,445

Figure 2-2. Roadway Functional Classifications within the Study Area



2.1.2 National Highway System

The National Highway System (NHS) includes approximately 160,000 miles of roadway important to the nation's economy, defense, and mobility. The NHS includes the following subsystems of roadways (note that a specific highway route may be on more than one subsystem):

- Interstate: The Eisenhower Interstate System of highways retains its separate identity within the NHS.
- Other Principal Arterials: These are highways in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal transportation facility.
- Strategic Highway Network: This is a network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes.
- Major Strategic Highway Network Connectors: These are highways which provide access between major military installations and highways which are part of the Strategic Highway Network.
- Intermodal Connectors: These highways provide access between major intermodal facilities and the other four subsystems making up the National Highway System.

Designated NHS facilities in the study area are shown in Figure 2-3.

2.1.3 Strategic Regional Arterial System

The Strategic Regional Arterial (SRA) system was originally developed as part of the Chicago region's 2010 Transportation System Development Plan. The SRA system is comprised of a 1,400-mile network of existing roadways in northeastern Illinois. SRAs are a network of highways designed to:

- Improve regional mobility by providing a comprehensive network of arterial routes designed to carry higher volumes and long distance traffic across a region,
- Complement a region's major transit and highway facilities by providing access for regional trips on these facilities, and
- Supplement the regional freeway system.

SRAs may have widely varying characteristics. Existing rights-of-way, roadway features, land use, and access differ from route to route, and also may change from one section of a route to another. IDOT has identified guidance in the planning and design of strategic regional arterials, including specific design criteria. Designated SRAs in the study area are shown in Figure 2-3.

2.1.4 Number of Lanes

Figure 2-4 depicts the number of through lanes on roadways within the study area. It should be noted that the current study area roadway system has no continuous east-west multi-lane facilities. In contrast, the north-south direction has I-55, I-57, IL-50, US-41 and I-65 multi-lane facilities crossing the entire study area.

2.1.5 Roadway Constraints/Barriers

There are a number of constraints or barriers that limit through travel opportunities through the study area. As seen in Figure 2-5, these include natural constraints and federally protected lands, such as the Des Plaines River and the Midewin National Tallgrass Prairie located in the western portion of the study area, and West Creek and Cedar Lake in the eastern portion of the study area. The proposed location of the South Suburban Airport (SSA), for which IDOT is currently acquiring property, is within the central portion of the study area. These constraints/barriers limit the through travel in the study area, particularly in the east-west direction. The state line between Illinois and Indiana also exhibits multiple discontinuities of east-west roads, with no continuous east-west arterial routes crossing the state line south of US 30 within the study area. This further inhibits the mobility of through traffic in the east-west direction.

2.1.6 Programmed and Planned Roadway Improvements

For the Illiana Corridor, only committed highway improvement projects in the study area were assumed in the future 2040 highway network (Figure 2-6, Table 2-3). Committed projects include those programmed projects that are included in the 2040 "constrained" networks of regional planning agencies, those included in the current 5-year Transportation Improvement Program of the various agencies, and other projects with a very high probability of implementation by 2040 identified by IDOT/INDOT and the various counties based on discussions with local officials.

Figure 2-3. Study Area SRA and NHS Roadways

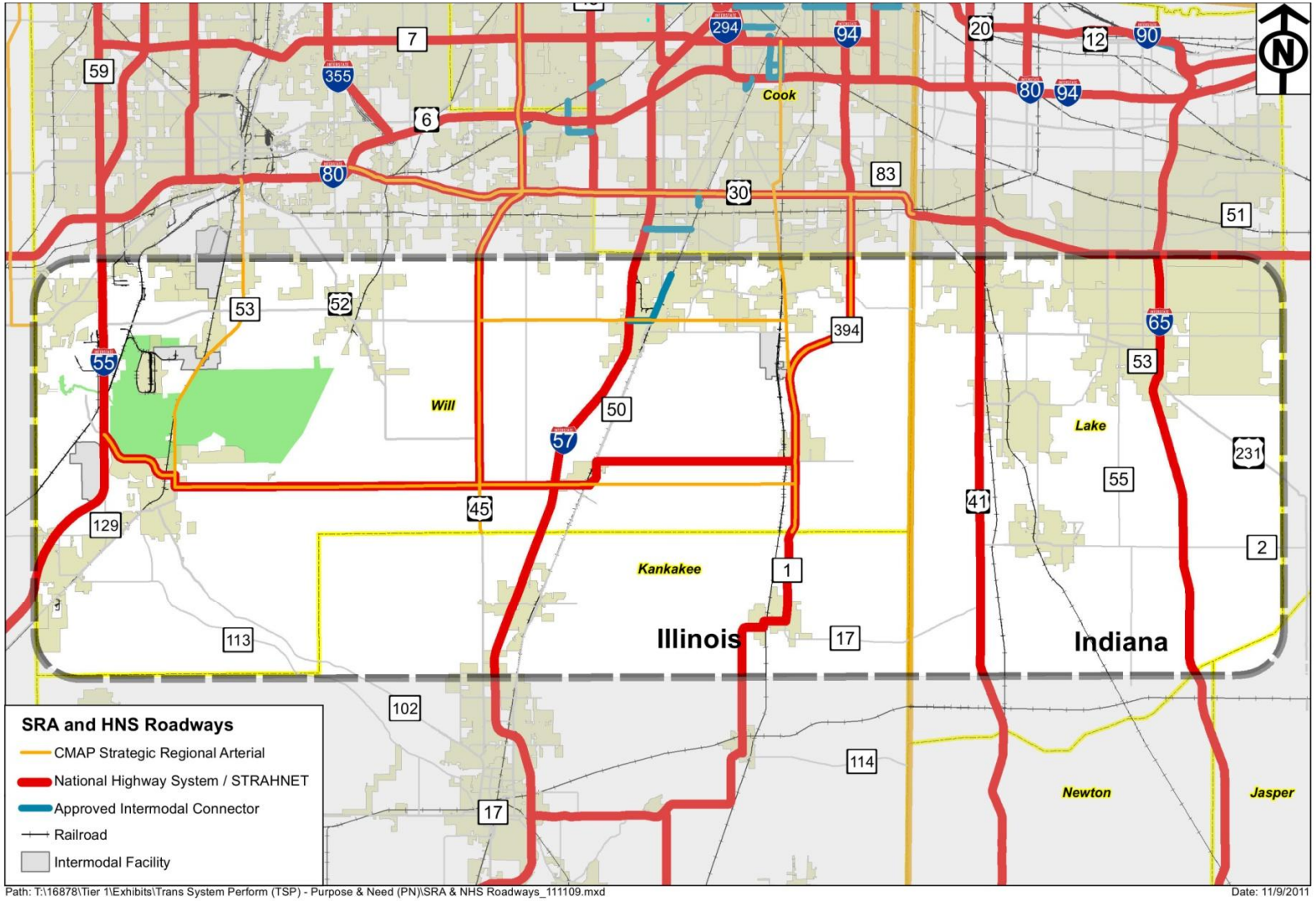


Figure 2-4. Number of Through Lanes on Roadways within the Study Area.

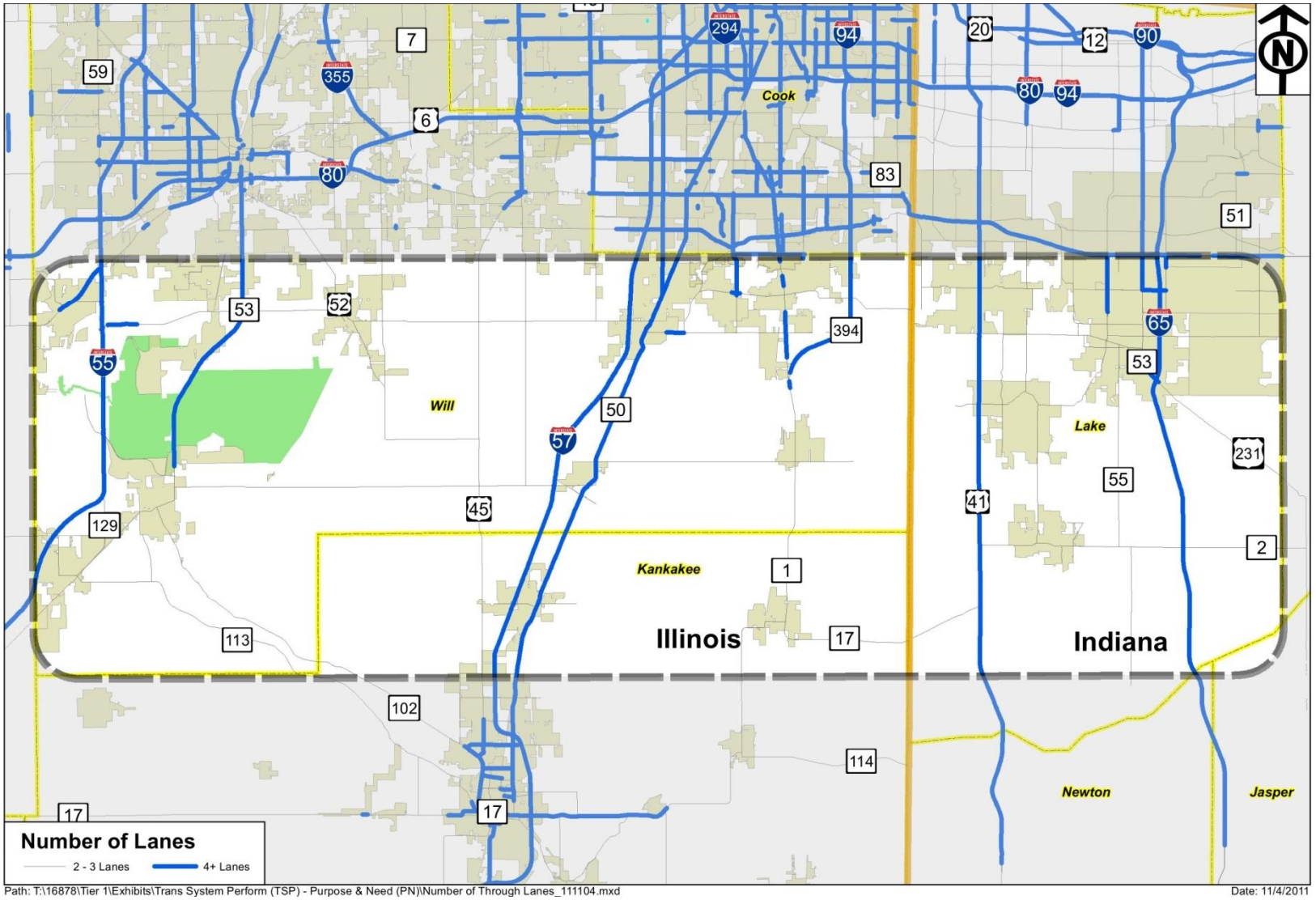


Figure 2-5. Study Area Roadway Constraints/Barriers.

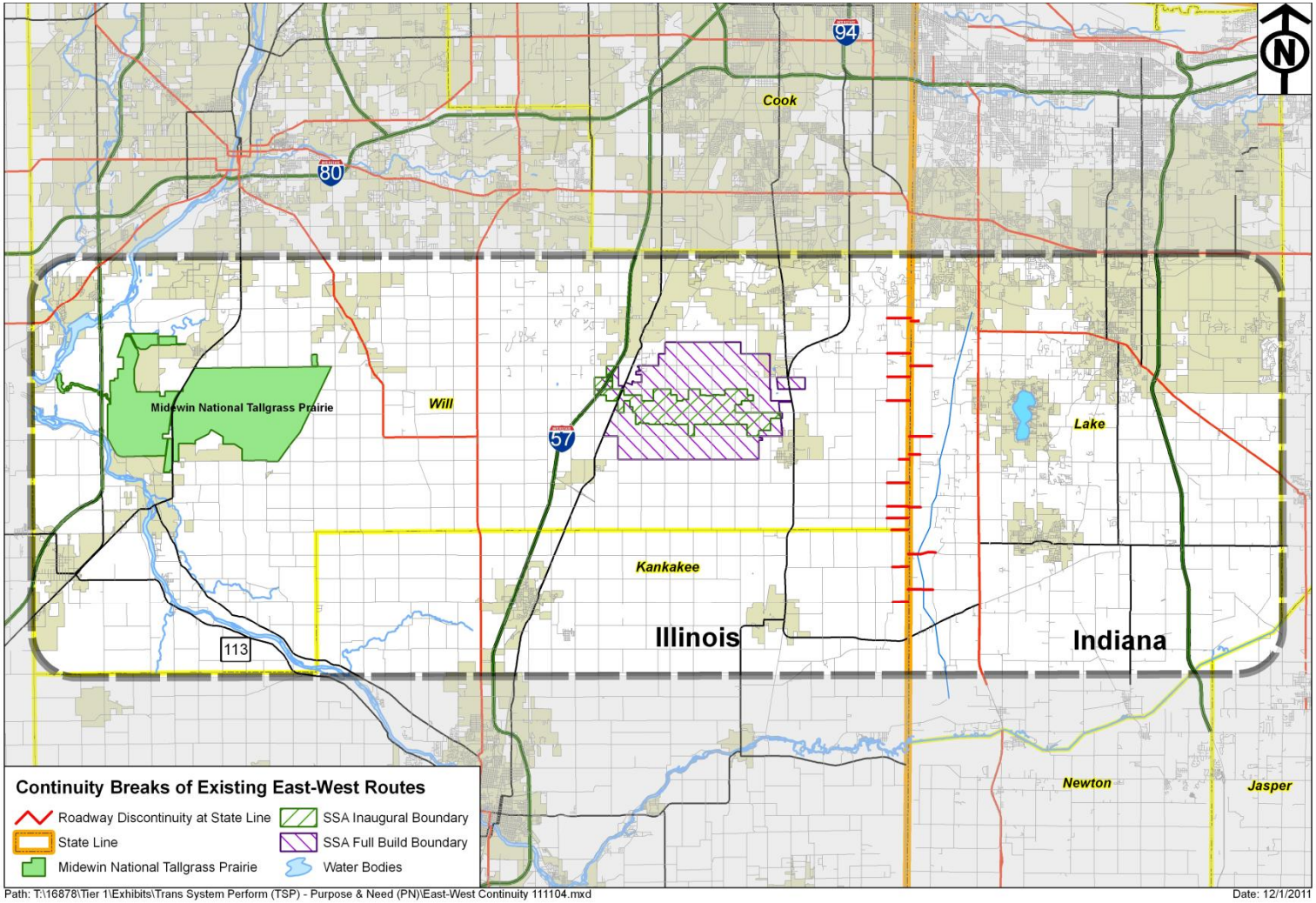


Figure 2-6. Programmed and Planned Improvement Projects - Roadways

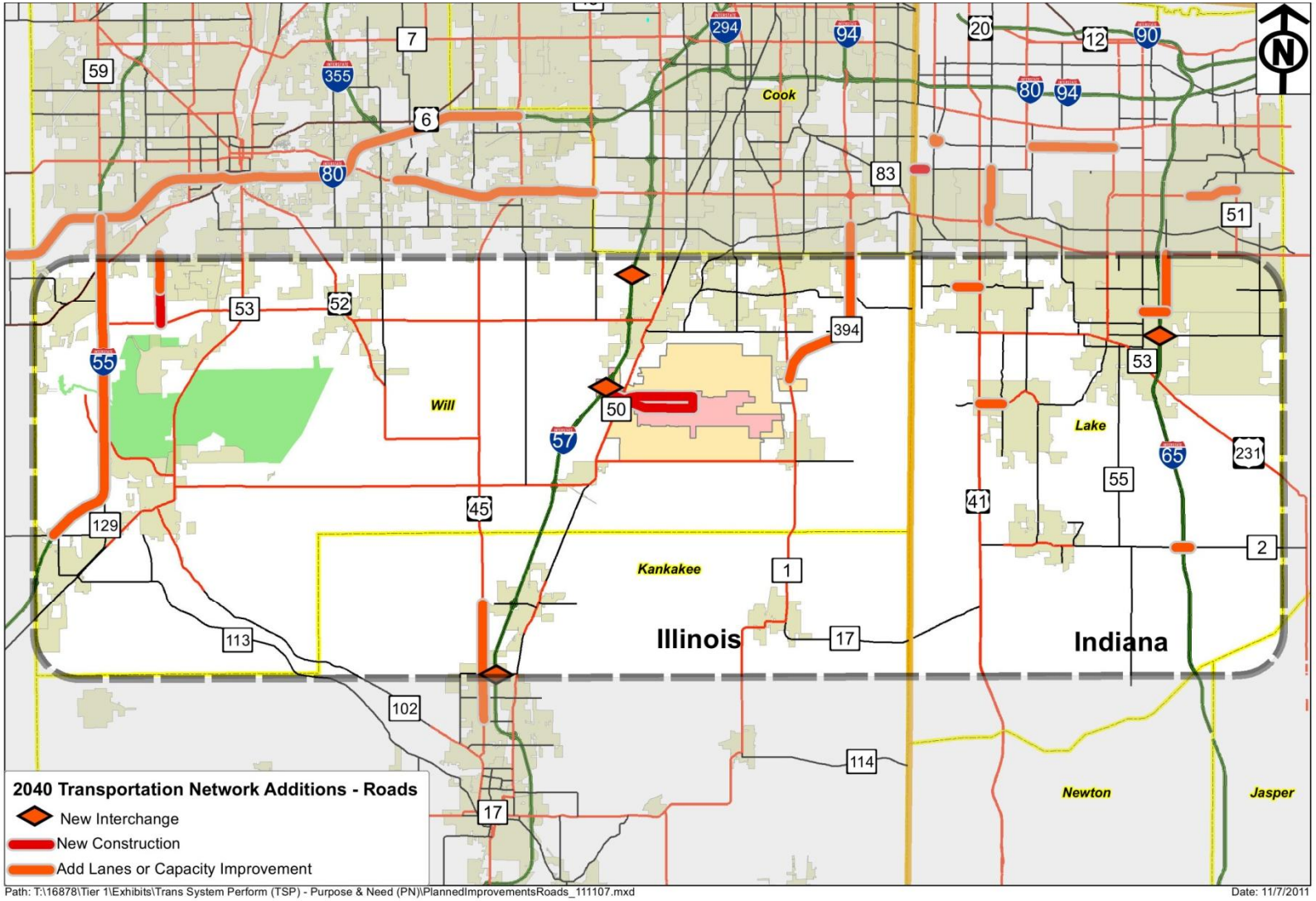


Table 2-3. Programmed and Planned Roadway Improvements Within or Near the Study Area

Route	Description	Location
Will County, IL		
I-80	Add lanes	From US 45 in Frankfort to US 30 in New Lenox (C)
I-80	Add lanes	From US 30 in New Lenox to Ridge Road in Minooka (I)
US 30	Add Lanes	From IL 43 in Frankfort to Williams St. in New Lenox (M)
IL 394	Upgrade to Limited Access	From IL 1 in Crete to Sauk Trail in Sauk Village (I)
I-57	New Interchange	At Stuenkel Road in University Park (M)
I-57	New Interchange and Connector Road	At South Suburban Airport in Monee (I)
Baseline Road	New Road	From Arsenal Rd. to Schweitzer Road in Elwood (I)
I-55	Add Lanes	From IL 113 to I-80 (I)
Kankakee County, IL		
1-57	New Interchange at 6000 N Road	Bourbonnais (M)
US 45/52	Add Lanes	From Kathy Drive in Bourbonnais to Manteno Road in Manteno (I)
Lake County, IN		
I-65	New Interchange	109th Avenue in Crown Point (M)
Mississippi Street	New Road	from US 30 to 61st Ave. in Merrillville (N)
101st Avenue	Add Lanes	Merrillville (N)
IN 2	Add lanes, interchange improvement	I-65 east of Lowell (N)
Kennedy Avenue	Add Lanes	Schererville (N)

Source of information: (C) CMAP; (I) Interview with state, county and local transportation officials; (N) NIRPC; (M) Inclusion in state multi-year construction program or recent construction.

2.2 Freight Movement

Freight transportation facilities are critical to the economic growth of the Chicago area, including Northwest Indiana. In the Chicago region, trucks carry about 1.5 billion tons of freight annually and rail carries 631 million tons[3]. The movement of freight is critical to both the national and regional economy. At different stages of the production chain goods are transported to and from distant places by different modes until they reach the final consumer. Nationwide, highway freight traffic encounters increasing road congestion, causing substantial travel time delays and increasing operating costs due to more costly truck operations. Most of this traffic moves by train and truck.

Five of the top 25 highway interchange bottlenecks in the nation, measured by hours of delay, are located in the greater Chicago region. The region is also considered by shippers to be the largest rail bottleneck in the nation. The existence of these bottlenecks is exacerbated by the large amount of freight passing through the region by both truck and rail, and the region's status as an intermodal center.

The Chicago Region Environmental and Transportation Efficiency Program (CREATE) was developed as one way to address rail freight bottlenecks. Infrastructure investments recommended by CREATE will be a beneficial step in addressing rail freight movement in the region, but the project will not fix all identified problems.

Projected funding shortfalls and capacity issues over the next 30 years on the nation's rail network could potentially shift even more freight to an already heavily congested highway system. In 2003, the U.S. DOT estimated that the cost of congestion across all modes of transportation due to productivity losses, costs associated with cargo delays, and other economic impacts could be more than $130 billion per year.

2.2.1 Trucks

The Surface Transportation Assistance Act (STAA) of 1982 resulted in the designation of a national network of highways to allow the passage of trucks of specified minimum dimensions and weight. The objective was to promote uniformity throughout the nation for legal truck sizes and weights on a National Truck Network. The network includes all Interstate highways, designated as Class I truck routes, and large portions of the Federal-aid primary system, portions designated as Class II truck routes. In addition, the STAA required that "reasonable access" be provided along other designated routes for STAA vehicles to travel from the National Truck Network to terminals and to points of loading and unloading.

As a result of STAA, a "Designated State Truck Route System for Large Vehicles and Combinations" was developed and implemented in Illinois. This system governs the mobility and accessibility of these vehicles. IDOT designated these highways depending upon what could be safely accommodated. For example, Class I Highways are the

[3] CMAP website, http://www.cmap.illinois.gov/2040/freight-system

interstates and other four-lane, divided highways that are fully access controlled. Class II Highways are typically those routes with at least 11-foot wide lanes and no history of abnormal accidents. Both Classes I and II Highways can legally carry 80,000 pound maximum gross weight and the wider 102-inch vehicle.

Class III Highways are typically two-lane highways. This class can also carry the 80,000 pound load, but the width of vehicle is restricted to a maximum of 8-feet, the same as allowed off the designated truck route system. Any large vehicle operating on the designated highway truck route system is allowed access to points of loading and unloading and to facilities for food, fuel, repair and rest for a distance of 5 highway miles on the State Highway System and only on those highways designated by local agency highway authorities.

Within the study area, Class I truck routes include all of interstates (I-55, I-57 and I-65) within the study area. In general, the Class II truck routes include all or portion of the other U.S. and State marked routes.

Imports and exports into the region by truck rank very high nationally for many commodities. Approximately 10 percent of all national truck freight volumes for livestock, non metal minerals and miscellaneous manufacturing products travel through the region by truck

2.2.2 Freight - Intermodal Facilities

Marine, rail, truck, and air terminals are the means of transporting goods within the global economy. As described below, four intermodal sites occur or are planned within the study area. As a result of public and private investments these facilities have combined to create one of the largest container ports in the United States resulting in efficient operations, and convenient onsite services that serve the region and nation.

- CenterPoint Intermodal Center - Elwood is an existing facility that encompasses 2,500 acres of the former Joliet Arsenal and is projected to create approximately 8,000 new jobs and increase property tax revenue by as much as $27 million per year. The intermodal and associated industrial business park has the capacity for up to 12 million square feet of industrial and distribution facilities.

- CenterPoint (Global IV) Intermodal Center – Joliet is an existing integrated logistics center and inland port on 3,600 acres. The park will also feature up to 20 million square feet of industrial facilities as well as container/equipment management yards and is projected to generate more than 14,000 new jobs.

- RidgePort Logistics Center is a proposed 14 million square foot rail-served park located on more than 1,500 acres. The facility parallels the BNSF mainline runs directly along the western and Interstate I-55 along east.

- The CenterPoint Intermodal Center- Crete is a proposed facility approximately 1,000 acres in size located along the UP (CSX) main line within the study area. The park will feature up to 300 acres for intermodal and related container/equipment management and 700 acres for an industrial park that can accommodate up to 6 million square feet of warehouse distribution centers, transloading and/or cross-dock facilities.

Existing intermodal centers in Elwood and Joliet handled more container units in 2008 (3,000,000 twenty-foot equivalent units, or approximately 1.5 million trucks) than any comparable land-based facility, and all but three of the largest coastal ports in the U.S.[4] Operations of these existing and proposed facilities are projected to account for 47,000 daily truck movements by 2040. The proposed South Suburban Airport is expected to include a freight cargo facility, which will add to these numbers. All freight facilities in the study area are shown in Figure 2-7.

2.2.3 Freight - Railroads

There are five Class I[5] freight railroads in the study area; CSX, Burlington Northern Santa Fe (BNSF), Norfolk Southern (NS), Canadian National (CN), and Union Pacific (UP). These freight railroads operate on seven rail corridors in the study area, and are described below and depicted in Figure 2-8.

The BNSF freight line extends northwest along the western portion of the study area and passes under I-55 at Blodgett. It also bisects portions of the Des Plaines Dolomite Prairies Land and Water Reserve and the Grand Creek Prairie Nature Preserve. This line is a main BNSF route to the Pacific Coast, and is heavily used.

The CN freight line runs parallel to I-57 through University Park, Monee, Peotone, and Manteno within the study area. It provides access between Chicago and ports in the Gulf of Mexico and intermediate destinations.

Two UP rail corridors occur within the study area. One route occurs along the western portion of the study area and traverses Godley, Braidwood, Wilmington and Elwood and traverses the Midewin National Tallgrass Prairie. The second UP route in the study area travels almost due north from Momence through Grant Park, Beecher, and Crete, roughly paralleling IL-1. CSX has trackage rights on the UP route through Momence and Crete.

The CSX corridor occurs within the Indiana portion of the study area and generally parallels US 41 to the east. Two minor freight lines of the Norfolk Southern (NS) extend from the Chicago area and terminate within the study area limits or nearby. One line terminates in Manhattan, while the other extends through Cedar Lake and Lowell and

[4] "Inland Port Impact Study", Will County Center for Economic Development, September 2010.
[5] Class I refers to railroads having annual carrier operating revenues of $250 million or more, adjusted for inflation.

terminates at a junction in Schneider with NS's east-west line through Kankakee and DeMotte.

2.3 Air Transportation

The proposed South Suburban Airport is located within the study area east of I- 57 and Illinois 50 and west of Illinois 394/1. The initial phase of airport development, known as the Inaugural Airport Program, is designated on approximately 5,200 acres, but the Ultimate Acquisition Area is over 20,000 acres, most of which occurs in unincorporated Will County.

This site was approved as a feasible location for the proposed supplemental air carrier airport by the Federal Aviation Administration (FAA) in their Tier 1 EIS and Record of Decision (ROD) issued on July 12, 2002. The FAA's Tier 2 EIS will focus on the environmental impact of proposed Master Plan alternatives. The Master Plan is currently under development and will provide guidance for future airport development. It is projected that the initial phase of airport operation will encompass between 360 and 3,400 flights serving between 19,600 and 169,000 passengers during the first year. Within 5 years, airport travel is anticipated to increase to 470,000-970,000 passengers.

Multiple other general aviation airstrips exist in the study area. All aviation facilities are shown on Figure 2-9.

Figure 2-7. Freight Facilities – Trucks and Intermodal Facilities

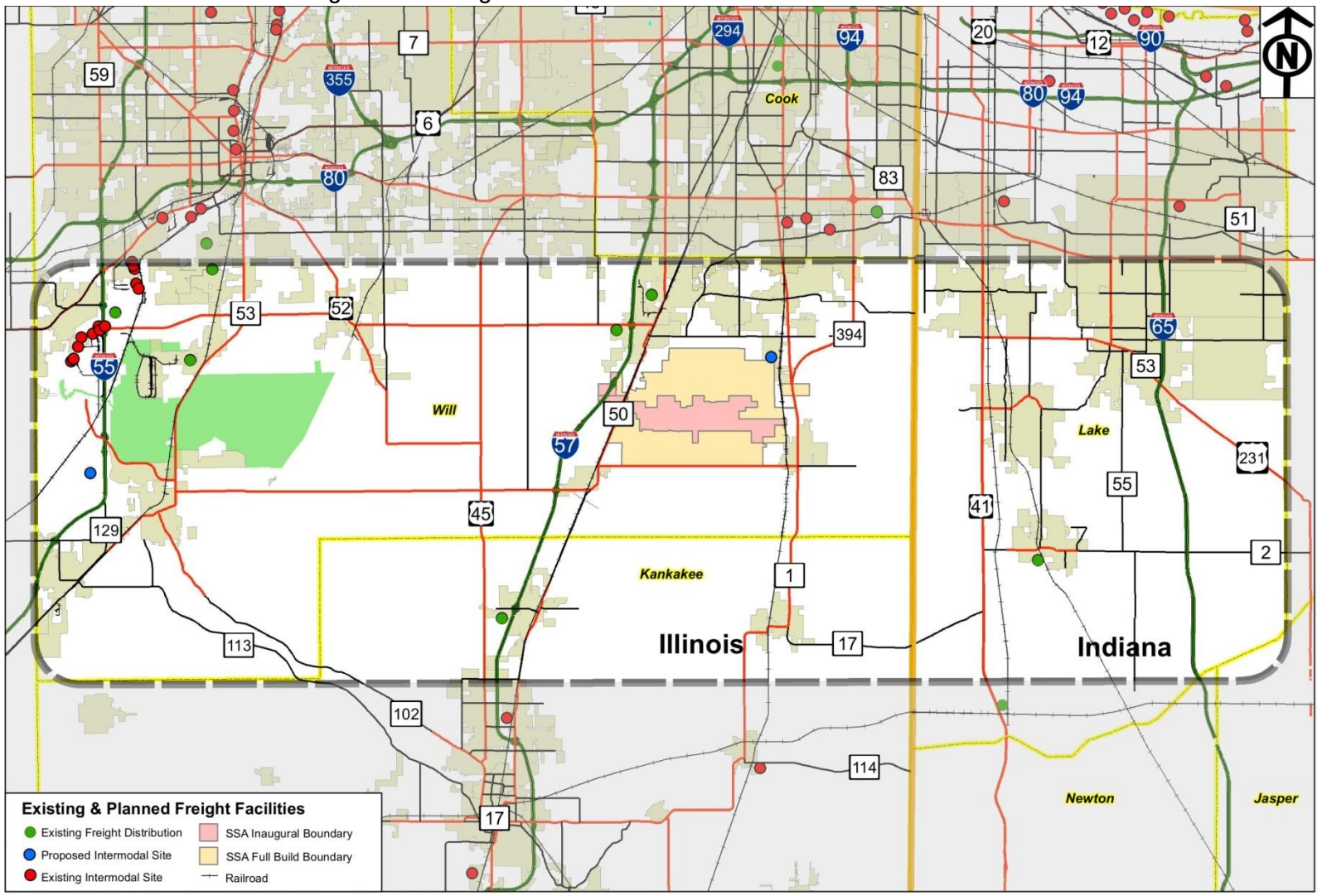


Figure 2-8. Study Area Freight Railroads

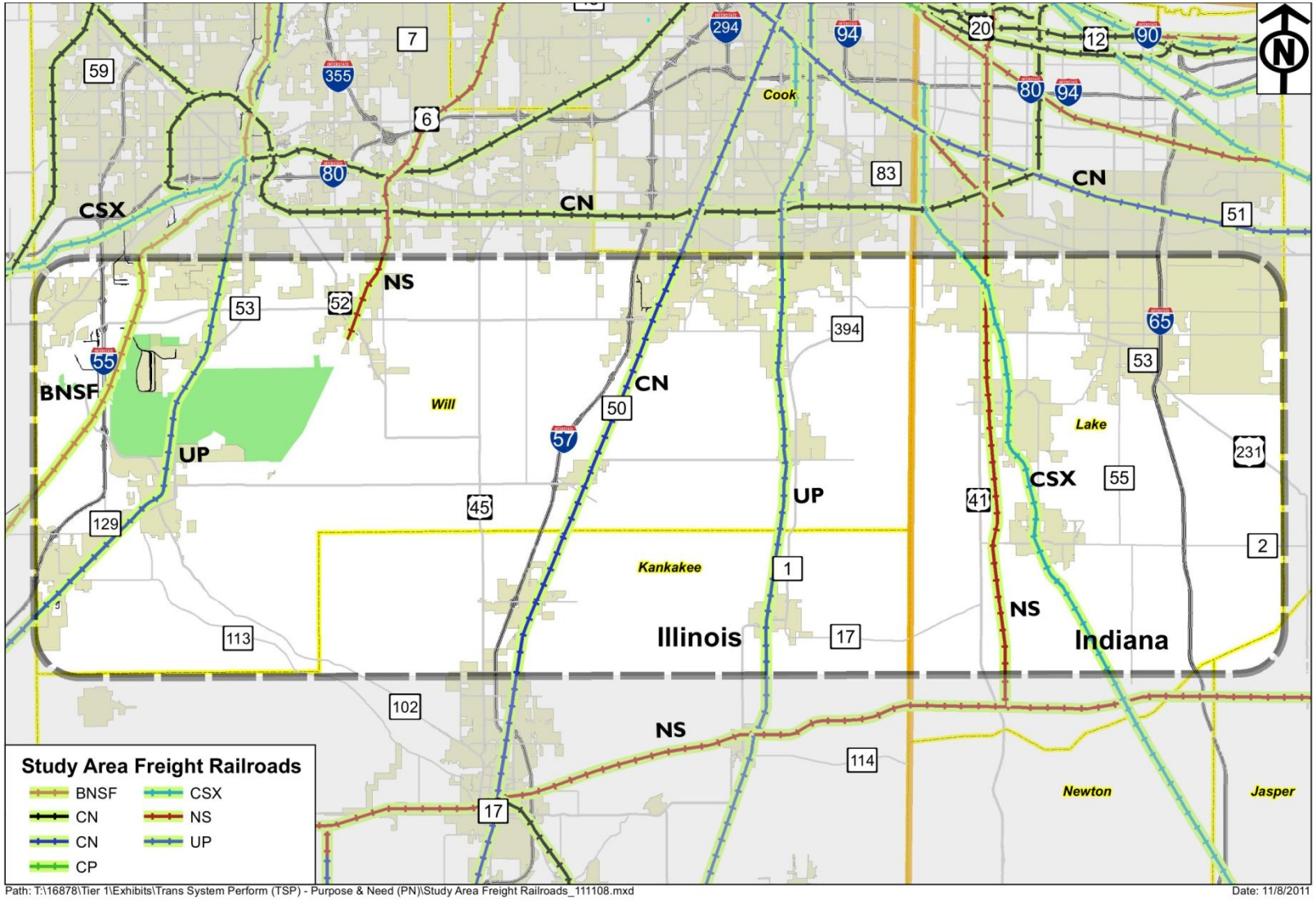
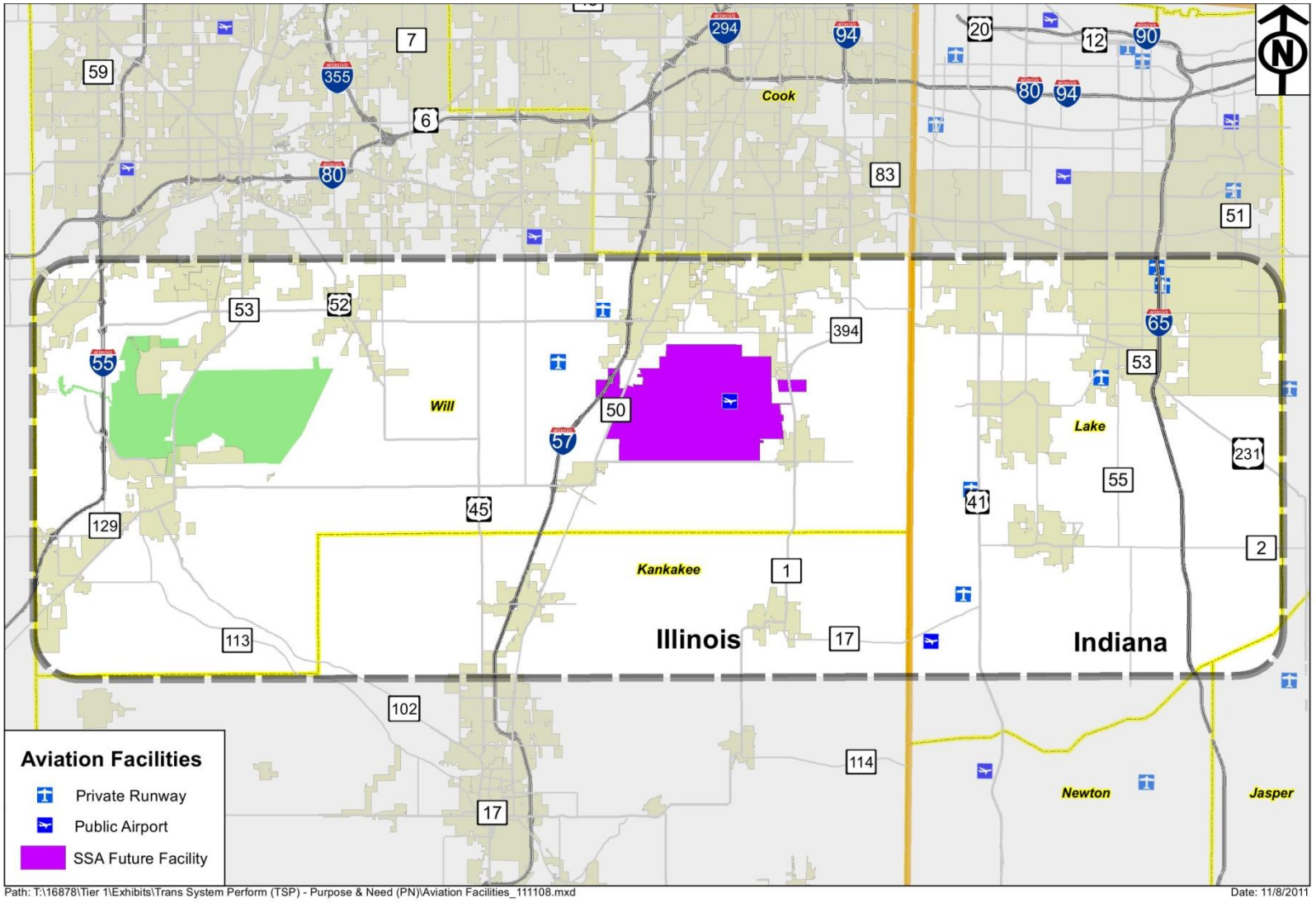


Figure 2-9. Aviation Facilities



2.4 Public Transportation (Transit)

Public transportation in the study area is provided by Metra and Pace, which are operating divisions of the Regional Transportation Authority (RTA), River Valley Metro, and the Regional Bus Authority (RBA). (Figure 2-9).

2.4.1 Metra Commuter Rail

Metra operates 12 commuter rail lines which together carry over 300,000 customers per day in the Chicago region. Metra offers two lines that service portions of the study area. The Southwest Service Line provides service between Chicago and Manhattan, Illinois generally between 6:00 AM and 11:00 PM Monday through Saturday. Metra's Electric District is an electrified commuter rail line that provides service between downtown Chicago and University Park seven days a week on a nearly 24 hour basis, with frequent service during traditional rush hour patterns and less frequent service on off-peak weekday hours, holidays and weekends.

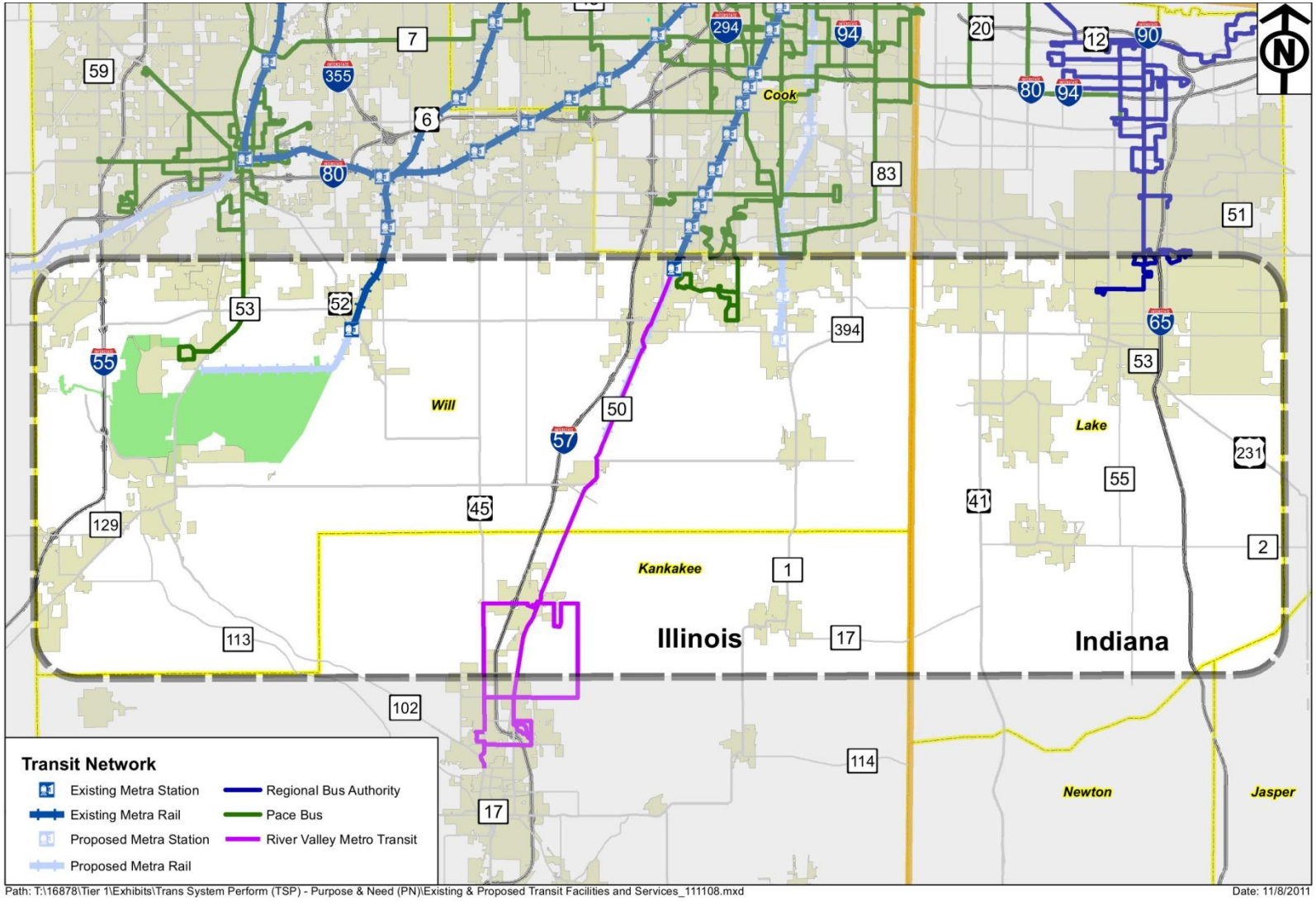
2.4.2 Pace Bus Service

Pace, RTA's suburban bus division, provides fixed-route and express bus services between main boarding points, dial-a-ride and paratransit service in less densely developed areas and for elderly and disabled patrons. Service is typically provided between 5:00 AM and 7:00 PM. The weekend service varies by route.

Within the study area Route 511 provides service between Elwood and Joliet, Illinois. In addition, Pace's dial-a-ride service provides pre-arranged trips to and from specific locations within the dial-a-ride service area to individuals deemed eligible based on local requirements, usually senior citizens and people who have a disability. This service is often provided in areas that do not meet the fixed-route service criteria.

Pace's Vanpool Incentive Program includes traditional vanpool, employer shuttle, Metra feeders, Advantage program, and non-emergency medical vanpools services. Pace also offers paratransit service that provides pre-arranged curb-to-curb service for persons with disabilities whose eligibility has been determined by the regional certification process. Pace's ADA paratransit services operate in suburban areas that are within ¾-mile of Pace's regular fixed routes and during the same days and hours as the regular fixed route service. Dial-a-ride services operate in Will County in DuPage and Frankfort Townships, Central Will (City of Joliet, Homer, Jackson, Joliet , Lockport, Plainfield, Troy Townships), Southwest Will – Manhattan and Channahon Townships, and Southwest Will – Wilmington Township.

Figure 2-10. Existing Transit Facilities and Services



2.4.3 Northwest Indiana Regional Bus Authority Service

The Northwest Indiana Regional Bus Authority (RBA) operates fixed route service in Merrillville and Crown Point in the northern Indiana portion of the study area. The RBA's Brown Route serves the Lake County Government Center in Crown Point via Main Street, Tan Street, Cleveland Street, and 45th Avenue, where it connects to the RBA's Green and Red Routes. Public demand responsive service is provided in central and south Lake County by SouthLake County Community Services (SLCC).

2.4.4 River Valley Metro

Within the study area, Route 9 - Manteno of the River Valley Metro Mass Transit District provides service in Manteno, Illinois. Route 9 began service in 2008 and connects to Route 10 – Bourbonnais at the Bourbonnais Transfer Center at Metro Centre. Commuter service from Metro Centre to University Park was implemented in 2005, with a stop added in Manteno in 2006 for the University Park Route. River Valley Metro also provides ADA service with Metro PLUS.

2.4.5 Programmed Transit Improvements

For the Illiana Corridor, only committed transit improvement projects in the study area were assumed in the future 2040 transportation network. Committed projects include those programmed projects that have a very high probability of implementation. Table 2-4 lists these committed transit projects.

Table 2-4. Programmed and Planned Transit Improvements within the study area

Location	Facility	Description	Location
Will County, IL	Metra SouthWest Service	Enhanced Service	Manhattan-Chicago
	Metra Rock Island District	Enhanced Service	Joliet-Chicago
Kankakee County, IL – No major improvements			
Lake County, IN – No major improvements			

Other potential transit improvements (not included in the fiscally constrained long range transportation plans) being developed by transit agencies include:

- University Park – SSA – Kankakee Commuter Rail Service: proposed commuter rail service from the current University Park terminus of the Metra Electric District Line to the proposed South Suburban Airport and continuing south with intermediate stops to a terminus in Kankakee via the Canadian National Railway's right-of-way (see Kankakee Commuter Rail Feasibility Study, Phases I and II).

- SouthEast Service: proposed commuter rail service along existing UP/CSX freight and passenger railroad tracks, serving 20 communities in south Suburban Cook and Will counties. (see Metra SouthEast Service Alternatives Analysis Study)

- West Lake Commuter Rail Service: proposed commuter rail service along existing and abandoned (Metra Electric, South Shore, Norfolk Southern, Indiana Harbor Belt, and Monon Railroad) freight and passenger railroad tracks from Chicago, Illinois to Valparaiso and/or Cedar Lake and Lowell in Indiana (see Northern Indiana Commuter Transportation District Alternatives Analysis).

- Extension of the Metra SouthWest Service to Midewin National Tallgrass Prairie (CMAP fiscally unconstrained portion of the enhanced service).

- Extension of the Metra Rock Island District to Minooka (CMAP fiscally unconstrained portion of the enhanced service).

2.5 Intercity Passenger Transportation

2.5.1 Amtrak

Amtrak intercity passenger train service passes through the study area. The Chicago – St. Louis (Texas Eagle and Lincoln Service) Amtrak lines operates in the western portion of the study area with the closest Amtrak stations to the study area located in Dwight and Joliet, Illinois. The Chicago – Carbondale (City of New Orleans, Illini Service and Saluki) Amtrak lines operates in the central portion of the study area with the closest Amtrak stations to the study area located in Homewood and Kankakee, Illinois. The Chicago – Indianapolis (Cardinal and Hoosier State) Amtrak lines operate through the eastern portion of the study area with the closest Amtrak stations to the study area located in Dyer and Rensselaer, Indiana.

2.5.2 Intercity Bus

Greyhound and MegaBus operate intercity bus routes through the study area. Greyhound operates several routes through the study area from Chicago to Kankakee, Champaign, and Springfield, Illinois and beyond, and to Indianapolis, whose closest stops to the study area are in Markham and Kankakee, Illinois, and Gary in Indiana.

Megabus operates several routes through the study area from Chicago to Champaign and Normal, Illinois and to Indianapolis, Indiana.

2.5.3 Programmed Intercity Passenger Improvements

The state of Illinois was awarded $1.4 billion in funding for the Chicago – St. Louis high speed rail line. This involves improvements to the existing Union Pacific Railroad right-of-way in the study area to allow 110 mph intercity passenger trains to be operated by Amtrak. The nearest proposed passenger stations on this high speed rail line to the study area are in Joliet and Dwight, Illinois.

In addition, IDOT is partnering with the University of Illinois and a special advisory group to study the feasibility of 220 mph high speed passenger rail service between Chicago and Champaign-Urbana and beyond (St. Louis, Indianapolis, and other potential metropolitan areas south of Champaign-Urbana). This line would pass through the central portion of the study area.

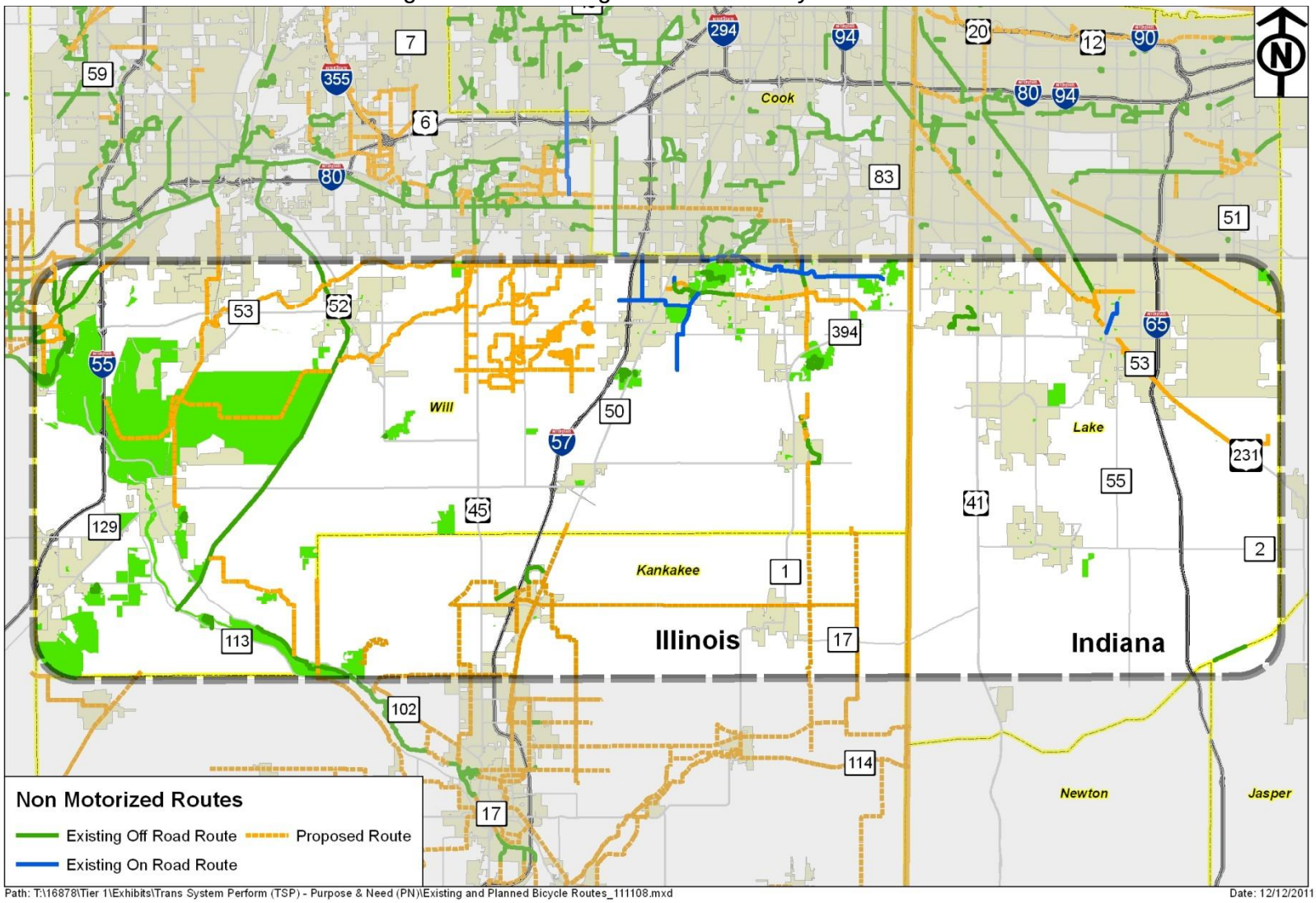
Existing Amtrak service in Indiana includes the Chicago to Indianapolis service through Dyer, IN. NIRPC's 2040 Comprehensive Regional Plan discusses the potential for improved Amtrak service from Chicago to Indianapolis, and the potential for high speed passenger rail service.

2.6 Non-Motorized Transportation

Non-motorized transportation generally includes pedestrian, bicycle, and equestrian modes of travel. The use of non-motorized transportation can be categorized as recreational, local errands/short trips and work trips. Existing and proposed bicycle and pedestrian routes are depicted on Figure 2-11.

The bicycling infrastructure within the study area consists of state, county and local bicycle accommodations. Most roadway cross-sections consist of one lane in each direction with shoulders. The implementation of the recently enacted IDOT Complete Street Policy will increase the network of bicycle and pedestrian facilities and shared use paths.

Figure 2-11. Existing and Planned Bicycle Routes



2.7 Section 2 Highlights

- The study area has a roadway functional classification system that is balanced in the north-south direction, with 207 lane-miles of interstates and 241 lane-miles of other principal arterials.
- In the east-west direction, the study area roadway functional classification is deficient in higher classification roadways, with no lane-miles of interstate and 141 lane-miles of other principal arterials in the study area.
- There are several multi-lane roadways in the north-south direction, including I-55, I-57, IL-50, US-41 and I-65 that cross the entire study area.
- There are no multi-lane roadways in the east-west direction in the study area, and no east-west interstate between I-80 and I-74, a distance of over 100 miles.
- There is a lack of continuous east-west travel routes through the Study Area. The majority of east-west streets are not continuous across the state line between Illinois and Indiana.
- There are also natural features and federally protected lands in the Study Area, such as the Kankakee River and the Midewin National Tallgrass Prairie located in the western portion of the Study Area, and West Creek and Cedar Lake in the eastern portion of the Study Area, which inhibit continuous east-west travel. The proposed South Suburban Airport would also result in east-west road closures.
- There are numerous existing and planned freight facilities in and near the study area, including intermodal facilities, port facilities, and truck terminals. The Class I truck routes in the study area are only established in the north-south direction. Four Class I railroads, traverse the study area in seven north-south rail corridors.
- Existing transit services and facilities are not extensive in the study area. Metra provides radial commuter rail service from Manhattan in Will County to downtown Chicago. There is also limited Pace and RBA fixed-route bus service in the northern portion of the study area, with River Valley Metro providing limited service in the south central portion of the study area.
- Amtrak has three intercity passenger lines that traverse the study area, but with no station stops in the study area. Intercity bus service also traverses the study area.
- There are limited on-road and off-road bicycle facilities, primarily in the northern portion study area. Extensive plans exist for new and expanded bicycle facilities.

3.0 Socio-Economic and Land Use Characteristics

This section presents a description of historic, current (2010), and forecasted (2040) socio-economic characteristics. These socio-economic characteristics, including population, employment, minority population, income, and land use, are important factors in determining the need for future transportation investments.

3.1 Approach

As part of their long range transportation plan process, CMAP, NIRPC, and KATS prepared 2010 and 2040 socio-economic forecasts. The 2010 CMAP and KATS socio-economic forecasts were prepared prior to release of the 2010 Census data. The 2010 NIRPC socio-economic forecasts reflect revisions to be consistent with the 2010 Census data. For the Illiana Corridor Study, a 2010 Base Year forecast was also prepared for the CMAP travel model region. The 2010 socioeconomic data file represents the most current information (June 2011) available from the 2010 Census.

The CMAP Go To 2040 Plan process was different from the previous long range planning forecasts for the Chicago region that were based primarily on trends and an inventory of local development patterns. For the GO TO 2040 Plan, CMAP used a scenario-based approach that resulted in 2040 socio-economic forecasts based on preferred regional planning strategies and policies. These regional policies included extensive infill and redevelopment policy assumptions.

It is recognized that the CMAP 2040 socio-economic forecasts with their extensive incorporation of preferred regional planning strategies and policies may not be suitable for major transportation project design and revenue forecasting. CMAP has released *CMAP Forecast Principles*, April 2011, which includes principles for forecast developers. The Illiana Corridor project team worked closely with CMAP to develop a regional trends/market constraint 2040 Baseline (No Build) socio-economic forecast that was consistent with CMAP Forecast Principles. CMAP has reviewed the 2040 Illiana Baseline socio-economic forecast, and concur that an appropriate methodology was used to develop these trend/market constraint forecasts.

The NIRPC 2040 Comprehensive Regional Plan also reflects preferred regional planning strategies and policies consistent with their scenario-based approach. NIRPC is reviewing the 2040 Illiana socio-economic forecasts and the Illiana project staff will coordinate with NIRPC in order to achieve concurrence on the 2040 socio-economic forecasts for use in the study. The 2040 Illiana socio-economic forecasts are consistent with the 2040 forecasts of the Kankakee Area Transportation Study.

The 2040 Illiana socio-economic forecast represents a Baseline (No Build) scenario that includes only committed projects. Therefore, the 2040 No Build scenario does not include any proposed Illiana Expressway facilities.

The Illiana 2010 and 2040 socio-economic forecasts were prepared at a small area level in a format consistent with the requirements for the regional travel demand model. For summary purposes, the socio-economic information is presented for the three counties that are included in the study area, the study area itself, and for the communities in the study area, where applicable.

3.2 Population

Historic and current population trends and forecasted 2040 population information is provided in this section.

3.2.1 Historic and Current Population Trends

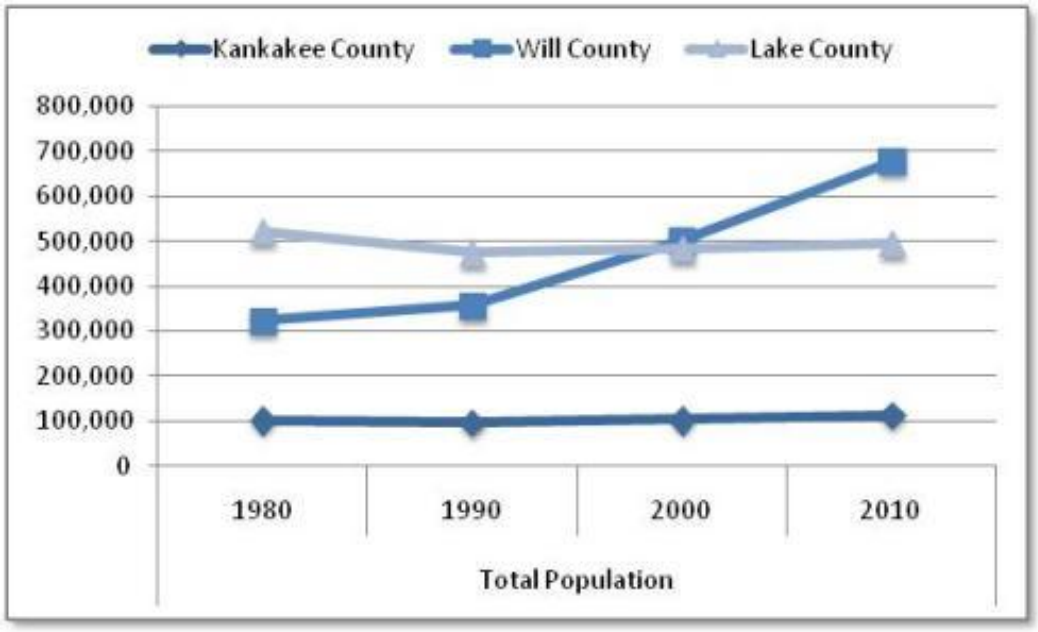
U.S. Census data was used to investigate current and historic population trends in the study area counties. Table 3-1 shows the population trends by county in the study area. Demographic data for the counties that comprise the Illiana Corridor show population growth after an overall decline during the 1980s (Figure 3-1). While Kankakee County's population also declined from 1980 to 1990, it has actually increased 10 percent over the past 30 years. Lake County saw a nine percent decline from 1980 to 1990 but has marginally grown since 1990. On the other hand, Will County has seen growth during each decade since 1980 with the greatest between 1990 and 2000 at a 41 percent increase.

Table 3-1. Historic and Current Population

County	1980	1990	2000	2010	1980-1990	1990-2000	2000-2010	30 Year Change
Kankakee County	102,926	96,255	103,833	113,449	-6.5%	7.9%	9.3%	10.2%
Will County	324,460	357,313	502,266	677,560	10.3%	40.6%	34.9%	108.8%
Lake County	522,965	475,594	484,564	496,005	-9.1%	1.9%	2.4%	-5.2%

Sources: Kankakee County Regional Planning Commission, 2010 and 2030 Kankakee County Comprehensive Plan; NIRPC 2040 Comprehensive Regional Plan; US Census Bureau, 2010

Figure 3-1. Change in Population by County



Within the study area, primarily the northern townships in Will and Lake County and the I-57 corridor in Kankakee County are projected to face long-term development pressures from the expansion of the Chicago region. Between 1980 and 2000, Manteno Township added 2,895 persons which was the second-fastest growing area of the county. This area has high industrial growth with new warehouse distribution centers. The highest period of population growth in Kankakee County was between 1990 and 1994; the annual growth of 1,617 persons during that period was the highest between 1989 and 2001. Annual growth was just below 500 at the in the late 1990s to the beginning of the millennium. More residents in Kankakee County live in urban rather than rural areas.

Northwest Indiana (including Lake County) experienced rapid growth in the 1960's then lost population during the 1980's as a result of steel and industrial decline. The past two decades have seen slow, steady growth that is closer to population totals seen in 1980. Most rapid growth in northwestern Indiana occurred in central Lake County. Southern Lake County has experienced modest growth in Cedar Lake and Lowell. Most growth has been adjacent to municipalities. Winfield was incorporated in 1993 and has seen its population double. In Lake County, people have moved away from urban centers to the suburbs or unincorporated areas.

Will County has more than doubled its population in the past 30 years. Will County has gained population as growth has moved outward from Chicago and into the metropolitan area. Will County was the 5th fastest growing county in the US between 2006 and 2008. It continues to be identified as one of the fastest growing counties.

In terms of communities within the study area, Crown Point and St. John in Lake County and Channahon in Will County have the highest total populations (Table 3-2). The population in each of the communities has grown since 1990 after decreases or steady population between 1980 and 1990. Areas near the planned South Suburban Airport in Will County, Illinois also saw substantial population increases in the past 10 year. 2010 total population in the Illiana study area is 233,398.

Table 3-2. Population of Communities in Study Area

	1980	1990	2000	2010
Kankakee County				
Manteno	3,500	3,488	6,414	9,204
Grant Park	1,038	1,024	1,358	1,331
Will County				
Wilmington	4,419	4,743	5,134	5,724
University Park	6,245	6,204	6,662	7,129
Channahon	3,783	4,266	7,344	12,560
Crete	5,417	6,773	7,712	8,259
Beecher	2,024	2,032	2,033	4,359
Braidwood	3,586	3,584	5,203	6,191
Peotone	2,832	2,947	3,385	4,142
Lake County				
Cedar Lake	8,754	8,885	9,279	11,560
Crown Point	16,455	17,728	19,806	27,317
Lowell	5,827	6,430	7,505	9,276
St. John	3,974	4,921	8,382	14,850

Source: US Census 2010; Illinois Department of Commerce and Economic Opportunity. http://www.commerce.state.il.us/dceo/Bureaus/Community_Development/CommProfiles/M.htm. (7/18/2011).

3.2.2 2040 Population Forecasts

Population forecasts developed by the MPOs were reviewed to determine how much growth is projected in the study area and its surroundings in the next 30 years. Population forecasts were also developed specifically for the Illiana Corridor and compared to the MPO projections. As populations continue to move away from the urban center, growth will occur in surrounding counties. Table 3-3 projected population growth across the region. Table 3-4 shows the estimated growth for each county in the study area. Lake County is projected to experience the greatest percentage growth while Will County is projected to have the largest total population. The study area population is projected to increase by 176 percent in the next 30 years with the largest gain projected between 2020 and 2030.

Table 3-3. Projected Population Growth

Area	2010 Population	2040 Population Projection	Change
Region	10,025,000	12,922,000	29%
South Sub-Region	2,635,000	3,933,000	49%

Source: The al Chalabi Group, 2011

Table 3-4. 2040 Population Forecasts

	2010 Population	2040 Population Projection	Change
Kankakee County	113,449	150,000	32%
Will County	677,560	1,366,456	102%
Lake County	496,005	625,000	26%
Study Area	233,400	644,640	176%

Source: The al Chalabi Group, 2011

Figure 3-2. 2010 Study Area Population per Square Mile

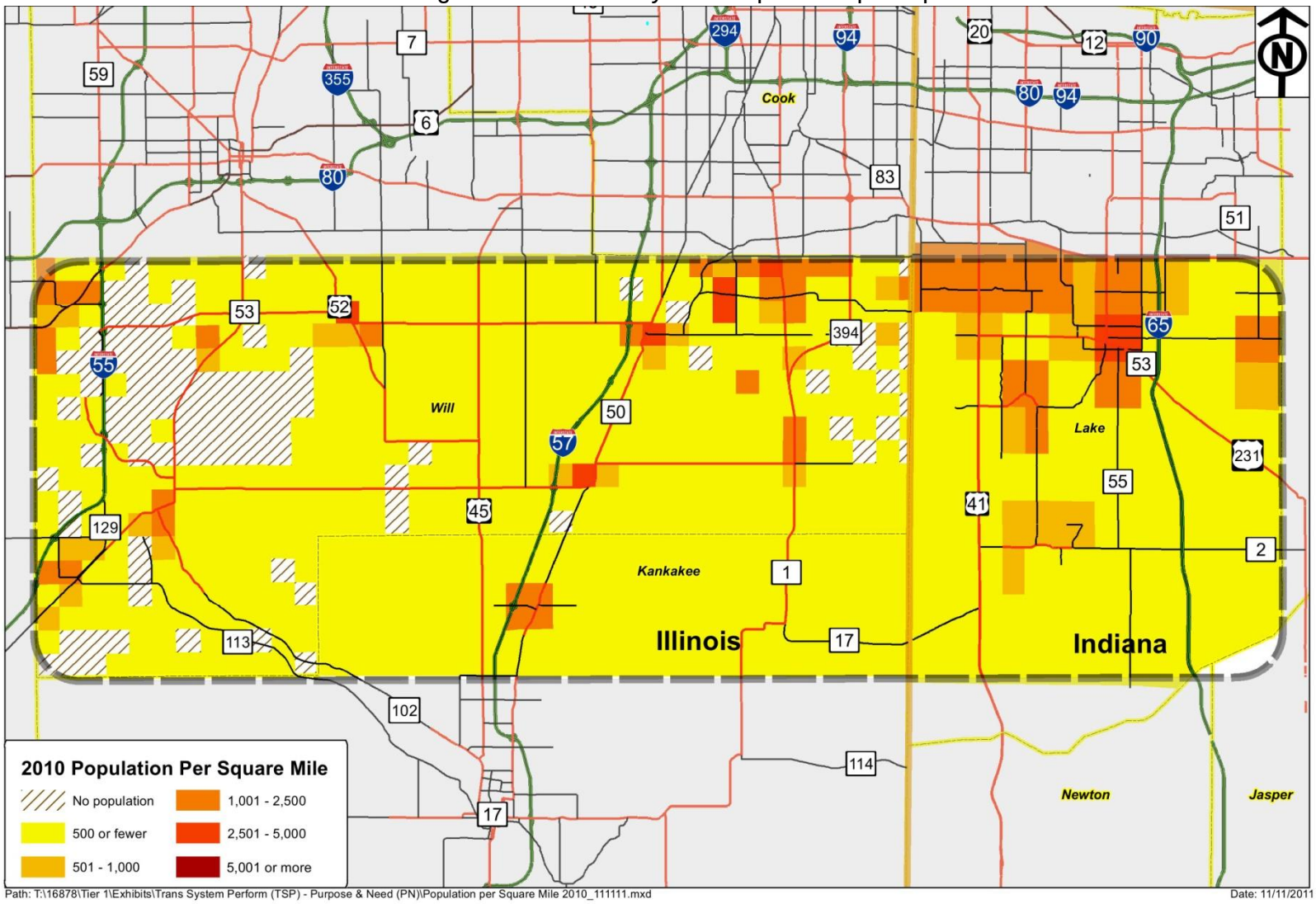
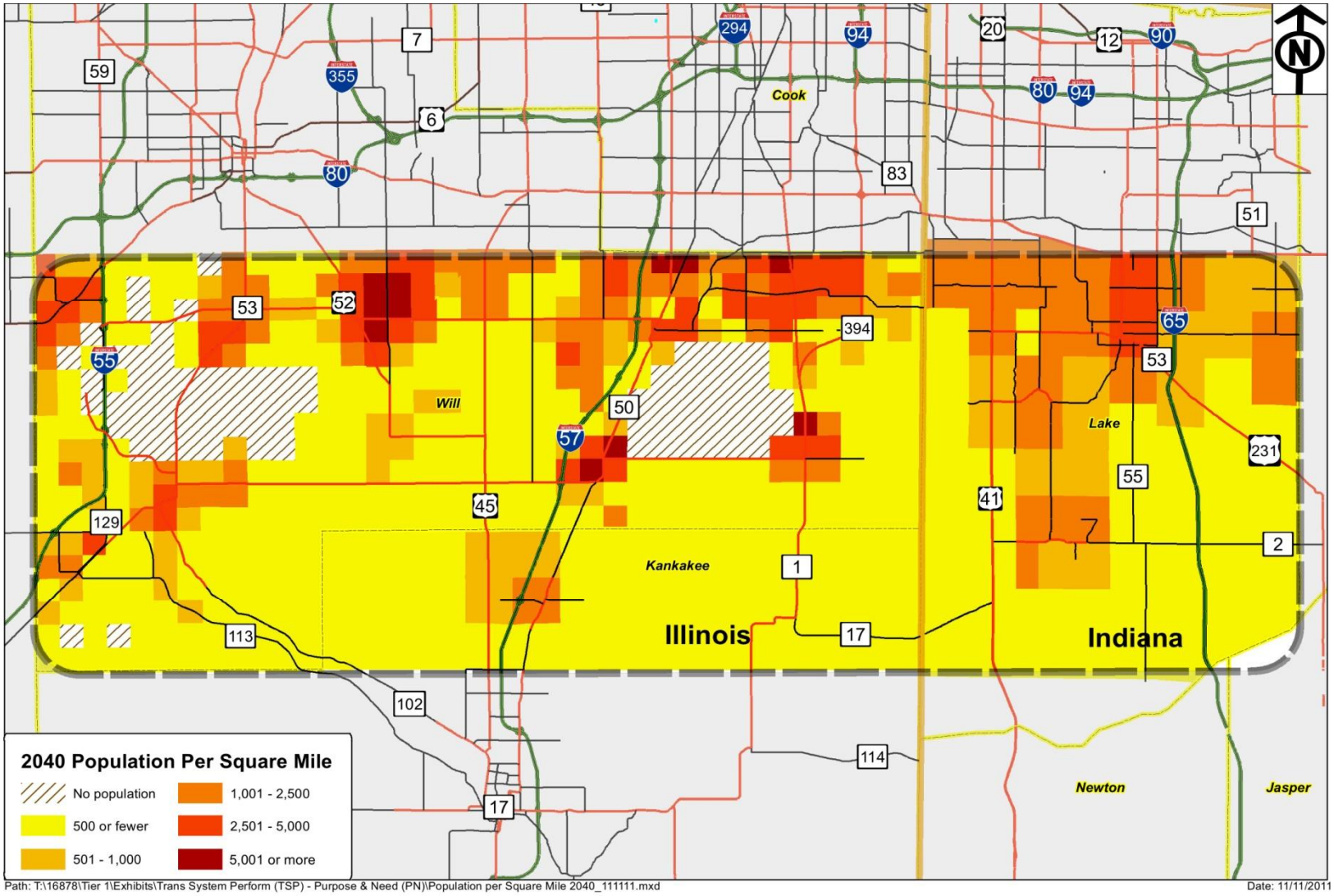


Figure 3-3. 2040 Study Are Population per Square Mile



3.3 Households

3.3.1 Historic and Current Household Trends

Households are another key determinant of travel. Total households within the counties in the study area in 2010 were 456,943, according to the US Census. This represents an increase of over 69,586 households from 2000, or a 17.9 percent increase between 2000 and 2010. Increase in households over 20 years is reflective of the population growth in each of the counties in the study area.

The current total number of households (2010) within the study area is 69,745.

Table 3-5 depicts the trend in the number of households in counties included in the study area. The growth in the number of households was lower between 2000 and 2010 than it was between 1990 and 2000. Households grew the most, almost doubling, in Will County as a result of the fast population growth over the past 20 years. The trend in household growth in these counties is similar to the trend in population growth for Will County. However, in both Kankakee and Lake Counties, the population grew faster than households in the past 10 years. This would correlate to the slow-down in development of housing units during the current economic climate.

Table 3-5. Historic and Current Households

	1990	2000	2010	1990-2000	2000-2010	20 Year Change
Kankakee County	34,623	38,182	40,202	10.3%	5.3%	16.1%
Will County	116,933	167,542	232,398	43.3%	38.7%	98.7%
Lake County	170,748	181,633	184,343	6.4%	1.5%	8.0%

Source: The al Chalabi Group, 2011; US Census Bureau

3.3.2 2040 Household Forecasts

As shown in Table 3-6, by year 2040, the number of households in Kankakee and Lake counties is projected to increase 38 and 29 percent, respectively. This forecast is a quicker increase for both Lake and Kankakee County as compared to the past 20 years. The total number of households in Will County is projected to more than double in 30 years. The study area households are projected to increase more than 180 percent in the next 30 years where the greatest growth will likely be in the Will County portion of the study area.

Table 3-6. 2040 Household Forecasts

	2010 Households	2040 Households	Change
Kankakee County	40,202	55,682	39%
Will County	232,398	486,666	109%
Lake County	184,343	237,569	29%
Study Area	86,534	244,959	183%

Source: ACG, 2011; US Census Bureau, 2011

3.4 Employment

Employment is an economic characteristic that provides considerable insight into travel demand. Trips to work, traditionally, are the longest and most frequent trips per household. Therefore, examining employment trends and the shift in jobs, provides information on the change in travel patterns. Figure 3-2 shows the current study area employment by square mile.

3.4.1 Historic and Current Employment Trends

Locations in the study area with employment are similar to concentrations of population. Existing employment is in location with higher populations in Lake County; the northern portion of the study area; and Manteno Township. The total current employment of the counties in the study area is 535,159, according to the US Census.

Table 3-7 shows the employment within each county for the years 1980 through 2010. Employment in Will County has increased over the past 30 years by 73 percent. However, the increase in employment slowed during the most recent decade with just a four percent increase. Lake County employment was affected in the past due to changes in the steel industry in the 1980s. Employment and population rebounded in the 1990s but was again impacted by the current recession where employment has been impacted. Employment growth has been the slowest between 2000 and 2010 in both Will and Kankakee Counties, but has been higher in Lake County compared to the past.

Table 3-7. Historic and Current Employment

County	1980	1990	2000	2010	1980-1990	1990-2000	2000-2010	30 Year Change
Kankakee County	37,790	43,861	50,110	55,231	16.1%	14.3%	10.2%	46.2%
Will County	145,955	178,245	242,383	252,316	22.1%	36.0%	4.1%	72.9%
Lake County	215,573	206,730	208,911	227,612	-4.1%	1.1%	9.0%	5.6%

Source: US Census, 2011

The changes in population and households have been greater in the past decade compared to employment trends in Will County. This indicates that there are currently more people than there are jobs. For Kankakee and Lake Counties the employment growth has been greater than the population growth allowing for a balance between the two socio-economic characteristics.

Unemployment rates in 2010 for Kankakee, Will, and Lake counties are 12.1, 10.7, and 10.7, respectively. These unemployment rates are similar to 1980 for each county with the

lowest rates in 2000, according to the US Census. Unemployment has more than doubled between 2000 and 2010 for the counties, which is reflective of the current economic climate and higher unemployment across the United States.

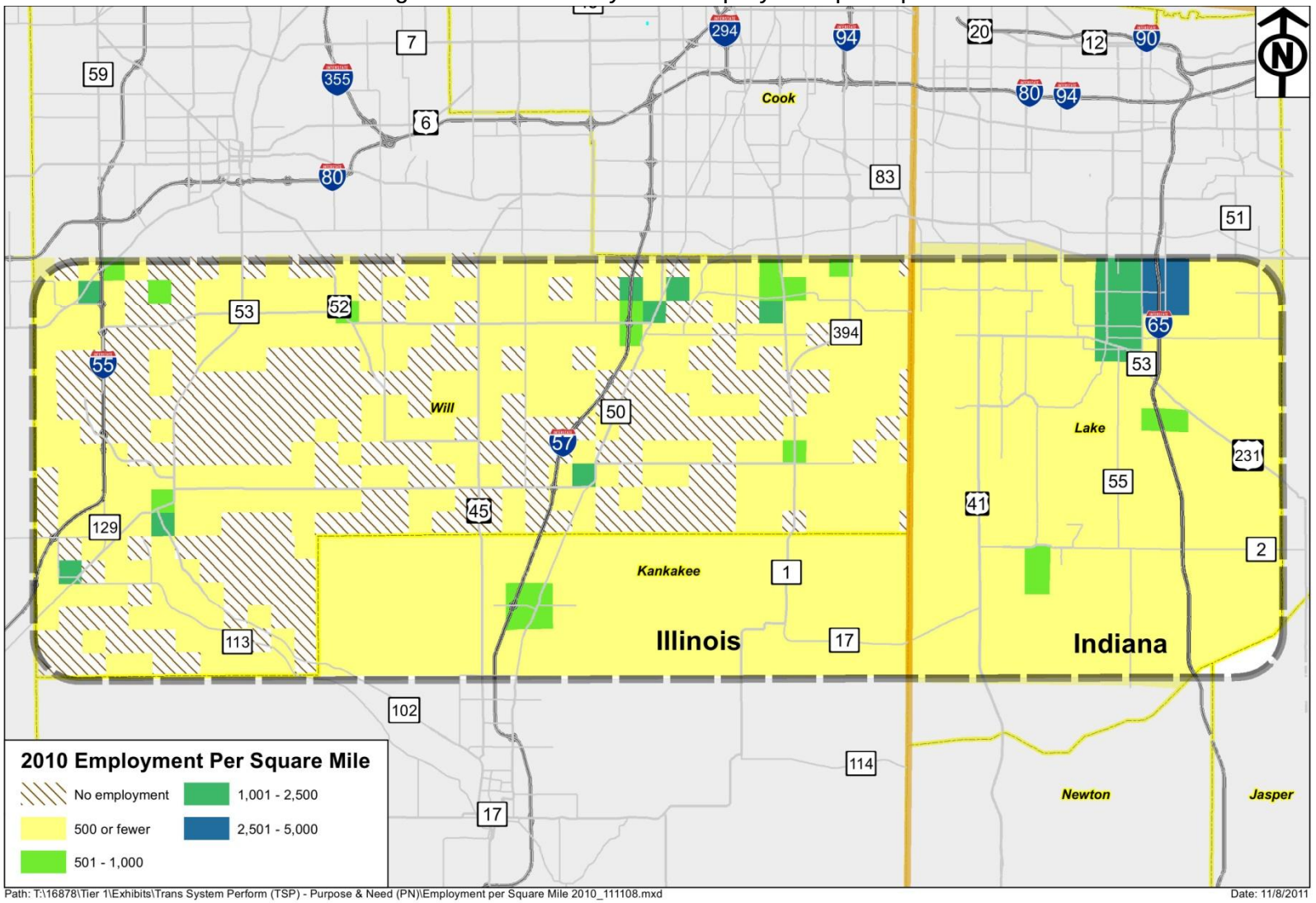
Table 3-8 lists major employers throughout the communities located within the Illiana Corridor study area. Health care, manufacturing, service and institutional industries are major employers in the area.

Table 3-8. Major Employers

Location	Employer	Employees	Employer	Employees
Kankakee County	CSL Behring (Manteno)	550	Sears Logistics Services (Manteno)	633
	K-Mart Distribution Center (Manteno)	601	Baker & Taylor Co. (Manteno)	640
	Armstrong (Manteno)	367	Bunge Edible Oils (Manteno)	320
	Riverside Health Care (Manteno)	2,100	Cigna Health Care (Manteno)	900
	Merisaut (Manteno)	180	Provena St Mary's Hospital (Manteno)	1,100
Will County	Continental Refrigerated Storage (University Park)	200	Applied Systems (University Park)	665
	Solo Cup (University Park)	125	Federal Signal Corp. (University Park)	850
	Bimba Mfg. (University Park)	160	Commonwealth Edison (University Park)	375
	Bluelynx (University Park)	150	Governors State University (University Park)	1,000
	Beecher School District 200-U (Beecher)	150	Bernard Welding (Beecher)	99
	Holland Company (Crete)	100	The Bible League (Crete)	120
	School District 201 (Crete)	150	A&R Logistics (Channahon)	115
	Cleveland Steel (Peotone)	200		
Lake County	Franciscan St. Anthony Health (Crown Point)	1,670	Methodist Hospital Southlake (Merrillville)	

Source: Illinois Department of Commerce and Economic Opportunity. http://www.commerce.state.il.us/dceo/Bureaus/Community_Development/CommProfiles/M.htm. (7/18/2011).

Figure 3-4. 2010 Study Area Employment per Square Mile



3.4.2 2040 Employment Forecasts

As shown in Table 3-9, total employment for the Region is projected to grow substantially over the next 30 years. Forecasted growth between 2010 and 2040 is 35 percent with an employment gain of nearly 2 million jobs. The South Sub-Region, of which the Study Area is a part, is projected to increase in employment by over 70 percent by 2040. This is due in large measure to the expansion of the northeast Illinois and northwest Indiana region into areas of available land close to existing developed centers. Other contributing factors include the development of suburban centers across the region.

Table 3-9. 2040 Employment Forecasts by Region

Area	2010 Employment	2040 Employment Projection	Change
Region	5,664,000	7,626,000	35%
South Sub-Region	1,099,000	1,889,000	72%

Source: The al Chalabi Group, 2011

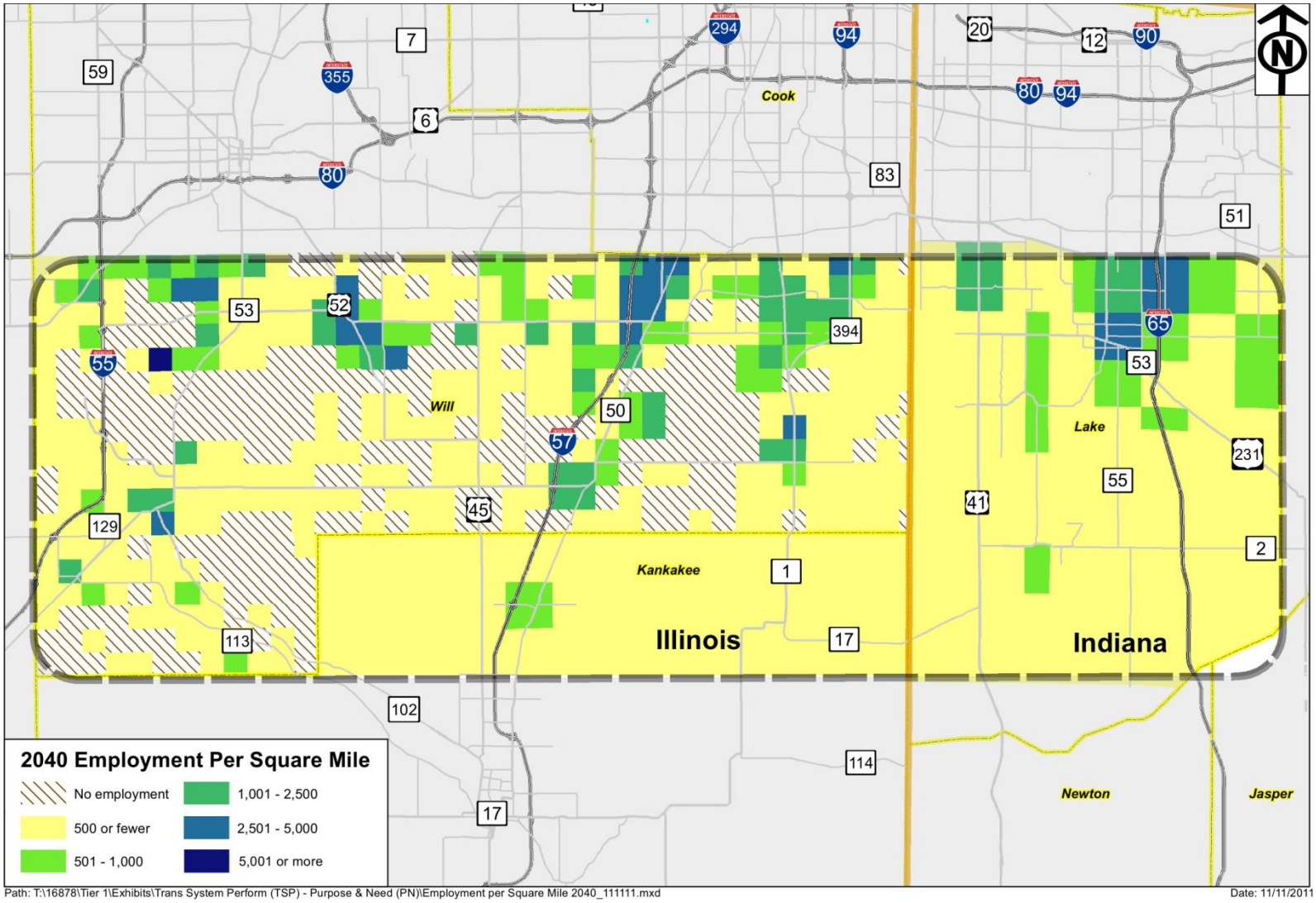
Employment is projected to be the highest in 2040 in the northern portions of the study area. The highest total employment concentrations are in Hobart and Crown Point in Indiana, and University Park, Monee, Manhattan, Joliet, and Beecher in Illinois. 2040 Employment forecasts by county are shown in Table 3-10 below.

Table 3-10. 2040 Employment Forecasts by County

	2010 Employment	2040 Employment Projection	Percent Change
Kankakee County	55,231	75,000	36%
Will County	252,316	672,961	167%
Lake County	227,612	309,598	36%
Study Area	92,071	299,465	225%

Source: ACG, 2011

Figure 3-5. 2040 Study Area Employment per Square Mile



3.4.3 Jobs/Population Ratio

As shown in Table 3-11, the Study Area currently (2010) has a jobs-to-population ratio that is 32 percent less than the Region, with the South Sub-Region jobs-to-population ratio 26 percent less than the Region. The Study Area jobs-to-population ratio is projected to improve by 2040, but it will still be 23 percent less than the Region. This indicates that in general, the Study Area and South Sub-Region have more workers than jobs; so the area is a net exporter of workers.

Table 3-11. Projected Jobs-Population Ratio

Area	2010 Jobs/Pop	2040 Jobs/Pop
Region	0.57	0.59
South Sub-Region	0.42	0.48
Study Area	0.39	0.46

3.5 Historic and Current Income

Income is an important requirement for the travel forecasting model. The resources available to households, affects their auto ownership and travel rates. Table 3-12 shows the household income trends for counties included in the study area. Since 1980, Kankakee County has seen the greatest increase in household income compared to the other two counties. The greatest increase was between 1980 and 1990 and has been steady since 1990. Will County had the greatest increase in median household income between 1990 and 2000 and the highest among the counties in the study area.

Table 3-12. Historic and Current Median Household Income

County	1980	1990	2000	2009	1980-1990	1990-2000	2000-2009	30 Year Change
Kankakee	$17,382	$36,901	$41,532	$49,375	112.3%	12.5%	18.9%	184.1%
Will	$39,092	$41,195	$62,238	$72,478	5.4%	51.1%	16.5%	85.4%
Lake	$35,704	$30,439	$41,829	$47,054	-14.7%	37.4%	12.5%	31.8%

Source: US Census Bureau; Kankakee County Planning Department, 2011

3.6 Additional Socioeconomic Characteristics

3.6.1 Minority Populations

Kankakee County experienced a growth in Hispanic populations that doubled between 1990 and 2000 after minimal growth from 1980 to 1990. The Hispanic population also doubled between 2000 and 2010. Clusters of Census blocks with small concentrations of Hispanic population are located near Manteno and Grant Park. The African-American population remained stable in the county but there are no concentrations within the Illiana study area.

Will County has seen changes in the makeup of its racial population. The White population in the county dropped from 83.2 percent in 2000 to 76 percent of the total population in 2010. The African-American population remained stable between 2000 and 2010 and represents 11.2 percent of the population. The Hispanic population more than doubled between 2000 and 2010 and now represents 15.6 percent of the population in Will County. Concentrations of Hispanic population are primarily located surrounding the communities in Will County. Census blocks with concentrations of African Americans are located in University Park, Monee, and Crete and in the surrounding township areas outside of municipal boundaries.

Northwest Indiana has experienced increased racial diversity. Within Lake County, non-white populations accounted for 36.6 percent of the population in 2010 which is a 3.4 percent increase over the 2000 population. As with the other counties in the study area, the Hispanic population has seen increases over the past 10 years. Hispanic populations are primarily clustered in northern Lake County in St. John and Merrillville, which are located north of the study area boundary. As in Will County, smaller concentrations of Hispanic populations are also located throughout Lake County.

3.6.2 Low-Income Populations

Poverty levels for the counties within the study area have increased for each county from 2000 to 2009. According to ACS data, the median percentage of the population considered to be living below the poverty level in the study area is 7.0 percent in Will County, 15.1 percent in Kankakee County, and 16.4 percent in Lake County.

A comparison of these figures correlates to the total median household income of the three counties. The statewide median for persons living below the poverty level is 13.3 percent in Illinois and 14.4 percent in Indiana.

Table 3-13 shows that minority populations (environmental justice populations) are located within the study area in the communities of University Park, Crete and Monee in northwest Will County and in Crown Point in northern Lake County.

Table 3-13. Study Area Racial and Ethnicity Characteristics

Location	2010 Total Population	2010 Black or African American		2010 Hispanic or Latino		2010 Other Minorities	
Kankakee County, IL	113,449	17,187	15.1%	10,167	9.0%	8,270	7.3%
Manteno	9,204	108	1.2%	521	5.7%	200	2.2%
Grant Park	1,331	1	.1%	83	6.2%	34	2.6%
Will County, IL	677,560	75,743	11.2%	105,817	15.6%	87,153	12.9%
Wilmington	5,724	46	0.8%	242	4.2%	175	3.1%
University Park	7,129	6,399	89.8%	178	2.5%	242	3.4%
Channahon	12,560	159	1.3%	1,020	8.1%	283	2.3%
Crete	8,259	2,322	28.1	523	6.3%	307	3.7%
Beecher	4,359	0	0%	4	.9%	144	3.3%
Braidwood	6,191	28	.5%	306	4.9%	126	2.0%
Peotone	4,142	32	.8%	209	5.0%	118	2.9%
Monee	5,148	747	14.5%	464	9.0%	269	5.2%
Lake County, IN	496,005	128,263	25.9%	82,663	16.7%	48,330	9.7%
Cedar Lake	11,560	53	.5%	754	6.5%	542	4.7%
Crown Point	27,317	1,867	6.8%	2,213	8.1%	980	3.6%
Lowell	9,276	49	.5%	640	6.9%	333	3.9%
St. John	13,244	199	1.3%	1,222	8.2%	400	2.7%
Winfield	4,383	162	3.7%	391	8.9%	233	5.3%

3.7 Land Use

Land use plans from available comprehensive plans for the counties in the study area were reviewed. GIS data were obtained containing the land uses in the study area. The existing land uses are described qualitatively by the counties in the study area and quantitatively described within only the study area.

3.7.1 Existing Land Use

Existing land uses in the study area and its surroundings include a mix of diverse land uses characteristic of both urban and suburban areas. Land uses range from agriculture to commercial business, to heavy industry, and residential areas. Since the study area is within the Chicago metropolitan area, land is more urban to the north and suburban and rural to the south. Figure 3-7 is a study area map depicting all land uses. It shows the distribution of existing land uses within and surrounding the study area. Figure 3-7 shows the same information by percentage.

The majority of the study area is considered more the 75 percent cultivated (53.6 percent) and between 51 and 75 percent cultivated (14.9 percent) (Table 3-14). Cultivated land refers to land that is prepared for crop use. This is a type of agricultural land use.

Table 3-14. Existing Land Uses in Study Area

Land Use	Acres	Area (square miles)	% of Study Area
> 75% Cultivated	329,450.88	514.8	53.61%
51% - 75% Cultivated	91,385.60	142.8	14.87%
15% - 50% Cultivated	29,254.40	45.7	4.76%
25% - 50% Cultivated	50,944.00	79.6	8.29%
< 25% Cultivated	40,108.80	62.7	6.53%
Agri-Urban: >100 homes per square mile	63,225.60	98.8	10.29%
Commercial: >100 homes per square mile	1,798.40	2.8	0.29%
Non-Agricultural	2,521.60	3.9	0.41%
Water	5,881.60	9.2	0.96%

Figure 3-6. Study Area Existing (2010) Land Use

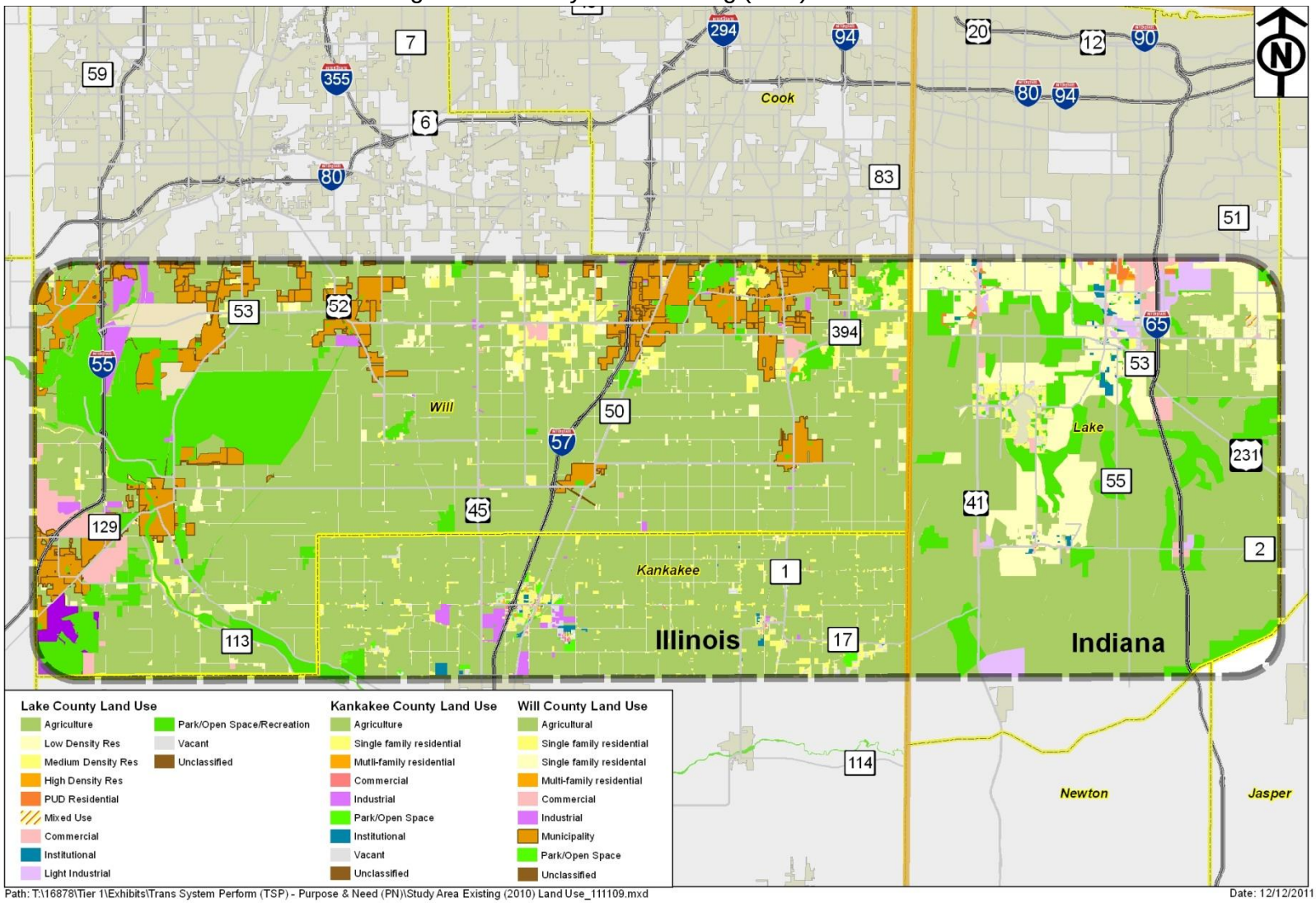
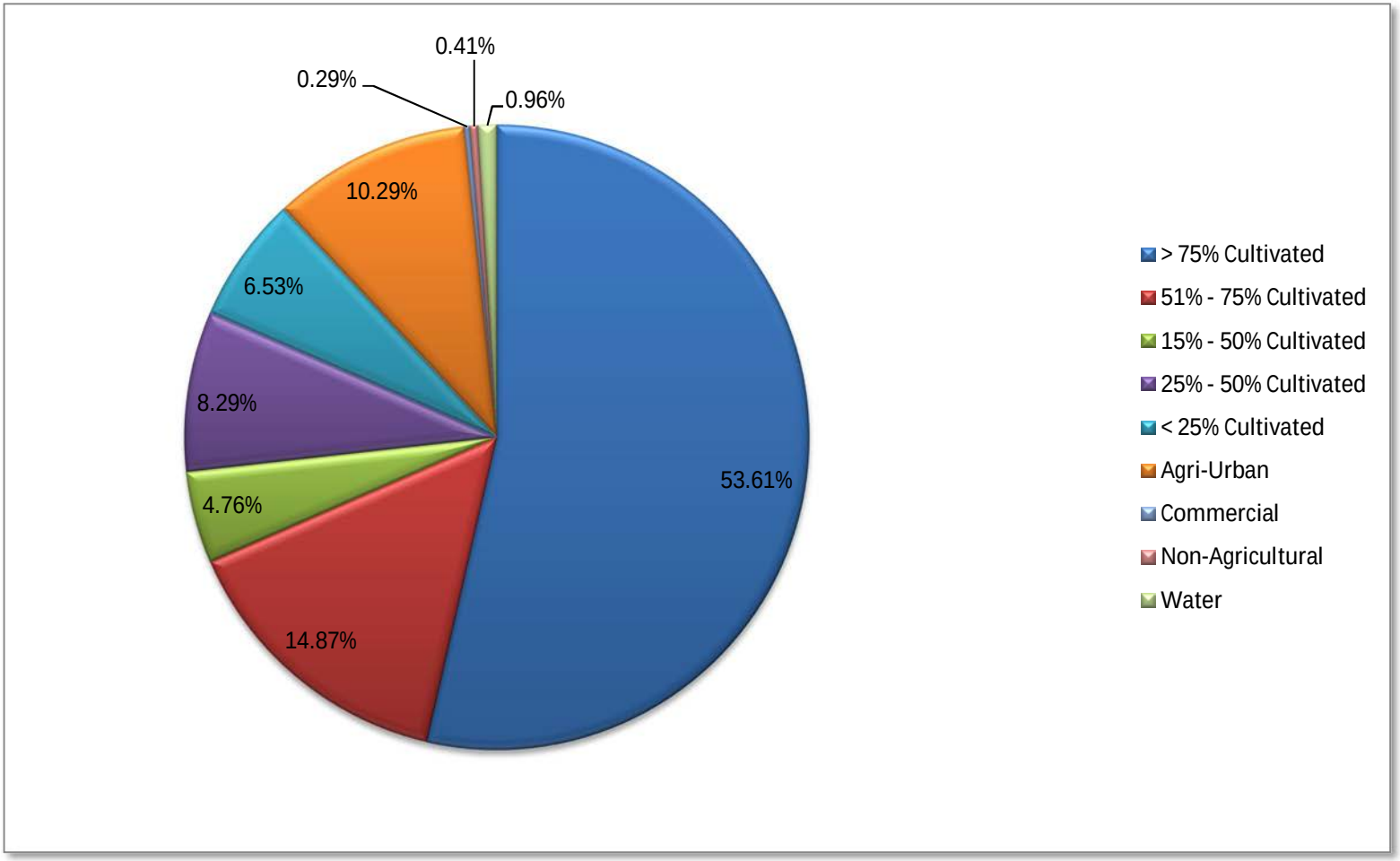


Figure 3-7. Percentage of Land Uses in the Study Area



3.7.1.1 Kankakee County

Incorporated areas within the study area in Kankakee County include the Villages of Manteno and Grant Park, which are in the northern portion of the county. A substantial amount of real estate development occurred in the 1990's along I-57 which accesses Manteno and Bourbonnais further to the south. Between 1980 and 2000, Manteno Township (Kankakee County) was the second-fastest growing area of the county. This area had high industrial growth with new warehouse distribution centers in the late 1980's and early 1990's. Another warehouse distribution center was built in 2000 in this township for Sears. Four townships in Kankakee County are located within the study area: Manteno, Rockville, Sumner, and Yellowhead.

Currently, the majority of land (more than 75 percent) is agriculture, as shown in Figures 3-8 and 3-9, with scattered single-family residential along county roads. Commercial development is concentrated along I-57 and IL 50 in Manteno. There are few industrial sites in the Kankakee County townships. There are a mix of uses east of Manteno, including public open spaces and institutional land.

The following is a summary of land uses by township:

- Manteno Township - 22,187 acres: Agricultural accounts for 80 percent of land, or 17,748 acres). Most industrial land in the county is located in this township. Diversatech Campus is used for light industrial uses. Mining locations at the southern portion of the study area near Manteno.

- Rockville Township - 22,852 acres: Agricultural accounts for 92 percent of land, or 20,947 acres. Single-family residential accounts for 681 acres. Public open space is the second largest land use in this township as part of the Kankakee River State Park.

- Sumner Township - 23,285 acres: Agricultural land accounts for 97 percent of land and single-family residential accounts for the rest.

- Yellowhead Township - 27,207 acres: Agricultural accounts for 95 percent of land, or 25,782 acres. Single-family residential accounts for 846 acres which is more acreage than the Village of Grant Park as a whole (292 acres).

3.7.1.2 Will County

Incorporated areas in Will County within the study area include Crete, Monee, Peotone, Beecher, Elwood, Manhattan, Wilmington, University Park, and Braidwood. Monee is predominantly single-family residential and multi-family units are limited. Some conversion of farmland to residential has occurred more recently in this community. Crete has seen considerable growth in recent years in the form of large, single-family residences. Commercial development in this area is along Illinois Route 1. University Park is a planned suburban community with a mix of single-family and multi-family residences and a substantial amount of recreational uses. Both Peotone and Beecher are rural communities with predominantly single-family residences. Recreational facilities account

for about 20 percent of the village of Beecher. Development has been to the northern and eastern portions of Beecher with industrial uses to the northwest

The eastern portion of the county is comprised generally of agricultural with small residential subdivisions scattered. Rural land use pattern in most of the county in the study area is typical but is changing with more residential development occurring in Monee, Crete, and University Park. Land more to the north (on the eastern end) has more suburban, residential character than to the south. Commercial development is concentrated around the I-57 corridor and Illinois Route 50. Nature preserves and reservoirs are located throughout the southern portion of the county. The Midewin National Tallgrass Prairie is located in the western portion of the county between Elwood and Wilmington.

3.7.1.3 Lake County

The incorporated areas of Lake County within the study area include Crown Point, Cedar Lake, Lowell, Winfield, and St. John. Winfield was incorporated most recently in 1993. Most suburban development in the northwest Indiana region occurs in Lake County due to its proximity to Chicago. Low-density residential uses account for most of urban uses in the county. The most rapid growth in the northwest Indiana region has occurred in central Lake County. Since 1992, there has been a 9.5 percent loss of farmland in Lake County that was converted to other uses.

3.7.2 Land Use Forecasts

3.7.2.1 Kankakee County Future Land Use

Land use projections for 2030 were provided per the Kankakee County 2030 Comprehensive Plan. Residential land is projected to grow at the highest rate. Greenway Corridors are planned along waterways within Manteno growth areas and west of Grant Park in areas of conservation development. The northern townships and municipalities in the county have received the majority of new population growth. Farmland would be projected to develop as residential, industrial, or commercial land. Infill development is desired within incorporated areas.

Grant Park has long range plans for conservation development outside of planned growth areas. Summer and Rockville Townships are planned to remain agricultural in the future. Four new “hamlets” are noted within the townships that are characterized by small concentration of homes, a public facility, minimal commercial services, and possible industrial services. These areas will be the focus of future rural development policies.

The North I-57 Corridor is a sub-area (between Manteno and Bourbonnais-Bradley) that is projected to have continued substantial growth, especially attractive for employment development.

Land use preferences along this corridor include:

- Office and industrial employment growth corridors along U.S. 45 and Route 50;

- Concentrated commercial/retail hubs at U.S. 45 and 6000 N. and 9000 N. Roads;
- Mixed-use districts along U.S. 45 between 6000 N. and 9000 N. Roads.

3.7.2.2 Will County Future Land Use

Will County is projected to see more development pressure southward into the western portion of the county from the City of Joliet. Other development is planned to be concentrated around suburban communities.

The South Suburban Airport (SSA) is proposed between the communities of Monee, Peotone, and Beecher. Near the SSA site, residential development is occurring in unincorporated areas around Peotone and Beecher. SSA will be a new commercial service airport in the eastern portion of Will County that will serve the greater Chicago area. SSA is identified in the county land use plan as a project of regional impact.

3.7.2.3 Lake County Future Land Use

According to its comprehensive plan, new development in Lake County is to be concentrated in developed areas as the highest priority.

3.8 Section 3 Highlights

- Will County grew by 175,000 residents (35 percent) between 2000 and 2010 and had the highest population growth of Illinois counties. Lake County, Indiana and Kankakee County, Illinois also grew in population at two and 10 percent respectively, between 2000 and 2010.

- Employment grew for Kankakee, Lake, and Will counties between 2000 and 2010 at 10, nine and four percent, respectively.

- 2040 population and employment forecasts for the "no build" 2040 planning horizon were developed in coordination with the three regional planning agencies. These 2040 forecasts are market-based projections.

- Study area population growth between 2010 and 2040 is forecasted to increase by 176 percent or 411,000 residents. The Study Area population growth is projected to grow at a much higher rate than the South Sub-Region (49 percent growth) and the Region (29 percent growth) between 2010 and 2040.

- Study area employment growth between 2010 and 2040 is forecasted to increase by 225 percent or 207,000 jobs. The Study Area population growth is projected to grow at a much higher rate than the South Sub-Region (72 percent growth) and the Region (35 percent growth) between 2010 and 2040.

- Based on the 2010 and 2040 jobs to population ratio, the Study Area and South Sub-Region have more workers than jobs; so the area is a net exporter of workers.

- Black and African American populations for municipalities in the study area are at 9 percent. Hispanic and Latino populations for municipalities in the study area are at 7 percent, and other minority populations are at 3 percent.

- The majority of the study area is agricultural land use. Future land use includes continued development southward from the northern portion of the study area, and in the I-55 and I-57 corridors and in south central Lake County.

4.0 Study Area Transportation System Demand

4.1 Introduction

Current and future transportation demands are identified in this section in order to provide an understanding of system needs. Demand is summarized for travel by personal vehicle, commercial trucks, rail, air, and non-motorized modes through collection of historic and existing traffic data and development of a travel demand model to predict growth.

Substantial quantities of transportation system data were provided by state and local agencies. Current socioeconomic and traffic data were used to develop and validate the travel demand model.

4.2 Approach

Transportation system demand is determined through the analysis of historic and existing traffic data and forecasted travel volumes. Following is a summary of the ways in which this data was collected and developed for use in assessing demand.

4.2.1 Traffic count data

Historic and existing traffic counts were assembled from two main sources:

1. Existing inventories of traffic count data.
2. Collection of new volumes through traffic counting efforts.

The study approach to assembling historic and current traffic counts and the development of 2040 projected traffic volumes is described below for each state. Existing traffic counts were provided or collected for 8,033 links in the region. 57 percent of these links provided truck volume data.

Figure 4-1 illustrates the extensive network of traffic volumes that informed the analyses in this report.

Traffic Count Data - Indiana

Base year ADT volumes on Indiana's State, Interstate, U.S. and county highways were obtained from counts conducted as part of INDOT's area wide coverage count program and from new counts conducted for the purposes of this project. Where counts were already available for the year 2009 or 2010, those counts were provided to the consultant team by INDOT for use in this study. Where recent counts were not already available, INDOT provided the resources for new counts to be conducted. These counts were conducted by INDOT personnel or their consultants on weekdays in June and July 2011. All counts were conducted over a 48-hour period on a typical weekday. The counts were classified into the standard FHWA classifications wherever conditions permitted.

Recent ADT counts were not available on any of the interchange ramps within the Indiana portion of the study area. All interchange ramps and cross streets were therefore counted by INDOT and its consultants in spring 2011 for use in this study. All ramps and cross streets at the following interchanges were counted as part of this effort:

a. I-65 at IN 10
b. I-65 at IN 2
c. I-65 at US 231 / IN 8
d. I-65 at US 30
e. I-65 at 61st Avenue
f. I-80/94 at Ridge Road
g. I-80/94 at I-65
h. I-80/94 at Broadway/IN 53
i. I-80/94 at Grant Street
j. I-80/94 at Burr Street
k. I-80/94 at Cline Avenue/IN 912
l. I-80/94 at Kentucky Avenue
m. I-80/94 at Indianapolis Boulevard / US 41
n. I-80/94 at Calumet Avenue

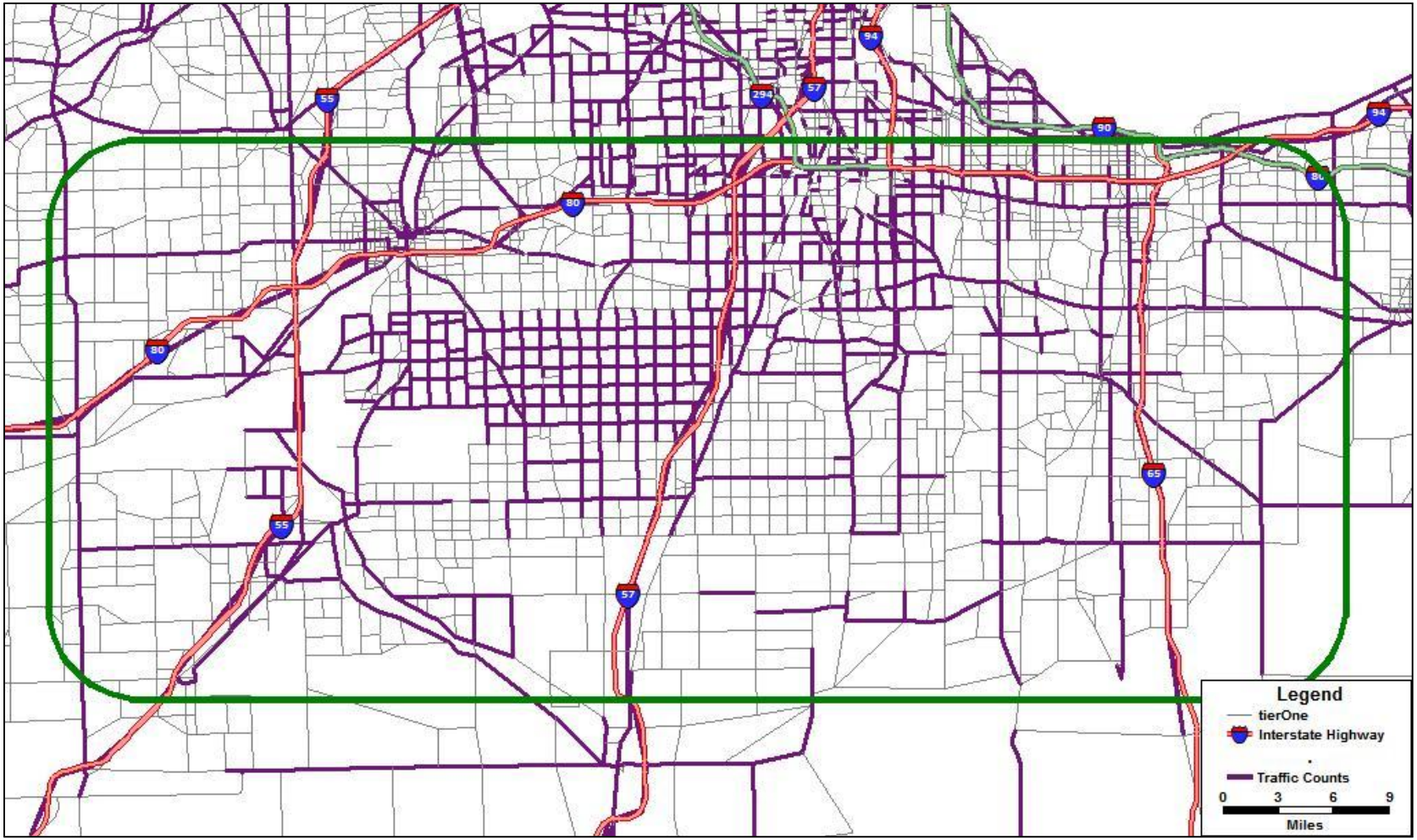
Besides the interchange ramp counts, INDOT also collected 48-hour classification counts at select stations along mainline roadways including Calumet and Ridge Roads, US 41/Indianapolis Boulevard, 93rd Street, IN 53 / Broadway, IN 55/Grant Street, IN 912/Cline Avenue, Burr Street, US 30, and IN 2. These counts were supplemented by additional mainline counts throughout the study area conducted by members of the PB team in May, June and July 2011.

Traffic volume data was collected on mainline I-80/94 and I-65 from more than one source. Weigh in Motion (WIM) stations provided traffic volume data at three locations:

- On I-80/94 between the state line and US 41
- On I-80/94 between the SR 912 and Burr
- On I-65 north of US 30

An automatic traffic recording station provided volume data on I-65 south of US 30.

Figure 4-1. Traffic Data Collection Locations



Traffic Count Data – Illinois

As part of the Illinois Traffic Monitoring Program, Average Daily Traffic (ADT) data is collected on the entire state primary system biennially. In addition, on the majority of the state system, concurrently with the ADT counts, vehicles are counted on an hourly basis for a 24-hour period by vehicle type/classification and vehicle speed. Traffic data is collected on odd numbered years (2005, 2007, 2009, etc.). A count is taken on every marked route section between substantial intersections. The unmarked (local) roadway systems are counted during county traffic surveys and include only ADT information. These traffic counts take place on a 4-year cycle in the Chicago area and a 5-year cycle downstate. County coverage is extensive, including detailed coverage of urban areas within each county. Least extensive is the coverage obtained on township roads and municipal streets, which carry a small percentage of statewide travel. IDOT used NuMetric Hi-Star counters to collect the majority of the subject data, i.e. locations that contain 24 hour and speed data.

In Illinois, traffic data is available on IDOT's web site in GIS format. Within the Illiana study area traffic data was obtained on the majority of state marked routes by ADT (total and truck), 24 hour traffic counts by vehicle class and 24 hour speed data. ADT-only was available on the remaining State, County and Township roads. The data on state-marked routes was collected in 2009 and on County highways in 2008. IDOT is presently into the state primary system 2011 data collection cycle with traffic data collection along county highways in the study area will be initiated in 2012. The 2011 data presently being collected on state marked routes will be available for use on the Illiana project in March or April of 2012.

As indicated by the ADT map, IDOT traffic data provided excellent study area coverage for most of the study area. These counts were supplemented with additional count data in proximity to the CenterPoint Intermodal Center on Arsenal Road just west of I-55, which is the site of an intermodal center and industrial business park. With concurrence from CenterPoint Properties, traffic and vehicle classification counts were conducted on facility access drives and roads leading into their facilities. In addition to better identifying travel patterns and truck movements on roadways surrounding the Intermodal Center, additional traffic data was collected on adjacent highways in order to supplement and verify existing traffic data.

Summary of Existing Traffic Data

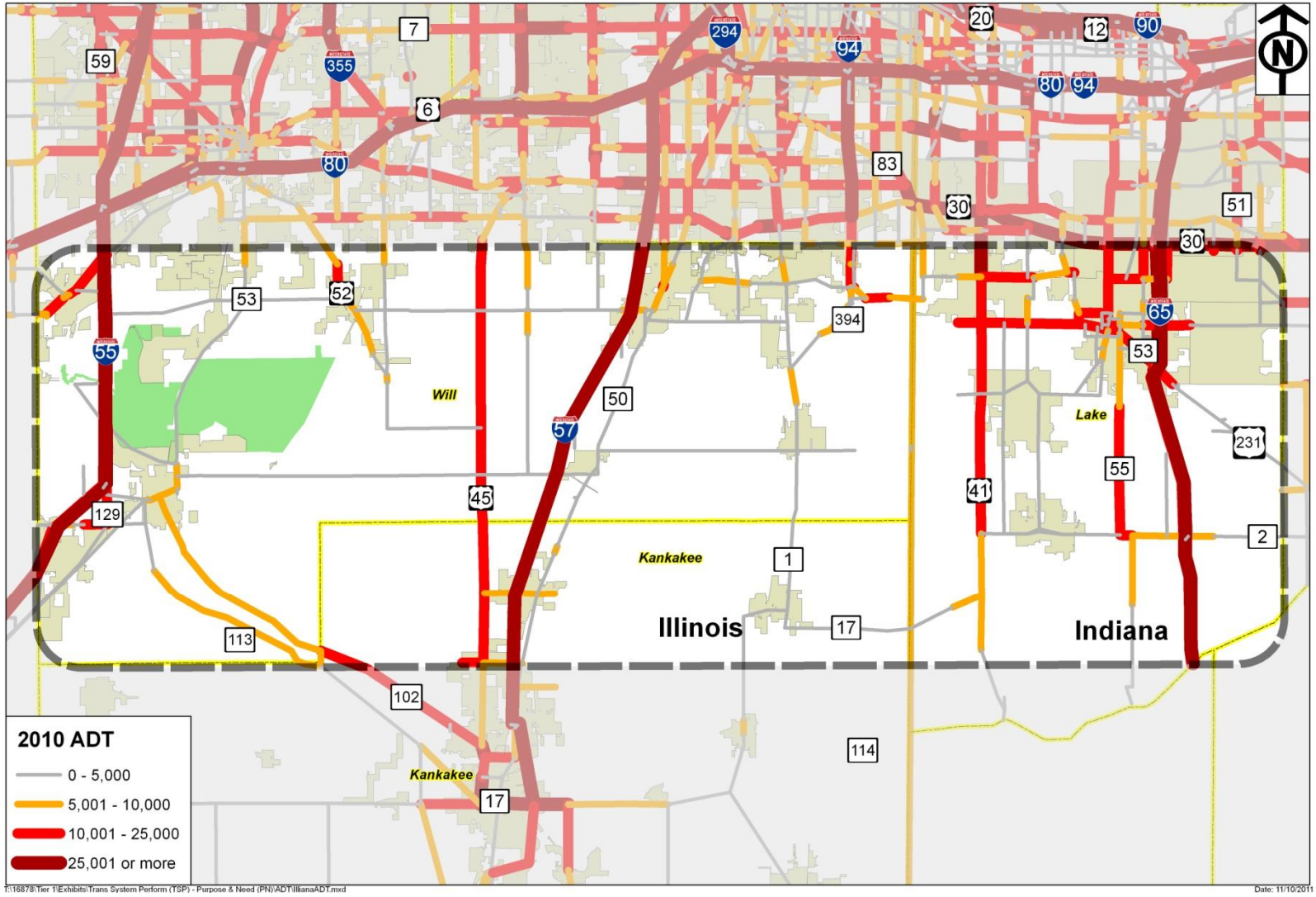
Figure 4-2 illustrates ADT's in the study area, color coded to indicate volume thresholds/ranges. Because of the rural nature of the study area, the ADT's on many of the state marked routes is below 10,000 vehicles per day and on county highways is less than 5,000 vehicles per day. The exceptions to this, where volumes exceed 25,000 vehicles per day on an average weekday, are most notable on I-55, the northern section of I-65, the Indiana portion of US 30, and all of I-80/94.

In Illinois, the heaviest traffic volumes are concentrated on two of the interstates and one state road in the area: I-55 on the west edge of the study area, IL-45, and I-57. Each of these roadways carry daily volumes greater than 10,000 vehicles. Short sections of IL-52, Il-102, and Il-394 are also heavily-traveled in Illinois, with ADT of more than 10,000 vehicles per day. Roadways with ADT of more than 10,000 vehicles per day are also prevalent in the area east of I-57, extending through Indiana, but only to the north of US 30 where land uses are denser. Both east-west and north-south roadways in this portion of the study area are showing higher levels of traffic volumes.

In Indiana, where the land uses are more urban-supportive or suburban, I-65 and US 30 are both handling more than 25,000 vehicles per day. Portions of US 41, Ridge Road and Cline Avenue also fall into this category as shown in red on Figure 4-2. The remainder of US 41, most of US 231, and most of SR 55 all show ADT in the range of 10,000 to 25,000 vehicles per day currently.

Very few of the east-west roadways in the Illinois section of the study area were found to carry more than 5,000 vehicles per day and virtually none of them are located south of US 30. In Indiana, portions of the east-west corridors US 231 and 93rd Avenue currently show volumes in the higher ranges (25,001 to 50,000 ADT) of ADT south of US 30. The lack of existing east-west connectivity and capacity, particularly south of US 30, results in a dispersal of east-west travel in the study area among many smaller east-west oriented roadways with functional classifications of collector or secondary arterial, in most cases. The heavier east-west volumes between I-65 and US 41 along US 30, Ridge Road, 93rd Avenue and US 231 indicate that there is a demand for travel in that direction that is not being accommodated by I-80/94 alone. Congestion along that portion of the Borman Expressway is potentially resulting in drivers choosing alternate east-west routes to avoid at least a portion of this congested corridor. This theory is further reinforced by the high volumes on US 41 north of these connectors, where vehicles would need to divert back to I-80/94 in order to continue to the west.

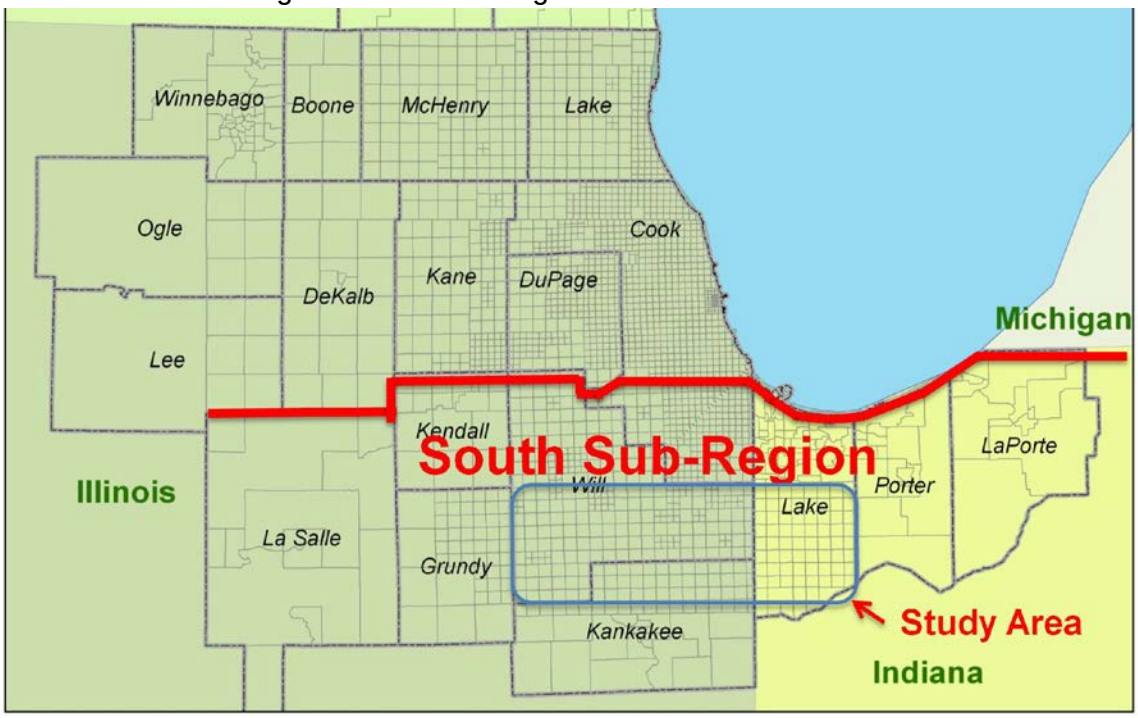
Figure 4-2. Study Area 2010 Average Daily Traffic (ADT)



4.2.2 2040 Travel Forecasting Process

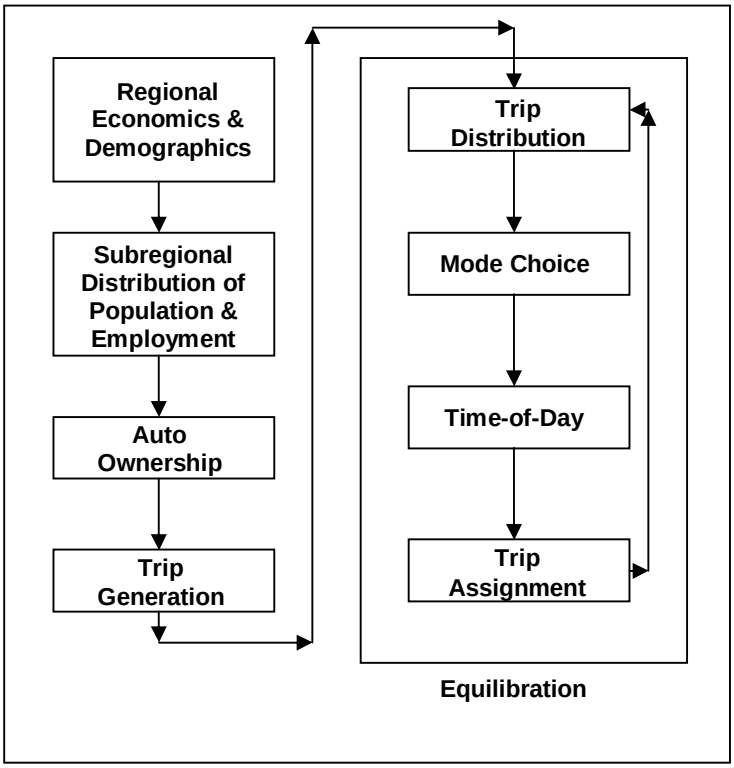
The Illiana Corridor Study used the CMAP regional travel forecasting model as a basis for developing forecasts of 2040 traffic volumes. The CMAP travel model has evolved over the last five decades as it has been used for regional transportation plan development, small area studies, and major project development. As seen in Figure 4-3, the CMAP regional travel model encompasses the seven-county planning area for CMAP, the three county planning area for NIRPC, Kankakee County for KATS, and LaSalle, Grundy, Boone, and Winnebago Counties in Illinois, and three counties in Wisconsin. The CMAP travel forecasting model follows generally conventional regional transportation modeling practice.

Figure 4-3. CMAP Regional Travel Model Area



The travel forecasting process, shown in Figure 4-4, is based on the hypothesis that there is a measurable relationship between development and the amount and distribution of travel. This pattern of travel depends upon the location, as well as the kind and intensity of land uses. The regional population, household and employment projections were allocated to the county level and then to small areas (Transportation Analysis Zones or TAZ).

Figure 4-4. Travel Forecasting Process



An important requirement for the travel forecasting model is an understanding of the resources available to households and individuals in making their travel decisions. In particular, household auto ownership has been found to be an important factor in trip making. Other factors, such as income, workers per household, and the number of adults and children in each household also are required for the travel forecasting model. The supply of transportation facilities and services available to each traveler also affects each individual's travel decisions. The transportation infrastructure, including the highway system and public transit system, are represented by computerized networks.

The above information is the input for the travel model. The CMAP travel model uses a "four-step" process comprised of trip generation, trip distribution, mode choice, and trip assignment. The trip generation step of the travel demand forecasting process estimates the number of trips that will be made in the study area. The trip distribution step links together the trip productions and attractions, resulting in a trip table containing the number of trips occurring between every zone combination. The CMAP trip distribution model, the Intervening Opportunities Model (IOM), is based on opportunity theory that travelers want to minimize the time and cost spent traveling, and that there is some constant probability of finding an acceptable destination. The differences between the IOM and the more commonly used gravity model are not great. Both models use measures of travel cost (a composite measure of highway and transit travel time and cost) between zones and the comparative attractiveness of competing zones.

The mode choice model allocates these trips to the two primary competing modes -- auto and transit. Mode choice is based on traveler's characteristics, costs (fares, parking costs, tolls, auto operating costs, etc.), and various components of travel time (in-vehicle, out-of-vehicle, wait times, etc.), with different weights depending of the qualitative character of each component. The CMAP mode choice models use, as do most other metropolitan areas, a logit formulation as their model structure. The highway and transit trips are then factored and combined to create trip tables representing eight time periods throughout the day. The trip assignment then allocates the trips to individual routes in the transportation networks. To ensure consistency, an equilibration process is used so that the travel assumptions are consistent throughout the process.

This report summarizes the results of the travel demand model for the existing and 2040 baseline scenarios. The model was calibrated to the existing counts that were collected as described in Section 4.2.1.

It should be noted that for the Illiana Corridor study area, only committed transportation improvements were included in the 2040 No Build (Baseline) transportation network used in forecasting (see Section 2.1.6 for roadway projects). Outside the Illiana Corridor study area, financially constrained major capital projects from the long-range transportation plans of CMAP, NIRPC, and KATS were included in the transportation networks.

4.2.2.1 Freight Travel Modeling

As part of the preparation of the Transportation System Performance (TSP) Report, significant effort was expended to understand freight movement in the Study Area and throughout the Region. The freight component of the travel forecasting model for this project was developed using a three-level approach – national, Chicago Metropolitan Agency for Planning (CMAP) model area, and the Illiana Study Area, providing a different level of detail in each level that is most appropriate for the different travel markets.

Long-distance truck trips are generated from commodity flow data provided by the Federal Highway Administration in the Freight Analysis Framework (FAF). The simulated truck trips cover North America to account for all relevant trucks trips of 50 miles or more. Trips that are internal to CMAP are included as long as they have a distance of 50 miles or more.

The third generation of the FAF data, called FAF^3, was released in summer 2010 and contains flows between 123 domestic FAF regions and 8 international FAF regions. FAF^3 data provide commodity flows in tons and dollars by:

- FAF zones (123 domestic + 8 international zones)
- Mode (7 types)
- Standard Classification of Transported Goods (SCTG) commodity (43 types)
- Port of entry/exit for international flows (i.e. border crossing, seaport or airport)

The base year is 2007, and freight flow forecasts are provided for the years 2015 to 2040 in five-year increments.

The FAF data contain different modes and mode combinations. For the Illiana project, the freight modes of truck, rail, water and air were analyzed. The remaining modes that are included in the FAF, such as "multiple modes & mail," as well as other and unknown, provide insufficient information to be included, and goods shipped by pipeline commonly travel without being loaded on trucks.

As the region is a major hub for freight transportation, distribution centers and intermodal transfer stations are represented in the freight model. Distribution centers and intermodal transfer stations were included with these attributes:

- Location (as CMAP zone number)
- Modes served (trucks, rail, water or air)
- Size of facility

Further data required for the truck model included the Vehicle Inventory and Use Survey (VIUS) that was performed for the last time in 2002. The U.S. Census publishes the data with survey records of trucks and their usage[6]. Finally, population and employment data are used for FAF[3] data disaggregation, and truck counts are used to validate the model.

The resolution of the FAF data with 123 zones within the U.S. is too coarse to analyze freight flows on the Illiana corridor. A method has been developed to disaggregate freight flows from FAF zones to counties and further to CMAP zones. First, the FAF[3] data are disaggregated to counties across the entire U.S. using total employment in each county. Within the CMAP model area, more detailed employment is used to further disaggregate to zones. Finally, commodity flows in tons are converted into truck trips using average payload factors.

Output of this module is a truck trip table from all 6,090 zones to all 6,090 for two truck types, single-unit trucks and multi-unit trucks.

This region is a major freight transportation hub for North America. As such, a large number of distribution centers and intermodal transfer centers serve long-distance freight flows by truck, rail, water and air. As there are significant existing and planned freight facilities in the Illiana Study Area, it is important to reflect freight flows generated by these facilities in the freight model. Long-distance trips are routed through distribution centers. Short-distance trucks pick up goods from distribution centers and deliver them to destinations in the region. The same concept is applied with flows by rail, water or air that enter the CMAP model area. Short-distance trucks pick up goods at rail yards, ports and airports and deliver them to their final destinations.

[6] http://www.census.gov/svsd/www/vius/products.html

It is important to note that truck trips are only routed through distribution centers if they enter the CMAP model area (External-Internal). A flow from Chicago to other regions is expected not to travel through a distribution center. A local manufacturing firm would not use a distribution center to deliver their goods, but rather long-distance trucks pick up the goods at the manufacturing firm. Flows by rail, water or air use intermodal facilities for both directions (External-Internal and Internal-External), as only very few firms have direct on-site access to these modes.

While intermodal facilities are used for all commodities that enter or leave the CMAP model area by rail, water or air, distribution centers are only used for selected incoming truck flows. Distribution centers are mostly used for smaller scale items in large quantities, such as food or clothing. Larger goods, such as machinery, do not travel through distribution centers, but rather are sent to their final destination directly by the long-distance truck. Building materials, as another example, commonly are shipped to the building site without going through a distribution center either. Mostly, distribution centers are used for retail goods, such as food, paper, or consumer electronics.

Distribution centers are not used for outgoing truck shipments, as the long-distance trucks commonly leave from the commodity-generating firm on a larger truck to their final destination without reloading within the CMAP model area.

To distribute truck trips across various distribution centers and intermodal facilities, the size terms of each were used. For distribution centers, the size term was given by the size of the site in square feet, for ports, the size term was given by number of berth, and for other intermodal facilities (namely rail yards and airports), size was defined by the amount of cargo shipped through the facility by year. The location of facilities and their sizes were provided by CMAP.

As seen above, extensive freight modeling was performed to better understand truck freight movements, including all of its various components. Given the stakeholder comments received regarding truck traffic in the Study Area, the existing and proposed major intermodal facilities in the Study Area, and the continued importance of freight movement in the region as reflected in the CMAP and Northwestern Indiana Regional Planning Commission long range transportation plans, the Illiana Corridor Study placed considerable effort to develop a freight travel model to better understand future truck travel patterns.

4.3 Current and Projected Change in Study Area ADTs

Average daily forecasted traffic volumes (year 2040 ADT) within the study area are shown in Figure 4 Between 2010 and 2040, increases in ADT will be most pronounced in the Indiana portion of the study area and throughout the entire area north of US 30 as volumes that are currently less than 25,000 vehicles per day increase beyond that mark and up to 50,000 ADT. As volumes on the study area's two-lane highways stretch beyond

the 25,000 mark, additional capacity (either roadway or network) will be required to maintain current levels of service.

The following highways and roadways in and near the study area will move from the range of 10,001 - 25,000 ADT to the range of 25,001 – 50,000 ADT within the period of this study:

- US 6, west of I55
- I-57 through entire study area
- Co Hwy 4 / S Cedar Road, south of US 30 to W Illinois Hwy / W Spencer Road
- W Illinois Hwy / W Spencer Rd, west of US 45
- US 45, north of US 30
- IL 43 between US 30 and I-80/94
- IL 50, multiple sections in Peotone, Illinois and in proximity to US 30
- Governor's Highway, north of E Sauk Trail
- IL 394, north of its merge with IL 1
- E Sauk Trail, between I-57 and IL 394
- IL 1, adjacent to the proposed airport site and north of US 30
- US 41, in proximity to US 231
- I-65 through entire study area
- US 30, through majority of study area
- Ridge Road, west of I-65
- 93rd Street, west of I-65
- IL 53, north of US 30

Additional increases have been identified on east-west roads in the southern portion of the study area including along W. Monee-Manhattan Road, IL 102 and IL 113 in Illinois, on multiple roadways in proximity of the I-57 interchanges, and along IN 2 in Indiana. These roadways will each exceed 10,000 vehicles per day in the year 2040.

In general, the more substantial traffic volume increases can be found along the higher-classification roadways, where travel conditions are more optimized for through-put, higher speeds, and more access control. Likewise, new congestion is found to be radiating outwards from the portions of the study area where high volumes were occurring in 2010. Growth in traffic volumes is also found in 2040 to be most pronounced near planned developments, including the proposed South Suburban Airport (SSA) site east of I-57 and the various intermodal facilities that are either existing or planned for in the study area.

Figure 4-5. Forecasted (2040) Average Daily Traffic (ADT)

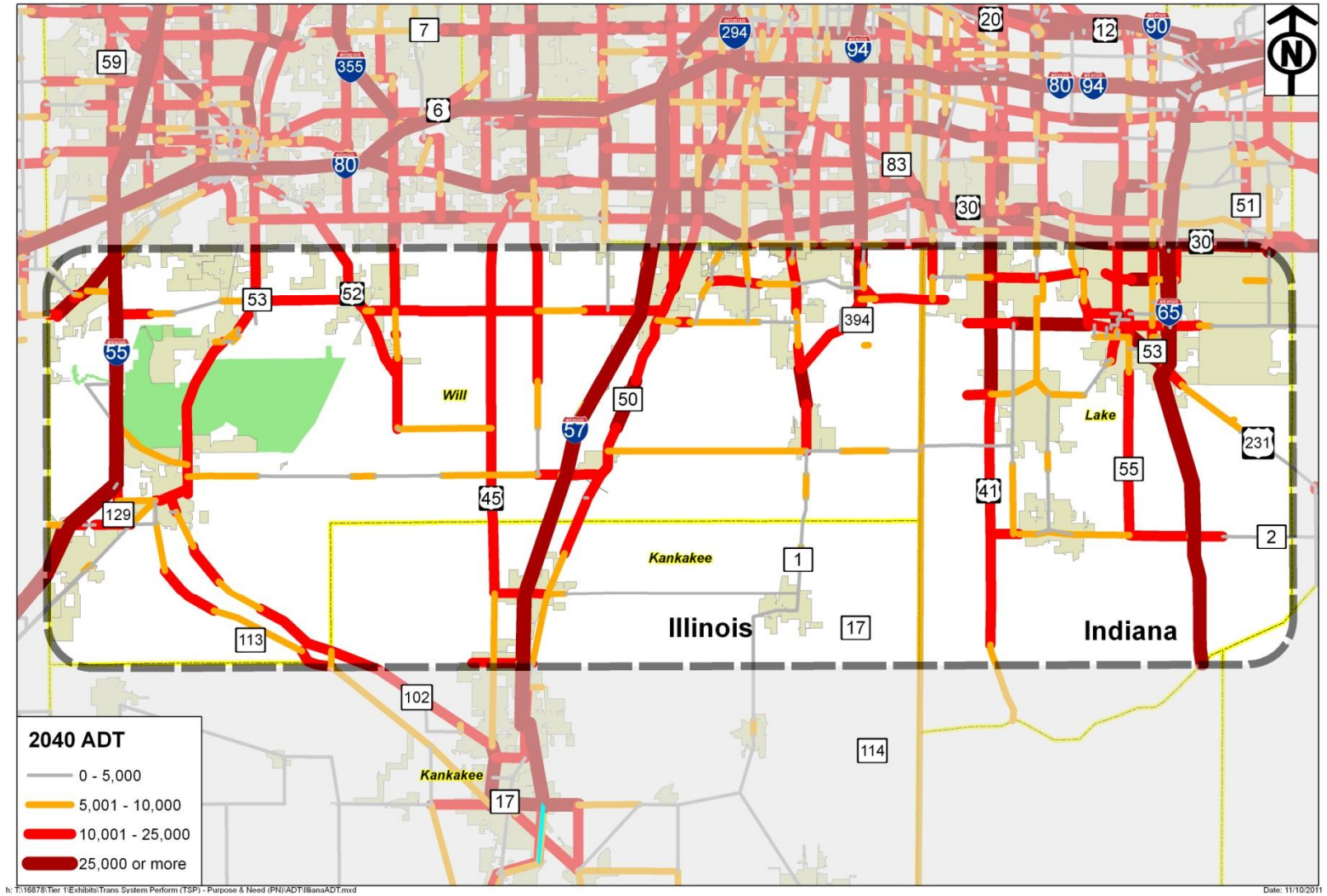


Table 4-1 provides a summary of forecasted growth in study area ADT by functional classification. Growth is projected to occur in the highest percentages on the lower-functional-classification rural roadways where volumes are also currently the lowest. Volumes for collectors and locals are projected to increase by 159 percent between now and the year 2040. Over the next 30 years, traffic volumes within the study area are projected to grow by 116 percent. Interstates in the study area, of which there are three in the north-south direction, are projected to increase 65 percent, while ADT on other principal arterials is projected to increase by 124 percent.

Table 4-1. Study Area Growth in ADT by Functional Classification, 2010 to 2040

Functional Classification	2010-2040 Change in ADT
Principal Arterial - Interstate	65%
Other Principal Arterial	124%
Minor Arterial	98%
Collectors, Locals	159%
Total	116%

Major regional growth will also contribute to a substantial increase in vehicle trips between 2010 and 2040, as seen in Table 4-2.

Table 4.2. Projected Daily Vehicle Trips

Area	2010	2040	Change
Region	61,733,000	77,685,000	26%
South Sub-Region	14,224,000	19,323,000	36%

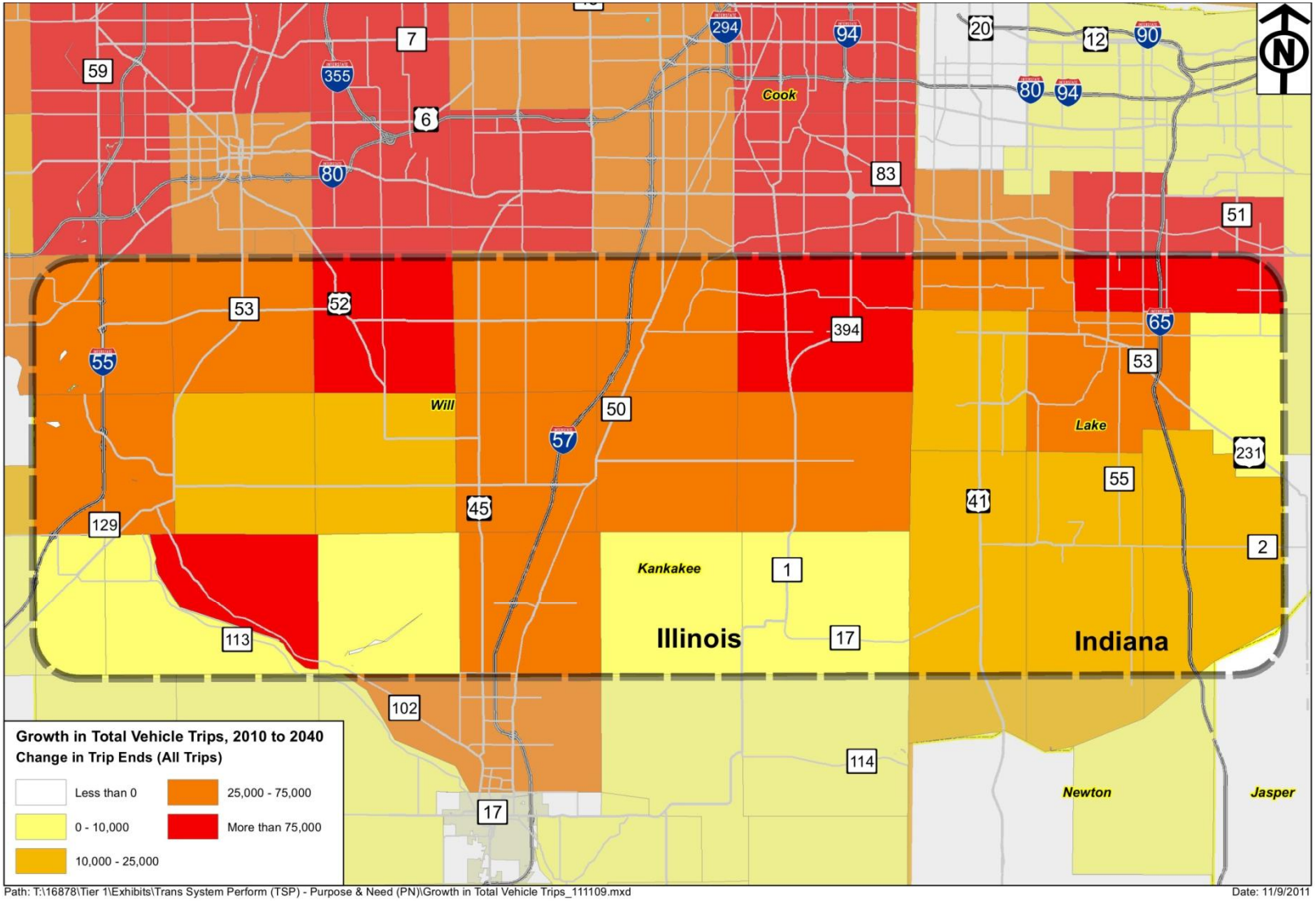
Growth is projected to be consistent among trip types in the study area, with approximately 130% growth in total originating trips, total destined trips, and total internal trips between 2010 and 2040. Internal-trips will increase at a higher rate than the other internal-external trip types, growing at 135% versus 126%. Table 4-3 summarizes the vehicle trip changes that are projected by trip type for the study area.

Table 4-3. Change in Study Area Vehicle Trips, 2010 to 2040

Trip End Type	2010	2040	Difference	Change
Total Vehicle Trips Originating in the Study Area	666,720	1,505,180	838,460	126%
Total Vehicle Trips Destined to the Study Area	663,000	1,495,180	832,180	126%
Total Vehicle Trips Within the Study Area	350,340	823,250	472,910	135%
Total Vehicle Trips Entering, Leaving and within the Study Area	1,680,060	3,823,610	2,143,550	128%

Figures 4-6 shows the growth in vehicle trips that is projected within the study area between 2010 and 2040. Zones shown in red in this figure denote areas where total trip ends grow by more than 75,000 vehicles. The highest-growth zones are concentrated in a few townships along the northern border of the study area. Substantial growth (more than 25,000 trips) is projected in nearly all zones adjacent to interstate corridors.

Figure 4-6. Growth in Total Vehicle Trips, 2010 to 2040



4.4 Current and Projected Change in Study Area Truck Traffic

Existing average daily truck volumes within the study area are shown in Figure 4-7. In Illinois, the heaviest truck volumes are currently concentrated on sections of I-55, I-57, and I-80/94. The two north-south interstates carry between 5,000 and 10,000 trucks per day through the entire study area and I-80/94 carries more than 10,000 trucks per day immediately to the north of the study area. Isolated sections of US 30 east of I-57 also carry more than 5,000 trucks per day, as do IL 394 and IL 1 in the northern third of the study area. Other roadways in Illinois, including all of the east-west roadways, each carry fewer than 2,500 trucks per day. The low volume of trucks within most of the study area is consistent with its rural character and the lack of east-west connectivity and higher-functional-classification roadways that could support heavy vehicle traffic.

In Indiana, truck volumes are currently more substantial since land uses in the northeast portion of the study area are more commercial and oriented for interstate travel along I-65 and I-80/94. The heaviest truck volumes in the study area are on I-65 and, to a lesser extent, on the US highways (specifically US 30 and US 231). Truck volumes as a percentage of total vehicles tend to increase closer to Chicago and I-80/94.

In 2040, additional intermodal facilities (or expanded facilities) will be in operation throughout the Illinois portion of the study area. Truck traffic in the vicinity of these intermodal facilities will increase correspondingly, as shown by the darker shades of blue and/or red in Figure 4-8. The areas of dark blue and red in this figure indicate higher rates of truck traffic growth between 2010 and 2040. Besides showing up in areas surrounding intermodal facilities, higher rates of growth can be seen along the I-65 corridor in Indiana, especially north of US 231 and expanding west to US 41.

Figure 4-9 shows year 2040 truck volumes by range of values. Larger increases in truck traffic are illustrated on this figure by the darker blue and magenta lines, which are most prevalent in the northern third of the study area and along the interstates. Areas along the northern border of the study area will experience a higher rate of truck growth during the study period. This increase in truck traffic is projected to strain the already congested Chicago-area, where five of the top 25 highway interchange bottlenecks are located. Increased truck volumes are projected to contribute to a large percentage of the traffic increase within the study area.

Figure 4-7. Existing Daily Truck Volumes, 2010

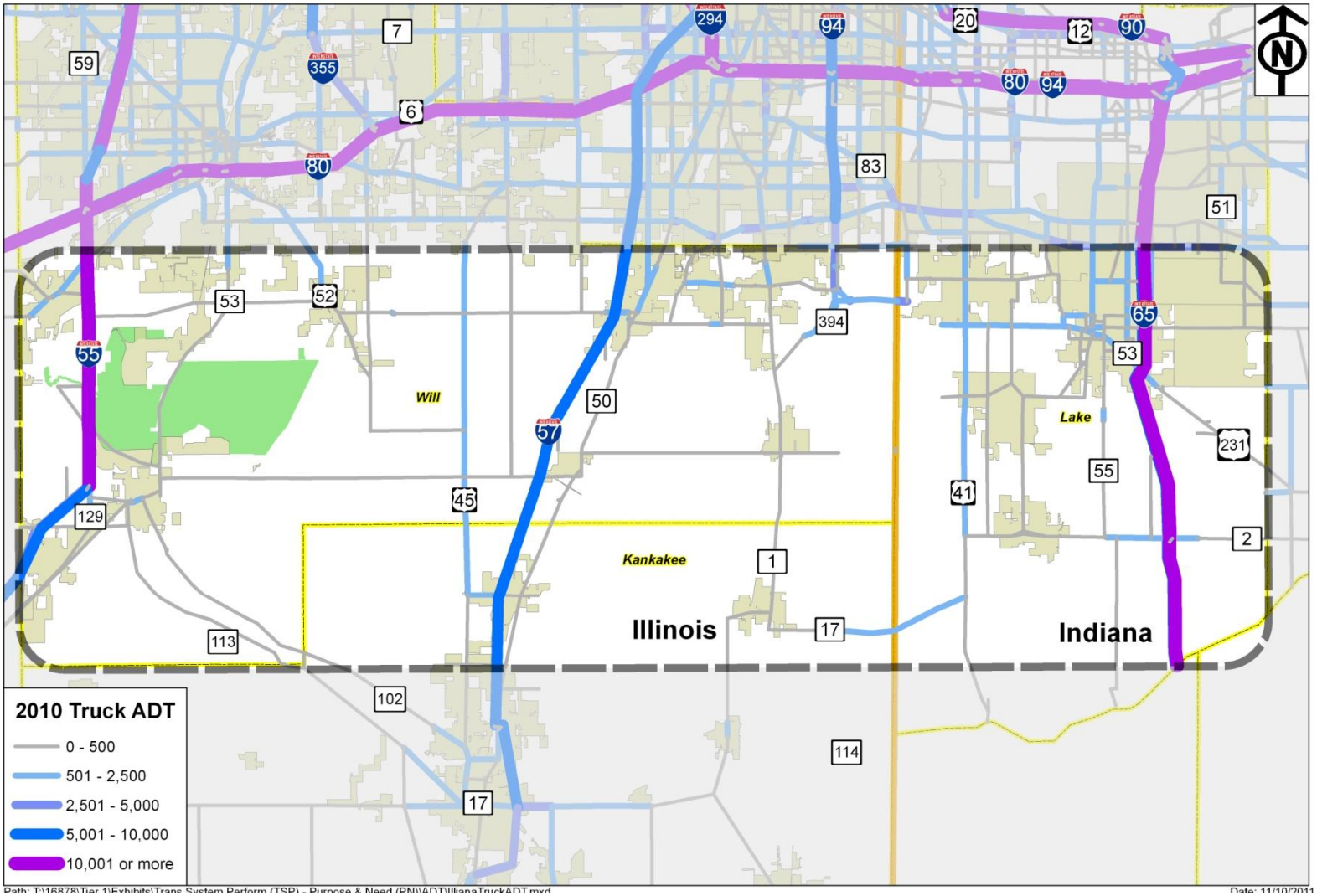


Figure 4-8. Growth in Long Distance Truck Travel, 2010 to 2040

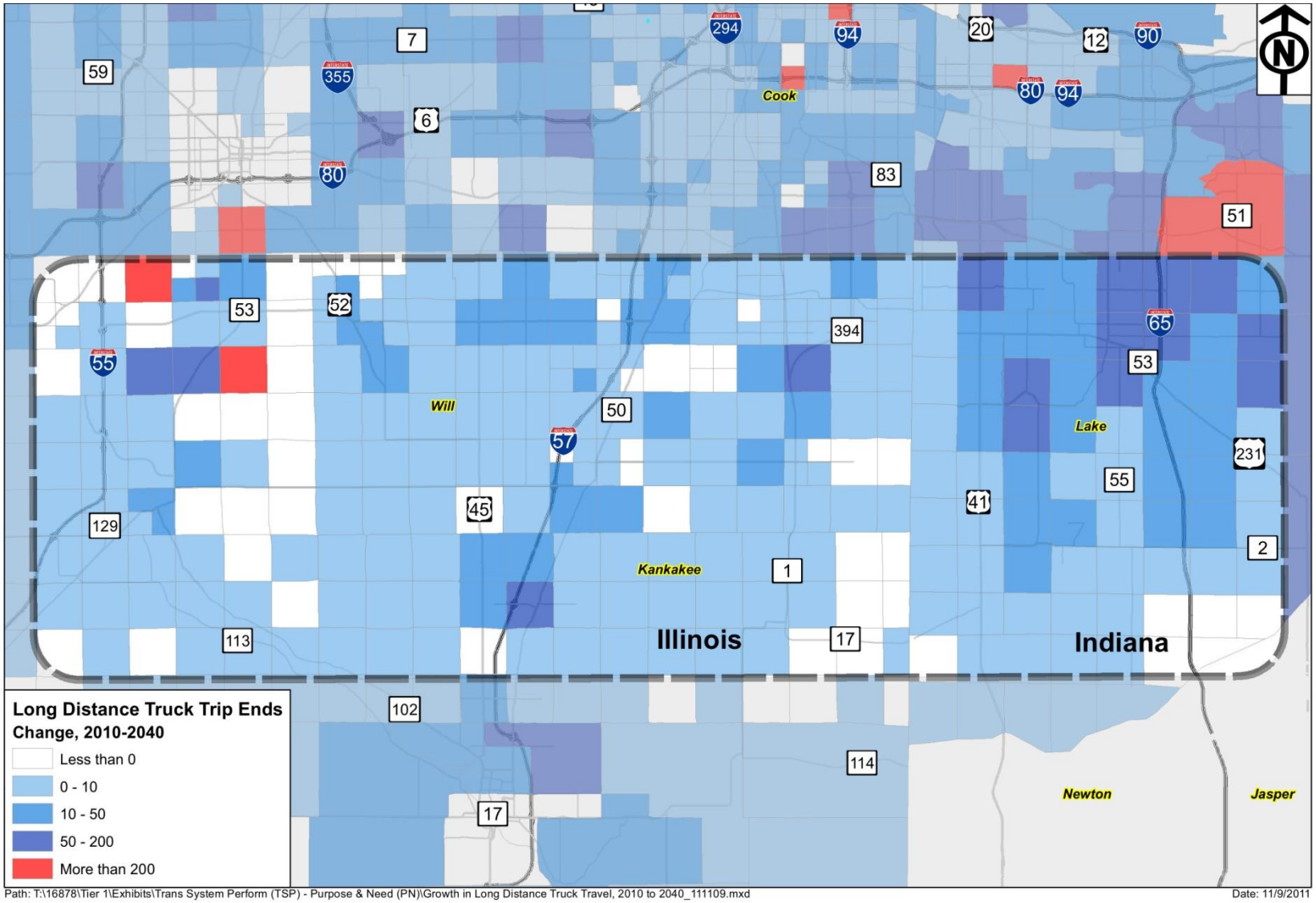
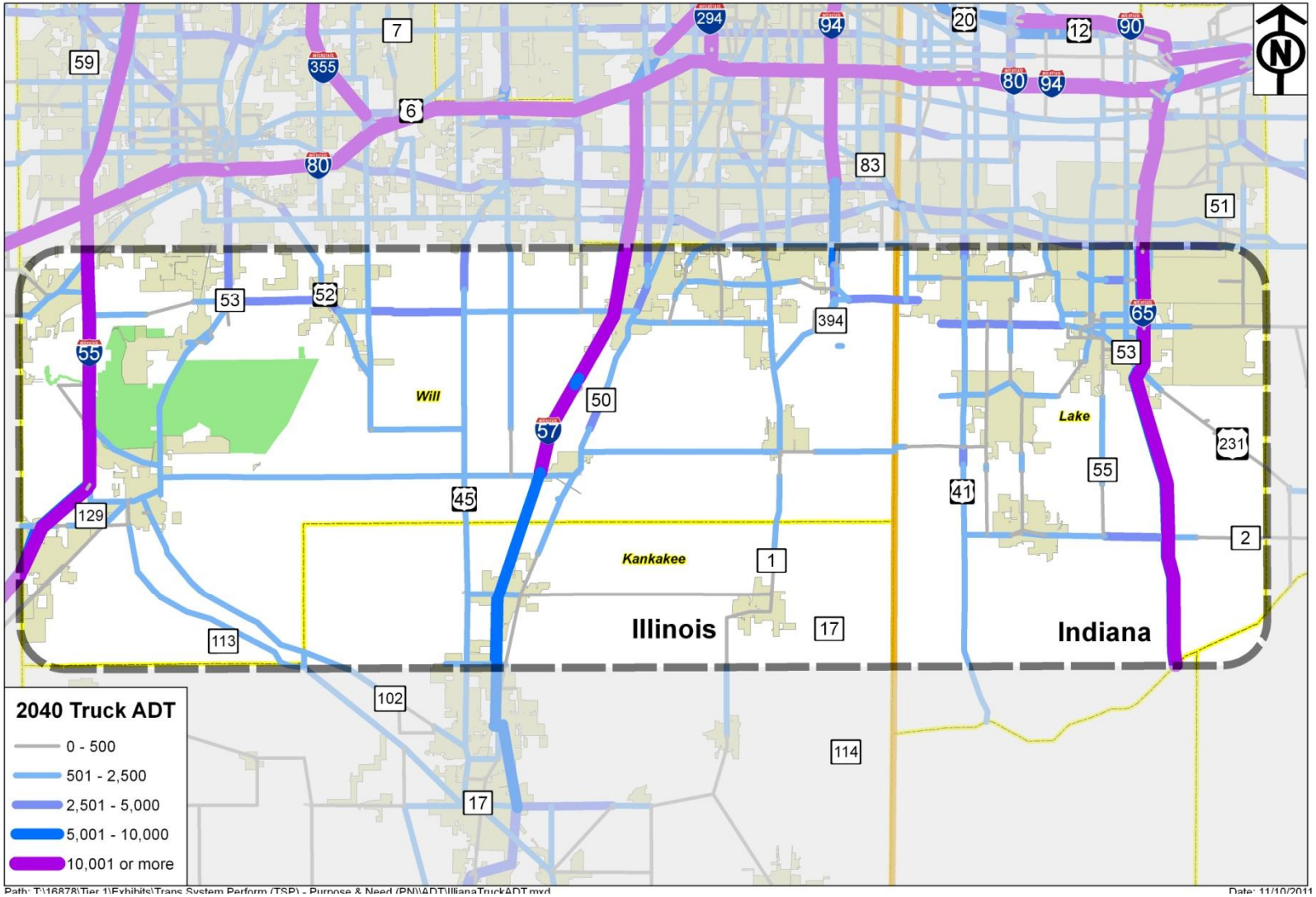


Figure 4-9. 2040 Daily Truck Volume



4.5 Current and Projected Change in Freight Rail Traffic

According to the National Rail Freight Infrastructure Capacity and Investment Study, completed for the Association of American Railroads (AAR) in 2007, east-west train movement through the Chicago region is one of most heavily traveled corridors in the country with volumes of 100-200 trains per day. This is shown in Figure 4-10. By 2035, these volumes could double as shown in Figure 4-11 in portions of this corridor.

While much of the national rail network operates below capacity, choke points at key locations congest freight movements. Figure 4-12 shows the location of these current choke points. The AAR study notes that increased rail traffic will quickly outstrip currently available capacity without substantial investment. Figure 4-13 shows an improved condition for levels of service with substantial investment of nearly $150 billion over the next 30 years. Investments by the Class 1 railroads to improve the congestion and delay through the Chicago region are being undertaken by the public-private CREATE program and individually by the freight railroad companies. These improvements are anticipated to accommodate the rail freight growth.

The AAR study indicated that rail freight tonnage demand in the U.S. will increase by 88 percent through 2035 (to over 4 billion tons/year) and that a corresponding increase in rail freight traffic will result. The Burlington Northern Santa Fe (BNSF) railroad line through the far western part of the Study Area (serving the CenterPoint Elwood and proposed RidgePort intermodal facilities) has an anticipated 80-200 trains/day traffic growth. The CSX/Union Pacific (UP) railroad line through the Study Area (serving the proposed Crete intermodal facility) has an anticipated 30-80 trains/day traffic growth through 2035.[7]

The primary freight rail capacity deficiency identified by the study is on the western UP line through the Study Area (serving the Global IV intermodal facility in Joliet). The opening of this facility, along with the proposed introduction of high speed intercity passenger rail service from Chicago to St. Louis, requires rail infrastructure improvements in order to allow fluid operation of 110 mph passenger service. $1.2 billion in federal funds have been identified for the Chicago-St. Louis high speed rail line to date, and additional studies are underway to address the provision of the required operating capacity for these services[8]. No other freight rail capacity issues within the Study Area have been identified, either by interviews with the individual railroads or by research of available freight railroad information. North of the Study Area, the Chicago Region Environmental and Transportation Efficiency Program CREATE) program and capacity improvements by the Class 1 railroads are improving rail capacity issues, primarily within Chicago and the immediate surrounding area[9].

[7] National Rail Freight Infrastructure Capacity and Investment Study, AAR, 2007

[8] Illinois High Speed Rail website: http://www.idothsr.org

[9] CREATE website: http://www.createprogram.org

The Illinois Railroad Association, which represents all the Class I Railroads and a number of regional and shortline railroads in Illinois, could not identify any benefits to constructing a new east-west freight rail line connecting the rights-of-way of various members.

Figure 4-10. 2007 Train Freight Corridor Volumes

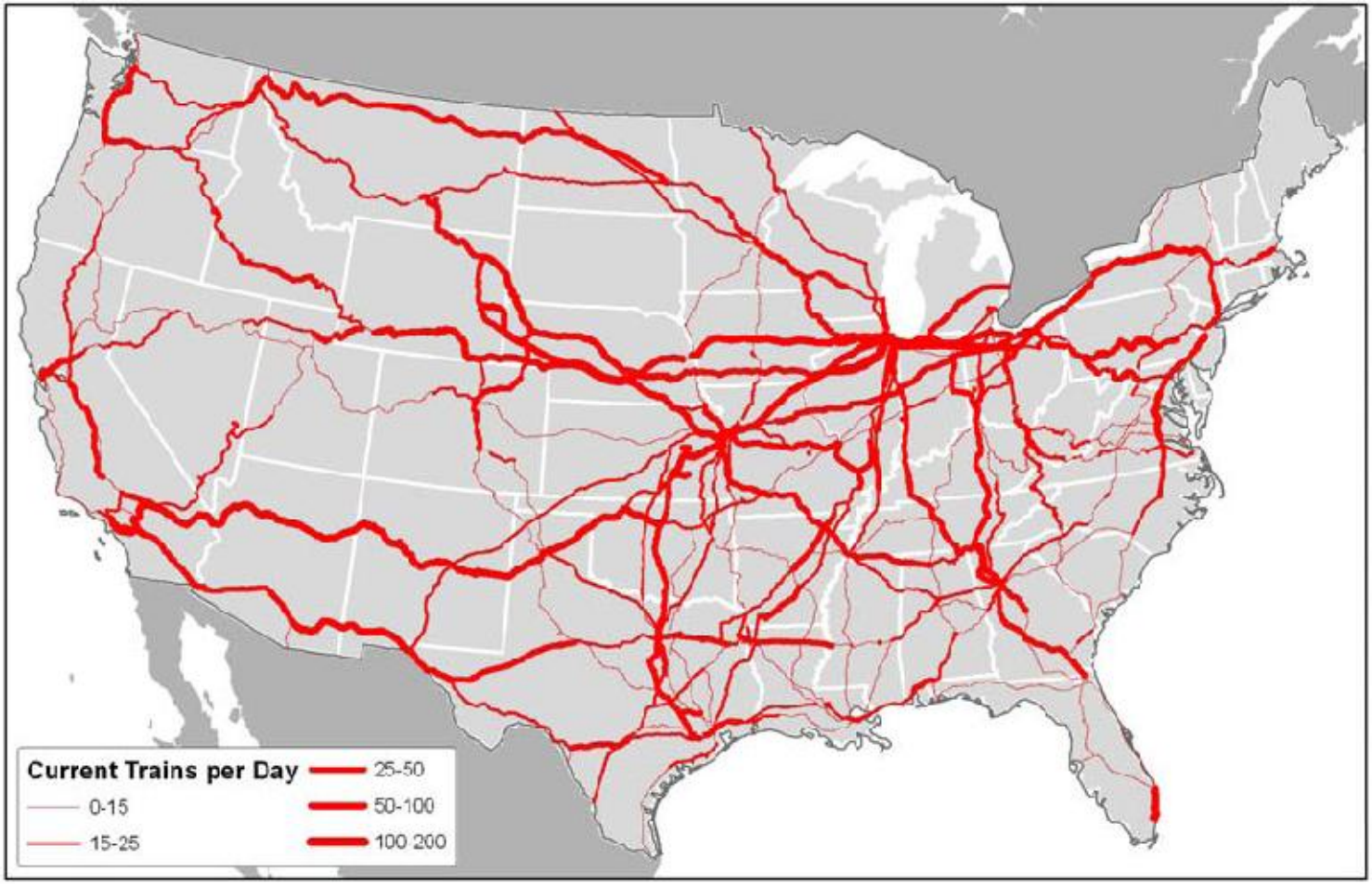


Figure 4-11. Growth in Freight Trains per Day by 2035

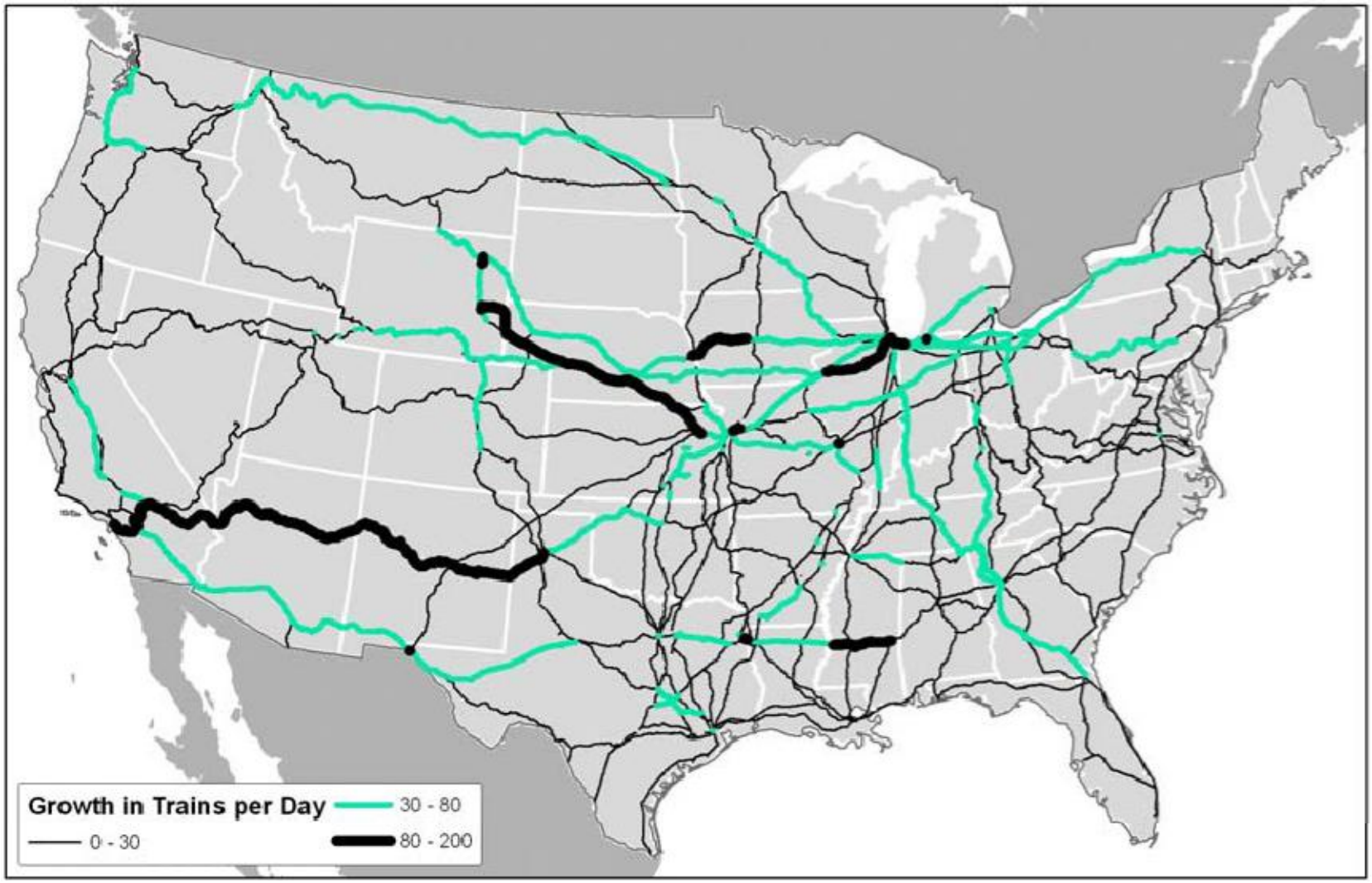


Figure 4-12. Trains – Volume Compared to Capacity

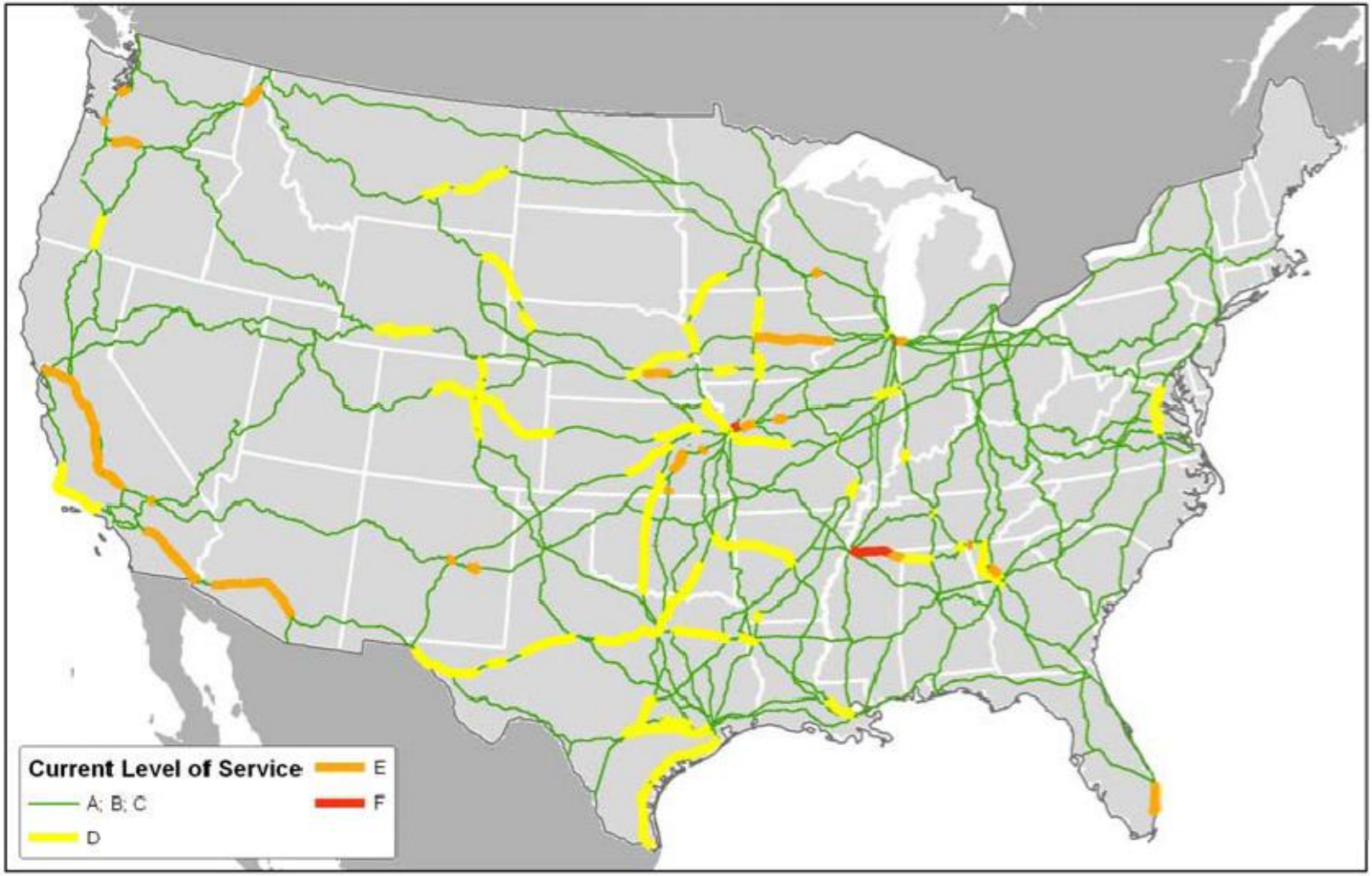
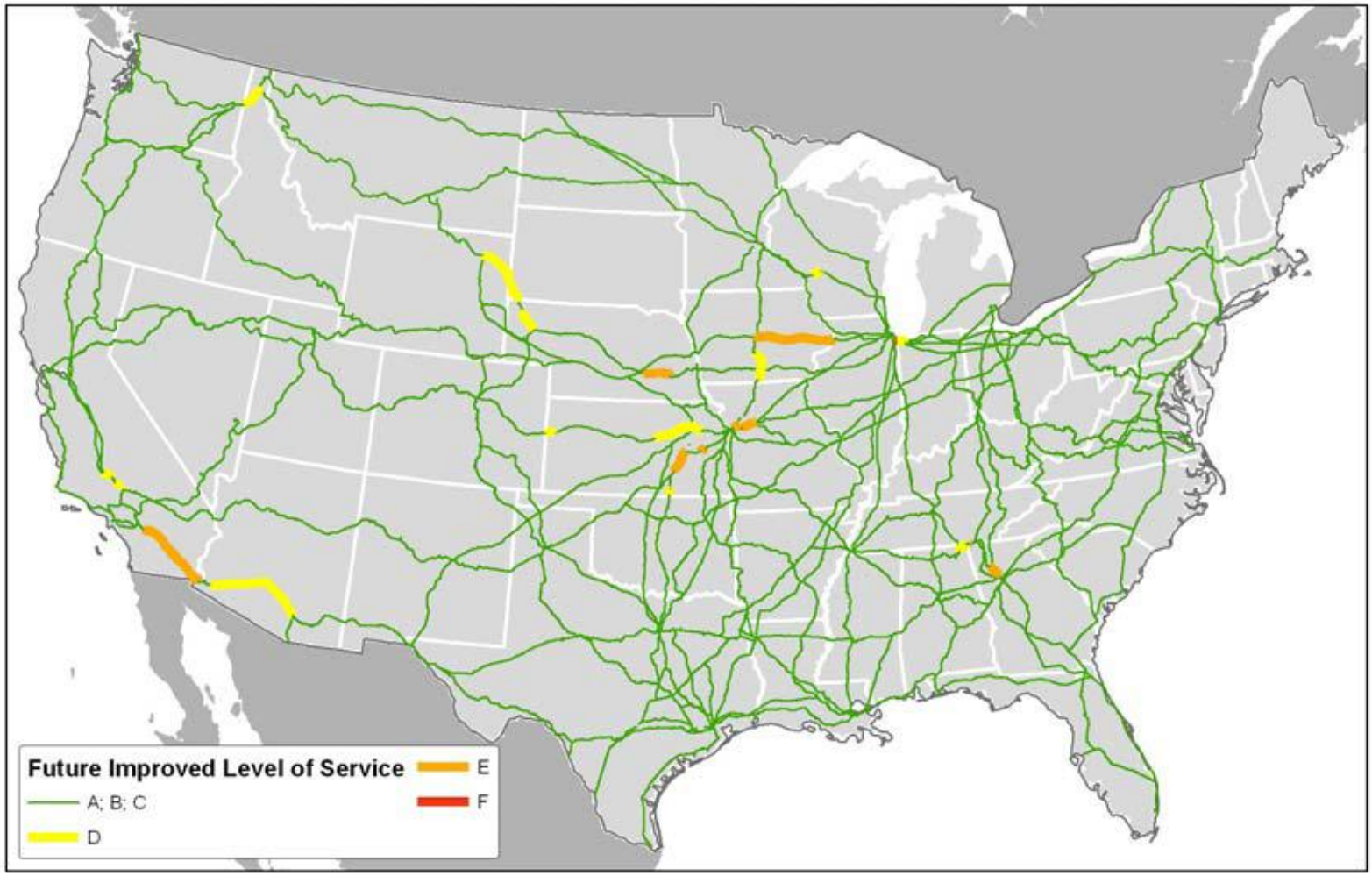


Figure 4-13. 2035 Improved Rail Freight Level of Service



4.6 Section 4 Highlights

- Extensive traffic counts were performed and assembled for the Study Area.
- The CMAP regional travel forecasting model that covers 18-counties in northeastern Illinois and northwestern Indiana was used as a basis for developing forecasts of 2040 traffic volumes.
- The highest volumes of existing traffic in the immediate study area were identified along north-south highways; specifically I-55 in Illinois and I-65 in Indiana. Just north of the study area, the entire length of I-80/94 and portions of US 30, especially in Indiana, also carry heavy volumes.
- None of the east-west roadways in the Illinois portion of the immediate study area were found to have more than a few short and discontinuous sections carrying more than 10,000 vehicles per day. In Indiana, however, US 231 and 93rd Avenue currently have sections that carry more than 10,000 vehicles per day.
- Multiple roadways north of, and including, US 30 carry higher volumes of traffic (greater than 10,000 vpd) currently in both Indiana and Illinois.
- The Indiana portion of the study area shows more pronounced growth in ADT than Illinois between 2010 and 2040, especially along I-65, US 41, and US 231.
- In Illinois, increases on east-west streets in proximity to I-57 are substantial between 2010 and 2040. In both states, substantial increases in traffic volumes are noted north of US 30.
- In general, the most substantial traffic volume increases that have been projected to occur between 2010 and 2040 are found near planned developments such as the South Suburban Airport and various intermodal facilities. East-west facilities, especially in the northern half of the study area show widespread growth throughout the network.
- 2010 to 2040 growth in ADT is projected to occur in the highest percentages on the lower-functional-classification roadways where volumes are also currently the lowest. Collectors and local streets are projected to increase by 159 percent versus 64 percent for interstates in the Study Area.
- Total vehicle trips from the Study Area are projected to increase by 126 percent between 2010 and 2040. This is a substantially higher rate than the South Sub-Region at 36 percent and the Region at 26 percent.

- Truck traffic is currently heaviest on the interstate roadways within the study area, with a higher mix of truck traffic in the northern portions of the study area. In 2040, truck traffic is projected to increase even more along the interstates, but also in the vicinity of the planned (and existing) intermodal facilities.

- Growth in truck traffic between 2010 and 2040 will be most pronounced in the northern portion of the study area and just north of the study area, including US 30 and I-80/94.

- Total truck trips from the Study Area are projected to increase by 193 percent between 2010 and 2040. This is a substantially higher rate than the South Sub-Region at 63 percent and the Region at 36 percent.

- While much of the national rail freight system operates below capacity, choke points at key locations congest freight movements. To accommodate the growth in train movements, substantial investment of nearly $150 billion over the next 30 years will be required. Investments by the Class 1 railroads to improve the congestion and delay through the Chicago region are being undertaken by the public-private CREATE program and individually by the freight railroad companies. These improvements are accommodating the rail freight growth. The Illinois Railroad Association, which represents all the Class I Railroads and a number of regional and shortline railroads in Illinois, could not identify any benefits to constructing a new east-west freight rail line connecting the rights-of-way of various members.

5.0 Transportation System Performance Measures

5.1 Introduction

Transportation system performance measures are used to evaluate the proposed project against specific goals and quantitative measures. Following are the transportation system performance measures used in this study:

- Measures of Congestion
  - Level of Service (LOS)
  - Volume to Capacity Ratio (v/c)
  - Screen Lines
  - Select Link Analysis
  - Travel Density
- Measures of Accessibility and Mobility
  - Trip Ends (where trips originate)
  - Trip Distribution (where trips are going to and coming from)
  - Vehicle Miles Travelled (VMT)
  - Access to jobs
  - Travel time contours
  - Transit Service threshold
- Measures of Safety
  - High crash locations

5.2 Transportation Congestion Measures

5.2.1 Level of service

Level of Service (LOS) is a measure of driver experience on a given transportation facility. Within the scope of this study, only highway and freeway sections are considered for analysis, which means that traffic is travelling uninterrupted (without signals or stop signs

to impede travel) along the area of analysis. Level of service on these facilities is therefore a measure of vehicle density, which impacts driver speeds, comfort, travel time, and safety. Levels of Service (LOS) range from LOS A, which indicates the best operating conditions, to LOS F, where traffic demand is found to exceed the capacity of the roadway section.

	LOS A indicates primarily free flow operation at average travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream.
	LOS B also indicates free flow speed, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have less freedom to maneuver. Minor disruptions to vehicular flow will be easily absorbed.
	At LOS C the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles. Travel speeds are affected. Minor disruptions can cause deterioration in service and queues will form behind any major traffic disruptions.
	At LOS D the ability to maneuver is severely restricted due to traffic congestion. Travel speed is reduced by the increasing traffic volume. Only minor disruptions can be absorbed without extensive queues forming and the traffic service deteriorating.
	LOS E represents operations at capacity and very unstable. Vehicles are operating with minimum spacing between them in order to maintain uniform flow. Minor disruptions cannot be dissipated and there occurrence will result in operations to deteriorate to LOS F.

	LOS F represents forced or breakdown flow. It occurs either when vehicles arrive at a rate greater than the rate at which they are discharged or when the forecast demand exceeds the computed capacity of a planned facility. LOS F is used to characterize both the point at which the breakdown occurs and/or the operations afterward, i.e., travel speeds are low and vehicles experience brief periods of movement and stoppages.

Section Capacity Analysis for Existing Baseline Conditions

The Highway Capacity Software (HCS) was used to evaluate the highway operations for existing and future year conditions.

IDOT policy indicates that due to the high level of service projected from higher functional classifications such as the Principal Arterials and Other Principal Arterials, the level of service criteria for these facilities should provide for a LOS B in the AM and PM peak hours. In contrast, for lower functional class facilities such as Minor Arterials and below, a slight deterioration in LOS is tolerated. A LOS C is the desired LOS standard on these facilities for the AM and PM peak hours. It may be noted that these level of service criteria/policies are applicable for highway reconstruction projects. The same criteria were applied to INDOT roadways.

Figure 5-1 and Figure 5-2 depict the results of the highway section capacity analyses for the conditions described above for existing and 2040 baseline traffic conditions, respectively.

With some exceptions, the immediate study area (within the white portion of Figure 5-1 and Figure 5-2) is operating at LOS D or better in its existing configuration and with 2010 volumes. The locations where this is not true (LOS E or F) include sections along:

- I-80/94, east of I-55
- US 41, north of US 30
- IN 55 in the vicinity of its intersection with US 231
- I-57, near and north of US 30
- US 52, east of IL 53
- IN 55, north of US 30 and in proximity to US 231
- I-65, north of US 30

Other, shorter, sections of LOS E or LOS F operations were also identified on US 6, US 30 and IL 1.

LOS D sections are slightly more prevalent in the immediate study area than LOS E and F sections. Although IDOT's policy is to expect LOS B or better for higher-functional classification roadways, LOS D is accepted by many municipalities including county highway departments. LOS D is currently experienced along many portions of both north-south and east-west roadways in the study area including US 45, I-65 (south of US 30), and I-57 (south of US 30).

The two main east-west roadways in the vicinity of the study area, I-80/94 and US 30, both experience high levels of congestion currently. For I-80/94, this congestion extends across the entire study area. For US 30, it is concentrated mostly within the Indiana portion of the study area, where the character is more urban. LOS varies between D and E here, with some LOS C sections.

The following provides an LOS results summary by roadway type.

Freeways

The three freeways that operate within the immediate study area are, for the most part, currently operating at LOS D, with some LOS C operations in the southern third of the study area. I-65, I-57, and I-55 are all north-south oriented and currently show LOS C and D operations. The exception is I-55, which operates at LOS B south of County Highway 44.

Just north of the immediate study area, I-57 deteriorates substantially, operating at LOS E and F from just south of US 30 and continuing north through I-80/94. I-65 operates at LOS D and E north of the study area also, where recent widening and interchange improvements have increased capacity in the last couple years. I-55 operates at LOS D in the vicinity of I-80, improving to the north of US 52.

I-80/94 passes across the broader South Sub-region directly north of the study area in an east-west direction. The entire portion of this freeway currently operates at an unacceptable LOS here, alternating between LOS D, E, and F between the Indiana Toll Road interchange in Indiana and west of I-55 in Illinois.

Multilane Highways

The following multilane highways within the study area are currently experiencing LOS D, E, or F:

- US 30 in Indiana, for most of the section between the Illinois-Indiana State line and where it touches the northeastern border of the study area.
- US 41, north of US 30 to I-80/94
- IN 55, within the urbanized area of Crown Point, Indiana

- US 45, south of Co Hwy 58 in the southern portion of the study area and west of Manteno, Illinois

As one of only two continuous east-west roadways of higher-functional classification in the immediate vicinity of the Study Area (I-80/94 being the other), US 30 carries a high volume of traffic with a high percentage of trucks.

Two-Lane Highways

Two-lane highways within the study area that are currently experiencing LOS D, E, or F include:

- IN 55, nearly continuously between IN 2 and I-80/94. IN 55 is mainly a two-lane roadway, with the exception of a multilane portion in Crown Point, Indiana as noted above.
- US 231, between US 41 and IN 55
- IL 1, in the vicinity of Wilmington – Peotone Road
- US 52, on multiple sections between IL 53 and US 45

Section Capacity Analysis for 2040 Baseline Conditions

Substantial LOS deterioration is projected to occur between 2010 and 2040 in the study area and roadways immediately to the north. Between 2010 and 2040, the following interstate freeways are projected to drop to an unacceptable LOS:

- I-65 will operate at LOS D south of US 231 and LOS E or F north of US 231.
- I-80/94 will operate at LOS E or F between I-65 in Indiana and the I-55 interchange in Illinois. To the west of I-55, I-80 will operate at LOS D to the western border of the study area.
- I-57 will operate at LOS E or F from the Wilmington-Peotone Road interchange, north through I-80. I-55 will operate at LOS D south of the Wilmington-Peotone Road interchange to the southern boundary of the study area.
- I-55 will operate at LOS D or E within the northern half of the study area.

Multilane and two-lane highways will also experience substantial deterioration in their operations. Congestion will be especially noticeable in the Indiana portion of the study area along IN 55, US 231, US 30 and US 41. In Illinois, IL 1 will deteriorate substantially with LOS E or F occurring for most of the sections north of Wilmington-Peotone Road. Portions of IL 394, US 45, US 52, IL 102, and IL 53 will also drop from an acceptable LOS to LOS D, E, or F in the year 2040.

Figure 5-1. Year 2010 Levels of Service

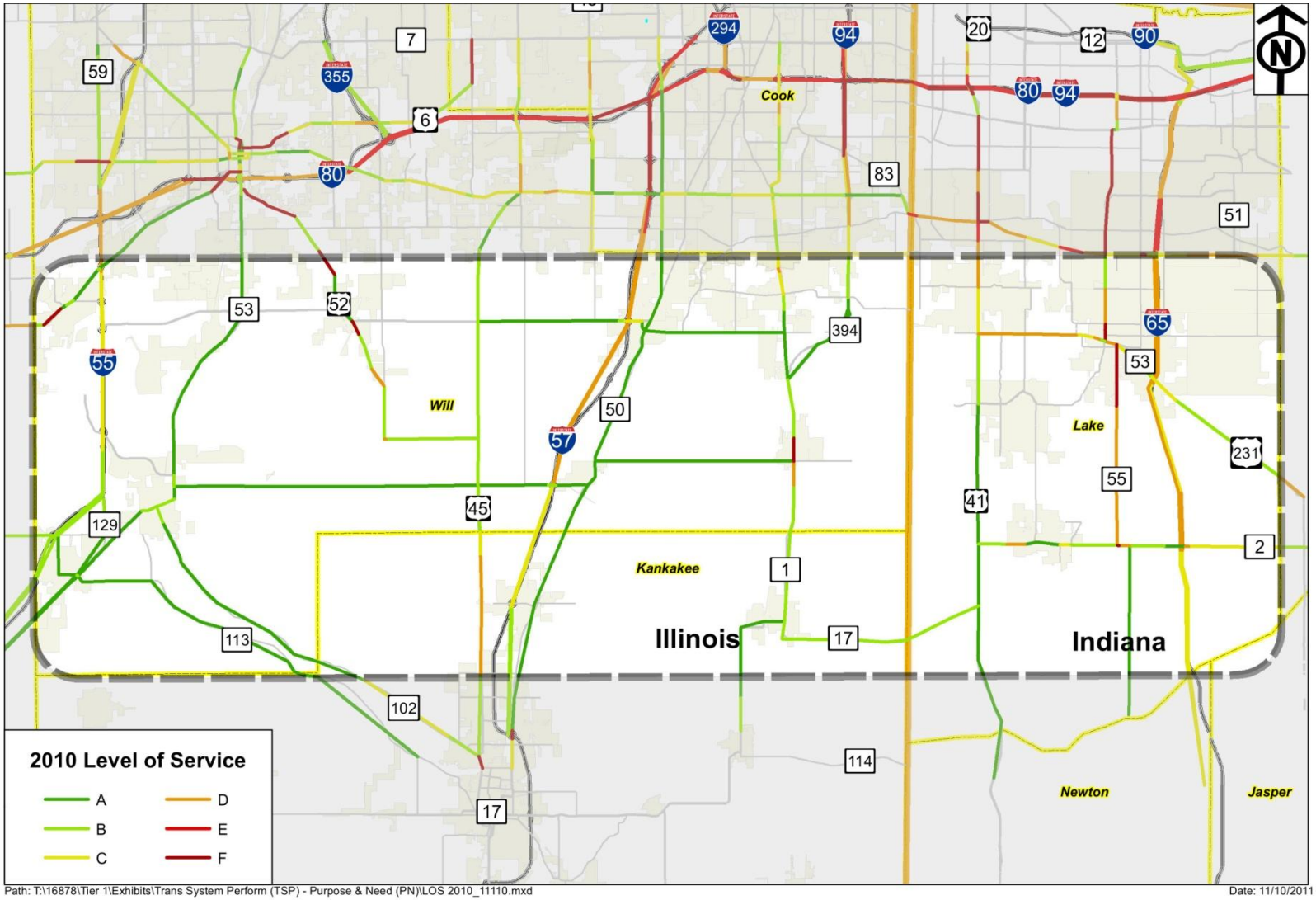
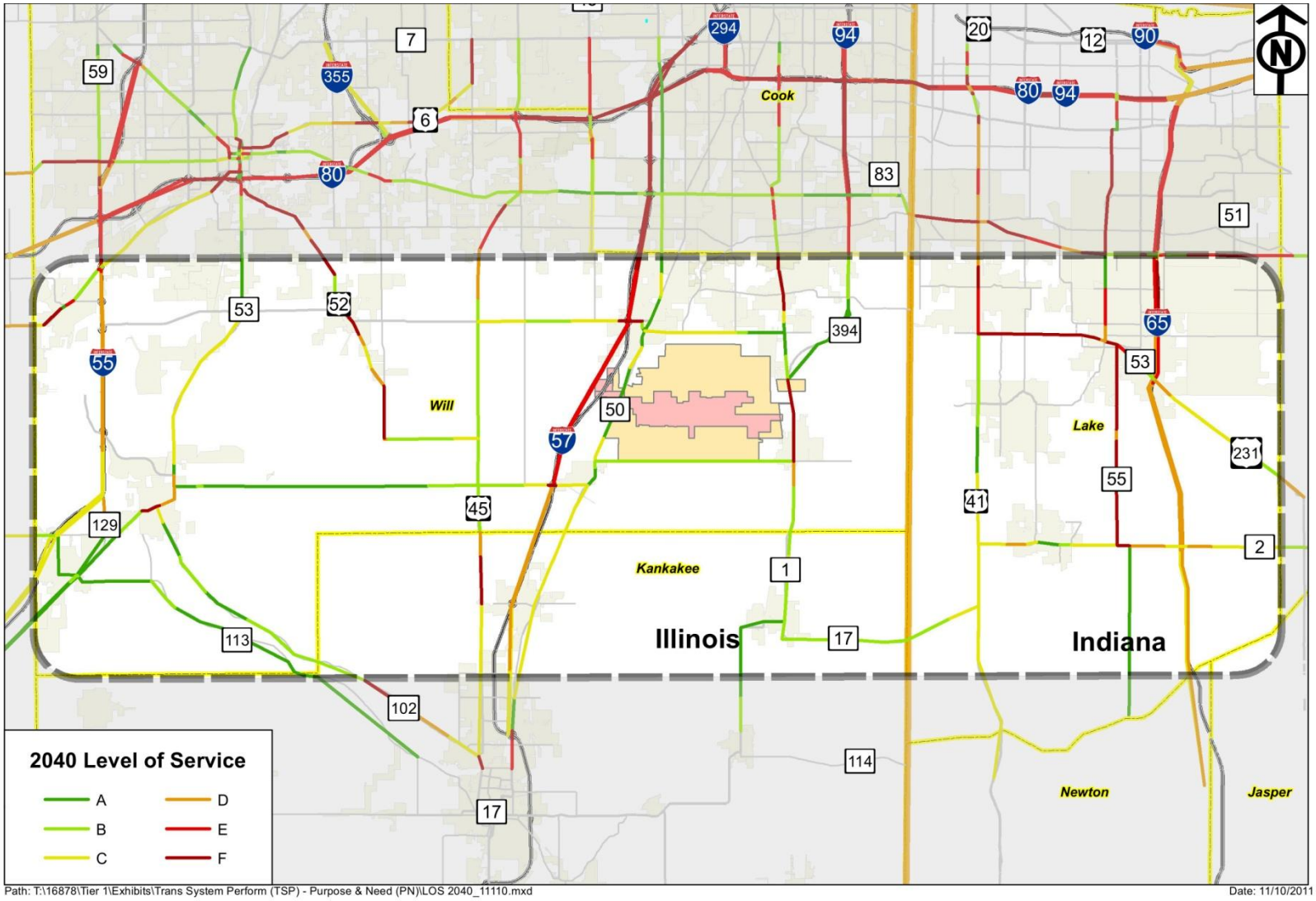


Figure 5-2. Year 2040 Levels of Service



5.2.2 Volume to Capacity Ratio

Volume to capacity ratio (v/c ratio) is another measure used to understand the quality of service provided to drivers on a given roadway. Volume ("v") is the number of vehicles driving on a roadway section. Capacity ("c") is the number of vehicles that the roadway section can accommodate before a breakdown occurs. If the number of vehicles on a section of highway and the number of vehicles that the highway section can accommodate are the same, the v/c ratio is equal to one and the section is said to have reached capacity. Once capacity is reached ($v/c \geq 1$), operations become unstable. Vehicles are operating with the minimum spacing between them in order to maintain flow and speeds are highly variable. Traffic stream disruptions cannot be dissipated, resulting in LOS F.

Generally, a v/c ratio of 0.85 or lower is desirable in order to allow for variation in traffic conditions or assumptions. A v/c ratio between 0.50 and 0.85 represents conditions approaching congestion, while v/c ratios below 0.50 indicate uncongested conditions. Operational characteristics of a highway can affect capacity, including the number of driveways along a facility, the geometric design/layout of the facility and other factors. In addition, future population and employment projections are subject to variation. By striving for a 0.85 v/c ratio, these factors can be taken into consideration.

V/C ratios shown in Figure 5-3 and Figure 5-4 indicate that over-capacity roadways are most prominent north of the immediate study area, between US 30 and I-80/94 and through much of Indiana. Similar to the LOS maps, capacity problems are identified by red on these figures and show up most frequently along US 30, US 41, IN 55 and US 231 in Indiana. In Illinois, v/c ratios are, for the most part, under 0.85. The exceptions are some sections north of US 30 and a short section of US 52 north of Manhattan, Illinois.

Congestion is projected to worsen in 2040, with more sections exceeding their capacity. Specifically, the following roadways are projected to exceed the 0.85 v/c threshold in 2040:

- I-65 and I-57 in the northern two-thirds of the study area
- US 52, north of Wilmington-Peotone Road
- US 45, north of Monee-Manhattan Road
- Monee-Manhattan Road, between US 52 and I-57
- US 30, for the majority of the study area
- IL 1, north of the SSA site to US 30
- IL 394, north of Exchange Street (east of Crete, Illinois)
- US 41, north of US 231

- US 231, east of US 41
- IN 55, north of IN 2
- 93rd Avenue, west of US 41

The 2040 volume to capacity ratios show a continuation of the congestion presently occurring in the northern section of the study area and expanding south, especially in the vicinity of planned multimodal and aviation facilities noted previously in this report.

Figure 5-3. 2010 Volume to Capacity Ratios, PM Peak Hour

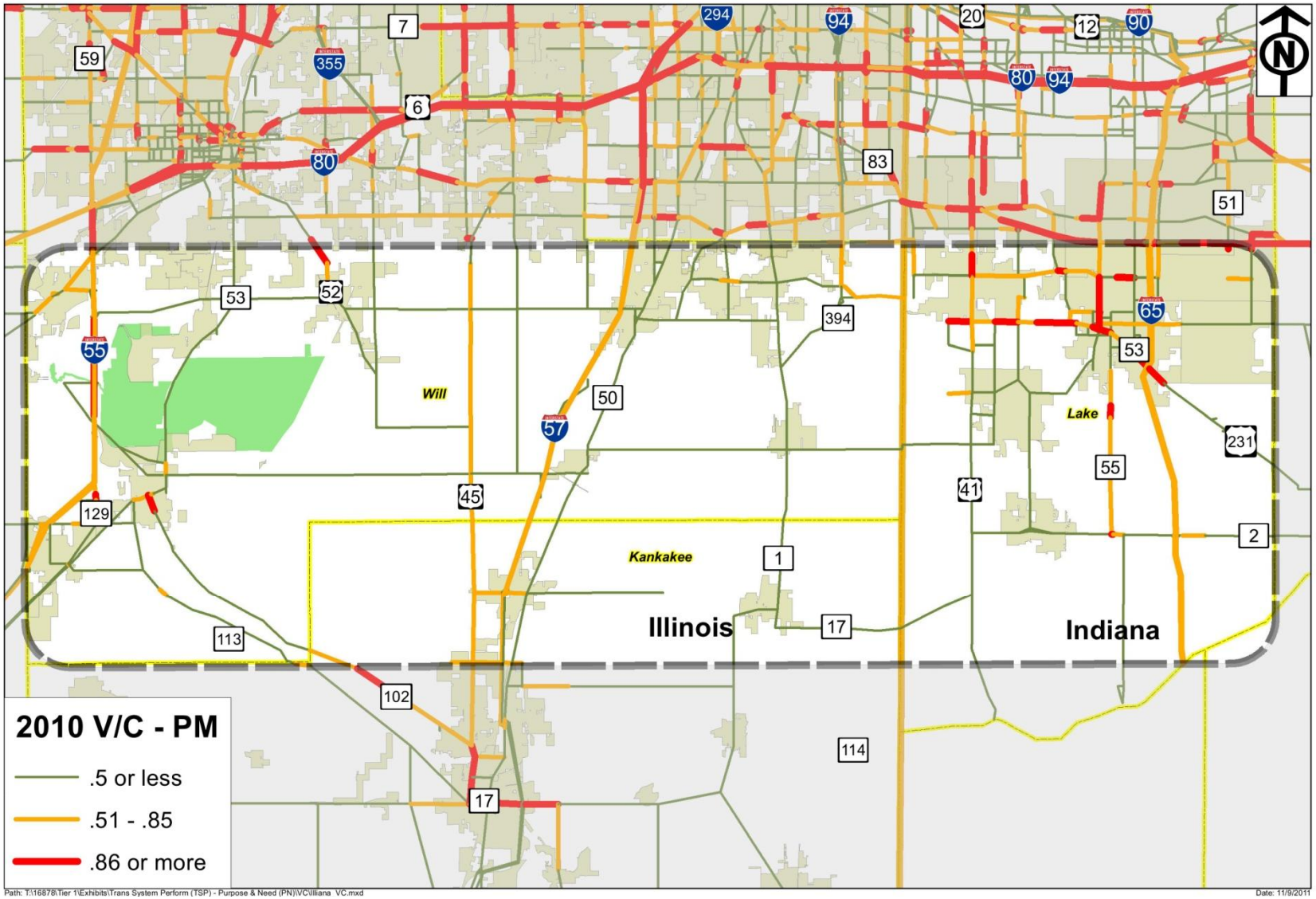
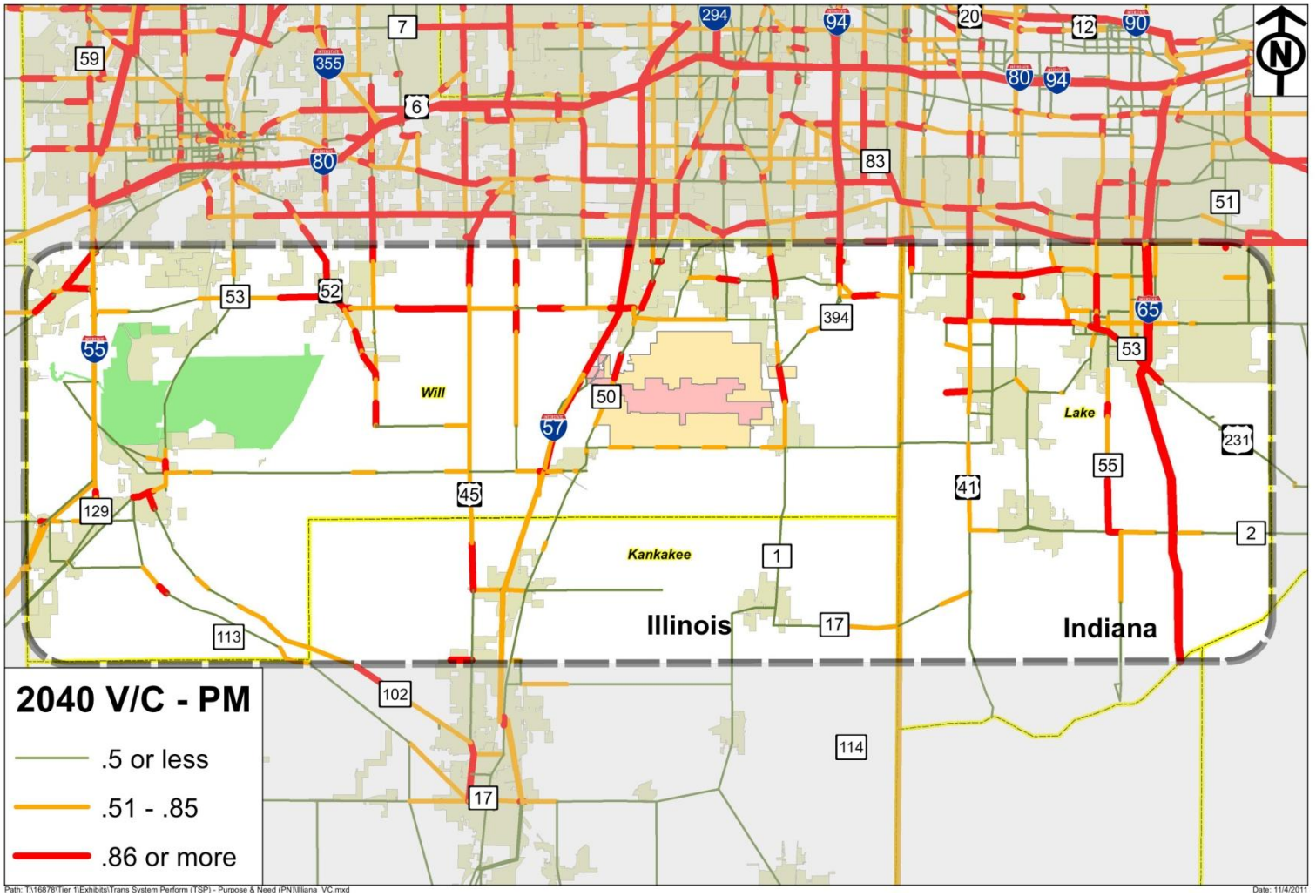


Figure 5-4. 2040 Volume to Capacity Ratios, PM Peak Hour



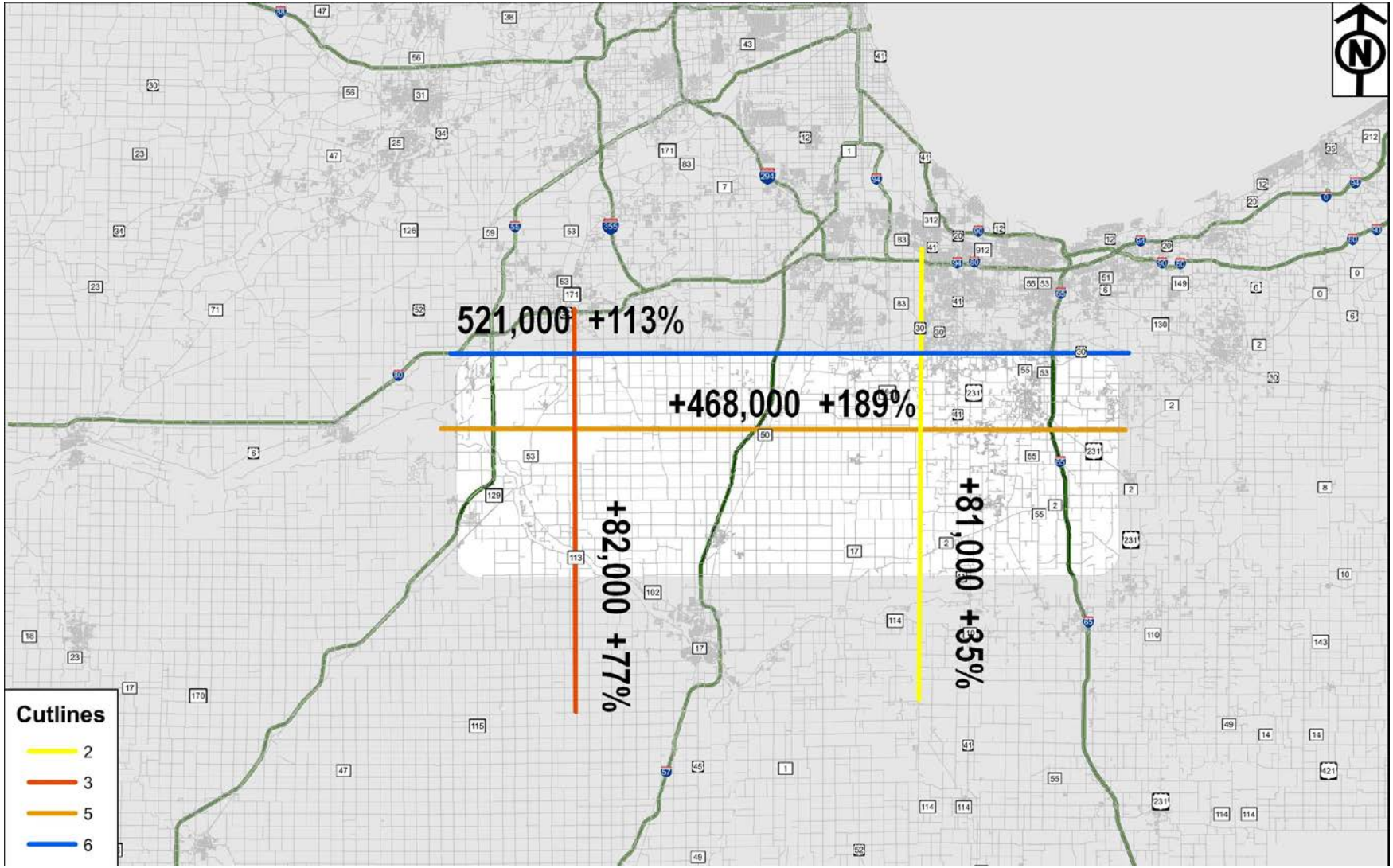
5.2.3 Screen Line Analysis

All Vehicles

Specific to the study area for Illiana, Figure 5-5 shows the results of an analysis across four screen lines – two in the north-south direction and two in the east-west direction. For travel in the east-west direction, growth is projected to be more substantial in the western portion of the study area, with a 77 percent increase in east-west traffic across a line that runs between I-55 and I-57 in Illinois. At the state line, the increase is lower (up 35 percent), but still on the magnitude of more than 80,000 vehicles per day.

Travel in the north-south direction will also be projected to increase substantially. Figure 5- shows an increase of 189 percent in volumes travelling across a line located just north of where the SSA site is situated. Along the north boundary of the study area, the increase is 113 percent in north-south travel, with an additional 521,000 vehicles per day crossing that screen line in 2040 as compared to 2010. The growth in north-south traffic volumes, specifically, indicates that substantially more traffic will be generated within the study area in the year 2040 and that the desire will be for these trips to travel to and from areas north of the study area. This pattern may be the result of necessity more than choice, since in order to efficiently reach outside of the study area to the east or west on a continuous route, I-80/94 and US 30 are the most viable travel options.

Figure 5-5. Study Area Screen line of Total Vehicles



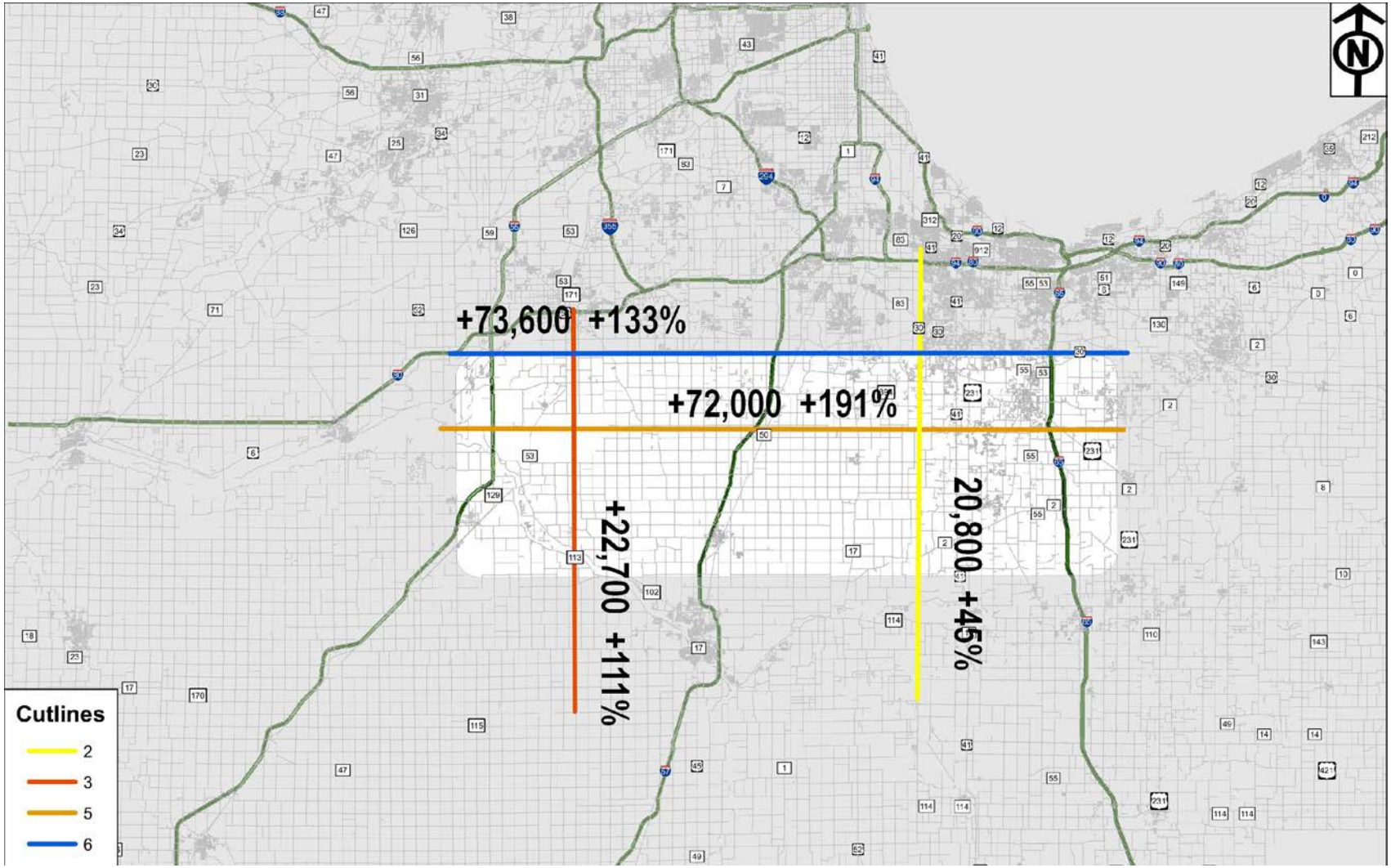
5.2.4 Truck Screen Line Analysis

Between 2010 and 2040, truck volumes are forecasted for a substantial increase in the study area. Four screen lines were used to analyze the desire for truck travel within the study area.

A screen line analysis of truck movements in the study area shows an increase (see Figure 5-6) of 45 percent in truck traffic between 2010 and 2040 across a screen line that is located approximately at the state line. Further to the west, where multiple intermodal facilities are either planned or currently in operation and expanding, increases on the order of 111 percent are projected in east-west travel. This magnitude of change in the western portion of the study area will occur on roadways that are not now constructed to adequately accommodate heavy volumes of multi-unit truck traffic. US 30, located outside the study area to the north, currently provides the nearest option for a non-interstate route to carry this increase in an east-west direction.

North-south truck travel is also projected to increase in the study area, and at a higher rate internal to the study area (increasing 191 percent across a screen line located approximately through the South Suburban Airport site) than the rate which is projected to occur north of the study area. A screen line located along the north boundary of the study area shows increases in volumes north-south to be a still-substantial 133 percent. The north-south screen lines indicate that many of the traffic volume origins-destinations are not reaching into metropolitan Chicago, but require transportation options to exist south of I-80/94. The screen lines and their magnitude of change indicate that truck traffic is generated at the intermodal facilities and other area generators (SSA, business parks, etc) in the Illinois portion of the study site but is required to travel north to US 30 and/or I-80/94 in order to effectively reach the eastern half of the United States.

Figure 5-6. Screen Line of Multi-Unit Trucks



5.2.5 Select Link Analysis

Figure 5-7 depicts a select link analysis that shows the paths of vehicles using I-80/94. As seen in this figure, north-south routes such as I-55, I-57 and I-65 are being used to get to I-80/94 to travel in the east-west direction.

Figure 5-7. Select Link Analysis: I-80/94 Path of Vehicle

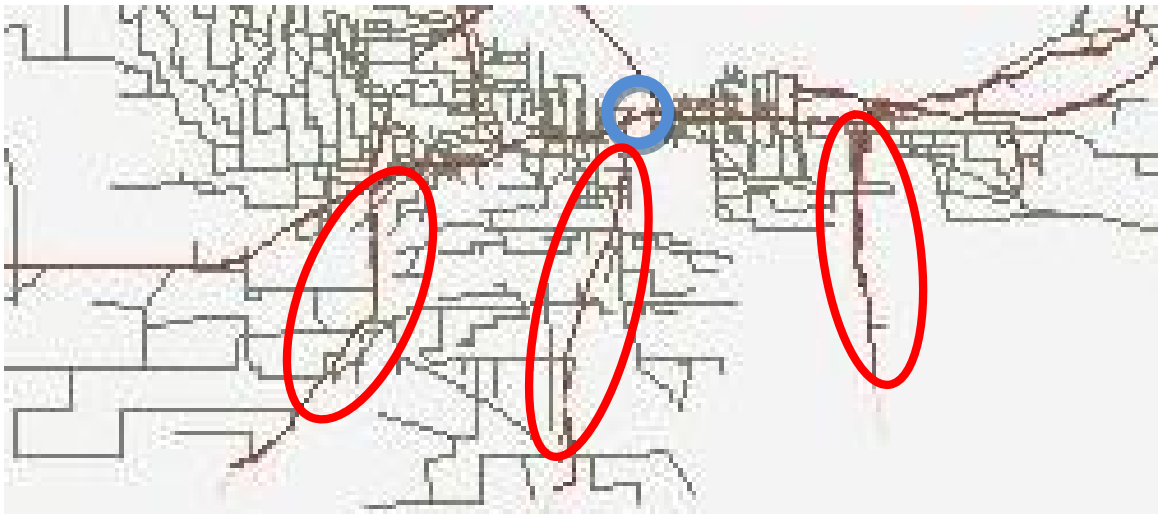


Figure 5-8 and 5-9 provide a view of a select link analysis along I-80/94 where both automobile and truck travel destinations are mapped from a point along I-80/94 west of the study area. These figures support the conclusion that trucks, more so than automobiles, are destined for locations outside of the greater Chicago metro area.

Figure 58 shows that automobile volumes entering at the blue marker on the west edge of graphic will disperse throughout the Chicago metro area, mostly staying within its boundaries (shown by the yellow shaded area in each figure). The magnitude of change between auto and truck is seen in the heavier red lines in Figure 5-9 which indicate that trucks, in a proportion greater than automobiles, are travelling through the study area to locations in Michigan and Ohio. The desire or need for east-west truck routes is evident in these analyses.

Figure 5-8. Select Link Analysis: I-80/94 Autos

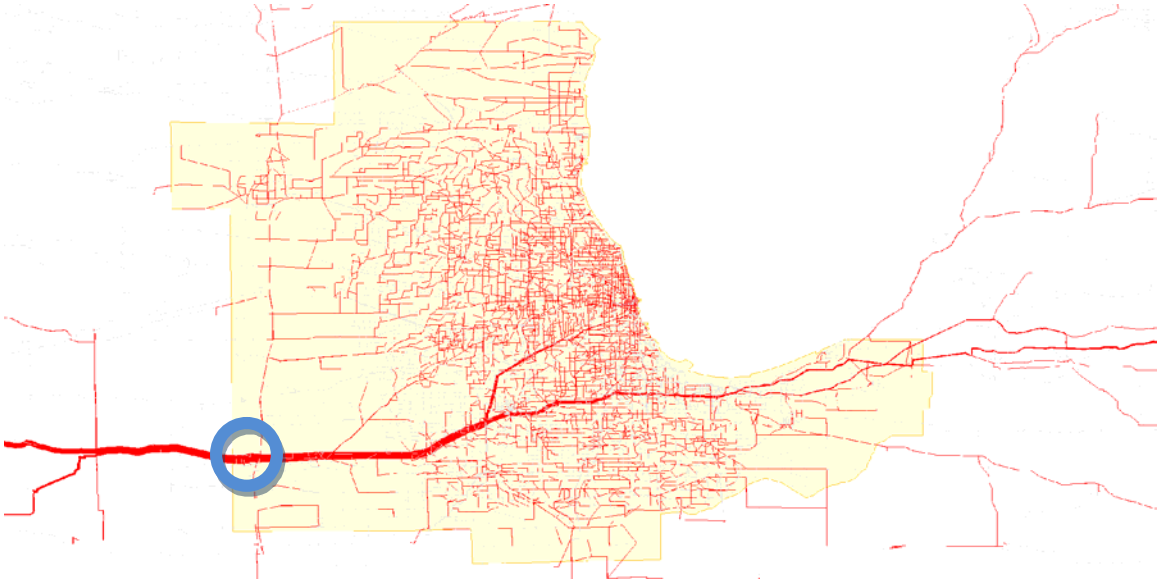


Figure 5-9. Select Link Analysis: I-80/94 Multi-Unit Trucks

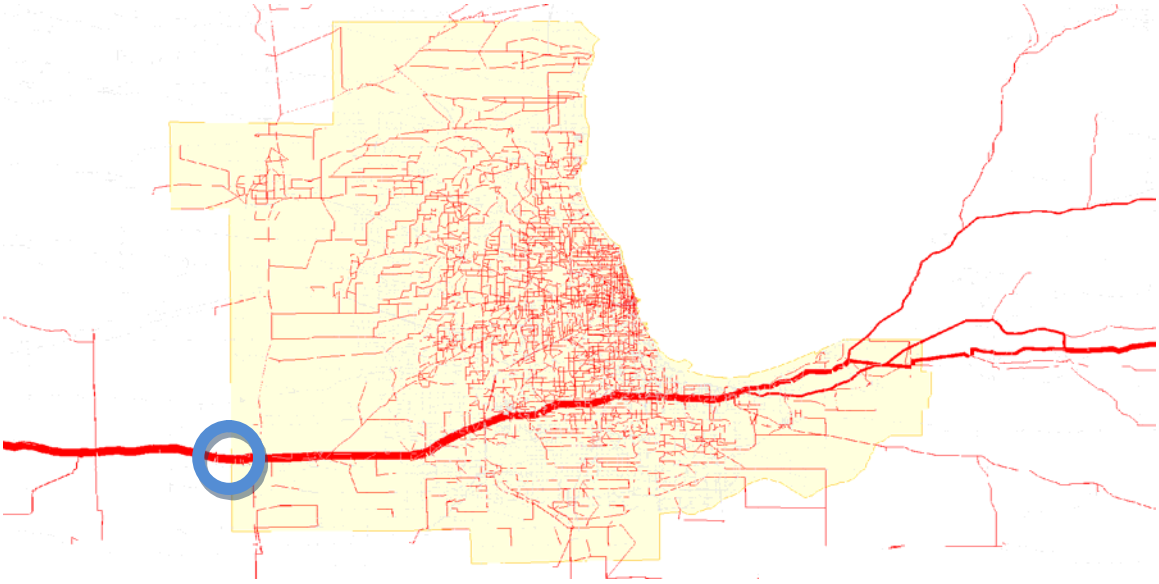


Figure 5-10 shows the change in total daily vehicle trips from 2010 to 2040, and illustrates the overall desired travel patterns for the growth in all vehicle from various origin districts within and outside of the Study Area. East-west external vehicle trips through the South Sub-Region are projected to have strong growth as shown by the east-west wide red band near the bottom of the figure. These east-west through trips are projected to be on higher functional classification facilities, such as I-80/94 and the Indiana Toll Road.

This exhibit reinforces the conclusion that there is strong vehicle growth for market destinations south of I-80, but I-80/94 is currently the only east-west interstate highway option for meeting those travel desires.

Figure 5-10. Growth in Total Vehicle Trips by Origin-Destination, 2010 to 2040

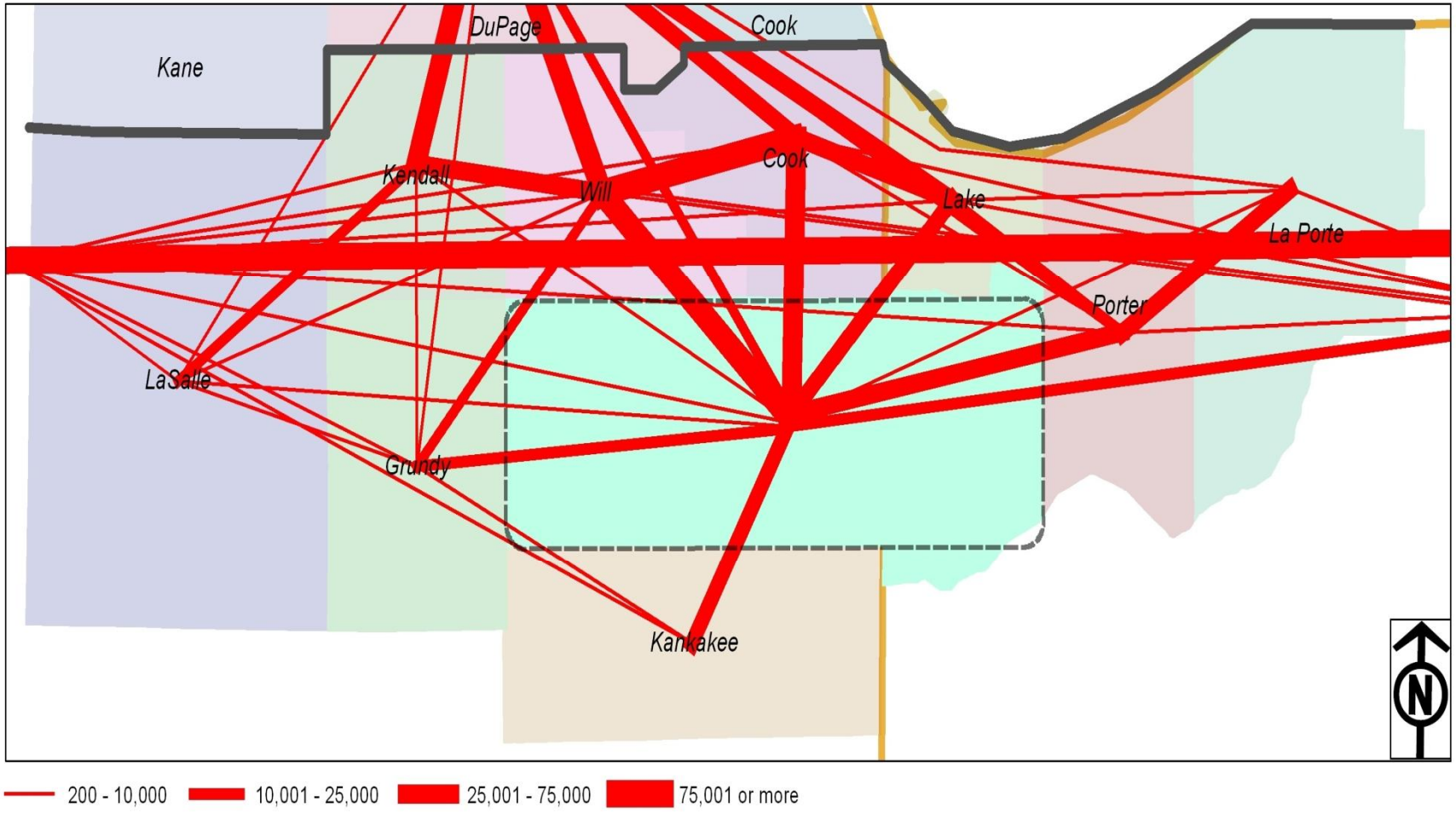


Figure 5-11 and Figure 5-12 provide a view of the locations that vehicles are destined to from a single starting point or origin, we find similar patterns in travel when viewing auto and truck trip flows by broader origin and destination pairs.

Figure 5-10 provides a view of how automobile trips are travelling through districts in Illinois and Indiana. Pink lines indicate travel patterns where one trip end (either the origin or destination) is within the districts and one is outside of the districts. The darker red lines indicate travel where both the origin and destination are both external to the districts. Figure 5-12 provides the same view, but for multi-unit trucks.

A comparison of Figure 5-11 and Figure 5-12 reinforces the conclusion that multi-unit trucks are travelling more frequently outside of the study area than automobiles, and, in greater proportion, in an east-west direction to either access points outside of the Chicago area or altogether through the Chicago area. For those trips with both origin and destination outside of the metro region, I-80/94 is currently the only higher-functional-classification option to meet those travel needs.

Figure 5-11. External Flows by District: Autos

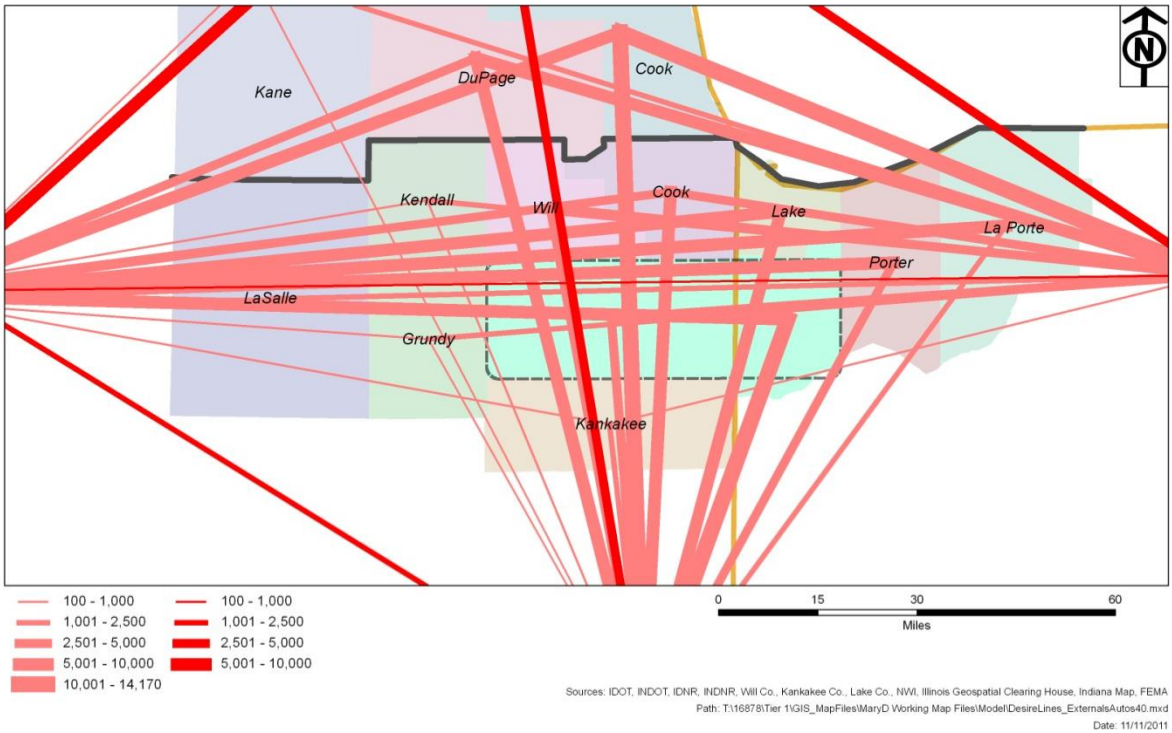


Figure 5-12 reinforces the conclusion that multi-unit trucks are travelling more frequently outside of the study area than automobiles, and, in greater proportion, in an east-west direction to either access points outside of the Chicago area or altogether through the Chicago area. For those trips with both origin and destination outside of the metro region, I-80/94 is currently the only higher-functional-classification option to meet those travel needs.

Figure 5-12. External Flows by District: Mulit-Unit Trucks

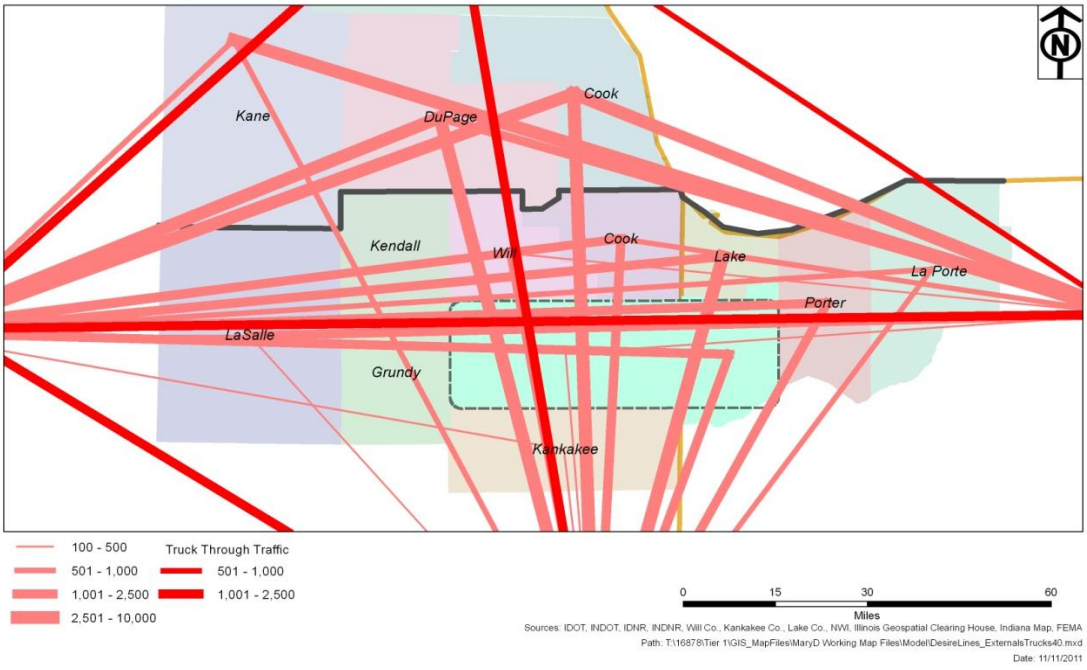


Table 5-1 summarizes the volumes of truck trips that are currently traveling and will be traveling through the Region, the South Sub-Region and the Illiana study area. An increase of more than 1.3 Million truck trips is projected to occur within the Larger Region, with more than 10 percent of that increase coming from growth in the study area itself. The study area is projected to accommodate an additional 169,228 truck trips by 2040, a change of 193 percent from current levels.

Table 5-1. Change in Truck Trips, including External Truck Traffic, 2010 to 2040

Area	2010	2040	Difference	Change
Region	3,850,194	5,223,371	1,373,177	36%
South Sub-Region	824,900	1,340,900	516,000	63%

Growth in truck trips will occur in similar proportion as growth in all vehicles. Approximately 80 percent of the total additional truck traffic will be either originating from or destined to the study area from sites external to it, split approximately equally between the two.

Although only 20 percent of the additional truck traffic will be entirely internal to the study area, those 32,807 trucks represent a growth in internal-internal truck traffic of 228 percent over the study period. The projected increase in study area vehicle trips greatly exceeds the projected 36 percent increase in total truck trips for the entire region. This information is shown in Table 5-2.

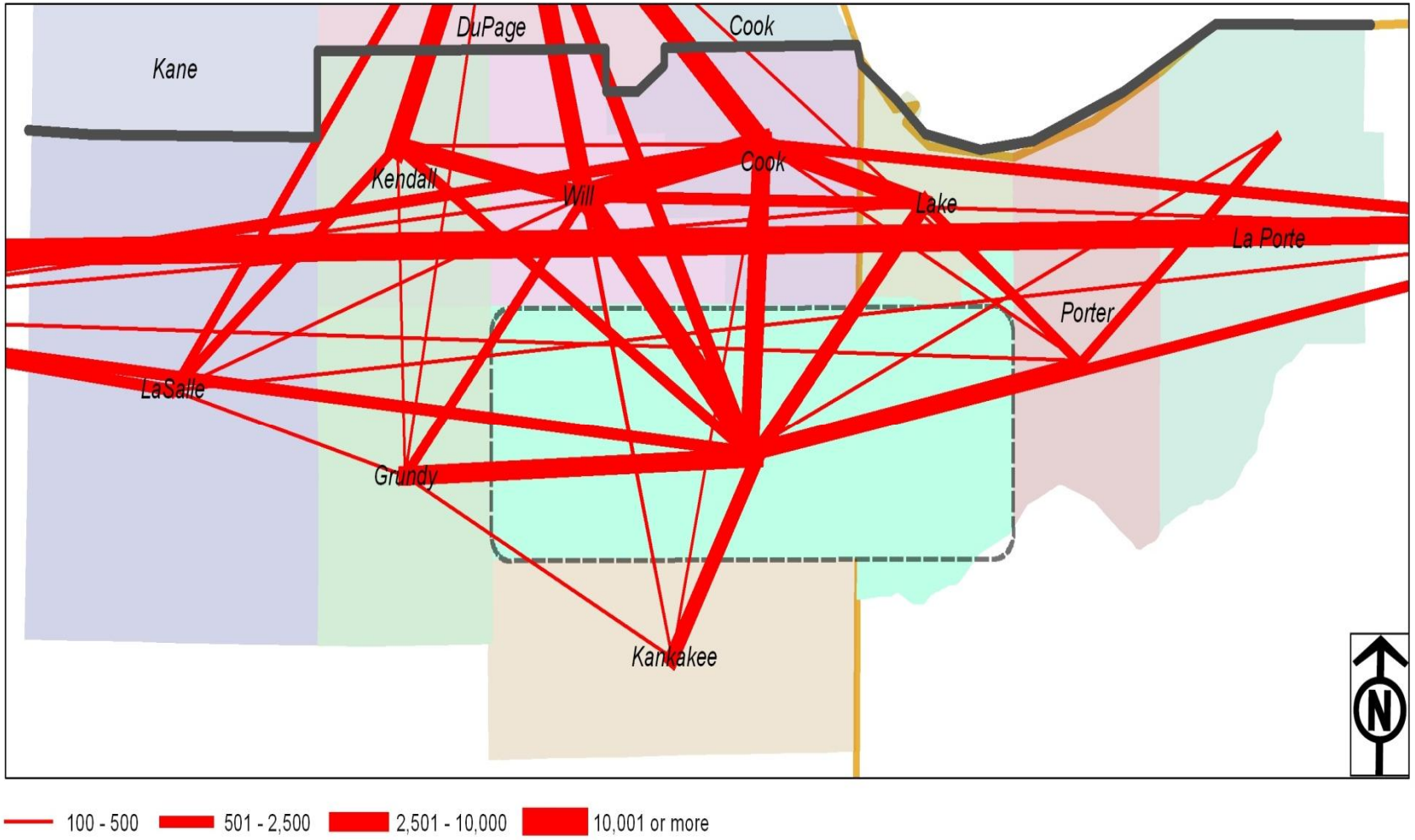
Table 5-2. Change in Truck Trips within the Study Area

Trip End Type	2010	2040	Difference	% Change
Total Truck Trips Originating in the Study Area	36,865	105,524	68,658	186%
Total Truck Trips Destined to the Study Area	36,561	104,324	67,763	185%
Total Truck Trips Within the Study Area	14,415	47,222	32,807	228%
Total Truck Trips Entering, Leaving and within the Study Area	87,841	257,070	169,228	193%

Figure 5-13 shows the change in truck volumes from 2010 to 2040, and illustrates the overall desired travel patterns for multi-unit trucks from various origin districts within and outside of the study area. Trips are modeled and illustrated as occurring to/from centroids of each township at this level. Truck volumes are projected to grow from the southern part of Will County to the northern part of Will County and to Cook County, including demand growth for east-west as well as north-south truck travel within the study area.

This exhibit reinforces the conclusion that multi-unit trucks have market destinations south of I-80, but that I-80/94 is currently the only east-west interstate highway option for meeting those travel desires.

Figure 5-13. Truck Origin – Destination Growth



5.2.6 Vehicle Miles of Travel and Vehicle Hours of Travel

The effects of congestion on roadway system performance were evaluated in terms of vehicle miles traveled (VMT), vehicle hours traveled (VHT), and hours of delay. Hours of delay are the increased travel time over free flow time that travelers experience. Table 5-1 summarizes change in VMT and VHT for the region, south sub-region, and study area between 2010 and 2040, along with a measure of the increased hours of delay.

In parallel with the traffic volume increases discussed in Section 4.3, the Illiana study area is projected to experience traffic growth at a substantially greater rate than either the South Sub-Region or the larger Region. The study area will account for approximately 11 percent of the increased VMT, 9 percent of the VHT, and 3 percent of the increased delay in the larger Region. Although not a large proportion of those performance measures, the increases will be substantial to the study area, mainly because of the lack of of higher-functional classification roadways in the existing study area network and the strain that substantial volume increases will have on capacity.

For all roads in the study area, total VMT will increase by 73 percent between 2010 and 2040. Vehicle hours traveled (VHT) is projected to grow 84 percent in the study area and travelers in the study area will experience an increase in travel delay of over 200 percent from existing. The desire and need for additional travel by vehicle will be substantial within the study area. This results in trip time increases, cause economic impacts, and loss of jobs accessibility. This growth in travel demand is also reflected in the Congested VMT measure as shown in Table 5-3.

Table 5-3. Projected Change in Daily Vehicle Miles/Hours of Travel/Hours of Delay

Area	2010-2040 Change in VMT	Change	2010-2040 Change in VHT	Change	2010-2040 Change in Hours of Delay	Change
Region	56,125,600	31%	1,578,600	34%	219,100	46%
South Sub-Region	20,640,600	46%	526,800	53%	64,300	141%
Study Area	6,298,900	73%	148,800	84%	10,100	206%

Table 5-4 provides the number of vehicle-miles traveled in congested (or LOS F) conditions. The percentage of miles that will be traveled along congested roadways vs. uncongested roadways in the study area is projected to increase from 5 percent in 2010 to 18 percent in 2040 within the study area. The total VMT that will be traveled under congested conditions will increase more than five times between 2010 and 2040, from less than 500,000 congested vehicle-miles to more than 2.5 Million congested vehicle-miles.

Table 5-4. Congested Travel Measures, 2010 and 2040

	2010			2040		
	Congested VMT	Total VMT	% Congested	Congested VMT	Total VMT	% Congested
Region	51,308,092	180,140,470	28%	94,040,897	236,266,081	40%
South Sub-Region	6,564,835	45,037,021	15%	19,479,601	65,677,584	30%
Study Area	415,018	8,591,452	5%	2,695,783	14,890,328	18%

Table 5-5 shows existing and projected VMT within the study area in both north-south and east-west directions. For north-south travel, projected 2040 VMT will increase by more than 2.7 million miles, an increase of 67 percent over current 2010 conditions. The projection for east-west travel shows an even greater growth rate. By 2040, miles traveled in this direction are projected to increase by more than 2.5 million miles. Although a similar volume increase to that of north-south travel, this equates to a 79 percent increase from 2010 condition. The total projected increase for VMT across the study area is 72 percent.

Table 5-5. 2010-2040 Study Area Total Vehicle Miles Traveled by Direction

Direction	2010	2040	Change
North-South	4,046,716	6,753,442	67%
East-West	3,291,606	5,880,184	79%
Total	7,338,322	12,633,626	72%

Truck vehicle miles traveled within the study area are shown in Table 5-6 by direction of travel. For north-south travel, projected miles traveled by truck traffic each day will increase by more than 425,000 miles from 2010 to 2040, a 60 percent increase. Even greater is the projection for east-west truck travel. By 2040, truck miles traveled in this orientation are projected to increase by nearly 578,000 miles or 106 percent more than the existing 2010 condition. This equates to a total projected increase in VMT of 80 percent for the entire study area.

Table 5-6. Projected Truck Vehicle Miles Traveled within Study Area

Direction	2010 Truck VMT	2040 Truck VMT	Change
East-West	547,329	1,124,939	106%
North-South	705,800	1,131,763	60%
Total	1,253,130	2,256,702	80%

As seen in Table 5-7, truck hours of travel (THT) increase for both the Region and South-Sub-Region, with the Study Area showing over 80 percent growth. The Study Area growth in truck hours of travel is at a faster rate than the South Sub-Region and Region. This is due to the Study Area having a higher growth rate in truck trips and congestion. Similarly, truck hours of delay are shown in this table, with substantial 2010-2040 growth, especially for the South Sub-Region and Study Area, which grow at 324 percent and 447 percent, respectively. This table demonstrates the added travel and delay time that will be faced by trucks in the study Area and South Sub-Region due to the increased future congestion and resulting diminished accessibility.

Table 5-7. Projected Daily Truck Hours Traveled (THT)

	Truck Hrs Traveled (THT)			Truck Hrs of Delay		
Area	2010	2040	Change	2010	2040	Change
Region	286,400	433,600	51%	55,860	113,900	111%
South Sub-Region	90,900	155,000	70%	5,890	25,000	324%
Study Area	15,700	28,400	81%	480	2,600	447%

5.2.7 Selected Travel Times

Travel times between select locations can provide another measure of how traffic conditions will be projected to change over a period of time and provide an understanding of how congestion might impact travel demand and choices.

Table 5Table 5-8 provides 2010 and 2040 travel time measurements for three sections in the study area. Travel times all increase between 2010 and 2040, with a maximum increase of more than 15 minutes to reach the I-65/I-80/94 interchange from I-55. Figure 5-14 and Figure 5-15 show the same information graphically and for trucks only. The radius at which a truck will be able to travel within a designated time period is shown in different shades of blue. The time bands become more restricted in the year 2040 as congestion increases and destinations take more time to reach. As shown, a truck leaving an intermodal facility east of I-55 (shown by the white square) would need more than one hour to reach I-65 in the year 2040.

Table 5-8. Selected Travel Times (Minutes)

Section	Year 2010	Year 2040	Change
I-55 and Arsenal Road to I-65 / I-80/94 interchange	79.0	94.4	+ 15.4 min.
I-55 and Arsenal Road to I-57 / I-80 interchange	36.7	44.3	+ 7.7 min.
I-55 and River Road to I-65 / IN-2 Interchange	78.8	82.3	+ 3.5 min.

Figure 5-14. 2010 Truck Travel Times

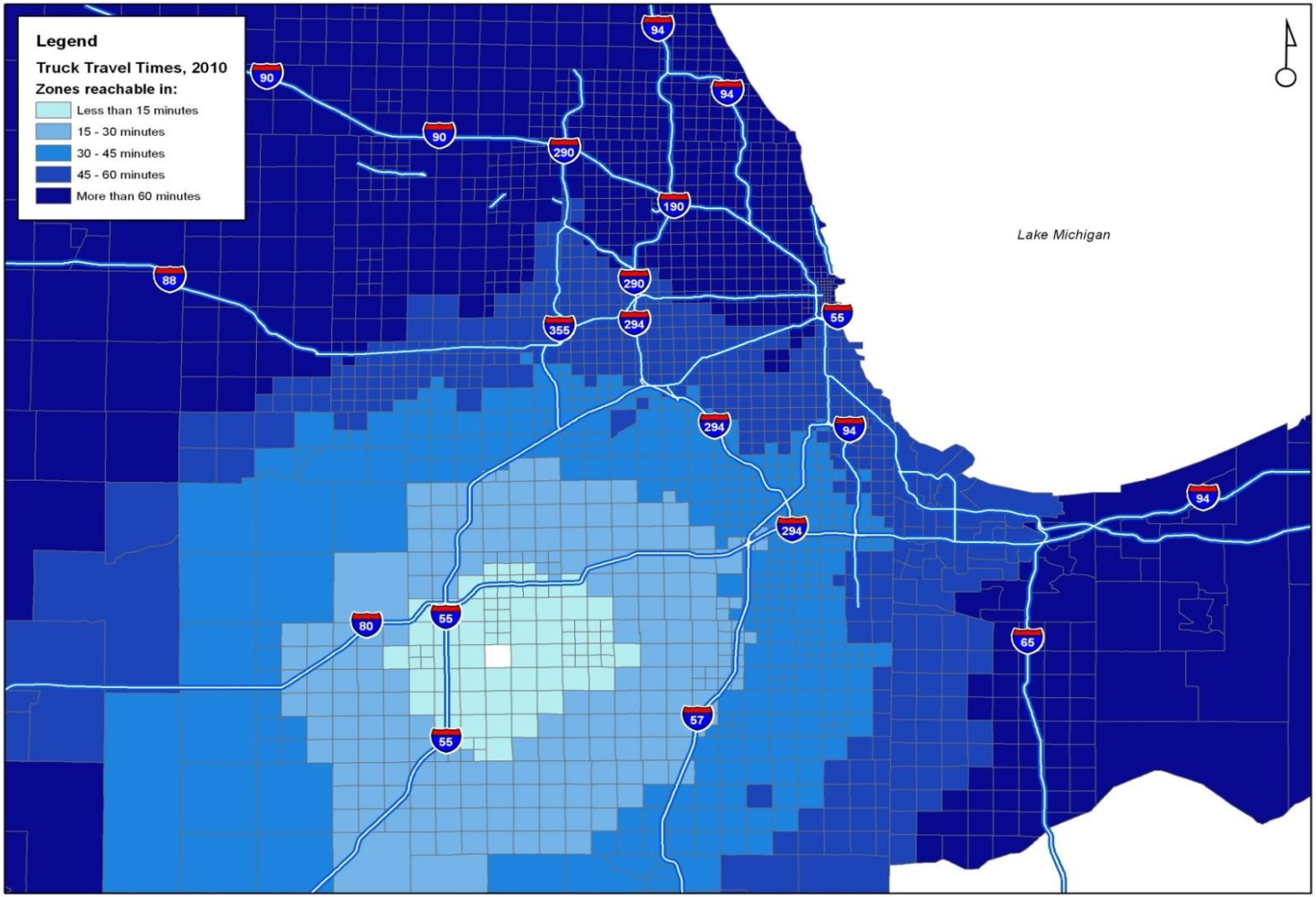
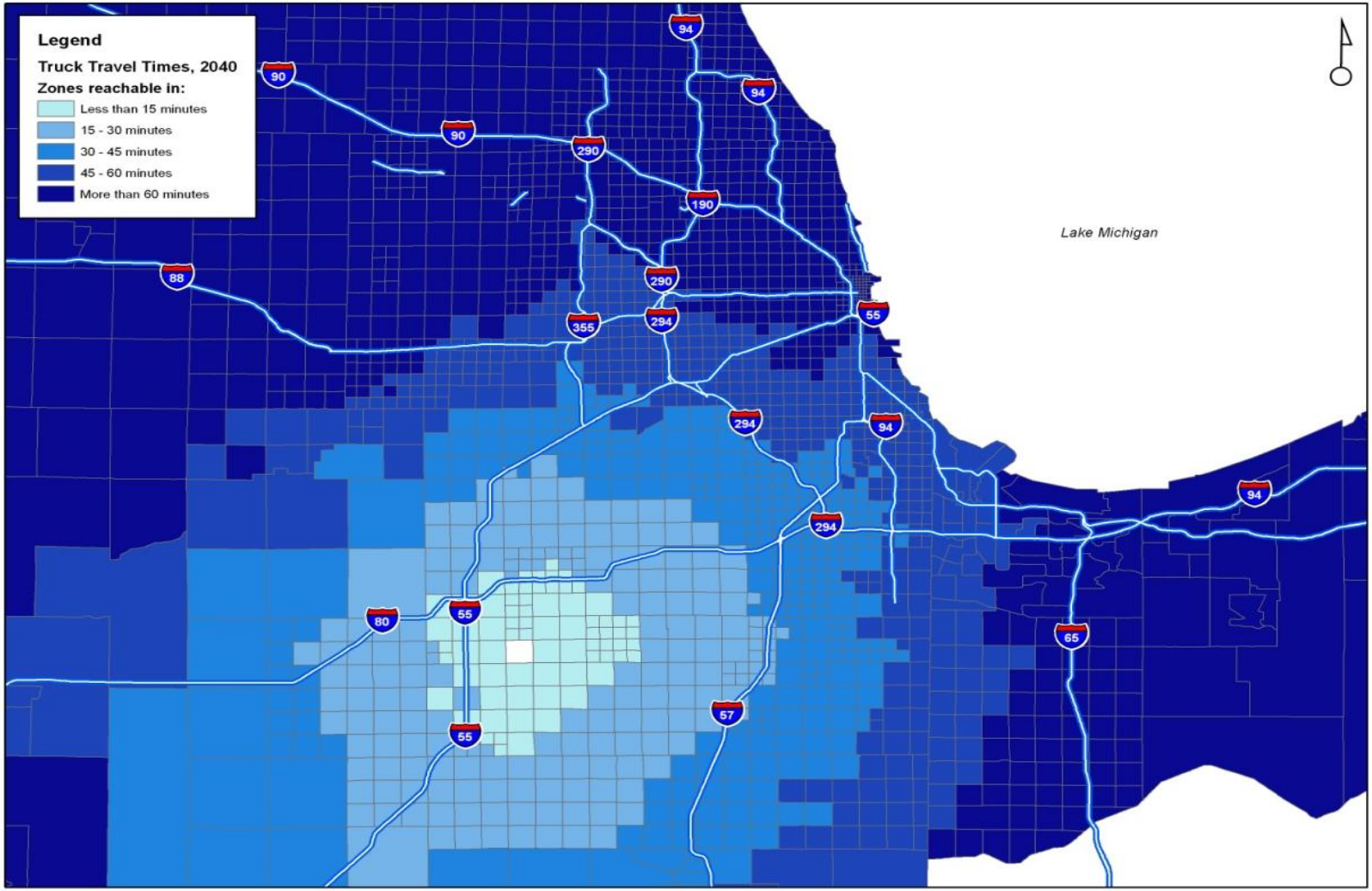


Figure 5-15. 2040 Truck Travel Times



5.3 Transportation Accessibility and Mobility Measures

5.3.1 Accessibility to Jobs

Transportation accessibility describes the ability of travelers to reach intended work destinations without being impeded by physical, social or economic barriers. Typically, accessibility is the extent to which the transportation system provides connections between geographic areas or portions of the region.

Table 5-9 summarizes the number of 2040 job locations (locations of regional jobs that are projected to exist in the year 2040) that are accessible within four travel time bands in 2010 and 2040. This is a regional accessibility measure that considers all jobs within the travel model region. Jobs are accumulated if they are reachable from any zone inside the study area within the indicated travel time band. The sums are cumulative, so that the jobs within 20 minutes are also included in the sum of jobs accessible within 40 minutes, but there is no double counting of jobs if they are reachable from several zones inside the study area. "2040 job locations" are used in both the 2010 and 2040 study years so that a direct "apples to apples" comparison can be made for accessibility. Regional job accessibility from the Study Area is projected to decline between 2010 and 2040 because of increased travel times.

For example, for travel times less than or equal to 15 minutes from the study area, 128,300 2040 job locations can be reached in 2010 and 82,900 2040 job locations based on 2040 travel times, a decline of 35 percent. As shown in Table 5-9, accessibility to 2040 job locations decreases between 14 percent and 35 percent for travel times less than or equal to 60 minutes from the study area.

Table 5-9. Accessibility to 2040 jobs from central location in study area

Employment Accessible	2010	2040	Change	% Change
Within 15 Minutes	128,300	82,900	-45,400	-35%
Within 30 Minutes	620,600	491,100	-129,500	-21%
Within 45 Minutes	1,313,400	1,107,300	-206,100	-16%
Within 60 Minutes	2,283,300	1,953,700	-329,600	-14%

5.3.2 Transit Population-Employment Density Threshold

Pace, the Chicago region's suburban bus service provider, has established criteria to evaluate the opportunity for bus service in an area. Using a square mile as the base geography, Pace looks for a minimum combined total of 4,000 residents and employees as a threshold density for regular fixed-route service. For commuter rail feeder service, which has limited service during peak periods and terminates at commuter rail stations, Pace recommends a minimum combined total of 2,500 residents and employees. In addition to the base threshold requirements, Pace also looks for a minimum of two contiguous square miles or a larger area (six square miles) with 75 percent of the area meeting the base threshold. Service levels start with buses every 30 minutes during peak commute periods and 60 minutes during off-peak. Increased service is based on demand or growth in population and employment within the square mile.

These transit service thresholds were applied to the Illiana Corridor study area.

Figure 5-16 and Figure 5-17 show transit thresholds for the 2010 and 2040 conditions, respectively. These figures support the need for the rail extension south into Crete and Elwood as described above. The areas shown in yellow on these figures identify locations where conditions are projected to support feeder bus service. Areas that are shaded red are projected to support a fixed-route bus. Besides the two lines that are already planned for expansion into the study area (and described above), these maps show that even in 2040, there is projected to be insufficient population and employment density to support circumferential fixed-guideway rail transit in this area. It should be noted that Metra's STAR line study originally considered east-west circumferential service on the EJ&E (now CN) in an east-west direction between Joliet and southeastern Cook County (north of the study area and in a more densely populated area) and dropped it from consideration after insufficient rider demand was found. The STAR line is currently projected to provide circumferential service from Joliet to O'Hare Airport via a route including the ex-EJ&E CN rail line and a new transit corridor along I-90 in the northwest suburbs[10].

There is a potential for expansion of radial transit services into the study area. In particular, a Metra South-West Service extension, Metra South-East Service, Metra Electric extension/shuttle to SSA & Kankakee, and NICTD West Lake Commuter Service to Valparaiso and/or Cedar Lake/Lowell show promise based on the future data.

[10] Metra STAR line website: http://www.metraconnects.metrarail.com/star.php

Figure 5-16. 2010 Transit Thresholds

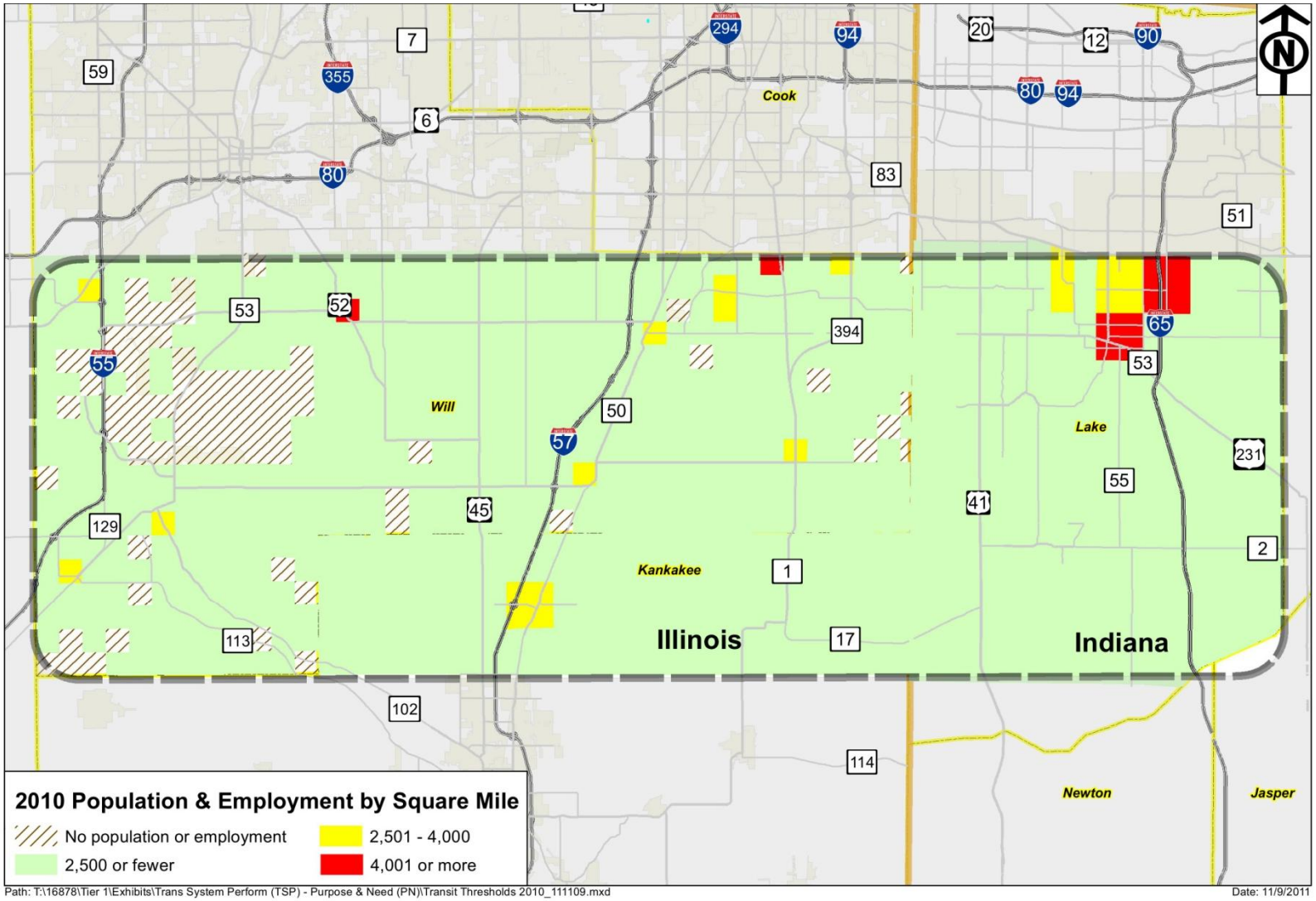
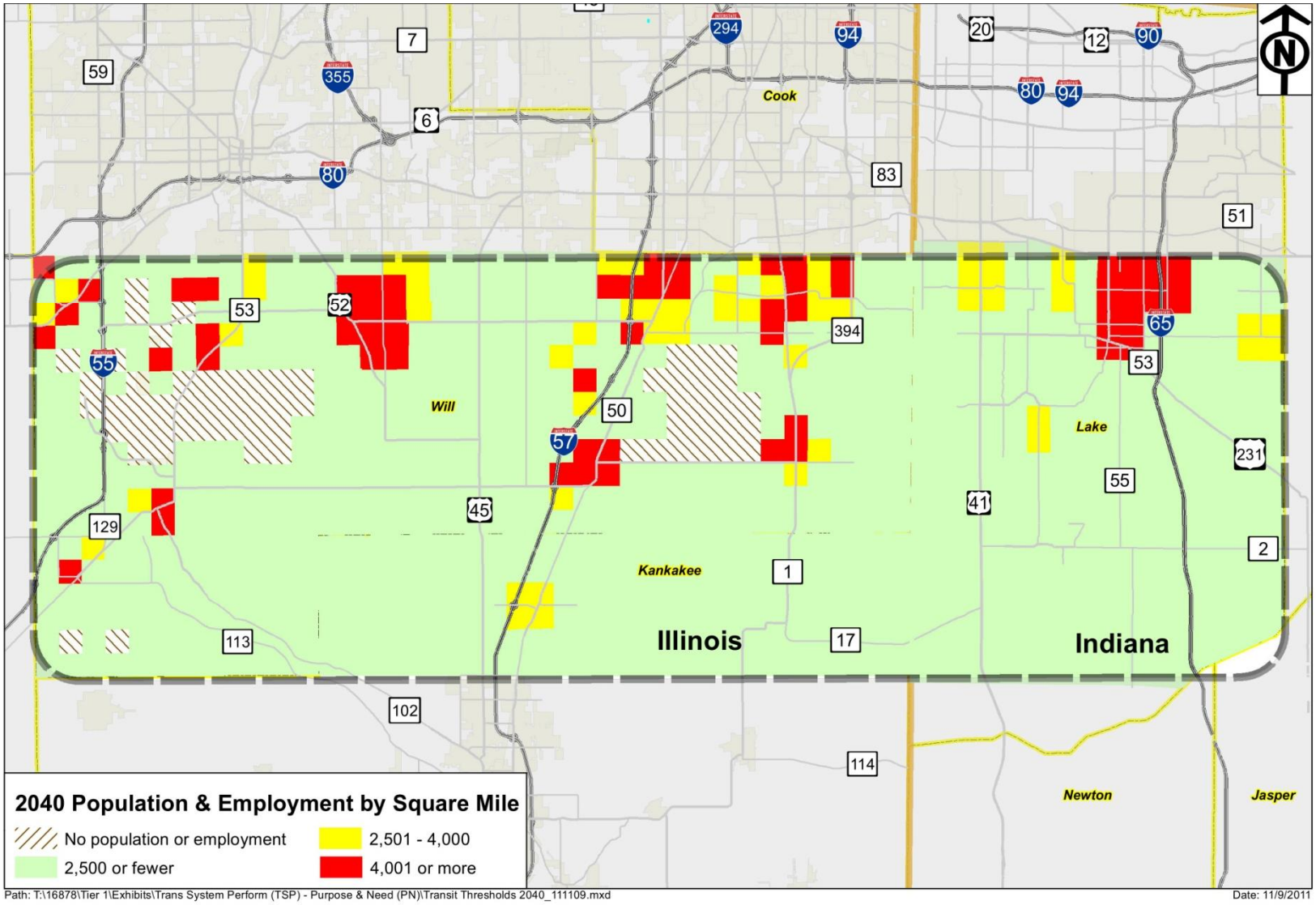


Figure 5-17. 2040 Transit Thresholds



5.4 Traffic Safety

Among transportation system performance criteria, traffic safety has taken on greater significance in recent years from both the FHWA and USDOT. In an effort to reduce serious and fatal crashes along our nation's roadways, state DOT's are required to develop quantitative performance measures and report them annually. The data collected for this effort and the reports and analysis that result from it are the basis of this chapter.

IDOT and INDOT both maintain extensive crash databases which are used to document and identify crash locations and safety trends, evaluate program initiatives, and analyze safety on specific sections of highway. Besides being analyzed locally, this data is used by the Federal Highway Administration (FHWA) and National Highway Traffic Safety Administration (NHTSA) where it is aggregated on a statewide and nationwide basis for use in addressing progress in federally funded and/or mandated programs such as the FHWA Highway Safety Improvement Program (HSIP). Locally, IDOT and INDOT use crash data in programming functions and on proposed highway projects to conduct analyses to evaluate and address safety issues. The Illiana study is one such beneficiary of the data and reports that DOT's are required to maintain.

Traffic crash data was collected from the DOT's within both the immediate Illiana study area and a broader influence area in order to understand the implications that safety has on the regional transportation network. Crash data from years 2007 through 2010 was available for this analysis. Crashes occurring along and in proximity to I-80 and US 30 as part of the broader influence area are also summarized here (but separately from the immediate study area) since these highways parallel the Illiana study corridor and accommodate similar travel patterns, i.e. longer distance east-west travel, both vehicular and truck. Both corridors also add to the regional perspective of the study as they are affected by the addition of a transportation corridor in the Illiana study area.

5.4.1 Safety Performance Measures

Vehicle and truck crash data for the study area was summarized and analyzed to identify trends or patterns and relate that information to the project's transportation needs. The safety analysis conducted herein is meant to inform the project as its evaluation occurs by linking crash frequency, type, and severity to the characteristics of the study area and its roadway network. The key components of this analysis begin with a summary of the following measures of traffic safety as developed by the DOTs:

- 5 Percent Locations
- Potential for Safety Improvements (PSI) (Illinois only)
- Index of Crash Frequency (Indiana only)

Additionally, summaries conducted specifically for this report will inform the analysis, including comparisons of crash types and severities by vehicle type, crash type, and roadway characteristics.

5.4.1.1 5 Percent Locations

The Highway Safety Improvement Program (HSIP), as described above, is a Federal program that is intended to reduce the numbers of severe injury and fatal crashes through analysis, reporting, and engineering improvements. All roadways under the jurisdiction of the IDOT and INDOT, as well as those owned and maintained by local units of government, are eligible to be part of the HSIP. The HSIP requires regular reporting to identify the top 5 percent of locations exhibiting the most severe safety needs based on crashes, injuries, deaths and other relevant data as determined by the State Highway Agency. The resulting report (5 Percent Report) identifies the locations that meet the identified conditions, details the safety concern at that location, identifies potential remedies, estimates the costs to improve it, and then identifies impediments to improvement. The report must cover a minimum of 5 percent of the agency's public road locations and considers crash severity as well as frequency. It is important to note that FHWA does not dictate how the five percent crashes are identified and thus different states use different measures to select their high crash locations.

The map in Figure 5-18. Study Area 5 percent Crash Locations depicts the locations within the Illiana Study Area that were identified either as intersections (isolated locations where two roadways intersect) or sections (locations along a section of roadway) that met the 5 Percent high crash criteria in 2010.

When the 5 Percent lists for Indiana and Illinois are combined, a total of 848 sections and 562 intersections appear as locations requiring safety improvement or attention. Within the immediate Illiana study area alone, ten sections and ten intersections were identified in the 5 percent report.

The ten high crash sections that were identified in the 5 Percent Reports are:

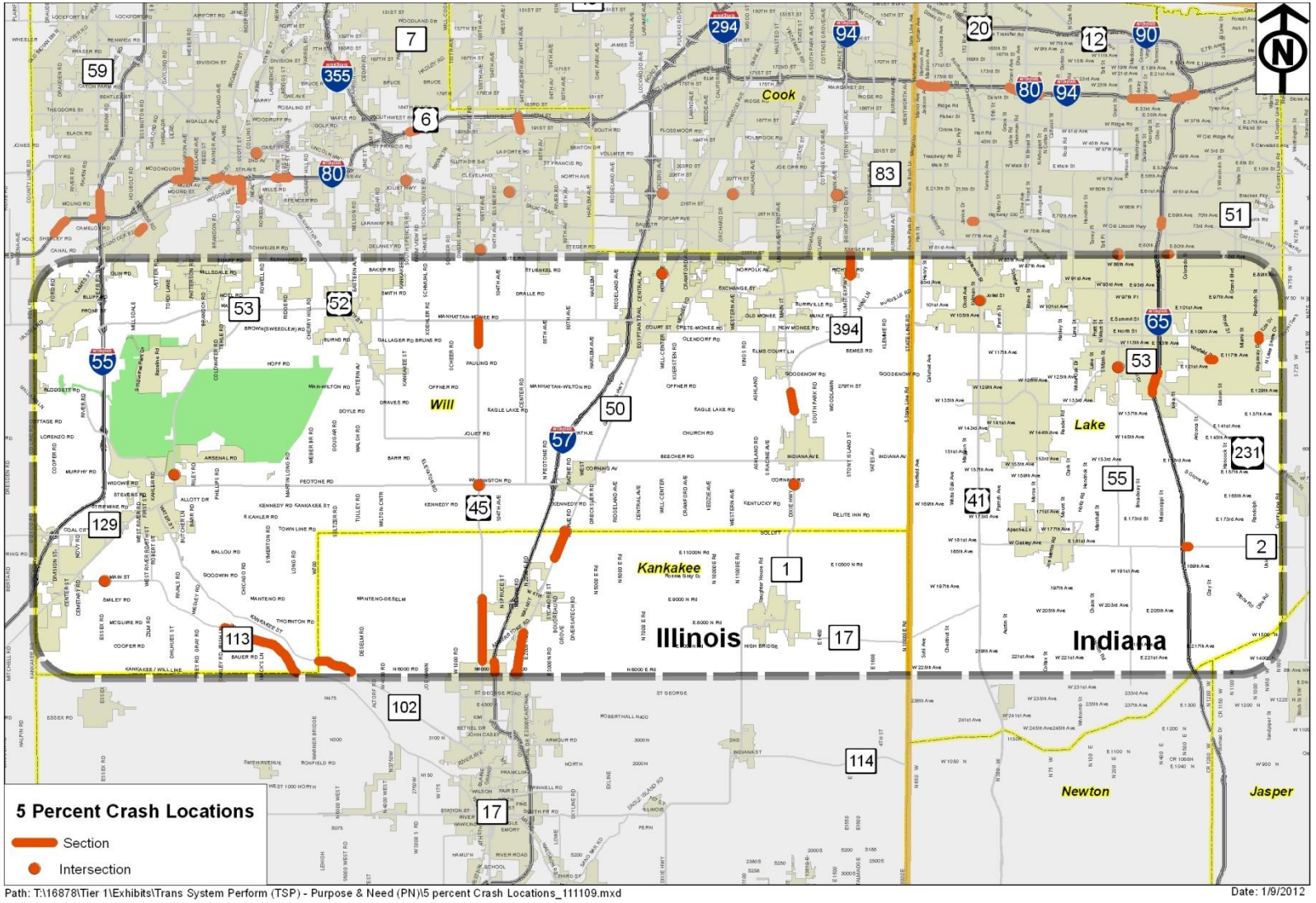
- I-57 between Kankakee and Manteno, Illinois
- IL 394 / Calumet Expressway, South of 231st Street, Illinois
- CR 50 between Kankakee and Manteno, Illinois
- CR 50 between Manteno and Peotone, Illinois
- US 45 between Kankakee and Manteno, Illinois
- US 45, south of W. Manhattan-Monee Road, Illinois
- CR 102 in the vicinity of the Kankakee River Nature Preserve, Illinois

- CR 113 in the vicinity of Kankakee River State Park, Illinois
- CR 1, south of its junction with CR 394
- I-65 at US 231, Indiana

When looking at the broader study area, extending north to US 30 and I-80/94, another eight sections along I-80 in Will County are identified as 5 Percent locations. Four such sections exist in Lake County, Indiana.[11] Along US 30, there are eight intersections that are listed in the 5 Percent Report. There is one section on I-65, north of US 30.

[11] Note that I-80 in Cook County is omitted from this analysis since it is a Tollway and therefore not included in the 5 Percent evaluation locations.

Figure 5-18. Study Area 5 percent Crash Locations



5.4.2 Crash Characteristics for Illiana Study Area

Using the entire available dataset of crash records (2007-2010) from within the study area, crashes were next summarized by crash type, vehicle type (passenger vehicle, single unit truck, commercial vehicle, etc), roadway type, and other crash characteristics. Additionally, a separate summary in response to FHWA's mandate related to increased emphasis on fatal ("K") and serious injury ("A") crashes is provided. Finally, an analysis of truck-only crashes is included.

Because state differences in the way crash data is recorded make it impractical to combine the two datasets, the crashes are summarized in tables and graphs below by state. Four main differences in the crash data require that they be summarized and analyzed independently:

1. The most recent three years of available data were collected from each state for analysis. In Illinois, the years 2007, 2008, and 2009 were available. In Indiana, years 2008, 2009, and 2010 were provided.

2. Crash types are defined differently in Indiana and Illinois reports. While Indiana data categorizes left-turning and right-turning crashes separately, for instance, Illinois identifies a single category titled "turning". Other categories of crash type are present in one dataset but not the other.

3. The Indiana dataset of truck crashes does not contain crashes involving single unit trucks (those without trailers) separately from passenger vehicles while Illinois truck data does. Direct comparisons of truck crashes between the two states are therefore not meaningful. Further, truck crashes and injury crashes involving trucks may be understated in Indiana.

4. The Indiana dataset does not categorize injury crashes based on severity (A injury, B injury, C injury), while Illinois does. Indiana data is separated only into injury, fatality, and property-damage-only (PDO) categories. Injury crashes were therefore summarized accordingly.

In addition to identifying the general crash characteristics of the study area, this chapter specifically addresses the history of fatality or serious injury crashes in the study area. In Illinois, injury crashes are classified based on the severity of injuries suffered in a crash. The injury categories below were developed by the National Safety Council (NSC) and are used by IDOT and law enforcement for classifying injuries in the crash reporting system:

- A is an incapacitating type of injury
- B is a non-incapacitating type of injury
- C is an injury reported but not evident

- K - Fatal
- 0 - Property damage only, no injury

Indiana crash data is *not* classified by injury severity, but only reported as injury, fatality, or property-damage-only crash. Categories A through C are therefore a single category in the Indiana crash database.

Overall, approximately 13,850 total crashes were recorded for the study area over a three-year period (Illinois is from 2007-2009 and Indiana is from 2008-2010). More than 2,680 of these involved an injury or fatality, accounting for 19 percent of the total reported crashes. A total of 67 fatal crashes occurred in the immediate study area, resulting in 81 fatalities. There were nearly 1,100 total truck crashes in the study area over the three-year period.

Safety concerns on lower functional classification roads will grow because of the large increase in traffic between 2010 and 2040. This increased demand will result in a higher proportion of traffic being carried on lower functional class roads, which have higher crash and fatality rates. Nationally, rural interstates have approximately half the fatality rate of rural arterials, and a third of the fatality rate of rural collectors and locals. Similarly, urban interstates have the lowest fatality rate, followed by collectors and arterials, with locals having the highest fatality rate. Table 5-10 provides a summary of Illiana study area crash history and projected growth in ADT by roadway functional classification.

Table 5-10. Study Area Crashes and ADT Growth by Functional Classification

Functional Classification	Recent 3-Year Crashes	2010-2040 ADT Growth
Interstate	1,895	65%
Other Principal Arterials	3,197	124%
Minor Arterials	2,731	98%
Collectors, Locals, and Unclassified	6,046	159%

Following are detailed crash characteristics for the study area, separated by state.

5.4.2.1 Illinois Crashes

Illiana study area crash data in Illinois consists of the three most recent years of reported crash data (2007, 2008 and 2009) and contains information on more than 6,500 recorded crashes during that period.

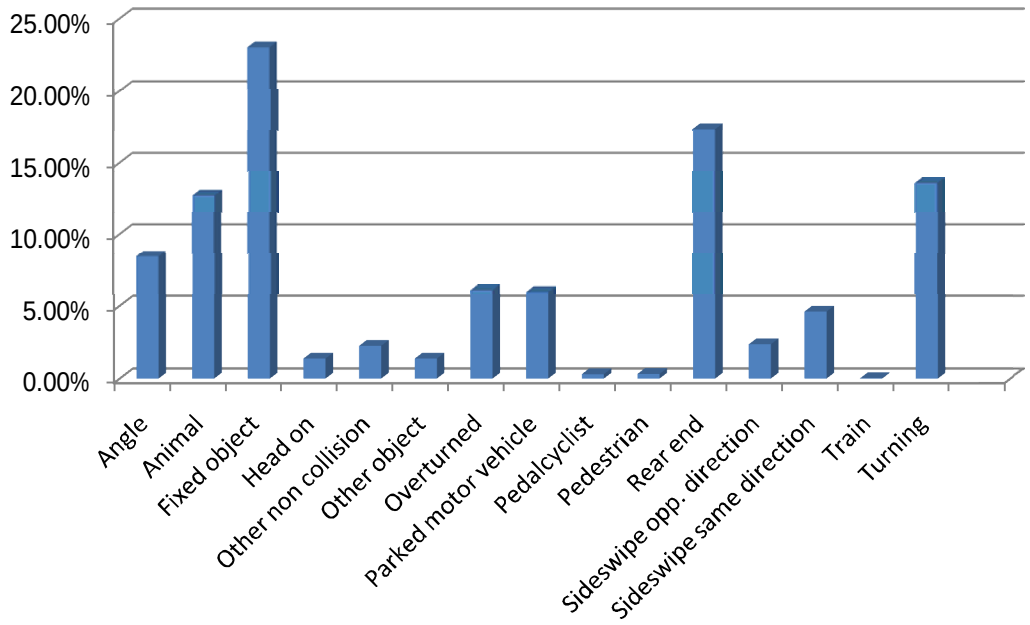
It should be noted that the three years of crash data collected in Illinois are not directly comparable since crash data reporting criteria in Illinois was recently amended. The law regarding the crash reporting threshold for Property Damage Only crashes was amended effective January 1, 2009, to the following:

> *When all drivers involved in a crash are insured, the amount of damage to the property of any one person that must be reported increased from $500 to $1,500. If any driver does not have insurance, the threshold remains at $500.*

This change in law precludes wholesale comparison of pre-2009 crash data with more recent crash data. Although this change did not affect the reporting of injury crashes, property damage only (PDO) and total crashes are affected. Also not reflected in the data (or the Indiana data which follows) is any effect that an increase or decrease in vehicle miles of travel (VMT) may have on crash frequency. Based on Illinois state-wide statistics, VMT decreased slightly from 2007 to 2008: by approximately 2 - 3 percent. VMT in years 2008 and 2009 were generally unchanged. Although the comparisons presented within this text are meant to characterize the study area, the reader should recognize that these and other external issues may have an effect on the crash rates and crash trends discussed herein.

Of the 6,500 total crashes that were reported within the Illinois portion of the study area during this period, the predominant crash types were run-off-the road type crashes (32%) which include fixed object, other object, and over-turned vehicles. Rear-end crashes (17%) and turning crashes (14%) were also prevalent. Run-off-the road type crashes are common in rural areas like Illiana, where higher speeds and a single travel lane in each direction are customary. Rear-end, turning, and angle crashes are also associated with rural areas since turning or queued vehicles at intersections are susceptible to these types of collisions where turn lanes have not been provided.

Figure 5-19. Illinois Study Area Crash Types

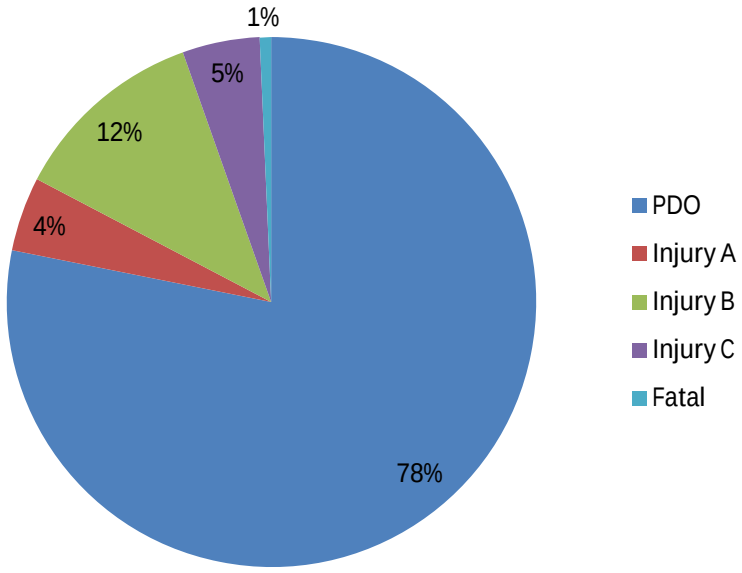


Illinois Injury and Fatal Crashes

In the Illinois portion of the Illiana study area, there were 1,375 injury crashes reported, resulting in 1,399 total injuries. Figure 5-20 shows the total number of crashes by injury type.

The predominant crash types for the injury crashes as a whole were turning and rear end (35% each). The most severe injuries (Type A) occurred as a result of run-off-the road type crashes (44%) which include fixed object, other object, and over-turned. Angle (15%), turning (12%) and rear-end (12%) crashes also resulted in a substantial number of the reported injury crashes.

Figure 5-20. Crashes by Injury Type, Illinois



During the 2007-2009 time period, 47 fatal crashes were reported in the Illinois portion of the study area, resulting in 51 fatalities. Then number of fatal crashes dropped substantially from 2007 to 2009, with 20 fatal crashes occurring in 2007, 16 in 2008, and 11 in 2009. The predominant fatal crash types during this period were run-off-the road (51%) including fixed object and over-turned, and angle (15%).

53% of fatal crashes occurred during darkness and another 4% during darkness but under lighted conditions.

Illinois Truck Crash Characteristics

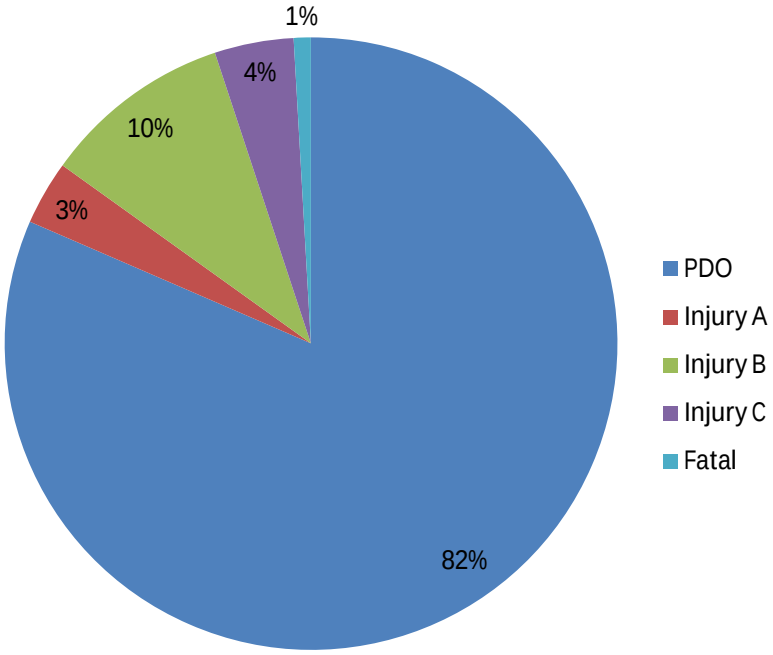
Of the 6,500 crashes that occurred in the Illinois portion of the Illiana study area from 2007 to 2009, 649 of these involved trucks (10% of all crashes). Similar to the yearly distribution of crashes for all vehicles, truck crashes also show a considerable reduction from 2007 to 2009, from 266 crashes in 2007 to 227 in 2008 and 156 in 2009.

Of the truck crashes, the predominant crash types are run-off-road (23%), rear-end (23%), and turning (22%). 73 percent of the crashes occurred in daylight.

Figure 5-21 illustrates truck crashes by type of injury for the Illinois portion of the study area. Of the reported truck crashes in Illinois, 114 resulted in injuries (18%). 23 percent of these were classified as run-off-the-road, 23 percent as rear-end and 17 percent as turning.

There were 6 fatal crashes reported involving a truck in this portion of the study area. Three of these occurred in 2007, 1 in 2008 and 2 in 2009. The 3 fatal crashes in 2007 were angle and rear-end at intersections and a fixed object collision. The 2008 fatal crash involved a pedestrian and the 2009 fatal crashes were one turning and one sideswipe same direction. All fatal truck crashes were on dry pavement with three occurring in darkness, two during daylight, and one darkness-lighted.

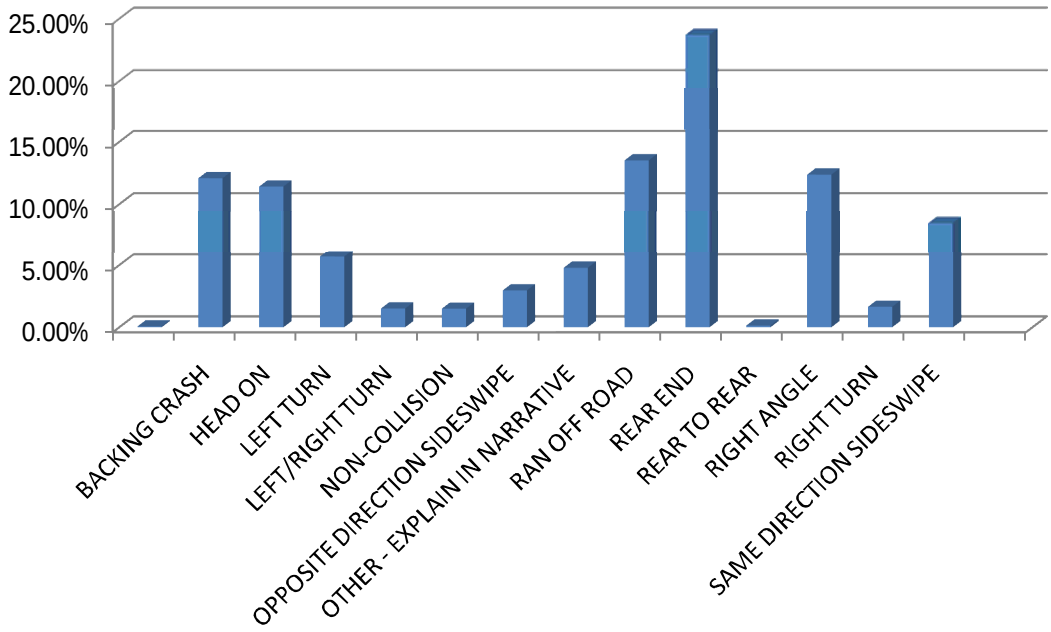
Figure 5-21. Truck Crash Types – Illinois



5.4.2.2 Indiana Crashes

Illiana study area crash data in Indiana consists of the three most recent years of reported crash data (2008, 2009 and 2010) and contained information on 7,355 recorded crashes during that period. Of these, the predominant crash types are rear end (24%), run-off-the-road (14%), and right-angle, head on and backing (12% each). The study area in Indiana is a mixture of urban/suburban at the northern study area limit and the remainder rural with pockets of residential. The crash types that are historically occurring in the Indiana portion of the study area are generally consistent with the higher volume/capacity roadways and residential/commercial nature of this part of the study area. Figure 5-22 provides a summary of all crash types for the Indiana portion of the study area.

Figure 5-22. Indiana Study Area Crash Types



Indiana Injury and Fatal Crashes

In the Indiana portion of the Illiana study there were 1,309 injury crashes area reported from 2008 to 2010, resulting in 1,879 injuries. This equates to an 18 percent injury rate on all crashes.

The predominant crash types for injury accidents during this period were rear-end (27%), run-off-the-road (20%), head-on (16%) and angle (15%).

Figure 5-23. Crashes by Injury Type, Indiana

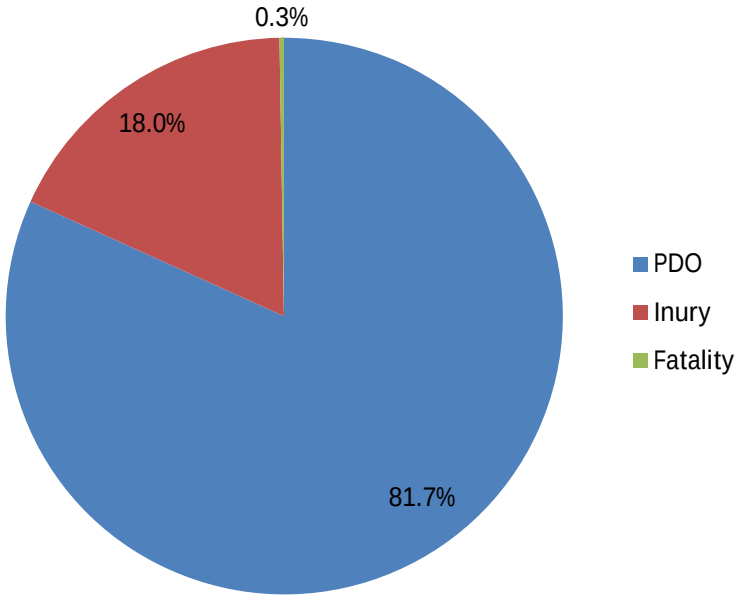
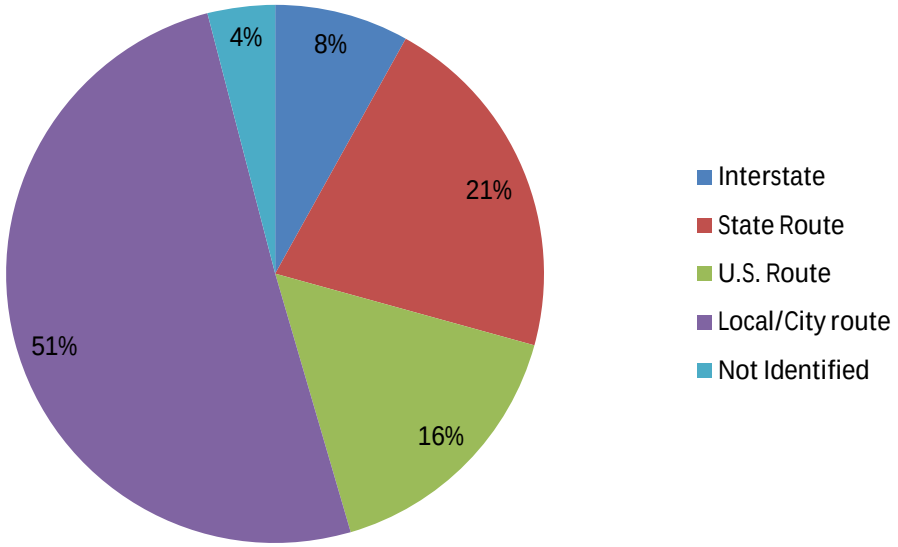


Figure 5-24 provides a summary of crash statistics by roadway classification for crashes that resulted in injury. The majority of injury crashes in the Indiana portion of the study area during this period occurred along local or city routes (51%), with U.S. and State Routes also experiencing a large proportion of the crashes. Approximately 8 percent of crashes during this period occurred on I-65 within the study area. Higher functional-classification roadways typically experience a reduced number of injuries because of the safety measures that are constructed into these facilities, including medians, shoulders, increased lane width, and horizontal/vertical alignments.

There were 20 fatal crashes reported in the Indiana portion of the study area, resulting in 30 fatalities. Three fatal crashes occurred in 2008, 7 in 2009, and 10 in 2010. The predominant types of fatal crashes were head-on/off-road (40%), run-off-road (25%),rear-end (15%) and rear-end, right angle (10% each). Five fatal crashes occurred on I-65, eight occurred on local/city roads, four on U.S. Routes and three on State Routes.

Figure 5-24. Injury Crashes by Roadway Classification - Indiana



Indiana Truck Crash Characteristics

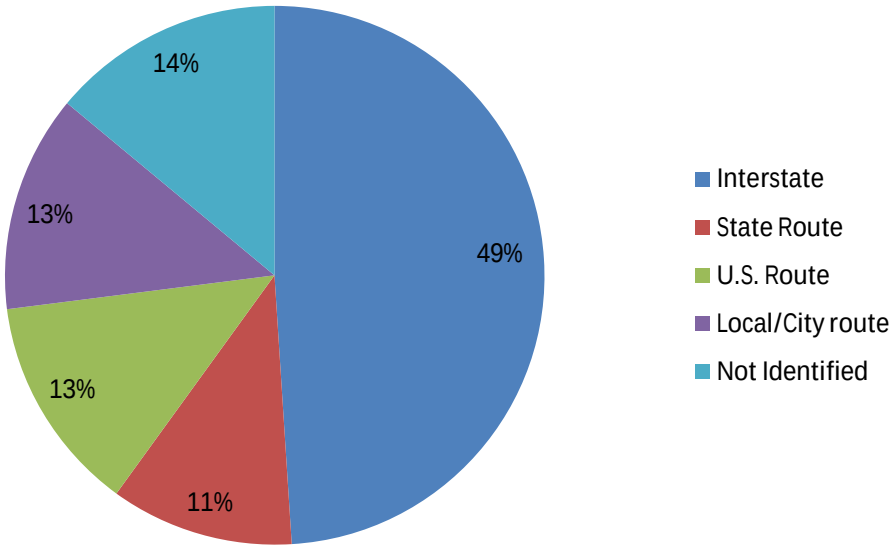
In the Indiana portion of the Illiana study area, 429 truck crashes were reported between 2008 to 2010, or 6 percent of all crashes within that time period. 510 total trucks were involved in these crashes. The number of truck crashes decreased each year throughout the study period, from 163 truck crashes in 2008, to 146 in 2009, and 120 in 2010. The predominant types of truck crashes during this period were sideswipe same direction (24%), rear-end (17%), and 10% each for backing, run-off-road and turning. The majority of the side-swipe same direction crashes are associated with I-65.

Figure 5-25 illustrates the locations of truck crashes in this period. Truck crashes experience a much different pattern of crashes by roadway classification than do vehicles as a whole. Whereas most of the vehicle crashes occur on local / city roadways, the majority of truck crashes are occurring on interstate highways. In Indiana, those are along I-65. 70% of run-off-road crashes involving trucks occurred on interstate highways during this period.

Of the 429 crashes involving trucks, 54 resulted in injury or 12.5% of all truck involvement crashes. There were 81 total injuries from these 54 crashes. The predominant crash types resulting in injury were rear-end (43%), side-swipe same direction (9%) and run-off-the-road (9%).

There were three truck fatal crashes in the last three years, resulting in eight fatalities. All three of these crashes occurred on I-65. Two of the fatal crashes were rear-end (dry pavement and dark/dark lighted) and one run-off-road (ice and darkness).

Figure 5-25. Truck Crashes by Roadway Classification - Indiana



5.5 Section 5 Highlights

- Level of service and volume to capacity ratio analyses for the Study Area show substantial increases in congestion levels, especially in the study area.
- East-west vehicle miles of travel (VMT) are projected to increase 79 percent in the Study Area between 2010 and 2040, while north-south VMT is projected to increase 67 percent.
- Vehicle hours traveled (VHT) are projected to increase 84 percent between 2010 and 2040 within the study area, while the South Sub-Region is projected to increase by 53 percent and the Region by 34 percent.
- Hours of delay are projected to increase over 200 percent between 2010 and 2040 within the study area, while the South Sub-Region is projected to increase by 320 percent and the Region by 141 percent
- East-west truck miles of travel (TMT) are projected to increase 80 percent in the Study Area between 2010 and 2040, while north-south TMT is projected to increase 60 percent.
- Truck hours traveled (VHT) are projected to increase 80 percent between 2010 and 2040 within the study area, while the South Sub-Region is projected to increase by 70 percent and the Region by 51 percent.
- Truck Hours of delay are projected to increase 447 percent between 2010 and 2040 within the study area, while the South Sub-Region is projected to increase by 324 percent and the Region by 111 percent
- It is estimated that 129,500 fewer jobs can be reached within a 30-minute commute in 2040 versus 2010 due to increased traffic congestion. For a 60-minute commute time or less, 329,600 fewer jobs can be reached in 2040 versus 2010.
- Current and 2040 projected population and employment densities are not sufficient to support circumferential (east-west) rail transit in the Study Area; however, there are locations that could support extensions of radial commuter rail service and expansions of local and feeder bus service.
- High crash locations in the study area include sections and intersections along I-57, IL 50, IL 394, US 45, IL 102, and IL 113, and I-65.
- There were a total of 14,000 crashes in the Study Area over a 3-year period, with 2,484 injury and 67 fatal crashes (81 fatalities). The predominant crash types included run-off-the road type crashes, rear-end crashes, and turning and right-angle crashes
- There were 1,078 truck crashes occurred in the study are during this 3-year period, with 168 involving injury and another 9 resulting in one or more fatalities.

6.0 Public Input

Public involvement activities for the Illiana Corridor project will meet or exceed all state and federal requirements for integration of environmental values and meaningful public interaction into transportation improvements. The requirements include appropriate sections of NEPA, The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 106 and CSS policies in both Illinois and Indiana.

FHWA, IDOT, and INDOT acting as the joint lead agencies on the project, developed a Stakeholder Improvement Plan (SIP) in May 2011 to meet the requirements of CSS and to address the Coordination Plan requirements of 23 USC 139(g) within the context of the NEPA process. This SIP defines how all project outreach efforts will be organized and executed. The SIP sets up stakeholder groups to advise the project and provides details for various communications strategies such as public meetings, project newsletters, website, speakers' bureau and others.

6.1 Corridor Planning Group/Technical Task Force

To assist in the development of the environmental and engineering studies for the Illiana Corridor study, a Corridor Planning Group (CPG) has been established. The purpose of the CPG is to provide input on the development of the Purpose and Need statement and the alternatives to be carried forward for evaluation in the Draft Environmental Impact Statement (DEIS). The CPG group consists of community leaders (Mayors, Village Presidents, Town Council Presidents) from each of the communities in the study area, the Chairman or representative from Will (IL), Kankakee (IL) and Lake (IN) counties and Metropolitan Planning Organizations that are directly affected by the study. The responsibilities of this group include providing input to the study process, and reaching a consensus at key project milestones (e.g., project purpose and need, range of alternatives to be advanced for detailed study, and the recommended alternative(s).

Any community outside the study area that shows interest in the project, but that is not currently part of the CPG, will be added to the stakeholder list, ensuring they will receive meeting invitations, newsletters, and project updates. The project team will also be available to meet with organizations on a one-on-one basis throughout the project.

The CPG may meet both independently of, as well as jointly with, project Technical Task Force (TTF) groups during the course of the project. The TTF provides a means for obtaining structured input from a diverse set of stakeholders and is intended to focus on technical aspects of the project development and provide external subject-matter information and input with respect to transportation, engineering, environmental land use.

The TTF is comprised of stakeholders with expertise or particular interest in these categories. The TTF members may include CPG members or designated staff and other governmental bodies, transportation agency, or interest group. The TTF members will be identified by the PSG, with input from the CPG.

The TTF meets throughout the project development process with a focus on resolving specific technical issues as they arise. These technical issues include: transportation issues (interchange designs, profiles, ROW, engineering, transit, freight, local access, traffic, etc.), and land use/environmental issues (air and noise, mitigation, parks, water quality, historic properties, agriculture, economic development, etc.). The TTF and CPG groups will meet together for the balance of Tier 1 studies. The meeting program is designed to encourage timely and meaningful opportunities for input into the project process.

6.1.1 CPG/TTF Identified Needs

At the first joint meetings of CPG/TTF held on June 14-15, 2011, a workshop was conducted with CPG/TTF members to identify issues and concerns. The range of issue/concern topics identified in this meeting is shown in Table 6-1.

Table 6-1. CPG/TTF Study Issues and Concerns

	Illinois						Indiana		
Issues/Concern Topics	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 1	Table 2	Table 3
Airport / Intermodal/ Freight	●		●	●		●	●		●
Congestion / Traffic/ Trucks	●	●	●	●	●	●	●	●	●
Constructability/Design	●	●	●					●	
Cost / Financing P3		●	●	●	●	●	●		●
Economic Development	●	●	●	●	●	●	●	●	●
Environmental Impacts / Resource Accessibility	●	●	●	●	●	●	●	●	●
Land Use		●					●	●	●
Mobility	●	●							●
Multi-Modal Opportunities	●		●		●				
Regional Mobility				●	●	●			
Safety	●			●					●
Study Process		●	●	●	●	●	●	●	●

Common issues and concerns from CPG/TTF members include:

Intermodal

- Increased truck traffic to and from intermodal facilities
- Impact of increased truck through the study area
- Accommodate and complement proposed South Suburban Airport location
- Improve rail connectivity

Congestion / Traffic

- Truck traffic on local roads and I-80
- Capacity for future growth
- Increased traffic on I-55 / I-57

Cost / Financing P3

- Funding
- Possible Tollway
- Cost sharing between states

Environmental Impacts

- Impacts on communities
- Loss of natural areas
- Loss of farmland
- Air pollution

Study Process

- Maintain bi-state participation
- Study existing truck movements
- Multimodal corridor
- Accelerate project

6.1.2 CPG/TTF Identified Goals & Objectives

The CPG/TTF also identified study goals and objectives. These goals and objectives are summarized below.

- Improve east-west connectivity, freight movement, and multimodal options while addressing congestion and providing for future capacity needs
- Provide a safe and accessible transportation system for all users
- Avoid / minimize / mitigate environmental, social, and property impacts
- Coordinate with local development and land use plans
- Maximize current and future economic development opportunities
- Identify a financially feasible, sustainable transportation project
- Expedite study to deliver benefits sooner

6.1.3 CPG/TTF Problem Statement

The CSS process also includes the definition of a Problem Statement. Based on the CPG/TTF workshop that identified study issues and concerns, and goals and objectives, a Problem Statement was developed by the CPG/TTF. A Problem Statement is a summary of stakeholder issues/concerns, expresses a desired situation not being achieved, is used as input into the Purpose and Need Statement in the EIS, may be validated with technical analysis, and helps define the scope of technical analysis. The following Problem Statement was developed by the CPG/TTF.

> "The Illiana Corridor Study should address existing and future traffic congestion and improve safety in the study area. This includes providing improved east-west connections, addressing growing truck traffic on both regional and study area roads, and relieving congestion on major highways. Multimodal opportunities, including transit, non-motorized, freight rail, and utilities should be examined. Access to intermodal facilities, other major traffic generators, and study area and regional jobs should also be examined.
>
> Transportation solutions should maximize the economic development and job growth potential. These solutions should also support the regionally and nationally significant freight system in the study area. Transportation solutions should be coordinated with land use and community planning. Care must be taken to first avoid and then minimize and mitigate environmental, *social*, and property impacts.

The study will need to closely examine the construction and operating costs of transportation solutions and ways to finance these transportation solutions. This includes tolling and public private partnerships (P3) opportunities. Right-of-way preservation should be considered. The Illiana covers multiple jurisdictions over a large area, and bi-state coordination and political support are required for implementing transportation solutions.

The NEPA planning process should move forward in an efficient and expedited manner."

6.2 Public Meeting #1

The first series of public meetings were held on June 21-22, 2011 in Matteson, IL and Crown Point, IN with more than 200 attendees. These meetings served as the project kickoff, providing information regarding the study history, process and objectives, and CSS procedures.

The public meetings also provided an opportunity for the public to share its perspectives regarding issues and concerns by writing their input on post-it notes that they could place on large aerial maps of the study area, or completing comment forms

Major themes in the comments received included:

- Need for a new facility
- Corridor location and route configuration
- Creating multi-modal opportunities
- Study process and communications
- Farmland/agriculture preservation
- Environmental impacts
- Project costs (both direct and indirect)

6.3 Stakeholder Meetings

More than 20 one-on-one stakeholder meetings were held between May 11-27, 2011 with jurisdictions within the project study area including Kankakee County, Will County, Lake County, the Will County Center for Economic Development; the cities of Joliet, Crown Point, Merrillville and Wilmington; the towns of Cedar Lake and Lowell; and the villages of Crete, Grant Park, Manteno, Peotone, Beecher, Braceville, Channahon, Coal City, Diamond, Elwood, and Manhattan.

Some issues raised by stakeholders include:

- Most local jurisdictions support the Illiana Corridor project
- Action is needed to serve planned future developments in the study area including South Suburban Airport, planned intermodal facilities and new distribution centers for K-Mart and Sears.
- Development of this project should consider more than just a highway corridor. Opportunities exist for new rail service as well as new utility and communications corridors.
- Environmental concerns include Midewin Tallgrass Prairie and Cedar Lake.
- Location of a new highway facility would need to be appropriately spaced relative to I-80.
- Maintaining access to local routes will be vital to maintaining community support for project development.

6.4 Other Mechanisms for Public Input

In addition to the meetings described in the preceding sections, there were several other methods for the public to provide input about the project. A project website, www.illianacorridor.org was established to disseminate information to the public and receive input and comments.

Throughout this study, both direct and indirect public comments are received. Direct public comment will come as standard mail, phone calls, and e-mails. Indirect public comment will come through the media, non-agency sponsored meetings and third party websites.

Nearly 100 public comments have been received through November 2011. These comments have covered a wide range of topics. A brief summary of major comment themes is below:

- A vast majority of comments received support the project, expressing concerns about why the process takes so long, why this project hasn't been addressed sooner and what can be done to help the project move forward
- An expedited project schedule is vital so that a corridor can be protected from proposed development projects in the study area.
- Fewer comments voiced opposition to the project, but noted that the study area contains several vital environmental constraints and that the need for this project has not yet been adequately defined.

- Potential environmental impacts need to be carefully weighed, particularly in the areas of the Midewin Tallgrass Prairie, the Lincoln National Cemetery and the Will County Forest Preserve.
- Alternatives selected for development should not dissect/divide or block access to farm properties.
- Commuter train connection between Cedar Lake and Randolph should be considered in this process.
- An east-west freight rail corridor could help reduce congestion on northern routes just like an Interstate type of connection.
- Lack of east-west routes in the study hinder mobility now, but future development will completely gridlock the entire study area if nothing is done.
- Alternatives farther south, in the area of Wilmington, IL will be more convenient and attractive to drivers while reducing the potential for impacts to the Midewin Tallgrass Prairie.
- Selection of final routes will be a very sensitive local issue and local governments will need to have substantial input to the project development process at all levels.
- An extension north and west to I-80 should be considered.
- Consideration for local access must be provided to maintain adequate police, fire and emergency services.

7.0 Conclusions

Three key travel sectors were examined for this study: national, regional, and south sub-regional that includes the Study Area. The region serves as a vital national link for interstate and national transportation and commerce movement. The national truck freight trips into or through the South Sub-Region are projected to increase substantially.

The Study Area is also experiencing tremendous growth as an intermodal logistical area for transfer of rail, port, and truck freight between modes that adds substantial distribution trucking demand throughout the region. The Study Area intermodal sites are projected to generate 47,000 trips per day. These trips are broadly dispersed around the region, so the effect of increased trucks is a system wide impact.

On a local level, the Study Area population and employment are projected to increase substantially by 2040. Between 2010 and 2040, the population in the study area is projected to increase by 176 percent, and the jobs are projected to grow 225 percent. These growth rates, higher than those projected for the Region as a whole or the South Sub-Region, creates increased regional and local travel demands. Increased travel demand from each of these sectors will impact the existing transportation network.

A fully developed functional network of roadways exists in the northern portions of the South Sub-Region. The area is also fully developed with limited infill opportunities. The roadways in the northern portion of the South Sub-Region are congested, and improvements are underway to address the congestion. With recently completed reconstruction and capacity improvements to the I-80/94 Borman Expressway by INDOT, I-80 lane additions currently under construction by IDOT, and current studies on I-80 for additional capacity by IDOT, I-80 is projected to be expanded to its maximum capacity and is included as such in the "no build" 2040 transportation network.

As travel demands have increased, travelers are seeking alternative routes in the less congested and developed region to the south. In addition, the area south of I-80 is projected to see substantially higher rates of growth in population and employment than the overall Region, or the South Sub-Region as a whole, in the "no build" 2040 scenario. Additionally the north-south feeder routes to I-80 are congested south of I-80. As a consequence, travelers with east-west travel desires are contributing to north-south congestion due to the lack of alternative east-west routes. The Study Area does not have a fully functional road network, and the existing grid network of lower functional class roadways in was historically developed primarily to serve its predominantly agricultural land use; however, Study Area land uses are now transitioning in character from rural to suburban, especially in the northern portions.

The roadway network in this area is experiencing, and will continue to experience a mismatch of vehicle trips and trip types using the lower functional classification roads. This is manifesting a number of travel performance deficiencies affecting regional and local travel as well as impeding the efficient movement of freight. For the study area to

meet the regional, local, and trucking demands, a more balanced functional transportation network is needed. The lower functional classification roads are in place, but the longer distance high speed trips for autos and trucks are underserved due to limited higher type roadways. As a result the lower classification roads are being utilized for unintended purposes creating need for transportation system improvements.

For these reasons, the transportation performance analysis is evaluating travel performance at the national level, regional level, and local study area level. The initial study area limits have been identified to focus on the area of the region with the highest job growth, highest population growth, freight growth, and underdeveloped transportation network. The transportation performance for locations adjacent to the study area is included in the modeling, and studies for improvements to many of those areas are being performed by others. The initial study area limits have been selected to also minimize overlap with those studies, while still reflecting the regional and national travel characteristics that affect the study area.

Freight Railroad Analysis

As the freight travel model was being developed to project freight traffic flows, the project team reviewed the findings of previously performed studies that related specifically to freight rail in the region. One such effort was the National Rail Freight Infrastructure Capacity and Investment Study, published in 2007 by the Association of American Railroads (AAR).

As noted in Section 4.5 of this report, the AAR study meeting the forecast demand for 2035 will require the Class I freight railroads to increase their investment in infrastructure expansion. An estimated $135 billion, or about $4.8 billion per year, is required for rail infrastructure investments by the Class I railroads. Under this scenario, as shown in the figure below, only one small choke point (level of service D) remains in the Chicago region by 2035.

The Class I freight railroads anticipate that they will be able to meet most of this increase in investment through growth and productivity gains. If revenue and capital expenditures for expansion follow the growth in rail tonnage, the Class I railroads could realize about $70 billion of the $135 billion from growth. And if the Class I railroads can continue to achieve train productivity gains of up to 0.5 percent per year, the railroads could realize savings of $26 billion in reduced capital expenditures. This would leave a balance for the Class I freight railroads of $39 billion or about $1.4 billion per year to be funded from railroad investment tax incentives, public-private partnerships, or other sources.

It is also important to understand how the Class I railroads operate. Class I railroads tend to serve specific regions in the U.S. For example, the BNSF and UP primarily serve the western portion of the U.S. As seen in this figure, there is a general confluence of the Class I railroads in our region. However, each of the Class I railroads have their own rail infrastructure to serve their needs.

Looking at our region, there are also a number of short line railroads that operate. These short line railroads typically link the larger Class I railroads or serve specific industries.

The Class I railroads are private companies and make investment decisions using a business case model. When there is a business case, they also have operating agreements with other Class I railroads and short line railroads to operate on their competitors' facilities via financial compensation, trading of operating rights or other considerations (known as "trackage rights").

The Class I railroads have been invited to participate in the Illiana Corridor Study. To understand if the Class I railroads have any proposals for east-west freight railroad connections in the Study Area, the project team has attempted to meet with each of the railroads. The project team met with representatives of Norfolk Southern Corporation (NS) and the Union Pacific (UP) Railroad in October 2011, and Canadian National (CN) Railway in February 2012.

A number of issues were discussed at the NS meeting, including any potential need for a freight railroad east-west interconnection between intermodal centers. NS officials were cautious of this need due to the potential for land developers trying to maximize the value of their properties. In addition, NS stated that they were aware of 2007 AAR Study findings showing a potential bottleneck by 2035 and the proposed improvements to maintain an acceptable level of service. NS noted that improvements outlined in the report represented a scenario based on the railroads' willingness to participate in making the investments and generating enough revenue to make the improvements.

The meeting with UP officials covered roadway access and the project's potential impact on existing intermodal yards. Relative to new infrastructure, it was UP's position that adding an east-west freight railroad line in the Study Area did not provide much benefit, particularly when two east-west freight railroad lines are already present in close proximity (to the north and south) of the Study Area.

The CN Railway stated that, with their recent purchase and upgrades of the former EJ&E east-west line through Will, south Cook and Lake (IN) counties, they did not see any demand for an additional east-west rail line.

The Illinois Railroad Association, which represents all the Class I Railroads and a number of regional and shortline railroads in Illinois, could not identify any benefits to constructing a new east-west freight rail line connecting the rights-of-way of various members.

In addition, investments by the Class I railroads, in partnership with IDOT, the City of Chicago, and Metra, through the Chicago Region Environmental and Transportation Efficiency (CREATE) program will improve the congestion and delay through the region. These improvements are anticipated to facilitate rail freight growth in the region. Other private railroad projects such as the recently opened CSX facility in North Baltimore, Ohio and the NS Indiana Gateway projects will also positively impact east-

west rail freight capacity issues. These projects are all considered as part of the No-Build scenario for the Illiana Corridor project.

In summary, the freight railroads did not identify a need for a new east-west freight railroad in the Study Area. For another entity to develop an east-west freight railroad in the Study Area, speculative measures would have to be in place to get an operating agreement for use of the east-west facility through the study area. For these reasons, the need for such a new east-west freight railroad facility was not identified.

Fixed Guideway Transit Analysis

In the TSP Report, the project team conducted a transit threshold analysis based on criteria developed by transit providers in the region.

Pace, the Chicago region's suburban bus service provider, has established criteria to evaluate the need for fixed-route bus service. Using a square mile as the base geography, Pace looks for a minimum combined total of 4,000 residents and employees as a threshold density for regular fixed-route bus service. For feeder bus service, which has limited service during peak periods and terminates at commuter rail stations, Pace recommends a minimum combined total of 2,500 residents and employees. In addition to the base threshold requirements, Pace also looks for a minimum of two contiguous square miles or a larger area (six square miles) with 75 percent of the area meeting the base threshold. Service levels start with buses every 30 minutes during peak commute periods and 60 minutes during off-peak. Increased service is based on demand or growth in population and employment within the square mile.

This analysis shows that the minimum thresholds for a fixed-route bus (shown in red) are met in a few communities in the northern and central portion of the Study Area. These areas would just be able to support fixed-route bus service, and do not have the density to support circumferential (east-west) fixed guideway transit facilities. In addition, a major trip generator does not exist along this east-west (circumferential) corridor. An important reason for the success of the Metra commuter rail lines is they all serve the Chicago Central Area, which is the major employment and entertainment center for the region.

The project team met with representatives of Metra, Pace and River Valley Metro in November and December of 2011 to discuss potential transit needs in the Study Area.

Metra staff had reviewed the project's transit threshold analysis and concurred with the conclusion that east-west fixed guideway transit in the study area was not supported based on the population and employment density. Metra added that there is already an east-west freight railroad connection north of the Study Area and added that the use of the eastern leg of the EJ&E located north of the study area is also a very long-term concept for commuter rail service from Joliet to Lynwood (an east extension to the proposed STAR line). Metra is telling communities along the proposed STAR Line that the project is a

long-term proposition, and that the eastern extension of the STAR Line along the EJ&E is an even longer-term concept. Based on this information, Metra indicated their agreement with the TSP, as well as not including the eastern leg of the EJ&E passenger rail concept.

Pace staff also concurred with the project's threshold analysis, but indicated that there would be opportunities to support the Illiana project for the whole family of Pace bus services, including dial-a-ride, flexible bus routings, and fixed route service. Pace also pointed out that the South Suburban Mayors and Managers Association had interest in new east-west Pace bus service in the northern portions of the Study Area.

Staff from River Valley Metro (RVM) sees their bus service as a more logical extension of radial service than a rail extension to Kankakee, due to the high cost of a rail extension. They serve local bus service density thresholds lower than Pace's, but are still able to sustain ridership on these types of routes.

Summaries for project team meetings with these transit providers are attached as an appendix to this document.

Because on the data presented by the transit threshold analysis and comments received by the major transit providers in the Study Area, the Illiana Corridor project team did not identify any specific needs for a stand-alone east-west fixed guideway transit facility in the Study Area.

Following is a summary of the findings of this report.

- The Study Area roadway system is lacking in east-west highway facilities of higher functional classification. There are no east-west interstate highways and 141 lane miles of other principal arterials. The north-south roadway system in the Study Area is well balanced between higher and lower functional classification facilities.

- There is a lack of continuous east-west highway routes that limit direct route choices to traverse the study area.

- The 18-county northeastern Illinois and northwestern Indiana Region is projected to see 29 percent growth in population and 35 percent growth in employment between 2010 and 2040. The South Sub-Region is projected to grow 49 percent in population and 72 percent in employment over this same period.

- The Study Area is projected to see substantial population and employment growth between 2010 and 2040 of 176 percent and 225 percent, respectively, exceeding both South Sub-Region and Region growth.

- Total vehicle trips from the Study Area are projected to increase by 126 percent between 2010 and 2040, while the South Sub-Region is projected to grow 36 percent and the Region by 26 percent.

- Total truck trips from the Study Area are projected to increase by 193 percent between 2010 and 2040, while the South Sub-Region is projected to grow 63 percent and the Region by 36 percent.

- Current and projected future average daily traffic volumes within the Study Area are projected to increase substantially. Growth in average daily traffic between 2010 and 2040 is projected to occur in the highest percentages on the lower-functional-classification roadways, with collectors and local roads expecting to increase by 159 percent, interstates highways by 65 percent, and other principal arterials by 124 percent.

- There is substantial projected growth in east-west vehicle and truck movements based on origin-destination trip patterns between 2010 and 2040 for the South Sub-Region, including the Study Area.

- East-west vehicle miles of travel (VMT) are projected to increase at a higher percentage (79 percent increase) in the Study Area between 2010 and 2040 than north-south VMT (67 percent increase).

- East-west truck miles of travel (TMT) are projected to increase at a higher percentage (80 percent) in the Study Area between 2010 and 2040 than north-south TMT (60 percent increase).

- Drivers in the study area will experience increased delay because of increased traffic congestion. Travel delay in the Study Area is projected to increase by nearly 450 percent between 2010 and 2040.

- Truck hours of delay are projected to increase 447 percent between 2010 and 2040 within the study area, while the South Sub-Region is projected to increase by 324 percent and the Region by 111 percent.

- It is estimated that 129,500 fewer job locations can be reached within a 30-minute commute in 2040 versus 2010 due to increased traffic congestion. For a 60-minute commute time or less, 329,600 fewer job locations can be reached in 2040 versus 2010.

- Planned development of intermodal facility sites throughout the study area is projected to include 8,600 acres of land and more than 50 million square feet of warehousing space between 2010 and 2040. As many as 35,000 jobs will be created by these facilities, resulting in substantial growth in truck travel (an estimated 47,000 trucks by 2040).

- It is anticipated that the growth in freight railroad demand will be accommodated through investments by railroad and public partnerships to improve the congestion and delay through the Chicago region. No other freight rail capacity issues within the Study Area have been identified based on interviews with the individual

railroads or by research of available freight railroad information. However, if conditions change or to address needs that may arise beyond the 2040 planning horizon, transportation system alternatives should strive to include freight railroad improvement options where feasible and cost effective.

- Limited public transportation services exist in the study area. Projected 2040 population and employment densities are not sufficient to support circumferential (east-west) rail transit in the Study Area; however, there are locations that could support extensions of radial commuter rail service and expansions of local and feeder bus service. If conditions change or to address needs that may arise beyond the 2040 planning horizon, transportation system alternatives should strive to include rail transit improvement options where feasible and cost effective.