SECTION 1 – INTRODUCTION

Introduction

The Prairie Parkway Preliminary Engineering Study is being conducted by the Illinois Department of Transportation (IDOT) to evaluate the need for future transportation improvements in northeastern Illinois. Part A of this 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 1,600 square miles in size and encompasses all of Kendall County and portions of Kane, Grundy, DeKalb, Will, and LaSalle counties.

The Transportation System Performance (TSP) Report documents existing and future transportation system characteristics and performance within this general study area. The TSP Report is based on the work completed for Part A, which included data collection, development of a geographic information system to manage and display the data, future year (2030) population and employment forecasting, travel demand modeling, analysis of transportation system performance, and extensive public involvement. The findings of the TSP Report will be used to develop a preliminary Purpose and Need Statement that will conclude Part A. A decision will then be made by IDOT whether to proceed with additional planning, environmental, and engineering work to identify and evaluate transportation improvement alternatives, or whether to terminate the project.

Background

In 1999, IDOT initiated a Corridor Protection Study as a proactive approach to address the growing demand for a north-south transportation corridor between I-80 and I-88. The area surrounding this corridor has experienced growing development pressures. Municipalities such as Sugar Grove, Yorkville, Oswego, Montgomery, Aurora, Joliet, Shorewood, Minooka, Channahon, and Morris are realizing residential and commercial growth. It was recognized that if a corridor through the area was not protected, the ability to reasonably establish a corridor without considerable social or environmental impacts would be lost. The purpose of the Corridor Protection Study was to identify and protect a corridor from I-80 to I-88 that would functionally address long-range travel needs within the northeastern Illinois region, specifically in Grundy, Kendall and Kane counties, with the least disruption of existing socially and environmentally sensitive features.

The Corridor Protection Study was completed in mid-2002 and resulted in a 36-mile long protected corridor between I-80 and I-88 that is generally 400-feet wide (further information and a map of the protected corridor can be found at IDOT's corridor protection website at www.dot.state.il.us/dist3/d3.html). The selected corridor was protected from further development using the Corridor Protection process. Corridor Protection is a legal process that was added to the Illinois Highway Code (605 ILCS 5/4-510) in 1967. Corridor Protection was designed to "establish… the approximate locations and widths of rights of way for future additions to the State highway system to inform the public and prevent costly and conflicting development of the land involved." Corridor protection does not replace the in-depth analysis that is conducted in a preliminary engineering/environmental study.

In December 2002, IDOT initiated this Prairie Parkway Preliminary Engineering Study to identify existing and future transportation system performance and assess transportation needs within the general study area through the preparation of this Transportation System Performance Report. Should Part A of this study show that the transportation infrastructure will not function adequately within the 2030 time horizon, then a preliminary purpose and need statement will be prepared, followed by additional engineering and environmental studies. If a need is not demonstrated, then the study would be terminated.

TSP Report Objectives

The objective of the Transportation System Performance 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 existing and planned transportation system
- Analysis of historic, current, and 2030 population, households, employment, and land use
- Analysis of historic, current, and 2030 traffic characteristics
- Analysis of existing and 2030 transportation system performance
- Public perceptions of development and transportation needs through stakeholder meetings and focus groups

Based upon the results of the TSP report, a preliminary purpose and need statement will be developed.

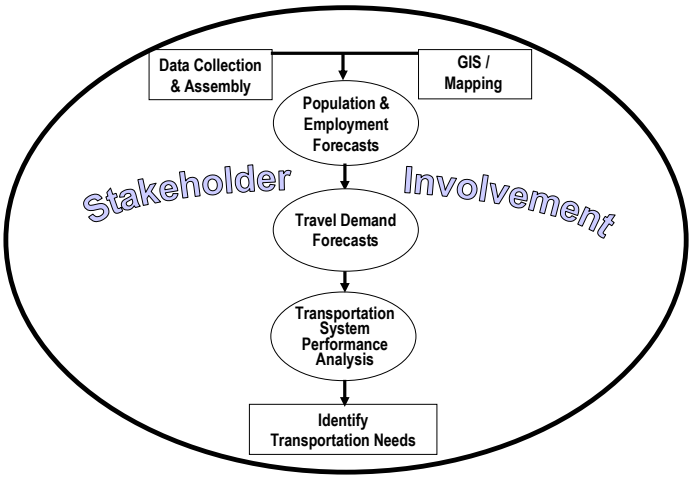
TSP Report Approach

The following are the tasks that were performed for Part A (see Figure 1-1) to achieve the aforementioned study objectives.

1. Data Collection and Assembly

This task involved identifying data requirements, contacting and securing the data, and putting the data in a usable form for analysis. Much of the roadway data needed for the study is routinely collected and available from IDOT. Other data sources include federal, state, and regional agencies, transit operators, counties, townships, and municipalities, and other jurisdictions and commercial sources. The data assembled included traffic counts; traffic accident data; transit information; non-motorized

Figure 1-1: Part A Approach



transportation data; population, employment, housing, land use data; and other local agency comprehensive plans and programs. In addition, new data was collected as part of the study. This data included a video license plate travel survey and traffic, vehicle classification, and turning movement counts.

2. Geographic Information System (GIS)/Mapping

A Geographic Information System (GIS) for this project was established to manage, organize, and store information. GIS combines different layers of information about an area to give a better understanding of that area. These layers typically include streets, railroads, water features, land use, census information, environmental features, and topography. One of the main benefits of GIS is the improved management and organization of data resources. GIS links data sets together by common locational data, which helps interdisciplinary teams share their data. By creating a shared database, data can be collected once and used many times in different ways. GIS also includes tools to query, analyze, and map data in support of the decision making process. The information can be presented succinctly and clearly in the form of a map, allowing readers to focus on the real issues rather than trying to understand the data. This task also includes obtaining base mapping for the general study area, including aerial photography, U.S. Geological Survey (USGS) mapping, and mapping provided by agencies and local jurisdictions.

3. 2030 Socio-Economic Forecasts

The development of 2030 socio-economic forecasts is an important component of this study. The Prairie Parkway Preliminary Engineering Study is using a regional approach to ensure that travel deficiencies and needs in the general study can be identified. The 13-county (Cook; DuPage; Kane; Lake; McHenry; Will; DeKalb, Kendall, Grundy, and Kankakee counties in Illinois; plus Lake and Porter counties in Indiana; and Kenosha county in Wisconsin) Consolidated Metropolitan Statistical Area (CMSA) with the addition of LaSalle County is being used for Part A of this study.

A combined “top-down” and “bottom-up” approach was used to develop the 2030 socio-economic forecasts that were used as input to the travel demand forecasting model. Every effort was made to coordinate and be consistent with Northeastern Illinois Planning Commission (NIPC) socio-economic forecasts. During Part A of this study, NIPC was concurrently developing new 2030 population and employment forecasts for their six-county northeastern Illinois region (Cook, DuPage, Kane, Lake, McHenry, and Will counties) as part of the development of the region’s 2030 regional transportation plan. NIPC reviewed the Prairie Parkway socio-economic forecasts for the counties in their jurisdiction and found that the 2030 population and household forecasts to be very close to the final adopted NIPC forecasts and that the methodologies used were reasonable. NIPC also concluded that there was “no appreciable difference” between the 2030 employment forecasts within their jurisdiction.

4. Travel Demand Forecasts

The Prairie Parkway Study is using the Chicago Area Transportation Study (CATS) regional travel forecasting model to analyze transportation needs in the general study area. CATS is

the Metropolitan Planning Organization (MPO) for the six-county northeastern Illinois region (Cook, DuPage, Kane, Lake, McHenry, and Will counties) and is responsible for developing the region's long range transportation plan and transportation improvement program. The CATS travel model has evolved over the last five decades and has been used for regional transportation plan development, corridor studies, and major project development. The CATS travel forecasting model follows regional transportation modeling guidelines for MPOs. This process 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 socio-economic forecasts developed in the previous task are used as input to the network-based travel forecasting model. The output of the travel forecasting model is an estimate of traffic conditions. As part of this study, the CATS travel forecasting model was detailed and extended to include all of Kendall, Grundy, LaSalle, and DeKalb Counties.

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 2030 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.

6. Transportation Needs Assessment

Based on the results of the transportation system performance analysis, transportation deficiencies and needs will be identified. A preliminary purpose and need statement will be developed based on these needs.

7. Public Involvement

The Prairie Parkway Study has one of the most proactive public involvement programs ever implemented by IDOT. This study was initiated with an elected officials briefing followed by a set of two public information meetings in January 2003 to explain the study objectives and that this study was not bound by the results of the previous Corridor Protection Study. Stakeholder meetings were then conducted with nearly 40 one-on-one meetings with municipal and county representatives (usually mayors, managers, and county board chairman). Briefings are now being given to interest groups, including chambers of commerce, farm bureaus, civic groups, and environmental and conservation groups. A project website (www.prairie-parkway.com) has been developed that has already received more than 330,000 hits. A mailing list of over 1,200 persons is being maintained, so that newsletters, factsheets, and meeting notices can be disseminated to interested residents and businesses.

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 historical, existing, and 2030 socio-economic characteristics. Section 4 presents historic, current and 2030 traffic characteristics. Section 5 presents the transportation performance measures that were developed for this study. Section 6 presents a summary of stakeholder and focus group input regarding future development and transportation needs. The final section, Section 7, presents the overall findings and conclusions.

SECTION 2: STUDY AREA TRANSPORTATION SYSTEM

Introduction

The Prairie Parkway study area extends over portions of six counties and encompasses approximately 1,600 square miles. The study area transportation infrastructure consists of highways, freight facilities, public transportation and non-motorized (pedestrian, bicycle, equestrian, etc.) facilities. This section describes the characteristics of these various transportation modes available within the study area.

Study Area

The general study area for the Prairie Parkway Study is shown in Figure 2-1 and includes the following areas:

- Kendall County
- Southern portions of Kane County (south of IL 64)
- Northern portions of Grundy County (north of the Illinois River)
- Eastern portions of DeKalb County (east of IL 23)
- Eastern portions of LaSalle County (east of IL 23)
- Western portions of Will County (west of I-55 and IL 59)

In general, south and western Kendall County, eastern DeKalb and LaSalle counties, and northern Grundy County are rural and suburban in character. North and eastern Kendall County, southern Kane County and western Will County are more urban and suburban in character.

Overview

The primary mode of transportation in the study area is via motorized vehicle. This is illustrated by the 2000 Census Journey-to-Work results for the counties that comprise the study area. As shown in Table 2-1, travel by cars, vans, trucks, and motorcycles represent between 90% and 96% of the work trips from the six counties that are included in the study area. Transit or public transportation is used by 0% to 4% of workers, and non-motorized transportation (bicycle and walking) is used by 1% to 8% of workers. Non-work related trips would typically have greater reliance on cars/vans/trucks/motorcycles.

Table 2-1: Means of Transportation to Work in 2000

Transp. Mode	DeKalb		Grundy		Kane		Kendall		LaSalle		Will	
	#	%	#	%	#	%	#	%	#	%	#	%
Car/Van/Truck Motorcycle	39,015	90%	17,206	97%	176,072	94%	26,002	96%	46,568	96%	220,659	94%
Transit/Taxi	593	1%	118	1%	5,242	3%	590	2%	219	0%	9,832	4%
Bike/Walk	3,358	8%	310	2%	3,536	2%	361	1%	1,514	3%	2,998	1%
Other	369	1%	48	0%	1,476	1%	41	0%	298	1%	1,363	1%
Total	43,335		17,682		186,326		26,994		48,599		234,852	

Source: U. S. Census Note: Excludes work at home trips

Streets and Highways

The majority of streets and highways within the study area are rural. They consist of state, county, township and municipal roads. Figure 2-2 depicts the major streets and highways in the study area. The development of the road system has been influenced to some degree by natural features, such as the Fox and Illinois Rivers, parks, forest preserves, natural areas, creeks, and flood plains. The Fox River bisects the study area and is the main natural barrier in the region. This has resulted in a limited number of north-south bridge crossings over the Fox River. There are more east-west Fox River bridge crossings than north-south crossings. Plano, Yorkville, Oswego, Montgomery, Aurora, Geneva and St. Charles represent some of the established urban/suburban communities located adjacent to this river.

The road system has been categorized by the type of function each road serves. This roadway functional classification system is described below.

Roadway Functional Classification System

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:

- Arterials. 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.
- Collectors. Generally characterized by a relatively even distribution of access and mobility functions. Traffic volumes and speeds are typically lower than those of arterials.
- Locals. 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, and local roads and streets, as depicted in Table 2-2 below.

Table 2-2: Functional Classification System

Functional Classification	
Rural	**Urban**
Principal Arterial System - Interstates - Other Principal Arterials (OPA) - Rural	Principal Arterial System - Interstates - Non-Interstate Freeways and Expressways - Other Principal Arterials (OPA) - Urban
Rural Minor Arterials	Urban Minor Arterials
Collector Roads - Rural Major Collectors - Rural Minor Collectors	Collector Streets - Urban Collectors
Local Roads	Local Streets

Rural Functional Classification Categories

- 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: Provide 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.
- 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.

Urban Functional Classification Categories

- 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.

The roadway functional classification system provides the foundation for highway planning and the framework for determining the geometric design of individual streets and highways. The designation of a functional classification to a road will not only facilitate the recognition of existing design and operational patterns, but will also provide for the selection of appropriate design features for a new or planned facility such as design speed, roadway width, roadside safety elements, amenities, and other design elements.

Study Area Roads by Functional Classification

The existing study area road system covers 1,428 route-miles. The functional classification of study area roads is depicted in Figure 2-3. Table 2-3 illustrates the number of study area

route miles by functional classification. Local roads and streets were not considered for evaluation in this study.

The overall objective of the functional classification system, when viewed in its entirety, is to yield an optimum balance between access and mobility functions. This requires an integrated system of all functional class routes to provide for the long and short distance trips. As shown in the Table 2-3, the Principal Arterial Interstate system constitutes only 7% (98 miles) of the total route miles. This is inclusive of Interstate 55 (I-55), Interstate 80 (I-80) and Interstate 88 (I-88). Kendall County has no interstate facilities, and is one of the few counties in the northeastern Illinois area without any interstate facilities.

Table 2-3: Study Area Route-Miles by Functional Classification

Functional Classification	LaSalle		DeKalb		Grundy		Kendall		Kane		Will		Total	
	Rte-Mi	%	Rte-Mi	%	Rte-Mi	%	Rte-Mi	%	Rte-Mi	%	Rte-Mi	%	Rte-Mi	%
Principal Arterial – Interstate	13	6%	12	6%	20	14%	0	0%	19	5%	34	16%	98	7%
Other Principal Arterial – Rural	14	7%	4	2%	8	5%	38	15%	32	8%	13	6%	109	8%
Other Principal Arterial – Urban	9	4%	14	7%	5	3%	24	10%	78	19%	31	15%	160	11%
Rural Minor Arterial	55	25%	41	21%	4	3%	26	10%	12	3%	0.2	0%	138	10%
Urban Minor Arterial	5	2%	30	16%	12	9%	17	7%	97	23%	53	25%	214	15%
Rural Major Collector	107	49%	66	34%	65	45%	132	53%	94	23%	27	13%	491	34%
Rural Minor Collector	6	3%	12	6%	23	16%	2	1%	34	8%	0	0%	77	5%
Urban Collector	10	4%	15	8%	6	4%	10	4%	50	12%	50	24%	141	10%
All Class Total	219		195		142		247		417		209		1428	

Source: Illinois Roadway Information System (IRIS), IDOT, 2001

The more developed portions of the study area, southern Kane County and western Will County tend to have a more balanced road system from the functional classification perspective. Kendall County, eastern LaSalle County, and northern Grundy County are much more weighted towards rural functional classifications.

In terms of Principal Arterials and Other Principal Arterials, the Kane and Will county portions in the study area have 32% and 37% respectively, of these higher type facilities. In contrast, the portions of DeKalb, LaSalle, and Grundy counties within the study area and Kendall County have 15%, 17%, 22%, and 25% respectively, of Principal and Other Principal Arterials. Consequently, these portions of the study area have much greater reliance on lower classification roads, such as minor arterials and collector roads.

Over 74% of the existing roadway network is comprised of minor arterials or lower functional class facilities. Rural Major Collectors account for the highest percentage of the current study area roadway network (34%). Kendall, LaSalle, and Grundy have an even larger proportion of the study area roads as Rural Major Collectors, at 53%, 49%, and 45% respectively. Collector routes are characterized by a relatively even distribution of access and mobility functions. A typical collector accommodates short trips and involves traffic volumes and speeds that are typically lower than those of arterials. Therefore, considerable reliance is placed on collector highways in the study area.

Another observation that was made is the lack of north-south routes and an abundance of east-west routes relative to higher functionally classified highways in the study area. Of the state and U.S. marked north-south routes in the study area, IL 47, IL 23 (north of I-88 in DeKalb County), and IL 59 are classified as Rural Principal Arterials. In comparison, I-80, I-88, US 30, IL 64, IL 71, and portions of US 34, US 52, IL 38, and IL 56 are east-west routes in the study area classified as Principal Arterials.

Study Area Roads by Number of Lanes

The number of lanes for study area roads is depicted in Figure 2-4. As seen in this figure, the majority of roads are 2-lane (nearly 85%). Kendall County only has very short segments of 4-lane roads, with DeKalb, LaSalle, and Grundy Counties having short segments of 4-lane roads in DeKalb, Ottawa, and Morris, and I-88 and I-80. There are several 4-lane and 6-lane roads in eastern Kane, western Will, and southwest DuPage Counties. Thus, similar to the lack of higher type functional classification roads in Kendall, DeKalb, LaSalle, Grundy, there is a lack of multi-lane roads in these portions of the study area.

With regards to north-south and east-west roads, besides IL 25, IL 31, and Orchard Road in Kane County, IL 59, and short segments of IL 47 and IL 23, there are no multi-lane north-south roads in the study area. Thus, from IL 59 in western Will County all the way to I-39, there are no through north-south multi-lane roads between I-88 and I-80. With regards to east-west roads, I-80 and I-88 are the only through multi-lane east-west routes in the study area. Multi-lane east-west routes exist in eastern Kane, southwestern DuPage, and western Will Counties.

Another salient observation that can be made about the current study area roadway system is the spacing of north-south highways. The current spacing between north-south highways does not provide the study area population with adequate route choices to traverse the study area, thereby reducing direct travel. As a result, the traffic from the limited north-south continuous but over-loaded routes spills over onto adjacent routes that are not intended to serve through traffic. For example, the principal arterial system in the study area, in a north-south direction, consists of Illinois 59 and Illinois 47, which is located 12 miles west of Illinois 59. IDOT's Bureau of Design and Environmental (BDE) Manual standards stipulate that the spacing may vary from 1 mile between Other Principal Arterial routes in the densely developed central business districts to 6 miles or more in the sparsely developed urban fringes. Considered together with all urban arterial routes, minor arterials may be located from 2 to 3 miles between routes in suburban fringes and as close as 1 mile in fully developed areas. In rural areas, as presently exists, west of Illinois 47, the spacing should be between 12 to 15 miles. Illinois 23 is a rural minor arterial and is located 20 miles west of Illinois 47. Due to the abundance of east-west highways, the deficiencies

indicated above are not as dramatic for Other Principal Arterials and Minor Arterials in an east-west direction. And as development and traffic continue to increase, these deficiencies will become more pronounced.

Strategic Regional Arterial System

The Strategic Regional Arterial (SRA) system was originally developed as part of the CATS 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.

SRA's 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 segment of a route to another. IDOT has identified guidance in the planning and design of strategic regional arterials, including specific design criteria.

SRA studies were performed by IDOT. These studies identified both short-range and long-range improvements for each of the SRA routes, based on the following general objectives:

- Determine the types of roadway improvements needed for each route including additional lanes, signalization, and interchanges.
- Identify and protect needed rights-of-way.
- Manage access to SRA routes to improve through traffic movement and reduce conflicts.
- Coordinate land use and development projects with transportation improvements.
- Identify ways to accommodate the growth in commercial traffic.
- Accommodate necessary bicycle and pedestrian travel on or near the SRA route corridors.
- Identify potential environmental concerns.

These studies were intended to be specific to each SRA route. However, this did not preclude consideration of alternative segments on a route where warranted by circumstances. Also, the studies address the fact that not all transportation needs could be provided for within the right-of-way of an SRA route, and that some types of travel may be better provided on parallel facilities.

Strategic Regional Arterials in the Study Area

These designated SRA routes within the study area are identified in Table 2-4 and shown in Figure 2-5.

Table 2-4: Strategic Regional Arterials within the Study Area (Existing, Planned and Under Study)

Road	From (East/North)	To (West/South)	County	Status
119th Street	Weber Rd	Wikaduke Trail	Kendall, Will	Existing
Arsenal/ Manhattan Rd	Brandon Rd	I-55	Will	Under Study
Caton Farm Rd	Weber Rd	Wikaduke Trail	Kendall, Will	Planned
IL 25/ Dunham Rd/ Kirk Rd/ Farnsworth Ave	W. Bartlett Rd	US 34	Kane, Kendall	Existing
IL 38 (Roosevelt Rd)	DuPage Co. Line	Randall Rd	Kane	Existing
IL 47	Burlington Rd	IL 71	Kane, Kendall	Existing
IL 56 (Butterfield Rd)	DuPage Co. Line	Kirk Rd	Kane	Existing
IL 59	DuPage Co. Line	I-55	Will	Existing
IL 64 (North Ave)	DuPage Co. Line	DeKalb Co. Line	Kane	Existing
IL 71	US 34	IL 47	Kendall	Existing
Stearns Rd	DuPage Co. Line	Dunham Rd	Kane	Existing
Stearns Rd	Dunham Rd	IL 47	Kane	Under Study
Randall/ Orchard Rd	Hopp Rd	US 30	Kane	Existing
US 30	US 34	IL 47	Kendall	Existing
US 34 (Ogden Ave)	75th Street	IL 71	Kendall	Existing
Wikaduke Trail	US 34	I-80	Kendall, Will	Planned

Source: 2020 Regional Transportation Plan, 2000 Edition, and 2030 Regional Transportation Plan
Note: North and east termini edited to study area limits.

It should be noted that the recently released 2030 Regional Transportation Plan has sought to emphasize a more unified multi-modal approach. The resulting Strategic Regional Systems are organized around particular transportation functions. As shown in Table 2-4, potential new SRA additions included in the 2030 Regional Transportation Plan include Arsenal/Manhattan Road and Stearns Road.

Planned Highway Improvements

For the Prairie Parkway Study, only committed highway improvement projects in the study area were assumed in the future 2030 highway network. Committed projects include those programmed projects that are included in a 5-year Transportation Improvement Program or those with a very high probability of implementation by IDOT and the various counties based on discussions with the County Engineers. Figure 2-6 depicts the planned highway improvements in the study area that were assumed in the 2030 highway network. Table 2-5 lists these planned highway projects.

It is recognized that there are several possible future highway improvement projects in the study area that were not assumed for the 2030 highway network. Many of these projects are only in very early concept phase and/or do not have sufficient construction funding sources identified. For example, the proposed Wikaduke Trail improvement was not included.

Outside of the study area, major projects recommended in the 2030 Regional Transportation Plan were assumed. Some of the major planned regional highway projects include:

- Dan Ryan Expressway reconstruction
- Eisenhower Expressway reconstruction
- Northwest Tollway (I-90) add lanes
- Tri-State Tollway (I-294) add lanes
- Tri-State Tollway (I-94/I-294) add lanes
- I-80/94 add lanes
- Elgin-O'Hare Expressway add lanes
- IL 394 add lanes
- West O'Hare bypass
- Elgin-O'Hare east extension
- Elgin-O'Hare west extension
- IL 53 north extension
- I-355 south extension
- I-190 O'Hare access road improvements

Table 2-5: Future Highway Projects

Project	Limits	Location
I-55 add lanes	Naperville Road to I-80	DuPage/Will
I-80 add lanes	I-55 to US 45	Will
Arsenal Rd. @ I-55 interchange	Reconfigured interchange with JADA development	Will
Brisbin Road @ I-80 interchange	New interchange at Brisbin Road	Grundy
US 34 bidirectional turn lane & intersection improvements	Somonauk Road to Sandy Bluff Road	DeKalb
US 34 add lanes	Big Rock Creek to Chilton Way in Plano	Kendall
US 34 add lanes	IL 47 to Orchard Road	Kendall
US 30 continuous turn lane	Larkin Road to Essington Road	Will
US 30/Briarcliff Road bridge	IL 31 to US 34 over Fox River in Montgomery	Kane/ Kendall
US 20 widen	Plank Road to Weld Road	Kane
US 6 add lanes and replace 2 bridges	Saratoga Road to IL 47	Grundy
IL 47 add lanes	US 34 to IL 71	Kendall
IL 56 add lanes	IL 59 to Naperville Road	DuPage
IL 59 add lanes	IL 126 to I-55	Will
IL 64 add lanes	Kautz Road to IL 59	DuPage
IL 64 widen & RR crossing imp.	7th Avenue to Dunham Road	Kane
IL 71 add lanes	Orchard Road to US 34	Kendall
Caton Farm Road add lanes	Will/Kendall County line to IL 59	Will
Caton Farm Road add lanes	Ridge Road to Will/Kendall County line	Kendall
Orchard Road add lanes	Galena Road to US 30	Kendall
Eldamain Road extension	River Road to Fox Road	Kendall
Red Gate Road extension	IL 31 to IL 25 over Fox River in St. Charles	Kane
1st Street bridge in Batavia	Water St. to Washington St. over Fox River	Kane
Sullivan Road bridge	IL 25 to IL 31 over Fox River in Aurora	Kane
95th Street extension	Knoch Knolls Road to Boughton Road	Will
Arsenal Road add lanes	I-55 to Baseline Road	Will
Anderson Road grade separation	IL 38 to Keslinger Road over BNSF	Kane
Corron Road bridge	US 20 to Bowes Road in Kane County	Kane
Ferry Road grade separation	IL 59 to Eola Road	DuPage
Randall Road grade separation	Over IC RR	Kane
Randall Road widening	IL 64 to IL 38	Kane
Ridge Road continuous turn lane	Minooka area	Grundy
Randall/Orchard Road continuous 4 lanes through Kane County	Length of Kane County (Crane Rd. to Dean St. now 2 lanes)	Kane
Grannert–Dauberman Connector	Grannert and Dauberman	Kane
Bunker–La Fox Connector	Bunker and La Fox	Kane
Weber Road add lanes	US 30 to Veterans Parkway	Will
111th Street add lanes	5 lanes US 30 to Plainfield Road, 4 lanes Plainfield Road to Weber Road	Will
Plainfield-Naperville Road add lanes	Will/DuPage County line to IL 59	Will
143rd Street add lanes	US 30 to IL 59	Will
Fox River Bridges at Stearns Road, Bolz Road and IL-56		Kane

Freight

Truck Routes

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. In 1995, additional State legislation was passed governing the length of tractor/semi trailer units. This legislation allows even longer trucks on most state highways. IDOT designated these highways depending upon what could be safely accommodated. For example, Class I Highways are the 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.

As shown in Figure 2-7, several of the study area highways have been designated as Class I and Class II truck routes. The Class I truck routes include all of the interstates (I-80, I-88, and I-55) passing through the study area. In general, the Class II truck routes include all of the other U.S. and State marked routes in the study area.

Railroads

There are four main freight railroads in the study area; the CSX, the Burlington Northern Santa Fe (BNSF), the Illinois Railnet, and the Union Pacific (UP). These freight railroads are described below and are depicted in Figure 2-7.

CSX (ex-Rock Island) Line

West of Joliet, this freight railroad line is used by local and through freights of CSX and Iowa Interstate (which operates via trackage rights). There are numerous freight terminals and industries along the Illinois River which are served by CSX freights. Local freights are

based out of LaSalle, Ottawa and Seneca. The line is in good condition and is single-track with passing sidings, with a speed limit of 40 mph for freights. Previously, the line was double-tracked and the right-of-way for the second track remains intact. Passenger service has not operated on this line in several years, though in early 2002, the City of Ottawa solicited proposals to determine the feasibility of providing a passenger service from LaSalle that would connect with Metra's Rock Island District service in Joliet.

BNSF (ex-Burlington Northern) Line

The BNSF freight line extends southwest from Aurora through Montgomery, Oswego, Yorkville, Plano, and Sandwich. The line is a main route of the BNSF to the Pacific Coast, and as such, is heavily-trafficked with high-speed freight trains (typically over 50 trains per day). This means that the line is generally in good to excellent condition. In addition, long- and intermediate-distance Amtrak passenger trains operate on this line. Presently, Metra commuter trains operate as far west as Aurora. In 2001 and 2002, feasibility studies of extending Metra commuter rail service to terminal stations in either Oswego or Plano were conducted by Kendall County.

Illinois Railnet

The Illinois Railnet (IR) operates a former Burlington branch line, which originates off the BNSF mainline in Montgomery. The line parallels the Fox River down to Ottawa, heading predominantly southwesterly. An interlocking is provided at the crossing of the CSX line in Ottawa. A lift bridge takes the line over the Illinois River south of Ottawa, after which the line heads more or less straight south to Streator, IL. In Streator connections are made with another BNSF mainline (ex-Santa Fe) and a Norfolk Southern (ex-Conrail) line. The IR's traffic is heaviest north of Ottawa, though service continues to be provided on the line to Streator. Operation of the IR train from Ottawa to the north is daily, with the service to Streator being on more of an as-needed basis.

UP (ex-Chicago & North Western) Line

The UP route extends through Geneva, Elburn and DeKalb. This is one of the UP's main transcontinental routes. In addition, UP has recently opened an intermodal facility in Rochelle (known as "Global 3"), which has contributed to an increase in freight train traffic over the line. Its mainline status and the heavy volume of train traffic mean that the line is well-maintained, generally being in good to excellent condition. On a typical day, it is not uncommon to see between 70 and 100 freight trains on this line. Presently, Metra commuter trains operate as far west as Geneva, however construction on the extension of these services to Elburn is underway.

Intermodal Transportation Facilities

Marine, rail, truck, and air terminals are the means of transporting goods within the global economy. Freight volumes throughout the United States are anticipated to grow at a faster rate than passenger volumes. Therefore, freight capacity issues need to be recognized and addressed nationally, and just as importantly from a regional perspective. Figure 2-7 shows location of existing intermodal terminals within the study area.

One of the nation's largest private developments is the CenterPoint Intermodal Center, which is a 2,200-acre project that is located on the former Joliet Arsenal site. CenterPoint is anchored by a 621-acre BNSF multi-modal rail facility. The project will consist of up to 15 million square feet of warehouse, distribution and light manufacturing space, and nearly 55 acres of ancillary commercial and retail development, including hotels, a truck stop and truck related services. The park has immediate access to a full interchange at I-55 and is only five minutes from the intersection of I-55 and I-80.

The Union Pacific's Global III intermodal terminal and reload center in Rochelle (located near I-88 and I-39) is a new 1,200 acre facility. This $181 million facility incorporates the latest technology and computer systems, which will provide the ability to transfer more than 700,000 cargo containers a year between trains and trucks. Plans for the Interstate Transfer Center, a $100 million, 200-acre master-planned business park for state-of-the-art warehouse and distribution centers located just north of the Global III intermodal terminal, have also been announced.

In addition, other freight facilities in the study area are indicated by an identification number in Figure 2-7. The corresponding freight facility identification number is shown below in Table 2-6.

Table 2-6: Freight Facility Identification

Freight Facility ID No.	Description
791	The Lemm Corp Seneca Terminal
792	ADM/Growmark Morris Elevators
793	Cargill Inc Morris Grain Elevator
794	Continental Grain Co: Morris
807	Transbulk Distribution Ctr: Aurora
820	ADM/Growmark Ottawa Elevator
821	Garvey Intl Ottawa Terminal
822	Continental Grain Co: Seneca
823	Consolidated Grain & Barge: Seneca
824	Black Marine Docks: Seneca
825	Shipyard Term & Indstrl Pk: Seneca
926	Spivey Marine & Hrbr Svc: Channahon
927	CSXT TransFlo/Schiber Truck: Joliet
929	BNSF/CenterPointe Intermodal Terminal

The majority of these freight terminals are located adjacent to the Illinois River and the CSX and BNSF freight railroad lines and near I-80 and I-55 in the southern portion of the study area and near the BNSF and I-88 in the northern portion of the study area.

Planned Freight Improvements

The recently released Chicago Region Environmental and Transportation Efficiency (CREATE) plan is a $1.5 billion public/private partnership, designed to reduce rail and highway congestion and add freight and passenger capacity in the Chicago region. This is

an unprecedented coalition of six major Class 1 railroads, the City of Chicago, the State of Illinois, Metra, and federal agencies.

Under the CREATE plan, 70 specific improvements have been identified in four key freight corridors and one passenger corridor, including 50 miles of new track, more than 360 new switches, substantial investment in traffic control systems and 25 highway/rail grade separations. Although none of the CREATE plan improvements are in the study area, these improvements would result in increased regional operational improvements for the freight railroads, and enhance the capacity for growth in the freight railroad industry in the Chicago region.

In addition, both the BNSF intermodal facility at the former Joliet Arsenal and the Union Pacific's Global 3 intermodal facility in New Rochelle have plans for expansion of their facilities.

The 2030 Regional Transportation Plan recommends the following strategic improvements to the freight system:

- Coordinate freight rail operations with commuter rail service and infrastructure, including the provision of additional capacity on new or restored rail sections to permit additional train movement with modernized train control systems that permit bi-direction operation.
- Reduce rail/highway grade crossing conflicts by providing grade separations and at-grade safety improvements.
- Mitigate negative community effects caused by train noise and blocked crossings.
- Establish highway system truck priorities during highway maintenance, reconstruction and expansion projects or to address freight congestion regionwide, including identifying and designating corridors for truck-specific treatments aimed at improving safety and efficiency of commercial goods movement.
- Correct severe bottlenecks in locations that impede freight mobility and cause inefficient routing, including mitigating inefficiencies caused by vehicle weight restrictions and viaduct clearance limitation in location requiring truck access.
- Promote continued improvement of intermodal connector facilities.
- Provide freight-friendly installations, such as truck-only electronic toll collection, pre-clearance and credentialing, information and advisory systems, and truck storage lanes that improve operations safety.

Public Transportation

Public transportation in the eastern portion of the study area is provided by Metra and Pace, operating divisions of the Regional Transportation Authority (RTA). Aside from Metra and Pace, fixed-route bus service exists in DeKalb, as well as other paratransit services in the study area (mostly senior and social services). The Metra commuter rail lines are radial and serve downtown Chicago. The fixed-route bus routes provide local service in DeKalb, Aurora, Joliet, and the Fox River Valley, and also serve as feeder buses to the Metra commuter rail lines. There is no north-south orientation to current fixed route transit services.

Amtrak train and Greyhound bus services are also available within the study area and its adjacent areas. Figure 2-8 depicts the various components of the study area public transportation system.

Metra Commuter Rail

Metra operates 12 commuter rail lines which together carry over 300,000 customers per day in the Chicago region. The following Metra commuter rail lines are available in the study area and its immediate vicinity:

- Aurora: Burlington Northern Santa Fe Line
- Geneva: Union Pacific – West Line
- Naperville: Burlington Northern Santa Fe Line
- Joliet: Heritage Corridor and Rock Island District Lines

Tables 2-7 through 2-10 show the number of weekday trains, daily and historic ridership information and parking capacity for each Metra commuter rail line located within the study area and its immediate vicinity.

Parking is available at all Metra stations in the study area. This includes both permit and daily parking, the price for which is determined by the local municipalities that are charged with maintaining and administering parking in their communities. Metra considers parking capacity to be exhausted when the parking space utilization exceeds 85%. Table 2-10 illustrates parking utilization at different stations within the study area. Except for the Metra station at Aurora, which has an overall effective parking utilization rate of 79%, all other stations within the study area and its immediate vicinity are currently operating at or near capacity. Presently, parking limitations at rail stations represent one of the major constraints affecting rail usage in the study area. Generally, parking supply is utilized almost as quickly as it is provided.

The following provides additional information regarding the Metra commuter rail lines that serve the study area.

Burlington Northern Santa Fe Line (BNSF)

The Burlington Northern Santa Fe (BNSF) Line extends nearly 38 miles west from Chicago's Union Station to Aurora. This is the most heavily used Metra rail line in the study area serving communities in Cook, DuPage and Kane counties. As shown in Table 2-7, the

Table 2-7: Metra Rail Average Weekday Ridership

Metra Line	Typical Weekday Average						
	Direction	Peak Period Peak Direction	Peak Period Reverse Direction	Midday	Evening	Total	Passenger Miles
Burlington Northern Santa Fe	Inbound	23,713	970	1,415	272	26,370	596,644
	Outbound	19,265	781	3,180	2,883	26,109	588,634
	Total BNSF	**42,978**	**1,751**	**4,595**	**3,155**	**52,479**	**1,185,278**
	Percentage	**82%**	**3%**	**9%**	**6%**	**100%**	
Heritage Corridor	Inbound	1,243				1,243	35,244
	Outbound	1,181				1,181	33,884
	Total HC	**2,424**	--	--	--	**2,424**	**69,128**
	Percentage	**100%**				**100%**	
Rock Island District	Inbound	15,867	344	1,018	130	17,359	347,077
	Outbound	14,018	179	2,175	829	17,201	339,144
	Total RI	**29,885**	**523**	**3,193**	**959**	**34,560**	**686,221**
	Percentage	**86%**	**2%**	**9%**	**3%**	**100%**	
Union Pacific - West Line	Inbound	10,572	524	910	181	12,187	260,909
	Outbound	9,535	452	1,038	1,157	12,182	260,877
	Total UP-W	**20,107**	**976**	**1,948**	**1,338**	**24,369**	**521,786**
	Percentage	**83%**	**4%**	**8%**	**5%**	**100%**	

Source: Metra

Table 2-8: Metra Rail Weekday Trains

Metra Line	Station	Station Location	Weekday Trains				
			Inbound		Outbound		Total
			Express	Total	Express	Total	
Burlington Northern Santa Fe	Aurora	Kane Co.	9	29	13	31	60
	IL Route 59	DuPage Co.	9	29	13	31	60
	Naperville	DuPage Co.	9	29	13	32	61
Heritage Corridor	Joliet	Will Co.	N/A	3	N/A	3	6
	Lockport	Will Co.	N/A	3	N/A	3	6
Rock Island District	Joliet	Will Co.	11	23	9	22	45
	New Lenox	Will Co.	11	23	10	23	46
Union Pacific – West Line	Geneva	Kane Co.	6	18	5	19	37
	West Chicago	DuPage Co.	7	25	7	24	49

Source: Metra

Table 2-9: Metra Rail Historic Weekday Ridership Trends

Metra Line	Station	Station Location	Weekday Station Passenger Boardings									
			1983	1985	1987	1989	1991	1993	1995	1997	1999	2002
Burlington Northern Santa Fe	Aurora	Kane Co.	834	905	985	1,056	1,014	1,033	1,184	1,387	1,467	1,646
	IL Route 59	DuPage Co.	--	--	--	1,112	1,740	2,011	2,556	3,322	4,178	5,001
	Naperville	DuPage Co.	2,571	3,251	3,791	3,510	3,150	3,196	3,271	3,516	4,040	3,734
	Total BNSF		39,379	42,194	44,523	46,843	45,308	45,866	47,450	50,454	53,314	52,479
Heritage Corridor	Joliet	Will Co.	106	138	149	192	130	100	139	171	253	313
	Lockport	Will Co.	55	67	79	100	92	123	128	182	201	303
	Total HC		1,000	1,219	1,647	1,720	1,493	1,355	1,301	1,402	1,848	2,424
Rock Island District	Joliet	Will Co.	193	207	307	299	373	380	476	480	577	715
	New Lenox	Will Co.	301	360	562	605	646	732	823	861	897	1,076
	Total RI		20,506	23,285	27,112	30,359	29,447	30,056	30,321	30,616	33,052	34,560
Union Pacific - West Line	Geneva	Kane Co.	872	955	1,124	1,290	1,366	1,370	1,623	1,607	1,642	1,698
	West Chicago	DuPage Co.	371	386	474	464	485	495	520	518	499	585
	Total UP-W		22,310	22,781	25,928	26,246	26,091	26,680	27,814	26,719	25,885	24,369

Source: Metra

Table 2-10: Metra Station Commuter Parking

Commuter Parking Lots	Metra Line	Location	Total Parking	Effective Use	Percent Effective Use	Permit Parking		Daily Parking	
						Total	Use	Total	Use
Aurora Station	Burlington Northern Santa Fe	Kane Co.	1279	1006	78.7%	481	414	798	525
IL Route 59 Station-Aurora Lots & Naperville Lots		DuPage Co.	3969	3582	90.2%	1,928	1,736	2,041	1,654
Naperville Downtown Station		DuPage Co.	1339	1338	99.9%	959	876	380	379
IL Route 59 Station Park-N-Ride Lots: - Community Christian Church Lot (1635 Emerson Lane / US 34 @ Rickert Dr., Naperville) - Wheatland Salem Church Lot (95th St. @ Book Rd., Naperville)		DuPage Co. Will Co.	113 99	0 0	0.0% 0.0%	-- --		113 (3 for Handicap) 99	
Joliet Station	Heritage Corridor Rock Island District	Will Co.	469	449	95.7%	100	95	369	349
Geneva Station	Union Pacific - West Line	Kane Co.	919	908	98.8%	633	567	286	275

Source: Metra
Note 1: Permits sold are assumed as used up to capacity of lot

BNSF carries more than 52,000 passengers on an average weekday. The railroad right-of-way is also shared with high volume freight service and with six daily Amtrak trains. There are 27 stations on this line between Chicago and Aurora, with 3 of the stations located within the study area and its immediate vicinity. These stations are located at Aurora, Route 59 and Naperville.

As shown in Table 2-8, the BNSF operates 61 trains during an average weekday that are comprised of 29 inbound and 32 outbound trains. Nine out of the 29 inbound trains and 13 of the 32 outbound trains are express trains. Historic weekday ridership trends for this line show that the total average weekday ridership between 1991 and 2002 has increased from 45,308 riders in 1991 to 52,479 riders in 2002. This represents approximately 16% increase in ridership during this period for BNSF. During the same time period, Metra ridership originating at Aurora, IL Route 59 and Naperville stations increased 62%, 187% and 18% respectively.

According to the latest available parking data for various stations shown in Table 2-10, the Metra station at Aurora has 1,279 spaces available for parking. About 86% of the parking permit spaces and 66% of the daily parking spaces are in use on a typical weekday. Assuming that the parking permits sold are used to capacity, the overall effective parking use for the Metra station at Aurora is nearly 79%. The Route 59 Metra station has 3,969 spaces available for parking which is inclusive of 1,928 permit parking spaces and 2,041 daily parking spaces. With the current effective parking use at 90%, the parking capacity at this station is exhausted. The station at Naperville has 1,339 total parking spaces available which includes 959 permit parking spaces and 380 daily parking spaces. The current effective parking utilization rate at this station is nearly 100% which indicates that the parking at this station is exhausted. Over 70% of the commuters boarding Metra trains at these stations drive alone in their vehicles to the parking lots.

Heritage Corridor Line

The Heritage Corridor Line extends approximately 37 miles west from Chicago's Union Station to Joliet. As shown in Table 2-7, this line carries more than 2,400 passengers per day, serving communities in DuPage, Cook and Will counties. Currently, this Metra line of service terminates in Joliet. There are six stations on this line between Chicago and Joliet, with two of the stations are located within the immediate vicinity of the study area at Lockport and Joliet.

As shown in Table 2-8, Heritage Corridor Line operates 6 trains during an average weekday that are comprised of 3 inbound and 3 outbound trains. There are no express trains on this line. Historic weekday ridership trends for this line show that the total average weekday ridership between 1991 and 2002 has increased from 1,493 riders in 1991 to 2,424 riders in 2002. This represents approximately 62% increase in ridership during this period for this line. During the same time period, Metra ridership originating at Joliet and Lockport increased 141% and 229% respectively.

As shown in Table 2-10, the Metra station at Joliet has 469 spaces available for parking which include 100 permit parking spaces and 369 daily parking spaces. The overall effective parking utilization rate at this station is nearly 96%, which mean the parking capacity is exhausted. The station at Lockport has 226 spaces available for parking which

is inclusive of 51 permit parking spaces and 175 daily parking spaces. The overall effective parking utilization rate at this station is 100% which indicates that the parking capacity is exhausted. Over 70% of the commuters who park at these two stations drive their vehicles to the station parking lots.

Rock Island District Line

The Rock Island District Line extends approximately 40 miles west from LaSalle Street Station in Chicago to Joliet. As shown in Table 2-7, this line carries almost 35,000 passengers per day, serving communities in Cook and Will Counties. The tracks on this line are also shared with high volume freight service and six daily Amtrak trains. There are 14 stations on this line between Chicago and Joliet, with the station at Joliet is in the immediate vicinity of the study area.

As shown in Table 2-8, the Rock Island District Line operates 41 trains during an average weekday that are comprised of 22 inbound and 19 outbound trains. Eleven out of the 22 inbound trains and 7 of the 19 outbound trains are express trains. Historic ridership trends for this line show that the total average weekday ridership between 1991 and 2002 has increased from 29,447 riders in 1991 to 34,560 riders in 2002, an increase of 17%. During the same time period, Metra ridership originating at Joliet increased 92%. Parking utilization at Joliet is presented above.

Union Pacific West Line (UP-W)

The Union Pacific West (UP-W) Line extends nearly 36 miles west from Chicago's Ogilve Transportation Center to Geneva. The line runs through the center of DuPage County and into eastern Kane County. The UP-W Line is a major freight artery and provides a direct connection for freight shipments from the West Coast. As shown in Table 2-7, this line carries over 34,000 passengers per day. There are 16 stations on this line between Chicago and Geneva. This line currently terminates in Geneva which is located just north of I-88 in the vicinity of the study area.

As shown in Table 2-8, the UP-W Line operates 37 trains during an average weekday that are comprised of 18 inbound and 19 outbound trains. Six of the 18 inbound trains and 5 of the 19 outbound trains on this line are express trains. Historic ridership trends for this line show that the total average weekday ridership between 1991 and 2002 has increased from 26,091 riders in 1991 to 24,369 riders in 2002, a 7% decrease. During the same time period, Metra ridership originating at Geneva increased 24%.

As shown in Table 2-10, the Metra station at Geneva has 919 spaces available for parking which include 633 permit parking spaces and 286 daily parking spaces. The overall effective parking utilization rate at this station is nearly 99%. This indicates that parking capacity at this station is exhausted. Over 70% of the commuters who park at these two stations drive their own vehicles to the station parking lots.

Access to Commuter Rail Stations

Auto is the preferred mode of accessing Metra's commuter rail stations. A mode of access survey conducted by Metra in 2002 revealed that the most common modes of access to

the train stations include automobiles, drop-offs, walk, bus, and car pools. The survey results indicate that except for the Naperville station, automobile access to most of the commuter rail stations within the study area and its vicinity ranges from 71% to 79%. The percentage of commuters who get dropped off at the train stations everyday ranges from 10% to 18%. Bus access to the stations within the study area and its vicinity ranges from 1% to 18%. The percentage of commuters who walk to the train stations everyday ranges from 1% to 9%. Car pool access to the train stations ranges from 4% to 8%. Auto access rate to rail stations is lowest at Naperville station (47%). This is mainly due to the fact that the demand for daily parking at this station greatly exceeds capacity and new parking is virtually unavailable. As a result, this station has the highest commuter drop-off rate (18%) and bus access rate (18%). Naperville rail station also has the highest percentage of daily commuters who walk to the train stations (9%).

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 and vanpool/subscription bus service. Service is typically provided between 5:00 AM and 7:00 PM at 40 minute headways during the weekday. The weekend service varies by route and typically operates with headways between 40 minutes and 80 minutes.

Within the study area and its immediate vicinity, Pace bus service is available in Aurora, Naperville, Geneva and Joliet. Table 2-11 shows these Pace fixed-route bus routes, their average weekday ridership, and the bus vehicle hours in operation. Pace operates 14 fixed-routes in the Aurora area. The fixed-route service provides intra-community service and links between neighborhoods and Metra rail stations. These routes generally carry between 200 and 400 passenger per weekday, with the Route #530 Fox Valley Center carrying the highest number of passengers per weekday at over 500. In Naperville, there are 21 fixed-routes bus routes. These routes generally carry between 50 and 150 passengers per weekday. In Geneva, Pace operates 3 fixed-route bus routes that carry between 100 and 250 passengers per weekday. In Joliet, Pace operates 9 fixed-routes that generally each carry between 200 and 500 passengers per weekday, with Route #501 Forest Park–West Jefferson carrying the highest number of passengers at over 700.

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. Generally, this service is operated by local villages or townships under contract with Pace. 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. Both dial-a-ride and paratransit services are currently available in Aurora, Naperville, Geneva and Joliet.

Table 2-11: Pace Study Area Bus Routes

Route	Bus Route	2002 Weekday Ridership	Vehicle Hours
501	Forest Park – West Jefferson	732	45.75
502	Cass/Marquette Gardens	440	25.99
503	Black Road – Raynor Park	329	13.02
504	South Joliet	208	12.41
505	Rockdale – Lidice	359	23.76
506	East Washington	207	13.04
507	Plainfield	336	14.53
521	High Street	269	15.70
522	Montgomery	214	13.96
523	North Lake	275	13.69
524	Downer	169	13.12
525	Farnsworth	267	15.05
526	West Geneva	391	13.72
527	Moecherville	350	13.32
528	Fifth Street	221	14.35
529	Indian Trail	258	13.31
530	Fox Valley Center	553	29.28
532	Sullivan Road	183	13.29
533	Molitor	309	14.57
534	Fox Valley Villages/IL 59	50	5.40
673	Fort Hill Express	50	5.33
675	IL Route 59 Express	53	4.17
676	Naperville – Cress Creek	96	4.23
677	Naperville – West Glens	52	3.62
678	Naperville – Carriage Hill	101	4.35
680	Naperville – Knoch Knolls	82	4.27
681	Naperville – Saybrook	55	2.45
682	Naperville – Brookdale	74	3.50
683	Naperville – Ashbury	91	5.07
684	Naperville – Maplebrook	76	2.58
685	Naperville – West Wind Estates	72	3.95
686	Naperville – Old Farm	70	3.67
687	Naperville – Farmstead	81	3.57
688	Naperville – Huntington	66	3.50
689	Naperville – Hobson Village	52	3.47
781	N. Naperville Office Complex	35	2.23
787/788	Naperville Midday	82	6.47
801	Elgin – Geneva	214	18.55
802	Aurora – St. Charles	229	16.76
820	University Heights – Lisle	70	4.40
829	Lisle – Naperville Office	57	4.77
831	Joliet – Midway	154	14.79
834	Joliet – Yorktown	548	42.08
921	Geneva Shuttle	88	10.47

Source: Pace Bus Route Descriptions and Pace Comprehensive Quarterly Service Review, Fourth Quarter 2002

Amtrak and Greyhound Services

In addition to Metra commuter rail and Pace bus services, Amtrak train and Greyhound bus services are also available in select jurisdictions within the study area and its vicinity. Greyhound bus service is available in Aurora, DeKalb, LaSalle, Joliet and Ottawa. Amtrak train stations are located in Naperville, Joliet and Plano. The Amtrak station at Naperville is serviced by 6 daily Amtrak trains from Chicago enroute to San Francisco (the California Zephyr), Los Angeles (the Southwest Chief), and Quincy (the Illinois Zephyr). The Amtrak station in Plano is serviced by 2 daily Amtrak Illinois Zephyr trains between Chicago and Quincy. Amtrak operates these services over the BNSF railroad tracks. Six daily Amtrak trains from Chicago enroute to St. Louis, Kansas City and San Antonio stop at the Amtrak station in Joliet. These trains through Joliet operate on the Union Pacific line.

DeKalb

The City of DeKalb operates the Green Line Bus Service. The Green Line provides fixed-route local bus service in the City DeKalb, with contract operations by TransVac. The Green Line Bus runs Monday through Friday from 7:00 a.m. to 9:00 p.m., and the fare is 50 cents per ride.

Northern Illinois University's (NIU) Student Association Huskie Line is the first student-run mass transit system in the state. The Huskie Line consist of 12 buses and seven bus routes that serve Northern Illinois University students, both on campus and within the DeKalb area. The Huskie Line also operates a special bus specifically for persons with disabilities called the Freedom Mobile. Service hours vary by route. NIU students ride free and regular fares are 50 cents.

Other Paratransit

Other paratransit services, besides those described above, also exist in the study area. These services include the Voluntary Action Center in DeKalb County, the Morris service and countywide paratransit service in Grundy County, and Senior Services in Kendall County.

Planned Transit Improvements

For the Prairie Parkway Study, the major transit improvement projects in the study area are the proposed extension of Metra's BNSF commuter rail line from Aurora into Kendall County; the Metra UP-West rail extension to Elburn and a portion of the Metra Suburban Transit Access Route (STAR) Line. The BNSF extension project would replace the shorter-term Oswego park-and-ride lot with bus service to Aurora. Metra is currently conducting an Alternatives Analysis, Preliminary Engineering, and Final Engineering for this BNSF line extension and is conducting a study on the STAR Line. The Elburn extension is expected to be in service in 2007.

It is recognized that there are several possible future transit improvement projects in the study area that were not assumed for the 2030 transportation network. Many of these projects are only in very early concept phase and/or do not have sufficient funding sources identified. For example, proposed commuter rail service from Joliet to LaSalle/Peru (see

the recently completed feasibility study), the proposed Rock Island improvement and extension from Joliet to Minooka were not included.

Outside of the study area, major projects recommended in the 2030 Regional Transportation Plan were assumed. Some of the major planned regional transit projects include:

- Metra Southwest Service extension to Manhattan
- Metra North Central Service upgrade
- CTA Blue Line reconstruction
- CTA Brown Line expansion
- Metra UP-West line improvements
- Metra UP-NW line improvement
- Metra Southeast Service
- CTA Circle line
- CTA Red line south extension
- Mid-City transitway

Pace has also released a draft Vision 2020 Plan, which represents Pace's vision for providing publicly acceptable level of efficient suburban mobility. The plan includes an integrated mix of expressway/tollway and arterial fixed-route buses (including bus rapid transit), historic trolleys, transportation centers (regional, community, and super stops), and community-based flexible bus services. Input is now being sought on this draft plan.

The 2030 Regional Transportation Plan also recommended the following strategic improvements to the region's transit system:

- Traffic signal priority for transit vehicles regionwide
- Additional service on existing bus and rail routes, particularly oriented toward off-peak and reverse commute travel
- Added transfer capacity and improved coordination at connection points with high demand
- Additional park-and-ride facilities to encourage increased transit use
- New bus and paratransit services that provide public transit service to currently unserved areas
- Bus routes with limited stops that run longer distances
- Community circulators that allow an alternative to short auto trips
- Short rail extension and addition sidings intended to improve the efficiency of existing rail operations

Amtrak has also discussed with the BNSF the possibility of adding additional intercity trains on the railroad. In addition, the Midwest Regional Rail Initiative, which is a collection of nine Midwest states working with Amtrak on a high speed (up to 110 mph) rail plan, includes routes that would service Quincy and Omaha using the BNSF.

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. The U.S. Census estimated bicycle and walk trips at between 1% and 8% of total work trips (excluding work at home) in 2000 for workers 16 years and older. Table 2-12 shows the Census figures for non-motorized work trips for counties included in the study area.

Table 2-12: Non-Motorized Transportation to Work in 2000

Non-Motorized Transportation	DeKalb		Grundy		Kane		Kendall		LaSalle		Will	
	#	%	#	%	#	%	#	%	#	%	#	%
Bicycle	332	10%	37	12%	400	11%	39	11%	194	13%	271	9%
Walk	3,026	90%	273	88%	3,136	89%	322	89%	1,320	87%	2,727	91%
Total	3,358		310		3,536		361		1,514		2,998	

Source: U. S. Census

The number of persons utilizing non-motorized transportation is a very small number, relative to the number of total trips to work. This table does not include persons who walked or rode a bike to a transit station, or walked at the beginning or end of an auto trip. However, the numbers above show that non-motorized transportation presently is not an important mode of transportation for work trips.

Since the 1990s considerable emphasis has been placed on pedestrian and bicycle accommodations by organizations and local jurisdictions. IDOT requires that highway projects consider, at a minimum, wider outside lanes in urban areas or wider paved shoulders in rural areas to accommodate shared bicycle/vehicle lanes. In addition, the current federal transportation bill, the Transportation Equity Act for the 21st Century (TEA-21) requires states set-aside a portion of their federal funding for projects that serve to enhance the transportation system. The goal of the "Illinois Transportation Enhancement Program" is to allocate resources to well planned projects that provide and support alternate modes of the transportation system through the preservation of visual and cultural resources and improve the quality of life for members of the communities, which include the construction of bike paths (on-road or off-road).

Study Area Pedestrian & Bicycle Facilities

The bicycling infrastructure within the study area consists mainly of state, county and local on-road bicycle accommodations. Since the majority of the study area is within a rural setting most roadway cross-sections consist of one lane in each direction with shoulders (gravel, turf or paved). In an effort to provide cyclists with information on the suitability of roads for cycling in the state, IDOT calculated an indicator of roadway suitability for bicyclists for thousands of road segments. IDOT maintains a computer database on most roads in the state and used this to generate six scales of bicycle service. These scales were color-coded on maps, from bright green for most suitable to dark red for least suitable, see Figure 2-9. The following factors are included in the calculation of the bicycle level of service.

- Traffic volumes - average daily traffic, peak traffic volumes and directional traffic
- Speed of traffic
- Percentage of truck traffic
- Pavement condition
- Lane and shoulder widths and number of lanes
- On-street parking

As an example, a road with moderate traffic may still rate high for suitability if it has wide outside lanes, wide shoulders, and a good road surface. As indicated on the bicycle maps, many of the state highways within the study area are rated as "not recommended for bicycling" or as "caution advised". The most obvious reasons for these ratings are due to high vehicular speeds and shoulders that are not paved.

Bicycle/multi-use trail networks are located throughout the study area and for the most part are of a recreational nature. Some of the trails within the study area depicted in Figure 2-9 and listed below.

- Fox River Trail System – Kane & McHenry County
- Illinois Prairie Path – Kane, DuPage & Cook County
- Virgil Gilman Trail – Kane
- Great Western Trail – Kane & DeKalb County
- I&M Canal State Trail – Will, Grundy & LaSalle County

Many of the trails above are of considerable length and many communities have constructed or proposed the addition of shorter trails from population centers that provide a link to these regional trails, such as the Randall Road Bicycle Trail, the Waubonsee Creek/Oakhurst Trail, and the Oswegoland Park District Trail. However, with the exception of the Fox River trail, there are no major trails across Kendall County.

Planned Non-Motorized Improvements

Several local jurisdictions in the study area are planning proposed bicycle routes in their communities. These projects tend to be smaller, localized facilities.

The Northeastern Illinois Planning Commission has developed a "Northeastern Illinois Regional Greenways Plan." The plan is intended to "create a vision for a regional greenway network and provide a framework for coordinated greenway and trail preservation in northeastern Illinois." This Greenways plan in concert with the Openlands Project's "21st Century Open Space Plan," provide a regional framework of interconnected greenways and open space. Within the study area, in addition to the existing trails along the Fox River, the I&M Canal Trail, and the Virgil Gilman Trail, are the proposed greenways along Blackberry Creek, the DuPage River, and the EJ&E Railway.

The 2030 Regional Transportation Plan recommends strategic improvements to shared-use facilities that foster routine accommodation of pedestrian and bicycle design in all transportation projects and services. This includes pursuing improvements that support bicycle and pedestrian access to transit, and providing bicycle and pedestrian travel information and promotion as part of a larger management and operation strategy applied to the entire transportation system. The plan also recommends that project implementers

should consider a facility's potential use by bicycle and pedestrian travelers and make appropriate design accommodations.

Section 2 Highlights

- Automobile is the principal means of transportation. Over 90% of the work related trips in the study area are made using the automobile.
- The majority of streets and highways within the study area are rural.
- The Fox River is a natural physical barrier and has resulted in limited north-south river crossings.
- Kendall County has no interstate facilities.
- Nearly 85% of the roadways within the study area are 2-laned.
- Lack of multi-lane roadways, especially in the central and western potions of the study area.
- Over 74% of the existing roadway network is comprised of minor arterials or lower functional class facilities.
- There are a number of east-west routes, but only a limited number of continuous, multi-lane, higher functionally classified north-south highways in the study area.
- No north-south interstate highways between I-55 and I-39.
- The current spacing between north-south highways does not provide the study area population with adequate route choices to traverse the study area, thereby reducing direct travel.
- Transit ridership has increased or remained stable, but accounts for 0%-4% of work trips from counties in the study area.
- Parking at most of the Metra rail stations is at or near capacity and remains a challenge. Lack of adequate parking capacity has become a limiting factor in commuter rail usage.

SECTION 3 – SOCIO-ECONOMIC CHARACTERISTICS

Introduction

This section will present a description of historic, current, and forecasted 2030 socio-economic characteristics. These socio-economic characteristics, including population, households, employment, income, and land use, are important factors in determining the need for future transportation investments.

Approach

The Prairie Parkway Study used both a "top–down" and "bottom–up" approach for developing 2030 socio-economic forecasts. From the "top–down" perspective, the 13-county [Cook, DeKalb, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Illinois, Kenosha County in Wisconsin, and Lake and Porter Counties in Indiana] Chicago Consolidated Metropolitan Statistical Area (CMSA) plus LaSalle County in Illinois were used to establish overall 2030 forecast totals for population, households, and employment for this 14-county area and then at the county level. A number of data sources, including U.S. Census data, national county level forecasts (Woods & Poole), Illinois Department of Employment Security employment, and Northeastern Illinois Planning Commission (NIPC) data were used to develop the forecasts.

In developing the 2030 population, household, and employment projections for this study, every effort was made to coordinate with and be consistent with the development of the 2030 population, household, and employment forecasts by NIPC for their six-county northeastern Illinois region (Cook, DuPage, Kane, Lake, McHenry, and Will Counties). Both the Prairie Parkway and NIPC 2030 forecasts were developed concurrently. NIPC has reviewed the Prairie Parkway socio-economic forecasts for the counties in their six-county (Cook, DuPage, Kane, Lake, McHenry, and Will Counties) northeastern Illinois region and found that the 2030 population and household forecasts to be very close to the final adopted NIPC forecasts and that the methodologies used are reasonable. Although slightly differing definitions of employment were used (Bureau of Labor Statistics versus Bureau of Economic Analysis definitions), NIPC concluded that there was "no appreciable difference" between the 2030 employment forecasts.

In addition, a Technical Advisory Group was formed for this study to review the technical products for Part A of this study. The Technical Advisory Group includes representatives from Kendall, Kane, Will, Grundy, LaSalle, and DeKalb Counties; the Mayors and Managers from Kane, Kendall, and Grundy Counties; NIPC; CATS; the Illinois State Farm Bureau; the Prairie Alliance for Sensible Transportation; and the Illinois State Chamber of Commerce. The Technical Advisory Group reviewed the 2030 population, households, and employment forecasts in August and October 2003. Other than for the Kendall County Mayors and Managers (see discussion below), there was general agreement on the 2030 forecasts.

From the "bottom-up" perspective, the Prairie Parkway study team has had approximately 40 meetings with municipal and county representatives in the study area. These meetings included discussions about future development. In addition, available comprehensive

plans, land use resource management plans, zoning ordinances, etc. were obtained from the local jurisdictions in the study area. A number of other factors, such as current development proposals, available land for development, and aerial photography were used. It should be noted that the Kendall County Mayors and Managers are currently reviewing the 2030 population and employment forecasts for Kendall County. In general, representatives of the Kendall County Mayors and Managers believe the 2030 population and household forecasts for Kendall County are too low. This will result in later revisions to the forecasts for the future travel demand modeling for the testing of alternatives, should a need be found in Part A of the study.

Due to the nature of these socio-economic characteristics, information is presented at both the regional level and for the six counties that are included in the study area.

Population

Total 2000 population in the 13-county CMSA was 9,157,540, according to the U.S. Census. Figure 3-1 provides a graphical representation of the urbanization in the region based on 2000 population density. The population density is shown at the census block level. Each radial band (centered on downtown Chicago) on the figure is 20 miles. Within the inner 20 mile radius extending from downtown Chicago, it is apparent that population density is extremely high (more than 5,000 persons per square mile). Within a 20 to 40 mile radius of downtown Chicago, a high urban population density exists within DuPage, eastern Kane County, southern Lake County, and northern Will County. This means that there are only limited opportunities for any sizable future population growth in this band. Thus, the most sizable future population growth is more likely occur in Will County within the 20 to 40 mile band, and in the next band that is 40 to 60 miles from downtown Chicago, which includes a large portion of the study area.

Current and Historic Population Trends

U.S. Census data was used to investigate current and historic population trends in the study area counties. At the metropolitan level, population trends generally reflect demographic and economic factors. For example, during the 1970s and 1980s, the demographic composition of the population caused high rates of growth in households and workers, but slow growth in total population. This can be attributed to the maturing of the baby boomers, their entry into the labor force; and the early years (before birth of children) of their household formation. The demographic characteristics changed in the 1990s. The baby boomers started having their own children and the population growth restarted. The generational cycles will continue, but at reduced levels, for approximately 70 years after replacement birth rates were achieved in the 1970s. Thereafter, the population growth will mainly be driven by migration trends into and out of the region.

Table 3-1 shows the population trends in the study area. Overall, the population for the six counties included in the study area experienced an increase of 63% between 1970 and 2000. The population increased from over 737,000 residents in 1970 to nearly 1.2 million residents in 2000. The most recent ten-year period shows the highest rate of growth.

Table 3-1: Historic and Current Population

County	Years				Change in 10-year Period			30-Year Change
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000	1970-2000
DeKalb	71,670	74,760	78,350	88,970	4.3%	4.8%	13.6%	24.1%
Grundy	26,710	30,690	32,490	37,540	14.9%	5.9%	15.5%	40.6%
Kane	251,900	279,000	319,490	404,120	10.8%	14.5%	26.5%	60.4%
Kendall	26,490	37,370	39,510	54,540	41.1%	5.7%	38.0%	105.9%
LaSalle	111,510	111,940	107,130	111,510	0.4%	-4.3%	4.1%	0.0%
Will	249,030	325,070	359,460	502,270	30.5%	10.6%	39.7%	101.7%
Sub-Total	737,310	858,830	936,430	1,198,900	16.5%	9.0%	28.0%	62.6%
Chicago CMSA	7,959,290	8,113,290	8,261,290	9,157,540	1.9%	1.8%	10.9%	15.1%

Source: U.S. Census

Of the six counties, Kendall, Will and Kane counties recorded the highest increases in population in the 30-year period between 1970 and 2000. Kendall County registered the highest percentage growth in population at 106% during this period. Over the 30-year period, Kendall County registered a two-fold increase in population, from 26,490 persons in 1970 to 54,540 persons in 2000. The largest population increase is in Will County where the population increased from 249,030 persons in 1970 to 502,270 persons in 2000, which represents an increase of 102% over the 30-year period. Kane County registered an increase of 60% between 1970 and 2000 (251,900 to 404,120 persons). The majority of the population increase within Kane County occurred in the eastern portion of the county in communities located adjacent to the Fox River. Grundy County population, from 1970 to 2000 also has increased at a 41% rate, followed by DeKalb County at 24%. LaSalle County showed no growth in population from 1970 to 2000, remaining at approximately 111,500 persons.

The most recent decade (1990-2000) shows the largest overall growth in population for these six-counties at nearly 30%. In particular, Will (40%), Kendall (38%), and Kane (27%) Counties had large increases in population. By 2000, the six-county study area accounted for 13% of the total CMSA population, but 39% of its 1970-2000 growth.

Recent Population Trends

Table 3-2 shows the 100 fastest growing counties in the United States from July 2001 to July 2002. In this table, as indicated by the two columns on the left side, counties are ranked with respect to percent change and by absolute number change in population from 2001 to 2002. Three Illinois counties, Will, Kane and Kendall, are shown in the table. Based on the absolute increase in population, Will County is ranked 4th, Kane is 9th and Kendall is 53rd. Based on the highest percentage growth, Kendall is ranked 16th, Will is 27th and Kane is 63rd. These counties have consistently been ranked in these categories in recent years. This shows the continuing trend of regional population growth spreading outward, in all directions, from the traditional center of Chicago.

Table 3-2
U.S. Bureau of Census
100 Fastest Growing U.S. Counties 2001-2002
(With 10,000+ Population and Sorted by Numeric Change)

Rank % Change	Rank # Change	County	State	July 1, 2002 Population	July 1, 2001 Population	Numerical Population Change	Percent Population Change
39	1	Riverside	California	1,699,112	1,623,466	75,646	4.70
58	2	Clark	Nevada	1,522,164	1,459,605	62,559	4.30
20	3	Collin	Texas	566,798	536,850	29,948	5.60
27	**4**	**Will**	**Illinois**	**559,861**	**532,785**	**27,076**	**5.10**
65	5	Gwinnett	Georgia	650,771	624,742	26,029	4.20
22	6	Denton	Texas	488,481	463,930	24,551	5.30
15	7	Fort Bend	Texas	399,537	376,975	22,562	6.00
88	8	Hidalgo	Texas	614,474	592,525	21,949	3.70
63	**9**	**Kane**	**Illinois**	**443,041**	**425,230**	**17,811**	**4.20**
95	10	Lee	Florida	475,639	459,157	16,482	3.60
30	11	Montgomery	Texas	328,449	312,877	15,572	5.00
23	12	Placer	California	278,509	264,556	13,953	5.30
2	13	Loudoun	Virginia	204,054	190,180	13,874	7.30
47	14	Prince William	Virginia	311,892	298,271	13,621	4.60
6	15	Douglas	Colorado	211,091	197,611	13,480	6.80
36	16	Williamson	Texas	289,924	276,687	13,237	4.80
100	17	Pasco	Florida	371,245	358,590	12,655	3.50
54	18	Collier	Florida	276,691	265,101	11,590	4.40
17	19	Weld	Colorado	205,014	193,849	11,165	5.80
21	20	Hamilton	Indiana	205,610	195,265	10,345	5.30
		:					
		:					
89	51	Livingston Parish	Louisiana	99,066	95,536	3,530	3.70
29	52	Sherburne	Minnesota	71,471	68,022	3,449	5.10
16	**53**	**Kendall**	**Illinois**	**61,222**	**57,811**	**3,411**	**5.90**
92	54	Carroll	Georgia	94,907	91,548	3,359	3.70
33	55	Suffolk city	Virginia	69,966	66,741	3,225	4.80
		:					
		:					

Table CO-EST2002-10 - 100 Fastest Growing U.S. Counties with 10,000 or more Population in 2002: July 1, 2001 to July 1, 2002

Source: Population Division, U.S. Census Bureau; Release Date: April 17, 2003

Table 3-3
U.S. Bureau of Census
Components of Population Change – Illinois Counties
(Sorted by 2002 Total Net Migration)
July 1, 2001 to July 1, 2002

County Rank	County	Births	Deaths	Natural Increase (Births - Deaths)	Net International Migration	Net Internal Migration	Net Migration (International + Internal)
	State Total	**186,619**	**108,084**	**78,535**	**74,769**	**-73,821**	**948**
1	**Will**	**8,477**	**3,072**	**5,405**	**1,508**	**19,766**	**21,274**
2	**Kane**	**7,665**	**2,470**	**5,195**	**3,883**	**8,628**	**12,511**
3	Lake	10,882	3,754	7,128	5,011	1,096	6,107
4	McHenry	4,005	1,589	2,416	948	4,877	5,825
5	**Kendall**	**901**	**330**	**571**	**92**	**2,693**	**2,785**
6	McLean	1,954	890	1,064	370	929	1,299
7	Boone	530	302	228	187	931	1,118
8	Champaign	2,224	1,235	989	1,075	-278	797
9	**DeKalb**	**1,172**	**625**	**547**	**393**	**278**	**671**
10	Monroe	361	229	132	9	593	602
11	Madison	3,223	2,649	574	131	416	547
12	Ogle	580	466	114	146	200	346
13	Winnebago	4,159	2,356	1,803	1,113	-793	320
14	**Grundy**	**504**	**317**	**187**	**50**	**241**	**291**
15	Franklin	544	551	-7	2	277	279
	:						
21	Sangamon	2,590	1,795	795	122	55	177
22	DuPage	13,955	5,675	8,280	6,728	-6,610	118
23	Johnson	118	115	3	8	94	102
	:						
44	Jasper	97	123	-26	-	-3	-3
45	Kankakee	1,524	1,082	442	180	-184	-4
46	Jefferson	544	371	173	16	-22	-6
	:						
64	Wayne	185	179	6	2	-64	-62
65	**LaSalle**	**1,444**	**1,178**	**266**	**124**	**-187**	**-63**
66	White	128	256	-128	3	-66	-63
	:						
102	Cook	87,535	47,443	40,092	50,271	-97,291	-47,020

Note: The estimated components of population change will not equal the numerical population change because of a small residual after controlling to the national totals. Dash (-) represents zero or rounds to zero.

Table CO-EST2002-04-17 - Illinois Estimated Components of County Population Change: July 1, 2001 to July 1, 2002

Source: Population Division, U.S. Census Bureau; Release Date: April 17, 2003

Another indication of the growth and development is the magnitude of net migration by county. Table 3-3 presents the 2002 components of growth (birth, death, and migration) for the fastest growing Illinois counties that includes all of the counties in the study area. Will, Kane and Kendall Counties are among the five counties receiving the largest number of net in-migration. In-migration into Will County was 21,274; for Kane, 12,511; and Kendall, 2,785. DuPage County, in 2002, experienced a net in-migration of only 118; in the 1960's, 1970's and 1980's it was among the Illinois leaders in net in-migration. The stabilization of migration into DuPage County is another indication of its full development. Cook, another mature and fully developed county, experienced a net out-migration of 47,020 in 2002. This table shows the outward growth of the Chicago region and the emergence of the six counties that are contained in the Prairie Parkway study area as an important growth area for the Chicago metropolitan area.

2030 Population Forecasts

Forecasted total 2030 population for the 13-county CMSA is 11,560,800. This represents an increase of 26% (or 2,403,260 persons) between 2000 and 2030.

As shown in Table 3-4, within the six counties included in the study area, population is expected to increase by over 1 million residents by 2030. Kendall and Will Counties are forecast to register the highest growth between 2000 and 2030, with Kendall County expecting a 140% growth and Will County a 126% growth.

In terms of the absolute change in population, Will County is projected to have the biggest increase at over 630,000 residents. This would make Will County the second largest county in population in the state, with a population of 1.14 million persons in the year 2030. Population in Kendall County is forecast to increase by over 75,000 residents by the year 2030. This projected population growth in Kendall and Will Counties is consistent with recent trend, as well. As shown previously, Kendall and Will Counties exhibited increases of 38% and 40%, respectively, between 1990 and 2000, and were the top two counties in the state for population growth between 2001 and 2002.

Table 3-4: 2030 Population Forecasts

County	2000 Population	2030 Population	Change
DeKalb	88,969	130,000	46%
Grundy	37,535	65,300	74%
Kane	404,119	680,000	68%
Kendall	54,544	131,000	140%
LaSalle	111,509	123,400	11%
Will	502,266	1,136,700	126%
Sub-Total	1,198,942	2,266,400	89%
Chicago CMSA	9,157,540	11,560,800	26%

Source: ACG: The al Chalabi Group, Ltd. And U.S. Census

Figure 3-2 shows the forecasted change in population between 2000 and 2030 for the study area. The highest growth areas are expected to include eastern Kane County, northern Kendall County, and western Will County, as well as the Morris, Minooka, and

Channahon areas in Grundy County and the DeKalb and Sandwich areas in DeKalb County.

Households

Households are another key determinant of travel. Total 2000 households in the 13-county CMSA were 3,302,210, according to the U.S. Census. This represents an increase of over 322,000 households from 1990, or an 11% increase between 1990 and 2000. Over the past 30 years, households, across the country and in the Chicago metropolitan area, have grown at a faster rate than population. This can be attributed to factors such as higher disposable incomes, smaller families, and more workers per household.

Current and Historic Household Trends

Table 3-5 depicts the trend in the number of households in counties included in the study area. The households in this six-county area grew from 218,370 in 1970 to 409,620 in 2000, which represents an overall increase of 88%. The 10-year periods from 1970 to 1980, and 1990 to 2000 exhibited almost identical (approximately 30%) increases in households. The period from 1980 to 1990 recorded the lowest (11.4%) growth in households.

For the 30-year period between 1970 and 2000, Kendall County exhibited the highest percentage increase (148%) in households, from 7,570 in 1970 to 18,800 in 2000. Will County also exhibited a large increase (136%) in households, from 71,070 in 1970 to 167,540 in 2000. During the same period, households in Kane and Grundy Counties increased 78% and 70% respectively.

Table 3-5: Historic and Current Households

County	Years				Change in 10-year Period			30-Year Change
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000	1970–2000
DeKalb	19,790	24,400	26,500	31,670	23.3%	8.6%	19.5%	60.8%
Grundy	8,430	10,790	12,010	14,290	28.0%	11.3%	19.0%	69.5%
Kane	75,450	93,900	107,410	133,900	24.5%	14.4%	24.7%	77.5%
Kendall	7,570	12,060	13,330	18,800	59.3%	10.5%	41.0%	148.3%
LaSalle	36,060	41,050	41,410	43,420	13.8%	0.9%	4.8%	20.4%
Will	71,070	103,260	117,310	167,540	45.3%	13.6%	42.8%	135.7%
Sub-Total	218,370	285,460	317,970	409,620	30.7%	11.4%	28.8%	87.6%
Chicago CMSA	2,487,270	2,831,510	2,979,460	3,302,210	13.8%	5.2%	10.8%	32.8%

Source: U.S. Census

In the last decade (1990-2000), overall growth in households (29%) was considerable for the six-counties included in the study area. In particular, Will (43%), Kendall (41%), and Kane (25%) Counties had substantial increases in households. This high growth trend in households has mirrored that of population in the study region. The growth rates for these two socio-economic characteristics in the study area are nearly identical. This is quite

different from the trends exhibited by the Chicago CMSA and the nation, as a whole. This is due to the rapid increase in the development of housing units in the study area.

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2030 Household Forecasts

Forecasted total 2030 households for the 13-county CMSA are 4,212,200. This represents an increase of 28% between 2000 and 2030.

Historically, between 1970 and 2000, the total number of households within the study area has increased by over 88%. As shown in Table 3-6, by year 2030, this number is projected to increase further, by over 89%. The total number of households within the 6-county region in 2030 is expected to increase to over 774,000, from an existing number of approximately 410,000 households. Will and Kendall Counties are projected to show increases of nearly 127% and 137%, respectively. The total number of households in these two counties is expected to more than double by 2030. Historically also, the same counties have shown the highest growth in the number of households over a 30-year period between 1970 and 2000. Except for LaSalle County, all other counties within the study area are projected to show increases in total households of more than 40%.

Table 3-6: 2030 Household Forecasts

County	2000 Households	2030 Households	Change
DeKalb	31,674	45,700	44.3%
Grundy	14,293	24,300	70.1%
Kane	133,901	230,500	72.2%
Kendall	18,798	44,700	137.8%
LaSalle	43,417	47,400	9.2%
Will	167,542	381,500	127.7%
Sub-Total	409,625	774,100	89.0%
Chicago CMSA	3,302,211	4,212,200	27.6%

Source: ACG: The al Chalabi Group, Ltd. and U.S. Census

Figure 3-3 shows the forecasted change in households between 2000 and 2030 for the study area. The highest growth areas are expected to include eastern and southern Kane County, northern Kendall County, and western Will County, as well as the Morris, Minooka, and Channahon areas in Grundy County and the DeKalb and Sandwich area in DeKalb County.

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 within the region, provides information on the change in travel patterns. Total 2000 employment in the 13-county CMSA was 5,518,060, according to the Bureau of Economic Analysis. This represents an increase of over 730,000 jobs from 1990, or a 15% increase between 1990 and 2000 and a 46% increase (1,743,000 jobs) between 1970 and 2000. Growth in jobs, in the Chicago region, has been greater than growth in both households and population. In fact, growth in jobs in the Chicago CMSA over the past 30 years has been extraordinary. This has been one of the major reasons for the Chicago region's growth and its increased economic vitality.

Current and Historic Employment Trends

Table 3-7 shows the employment within each county for the years 1970 to 2000.In the 30-year period between 1970 and 2000, the employment in the study area has increased from 305,120 jobs in 1970 to 577,230 jobs in 2000, which represents an increase of 89%. The 10-year period between 1990 and 2000 exhibited the highest increase in the number of jobs (36%). The employment growth was the slowest (16%) in the 10-year period between 1970 and 1980.

Of the six counties, Kane County exhibited the highest growth in employment over the 30-year period. The number of jobs in Kane County increased from 110,040 jobs in 1970 to 242,210 jobs in 2000 which represents an increase of over 120% over the 30-year period. Will County recorded the second highest growth in employment with over 109% increase (88,470 to 185,230 jobs) in the number of jobs between 1970 and 2000. Grundy, DeKalb Kendall, and LaSalle Counties recorded increases of 89%, 54%, 54%, and 19% respectively.

Table 3-7: Historic and Current Employment

County	Years				Change in 10-year Period			30-Year Change
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000	1970-2000
DeKalb	31,560	35,270	40,370	48,450	11.8%	14.5%	20.0%	53.5%
Grundy	10,670	13,290	16,260	20,120	24.6%	22.3%	23.7%	88.6%
Kane	110,040	133,620	175,500	242,210	21.4%	31.3%	38.0%	120.1%
Kendall	14,080	17,250	15,300	21,610	22.5%	-11.3%	41.2%	53.5%
LaSalle	50,300	51,440	50,390	59,620	2.3%	-2.0%	18.3%	18.5%
Will	88,470	102,310	125,010	185,230	15.6%	22.2%	48.2%	109.4%
Sub-Total	305,120	353,180	422,830	577,230	15.8%	19.7%	36.5%	89.2%
Chicago CMSA	3,775,190	4,158,220	4,787,820	5,518,060	10.1%	15.1%	15.3%	46.2%

Source: U.S. Census

Socio-economic patterns have changed considerably over the last 30 years. Travel patterns now, compared to 30 years ago, are more dispersed. In the past, the major

employment center for the region was downtown Chicago. Within the last 20 years, there has been a rise in major suburban employment centers, such as the O'Hare Airport area, the Lake-Cook Corridor, the Schaumburg area, and the I-88 Corridor. However, the six counties included in the study area have captured a smaller portion of the region's new jobs (16%) compared with 39% of its population growth. This results in a greater jobs/household imbalance, which means that there are more workers than jobs in the study area. The imbalance between residential growth and job growth is also of concern to local officials, as it affects the local tax base and public financing.

2030 Employment Forecasts

As shown in Table 3-8, total employment within the counties included in the study area is projected to grow nearly 88% over the next 30 years. Historically, between 1970 and 2000, the total number of jobs within the six counties in the study area has increased by 89%. Employment in Will County is expected to grow by over 156%, which will result in the creation of nearly 290,000 new jobs. By 2030, the total number of jobs in Kendall and Kane Counties is expected to increase by nearly 75% and 61%, respectively. However, only in Will and LaSalle Counties, will job growth outpace household growth. For the counties in the study area, jobs per household in 2030 will remain approximately the same as they are in 2000 (1.40 vs. 1.41). This indicates a continuance of the jobs – housing imbalance, and longer commute times.

Table 3-8: 2030 Employment Forecasts

County	2000 Employment	2030 Employment	Change
DeKalb	48,446	67,100	39%
Grundy	20,119	30,000	49%
Kane	242,211	389,000	61%
Kendall	21,606	37,900	75%
LaSalle	59,620	84,100	41%
Will	185,225	475,000	156%
Sub-Total	577,227	1,083,100	88%
Chicago CMSA	5,518,060	7,164,400	30%

Source: ACG: The al Chalabi Group, Ltd.

Figure 3-4 shows the forecasted change in total employment between 2000 and 2030 for the study area. The highest growth areas are expected to include eastern and southern Kane County, northeastern Kendall County, and western Will County, as well as the Morris, Minooka, and Channahon areas in Grundy County and the DeKalb and Sandwich area in DeKalb County.

As shown in Table 3-9, the jobs to household ratio is expected to decrease in four out of the six counties included in the study area. Kendall County is projected to have a 26% decrease in the jobs to household ratio, with LaSalle County projecting a 29% increase. In addition, all of the counties included in the study area, except Kane County, are below the CMSA regional jobs to household ratio in 2000, with a similar situation expected in 2030, with only LaSalle County projected to be above the CMSA regional average of jobs to households. This means that in general, the study area has more workers than jobs, so the study area is a net exporter of workers.

Table 3-9: Jobs-Household Ratio

County	2000 Jobs/HH	2030 Jobs/HH	Change
DeKalb	1.53	1.47	- 3%
Grundy	1.41	1.23	- 13%
Kane	1.81	1.69	- 7%
Kendall	1.15	0.85	- 26%
LaSalle	1.37	1.77	+ 29%
Will	1.11	1.25	+ 13%
Chicago CMSA	1.67	1.70	+ 2%

Income

Income is an important requirement for the travel forecasting model. The resources available to households, affects their auto ownership and travel rates. Total 2000 average household income in the 13-county CMSA was $87,675 (in 1996 $), according to the U.S. Census. This represents an increase of over $16,000 from 1990, or a 23% increase between 1990 and 2000.

Current and Historic Income Trends

Table 3-10 shows the household income trends for counties included in the study area. Between 1970 and 2000, the average study area household income has increased from $50,767 in 1970 to $70,263 in2000 which represents an increase of just over 38%. The increase in income was highest (15.1%) in the 10-year period between 1990 and 2000. The 10-year periods between 1970 and 1980 and from 1980 to 1990 registered nearly identical increases in household income. DeKalb County recorded the highest increase (nearly 57%) in average household income over the 30-year period between 1970 and 2000. During the same period, the average household income in Kane County increased over 53%. Will and Kendall Counties registered increases of 39% and 37% respectively. The six-county study region has an average household income (in 2000) that is approximately 80% of that of the Chicago CMSA.

Table 3-10: Historic and Current Average Household Income (in 1996 $)

County	Years				Change in 10-year Period			30-Year Change
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000	1970-2000
DeKalb	$41,477	$45,279	$51,441	$64,936	9.2%	13.6%	26.2%	56.6%
Grundy	$51,791	$56,764	$60,518	$60,518	9.6%	6.6%	0.0%	16.9%
Kane	$54,155	$60,478	$72,524	$82,999	11.7%	19.9%	14.4%	53.3%
Kendall	$60,648	$64,602	$68,258	$83,120	6.5%	5.7%	21.8%	37.1%
LaSalle	$43,860	$47,700	$46,928	$56,811	8.8%	-1.6%	21.1%	29.5%
Will	$52,671	$59,020	$66,516	$73,192	12.1%	12.7%	10.0%	39.0%
Sub-Total	$50,767	$55,641	$61,031	$70,263	9.6%	9.7%	15.1%	38.4%
Chicago CMSA	$55,035	$60,627	$71,563	$87,675	10.2%	18.0%	22.5%	59.3%

Source: U.S. Census

2030 Income Forecasts

Between 1970 and 2000, the average household income for the counties in the study area has increased over 38%. As shown in Table 3-11, the average household income is projected to increase 72% to over $121,000 in 2030 from an existing income of just over $70,000 in 2000. All of the six counties are expected to show average household income increases of over 50% within this period. Grundy County is expected to show the highest increase in average household income (96%) followed by LaSalle (87%), Will (80%) and DeKalb (73%) counties. By 2030, the average household income for the six counties included in the study area will increase to approximately 94% of that of the CMSA.

Table 3-11: 2030 Average Household Income Forecast (in 1996 $)

County	2000 Avg. HH Income	2030 Avg. HH Income	Change
DeKalb	64,936	112,107	72.6%
Grundy	60,518	118,635	96.0%
Kane	82,999	130,958	57.8%
Kendall	83,120	127,306	53.2%
LaSalle	56,811	106,124	86.8%
Will	73,192	131,488	79.6%
Sub-Total	70,263	121,103	72.4%
Chicago CMSA	87,675	128,796	46.9%

Source: ACG: The al Chalabi Group, Ltd.

This greater affluence generally results in higher rates of trip making.

Land Use

Current Land Use

The current land use within the study area is qualitatively described in this section. The majority of land in the 1,600 square mile study area remains in agricultural use, but only a small proportion of the population lives at rural densities or is employed in agriculture.

Schools and other local governments employ substantial proportion of the workforce in all areas, but since that is well known they are not included in this description. Employment figures are taken from the Illinois Manufacturers Directory, Illinois Services Directory, and other published sources.

To describe the current land use, the study area was divided into six sub-areas.

Kane County

The northeastern portion of the area comprises municipalities along the Fox River in eastern Kane County: St. Charles, Geneva, Batavia, North Aurora, Aurora (3rd largest city in Illinois by population), and Montgomery, extending west to include the entire Kane County portion of the study area. Most of these communities incorporated in the 1830s, but have experienced continuing growth in recent years, with recent single-family development extending westward to approximately IL 47. Kane County policy is to keep suburban development east of IL 47, after an earlier boundary attempt at Randall Road was not maintained. The County has purchased, or committed to purchase, over 1400 acres of farmland development rights to help maintain agricultural land use.

A diversified employment base includes jobs in manufacturing, services, retail, and other categories. By far the subarea's largest employer, Caterpillar Tractor's “Aurora” plant (actually located in Montgomery, Kendall County), has 3,000 workers. Other large manufacturers include Burgess Norton (screw machine products, powdered metal parts and casings, 900 employees) in Geneva, and System Sensor Division of Honeywell International, producing fire alarms and smoke detectors in St. Charles. Large non-manufacturing establishments include Fermilab in Batavia (which reports 2,200 employees but is partly located in DuPage County, outside the study area), and three hospitals, Provena Mercy and Rush Copley, each with just over 900 employees in Aurora, and Delnor-Community with 1,022 employees in St. Charles.

Commuter rail service is available to downtown Chicago, about 38 miles, but most employed residents work in Kane County, with most of the remainder in other areas nearby.

Central Sub-Area

Northeastern and central Kendall County are experiencing rapid growth. Oswego more than tripled its housing units and population during the 1990s; growth in Yorkville was only somewhat slower. The growth, of course, is an extension of suburban development from the north and east, where land is less available and more costly; housing is less expensive in these communities. Further west along US 34, Plano has experienced little growth thus

far but a large subdivision is currently planned. Sandwich and Somonauk are, for the moment, experiencing only scattered building.

South of Somonauk, the northeastern corner of LaSalle County is largely rural, but also contains subdivisions/resorts (Lake Holiday, Silverleaf), and the Sheridan facility of the Illinois Department of Corrections (currently being renovated for new corrections-related use).

Although this subarea is predominately residential (and agricultural), it contains major employers including Wrigley's Amurol Confections Division (500 employees at Yorkville) and Menards' distribution center (about 508 employees on the northeast edge of Plano). IDOC's Sheridan facility, reopening in 2004, will use 450 State workers plus an unknown number of contract workers.

West Will County Sub-Area

Although the Village of Plainfield was first settled in the 1830s, this area was primarily agricultural until the 1990s, when very substantial growth, primarily residential, was spurred by the lack of affordable, developable land to the east. This growth is beginning to extend into Kendall County, a part of which has been annexed by Joliet. Will County policy is to develop the area north of the Illinois River, including this sub-area, at suburban densities.

Light industrial and warehouse activity is found in some areas near I-55 in this sub-area. Although the warehouses occupy large sites, they are able to operate with relatively few employees. The largest employer in the subarea is CBI in Plainfield, with several hundred workers in engineering, operations, and administration.

DeKalb City

At the northwestern corner of the study area, the City of DeKalb has experienced moderate growth in recent years. Local leaders convened a “growth summit” which concluded that 2% would be an appropriate rate of population growth, and that industrial development ought particularly to be encouraged as a means of moderating real estate taxes.

Located on the west side of DeKalb, Northern Illinois University is by far the largest employer in the entire study area. Second largest employer in this subarea is Kishwaukee Community Hospital (860). The largest manufacturing companies in this subarea are Alloyd (400), a maker of packaging and packaging equipment (recently acquired by SCA Corp); Ideal Industries (334), who make tools, test equipment, and supplies for electronics and telecommunications; and wire harness and panel assembly producer MWC (300). The largest retail establishment is Wal-Mart (450).

Illinois River Valley Sub-Area

The southern part of the study area is defined by the Illinois River. Interstate 80 is approximately parallel along the northern part of this sub-area. This area's early (19th-century) growth centered on the Illinois and Michigan canal, parts of which have been preserved as components of the I&M Canal National Heritage Corridor. Bulk commodities now move in barges on the Illinois River (or by rail or truck).

The eastern portion of this sub-area has experienced growth in recent decades, with Channahon doubling its population between 1980 and 2000, Minooka and Morris are growing more slowly, since they are more distant from job opportunities to the east and northeast. Seneca, Marseilles, and Ottawa have essentially not grown at all during the period.

Manufacturing employment is mainly in the eastern portion of this sub-area, while the central and western portions have considerable retail and service activity; the central part also contains two large electric generating stations. Manufacturers in the eastern portion include Exxon Mobil (550 employees), Ecolab (400 employees making cleaning compounds), and BP Amoco Chemical (also 400 employees). Caterpillar Tractor's Joliet plant, which is just barely outside the study area's eastern boundary, employs 2,200. In the central part of this subarea, around Morris, the largest employers are Exelon's Dresden nuclear generating station (750) and Morris Hospital (700), with Equistar (560, chemicals) and Wal-Mart (540) being the largest manufacturing and retail employers, respectively. The largest employer in this subarea is in Ottawa at the western end: Reliable Corporation's telemarketing and furniture distribution operation (1,000). Community Hospital of Ottawa (475) is nearby.

Several extensive public open space parcels exist in this sub-area. At its eastern end are the Midewin National Tallgrass Prairie and the Des Plaines Wildlife Conservation Area. There is a national guard training facility near Marseilles, and Goose Lake Prairie State Park southeast of Morris.

Rural Areas

Aside from the areas noted above, the remainder of the study area is rural and primarily agricultural, with a number of small municipalities (Hinckley, Leland, Lisbon, Maple Park, Millington, Newark, Virgil, and Waterman) each containing fewer than 2,000 population. There are also some small sand and gravel mining operations. But some of these communities are experiencing growth pressure as areas to the east become more congested and costly.

2030 Land Use Projections

The distribution of population, households and employment within each county were made to reflect the adopted (or “preferred”, in the absence of official adoption) county and or municipal plans and policies. In general, these plans and policies called for development to occur outward from existing municipalities in eastern or northern directions toward the Chicago Region. Such a growth policy ensures the maximum utilization of existing infrastructure investment and minimizes sprawl.

In general, and under the 2030 baseline development assumptions, the predominant characteristics of the study area will remain residential and farming supported by the associated service jobs (e.g. retail, medical services, and local business services). The concentration of basic jobs (e.g. manufacturing, major finance, business services) will continue to be concentrated primarily in the Chicago Central Area, Northwest Cook and DuPage Counties. This phenomenon will necessitate considerable commuting to work from

the impact area to the above-mentioned job centers. The ratio of jobs to households by county and/or sub-county provides a good measure of the magnitude of the commute to work. The future land uses are described, more specifically, by county, or portions thereof, within the project impact area.

Kendall County (Central Sub-Area):

Urban development will be expanding into Kendall County from two directions: the north from Kane County and the east through the expansion of the Will County municipalities of Joliet, Plainfield and Shorewood. Most of Southwest Kendall County and parts of its Northwest corner will remain rural in character through the 2030 forecast period. This development pattern reflects current planning policies, as well as market forces as reflected by recent project announcements. As stated earlier, most of the urban growth forecasted for Kendall County is residential, with its associated local service employment. The 2030 jobs per household ratio for Kendall County is forecasted to be 0.85. For DuPage County, the similar ratio is 2.73; for Will, 1.11. The imbalance between residential growth and job growth is of major concern to local officials as it affects the local tax base and public financing. However, there exists a consensus that a more balanced growth is not feasible without changes in the transportation infrastructure assumptions of the baseline forecasts.

Kane County

As stated earlier, Kane County policy is to concentrate development in the eastern portion of the county. In Kane County's 2003 Affirmation of the Conceptual Land Use Strategy, their general goal of their 2030 land resource management plan that is now being prepared is to have at least 50% of the land in Kane County should still be in farmland or open space uses. This includes "renaissance" of the urban corridor located in the eastern portion of the county along the Fox River, "refinement" of the critical growth corridor that is generally located in the center of the county, along IL 47, and "recommitment" to the agricultural/rural corridor located in the western portion of the county. The forecast assumptions respected this policy restricting higher density development west of IL 47. This policy has resulted in 2030 population and household forecasts for Kane County that may be lower than would have occurred if this policy were not in place. This has resulted in some spillover of development into Kendall and DeKalb Counties.

Given the above growth policy, most of western Kane will remain rural in character. Central Kane will have a residential character similar to that described for Kendall County. Eastern Kane County (Fox River municipalities) has been a well-balanced, fully-developed sub-region and is forecasted to retain its character as it revitalizes. None of the subareas within these communities are forecasted to lose housing units; however, some may lose population due to declines in their average household size.

Due to the diversified economies of the Fox River communities, Kane County, in 2000, had a relatively high ratio of jobs/household of 1.81 (compared to a CMSA ratio of 1.68). This average is forecasted to be 1.69 by 2030 due to the suburbanization of Central Kane.

DeKalb County

The growth policies of Kane County impact DeKalb County. The DeKalb County planning guidelines (Cooperative Countywide Comprehensive Plan is in preparation) encourages expansion of existing municipalities towards the east. There are concerns among planning officials that restrictions imposed within Kane will cause the leap-frogging of development to the eastern edges of DeKalb, and into areas without municipal services. The Prairie Parkway socio-economic forecasts concentrate development in three major areas:

- DeKalb (City) – Sycamore area – these two communities are forecasted to grow toward each other and, jointly, toward the City of Elgin in Kane County.
- Sandwich – in the southeastern corner of DeKalb County. The growth of this area is southward and extends into the northeast corner of LaSalle County.
- Genoa–Kingston – Kirkland in northern DeKalb – this area is outside the general study area; but is forecasted to ensure the balancing of the top-down and bottom-up approaches.

DeKalb has a well-balanced economy, as reflected in its job/household ratio. The 2000 ratio was 1.52, less than the CMSA average due to the high concentration of students. This ratio is forecasted to decline, very slightly, to 1.46, reflecting the forecasted increase in the student body at Northern Illinois University and the suburban (commuter) growth in the vicinity of Sandwich.

LaSalle and Grundy Counties (Illinois River Valley Sub-Area)

LaSalle is a very large (area) county. However, except for the spillover of development from Sandwich (DeKalb County), most of the growth forecasted for LaSalle County is outside the general study area. That portion of LaSalle County within the study area will remain rural in character.

Development in Grundy County is forecasted to occur in three major concentrations:

- Northeast corner (Minooka/Channahon area) along the I-80. The development in this area is a spillover from Will County. The configuration of the waterways and parks is causing more development to occur in Grundy than Will.
- Southeast corner along I-55 (Coal City/Braidwood/Braceville). The growth in this area is another example of spillover from development in Will County.
- Morris Area (Central Grundy) The growth here is associated with the natural expansion of this county-seat city.

Most of the development in Grundy County is suburban residential in nature. The job/household ratio for the County in 2000 was 1.40 and is forecasted to decline to 1.23 by 2030.

Western Will County

Most of the growth forecasted for Shorewood, Joliet, Plainfield and Naperville is occurring in this area due to the land constraints on the other sides of these communities. The magnitude of the growth for these communities is such that development will exceed the available land in Western Will County and will spill over into Grundy and Kendall County. Most of the development in this area is suburban residential with its associated local retail and service employment.

Within Will County, Joliet has a balanced economy. However the remainder of Will County is predominantly residential. In 2000, the job household ratio for the County was a low 1.11 (compared to a CMSA average of 1.68). However, many basic jobs are starting to locate within Will County. Most of these new jobs are warehousing and/or transportation related; these industries consume large land areas, but generate relatively few jobs. Examples of such developments are the warehouses along I-55 and the new Center Point development within the old Joliet Arsenal. Additional jobs are forecasted, by NIPC, predicated on the development of the South Suburban Airport. The 2030 job/household ratio for Will County is forecasted to increase to 1.24.

Section 3 Highlights

- Socio-economic growth is spreading outward, in all directions, from the traditional center of Chicago.
- Growth in population, households, employment is mainly concentrated in the central and eastern portions of the study area.
- Will (4), Kane (9) and Kendall (53) counties are some of the fastest growing counties in the country. These three counties have accounted for the largest number of net in-migration of residents.
- Will (1), Kane (2), Kendall (5), DeKalb (9), and Grundy (14) counties are fastest growing counties in the State of Illinois.
- Population for counties in study area projected to increase by 89% between 2000 and 2030.
- Employment for counties in study area projected to increase by 88% between 2000 and 2030.
- Declining jobs to household ratio between 2000 and 2030 means that households are growing at a faster rate than jobs so there are more workers in the study area than jobs.
- Four of the six counties in the study area are projected to experience a decline in the jobs to household ratio. All but one of the six counties in the study area are projected to be below the Chicago CMSA jobs to household ratio.

SECTION 4 – TRAFFIC CHARACTERISTICS

Introduction

This section presents a description of historic, current, and forecasted 2030 traffic characteristics. The need for traffic volume data is extensive. Almost every facet of highway planning, design and operation requires knowledge of traffic volumes. The design of a highway and its features is based on explicit consideration of traffic volumes. Traffic volumes indicate the need for improvements and directly affect the geometric design features, such as number of lanes, widths, horizontal and vertical alignments.

The traffic data typically collected by state and local agencies include traffic volumes for days of the year and time of the day, as well as the distribution of vehicles by type and weight. The most basic measure of the traffic demand for a highway is the average daily traffic (ADT) volume. The average daily traffic is defined as the total number of vehicles passing over a point in a day. Traffic volume measurements are usually taken either as part of an area-wide traffic counting program or as part of a specific study. The type of volume data and manner in which it will be used determines the data collection technique.

Approach

The study approach to assembling historic and current traffic counts, and the development of 2030 projected traffic volumes is described below.

Traffic Count Data

The traffic volume data assembled for the study area included the following:

- Average Daily Traffic - Area-Wide Count Program: Traffic volumes are measured throughout the study area for a wide variety of planning and design needs such as traffic flow maps, growth trends, system planning, and highway classification. The base year ADT volumes on Illinois State, Interstate, U.S. and county highways were obtained from counts conducted as part of IDOT's area wide count program. Traffic data on state routes within the study area are collected in the same year and generally reported on a consistent year interval, whereas the traffic data collected on county routes is highly variable relative to the year and interval.
- Screen Line Traffic Counts: Screen line counts are used to measure volume and direction of traffic from one area to another. Screen lines are established to divide a study area into different geographic areas and measure vehicular trips made into the region or area of interest. For the study area, 24-hour screen-line counts were performed at twenty (20) north-south locations, as shown in Figure 4-1. These counts were used to evaluate vehicular movements into and out of the area bisected by the screen line.
- Intersection Turning Movement Counts: These counts are used in determining stop controlled and signal operations and timing parameters either as an isolated intersection or an area-wide network of signals and/or identifying improvements

needed to address capacity issues. For this study, manual turning movement counts were performed at 15 intersections, as shown in Figure 4-1.

- Classification Counts: These counts measure the number of the various types of classes of vehicles (passenger vehicles and different types of trucks) in the traffic stream. For this study, vehicle classification counts were performed in conjunction with the intersection turning movement counts and the video license plate survey locations. The counts were used to obtain truck volumes.

Video License Plate Survey

A video license plate survey was also performed to analyze travel patterns in the general study area along the IL 47 corridor. This travel survey helped to establish a snapshot of existing use of this north-south corridor, and defining types of users, travel purpose, and travel patterns. This survey complimented the other types of traffic data collection activities and served to help validate the travel model.

The video license plate survey was conducted at two points in the study area from 6:30 a.m. to 6:30 p.m. on Wednesday, April 23, 2003. Two high speed video cameras were stationed along IL 47, just north of US 52 in Kendall County and another two were stationed along IL 47, south of US 30 in Kane County. Upon completing the video license plate survey, the video tape was read into a computer system that automatically reads the license plates and enters this information, along with the time of day, into a database. The list of Illinois vehicle plates was then sent to the Illinois Secretary of State, who is responsible for issuing vehicle registrations and license plates. The Secretary of State matched the plate numbers to the mailing address of the vehicle owner. Survey questionnaires were then sent to the vehicle owner.

The video cameras captured 15,069 plates, of which 81% were passenger vehicles. Of the plates captured, 595 were from out of state. Of the remaining 14,474 vehicle plates submitted for addresses, the Secretary of State was able to match just over 8,500 (59%). Of these addresses, roughly 2,600 were identified as being duplicate vehicle plates and slightly more than 400 were unusable (for example, rental, leased, government vehicles or school buses), which resulted in a mailing list for the survey questionnaire of about 5,500. Returned, usable surveys totaled 1,342 (1,170 passenger surveys), for a mailed-to-return rate of 24%. The passenger surveys provide an interesting snapshot of travel along IL 47. Items of interest include:

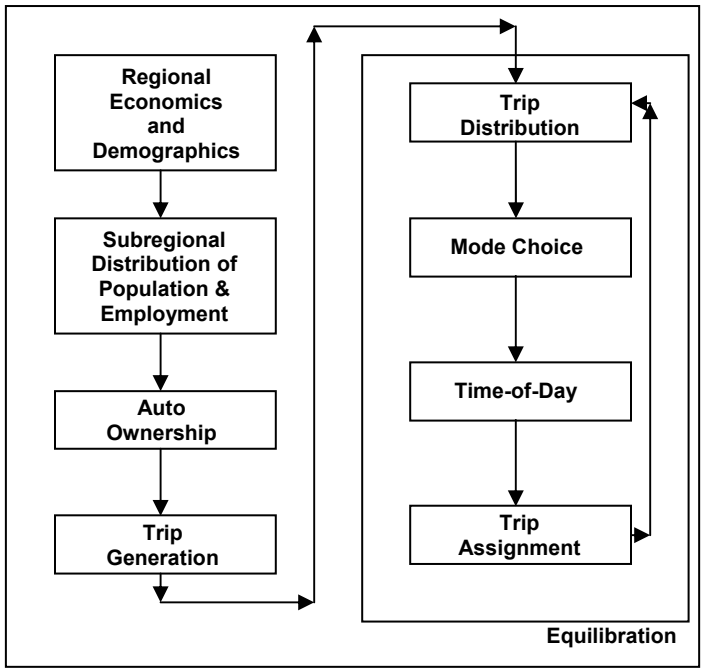
- More than 65% of survey respondents said they drove alone; 17% reported 2 persons; 4% reported having 3 occupants; and 2% reported having 4 or more people in the vehicle. Approximately 11% of respondents did not complete this information.
- The primary type of vehicle used by travelers was an automobile (58%). Pickups/vans and sports utility vehicles each comprised about 16% of the vehicles on the road. Slightly less than 10% of the survey respondents did not identify the vehicle type.

- In the first survey period (6:30 a.m. to 12:30 p.m.), most drivers (75%) reported that they got into their vehicle at home; the most common place that they got out of their vehicle was at work (51%), followed by 'other' destinations (26%).
- In the second survey period (12:30 p.m. to 6:30 p.m.), most drivers (41%) reported getting into their vehicle at their home. This was closely followed by drivers who started their trip from work (35%). The most common place that the survey respondents said they got out of their vehicle was home (39%). This was followed by work (23%) and 'other' (21%).
- The largest percentage of respondents (25%) reported that they got into their vehicle in Yorkville. This was followed by Morris (5.7%) and Aurora (5.6%). Approximately 11% of the respondents did not complete this data item. Less than 1% of drivers surveyed listed origins from out of the state.
- The most common place that respondents got out of their vehicle was Yorkville (16%), followed by Aurora (8.5%) and Sugar Grove (5.5%). Approximately 13% of respondents did not complete this data item. Slightly less than 2% of the drivers that used IL-47 were headed out of state.
- For the origin (starting zip code) and destination (ending zip code) pairs, about two-thirds of the trips were made locally within the study area and one-third of the trips were made outside of the study area, representing a sizable portion of through trips. Figure 4-2 depicts the origins and destinations of these trips.
- The most number of trips made between a zip code pair (52) were between Yorkville and Sugar Grove. Other pairs with more than 20 trips included Yorkville/ Batavia at 29 and Yorkville/Geneva with a total of 24.
- Trips within Kendall County totaled 35 (or 5% of the 671 total trips), while 529 trips (78%) were within the six surrounding counties (DeKalb, DuPage, Grundy, Kane, LaSalle and Will). The remaining 110 trips (16%) either began or ended outside of these seven counties and passed through the general study area.
- The main reason people drove was to go to work or for work related business (37%). The remaining reasons were to go home (22.5%); social and recreational reasons (16%); and shopping (5%). Medical, school and other purposes were about 3% each; serving a passenger was only reported as the purpose of 2% of all trips. Approximately 9% of respondents did not answer this question.
- In the first survey period (6:30 a.m. to 12:30 p.m.), most drivers (52% of 536 trips) reported that the purpose of their trip was to go to work or for work related business. The next highest (15%) was for social or recreational purposes.
- During the second survey period (12:30 p.m. to 6:30 p.m.), more drivers (37%) got on the road to drive home. However, 24% were traveling to get to work or for work related business. Similar to the first survey period, about 16% of trips were for social or recreational purposes.

Development of 2030 Traffic Volumes

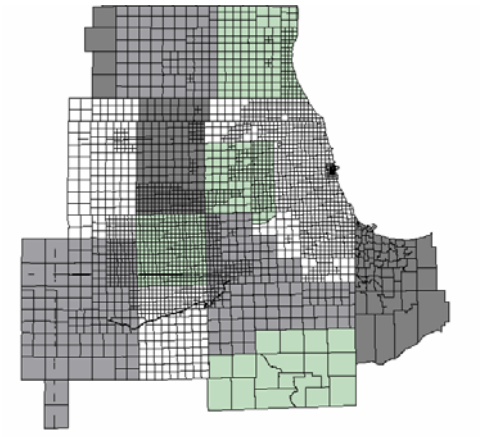
The Prairie Parkway Study used the Chicago Area Transportation Study (CATS) regional travel forecasting model to develop forecasts of 2030 traffic volumes. The CATS travel model has evolved over the last five decades and has been used for regional transportation plan development, small area studies, and major project development. The CATS travel forecasting model follows generally conventional regional transportation modeling practice. The figure depicts the basic travel forecasting process.

Figure 4-3: Travel Forecasting Process



The travel forecasting process, shown in Figure 4-3, 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) based on a number of factors, described in Section 3. The expanded transportation analysis zone system used for the Prairie Parkway travel modeling is shown in Figure 4-4.

Figure 4-4: Transportation Analysis Zone System



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 CATS 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 CATS 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 CATS mode choice models, as do most other metropolitan areas, use a logit formulation as their model structure. The highway and transit trips are then factored and combined to create trip tables representing various 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.

It should be noted Prairie Parkway Study only committed transportation improvements were included in the 2030 transportation networks used in forecasting. Within the study area this included limited lane additions to existing roadways, but no major new highways. The most proximate new highway facility was the extension of the North-South Tollway between I-55 and I-80 in Will County. The proposed extensions of Metra commuter rail service to Oswego and Elburn are included in the future 2030 network. Commuter rail projects like this improve regional accessibility to places such as Chicago central area, but do not change accessibility within the study area or even adjacent areas.

Historic ADT Trends by Functional Class

ADT volumes on streets and highways within the study area have increased substantially over the last two decades. This increase in daily traffic demand was seen on the entire range of functional class facilities in the study area. Table 4-1 shows the historic (10-year and 22-year) increases in ADT based on the functional classification and number of lanes of U.S., State and Interstate study area roads.

I-80 and I-88 are the only Principal Arterial-Interstate roadways within the study. These two east-west highways exhibited the highest increase in ADT over the 10 and 22-year periods. On I-80, the 22-year growth in ADT ranged from 82% in the western end of the study area to 107% in the eastern end. The 10-year growth ranged from 20% in the western end to 31% in the eastern end. On I-88, the 22-year growth in ADT ranges from 243% in the western end of the study area to 377% in the eastern end. The 10-year growth on this highway ranges from 78% in the western end to 79% in the eastern end.

Table 4-1: Historic ADT Change by Functional Class on U.S., State and Interstate Roads

Functional Class	22-Year Growth (1979-2001)						10-Year Growth (1991-2001)					
	2-Lanes		4-Lanes		6-Lanes		2-Lanes		4-Lanes		6-Lanes	
	East-West	North-South	East-West	North-South	East-West	North-South	East-West	North-South	East-West	North-South	East-West	North-South
Principal Arterial - Interstate			160%		377%				45%		79%	
Other Principal Arterial	94%	70%	107%	73%		359%	60%	43%	38%	28%		128%
Rural Minor Arterial	120%	46%					53%	59%				
Urban Minor Arterial	19%	62%		53%			97%	31%		12%		
Rural Major Collector	125%						24%					

For Other Principal Arterials, the ADT on the 2-lane, 4-lane and 6-lane increased by 70%, 73% and 359% respectively for north-south traffic between 1979 and 2001. During the same period, the increase in ADT on the 2-lane and 4-lane Other Principal Arterials carrying east and westbound traffic was 94% and 107% respectively. Specific 22-year ADT growth on north-south Other Principal Arterials included IL 59 ranging from 29% in the southern end, 129% in the central region and 359% in the northern end; IL 47 ranging from 58% in the southern end of the study area to 74% in the northern end; IL 71 ranging from 40% in the southern end of the study area to 165% in the northern end; Kirk Road ranging from 55% at IL 56 to 116% at IL 64; and Randall Road ranging from 266% at IL 38 to 110% at IL 64 (22-year period from 1980-2002). Specific 22-year ADT growth on east-west Other Principal Arterials included IL 38 ranging from 55% in the western end of the study area to 123% in the eastern end; IL 56 at 56%, IL 64 ranging from 3% in the western end of the study area to 31% in the eastern end; US 30 ranging from 115% near IL 47 to 123% in the eastern end; US 34 at 219% at US 30; and Fabyan Parkway at 250% (22-year period from 1980-2002).

The Rural Minor Arterial system within the study area is entirely comprised of 2-lane roadways that exhibited a 92% increase in ADT between 1979 and 2001. For Rural Minor Arterials that carry north-south traffic, the 22-year percentage increase in ADT was 46% and for east-west traffic the average increase was 120%. Specific 22-year ADT growth on north-south Rural Minor Arterials included IL 23 ranging from 65% in the southern end of the study area to 38% in the northern end. Specific 22-year ADT growth on east-west Rural Minor Arterials included US 30 ranging at 33% in the western portion of the study area; US 34 ranging from 67% in the western end of the study area to 147% at IL 47; and US 52 ranging from 56% in the western end of the study area to 295% at IL 47.

The Urban Minor Arterial system within the study area is comprised of 2-lane and 4-lane roadways. The 22-year average percentage increase in ADT for the 2-lane roadways was 41%. The average 22-year percentage increase in ADT on 2-lane Urban Minor Arterials

that carry north-south traffic was 62%, with Orchard Road averaging 249% growth at US 30. For the 2-lane facilities that carry east-west traffic, the average 22-year percentage increase in ADT was 19%, with Caton Farm Road averaging 435% growth at IL 59 (20-year period from 1982-2002). The 10-year and 22-year average percentage increase in ADT for 4-lane Urban Minor Arterials carrying north-south traffic was 12% and 53% respectively.

The Rural Major Collector system within the study area is entirely comprised of 2-lane roadways that carry east and westbound traffic. The 10-year and 22-year average percentage increase in ADT for these facilities was 24% and 125% respectively.

Current and Projected Change in Study Area ADTs

Figure 4-5 depicts the current ADTs on the study area roadway network and Figure 4-6 shows the 2000 to 2030 change in ADTs. The current ADTs were obtained from IDOT's Illinois Roadway Information System (IRIS) database. For Interstates, U.S., and State highways, the current ADTs were recorded in 2001. For county roadways, the 1997 to 2002 ADTs were obtained. The 2000 to 2030 change in ADTs are based on the results of the travel forecasting model.

As seen in Figure 4-6, the study area roadways show an increase in ADT on almost all roadways within the study area. However the differences in ADT growth are highly variable in the study area. This is primarily due to the anticipated growth in regional population and employment, as discussed in Section 3, 2030 Socio-Economic Forecasts. Therefore projected 2000 to 2030 ADT increases tend to be higher in the central and eastern portions of the study area. The following are some of the general observations that can be drawn from the change in ADT:

- By year 2030, ADT on Illinois State and U.S. highways within the study area is expected to increase by 76%.
- The County highways are projected to show a 55% increase in ADT by year 2030.
- Peak hour volumes (AM and PM rush hour) on the roadways are expected to increase by 46% between 2000 and 2030.
- The ADT on north-south State and U.S. highways is projected to increase nearly 85% over the next 30 years.
- The east-west Interstate, State and U.S. highways are projected to show a 71% increase in ADT by year 2030.

Table 4-2 shows the projected increases in ADT based on the functional classification and number of lanes of Interstate, U.S. and State study area roads. The discussion below only provides a general range of increases in ADT since ADT varies considerably along a route. Figure 4-5 should be used to provide an overall study-area wide perspective of ADT differences within the study area.

Table 4-2: Projected ADT Change by Functional Class on U.S., State and Interstate Roads

Functional Class	30-Year Growth (2001-2030)					
	2-Lanes		4-Lanes		6-Lanes	
	East-West	North-South	East-West	North-South	East-West	North-South
Principal Arterial - Interstate			46%		31%	
Other Principal Arterial	48%	75%	49%	78%		49%
Rural Minor Arterial	163%	232%				
Urban Minor Arterial	95%	41%		30%		
Rural Major Collector	114%					

By year 2030, ADT on 4-laned and 6-laned Principal Arterial-Interstate roadways is expected to increase by 46% and 31% respectively. On I-80 the projected increase in ADT ranges from 56% in the western end of the study area to 38% in the eastern end. Projected ADT growth on I-88 ranges from 65% in the western end of the study area to 31% in the eastern end.

Other Principal Arterials carrying north-south traffic are expected to show relatively higher increases in ADT than those carrying east-west traffic. ADT on the 2-laned, 4-laned and 6-laned Other Principal Arterials carrying north-south traffic is projected to increase by 75%, 78% and 49% respectively. Specific 30-year projected ADT growth on north-south Other Principal Arterials includes IL 47 ranging from 77% in the southern end of the study area to 74% in the northern end; IL 59 ranging from 81% in the southern end to 49% in the northern end; IL 71 ranging from 136% in the southern end to 54% in the northern end; Orchard Road ranging at 62% growth South of I-88; Randall Road ranging from 22% south of IL 38 to 58% south of IL 64; Kirk Road ranging from 37% at IL 56 to 20% in the northern end.

East-west Other Principal Arterials expected to show a large increase in ADT include US 30 with the ADT increase ranging from 26% at IL 47 to 82% in the eastern end of the study area; US 34 with growth in ADT ranging from 84% at IL 71 to 83% in the eastern end; IL 64 with ADT increase ranging from 13% in the western end to 18% in the eastern end of the study area; and Fabyan Parkway with an expected ADT increase ranging from 28% east of Randall Road to 26% east of IL 31.

Rural Minor Arterials are projected to show the highest increase in ADT by year 2030. The facilities carrying north-south traffic are expected to show relatively higher increase (232%) in ADT than those carrying east-west traffic (163%). These include IL 23 with a projected increase in ADT ranging from 136% in the southern end of the study area to 224% in the northern end. East-west Rural Minor Arterials expected to show major increases in ADT include US 34 with a projected ADT increase ranging from 130% in the western end to 38% in the central portion of the study area; US 52 with the ADT increase ranging from 372% in the western end to 156% in the central portion of the study area; US 30 with ADT increase ranging at 118% in the western portion of the study area.

By year 2030, ADT on 2-laned and 4-laned U.S. and State Urban Minor Arterials is projected to increase by 68% and 30% respectively. The 4-laned facilities include IL 31 with a projected increase in ADT ranging from 34% at US 30 to 22% in the northern end of the study area. The 2-laned Urban Minor Arterials include IL 126 with a projected ADT increase ranging at 95% in the central portion of the study area; Orchard Road with a projected ADT increase ranging from 33% at US 34 to 114% at US 30; Somonauk Road ranging at 50% in the northern end of the study area; Caton Farm Road with an expected ADT increase ranging at 90% in the eastern portion of the study area.

The Rural Major Collector system within the study area which is entirely comprised of 2-laned east-west roadways is projected to show an increase of 114% in ADT by year 2030. Facilities projected to show higher growth in ADT include Somonauk Road with ADT growth ranging from 183% at US 34 to over 59% in the northern end of the study area; Ridge Road with ADT growth ranging from 29% at I-80 to 36% at IL 126: Jericho Road with increase in ADT ranging from 300% east of IL 47 to over 306% west of Orchard Road.

Current and Projected Change in Study Area Truck Traffic

Figure 4-7 depicts the current average daily truck traffic on existing truck routes within the study area and Figure 4-8 shows the 2000 to 2030 change in truck traffic. The current average daily truck traffic was obtained from IDOT's count database. For Interstates, U.S. and State highways, the current average daily truck traffic was recorded in 2001. The 2000 to 2030 change in average daily truck traffic are based on the results of the travel forecasting model.

Currently, the designated Illinois State and U.S. truck routes within the study area carry nearly 250,000 trucks per day which constitute over 10% of the total ADT on these routes. Among the north-south highways, IL 47, IL 59 and IL 71 are the major carriers of truck traffic. IL 47 is the major carrier of truck traffic in the central region of the study area. The average truck ADT constitutes over 17% of the total ADT on this highway. The truck volume on IL 47 ranges from 2,900 vehicles per day in the southern end of the study area in Grundy County, 2600 trucks per day in the central section and 2,050 trucks per day in the northern end in Kane County. IL 59 is another major carrier of truck traffic in the study area region east of IL 47. The average truck ADT constitutes over 10% of the total ADT on this highway. The truck ADT on IL 59 in Will County ranges from 1,700 vehicles per day in the southern end of the study area to 4,500 vehicles per day in the northern end. IL 71 is a major carrier of truck traffic west of IL 47. The average truck traffic constitutes over 11% of the total ADT on this highway ranging from 950 vehicles per day in the southern end in LaSalle County to 1,100 vehicles per day in the northern end in Kendall County. As a percentage of the total traffic, truck traffic along segments of IL 23 account for more than 15% of the total ADT.

Among the east-west highways, the interstate highways I-80 and I-88 are major carriers of truck traffic. I-80 carries greatest amount of truck volume within the study area. The average truck ADT constitutes nearly 35% of the total ADT on this highway ranging from 9,700 vehicles per day in the western end of the study area in LaSalle County to 16,000 vehicles per day in the eastern end in Will County. Truck volumes are also very high on I-88. The average truck ADT constitutes over 20% of the total ADT on this highway. On I-88,

the truck ADT ranges from 3,150 vehicles per day in the western end of the study area in DeKalb County to 6,000 vehicles per day in the eastern end in Kane County.

The non-interstate east-west major truck routes include US 30 and US 52. The average truck ADT on US 30 constitutes 11% of the total ADT on this highway ranging from 800 vehicles per day in the western end of the study area in DeKalb County to 1,950 vehicles per day in the eastern end in Will County. The truck ADT on US 30 is relatively higher in the central section of the study area near Sugar Grove. The truck volume on US 52 ranges from 275 vehicles per day in the western end of the study area in LaSalle County to 1,800 vehicles per day in the eastern end in Will County. The average truck ADT on this highway constitutes nearly 13% of the total ADT on this highway.

By year 2030, the total daily truck volume on the designated Illinois State and U.S. truck routes within the study area is projected to increase by over 17,000 vehicles per day. This constitutes an increase of over 63% over existing levels. In the CATS long range transportation plan, truck growth was also forecast to increase over 50% on a region wide basis. Figure 4-8 illustrates the change in average daily truck traffic on designated Illinois State and U.S. truck routes within the study area.

As seen in Figure 4-8, among the north-south highways, truck volumes are projected to increase substantially on IL 47, IL 23, IL 59 and IL 71. By year 2030, average truck ADT on IL 47 is projected to increase by over 1,700 vehicles per day which constitutes an increase of nearly 77% over existing volume. The increase is expected to be more pronounced on segments in the southern portion of the study area between I-80 and IL 126 and segments in the northern portion between US 30 and IL 64. Average truck ADT on IL 23 is projected to increase nearly 92% over existing levels. This increase is expected to be more noticeable on segments between I-80 and I-88. Average truck ADT on IL 59 is projected to increase by over 74%. Segments on this highway between US 52 and US 34 are expected to show higher increases in daily truck traffic. Average truck volume on IL 71 is projected to increase nearly 67% by year 2030. This increase is expected to be more prominent on segments between I-80 and US 52.

Among the east-west highways, I-80 and I-88 are projected to show substantial increases in truck volume. On I-80, the average daily truck volume is projected to increase by over 4,600 vehicles per day which represents an increase of nearly 43% over existing truck volume. The increase ranges from 55% in the western end of the study area to over 21% in the eastern end. Average truck ADT on I-88 is expected to increase by over 2,300 vehicles per day which represents an increase of nearly 49% over existing levels. The increase in truck ADT ranges from 65% in the western end of the study area to 32% in the eastern end.

US 30, US 34 and US 52 are also projected to show major increases in daily truck volume. Average truck ADT on US 30 is projected to increase by over 66% over existing levels. The increase is expected to be more noticeable on segments west of IL 23 and on segments east of IL 31. Average truck ADT on US 34 is projected to increase by 83%. This increase is expected to be more pronounced on segments west of Somonauk Road in the western portion of the study area and on segments east of IL 31 in the eastern portion. On US 52, the average truck ADT is projected to increase by 145%. The segments on this highway west of Somonauk Road/CR 2 and east of IL 47 are expected to show higher increase in truck volumes.

Intermodal Facilities

In 2002, FHWA's Office of Freight Management and Operations estimated that over 50% of U.S. rail intermodal traffic touches the Chicago region. In addition, FHWA's Office of Freight Management and Operations forecast that by 2020 the volume of freight would increase by 160%. The FHWA expressed concern that this dramatic increase brings into question the adequacy of rail, highway and intermodal facility capacity to handle the growing volume of freight. Should capacity issues constrain freight movement the likely result will be increased costs to commuters and consumers via transportation cost increases.

Section 4 Highlights

- Demand on roadways has been increasing steadily over the last 20 years. The increase has been more pronounced on lower functional class facilities particularly Rural Major Collectors and Rural Minor Arterials.

- The increase in volumes is greater in the central and eastern portions of the study area and become less pronounced to the western portions.
- Major north-south routes (IL 23, IL 47 and IL 59) show increases in traffic volumes greater than 5,000 vehicles per day.
- Existing truck volumes are higher in the eastern portion of the study area and on IL 47.
- By year 2030, ADT on Illinois State and U.S. highways within the study area is expected to increase by 76%.
- The County highways are projected to show a 55% increase in ADT by year 2030.
- The ADT on north-south State and U.S. highways is projected to increase nearly 85% over the next 30 years.
- The east-west Interstate, State and U.S. highways are projected to show a 71% increase in ADT by year 2030.
- All the major north-south highways within the study area, IL 23, IL 47 and IL 59 are expected to show a substantial increase in daily volume.
- The Rural Minor Arterials running east-west are expected to show an increase of 163% in ADT. The north-south Rural Minor Arterials are expected to show an increase of 232% in ADT.
- Truck traffic is expected to increase over 60%. IL 47, IL 59, I-80 and I-88 are expected to show larger increases in truck volume.

SECTION 5 – TRANSPORTATION PERFORMANCE MEASURES

Introduction

Transportation system performance measures are used to evaluate the adequacy and ability of the transportation system in meeting performance goals. They reflect the operating conditions of the transportation system, given a set of transportation infrastructure and service conditions. For this study, the various types of transportation system performance measures have been categorized as follows:

- Transportation congestion measures
  - Level-of-service (LOS)
  - Volume to capacity ratio (v/c)
  - Screen lines
  - Travel density
- Transportation accessibility and mobility measures
  - Trip ends (where trips are occurring)
  - Trip distribution (local versus one or both trip ends outside study area)
  - Vehicle miles of travel (VMT)
  - Access to jobs
  - Travel time contours
  - Transit service threshold
- Transportation safety measures
  - High crash locations

These transportation system performance measures are presented below.

Level-of-Service

The level-of-service (LOS) is a transportation congestion measure that represents the collective factors of speed, travel time, traffic interruption, freedom to maneuver, safety, driver comfort and convenience, and operating volume. Level-of-service procedures from the Highway Capacity Manual (HCM) were used to estimate highway performance within the study area. The HCM defines six levels-of-service, ranging from A to F. LOS A represents the best operating conditions and LOS F the worst. Each of these levels represents a range of operating conditions and the driver's perception of these conditions. The HCM defines the operating conditions for each level of service as follows:

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.

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 disruption.

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 the 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.

Segment LOS Approach

Since most of the study area is rural in nature with some suburban sections further east, and since a majority of the roadways are 2-laned lower functional class facilities, the LOS analysis was performed using rural highway operations standards and operations criteria. This analysis included identifying highway segments with the same speed limit and number of lanes. The data required for the analysis was obtained from IDOT's Illinois Roadway Information System (IRIS) and the travel forecasting model. The Highway Capacity Software (HCS) was used to evaluate the highway operations for existing and future year conditions. The segments where the operating speed was 40 mph or less (typically urban segments controlled by traffic signals) were not analyzed.

IDOT policy indicates that due to the high level of service expected 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. Therefore, 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.

Figures 5-1 and 5-2 depict the results of the highway segment capacity analyses for the conditions described above for existing and 2030 baseline traffic conditions.

Segment Capacity Analysis Results for Existing and 2030 Baseline Conditions

Principal Arterials-Interstates

Most of the segments on I-80 and I-88 are currently operating at acceptable levels of service. A few segments on I-80 in the eastern portion of the study area are projected to operate under LOS D conditions for future conditions. By year 2030, the segments on I-88 are projected to operate under LOS B/C conditions west of IL 56 and under LOS C/D conditions between IL 56 and IL 31. The segment on I-88 east of IL 31 is projected to operate under LOS E conditions.

Other Principal Arterials

IL 47, which is the major carrier of north-south traffic in the central portion of the study area with a high percentage of truck traffic, contains numerous segments indicating LOS C, D and E/F conditions. The existing level of service on IL 47 between I-80 and Yorkville is LOS C during peak hours. By 2030, this section of IL 47 is operating at LOS D. IL 47 is currently operating at LOS D north of Yorkville to the Kane/Kendall county line, and from just south of I-88 to the north. Almost all segments of IL 47 north of Yorkville are projected to operate under LOS E/F conditions by year 2030.

IL 59, which is also a major carrier of north-south traffic in the eastern portion of the study area with a high percentage of truck traffic, contains segments currently operating under LOS C and LOS E. The segments south of US 30 are currently operating at LOS E conditions. These segments are currently comprised of 2-lane sections and are scheduled to be widened to 4-lanes prior to the year 2030. With these improvements, the level of service is projected to improve to LOS D with two segments shown as LOS B and F. The multilane segments on IL 59 north of US 30 are currently operating under LOS C conditions and are projected to operate at LOS D in year 2030.

Segments on IL 71, another major carrier of north-east and south-west truck traffic, between I-80 and IL 47 are currently operating at LOS C conditions. Segments on IL 71 north of IL 47 are currently operating under LOS D conditions. By the year 2030 these segments are projected to operate under LOS D conditions except for the two mile segment from Orchard Road to US 34 in Oswego. This section, currently 2-laned and operating at LOS D is projected to improve to LOS B due to the planned widening to a 4-laned section.

US 30 is an 'other principal arterial' east of IL 47 which is a major carrier of east-west traffic with a high percentage of truck volume. Along US 30 the segment from IL 47 to Wolfs Road is operating at a LOS E and a LOS D from there to IL 126. By the year 2030 these segments are projected to operate under LOS E/F.

Illinois 64 from Randall Road to IL 47 is operating a LOS E and is projected to remain at a LOS E in the year 2030. Along IL 64 from IL 47 to the west the LOS is presently a LOS C and is projected to remain at LOS C for the year 2030.

US 52 east of Ridge Road is an 'Other Principal Arterial' (OPA) and is operating at a LOS C and projected to function at a LOS D in the year 2030. US 6 east of I-55 is an OPA and is currently operating under LOS D conditions and in 2030 is projected to operate at a LOS E. IL 38 is an OPA east of IL 47 and is operating at a LOS D to Randall Road, IL 38 is projected to remain at a LOS D in the year 2030. Fabyan Parkway from the east project limit (DuPage County Line) to Randall Road is presently operating at a LOS F and is projected to remain at a LOS F. Orchard Road currently a 2-lane section is planned for expansion to a four lane cross section which will improve the LOS from LOS D to C.

Urban Minor Arterials

Segments on Orchard Road between US 34 and US 30 and Randall Road between Galena Boulevard and Oak Street, currently operating under LOS D conditions are projected to operate under LOS E conditions.

On Caton Farm Road, the segment east of IL 59, currently operating under LOS E conditions, is projected to operate under LOS F conditions. However, the segment on Caton Farm Road between Ridge Road and IL 59, currently 2-laned and operating under LOS D conditions, is projected to show an improvement in level of service (LOS C) due to the planned widening of this segment to a 4-lane section.

Rural Minor Arterial

On IL 23 the segments between I-80 and I-88 are currently operating under acceptable levels of service (LOS B/C). For year 2030, the segments on IL 23 between I-80 and US 52 and between US 30 and I-88 are projected to operate under D conditions. The segment of IL 23 from US 52 to US 30 will function at a LOS C.

US 30 is a rural minor arterial beginning west of Sugar Grove and extending to the western project limit. The segment between Sugar Grove and Somonauk Road currently operates at a LOS D and is projected to operate at LOS E. Segments on US 30 west of Somonauk Road currently operating under LOS C conditions are projected to show a deterioration in level of a service, LOS D.

On US 34, the segments west of IL 47 that are currently operating at LOS C and LOS D/E are projected to show a deterioration in level of service to a LOS E from Yorkville to Sandwich and LOS D west of Sandwich to the south junction of IL 23.

On US 52 the segment from Ridge Road to IL 47 are currently operating at LOS C and are projected to operate at LOS D in the year 2030. The segment of US 52 from IL 47 to IL 23 is presently functioning at a LOS B and is forecast to operate at a LOS C in the year 2030.

Segments on US 6 between IL 71 and IL 170 and between County Line Road and I-55 currently operating under LOS C and LOS D conditions are projected to operate under LOS D and LOS F conditions respectively.

Rural Major Collector

On IL 126 between IL 47 and Ridge Road which is currently operating at LOS E conditions will function at LOS E in 2030. The segment on IL 126 between Ridge Road/CR 11 and US 30 currently operating under LOS D conditions is projected to operate at LOS E conditions.

On Ridge Road/CR 11 a high percentage of truck traffic exists however the LOS is currently operating at LOS A/B/C and in 2030 will operate at LOS B/C/D, the LOS D segment occurs between US 6 and I-80.

Segments on US 6 between Seneca and Saratoga Road and between Briscoe Drive and County Line Road currently operating under LOS C conditions are projected to operate under LOS D conditions.

Jericho Road/CR 24 between Ashe Road and IL 47 is currently operating at LOS C and is projected to operate at a LOS D in 2030. The segment of Jericho Road from IL 47 to Orchard Road is also projected to operate at LOS D. At Jericho Road and Dugan Road, considerable traffic uses Dugan Road, a Local Road, for north-south travel and causes the LOS on Dugan Road from Jericho Road to US 30 to deteriorate from a LOS A to LOS E. Further north on Dugan/Scott Road from US 30 to IL 47 the LOS is currently LOS A and LOS D in 2030.

CR 2 in LaSalle County indicates no change in LOS from current operations to 2030, LOS A. Segments on Somonauk Road are operating at LOS A and B and will function adequately in 2030 with LOS ranges of B and C.

Local Roads

Although Local Roads were not explicitly analyzed, it was evident that the traffic model increased traffic on various local roads around IL 47 where traffic diversions would provide relief to the overall highway network. Traffic increases varied considerably, with Dugan Road projected to have a 14,000 increase in ADT, Eldamain Road a 2,500 increase, and Clark Road a 7,200 increase in ADT between 2000 and 2030.

Volume to Capacity Ratio (V/C Ratio)

Another measure of how well a roadway segment is functioning is the volume to capacity ratio (v/c ratio). The volume or "v" is the number of vehicles driving on a roadway segment. The capacity portion of the equation "c" is the number of vehicles the subject 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. Another way to view this situation is that 100% of the capacity of the roadway has been used. Once capacity is reached (v/c > 1) operations become very unstable and vehicles are operating with the minimum spacing between them in order to maintain uniform flow and vehicle speeds are highly variable. Minor disruptions within the traffic stream cannot be dissipated and their occurrence will result in operations that deteriorate to LOS F.

When traffic is projected 20 to 30 years into the future, it should to be recognized that the traffic forecasts may not be realized if the assumptions regarding the future population and employment projections are not realized. Thus, safeguards should be built in to the evaluation process. Frequently when the volume to capacity ratio reaches one it is often referred to as the theoretical capacity since other operational characteristics of a highway effect capacity including the number of driveways along a facility, the geometric design/layout of the facility, etc. Therefore in consideration of these variables, should a volume to capacity ratio exceed 85%, mobility and/or geometric enhancements should be pursued.

Figure 5-3 and 5-4 show the ranges of the volume to capacity ratios for the year 2000 and 2030. To summarize, the 2030 volume to capacity ratios show a continuation of the congestion presently occurring in the eastern section expanding into the majority of the highways within the central portion of the study area. The western section also shows additional congestion along Illinois 71 and US 34 including a short segment of US 30.

Screen Line Analysis

Two sets of screen lines were established to capture both north-south travel and east-west travel in the study area. Screen line volumes include all traffic on roads crossing each screen line. Screen lines measure how much interaction there is between the areas separated by the screen line. These two sets of screen lines, shown in Figures 5-5 and 5-6, describe the change in north-south and east-west travel in the study area between 2000 and 2030.

To measure the change in north-south travel from 2000 to 2030, one screen line was placed generally parallel to US 30, in the northern portion of the study area, extending from IL-23 to just east of the Fox River. The southern screen line was placed generally parallel to US 52 from IL-23 to the Kendall/Will County line. These two screen lines that are measuring the change in north-south travel in the study area are shown in Figure 5-5. Traffic is forecast to grow substantially across both screen lines between 2000 and 2030. North-south travel along the US 30 screen line increases by 118,900 vehicles per day. Looked at in another way, the total volume of traffic divided by the total capacity of roadways crossing this screen line is 1.0 in 2000 and 1.7 in 2030. This means that total north-south traffic traversing the US 30 screen line is at capacity in 2000 and 1.7 times capacity in 2030. For the US 52 screen line, north-south travel increases by 41,900 vehicles per day. The total volume of north-south traffic divided by the total capacity of roadways crossing the US 52 screen line is 0.5 in 2000 and 0.9 in 2030.

This forecast increase in north-south travel is not, however, uniform across the study area. Figure 5-5 shows the forecast growth along these two screen lines with arrows at each road crossing location. The width of these arrows across the screen line represent the change in 2000 to 2030 screen line crossing volumes. This figure clearly depicts that most of the larger growth areas along the screen line are in the central and eastern portions of the study area.

To capture east-west travel, one screen line was located along the Fox River from south of I-88 extending south to just north of I-80. The other screen line is approximately midway between IL 23 and IL 47. It runs along the county borders separating DeKalb, Kane, LaSalle, Kendall and Grundy counties between I-88 and I-80. Traffic volume growth along the Fox River extended screen line between 2000 and 2030 is somewhat more that 69,100 vehicles per day. Growth is highest in the northern portion of the study area. The total volume of east-west traffic divided by the total capacity of roadways crossing the Fox River extended screen line is 0.9 in 2000 and 1.2 in 2030. The forecast growth along the western screen line at the LaSalle/DeKalb-Kendall border is 17,900 vehicles per day. The growth is very evenly distributed along the screen line. The total volume of east-west traffic divided by the total capacity of roadways crossing this western screen line is 0.4 in 2000 and 0.7 in 2030.

Travel Density

A more generalized transportation congestion measure, referred to as "travel density," was developed to capture the change in traffic on all roads. Travel density is the vehicle miles of travel (VMT) per square mile. The number of vehicles on each road link multiplied by the length of that road link (resulting in vehicle miles of travel) is summed for each square mile transportation analysis zone. This travel density calculation was performed for 2000 and the 2030 baseline highway networks. The difference in VMT density between 2000 and 2030 is a good indicator of where current levels of service are likely to decline in the future. Since the 2030 study area highway network contains only relatively minor increases in road capacity, the growth in travel density must be accommodated to a large extent on local and lower functional class roads.

Figure 5-7 indicates that the largest areas forecast to experience higher growth in VMT density between 2000 and 2030 are western Will County, southern Kane County, northern Kendall County, as well as along the major roadways in the study area.

Trip Ends

Figures 5-8 and 5-9 depict the 2000 to 2030 change in work trip attractions and total trip productions. Figure 5-8 shows the 2000 to 2030 change in work vehicle trip that are destined to the study area. This change in work trip destinations is a good indicator of where peak period congestion will likely increase. Within the study area, the most notable locations for growth in work trip destinations are:

- Eastern portion of Kane County
- Northern portion of Kendall County
- Western Will County
- Northeast portion of Grundy County
- DeKalb area

For example, there are projected increases in 2000 to 2030 work trip attractions in northern Kendall County from Oswego to Sandwich along US 34. Western Will County is expected to have an increase in 2000 to 2030 work trip attractions to levels similar to those existing in the Fox Valley communities. In Kane County north of I-88, work trip attractions are expected to grow, but not quite reach current levels of today's Fox Valley communities. South of I-88, in Kane County, the area centered on IL 47 is forecasted to have increases in work trip attractions through the Yorkville area and in the Morris area. The DeKalb-Sycamore area and several areas along US 6 are also showing projected increases in work trip attractions.

Figure 5-9 shows the 2000 to 2030 change in total vehicle trip productions in the study area. Total vehicle productions indicate where trips for all purposes and by all vehicle types originate. This includes work trips, shopping trips, recreational trips, delivery trips, and commercial vehicle trips, and vehicle trips by autos, SUVs, vans, trucks, and other commercial vehicles. This is a good measure of where increases in traffic levels can be expected, as concentrations of these total trip origins do not vary as much by time of day as do work trips alone. In this case, growth in total trip originations is most notable along IL 64 and IL 38 from the Fox Valley to IL 47; from Aurora to west of IL 47; along US 34 in northern Kendall County; and in Will County immediately adjacent to Kendall and Grundy counties.

Trip origins and destinations emphasize where changes in trip making are forecast to occur. Change in trip making can also be portrayed in terms of totals for the area of interest. Table 5-1 shows a summary of work vehicle trip destinations and total vehicle trip origins for the study area that were portrayed in the figures.

Table 5-1: Study Area Trips, VMT and VHT

Travel Measure	2000	2030	% Change
Work Vehicle Trip Destinations	305,600	556,400	+ 82%
Total Vehicle Trip Origins	1,239,200	2,181,900	+ 76%
Vehicle Miles of Travel (VMT)	18,790,800	27,096,500	+ 44%
Vehicle Hours of Travel (VHT)	581,900	928,100	+ 59%

The work and total trip categories are anticipated to grow by around 80% between 2000 and 2030 in the study area. The above table shows two other measures of travel change in the study area. Vehicle miles of travel (VMT) is the sum of all trip distances within the study area and is a good measure of the total amount of travel taking place. For the study area, VMT is forecast to grow by 44% between 2000 and 2030. A similar measure, vehicle hours of travel (VHT) is the sum of all trip times within the study area. This measure will increase by 59% between 2000 and 2030. Since VHT grows faster than VMT in the study area, these measures together indicate that overall travel will be slower in the future than in the current case.

Trip Distribution

Trip distribution describes where trips originate and are destined. The change in county-to-county travel between 2000 and 2030 is presented below. Table 5-2 presents the change in work-related vehicle trips between 2000 and 2030. For example, the number of work-related vehicle trips within DeKalb County increases by 13,700 per day, and there is an increase of 8,500 work-related vehicle trips per day between DeKalb and Kane Counties. As expected, internal county trips for each of the six counties included in the study area exhibit high growth for each county. In addition, there is substantial growth in work-related vehicle trips from Kendall County to Kane and Will Counties. This growth exceeds the growth of internal work-related vehicle trips within Kendall County. Will County is showing substantial growth in overall work-related vehicle trips.

Table 5-2: Change in Work Related Vehicle Trips: 2000 to 2030

		To							
		Cook	**DeKalb**	**DuPage**	**Grundy**	**Kane**	**Kendall**	**LaSalle**	**Will**
From	**DeKalb**	Negligible	+13,700	Negligible	Negligible	+8,500	+1,300	Negligible	Negligible
	Grundy	Negligible	Negligible	Negligible	+6,100	Negligible	+1,000	Negligible	+7,300
	Kane	+7,400	+8,000	+17,700	Negligible	+110,100	+11,000	Negligible	+4,200
	Kendall	Negligible	+1,300	+3,700	+1,100	+12,100	+6,800	Negligible	+8,000
	LaSalle	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	+16,400	Negligible
	Will	+48,800	Negligible	+24,500	+7,000	+4,300	+7,500	Negligible	+232,100

Note: Negligible is a change less than 1,000 trips

Figure 5-10 depicts the change in work-related vehicle trips between 2000 and 2030 for Kendall County.

The change in county-to-county total vehicle trips between 2000 and 2030 is shown in Table 5-3. The largest change for each county is in internal trips within that county. There are large changes in total vehicle trips from Kane to Kendall County, from Grundy to Will County, from Kendall to Kane County, and from Will County to Cook and DuPage Counties.

Table 5-3: Change in Total Vehicle Trips: 2000 to 2030

		To							
		Cook	**DeKalb**	**DuPage**	**Grundy**	**Kane**	**Kendall**	**LaSalle**	**Will**
From	**DeKalb**	Negligible	+56,300	Negligible	Negligible	+10,400	+2,600	Negligible	Negligible
	Grundy	Negligible	Negligible	Negligible	+32,400	Negligible	Negligible	Negligible	+18,300
	Kane	+26,400	+9,800	+35,800	Negligible	+518,300	+23,400	Negligible	+8,800
	Kendall	Negligible	+2,700	+4,000	Negligible	+22,900	+69,800	Negligible	+16,900
	LaSalle	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	+55,000	Negligible
	Will	+143,300	+2,200	+47,600	+17,200	+8,900	+16,800	+3,400	+1,161,800

Note: Negligible is a change less than 2,000 trips

Accessibility to Jobs

To have access is to have the opportunity to reach a given end use within a certain time frame, or 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. This section will address this accessibility by showing how many current jobs and future jobs can be reached in several time intervals for 2000 and 2030. Secondly, travel time contours from selected locations in the study area are presented for current and 2030 travel conditions. Travel time contours are maps showing how far it is possible to travel in some amount of time; e.g., 20 minutes, using color or shading to differentiate time bands. Comparing travel time contours from the same starting point for 2000 and 2030 illustrates how the time to access locations will change in the future due to the general increase in traffic. In general, due to increased traffic congestion, 2030 accessibility is less than 2000 accessibility.

Accessibility to Current Jobs

Table 5-4 shows the number of existing jobs that are accessible within four travel time bands in 2000 and 2030. This is a regional accessibility measure in that it potentially includes 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 in that the jobs within 20 minutes are part of the within 40 minute sum, but there is no double counting of jobs if they are reachable from several zones inside the study area. For example, for travel times less than or equal to 20 minutes from the study area, 502,500 current jobs can be reached in 2000, and 433,800 current jobs based on 2030 travel times, a decline of 14%. As shown in Table 5-4, accessibility to current jobs decreases between 14% and 17% for travel times less than or equal to 60 minutes from the study area.

Table 5-4: Accessibility to Current (2000) Regional Jobs

Travel Time	2000	2030	% Change
Less than or equal to 20 minutes	502,500	433,800	- 14%
Less than or equal to 40 minutes	854,500	707,500	- 17%
Less than or equal to 60 minutes	1,499,100	1,243,900	- 17%
Less than or equal to 90 minutes	2,956,900	2,788,600	- 6%

Accessibility to New Jobs

Another way of presenting this job accessibility measure is by comparing the number of new jobs (jobs added between 2000 and 2030) that can be reached given current and 2030 travel conditions. This 2000 to 2030 comparison in accessibility to new jobs is presented in Table 5-5. For travel times less than or equal to 20 minutes, 380,000 new jobs could be reached based on 2000 travel times, versus 350,500 new jobs in 2030 from the study area, a decline of 8%. As shown in Table 5-5, accessibility to new jobs decreases between 8% and 13% for travel times less than or equal to 60 minutes from the study area.

Table 5-5: Accessibility to New (2000-2030) Regional Jobs

Travel Time	2000	2030	% Change
Less than or equal to 20 minutes	380,000	350,500	- 8%
Less than or equal to 40 minutes	604,400	528,300	- 13%
Less than or equal to 60 minutes	910,400	797,700	- 12%
Less than or equal to 90 minutes	1,250,300	1,168,700	- 7%

These results for accessibility to current and new jobs from the study area show that accessibility to jobs is always worse in 2030 due to increase traffic congestion that results in increased travel times.

Travel Time Contours

Travel time contour maps show estimates of how far a vehicle can travel within specified time bands, and are another general measure of accessibility. Comparing 2000 and 2030 travel time contours for the same origin provides insight into how future growth in traffic will affect how easy it is to travel to various places within the study area. Figures 5-11 through 5-14 show 2000 and 2030 travel time contour maps of 15 minute band travel time contours from several locations in the study area. For example, looking at Figure 5-11, the maps for travel originating in Sugar Grove, it is clear that the less than 15 minute time band generally shrinks the most in the west, south, and east directions from Sugar Grove. The less than 30, 45, and 60 minute time bands also shrink in a similar pattern, but most noticeably in the east direction.

In Figure 5-12, for the newly developing part of west Joliet in Kendall County, all the time bands contract symmetrically, except to the south where getting across the Illinois appears to become much more time consuming in the future. The travel time contours from Yorkville in Figure 5-13 show a general contraction in 2030 compared to 2000, but most markedly to the north where the time bands are considerably closer to the origin in the future. Figure 5-14 shows the travel time contours for Morris generally contract between 2000 and 2030.

Transit Thresholds

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 combined total of 4,000 residents and employees for analyzing the area for regular fixed-route service. For commuter rail feeder service, which has limited service during peak periods and terminates at the rail station, Pace looks for a 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% of the area meeting the base threshold. Pace also looks to provide service to 90% of the population within a half-mile of the fixed route. 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.

For the study area, an analysis of the existing and forecast population and employment levels was completed to assess potential areas for transit service. Results of this analysis are shown in Figures 5-15 and 5-16. For 2000, Pace provides service in areas that meet the thresholds. For 2030, there are several areas that offer opportunities for bus service based on the Pace criteria. The areas currently within the Pace service area that appear to warrant new Pace service include Sugar Grove in Kane County and western Will County. Opportunities appear in Kendall County along the US 34 corridor in Plano and Yorkville and in the Oswego, Boulder Hill and Montgomery area. However, expanding the Pace service area may require legislative approval or at least some funding mechanism for the new services.

High Crash Locations

IDOT maintains an extensive data base of crash data referred to as the High Accident Location Identification System (HALIS). This HALIS data base is used to document and identify crash locations for the Hazard Elimination Safety (HES) program funded by the Federal Highway Administration (FHWA) and to provide crash data to the National Highway Traffic Safety Administration where data is aggregated on a nationwide basis for use in addressing progress in federally funded and/or mandated programs. In addition, IDOT uses crash data analyses on project specific highway studies to evaluate, address and propose countermeasures that enhance traffic safety and in programming functions.

Regarding the HES program, high crash locations are identified as either spots or segments; a spot refers to a junction, i.e., an intersection or freeway entrance or exit and a segment refers to a highway segment varying in length. Crash data is typically analyzed for the most current three years, which at the time of this evaluation included the years 1999 to 2001.

Several measures are employed by IDOT to identify high crash locations: critical crash frequency, critical crash rate, and critical equivalent property damage only (EPDO). Should a highway exceed any of the three crash criteria they are identified as a high crash location. Crash frequency refers to the total number of accidents that occur at either a spot or crashes per mile for a segment. Segments do not need to be a mile in length to be a high crash location however they must meet the crash per mile criteria for a shorter segment, say for a ½ mile segment the critical frequency per mile would be divided by two.

The second measure, critical crash rate is used in recognition of the fact that highway segments or intersections with a high volume of traffic will have a much higher frequency of accidents than low volume highways. Therefore to account for this, the spot or segment must exceed the critical crash rate which is expressed as crashes per million vehicle miles (MVM) traveled.

The third measure, equivalent property damage only (EPDO) considers another facet of highway crashes where a highway spot or segment is identified as a high crash location due to the severity of the accident. The EPDO measure flags locations that may have a low frequency and rate of crashes but when accidents occur, they are extremely severe relative to injuries or fatalities. Therefore, high crash locations based on the EPDO measure are based on the severity of the crash and are rated by assigning weighting factors to each injury and fatality. Based on these measures, a high crash location map is developed and along with the associated data is provided to district offices for analyses.

Figure 5-17 depicts the high crash locations within the study area which includes data for the years 1999 to 2001. It can be seen that most of the high crash locations and segments are located in Kane, Kendall and Will Counties. The following paragraphs present a generalized discussion regarding some of the most common types of crashes that occurred at the study area high crash locations, their contributing factors and mitigation measures. The discussion focuses on crashes within the study area that occur at spot locations, signalized and stop controlled intersections, since spot locations account for the majority of the high crash locations.

At signalized intersection high crash locations, the predominant crash types are rear-end and turning. A typical reason for the occurrence of left turn type accidents at signalized intersections may be attributable to a high volume of left turning traffic that become inpatient, due to long delays, and attempt to extend the green by turning after the signal has turned red or turn during the green indication without an adequate gap in oncoming traffic. Typical countermeasures to address these left turn crashes include one or a combination of signal timing adjustments, adding a left turn signal indication with permissive/protective or protected only phasing, constructing dual left turn lanes, improving left turn sight distance to increase left turn lane throughput, etc. The occurrence of rear-end crashes at high accident locations within the study area is also common at signalized intersections.

Rear-end crashes may be a result of congestion and motorists attempting to go through an intersection when the signal is yellow-red and the vehicle in front of them stops. Rear-end collisions occur far more frequently during peak hours of the day when congestion and associated delays are the greatest. At signalized intersections there is an area along the approach referred to as the dilemma zone where a percentage of motorists will continue through the intersection on a yellow indication while others stop. When conditions become congested and motorist become more aggressive, rear-end collisions become more frequent. Typical countermeasures to decrease rear-end collisions may include one or a combination of the following: providing additional through lanes, adding right or left turn lanes to remove traffic from the through lanes and improve mobility, resurface the roadway with a high skid resistant material, providing larger signal heads for greater visibility, extending left turn lanes to reduce the probability of a left tuner stopping in the through lane, increasing right turn radii to allow for improved turning speeds where the through and right movements share a lane, signal timing adjustments, etc.

At high crash locations that occur along highways where the main highway is free-flow (not stopped controlled) and the cross-road is stop-controlled, the predominant crash types are typically angle and rear-end. Angle type accidents occur when the motorist along the stop controlled side road attempts to enter the main roadway and gets struck by approaching vehicles. Typical countermeasures to address angle crashes include improving the sight-distance from the side road along the main road by clearing brush, trees or obstructions, or by improving geometrics and roadside elements by flattening side-slopes, cutting down vertical curves adjacent to the intersection, flattening horizontal curves, or alerting approaching traffic by adding a flashing yellow beacon along the main road, etc. If traffic volumes meet traffic signal warrants, a traffic signal can be added however crash frequencies typically increase when signals are added although the severity of crashes are typically less severe.

Rear-end crashes that occur along main roads at side roads typically occur due to a left turning vehicle stopping along the main roadway waiting for a gap in on-coming traffic to make a left turn. As vehicles begin to queue behind the left turning vehicle, a motorist rear-ends someone in the queue. Countermeasures to address rear-end collisions caused by left turning vehicles is to provide a left turn lane along the main road to the side road, prohibit left turns at the side road (full time or during peak hours), provide a cautionary flashing yellow beacon to alert motorists and/or resurface the roadway with a high skid resistant material.

2030 Highway Safety Considerations

The anticipated increase in VMT and crashes by functional class of highways in the study area for year 2030 is illustrated in Table 5-6. This is inclusive of almost all of the Illinois State and US highways within the study area and some major county roadways. The number of crashes estimated is based on IDOT's critical crash rates for various functional classes of highways. By year 2030, the total VMT on study area roadways is projected to increase by 46%.

Table 5-6: VMT & Crash Projections for U.S., State and Interstate Routes

Functional Class	Year 2003 VMT	Year 2030 VMT	% Change in VMT	Year 2003 Crashes	2030 Crash Projections	% Change in Crashes
Principal Arterial - Interstate	869,887,600	1,215,455,800	+ 39.7%	1,400	1,690	+ 20.2%
Other Principal Arterial	1,418,228,800	2,041,940,100	+ 44.0%	4,230	6,060	+ 43.2%
Rural Minor Arterial	384,826,400	652,849,100	+ 69.6%	630	1210	+ 90.1%
Urban Minor Arterial	337,407,200	433,182,700	+ 28.4%	680	930	+ 37.1%
Rural Major Collector	149,207,600	269,980,600	+ 80.9%	250	450	+ 80.9%
Total	3,159,557,600	4,613,408,300	+ 46.0%	7,190	10,340	+ 43.6%

As indicated in Section 4 of this report (Table 4-2), traffic volume on lower functional classes is expected to grow at a faster rate than the higher type facilities, reflecting increased congestion on the freeways and principal arterials. The traffic assignment predicts that some trips will be diverted from higher to lower classes of highways to avoid congestion. This is evident in Table 5-6 above. The Rural Major Collectors (81%) and Rural Minor Arterials (70%) are projected to show the highest increase in VMT. VMT on Other principal Arterials and Urban Minor Arterials is expected to increase by 44% and 28% respectively. This increase in VMT is expected to result in an increased number of crashes on these facilities with the crashes on Rural Major Collectors expected to increase nearly 81% and crashes on Rural Minor Arterials projected to increase by over 90%. The total number of crashes on study area roadways is projected to increase nearly 44%. Crashes on Other Principal Arterials and Urban Minor Arterials are projected to increase by over 43% and 37% respectively.

Therefore, it can be seen that an important factor in crash causation is traffic volume. For a given route, increase in traffic volume can generally be expected to result in an increased number of crashes. Not withstanding the decline in crash rates, it can be expected that as

development continues within the study area, that the increase in vehicle mile traveled will have a significant effect on safety.

Therefore to address safety and the additional travel needs in the study area in the most economical, safe and efficient manner, improvements to the transportation infrastructure need to be enhanced.

Section 5 Highlights

- By year 2030, the total vehicle mile of travel (VMT) on study area roadways is projected to increase by 44%.
- The total vehicle hour of travel (VHT) is forecast to increase by 59%. This indicates slower average speeds in 2030.
- The total vehicle trips from the study area are projected to increase by 76%.
- Rural Minor Arterials and Rural Major Collectors are expected to show the greatest increase in demand by year 2030. VMT on these facilities is projected to increase by 70% and 81% respectively.
- Existing peak period levels of service are worse, and volume to capacity ratios are higher, on roadways in the northern, central and eastern portions of the study area.
- For future conditions, peak period levels of service are “D”, “E” or “F” on nearly all major roadways, with the exception of the western portion of the study area.
- The future 2030 volume to capacity ratios are higher on nearly all major roadways, with the exception of the western portion of the study area.
- The largest areas forecast to experience high growth in vehicle miles of travel (VMT) density are located in the eastern and central portions of the study area.
- By year 2030, large increases in north-south travel are projected, with larger growth on north-south roads in the central and eastern portions of the study area.
- Higher overall growth is projected for the north-south roads crossing US 30 than those crossing US 52.
- By year 2030, the east-west travel is also projected to increase with larger growth expected on east-west roads in the central and northern portions of the study area.
- Higher overall growth is projected for east-west roads crossing the Fox River extended south than those east-west roads crossing the Kendall/LaSalle/DeKalb county lines.
- By year 2030, large increases in work trips are projected from Kendall County to Will County (175%), to Kane County (152%) and to Grundy County (101%).
- Accessibility to existing and new jobs is projected to decline by year 2030 due to increased travel times resulting from increased congestion on roadways.
- Existing high crash locations are mostly located in Kane, Kendall and Will counties.
- By year 2030, the probability of crash occurrence on lower functional class facilities, particularly, Rural Minor Arterials (90%) and Rural Major Collectors (81%), is

expected to increase significantly mainly due to the expected substantial increases in total VMT on these facilities.

SECTION 6 – PUBLIC INVOLVEMENT

Introduction

This section summarizes the public involvement input received thus far for the Prairie Parkway Preliminary Engineering Study with regards to transportation and development through stakeholder interviews and focus groups held in 2003.

Stakeholder Interviews

Stakeholder interviews have been an important component of the public involvement effort for the Prairie Parkway Preliminary Engineering Study. As part of IDOT's commitment to a "Context Sensitive Solutions" approach to this study, numerous stakeholder interviews were conducted through personal interviews with elected officials, agencies, business, agricultural interests, environmental and conservation groups, as well as other interested community/civic organizations. Through this series of one-on-one interviews, numerous comments relating to future development, infrastructure improvements and local land resource management plans were gathered, opinions relating to transportation issues in the region collected, and concerns relevant to agricultural, environmental, and other issues have been shared and documented to aid in the conduct of this study.

Stakeholder interviews were conducted with the following counties, municipalities, agencies, and community/civic organizations throughout the 2003 calendar year:

Counties

DeKalb
DuPage
Grundy
Kane
Kendall
LaSalle
Will

Municipalities

Aurora
Batavia
Big Rock
Channahon
Cortland
DeKalb
Elburn
Geneva
Genoa
Hinckley
Joliet
Leland
Lisbon
Marseilles
Minooka
Millington
Montgomery
Morris
Naperville
Newark
North Aurora
Oswego
Ottawa
Plainfield
Plano
Sandwich
Seneca
Shorewood
Somonauk
Sugar Grove
Sycamore
Yorkville

Agencies
Illinois State Toll Highway Authority
Metra
Northeastern Illinois Planning Commission
Chicago Area Transportation Study
Federal Highway Administration

Community/Civic Groups
LaSalle County Farm Bureau
Grundy County Farm Bureau
Kendall County Farm Bureau
Kane County Farm Bureau
Will County Farm Bureau
DeKalb County Farm Bureau
Grundy County Economic Development Corporation
Grundy County Chamber of Commerce
Will County Center for Economic Development
DeKalb County Farmland Foundation
Aurora Chamber of Commerce
Citizens for Aux Sable Creek
Park 88 Industrial Park
Joliet Arsenal Development Authority
Sierra Club, Fox Valley Chapter
Big Rock Historical Society
Plano Economic Development Corporation
Plano Commerce Association
DeKalb County Economic Development Corporation
Sandwich Chamber of Commerce
Sycamore Chamber of Commerce
Oswego Economic Development Corporation
Big Rock Watershed Committee
Yorkville Economic Development Commission
American Farmland Trust
Citizens Against the Sprawlway
The Conservation Foundation
Geneva/St. Charles League of Women Voters

Stakeholder Interviews Approach

The stakeholder interviews were conducted to inform the various stakeholders of the Preliminary Engineering Study and to describe the process that will be followed throughout the study, focusing primarily on Part A, the transportation needs analysis. The stakeholder interviews were also used to gather insight into perceived transportation issues and needs of the area, land use and development plans for the general study area, and gather opinions related to the overall rate of growth in the region and its potential affects on "quality of life" and environmental/conservation conditions of the study area.

As such, there were several topics that were brought up numerous times throughout the stakeholder interview process. The following is a brief synopsis of such topics organized into three general categories: transportation, development, and other comments.

Transportation-Related Comments

During the stakeholder interviews it became apparent that the majority of stakeholders in the study area believed that a need for transportation improvements is imminent throughout the region. Concern over existing and expected future traffic congestion on the existing transportation network in the study area was mentioned in numerous stakeholder interviews. The causes for this increased traffic congestion focused on increased truck traffic in the region, increased commuter traffic, and the high rate of development in the region resulting in a tremendous population increase.

The solutions to these transportation needs however, were not so clearly defined. Opinions on transportation solutions have ranged from improving/expanding existing infrastructure to building a new Interstate facility that would handle the increasing traffic volume and connect I-90 to I-65 in Indiana.

Traffic Congestion

Repeatedly, traffic congestion was a theme that echoed throughout stakeholder meetings in the study area. Traffic facilities felt to be "congested" included:

- IL 47
- IL 64
- IL 38
- IL 59
- US 34
- US 30
- I-55
- I-88
- I-39 (Rockford Area)
- Orchard Road
- Randall Road

Traffic congestion was linked to the high rate of development in the area, population increases, additional commuter traffic, and additional truck traffic throughout the region.

It was expressed that the need to plan ahead for infrastructure improvements is needed in order to avoid future areas of traffic congestion and learn from past mistakes. IL 59, Randall Road, and IL 53 were given as examples of roads that were not planned well and continue to have traffic congestion problems.

Truck Traffic

Concerns with increasing truck traffic throughout the region were identified throughout the stakeholder interview process. Specifically, IL 47 was identified as a major truck route that has had a continuously increasing truck traffic causing concerns with safety in

municipalities such as Elburn, Yorkville and Sugar Grove whose downtown areas are directly affected by the increasing traffic movements on IL 47.

Concerns regarding truck traffic were expressed with relation to the intermodal facilities located in Rochelle, IL and Elwood, IL at opposite ends of the study area. The Rochelle Intermodal facility is described as potentially adding an additional 3,000 trucks per day to the existing traffic, with up to 7,000 additional trucks per day with the build-out of "Park 88" an industrial park located in the City of DeKalb along I-88. Also, the truck traffic generated by the landfill in DeKalb County, described as a major truck traffic generator, has increased traffic on the local roads in the DeKalb County area.

Additionally, the Joliet Arsenal Development Authority and Will County reported that currently the intermodal facility located in Elwood currently generates approximately 200 trucks per day with projections of up to 1,900 additional trucks per day being generated when fully built-out.

Numerous stakeholder interview participants said that trucks travel east-west to eventually find a north-south route to take them through the region while trying to avoid the traffic congestion to the east towards Chicago.

If a new facility is built, it was hoped that it would attract a major portion of the truck traffic that currently contributes to the traffic congestion on local roads. A new facility, in the opinion of many stakeholders interviewed, should be a traffic mover to pull the longer trips from congested local routes.

Proposed Transportation Improvements

Throughout the stakeholder interview process there were many transportation improvements that were identified as needed projects that would help improve the local and regional transportation system in accordance with the opinions expressed. The following are some of the proposed improvements that were brought up at least twice throughout the interviews:

- Brisbin Road Interchange – Connectivity at Brisbin Road and Interstate 80 in Grundy County.
- Wikaduke Trail – Kendall County and the Village of Plainfield have led a land planning study along the proposed Wikaduke Trail that is supported by all local municipalities and counties along the route.
- IL 47 add lanes/improvements in Yorkville, Sugar Grove and Elburn. It was the general opinion that even with a "new" facility, IL 47 will need to be upgraded to meet local traffic demands.
- New "Parkway" to move traffic through the region. Improvement should extend north to I-90.
- Eldamain Road extension – Upgrading the existing Eldamain Road from US 34 south with an addition of a new Fox River crossing and improvements south to IL 71.
- New north-south facility west of IL 47 – It was the opinion of many that an eastern alignment would impact many existing and planned developments.

- Additional bridge crossing east of IL 47 and west of Orchard Road.
- I-55 add lanes needed from Weber Road to south.
- I-355 south extension.
- Additional overpasses/underpasses for railroad crossings.
- Local roads need to be improved due to ongoing rapid development.
- East-west routes will need to be improved if a north-south route is built.
- Placement of a "new" facility will have a considerable impact on state and local routes. Additional capacity will be needed in concert with an additional facility.
- Commuter rail alternatives should be considered in Kendall and Kane Counties.
- Unable to improve IL 47 to meet the traffic demands without decimating downtown Yorkville and Elburn.
- Transit connectivity should be considered for future transportation improvements.

Development/Land Resource Management Comments

Throughout the stakeholder interviews, issues regarding development and land resource management strategies were discussed as influences in the growth of the study area. The following is a synopsis of the findings and comments regarding such.

Land Resource Management Plans

Throughout the stakeholder interviews with local government officials, the opinion was expressed that county government efforts in enforcing their land resource management plans were difficult to achieve as municipal government has the ability to annex and supersede any plans adopted by the county. Examples of this were apparent in several instances.

- Joliet has recently identified land-planning efforts into southeastern Kendall County in contrast to what Kendall County has identified in its land plan.
- Sugar Grove has continued to grow and expand their respective municipal boundary in contrast to the 2020 Land Resource Management Plan adopted by Kane County.
- Elburn has also demonstrated a more aggressive development, which has not complied with the plan set forth by Kane County for that area.

Although development in certain municipalities within the study area has been aggressive, some municipalities have indicated that they would like to control growth within their current corporate boundaries. However, due to neighboring communities' aggressive growth patterns, it has been difficult for those communities with planned limited growth to protect itself and its boundaries from the influences and development of its neighbors.

Development

Development is prevalent throughout the majority of the study area. Projections of population increases completed by IDOT and the study team for the year 2030 in most cases were seen as reasonable, however, some communities such as Yorkville, Joliet and generally Kendall County as a whole, indicated that the projected population numbers may be too conservative for 2030. Again, throughout the stakeholder interview process a number of issues relating to development in the region were discussed.

1. Residential Development

    - Will County indicated that just along the Weber Road corridor north of I-55, over 8,000 new lots have been approved.
    - Yorkville identified one development alone in Yorkville will add 2,646 lots with over 8,000 additional residents.
    - Plainfield built over 950 homes in 2002 and was on track to build over 1,000 additional homes in 2003.
    - Joliet is developing plans to add considerable residential development in Kendall County extending to Brisbin Road to the west, Walker Road to the north and just north of US 52 to the south.
    - Sugar Grove's plans identify over 60,000 residents by year 2030.

    With all of the residential development occurring in the study area, it has made the areas of Kane, Kendall and Will Counties amongst the fastest growing counties in the nation. The question was posed several times throughout the stakeholder interview process, "why are developers focused on Kendall, Kane, and Will Counties?" Those who asked the question also commented as to what they believed to be the answer to the attraction which included:

    - Lower land prices
    - People are looking to move to this region due to a "high quality of life" standard
    - Good schools districts

2. Commercial/Industrial Development

    - Grundy County has identified several thousand acres as a future industrial location at Brisbin Road, north of I-80.
    - Continuing development of the Intermodal facility located at the Joliet Arsenal Development Authority in Elwood is projected to be over 22 million square feet of industrial development when fully built-out.
    - Will County identified one other industrial development that is taking place in New Lenox, which will be comparable in size to the Intermodal facility located in Elwood.
    - Yorkville is predicting that their next economic development area will be located south of its current municipal boundary at Caton Farm Road and IL Route 47.

- The potential for additional landfill development was identified several times throughout the stakeholder interview process.
- Two million square foot commercial/business development center is planned for the intersection of IL 47 and US 34.
- Proposed industrial park west of Elburn with access to IL 47.
- Park 88 Industrial Park will add 10-12 million square feet of industrial warehousing and manufacturing space.
- Rochelle Intermodal facility has 1,200 acres planned for a full build-out.

Other Comments

Transportation and development issues were constant throughout the stakeholder interview process, however, other issues directly or indirectly related to both development and transportation within the region were also communicated throughout the process.

Farmland Preservation/Open Space

The desire to protect open space throughout the region was a goal of many of the counties interviewed as well as numerous civic/community organizations. Many of the counties within the study area have Forest Preserve Districts that are dedicated to identifying and preserving open space for the residents of the individual county. Particularly, Kendall and Kane Counties have secured voter approval and passed referendums allowing the taxing district to sell bonds in order to purchase properties in the respective counties.

The Kane County Forest Preserve District passed a $70 million referendum in 1999 to acquire and preserve additional land. Likewise, yet on a lesser scale, the Kendall County Forest Preserve District was successful in passing a $5 million referendum in 2003. Both Forest Preserve Districts have continued to target desirable properties to conserve as open space.

In Kane County, the Farmland Protection Program has assisted in stretching the Forest Preserve Districts dollars by enabling it to purchase development rights. Kane County and Campton Township are the only two governmental bodies in Illinois who at this time have enrolled in this program.

Storm Water Management/General Water

Preservation of natural resources was identified by many of the groups interviewed as a concern with the rapid pace of development in the area. A concern with depleting the regions water aquifers was identified and the need to further study the issue was a priority for many groups.

Setting a policy on storm water management was identified as a goal of Kendall County's in the upcoming year. Storm water management was also identified by other groups/organizations as a key concern with development and new roadway infrastructure. It was important to these groups that non-traditional storm water practices be considered in future developments and improvements.

Miscellaneous

Common to every stakeholder meeting were issues of development and transportation related issues and opinions. However, occasionally a new idea or issue was identified in the stakeholder meetings. The following is a brief synopsis of some miscellaneous comments that were identified.

- Major utilities should be incorporated and coordinated to run parallel to a new transportation corridor.
- Commuters will continue to travel to the east for jobs.
- A new major corridor will least disrupt ongoing development and would be best located to the west of IL 47.
- Consideration should be given as to how the corridor impacts property lines.
- The study process for a new facility takes too long.
- Elected official briefings are very beneficial.
- Quality of life issues tend to influence where people want to live.
- Historically the Northeastern Illinois Plan Commission has not been accurate for some communities in predicting what growth will occur.
- The Chicago Area Transportation Study models have underestimated the travel demand in some areas. Perhaps a hybrid model should be considered.
- The Technical Advisory Group make up is a good balance of different interests.

Focus Groups

Focus groups are often used to periodically check the pulse of the community. A focus group is a small group discussion with professional leadership convened to discuss and give opinions on a single topic. A focus group typically has a specific agenda that addresses up to five or six major questions. They are designed to gather perspectives, insights, and opinions of participants through conversation and interaction. The purpose of the focus groups held during Part A was to obtain qualitative information on the opinions about current and future transportation issues and needs from people who live, work, and travel in the general study area.

Focus Group Approach

The focus groups were designed with the primary goal of learning more about the perceptions of current and future transportation issues and needs from people who live, work, and travel in the general study area. Within this primary goal, there were several topics that were important to explore during the focus groups:

- Current transportation and travel patterns – How do people in these areas move around? What routes do they use most often? How many separate trips do they make in their car per day? How many hours do they believe they spend in their car per week?

- Attitudes toward highway travel – How do people in these areas feel about their ability to move around? Has their ability to move around changed in the past few years, and if so, how? What are the problems they encounter?
- Public transportation – Do people in these areas use public transportation now? If they don't, would they ever consider using it? What would persuade them to use it? For what purposes would they use it?
- Development – What changes in development do people in these areas expect over the next 10 to 20 years? How do they believe these changes will affect their life? What types of transportation improvements do they believe would help address the effects of these changes?
- Future travel needs – If no action is taken to change transportation in the area, how do they believe this will affect their life? What factors that affect transportation decisions are most important to them personally?

Four focus group sessions were conducted over two days. The sessions were divided into different participant categories:

- Group 1: Business owners/managers
- Group 2: Property owners/farmers
- Group 3: Drivers
- Group 4: General interest

All focus groups were held at Facts in Focus in the Fox Valley Mall in Aurora on September 30 and October 1, 2003. Each focus group session lasted approximately two hours.

Recruitment took place within the geographic boundaries of the general study area (Kendall, southern Kane, southeastern DeKalb, eastern LaSalle, western Will and northern Grundy counties), with the participants weighted toward the central portion of the general study area. The participants for all of the groups were recruited by calling telephone numbers from research databases. Facts in Focus conducted the telephone recruitment using a screening questionnaire developed by Public Communications, Inc. The screening excluded people who:

- were employed by a city, county or state government or government contractor
- worked for an advertising agency, public relations agency, market research firm or department
- were employed by a newspaper, TV station, radio station, or news Web site
- were employed by a construction company
- owned property that is under IDOT's corridor protection
- participated in a market research group discussion or market research in-depth interview within the past six months

The recruitment resulted in 9 to 12 participants for each of the four focus groups.

Because specific information was being sought from business owners/managers that differed slightly from the information being sought from the other groups, a separate screening questionnaire was developed for them. In addition, recruiters attempted to

select a good mix of female and male participants of diverse ages, people who had lived in the area for years and those who were relatively new to the area and people who owned both large and small parcels of land. For the business owners/managers, people with diverse sizes of businesses were recruited.

Most of the focus group session was a discussion, during which the moderator focused on eliciting both factual and subjective information. Examples of factual information include how many trips a day participants made in their car, what highways or roads they usually use and how long it takes for them to drive to their destination. Subjective information gathered by the facilitator included how participants feel transportation patterns have changed in the past few years, what transportation changes they expect to occur in this area over the next 10 to 20 years and how they believe these changes will affect their life.

Again, because some of the information that was sought from business owners/managers was slightly different than the information from the other groups, a separate facilitator's guide was created for this session.

Current Transportation and Travel Patterns Findings

Distance Traveled and Time Spent in Vehicles

Respondents in all groups were asked to describe their current travel and commuting patterns. Commute distance ranged from zero (because the participants work out of their home) to 100 miles one-way. The average distance was approximately 30-35 miles one-way.

In terms of time spent in the car, participants reported that they spent as little as five hours per week to as many as 75 hours per week in their vehicle. There was such a wide variance in responses that we cannot fairly say there was an average length of time people spent each week in their vehicle.

Among the business owners/managers, most drive as part of their jobs. They spend anywhere from 10 to 20 hours in their car per week, which encompasses both personal and business travel.

Multi-Purpose vs. Single-Purpose Trips

Most respondents reported that they usually make multi-purpose trips. Their reasons for doing this were to save gasoline, to accomplish as much as possible in one trip because they live in remote areas and to avoid driving in congested areas more often than necessary. Among those who made single-purpose trips, their destinations were their job and the grocery store.

Traveling Alone vs. Traveling with Passengers

Most of the participants travel alone fairly consistently. When they do have passengers, for the most part the passengers are children.

Routes Traveled

Most of the participants use major highways or freeways. The following routes were mentioned at least once during at least one focus group. However, most of the routes were mentioned more than once in more than one focus group:

- IL 59
- US 34
- I-88
- I-80
- I-55
- IL 71
- IL 47
- IL 31
- IL 38
- US 30
- IL 23
- IL 171
- IL 25
- I-57
- I-355
- Randall Rd.
- Montgomery Rd.
- Aurora Rd.
- Butterfield Rd.
- Orchard Rd.
- I-290

The majority of participants stated that they feel they must take special steps to avoid traffic congestion. The most common methods people used were to develop a different route using less-traveled back roads, or to arrange their schedules so they drove only during off-peak hours. Most people have several "back road" routes that they can use depending on the different weather conditions and times of day.

Attitudes Toward Highway Travel Findings

Overall Ability to Travel in the Region

The moderator asked the participants how they felt about their overall ability to get around in the region. Many participants said they could not give one answer because their ability to get around is very difficult during some times of day and easy during other times of day. Everyone felt that they need to travel very early in the morning or very late at night in order to avoid the traffic congestion.

"If I have to do any of my long-distance traveling on 55 headed to Burbank/Oak Lawn, I always do it brunch time to mid-afternoon, and even if I hit mid-afternoon heading back this way, it's stopped. So I plan my visits and my play times at certain times of day."

"It's all timing. You figure the timing [of the worst traffic congestion] so you can arrange [your schedule]. You can't go anywhere in this whole area before knowing what time it is, especially in the summer."

"If I leave home at the right time, it takes me 38 minutes to get to work. If I leave 15 minutes later, it takes 20 to 25 minutes longer."

"My husband…leaves at 6 in the morning to get to Itasca. If he leaves at 6:05 or 6:09, it adds like 20 minutes to his drive." (He takes I-88 to I-355 and gets off at North Avenue, just south of Woodfield Mall.)

"The last job I had outside the home, I had to drive from Oswego all the way up to Oakbrook just south of O'Hare…when I was doing the morning there, I would have to leave our house at 6 o'clock and get to work early. It would only take me half an hour from Oswego up to O'Hare at 6 in the morning, but if I left at 6:15 or 6:30 and didn't catch the lead wave to get there, I was on the road for two hours."

One woman said her husband travels 100 miles to work one way. He leaves at 3:30 a.m. to be to work by 4:30 a.m., and it takes him an hour to drive to work. When he comes home at night, his commute takes anywhere from 1.5 to 3 hours.

The owner of a travel agency in Plainfield decided to work at home to avoid traffic congestion altogether:

"Honestly, one of the main reasons why I do work at home is so I don't have to deal with this traffic stuff. And that's really at the top of the list. Why do I work at home? Sure, I want to be home with my kids and raise them, but the whole deal is saving myself three hours a day times five days…of extra time I get to have for my life."

Regional Transportation Problems

When asked to give examples of some of the transportation problems they encounter in the region, participants' comments can be classified into a few topics:

- truck traffic
- traffic congestion
- bad timing of traffic lights
- bad timing of road construction
- tollbooth positioning
- inadequate zoning policies
- lack of transportation planning
- lack of north-south routes

Truck Traffic

Participants commented that there are problems with truck traffic. Specific roads mentioned were Routes 23, 34, 47, 71 and 126 to Plainfield.

One person said trucks are using two-lane roads, which really slows down traffic for everyone.

"We have a warehouse in DeKalb, so I go out that direction on 88, or I'll come up 23 from home…and on 23 there's a lot of truck traffic."

Another said he believes the lower speed limit for trucks, campers and motor homes cause congestion. He feels that they need to be able to go the same speed limit so they can keep up with the flow of traffic.

Traffic Congestion

Without exception, participants in all four groups agreed that traffic congestion is a major problem in the region.

"I hate to use 34, and I have to use it a lot. It's just horrible congestion between Somonauk and here. I can't stand it…out by Route 23 and I-88, that I don't mind."

"At [Highway] 30 and Dugan, I'm stuck there for like 25 minutes" [because of the traffic congestion].

"[Highway] 30's horribly miserable."

"I can't even turn left out of Sandwich on any road from any business."

"[Interstate] 39 south of Rockford is awful."

"[The traffic congestion] blows the reason to move out here. You want to move out here to relax and slow down a little, and every time you get in your car, you gotta go nuts to get somewhere."

"For three and a half years I've had a store in Montgomery, and it's like every month there's a subdivision opening up and more traffic and there's more and there's more and there's more. On 71…you'll get stuck behind 15, 18 cars and a semi and there's no place to go."

"If you make it to 80, that's been solved and south of 80, that's fine. You go south of 126, 52 and Route 30 and the traffic is terrible."

One participant said the traffic congestion has become so bad that at least one school has changed its daily start time to try to work around it:

"They've had to stagger the school times…because the kids live on opposite ends, and they don't make it in time because the traffic is so bad on 47."

A few participants stated that the traffic caused by the schools themselves has become a severe problem:

"In the summer, when I travel west to Yorkville, it's great; it takes me 15 minutes from my front door to work. But now that school's in, because 34 dead-ends into 71 and goes from two lanes to one lane right in front of the high school, and it's a gong show. It's horrible. They always have a policeman directing traffic, but when you got…200 kids driving to school every day and the school bus traffic and all the new construction going on, it's just bad."

Bad Traffic Light Timing

Although this was not mentioned as frequently, some participants commented that bad timing of the traffic lights was contributing to traffic congestion.

One participant said he thinks Illinois is too slow to change the type of traffic signals they use to keep up with the population growth. He believes intersections that used to work well with a four-way stop are now backed up with traffic, and there needs to be a stop light to keep up with the population growth.

Bad Timing of Road Construction

In every group, someone raised the issue of road construction happening in the middle of the day. Participants felt this contributed to traffic congestion and felt it could be easily solved by performing road construction at night.

On a different timing issue, a few participants said they were frustrated by road construction happening simultaneously on several different routes. Not only was their primary route closed or obstructed due to road construction, but the alternate routes they wanted to use were under construction at the same time.

Tollbooths

In every group, people mentioned the positioning of tollbooths in the middle of the traffic lanes as a major cause of traffic congestion on the highways.

“You can be driving anywhere and you see all these cars stopped and it’s all because of the tollbooths.”

“Tollbooths are 85 percent of the problem.”

“It doesn’t make sense to slow traffic down from six lanes to four, then have a horse race after you pay tolls. Why don’t we get a ticket when we get on the expressway and pay when we get off at our exit? Why bottleneck traffic?”

Inadequate Zoning Policies

Some participants said they felt the zoning policies were allowing too much development of residential properties and retail/service industries. Because this was resulting in a lot of new people moving into the area in a short time, they felt it was a factor in the traffic congestion.

One person commented that the suburban areas are zoned and built so that people are forced to take a car to go anywhere.

Participants said that although they have seen residential and retail development and some distribution centers, they have not seen any heavy industry or manufacturing in the area. The business owners/managers group in particular thought this was a problem.

Lack of Planning

A few participants felt that there is no transportation plan, which is resulting in a concentration of people with inadequate transportation modes available.

"This has turned into a metro area. It used to be just a little patchwork…and that seems [to be] how they're still planning it. They're not thinking of it as a metro area, and that's what it is out here now. You have to have a transportation plan, and they don't."

"They should look at transportation system as a whole, not as parts."

"Here we're waiting for the federal government to make the highways. Other major cities have their own expressways besides the one the U.S. builds."

"IDOT doesn't plan ahead to meet future traffic needs. Things get done when it gets to the point that we just can't take it any more."

"Developers come in and don't meet with city council or city board. As soon as they get their permit to build, they just get in and get out. There's no planning whatsoever."

"The cities don't coordinate with the counties or with the State."

Lack of North-South Routes

When asked whether they felt north-south or east-west routes were the most lacking, most of the participants felt that there need to be more north-south routes.

"The only main [north-south routes] are 47 and 23, and the trucks are using them like a freeway."

"Our biggest problem in Plainfield is that the only north-south highway is 59. There's two lanes at 126, and with all the people living in Joliet/Plainfield when you're coming south, those three lanes go into two. That's just absolutely insane."

"The north and south routes are just brutal. Most of the supposed north-south routes head into to the city; there's nothing heading straight north and south, and that's what's really needed."

"If you look at a map of Chicago, you'll see feeder roads coming into the city, but there's nothing to connect the feeders. There's no way to head north and south quickly. From here, you can get into the city pretty quickly, but you can't get from suburb to suburb. There's no way to go all the way around Chicago, so everybody ends up going through it."

"126 is the lifeline to 55 for everyone who lives in Plainfield or Joliet, but you can only go north off of 126. It's insane! The majority of people want to go north, but not everyone does. If you want to go south, you have to drive three miles to Webber Road, deal with a huge light, turn around…it takes 15 minutes to do that. On 126, you can't stand out there without seeing a car for 5 seconds at a time, and it's only one lane. That should be a huge priority to improve/expand."

Suggested Solutions to Regional Transportation Problems

The facilitator asked the participants what solutions they would recommend to address these transportation problems. This is a summary of their recommendations, followed by some quotes elaborating on some of the suggested solutions.

- Synchronize the traffic light timing.
- Eliminate tollbooths off the interstates and go to a turnpike system, where drivers take a ticket when they get on the freeway and pay when they exit.
- Build more spurs to get to I-88 and other expressways.
- Widen some of the roads. The roads are inadequate for the amount of traffic on them. More lanes are needed.
- Finish building out I-355.
- Develop a regional transportation plan.
- Build high-occupancy vehicle lanes and make them available during morning and evening rush hours.
- Stagger the road construction schedules so the primary and alternate routes are not under construction at the same time.
- Perform road construction at night.
- Start building the road systems as soon as developers start building new homes.
- To avoid the need for road construction, use higher-quality materials when building the roads in the first place so they last longer.
- Provide mass transit that is convenient, reasonably priced and goes where people want to go.
- Build more major north-south routes to connect the suburbs.

"If they finished building 355 out, it would alleviate a lot of the traffic. People from here have to go 10 miles out of their way to get on to I-88."

"When you're going through Montgomery and Oswego there, I just noticed it probably a couple months ago, it says 'Future expressway' on Route 30. I have no idea when it's going to be built…but they need it now."

"There's a new bridge over the Fox River in Oswego, and that's helped considerably. And there's a new underpass at Orchard Road at Prairie, and that has helped a great deal. And as soon as they add another lane on Orchard to make it four lanes, that will help quite a bit now. It's currently a bottleneck."

"I understand that Orchard Road is eventually supposed to go down to 80. I think that would help a lot, and the sooner the better. Just that overpass they put over the Fox River made a huge difference. They didn't even get that open and it was congested."

"We need a loop farther south and further west to the western suburbs. It would be nice if you could get something south of Joliet."

Public Transportation Findings

All of the focus group participants were asked about their use of public transportation. Few participants said that they had used public transportation in the last month. Most participants stated that they do not use public transportation at all, preferring to take their own car. When asked why they don't use public transportation, people responded:

"People don't like the shuttle system that takes people from a bus stop into the train station. No one uses it because it takes so long."

"Right now no one takes the train from Aurora or Elgin into Chicago because it's in a bad neighborhood and they're afraid of crime, especially late at night."

"I used to take the train and bus into downtown Chicago. I lasted about six months. People are so rude; I just got tired of pushing and shoving."

Other comments were made regarding additional problems. Many participants said that the parking at the train stations is inadequate or unsafe (the Aurora train station was mentioned as an example). In fact, the perception of public transportation as unsafe came up often. Many participants said that people would use mass transit more if it could be made safer from crime and more dependable.

The facilitator asked the participants whether they would use public transportation more often if it were more readily available. The answers were mixed.

A few people seemed to believe that the idea of expanding the public transportation options would ultimately not be productive because people are used to getting into their cars and going when and where they want. They believe that mindset would be a hard habit to break.

"We're all Americans, and we're used to driving and having our own cars. I want to leave when I feel like leaving. I rode the bus in high school, and I don't want to do it now."

Of those who said they would use public transportation, they said they would use it to go to work or to the mall. Most people seemed to prefer the idea of a train system to a bus system. Buses were seen as slower, less reliable and with a higher potential for crime. However, there was some concern that a train system may bring crime out to the smaller towns.

The idea of a light rail system was brought up by a few participants, but feedback was mixed. Those who said they might use a light rail system said it would be best for local transportation rather than regional transportation. However, most people seemed to believe that a light rail system was not desirable and would not fit in with the character of their community.

There was one topic raised during this part of the discussion that most participants did agree with: While there is plenty of public transportation going into Chicago, there is a dearth of public transportation going from suburb to suburb.

"Right now all the mass transit goes into the city, but businesses are moving out of the city and moving into the suburbs, like into Woodfield. Mass transit doesn't go to Woodfield. The suburbs are the ones that need the mass transit."

"In Washington D.C., the Metro system gets you around the whole area because they've got a whole bunch of stations. You can get from one suburb to another. In our area, the Metra system only goes from here to Chicago. You can't go from suburb to suburb."

A few of the locations the participants mentioned that needed public transportation between suburbs were Naperville, Plano and Yorkville.

Everyone who talked about the existing Metra system seemed to enjoy their experience when they used it. The problems that they pointed out were that the departure times were very limited and the system only went into Chicago, rather than between suburbs. However, there were enough positive elements that some people believed any public transportation system that may be instituted in their area should be essentially an expanded version of the existing Metra system.

To summarize, people liked the concept of a viable public transportation system and thought it would benefit the area because it would reduce pollution, prevent accidents caused by drowsy driving and decrease road rage. They believed that future transportation planning should include some public transportation.

Unfortunately, there was no other agreement or common thread on whether it would actually work. Some people thought that if there were a commuter public transportation system there, most people would use it. Some people thought that public transportation would help for regional transportation, but not for local. Some people said they would pay to use a viable public transportation system, others said they would not. It's interesting to note that most of the participants seemed to view public transportation as something "other people" would use, not they themselves.

Development Findings

Business owners and managers were asked how changes in development had affected their business, while groups 2, 3 and 4 (property owners/farmers, drivers and general interest) were asked how the changes had affected their lives. Because of this distinction, we have categorized the feedback about "Changes and Effects" of development: groups 2, 3 and 4 are compiled into one section, while building owners/managers have their own section.

Changes and Effects: Non-Business Owners/Managers

The facilitator asked these groups what changes in development they have seen in their area over the last few years, and how these changes have affected their life.

One word used to describe the changes was "massive." There was a consensus that the area's population has grown too big too quickly, and as a result the infrastructure is no longer adequate to meet everyone's needs.

"Routes 34 and 47…compared to how it was when we first got here, it's impossible."

"I've been driving the same drive for 18 years from Plano to Naperville. It started out at half an hour; now it takes me about an hour and 5 minutes. I used to take 34, but I refuse. So I take 47 to 88."

"We transferred out here in 1987 and [when] we came out…to Batavia…Randall Road had nothing but cornfields. And they told us then that nothing was going to be built west of Randall Road…but…everything has totally changed."

"The high traffic areas have gotten more high. Where Douglas and Ogden come down, by Home Depot, it's gotten very bad. It's great for our property values, but it's still a hassle."

"[In Oswego] there are problems with infrastructure in general. There is only one entrance in and out of Home Depot and Target. The lights aren't timed well. If you want to go east or west, you can't. There's only one main entrance into the place."

In explaining her own conflicting feelings, a woman from Oswego echoed the sentiments many participants had about increasing development and its effect on travel time and quality of life:

"… I'm just overjoyed…it just keeps getting better because we can go out to dinner and not drive 20 minutes. But also, when I now need to drive to Burbank and Oak Lawn, I keep having to add 5, 10, 15 minutes all the time to my drive. So while my immediate community is getting much easier for me, all the people that are in my extended community, I see less because it's too much of a hassle. It's like a major deal because we have to plan for at least an hour to go see Grandma…and if it's later than 3, it's an hour and a half for 30 miles! That's kind of sad for me because it's making my world smaller."

Changes and Effects: Business Owners/Managers

The participants were asked how they believe that current transportation patterns affect their business. *Answers varied widely depending on the nature of their business.*

For example, the owner of a hair salon in Naperville says her business used to have a lot of foot traffic when they were located in the center of downtown. Now that they are on the edge of downtown in a new location on Washington St. (just north of Ogden), she says the traffic on Washington St. is so bad that people have a hard time getting in and out of her parking lot, so they don't stop at all. She feels her business is adversely impacted by the "non-stop" vehicle traffic because there are no stoplights, so cars coming out of her parking lot cannot merge into traffic.

The owner of a landscaping business in Manhattan commented that all the new housing developments are spurring business for him. He also noted, however, that when he needs to go north to the nursery to pick up supplies, there are only two-lane roads, and he often becomes stuck in traffic.

The owner of a tire store franchise said he's seen development around his Morris location, where he has been for eight years. "I don't know how many people I've talked to who get

up at 3 in the morning to leave Morris at 4 o'clock to beat the traffic to get to work in downtown Chicago. I've been in my store working late until 10:30 or 11 p.m., and the traffic going by on Douglas Road is non-stop."

Other business owners had additional comments:

"It's increased my business, but it's also increased my business travel time. I avoid having clients in downtown Naperville because the traffic is too busy; you literally can't stop. Once people get on the road in Naperville, they don't want to stop because the traffic is so bad they won't be able to merge back into the flow of traffic."

"We had a store on 34 in Downers Grove, and it was almost the death of us because there was no way people could get in and out of there well."

Influences on Development

All of the groups were asked who or what they believe most influences the rate of growth that their region experiences. Most participants believe that people moving into the area to live is the impetus for development.

"Housing drives community development. You got the houses, then you got the businesses, then the government tries to get the roads to catch up with the two of them."

"Housing. If the houses weren't here, the businesses wouldn't be here."

"The rooftops go in and everything follows: schools, road development, businesses and it seems like the roads are the last."

Future Travel Needs Findings

The moderator asked the group members to discuss what they believe will happen over the next 10 to 20 years if no action is taken to change transportation.

"It's getting real bad now, and soon it'll get to the point where it will cut off the growth that's driving the area."

Most others echoed this sentiment, fearing that traffic congestion will get to the point that instead of bringing people to the area, it will cause people to start leaving.

The facilitator asked participants what types of transportation improvements they felt would help address the problems they are experiencing because of development.

In all the groups, the lengthiest discussions on this topic were about the merits of repairing or improving the existing roads versus building new roads.

"Ten or 20 years from now, there needs to be some major infrastructure outside of the growth area right now. If there isn't, they could widen 47 or get truck traffic off 355."

"Fixing [the roads] locally would probably fix it a little quicker than building new highways. That 355 going south at 80 that they're talking about…it's going on 10 years that they've just been talking about it."

"Traffic control and expansion of roads can be done most quickly, but if you're talking 10 years from now, yeah, you have to build new."

"They're gonna have to repair and expand. Even if the road system they had right now was perfect, it's not gonna do it."

The facilitator asked the groups which solution they think would be most important to focus on first: expanding and improving existing roads or building new roads.

Nearly everyone believed that the most immediate need was to expand and improve existing roads. Likewise, nearly everyone believed the mid- to long-term solution was to build new roads.

One participant summarized it by saying, "For now, improving, expanding and repairing existing roads, making them more usable [is most important]. For future planning, we're talking about building new roads. It's gotta be something massive for the whole area, not just for these two counties."

Section 6 Highlights

- Majority of stakeholders saw a need for improvements to exiting transportation infrastructure in the study area.
- Transportation problems that were cited included traffic congestion, truck traffic, traffic signal timing, tollbooths, road construction, inadequate zoning, lack of transportation planning, lack of north-south roads.
- Increased commuter and truck traffic are resulting from rapid residential and industrial development in the study area.
- Population has grown too big, too quickly, resulting in infrastructure that is no longer adequate to meet everyone's needs.
- Housing is driving the development in the communities.
- Traffic congestion will worsen over the next 10-20 years until it cuts off the growth that's driving the area.
- Traffic facilities "felt" to be congested include IL 47, IL 59, Orchard Road, Randall Road, IL 64, IL 38, US 34, US 30, I-55, and I-88.
- It was felt that if a new facility were to be built, it would attract a major portion of the truck traffic that currently contributes to traffic congestion on local roads.
- Lack of adequate north-south routes was identified as a major concern. Since the operations on the existing (and limited) north-south routes, IL 47 and IL 23, were "felt" as being congested with high percentage of truck traffic.

SECTION 7 – CONCLUSIONS

As part of the Prairie Parkway Preliminary Engineering Study, an analysis of existing and 2030 transportation system characteristics and performance within the general study area was performed and documented in this Transportation System Performance Report. In addition, based on stakeholder interviews and focus groups, the general perceptions of elected and local officials, agencies, organizations, and the general public with regards to transportation and development were also included in this report. A summary of the findings, observations, and deficiencies are presented below.

- The Fox River is a natural physical barrier and has resulted in limited north-south river crossings and through routes;
- Limited north-south, higher functional class, multi-lane roads in the study area;
- Continuation of population growth (89%) for the counties in the study area to 2030, especially in Will and Kendall Counties;
- An imbalance between jobs and housing in the study area, meaning that there are more workers than jobs in the study area, resulting in more trips leaving the study area to get to work;
- Large increases in work trips by 2030 from Kendall to Kane, Will, and Grundy counties;
- Declining regional job accessibility from the study area due to increased travel times and the lack of jobs in the study area;
- Existing traffic congestion in eastern Kane, northern Kendall, and western Will counties;
- Worsening traffic congestion between 2000 and 2030, with a 76% increase in vehicle trips from the study area and a decline in level of service on almost every major road;
- Increase in travel times within the study area and to the remainder of the region between 2000 and 2030;
- Increase in crashes (accidents) between 2000 and 2030, with a higher percentage increase on existing two-lane roads.

Three overall transportation deficiencies are apparent as a result of the combined effect of the above findings. The three overall transportation deficiencies include:

- Declining regional mobility
- Increasing local road deficiencies
- Declining access between study area residences and regional jobs

Regional Mobility

With a forecasted increase of 76% in vehicle trips from the study area between 2000 and 2030, regional mobility for travelers and commerce from, to, and through the study area is expected to decline. This is particularly apparent for travel in the north-south direction. The study area road system has a limited number of north-south higher functional class roads due to the lack of north-south interstate facilities and the limited number of north-

south other principal arterial highways between I-39 and I-55/IL 59 (a distance of nearly 50 miles). The necessity to cross the Fox River, which bisects the study area, contributes to the lack of higher functional class north-south highways.

The overwhelming majority (85%) of roads in the study area are only two-lane. There are no north-south continuous multi-lane roads between IL 59 and I-39, a distance of nearly 50 miles.

A majority of the highways, especially the north-south highways in the eastern and central portions of the study area, are expected to operate under extremely congested conditions, and well over existing capacities. Among the north-south highways; IL 47, IL 59 and IL 71 are the most congested. IL 47, between Yorkville and I-80, operates at level of service (LOS) C (congested conditions) during peak hours. By 2030, this stretch of IL 47 is forecasted to operate at LOS D (very congested conditions).

From Yorkville north to the Kane-Kendall county line, and from I-88 north to the study area boundary, IL 47 currently operates at LOS D. Existing travel on IL 47 from the Kane/Kendall county line to US-30 is at LOS E/F (extremely congested conditions) during peak periods. Almost all of these segments are projected to operate at LOS E/F conditions by year 2030.

Similar declines in level of service between 2000 and 2030 also result on IL 59 and IL 71. US 30, US 34, US 52, IL 38 and IL 64 are some of the most congested east-west highways. All of these highways carry a very high percentage of truck traffic.

Truck traffic is projected to increase by 63% on U.S. and State routes over the next 30 years, and will negatively impact highway operations, especially on north-south roads such as IL 23, IL 47 and IL 59. Since most of the study area roads are two-lanes, the impacts of heavy truck traffic on operations and capacity will be more pronounced.

The opportunity to provide mobility on the higher functional class roads is restrained by the limited number of bridge crossings over the Fox River. In addition to the congested condition of the principal arterials in the east and central portions of the study area, system continuity has been compromised. Previous goals to limit access and maintain mobility on IL 59, were thwarted as the route evolved into a commercial and retail corridor. Similar attempts have also been made to improve north-south mobility on Randall Road and IL 47, but development constrains the ability to maintain this mobility.

Safety concerns on north-south roads will grow because of the large increase in traffic and vehicle miles of travel. Increased demand will likely result in a higher proportion of north-south traffic being carried on lower functional class roads, which have higher crash (accident) rates than higher functional class facilities.

Local System Deficiencies

The analysis of the existing system points to several deficiencies. More than 74% of the study area road network is minor arterials and other lower functional class facilities. There are more multi-lane roads heading east-west than there are for north-south travel. Growth in travel will further strain the existing network, with growth on the lower-functional east-west

Rural Minor Arterials increasing 163% in average daily travel and north-south Rural Minor Arterials increasing 232%.

Limited north-south Fox River crossings also contribute to the overall congestion and travel times for users of the lower functional roads. In addition to the capacity limitations caused by the non-direct road network and the limited bridge crossings over the Fox River, the absence of higher level facilities within the study area results in the use of lower classification two-lane roads for regional travel. This creates an inefficient roadway network that is comprised of a mix of roadways that does not adequately meet the demands of travelers. Two-lane arterials are designed to handle through traffic in rural areas and as circulatory routes for a limited service area in urban areas. At the time of their construction, the use of two-lane arterials as the highest level facility for through traffic was suitable for the lower volume traffic demands. However, as the study area undergoes rapid development, the two-lane arterial based local roadway network is becoming less efficient. This condition is most apparent in the central portion of the study area, where the lack of north-south higher functional class roadways creates peak hour diversions to the Rural Minor Arterials and Collector Roads and Streets.

Analysis of high crash locations and projected travel patterns within the study area reveals that the number of crashes or accidents on lower functional class facilities is projected to increase considerably. The Rural Minor Arterials are projected to have a 68% increase in annual crashes between 2000 and 2030 and Rural Major Collectors are projected to have an 81% increase in crashes.

Study area development has and will continue to increase the volume of local trips within the study area, as well as trips of local origin to regional jobs and other regional destinations. The limited capacity of the primarily lower classification, two-lane road network to accommodate this demand results in congestion, increased travel times and reduced safety..

Declining Access Between Study Area Residences and Regional Jobs

Historically, the Chicago central area was the region's job center. As such, the region's transportation system developed in a radial pattern to provide good access to Chicago central area. However, job concentrations have shifted from the Chicago central area to Cook County and the collar counties. The shift in jobs has created fundamental access problems from certain locations in the region, such as the study area.

Based on the 2030 household and employment forecasts, a large portion of the study area is considerably under the regional average of the jobs-household ratio, implying that more residents in the study area will travel from the study area to work. The 2030 travel forecasts confirm this jobs-household imbalance in the study area. Work trips from Kendall County are expected to increase by 175% to Will County and 152% to Kane County in 2030. The forecasted 2000 to 2030 change in north-south travel across the US 30 screen line shows an increase in 119,000 daily vehicles, while east-west travel across the Fox River screen line shows an increase of 69,000 daily vehicles. Thus, there will be greater desire for travel in the north-south direction in the future.

These trips will be difficult to accommodate with the existing study area road system and planned improvements, especially with the predominant lower functional class rural road system in much of the study area. The analysis of travel times related to job accessibility indicates that by 2030, it will take longer to access current and new jobs from the study area, due to increased traffic congestion that results in increased travel times. For example, the number of existing (2000) jobs that can be reached from the study area between 2000 and 2030 within 40 minutes travel time is forecast to decline by 17% due to increased traffic congestion.