

Summary

1. Purpose Of and Need for the Action

The purpose of the Prairie Parkway Study is to identify a transportation system improvement(s) that will help enhance north-south mobility between Interstate 80 (I-80) and Interstate 88 (I-88) and that will address project needs. The proposed action will meet four needs. The proposed transportation system improvement will:

1. Improve regional mobility by providing more north-south, higher functional class (principal arterials) multi-lane roads to serve the intended longer-distance travel; that serves the projected growth in north-south traffic in the study area; and reduces regional travel times;
2. Address local system deficiencies by serving the study area's projected growth in local traffic and by improving travel times;
3. Improve access from the study area to regional jobs by serving the growth in work trips and by improving mobility from the study area to current and future jobs; and
4. Improve safety by reducing existing and projected growth in motor vehicle crashes.

Chapter 1 describes in greater detail the basis for the purpose of and the need for the action.

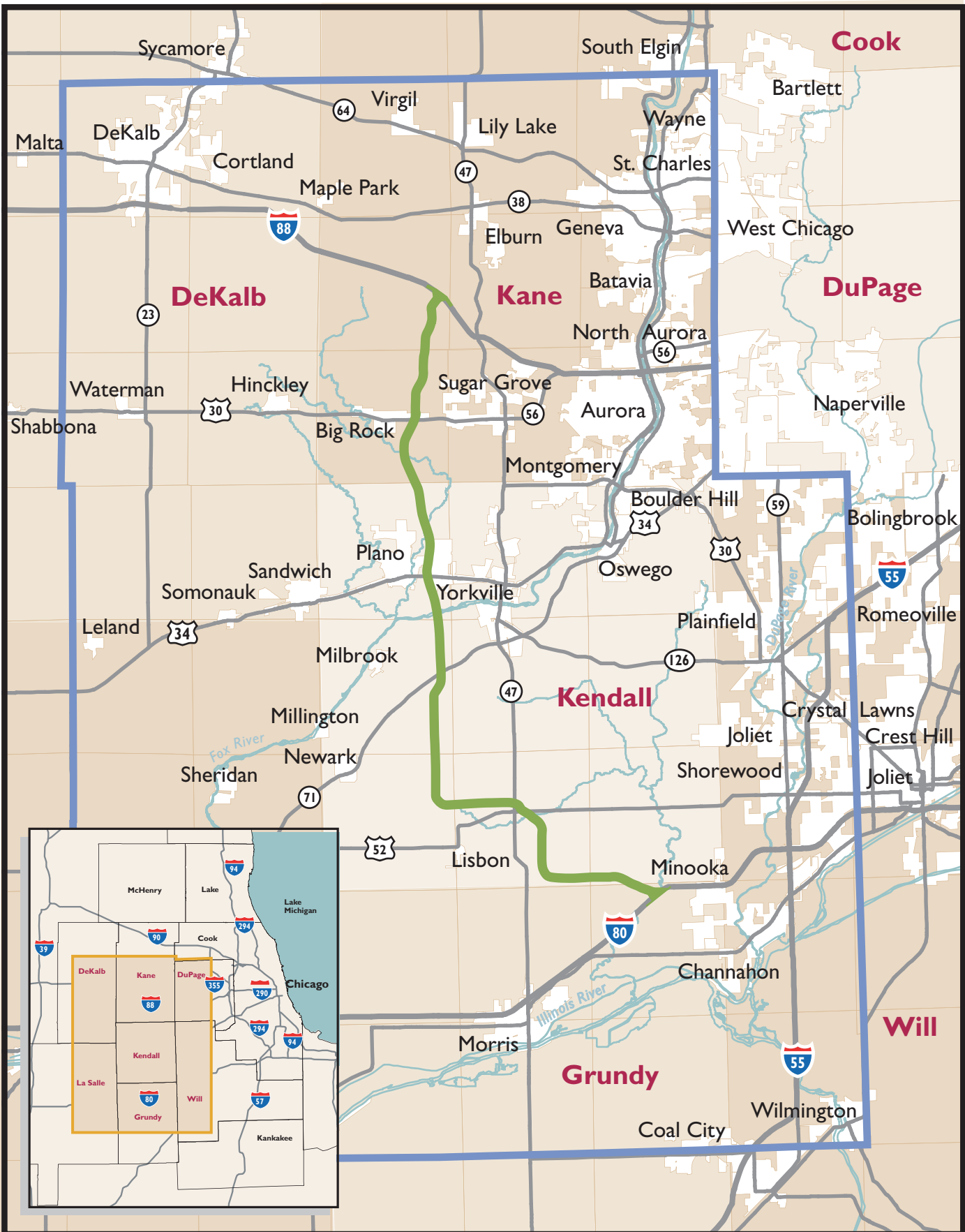
2. Affected Environment

[Figure S-1](#) shows the study area. The affected environment encompasses a variety of features, including communities, agricultural resources, cultural resources, and natural resources. These are described briefly below and in detail in Chapter 2.

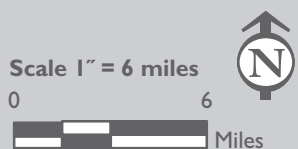
Social/Economic Characteristics

Both population and households in the Prairie Parkway study area are expected to grow approximately 90 percent between 2000 and 2030 to 938,934 and 320,316, respectively. According to the 2000 US Census, the percent of each racial and ethnic group in the project corridors is consistently lower than the study area as a whole and the State of Illinois. In 2000, the study area and the project corridors generally had similar median family incomes and percentages of families below the poverty level.

The project corridors traverse a primarily non-urban area. The predominant land use is agriculture. The largest area of urbanized development is along I-80 in the southeast corner of the study area and in the northeast quadrant of the study area. Public facilities and services generally consist of schools, worship centers, cemeteries, community



- Legend**
- Study Area
 - July 2002 Protected Corridor



centers, medical service centers, and emergency management systems (such as police and fire department).

The existing study area road system covers 1,428 route-miles. The majority of streets and highways within the study area are classified by the Illinois Department of Transportation (IDOT) as rural roads, which is consistent with the surrounding rural land use. Commuter rail and bus transportation is provided in the eastern portion of the study area. Paratransit services in the study area serve mostly senior and social services. The bicycling infrastructure within the study area consists mainly of state, county, and local on-road bicycle accommodations. No bicycle/multi-use trails are crossed by the project corridors. Public airports serve Grundy County and the greater Aurora area. A private airport is on US-30 east of Big Rock.

Agricultural Characteristics

Agriculture is the primary land use in the study area. In 2002, the number of farms was 407 in Grundy County, 412 in Kendall County, and 619 in Kane County. In all three counties, farm acreage decreased between 1987 and 1997, but increased slightly in Kendall and Grundy counties between 1997 and 2002. Corn and soybeans are the dominant crops, accounting for more than 93 percent of the total farmed area and 74 percent of the total farm revenues. Livestock operations account for less than 5 percent of total farm revenue in Grundy County, but make up more substantial portions in Kane County (24 percent of revenue) and Kendall County (19 percent of revenue).

Over 80 percent of soils in these three counties are classified as prime farmland or prime farmland if drained. Highly erodible soils also are found in these counties and comprise 5 percent of the area of Grundy County, 13 percent of Kendall County, and 18 percent of Kane County.

A portion of the land in each county has been set aside as part of the Conservation Reserve Program (CRP). In 2005, a total of 2,097 acres, 529 acres, and 275 acres of land were associated with the CRP in Grundy, Kendall, and Kane counties, respectively. In addition, Kane County has 2,786 acres of farmland enrolled in the Farmland Protection Program, in accordance with their 2030 strategic plan for the county. Based on a July 2006 Centennial Farm Query, there are 38 Centennial Farms in Kane County, 43 in Kendall County, and 81 in Grundy County.

Cultural Resources

A search of Illinois Historic Preservation Agency (IHPA) state cultural resources files indicates that some 60 prehistoric and historic archaeological sites were previously recorded in the project area. Ninety percent of these sites are isolated finds of prehistoric tools and surface lithic scatters confined to the disturbed plow zone. A pedestrian survey conducted as part of the Prairie Parkway environment study resulted in the discovery of 767 additional archaeological sites. A total archaeological survey is being completed within the rights-of-way of the detailed build alternatives. One standing structure eligible

for the National Register of Historic Places is in the project corridor. A second structure was identified, but is no longer standing as of October 2006.

Air Quality

The Prairie Parkway study area is partially in a “moderate” non-attainment area for the 8-hour National Ambient Air Quality Standards (NAAQS) for ozone. In the study area, Goose Lake and Aux Sable townships in Grundy County and Oswego Township in Kendall County are non-attainment for PM_{2.5} (particulate matter 2.5 micrometers). In 2004, neither of the two air quality monitoring sites near the study area exceeded the NAAQS for ozone or particulate matter.

Natural Resources

The overall topography of the study area is level to rolling, with a high point of 889 feet in the north end of the project area to 551 feet above mean sea level in the south end of the project corridor. The main soil type in the study area is Drummer silty clay loam, which is also a hydric soil. There are eight active sand and gravel pits and stone quarry operations near the project corridors.

Approximately 90 percent of the project corridors is cropland, urban land, or barren land that provides little natural habitat. There are 17 other types of vegetative cover that provide habitat for aquatic and wildlife species. The primary upland cover types providing habitat for wildlife are near stream corridors. Two upland areas of special interest identified are in the project corridors. One is a high-quality example of wet-mesic upland forest at the corridors’ Fox River crossing. It is associated with a complex of high-quality calcareous seeps. The other occurs at the corridors’ southern Big Rock Creek crossing near Plano. This site is highlighted primarily because of the occurrence of the state-listed endangered rock elm (*Ulmus thomasii*).

During field surveys of the project corridors, 120 bird species, 14 mammal species, and eight amphibian and reptile species were observed. Neo-tropical migrants are bird species of concern because of habitat reduction. Thirty-five species of neo-tropical migrants were observed during the survey, with 27 of these species likely breeding. Invasive and noxious plant species are found within the uplands and wetlands of the project corridors.

One federally-listed endangered species, the Indiana bat, has the potential to occur in the project corridors although no individuals were observed. Twelve state threatened and endangered species, including three plants, three birds, one mammal, one reptile, two fish, and two mussels, have the potential to occur based upon historical records, field surveys, and available habitat.

There are no Nature Preserves within the project corridors; however, portions of two Nature Preserves are within 1 mile of the corridors. Two Illinois Natural Areas Inventory (INAI) sites, Aux Sable Creek and the Fox River, are crossed by the corridors.

There are no Natural Heritage Landmarks or Land and Water Reserves within the corridors.

Limited areas of wetland, prairie, and forest remain in Grundy, Kendall, and Kane counties. Remaining prairies and oak savannas in these counties exist and continue to decline.

Groundwater is the primary source of potable water in the project corridors. There are no sole source aquifers (SSAs) in Illinois, and therefore no SSAs in the project corridor. There are two wellhead protection recharge areas for Plano's public wells near the project corridors.

Seep areas occur at groundwater discharge locations in the study area, including a groundwater seep identified on the south side of the Fox River. There are also other seep locations, such as the north bank of the Fox River where groundwater discharges into nearby streams.

Water Resources/Quality

The surface water resources in the study area include 14 streams within the Illinois River and the Fox River watershed. There are three Fox River sub-watersheds (Hollenbeck Creek, Rob Roy Creek, and Big Rock Creek), and three Illinois River sub-watersheds (Aux Sable Creek, Nettle Creek, and O'Brien Run) in the project corridors with tributaries within these sub-watersheds. These sub-watersheds vary in size from 15.3 to 193.8 square miles and include four Class B (highly valued aquatic resource) streams: Big Rock Creek, Rob Roy Creek, Aux Sable Creek, and Hollenbeck Creek.

Floodplains

The larger waterways within the project corridors that are identified as floodplains are Big Rock, Aux Sable, Welch, West Aux Sable, and Nettle. These floodplains are unstudied and do not have water surface elevations associated with them. The Fox River is the only studied floodway/floodplain that is being crossed within the project corridors.

Wetlands

Fifty-seven jurisdictional wetlands are within the project corridors, totaling approximately 65.24 acres. Individual wetlands are generally small, from 0.02 acres to 9.29 acres. Most of the wetlands are near or along streams. Wet meadows and wet floodplain forests comprise the majority of wetlands in number and in total area. The highest quality wetland is in a seep area on the south bank of the Fox River. Kane

County's Advanced Identification of Wetlands (ADID) study identified a pond and three farmed wetlands in the project corridors in addition to the jurisdictional wetlands.

Special Waste

The US Environmental Protection Agency's (USEPA) Comprehensive Environmental Response Compensation and Liability Information System) (CERCLIS) was reviewed to ascertain whether the proposed project will involve any listed sites. There are two CERCLIS listed hazardous waste sites and 135 non-CERCLIS sites near the project corridors.

Parks and Recreation/Special Lands

There are no public or private parks, school playgrounds or athletic fields, Illinois Nature Preserves, Forest Preserve Districts, recreation areas, or wildlife and waterfowl refuges present within the project rights-of-way. As such, there are no lands that involved use of Land and Water Conservation Act of 1965 funds or Open Space Lands Acquisition and Development Act funds.

Visual Resources

Two regional landscapes frame the visual resources of the study area, one rural and open (Grand Prairie) and the other more urban and more enclosed by terrain and vegetation (Fox River). Four landscape units are found within the two regional landscapes: the Illinois Prairie (open, rural, and nearly flat), Big Rock Prairie (similar to Illinois Prairie but interrupted by occasional streams and associated woods), Upper Fox Valley (streams and varied terrain), and Lower Fox Valley (more developed area). Suburban districts encompassing several existing communities also occur. The Upper Fox Valley and Big Rock landscape units contain some of the highest quality scenic resources in the study area.

3. Alternatives

Two detailed build alternatives presented for evaluation in this Draft Environmental Impact Statement (DEIS). Concurrence on these alternatives occurred at a meeting on September 9, 2005 of a National Environmental Policy Act (NEPA)/Section 404 Merger Team consisting of representatives of the Federal Highway Administration (FHWA), the IDOT, and environmental resource and regulatory agencies. The detailed build alternatives are:

- New Freeway Corridor B5 with IL-47 widening from I-80 to Caton Farm Road, referred to as "Alternative B5 with IL-47 Widening" in this DEIS.
- New Freeway Corridor B2 with IL-47 widening from I-80 to Caton Farm Road, referred to as "Alternative B2 with IL-47 Widening" in this DEIS.

These alternatives will be compared with the No-Action Alternative. The No-Action Alternative assumes that the detailed build alternatives are not built. It further assumes that the other programmed transportation projects in the study area are implemented as planned, as listed in the *Fiscal Year 2007-2012 Transportation Improvement Program (TIP)* for the Chicago Metropolitan Areas (Chicago Area Transportation Study, October 2006). Planned improvements assumed in the No-Action Alternative also include widening of IL-47 to four lanes from Caton Farm Road north to I-88, adding two ramps (eastbound entrance ramp and westbound exit ramp) at the I-88 and IL-47 interchange, and construction of a four-lane road in the proposed WiKaDuKe Trail corridor. Other projects likely to be implemented identified by IDOT representatives and County engineers also are included in the No-Action Alternative. These other planned improvement projects also will be implemented if one of the Prairie Parkway Study's detailed build alternatives were built.

The findings of an alternatives study provided the basis for the selection of the detailed build alternatives. This study was conducted using an approach that applied the principles of the IDOT's Context Sensitive Solutions (CSS) policy and the joint NEPA/Section 404 (of the Clean Water Act) Merger Process. The selection of detailed build alternatives was conducted using the following steps:

1. Identification of initial alternatives;
2. A "functional evaluation" of alternatives that focused on the potential travel benefits of each alternative; and
3. A "locational evaluation" of alternatives that focused on identifying alternatives that will have a lower potential for environmental impact.

The results of this three step process were presented to study area stakeholders and environmental resource and regulatory agencies for comment. The following decisions were reached based on the alternatives study:

- Congestion Management Alternatives—Congestion management and transit alternatives alone will not meet the purpose and need for this project as stand-alone projects or in combination with each other. They will have little effect on regional mobility and will not address local system deficiencies. They will provide marginal improved access to jobs, but will not reduce the potential for crashes.
- Arterial Road Improvement Alternatives—Arterial improvements also should be a component of the overall transportation system solutions strategy for the study area but will not meet the purpose and need for this project except as a component of a freeway/arterial improvement combination alternative. Freeway alternatives were found to consistently out-perform arterial alternatives on improving regional mobility, addressing local system deficiencies, improving access to jobs, and reducing the potential for crashes. Five stand-alone arterial improvements were evaluated. Three combinations for improving two or three north-south arterials were evaluated.

- Freeway Alternatives—Freeway alternatives will out-perform congestion management, transit, and stand-alone arterial improvements and will meet the project's purpose and need, except when the freeway terminates at the west side of the study area. The freeway alternatives will result in the greatest reductions in vehicle-miles traveled within the study area. Regional trip use, improved access to jobs, and reduced potential for crashes will be the greatest for the freeway alternatives. Since there is a general lack of through south to north multi-lane roads in the study area between I-80 and I-88, however, the study area's travel needs will not be best resolved by a single solution. Six stand-alone freeway corridors were evaluated.
- Freeway/Arterial Combination Alternatives—Travel benefits will be greatest with a freeway/arterial combination alternative. Three representative freeway/arterial combination alternatives in the central and eastern portions of the study area were evaluated. It was found that the travel benefits of these alternatives will be similar. Thus, potential for minimizing environmental impacts was the driving factor in deciding which central and/or eastern corridors to evaluate in detail in the DEIS. The eastern freeway corridor alternatives were found to have the greatest potential for both adverse community and natural resource impact and were not selected as a part of the detailed build alternatives.

In terms of the freeway component of freeway/arterial improvement combination alternatives, the Alternative B2 and Alternative B5 corridors were the corridors having the preferred blend of better ratings for travel benefits, a location close to population centers, and lower potential for environmental impacts.

For the arterial component of the detailed build alternatives, IL-47 and the WiKaDuKe Trail corridor were identified as two corridors that will provide the additional travel benefits desired in a combination alternative. Both of these corridors are identified by the IDOT and the Chicago Area Transportation Study (CATS) as Strategic Regional Arterials. Funds for Phase 1 engineering for IL-47 from the Kane County line to north of US-34 in the IDOT's *FY2007-2012 Proposed Highway Improvement Program* (July 2006), permit requests by Yorkville for widening IL-47 both north and south of Yorkville, the completion of the *WiKaDuKe Trail Land Use and Access Management Study* (Teska Associates, November 2004), and construction of several sections of the WiKaDuKe Trail, all indicate a commitment to widen these roads in the future. Current plans include improving the full WiKaDuKe Trail corridor, but only part of the IL-47 corridor. Thus, the detailed build alternatives include the widening to four lanes of IL-47 from I-80 to Caton Farm Road to provide for widening of IL-47 the full distance between I-80 and I-88 by 2030.

A congestion management component also is included in the detailed build alternatives. A series of engineering evaluations and iterative designs after selection of the detailed build alternatives resulted in modifications to the alignments within the corridors from those assessed during the selection of the alternatives. These refined alignments were used as the basis of assessing potential impacts in Chapter 4 of this DEIS.

Chapter 3 describes the detailed build alternatives and provides more detail on the evaluation findings and decisions that led to their selection.

4. Environmental Consequences

The key environmental impacts of the two detailed build alternatives are summarized in [Table S-1](#) and described in the paragraphs that follow. The impacts presented in [Table S-1](#) will not occur with the No-Action Alternative.

Table S-1. Summary of Key Environmental Impacts

Design Characteristics and Environmental Resources Affected	B2 with IL-47 Widening	B5 with IL-47 Widening
Design Characteristics		
• Length of freeway (miles)	33.9	37.0
• Length of IL-47 widening (miles)	12.0	12.0
• Right-of-Way required for construction (acres)	2,544	2,645
• Number of Interchanges	6	7
• New Impervious Area (acres)	559.0	591.0
• Estimated Cost (2006)	\$894.8 million	\$954.7 million
Social/Economic Impacts		
• Total Residences displaced	22	22
• Businesses (non-agricultural) displaced	0	0
• Worship Centers displaced	0	0
Agricultural Impacts		
• Farm Residences displaced	11	9
• Farm Business displaced	2	1
• Cropland (acres)	2,192.5	2,267.5
• Orchard/Vineyard (acres)	1.4	1.1
• Pasture and Hayland (acres)	30.2	25.1
• Farm Severances (by tract)	68	69
• Total Number of Affected Farms	170	189
• Farm Owners affected	185	198
• Total Adverse Travel by Farm Operators Moving Between One Part of their Operation and Another, Based on a Single Round Trip (miles) per Year for each Operator	317	258
• Farm Operators affected	177	188
• Prime Farmland (acres)	1,937	1,665
• Statewide and Local Important Farmland (acres)	509	849
• Landlocked Parcels	4	21

Table S-1 (concluded). Summary of Key Environmental Impacts

Design Characteristics and Environmental Resources Affected	B2 with IL-47 Widening	B5 with IL-47 Widening
Cultural Resource Impacts		
• National Register-Eligible Historic Resources with Adverse Effects	0	0
• National Register-Eligible Archaeological Resources with Adverse Effects	Surveys on-going	Surveys on-going
Noise Impacts		
• Number of Residences, Classrooms, or Churches with Noise Impacts (Approaching, Meeting or Exceeding 67 dBA or greater than 14 dBA increase over existing) (Projected 2030)	77	81
Natural Resource Impacts		
• Forest Impacts (acres)	58.4	54.0
• Protected Species Adversely Affected	0	0
Special and Protected Lands		
• Nature Preserves Affected	0	0
• Illinois Natural Areas Affected	2	2
• Parks and Forest Preserves Affected	0	0
Water Resources/Quality Impacts		
• Surface Water Crossings	84	83
• Private Water Wells within 200 feet/displaced	30/20	35/25
Floodplain Impacts		
• Affected 100-Year Floodplains (Zone A) (acres)	55.2	65.1
• Number of Floodplains Crossed	18	20
Wetland Impacts		
• Wetlands Displaced (acres)	2.64	2.71
• Number of Wetlands Filled	14	14
Special Waste Site Involvement		
• Number of Special Waste Sites Affected (Comprehensive Environmental Response Compensation and Liability Information System [CERCLIS]/Non-CERCLIS)	1/5	1/6
Visual Impacts	Moderate	Moderate
Indirect and Cumulative Impacts		
• Induced Population Growth Change (number above No-Action)	17,700	19,700
• Induced Change Growth in Number of Jobs (above No-Action)	26,600	28,800
• Induced Change in Land Area Needed for Development (to support population and employment increases above No-Action)(acres)	4,800	5,400

Social/Economic Impacts

Twenty-two residential relocations will result from the detailed build alternatives and one vacant commercial building will be displaced. Adequate replacement housing is available for residences displaced by the project. The IDOT will implement the provisions of the State of Illinois Relocation Assistance Plan in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended to assist displaced residents.

The detailed build alternatives will pass adjacent to the Lakewood Springs subdivision, south of US-34 with associated noise and visual impacts. They will not, however, divide neighborhoods or subdivisions or separate neighborhoods or subdivisions from their public services. The detailed build alternatives will not disproportionately affect concentrations of minorities, low-income households, or the elderly.

Because the proposed project will not bypass any existing communities, the potential direct negative effects on existing businesses will be minor. There will be both potential benefits and disbenefits to existing local businesses associated with the improved accessibility offered by the detailed build alternatives. The two alternatives will generate approximately 21,600 to 28,600 construction jobs. These construction jobs will be temporary in nature and may be available for several years depending upon construction funding. The purchase of right-of-way for the two detailed build alternatives will result in a tax loss for area taxing districts of approximately 0.3 percent of total taxes collected.

Noise impacts from the IL-47 Widening will affect nine classrooms at Saratoga Elementary School. No worship centers will be displaced. The IL-47 Widening component of the detailed build alternatives will not affect Morris Municipal Airport.

The compatibility with land use plans of the detailed build alternatives will vary by alternative and by jurisdiction. A freeway alignment corresponding to the Protected Corridor, and in the same general location as the Alternative B5 freeway and the northern portion of the Alternative B2 freeway, is included in a majority of area land use plans, except the land use plans for Grundy and Kane counties. The detailed build alternatives are expected to induce some residential and commercial development in the study area that is not consistent with the land use patterns envisioned in area land use plans.

Agriculture Impacts

The two detailed build alternatives will have similar direct impacts on farm operations. With its greater length and both north-south and east-west orientation, Alternative B5 with IL-47 Widening will affect two percent more farmland than Alternative B2 with IL-47 Widening, as well as affect more farm owners. Approximately 43 percent of the agricultural land for Alternative B5 with IL-47 Widening will be within planned development boundaries for local municipalities. For Alternative B2 with IL-47 Widening the percent of agricultural lands within this limit will be lower—only 27

percent. South of Caton Farm Road, over 50 percent of the agricultural lands of Alternative B5 will be within planned development boundaries, while Alternative B2 crosses a rural area where none of the agricultural lands are within planned development boundaries. The number of adverse travel situations will be less for Alternative B5 compared to Alternative B2. The soils affected will be typically productive soils (Class 1 through Class 3) associated with prime farmland. No existing Kane County Agricultural Conservation Easement and Farmland Protection Program land will be used with either alternative. Land will be used from three to four Centennial Farms.

Cultural Resource Impacts

A total archaeological survey is being completed within the rights-of-way of the detailed build alternatives. Should archaeological sites that have the potential to meet the criteria for eligibility for the National Register of Historic Places be found within the right-of-way of an alternative selected for implementation, a program of subsurface evaluation will be implemented. No above ground historic resources listed on or eligible for inclusion in the National Register of Historic Places will be adversely affected by the detailed build alternatives. The effects on archaeological resources will be determined upon completion of the detailed survey work.

Air Quality Impacts

The proposed project will not have the potential for contributing to a violation of the NAAQS for carbon monoxide (CO). A PM_{2.5} hot-spot analysis is required to determine project level hot-spot conformity. The project level hot-spot conformity determination will be completed prior to issuance of a Record of Decision. It is possible that localized increases and decreases in Mobile Source Air Toxics (MSAT) emissions may occur. The localized increases in MSAT emissions likely will be most pronounced along the new freeway that will be built with the construction of a detailed build alternative. However, even if these increases do occur, they also will be substantially reduced in the future because of implementation of USEPA's vehicle and fuel regulations.

Based on analysis conducted by Chicago Metropolitan Agency for Planning (CMAP) staff, the CATS Policy Committee determined that the TIP for federal fiscal years 2007 to 2012 conforms with the 8-hour ozone standard and the annual fine particulate matter (PM_{2.5}) standard. The Prairie Parkway is identified in the TIP as project 09-02-9033.

Noise Impacts

Noise impacts will occur at 77 receptors with Alternative B2 with IL-47 Widening and 81 receptors with Alternative B5 with IL-47 Widening. A receptor can be a home, church, or classroom. There is a subdivision along the east side of Alternative B2 and Alternative B5, south of US-34, where impacts will result at 39 of the 66 residences. The remainder of the affected receptors will include individual homes, farms, and a school along the detailed build alternatives. Noise abatement will likely be both feasible and

reasonable in two areas, including the subdivision south of US-34 and Saratoga School along the west side of IL-47. A final decision on the installation of abatement measures will be made upon completion of the project design and the public involvement process.

Natural Resource Impacts

The two detailed build alternatives will not affect bedrock conditions but construction activities such as grading, filling, compaction, and excavation will alter surface geology. Mining activities will not be directly affected but at one location the detailed build alternatives will limit directional expansion of mining activities on a parcel owned by the mine operator. During construction, the proposed project will create a short-term increase in demand for construction materials in the project corridors, which could benefit local mining operations.

Existing vegetative cover will be removed. Alternative B5 with IL-47 Widening is the longest alternative and therefore will affect the largest number of acres (2,865 acres compared to 2,811 for Alternative B2 with IL-47 widening). Land uses that will be affected consist primarily of cropland and urban land. Both detailed build alternatives will affect eight forest stands. Forest impacts will be larger with Alternative B2 with IL-47 Widening (58.4 acres versus 54.0 acres). In addition to habitat loss, some wildlife species may be affected by forest fragmentation and by obstruction or elimination of wildlife movement corridors.

Implementation of existing maintenance provisions should minimize the establishment of invasive species in the project right-of-way and limit impacts to adjacent natural habitats.

Potential project impacts to one federally-listed species (Indiana bat) and five state-listed species were analyzed and determined to be not adverse. Two natural areas, the Fox River and Aux Sable Creek, including its Valley Run tributary, will be crossed by both detailed build alternatives.

Water Resources/Quality Impacts

Surface water impacts will be associated with both construction and operation of the proposed project. The two detailed build alternatives will cross 14 streams and their tributaries. Alternative B2 with IL-47 Widening will have 56 freeway/IL-47 widening crossings and 28 cross road or ramp crossings for a total of 84 stream crossings. Alternative B5 with IL-47 Widening will have 54 freeway/IL-47 widening crossings and 29 cross road or ramp crossings for a total of 83 stream crossings. IL-47 will account for 10 of the crossings with each detailed build alternative. The primary crossing structure will be culverts; however, Alternative B2 with IL-47 Widening will include 12 bridges and Alternative B5 with IL-47 Widening will have 14 bridges. Additionally, erosion control measures will be implemented during construction to limit the effects to the streams with highly erodible soils in the project corridors.

Included in the design of the detailed build alternatives will be measures to mitigate the effects of storm water runoff on water quality. Drainage from the right-of-way will be controlled and treated via a series of vegetated-swales and either dry detention basins, infiltration basins, or wet detention basins with wetland plantings. For watersheds, such as O'Brien Run, Hollenbeck Creek, Fox River, Aux Sable Creek, Big Rock Creek, and Welch Creek, wet detention basins with wetland plantings will be used to achieve additional pollutant removal. These planned storm water control measures will maintain the general use water quality standards of the streams crossed by the proposed project.

Floodplain Impacts

Alternative B2 with IL-47 Widening will require 17 transverse floodplain encroachments and four longitudinal crossings. This alternative along its length also will add approximately 559 acres of impervious area. Alternative B5 with IL-47 Widening will require 19 transverse encroachments and four longitudinal encroachments. This alternative also will add approximately 591 acres of impervious area. Compensation for fill in the floodplain/ floodway will be based on IDOT and Illinois Department of Natural Resources, Office of Water Resources criteria. Detention storage will be used both to mitigate this impact and to compensate for the additional impervious area created with the proposed project.

Wetland Impacts

The assessment of potential wetland impacts is based upon direct impacts related to the roadway construction, which includes areas within the proposed rights-of-way of mainline construction and of cross street improvements. Construction will include placement of fill for roadways, ramps, and grading for drainage and storm water conveyance and storage. Wetland impacts related to roadway construction will include vegetation removal, placement of clean fill, and changes to the wetland hydrologic regime. Besides the loss of wetland acreage, some wetland functions and values may be affected by the proposed project.

Of the 57 field delineated wetlands within the project corridors, Alternatives B2 with IL-47 Widening and Alternative B5 with IL-47 Widening each would directly affect 14 wetland sites. Thirteen of the directly affected sites are affected by both alternatives. Twelve of the affected sites are within the Fox River watershed (Hydrologic Unit 07120007) and four are within the Illinois River watershed (Hydrologic Unit 07120005). Alternative B2 with IL-47 Widening would affect 2.64 acres, of which 0.33 acres occur within the Illinois River watershed. Alternative B5 with IL-47 Widening would affect 2.71 acres, of which 0.40 acres occur within the Illinois River watershed.

Avoidance of wetlands, in particular the wetlands associated with the seeps along the Fox River, was a consideration in the development of the detailed build alternatives. Mitigation for wetland impacts will follow the IDOT's *Wetland Action Plan*. The

compensation plan for this proposed project will be to purchase or utilize credits from wetland banks.

Special Waste Site Involvement

The USEPA listing of potential, suspected, and known hazardous waste or hazardous substance sites in Illinois (CERCLIS) has been reviewed to ascertain whether the proposed project will involve any listed sites. As a result of the review, it has been determined that the detailed build alternatives will require right-of-way and/or easement from a site (Monarch Foundry, Site 1582B-3) included in the CERCLIS listing as of June 6, 2006.

Visual Impacts

Impacts to visual and aesthetic resources from the proposed project will be similar for the detailed build alternatives. Impacts will result from changes to the terrain, and natural and/or cultural features that will have a long-term effect on the visual environment.

Indirect and Cumulative Impacts

The indirect impacts of the Prairie Parkway project will be associated with induced land development resulting from improved accessibility and mobility provided by the project. Cumulative impacts result from the project, induced development, and other reasonably foreseeable development that will occur anyway with or without the project.

According to the expanded CATS model projections for the 14-county region, the study area will grow by some additional 36,000 people and 46,000 jobs with Alternative B2 with IL-47 Widening by 2030. Alternative B5 with IL-47 Widening will grow by an additional 35,000 people and 43,000 jobs. This growth reflects a shifting of expected regional growth from other parts of the region to the study area. It is not new regional growth. While the change in the location of growth is notable in the study area, as a whole these numbers are small fractions of the 14-county 2030 regional population (0.3 percent of 11.6 million) and employment (0.6 percent of 7.6 million). The Prairie Parkway project will have a small potential impact on the conversion of agricultural land (nearly 5,000 acres in the study area) when compared with the large amount of growth that will occur even with the No-Action Alternative. Much of that induced development will occur within 5 miles of the proposed project interchanges.

The most notable indirect effect of the detailed build alternatives will be to channel shifted development between now and 2030 near the project interchanges with US and State highways. Development likely will not be less dense since planned densities are already low, but there is a potential for development to occur in a more scattered and less compact pattern. This phenomenon will increase the potential for development in areas not planned for development in area land use plans. Additional areas of the remaining native resources of the study area only protected in part by existing local, state, and federal environmental protection laws and ordinances will be at risk.

Many federal, state and local regulations are already applied in the study area that can channel development where it is wanted and away from protected resources. Most of the local and county land use plans have anticipated and planned for the increased mobility and access provided by the project. These plans are mostly current, and the accompanying land use regulatory controls, such as zoning and subdivision regulations, are able to locate new growth consistent with local public planning policy. Other mitigation opportunities could be seized through additional and coordinated local land use controls.

5. Public Involvement

The Prairie Parkway Study has used CSS principles since its inception. This effort aided IDOT in establishing its CSS policy. CSS continues to be a part of the Prairie Parkway Study under IDOT's CSS policy. CSS is an interdisciplinary approach that seeks effective, multimodal transportation solutions by working with stakeholders to develop, build and maintain cost-effective transportation facilities that fit into and reflect the project's surroundings. Through early, frequent, and meaningful communication with stakeholders, and a flexible and creative approach to design, the resulting project should improve safety and mobility for the traveling public, while seeking to preserve and enhance the scenic, economic, historic, and natural qualities of the settings through which they pass.

The heart of CSS is extensive and continuous multi-level partnerships with stakeholders in determining what kind of facility will solve the identified transportation problems and meet the area's need. The Prairie Parkway Study has proactively established working relationships with a wide range of stakeholders since the study was initiated. This has included hundreds of stakeholder meetings with municipalities, townships, counties, legislators, agencies, civic groups, conservation groups, environmental groups, farm bureaus, chambers of commerce, economic development groups, and other interested groups. A Technical Advisory Group also was established with a subset of the above stakeholders which has been superseded by a Corridor Planning Group and several task forces. Twelve sets of public information meetings and one set of public workshops also were conducted using different meeting formats. A project website, newsletters, fact sheets, and the media were used to disseminate information concerning the project. Focus groups and a telephone survey were used to gain both qualitative and quantitative information about study issues and possible solutions. As a result of the public involvement process follow-up to the May 2005 public meetings, nine letters or resolutions were received in favor of Alternative B5 (Protected Corridor) with IL-47 Widening and none received in favor of Alternative B2 with IL-47 Widening.

Following the May 2005 public meeting for alternatives studies, the governmental bodies in the project area submitted letters or resolutions regarding the project. There were four resolutions and four letters in support of Alternative B5 (Protected Corridor) with IL-47 Widening and one resolution in support of either detailed build alternative.

An initial draft of the preliminary design for the detailed build alternatives was presented to local elected officials and the public in April 2006. Comments received indicated general approval or opposition to a specific alignment or property impact. The alignments were further refined based on comments made at these meetings.

6. Other Proposed Actions

Other proposed actions in the study area are programmed transportation projects listed in the *Fiscal Year 2007-2012 TIP* for the Chicago Metropolitan Areas (Chicago Area Transportation Study, October 2006). Other actions include widening of IL-47 to four lanes from Caton Farm Road north to the Kane County line and construction of several sections of a four lane road in the proposed WiKaDuKe Trail corridor on the east side of the study area, as well as other projects with a very high probability of implementation identified by County Engineers. These projects are shown in Chapter 3 in [Figure 3-1](#) and listed in [Table 3-1](#).

7. Major Unresolved Issues with Other Agencies

There are no major unresolved issues with other agencies.

8. Other Federal Actions Required for the Proposed Action

A Corps of Engineers Section 404 permit and accompanying Section 401 certification will be required for water resource impacts with the detailed build alternatives. A National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges from construction sites will be needed.

