Illinois Route 131

Russell Road to Sunset Avenue

Lake County, Illinois

ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to 42 USC 4332 (2)(c)

by the

U.S. Department of Transportation
Federal Highway Administration

and

Illinois Department of Transportation

Cooperating Agencies

Federal Aviation Administration, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, Illinois Department of Agriculture, Illinois Historic Preservation Agency and Illinois Department of Natural Resources

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The proposed project involves widening and reconstructing Illinois Route 131 for 7.3 miles between Russell Road and Sunset Avenue in Lake County, Illinois. The proposed improvements include: two lanes in each direction, dedicated left and right turn lanes; a raised median between Russell Road and Yorkhouse Road; a flush two-way left turn lane between Yorkhouse Road and Sunset Avenue; a shared-use path; and a sidewalk. The proposed project will improve mobility, improve safety and upgrade roadway features to meet current design standards. It will also meet the goal of improving facilities for pedestrians and bicyclists. The proposed project will convert 48.0 acres of land to transportation use, including two relocations. The project will not result in disproportionately high and adverse effects to low-income or minority populations. Noise walls are feasible, meet IDOT's noise reduction goal, and are cost effective at four locations. The decision whether to build the noise walls will be made once the viewpoints of the benefited receptors are obtained. The improvements will impact 8.60 acres of farmland and 2.81 acres of wetlands. A Section 404 Permit will be required. FHWA intends to apply a Section 4(f) *de minimis* finding to the 1.23 acres of permanent right-of-way, permanent easement and temporary easement required from the Waukegan Sports Park and is seeking input on the proposed impacts to the park as part of the public hearing process for this Environmental Assessment. A Section 4(f) exception for temporary occupancy applies to the 0.10 acres of temporary easement required from Shepherd's Crook Golf Course. The project is being coordinated with ongoing planning activities at the Waukegan National Airport.

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1. INTRODUCTION

The Illinois Route 131 (IL 131) project stretches for 7.3 miles from the Wisconsin/Illinois state line (Russell Road) south to Sunset Avenue. The project is located in portions of the City of Zion, the Village of Wadsworth, the Village of Beach Park and the City of Waukegan, Benton Township, Newport Township and Waukegan Township in northeastern Lake County, Illinois. Figure 1-1, page 1-3 shows the project location.

The Illinois Department of Transportation (IDOT) is managing the IL 131 project in partnership with the Federal Highway Administration (FHWA). Alternatives for improving IL 131 were developed through the IDOT's Phase I study process, which uses environmental and engineering studies to find solutions for transportation problems. IDOT is also using a process called context sensitive solutions, or CSS, to involve local stakeholders early and often in the decisions about the project. Stakeholders include residents and other interested parties who can help IDOT understand the needs for, and concerns about, a project. Input given by stakeholders, residents and business-owners at large-scale public meetings and smaller working group meetings played an important role in the development of the IL 131 project.

IL 131 is a Strategic Regional Arterial (SRA) and part of the National Highway System. This means that IL 131 serves as a key north-south route which supplements the expressway system by moving long-distance, high-volume automobile and commercial vehicle traffic in northeastern Illinois. The existing IL 131 roadway is two lanes with turn lanes at major intersections throughout the project area. In general, the existing land use is industrial and agricultural between Russell Road and IL 173. The land use changes to mostly single-family residential and commercial between IL 173 and Sunset Avenue. The project area also includes several recreational areas and the Waukegan National Airport.

What is an Environmental Assessment?

The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to prepare an Environmental Assessment (EA) when they are planning a project that may significantly affect the environment. The EA provides a complete picture of a project, from beginning to end. It describes why the transportation project is needed, the alternatives studied, potential effects, and public and agency comments. This allows environmental effects to play an important role – alongside other considerations such as feasibility and cost – in decisions made about a project.

The EA is made available for the public to review, and a public hearing is held to present its conclusions. The project sponsor must consider all of the comments received during this process before making a final decision about a project.

The proposed project involves widening IL 131 between Russell Road and Sunset Avenue. The proposed improvements include:

- Two through lanes in each direction;
- A raised median between Russell Road and Yorkhouse Road;
- A flush two-way left turn lane between Yorkhouse Road and Sunset Avenue;
- Dedicated left turn lanes at major intersections;

- Dedicated right turn lanes where needed to provide acceptable traffic operations;
- 8- to 10-foot shared-use path (or graded shelf, see Section 3.7.1);
- 5-foot sidewalk (or graded shelf, see Section 3.7.1); and
- Relocation and lowering of IL 131 between Beach Road and Yorkhouse Road to comply with Federal Aviation Administration (FAA) regulations and planned expansions at the Waukegan National Airport (see Section 3.6.3).

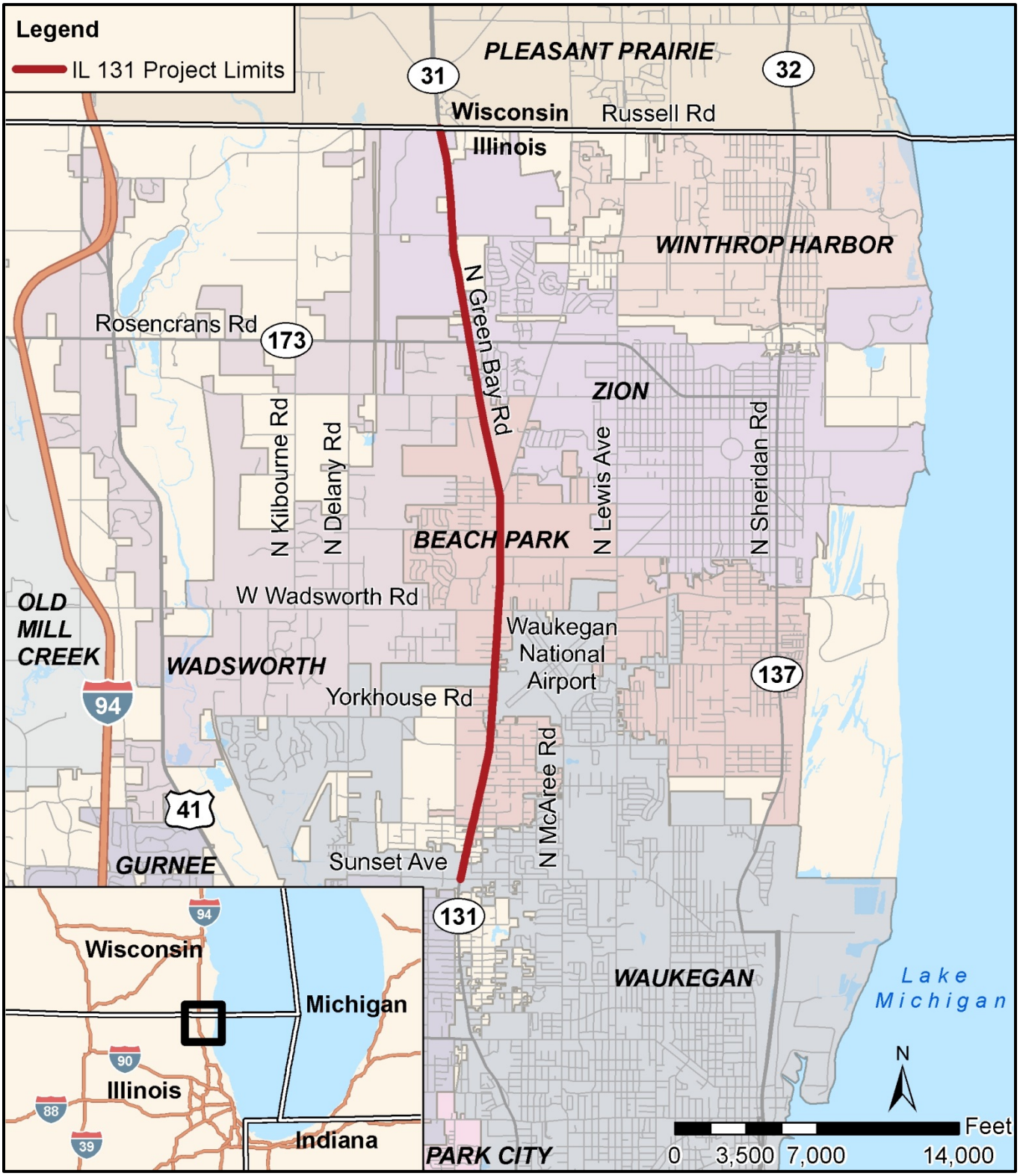
The proposed improvements will meet the following needs:

- Improve mobility;
- Improve safety; and
- Upgrade roadway features to meet current design standards.

In addition, the proposed improvements will meet the goal of improving pedestrian and bicycle facilities along IL 131.

This Environmental Assessment (EA) discusses the project's purpose and need; summarizes the alternatives considered; presents the reasons for choosing the preferred alternative; and evaluates the potential effects to the human and natural environment. Ways to avoid, minimize, or mitigate the project's potential impacts are also discussed. A summary of the resources, impacts and mitigation is also provided in Section 4.1.

Figure 1-1: Project Location Map



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2. PURPOSE AND NEED

2.1. Purpose of Project

The purpose of the proposed action is to provide an improved transportation system for IL 131 from Russell Road to Sunset Avenue. To accomplish this, the project must:

- Improve mobility;
- Improve safety; and
- Upgrade roadway features to meet current design standards.

These needs are explained in the following sections.

What is Purpose and Need?

The purpose and need define the transportation problems that a project must solve.

The purpose and need also act as "measuring sticks" for the project alternatives, helping determine how each alternative – or potential solution – meets each project need. Alternatives that do not meet the basic needs of a project are not studied further. Assuming all other concerns are equal, if one alternative meets the project purpose and need better than another, then that alternative is favored as the project progresses.

The purpose and need also help decide where a project will begin and end by defining the "who, what, where, when and why" of the transportation needs. This allows an agency to create alternatives that satisfy the project's needs completely – no more, no less.

The purpose and need also address the beginning and end points of the project – called "logical termini." Logical termini for roadway projects are usually interchanges or intersections where travel demand or other roadway features change.

2.2. Project Need

2.2.1. Improve Mobility

Mobility is the easy movement of people and goods through an area. Mobility is important on IL 131, which is a Strategic Regional Arterial (SRA) and part of the National Highway System. This means that IL 131 serves as a key north-south route in northeastern Illinois, which supplements Interstate 94, U.S. 41, and IL 137 (Sheridan Road). In this role, IL 131 serves relatively long-distance and high-volume traffic. North of Russell Road, IL 131 changes to WI 31, which is a four-lane road with a wide median. South of Sunset Avenue, IL 131 is a four-lane road with a center lane for left turns. However, the stretch between Russell Road and Sunset Avenue is only two lanes with turn lanes at major intersections. This creates a bottleneck and limits mobility along an important north-south arterial.

Level of Service (LOS) describes the quality of traffic flow or mobility. It is graded on a letter scale from A (best) to F (worst). LOS A represents near ideal traffic flow, while LOS F represents a breakdown of the traffic flow. Figure 2-1, page 2-2 provides a detailed description of what the levels of service look like at intersections with a traffic light and on the two-lane roadway sections between the intersections.

Figure 2-1: 2-Lane Highway and Intersection Levels of Service (LOS)

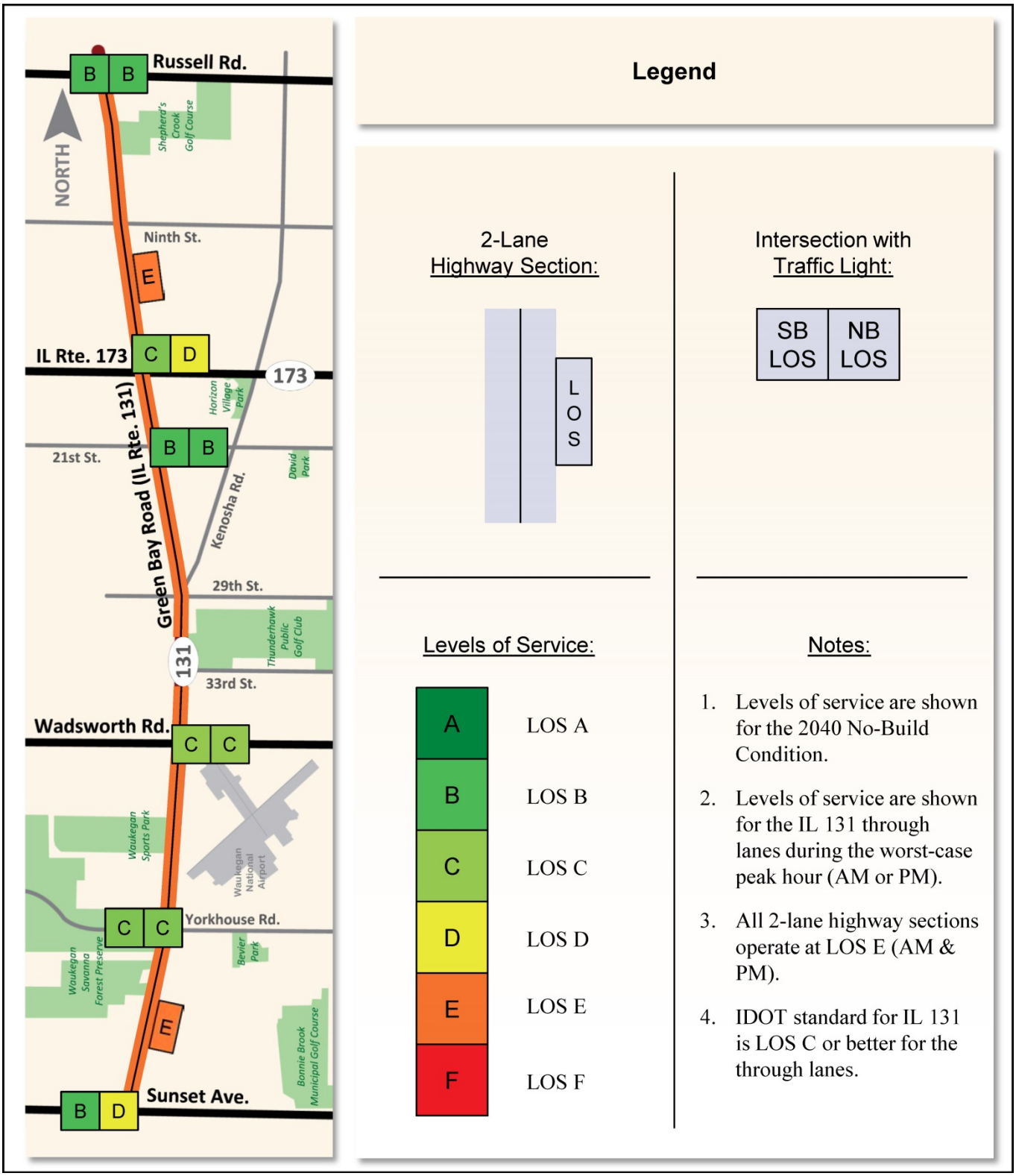
2-Lane Highway Sections	Intersections with Traffic Lights
LOS A Drivers are able to travel at the speed limit. Vehicles drive in groups of three or less.	**LOS A** Most vehicles arrive at the green light and travel through without stopping.
LOS B Drivers travel at slightly reduced speeds. Larger groups of vehicles start to form as they move down the roadway.	**LOS B** Vehicles still move through the intersection very well, but more have to stop at the red light.
LOS C Speeds on the roadway are noticeably reduced. Most vehicles travel in a group as they move down the roadway.	**LOS C** A substantial number of vehicles have to stop at the red light, but many still pass through without stopping.
LOS D Travel speeds are substantially below the speed limit. Long lines of vehicles form while traveling down the roadway.	**LOS D** Many vehicles stop at the red light. Traffic starts to back up, and some stopped vehicles do not make it through the green light.
LOS E Travel speeds are less than two-thirds of the speed limit. The number of vehicles is approaching the maximum the roadway can handle.	**LOS E** Traffic volumes are higher than the intersection can handle with lines of stopped vehicles. A high number of stopped vehicles do not make it through the green light.
LOS F Traffic flow is unstable. Traffic volumes are higher than the roadway can handle. Travel speeds are greatly reduced. There is heavy congestion all along the roadway.	**LOS F** Traffic flow has broken down. Traffic volumes are high, and there are long backups at the intersection. Most vehicles have to wait through one or more green lights to get through.

The Chicago Metropolitan Agency for Planning (CMAP) projected the amount of traffic expected to travel on IL 131 by the year 2040 if no improvements are made to the roadway. This is called the "No-Build" condition. Using these volumes, two "peak hours" (morning and evening rush hours) of an average weekday were analyzed. The Illinois Department of Transportation (IDOT) standard for a suburban SRA route like IL 131 is LOS C or better for the through lanes and LOS D or better for turn lanes. However, all the roadway sections and two of the intersections on IL 131 are projected to operate below IDOT standards by the year 2040 (see Figure 2-2, page 2-3).

There are many driveways and intersecting side streets with stop signs along IL 131, mainly between Sunset Avenue and IL 173. Vehicles often cause traffic backups while slowing or stopped to turn from IL 131 into the many driveways along the roadway. This is especially apparent during peak periods, when left-turning vehicles must wait longer for gaps in the oncoming traffic. These conditions further slow traffic flow on IL 131.

The proposed project is intended to improve mobility by providing better levels of service and reducing delays caused by turning vehicles.

Figure 2-2: 2040 No-Build Levels of Service (LOS)



2.2.2. Improve Safety

Historic crash data is one sign of highway safety. The project team analyzed the crashes that happened along IL 131 for the five years between 2009 and 2013[1]. During that time, there were 727 crashes between Russell Road and Sunset Avenue. Of these, 375 involved an injury[2]. The crashes were broken down into sections and intersections, which are discussed below.

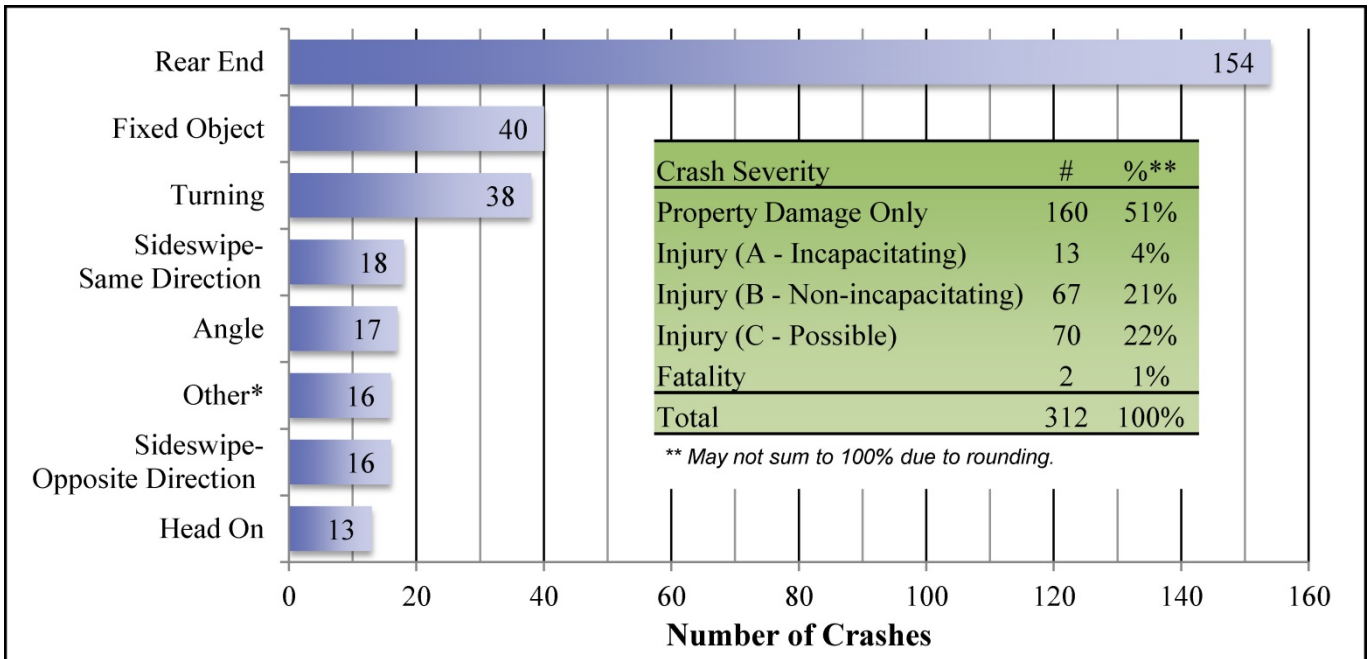
Section Crashes

Section crashes occur on the stretches of roadway between the major intersections. As shown in Figure 2-3, rear ends were the most common type of section crash. Many rear end crashes happened when one vehicle ran into another that had slowed down or stopped to turn into a driveway or side street. Other times, drivers had sideswipe or rear end crashes as they tried to swerve around or pass a vehicle that was slowing or stopped in traffic.

Fixed object crashes made up the second-most common type of section crash. Utility poles, trees, vegetation and other objects are located close to the IL 131 roadway, which increases the likelihood they will be struck by a vehicle. In addition, the shoulders along IL 131 are not paved. This makes it harder for a vehicle to recover if it does leave the pavement, increasing the chances of striking a fixed object.

Other common section crashes included angle and turning, which often involved drivers turning to and from driveways and side streets. Traffic congestion along IL 131 can contribute to these crashes. As mobility decreases, there are fewer and smaller gaps for turning vehicles, leading to more crashes.

Figure 2-3: Section Crash Summary



* Includes overturning, pedestrian, pedestrian/cyclist, animal, other object, other non-collision and parked vehicle.

[1] Crash data from 2009 to 2011 provided by Lake County. Crash data from 2012 to 2013 provided by IDOT.
[2] Injury crashes include incapacitating, non-incapacitating, possible and fatal (types A, B, C and K, respectively).

One way to see if the crashes on IL 131 are higher than usual is to compare it to other similar roadways. IDOT keeps track of the crash rates[3] on all roads in the state. IDOT also reports statewide average crash rates[4] for similar groups of roadways based on their speed, traffic volumes, number of driveways and general trip types. The total crash rate on the sections of IL 131 between Wadsworth Road and Yorkhouse Road and between Yorkhouse Road and Sunset Avenue are greater than the statewide average for similar roadways (see Figure 2-4). These sections have the highest number of driveways (see Figure 2-5) and the highest traffic volumes (see Table 2-1, page 2-6) along IL 131. These are key reasons why the crash rates are higher in these areas. In addition, the injury crash rate

Figure 2-4: Section Crash Rates

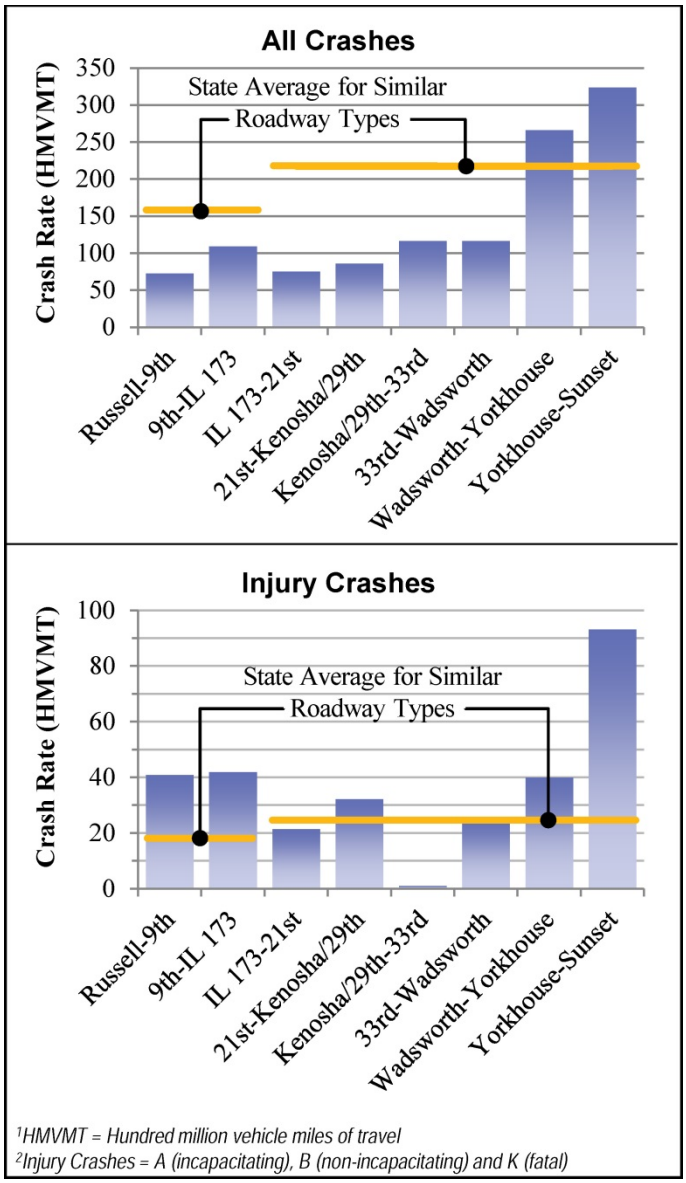
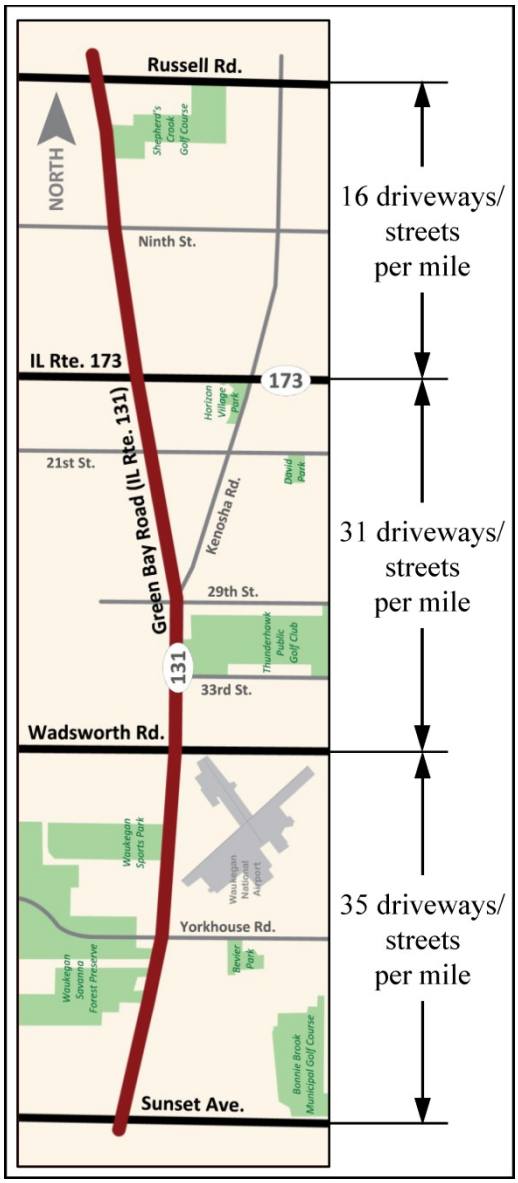


Figure 2-5: Driveway Density



[3] Section crash rates are the number of crashes compared to the total number of miles traveled on a roadway section during a year (expressed as hundred million vehicle miles of travel or HMVMT).

[4] IDOT Safety Analysis Data (2007–2011)

Table 2-1: IL 131 Average Daily Traffic

Section		Existing (2015) ADT*	No-Build (2040) ADT*
From	To		
Russell Rd.	9th St.	12,100	13,000
9th St.	IL 173	13,100	15,000
IL 173	21st St.	10,250	13,000
21st St.	Kenosha Rd.	10,250	13,000
Kenosha Rd.	Wadsworth Rd.	13,200	17,000
Wadsworth Rd.	Yorkhouse Rd.	13,200	16,000
Yorkhouse Rd.	Blanchard Rd.	16,600	19,000
Blanchard Rd.	Sunset Ave.	19,600	22,000

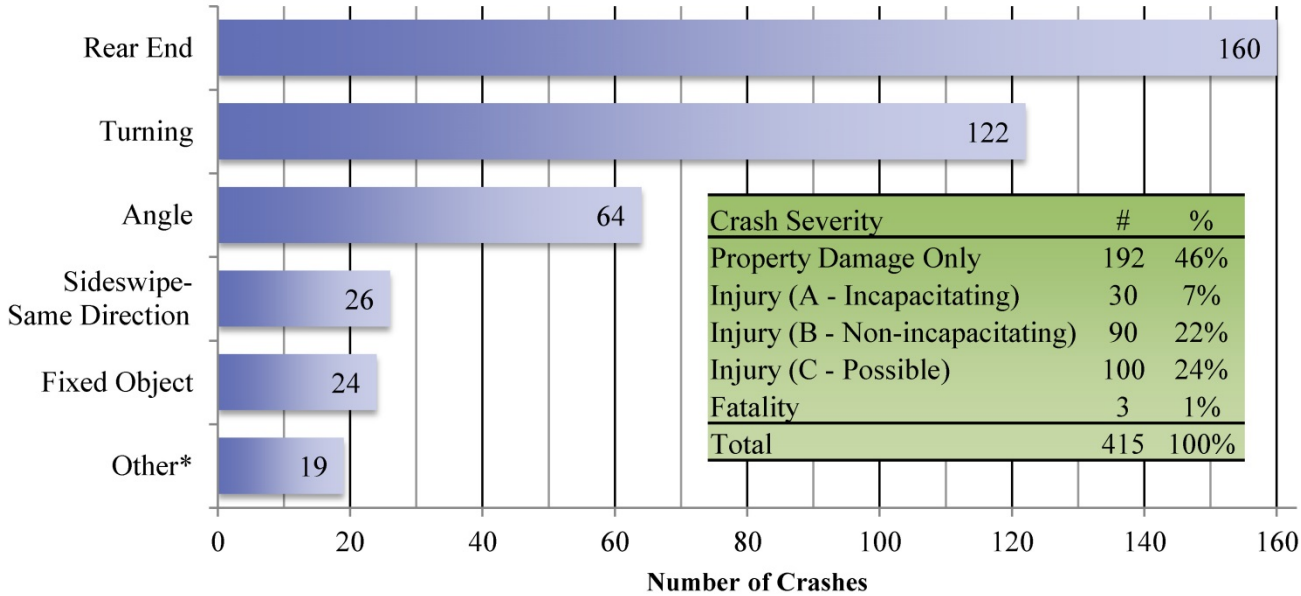
* Average Daily Traffic (ADT) is the average number of vehicles traveling on a roadway section each day (2040 traffic volumes provided by CMAP).

(including fatal crashes) on nearly all the IL 131 sections approach or exceed the statewide average for similar roadways (see Figure 2-4, page 2-5).

Intersection Crashes

Between 2009 and 2013, there were 415 crashes at the major intersections along IL 131. As shown in Figure 2-6, rear ends, angle and turning were the most common types of intersection crashes. Similar to the roadway sections, rear end crashes often occurred when a driver struck a vehicle slowing or stopped in traffic. Turning and angle crashes usually happened when vehicles tried to turn left or right at the intersection or ran a red light. Traffic congestion can also lead to rear end, angle and turning crashes. During periods of high traffic volumes, lines of vehicles can form on the intersection approaches. Turn lanes throughout the corridor are not long enough to hold all of the vehicles waiting to turn, causing them to back up into the through traffic lanes. These factors decrease mobility (see Section 2.2.1) and increase the chance of rear end crashes. In addition, there

Figure 2-6: Intersection Crash Summary



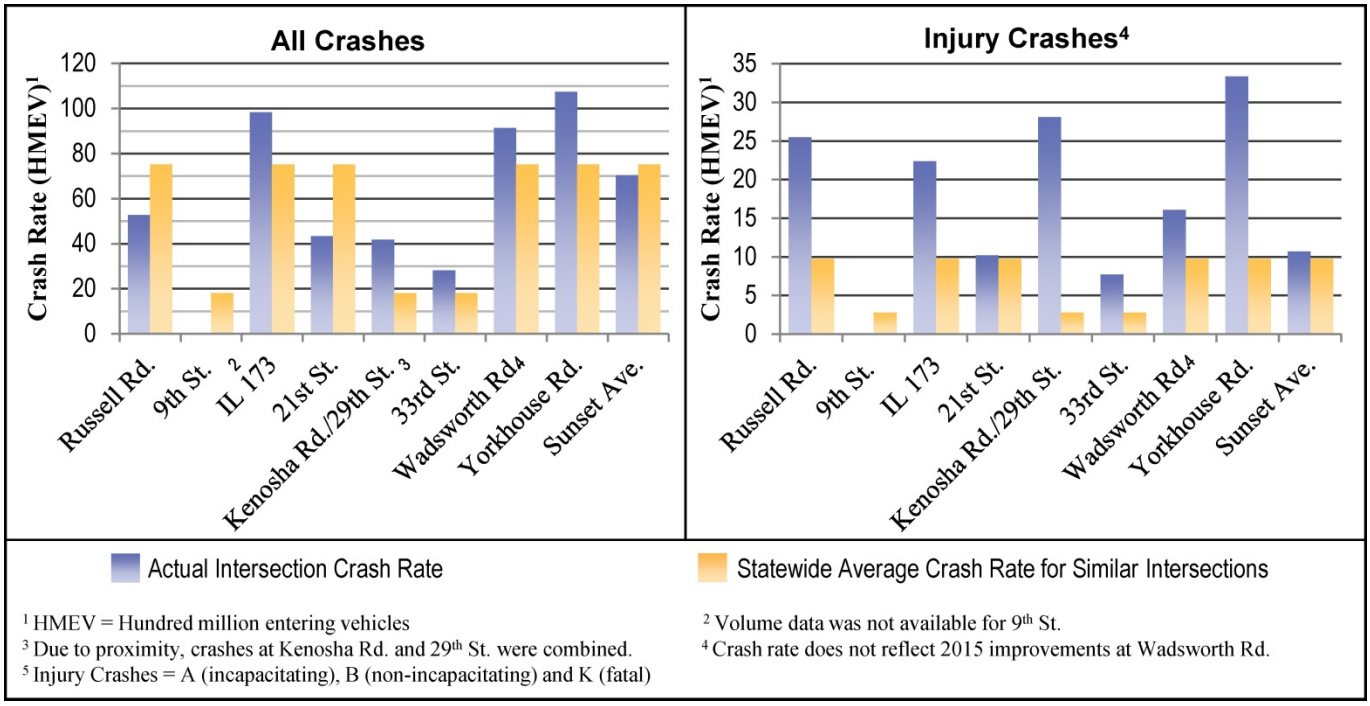
Crash Severity	#	%
Property Damage Only	192	46%
Injury (A - Incapacitating)	30	7%
Injury (B - Non-incapacitating)	90	22%
Injury (C - Possible)	100	24%
Fatality	3	1%
Total	415	100%

* Includes overturning, pedestrian, pedestrian/cyclist, animal, other object, other non-collision, parked vehicle, head on and sideswipe opposite direction.

are fewer and smaller gaps in the on-coming traffic, which leads to more angle and turning crashes. As traffic volumes continue to increase, these types of crashes are expected to increase, as well.

Intersection crash rates are the number of crashes compared to the total number of vehicles traveling through an intersection during a year (expressed as hundred million entering vehicles or HMEV). As shown in Figure 2-7, over half of the intersections along IL 131 have total crash rates that are above the statewide average for similar intersections. All of the intersections have injury crash rates (including fatal crashes) that are above the statewide average.

Figure 2-7: Intersection Crash Rates



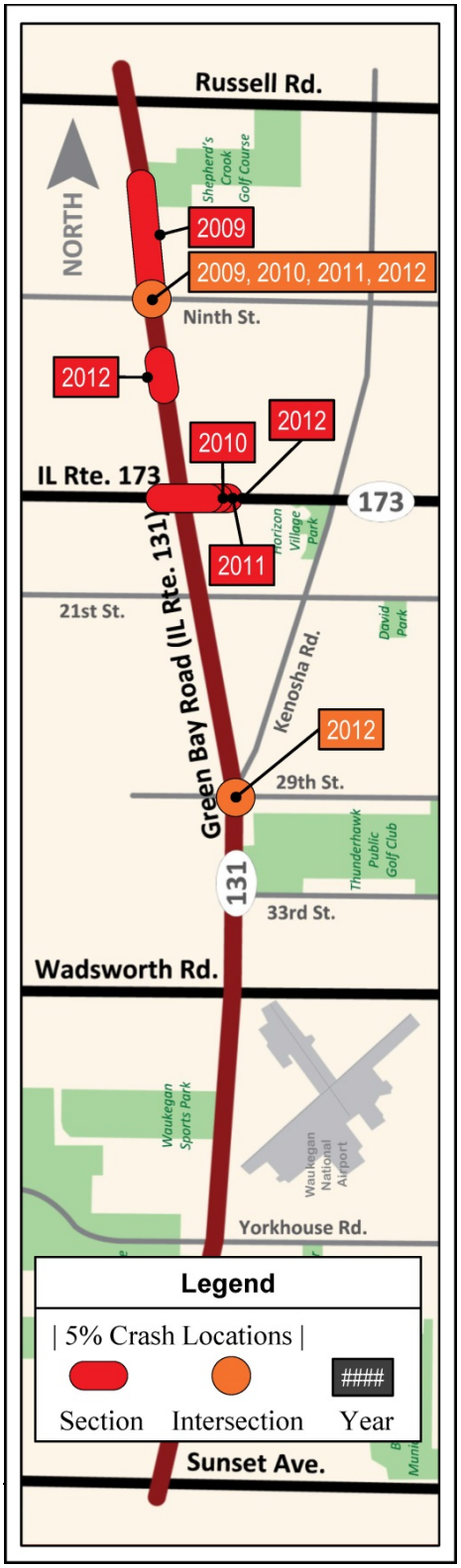
Five Percent Locations

Each year, IDOT prepares a "Five Percent Report" to identify at least the top five percent of highway locations with the most pressing safety needs. This ranking is based on crashes, injuries, deaths, traffic volume levels and other relevant data. IDOT listed several locations along IL 131 in its "Five Percent Reports" for the years 2009-2012[5] (see Figure 2-8, page 2-8). The "Five Percent" locations further support the project crash analysis, which noted several intersections and sections where crash rates exceed statewide averages.

The proposed project is intended to improve safety by reducing crash rates along IL 131 to be closer to or below statewide averages.

[5] IDOT did not prepare a "Five Percent Report" for the year 2013.

Figure 2-8: 5% Locations



2.2.3. Upgrade Roadway Features

Several features of the IL 131 corridor do not meet current design standards and pose safety concerns[6] (See Section 2.2.2). Unpaved shoulders make it hard for vehicles to recover if they leave the pavement. Current design standards require paved shoulders or curbs. In addition, utility poles, trees, vegetation and other objects are located within 15 feet of the roadway. Depending on the design speed, objects should be located 20 to 30 feet away from the roadway or protected by guardrail. Additionally, turn lanes are not long enough to store the vehicles waiting to turn at several intersections, causing them to stack up and spill into the through traffic lanes. Finally, several of the culverts along IL 131 are not big enough to handle all of the water during storm events. During wet weather, water backs up and sometimes forms ponds and/or ice on the shoulders and side of the road. At three of these locations, the IL 131 roadway is flatter than current standards. This further encourages flooding in these areas. *The proposed project is intended to bring the IL 131 roadway and related features into conformance with current design standards.*

2.3. Project Goals and Objectives

2.3.1. Pedestrian and Bicycle Access

Very few places within the study area support pedestrian and bicycle travel. Although there are sidewalks and crosswalks on some side streets and within new residential subdivisions, they generally do not exist along IL 131. In fact, the IDOT Bicycle Map for Lake County[7] shows most of IL 131 as “not recommended for bicycling” or “caution advised.” However, there are several places along IL 131 that could be destinations for pedestrians or bicycles, including local schools and churches, the Waukegan Savanna Forest Preserve, the Waukegan Sports Park and commercial and retail developments along IL 131. In addition, there was one pedestrian/bicycle crash at Yorkhouse Road between 2009 and 2013.

There are some off-road bicycle trails in the areas surrounding IL 131, including the Robert McClory Trail and the Zion Trail. In addition, several bicycle trails are currently planned within the Waukegan Savanna

[6] Geometric design issues related to intersection skew exist at Kenosha Road. However, a separate project will address safety and geometric issues at this intersection.

[7] http://www.idot.illinois.gov/Assets/uploads/files/Travel-Information/Maps-&-Charts/Trails/Lake.pdf

Forest Preserve, including a connection between the Robert McClory Trail, the Preserve and the Des Plaines River Trail.

Current laws and regional plans also address pedestrian and bicycle access for transportation projects. As part of the Complete Streets legislation in Illinois[8], IDOT requires the full consideration of bicycle and pedestrian accommodations in state highway projects. In addition, CMAP's regional plan for northeastern Illinois (*Go To 2040*) states that projects should seek to improve conditions for all travelers, including bicyclists and pedestrians.

The proposed project includes a goal of improving pedestrian and bicycle facilities along IL 131.

What are goals and objectives?

Goals and objectives are not the basic transportation needs a project must meet, but they are used along with the needs to study a project. The goals and objectives are not used to choose alternatives, but they are used to guide the design. They help to define the design features and space requirements of the alternatives.

2.4. Logical Termini

Logical termini are the beginning and end points of the project and are determined by the purpose and need. The project will begin at Russell Road to the north and end at Sunset Avenue to the south. North of Russell Road, WI 31 is a four-lane road with a wide median. South of Sunset Avenue, IL 131 is a four-lane road with a center lane for left turns. The stretch between Russell Road and Sunset Avenue is the only remaining section of IL 131 that is two lanes.

The logical termini have been agreed upon by IDOT and FHWA. They provide an area that is just the right size to meet the project purpose and need. This allows for future projects in the study area or region. It also assures that other transportation improvements are not needed for the project to be useful to the public.

[8] Illinois Public Act 095-0665, effective July 1, 2007.

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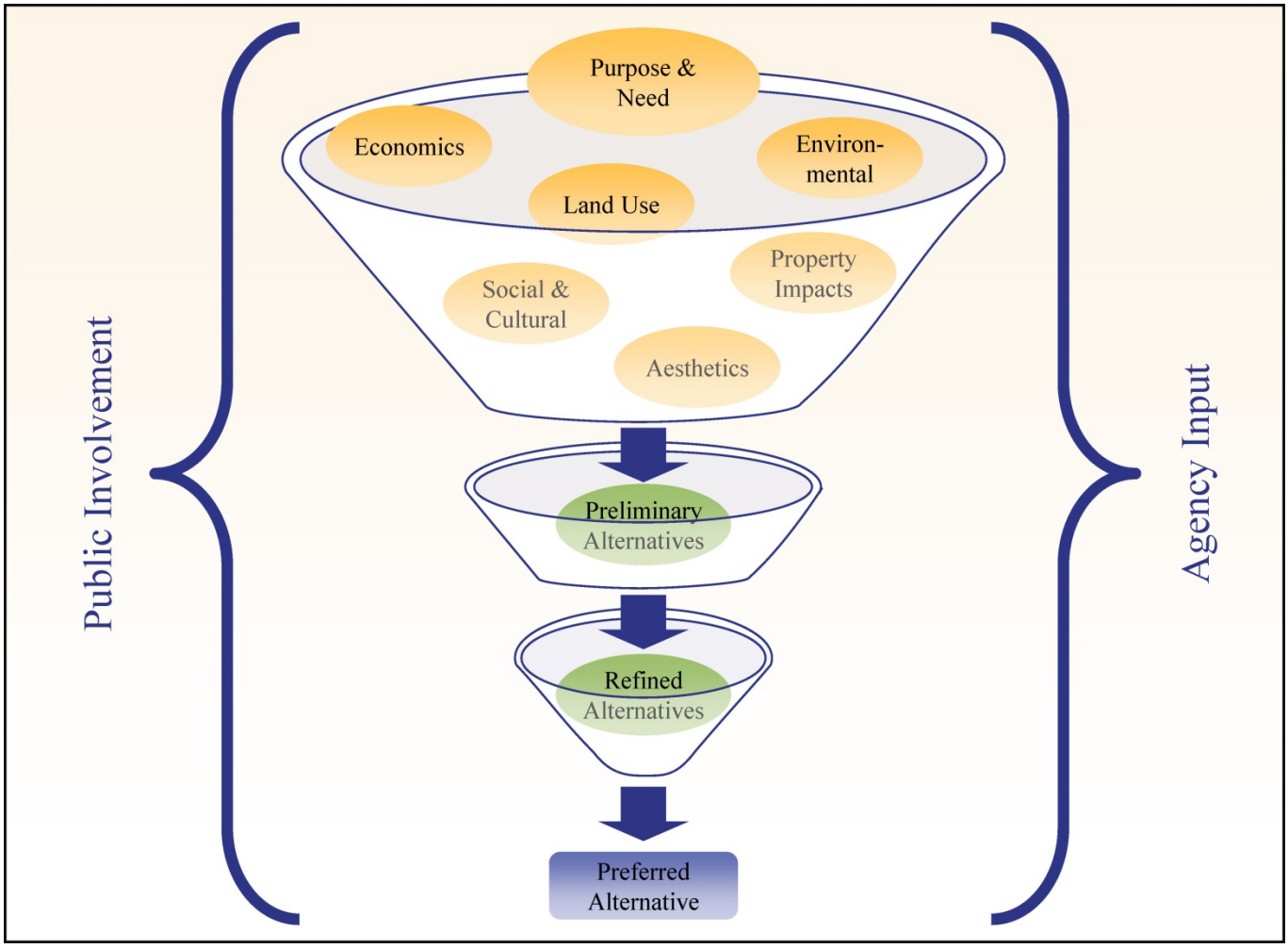
3. ALTERNATIVES

3.1. Introduction

This chapter describes the alternatives studied for the proposed IL 131 project, including the "preferred alternative." The alternatives for the IL 131 project were developed according to the National Environmental Policy Act of 1969 (NEPA) and the Illinois Department of Transportation's (IDOT's) Phase I study process, which use environmental and engineering studies to find solutions for transportation problems. IDOT's Phase I study process also helps to make sure project decisions are consistent with Federal, State and local goals and objectives.

The study process begins with gathering existing data about an area and looking at transportation problems and needs. As the process moves along, new information is gathered, and alternative solutions are developed. Alternatives that don't address the transportation needs, don't meet the project goals, are too expensive or would cause too many impacts are removed from further study. The remaining alternatives are studied in greater detail until one, preferred alternative is chosen (see Figure 3-1).

Figure 3-1: Context Sensitive Solutions Phase I Study Process



3.2. Alternatives Development Process

IDOT is using a process called context sensitive solutions, or CSS, to involve study area stakeholders in the IL 131 project (see Figure 3-1, page 3-1). According to IDOT's CSS policy, a stakeholder is anyone who could be affected by the project and has a stake in its outcome. Stakeholders include residents and other interested parties who can help IDOT understand the needs for, and concerns about, the proposed project. IDOT's goals for the CSS process include:

- Understand key concerns of study area stakeholders;
- Involve stakeholders early and often in the decision-making process;
- Address different types of transportation (bus, walking, transit);
- Be flexible about the design whenever possible to address stakeholders' concerns; and
- Develop a facility that fits into its surroundings by preserving scenic, aesthetic, historic and environmental resources while maintaining safety and mobility.

IDOT's Phase I study and CSS processes include gathering input from the project stakeholders and the public before making a decision about a project. The IL 131 project includes a *Stakeholder Involvement Plan* that sets goals for public and stakeholder involvement and identifies ways to help reach those goals.

IDOT formed working groups to provide input on the proposed project, see Figure 3-2. The Project Study Group – also called the project team – guides the alternatives development process, coordinates feedback from the working groups and the general public, and makes the final decisions about the project. The Corridor Planning Group and the Technical Advisory Group provide input at key milestones of the alternatives development process, including the purpose and need, preliminary alternatives, refined alternatives and the preferred alternative.

Figure 3-2: Working Group Structure

IDOT also reached out to potentially affected community members using newsletters, press releases, a project website, and large-scale public meetings. These tools provided the public the information needed to make informed decisions and offer important input about the alternatives. They also provided a way for the project team and the general public to discuss the trade-offs between the project improvements and their impacts.

To date, the outreach efforts for the IL 131 project have included five Corridor Planning Group and Technical Advisory Group meetings and four public meetings. The Project Study Group considered all input provided by the project's stakeholders while developing, refining and choosing the preferred alternative. Often, this feedback resulted in changes that provide better solutions for all of the project stakeholders.

Detailed information about public and stakeholder coordination can be found in Chapter 6 of this EA. For the remainder of this chapter, "project working groups" is used to jointly reference the Project Study Group, the Corridor Planning Group and the Technical Advisory Group.

3.3. No-Build Alternative

The No-Build alternative is what would happen within the study area if no project were built. It includes minor, regular short-term safety and maintenance efforts. The No-Build alternative also includes other major projects that would affect transportation in the study area. Three such projects include improvements to the Kenosha Road and IL 131 intersection; the Waukegan National Airport runway and taxiway extension; and new bicycle trails within the Waukegan Savanna Forest Preserve.

The No-Build alternative does not meet the purpose and need for the IL 131 project (see Chapter 2). This alternative will not change:

- The amount of vehicles traveling on IL 131;
- The number of through lanes;
- The number or length of existing turning lanes at intersections;
- The number, type and location of driveways along the roadway;
- Roadway features such as shoulders, location of fixed objects, culverts and drainage; and
- Pedestrian and bicycle access.

Based on the above items, the No-Build alternative will not improve mobility by providing better levels of service or reducing delays caused by turning vehicles. Safety will not be improved, because the features leading to crashes along the roadway will not be addressed. The IL 131 roadway and related features will continue to be below current design standards. Finally, pedestrian and bicycle access along IL 131 will not be improved.

The No-Build alternative is not recommended as a reasonable solution, but it will be used throughout this EA as a baseline condition to compare the impacts, benefits and costs of the build alternatives.

3.4. Congestion Management Alternative

A Congestion Management Process (CMP)[1] is a way of looking at a roadway to see if there are ways to address traffic congestion without providing new lanes for cars that usually carry one person – also called single occupancy vehicles (SOVs). According to federal requirements[2], a CMP is required in areas with greater than 200,000 persons – also called Transportation Management Areas. If the area does not meet current standards for the amount of ozone or carbon monoxide in the air (such as the Chicago area), projects must analyze ways to address congestion without adding more through lanes for SOVs. If CMP strategies cannot satisfy the project purpose and need, the CMP must instead identify ways to manage the roadway to make sure it operates as intended.

The CMP is addressed in materials available from the Metropolitan Planning Organization responsible for each area. In the Chicago area, projects were evaluated and prioritized through the development of the *Fiscal Year 2014-2019 Transportation Improvement Program* and the long-range *2040 Regional Transportation Plan* for Northeastern Illinois. These and other documents[3] make up the CMP for the Chicago area and show that alternative

[1] A Congestion Management Process (CMP) is a regionally-accepted approach for managing congestion that provides information on system performance and assessing alternative congestion management strategies.

[2] 23 CFR 450.320

[3] *Congestion Management System for Northeastern Illinois Technical Supplement* (October 1997); *Congestion Mitigation Handbook* (September, 1998); *Travel Demand Management Strategy Paper* (March 2009); *Arterial and Streets Infrastructure and Operations for*

congestion management strategies would not remove the need to add lanes for SOVs. The strategies studied included transportation demand management (TDM) measures, high occupancy vehicle (HOV) measures, transit capital improvements, congestion pricing, growth management and incident management.

For the IL 131 project, congestion management alternatives alone would not satisfy the project purpose and need. Therefore, congestion management alternatives were removed from further study. The CMP determined that this undertaking is a warranted project for adding SOV capacity, and the remaining alternatives looked at ways to add through lanes to IL 131.

Reasonable CMP strategies have been incorporated into this project where practical, including:

- Adding left and right turn lanes;
- Increasing the length of existing turn lanes;
- Upgrading traffic signals;
- Improving turning radii at intersections;
- Managing turning movements by building raised medians;
- Adding facilities for bicycles and pedestrians.

3.5. Preliminary Alternatives

The project team held two project working group meetings and two public meetings to gather input on transportation needs and potential solutions in the IL 131 project area. In general, the input focused on increasing the number of lanes, building medians, improving shoulders and adding pedestrian and bicycle paths. Based on the feedback received, the project team developed several preliminary alternatives for the IL 131 corridor.

As stated in Chapter 2, IL 131 is a key north-south route that supplements the expressway system by moving long-distance, high-volume automobile and commercial vehicle traffic. One concept involved widening parallel north-south routes to reduce congestion on IL 131. Improving parallel roadways – such as US 41, Kilbourne Road and Delany Road to the west and IL 137, Lewis Avenue and McAree Road to the east – may divert some traffic away from IL 131, as there is some interconnectedness among the region's north-south transportation routes (see Section 4.17). However, because IL 131 is a Strategic Regional Arterial (SRA) and part of the National Highway System, improving any single parallel route is expected to result in a relatively minor reduction in traffic traveling on IL 131 and would not fully address the mobility needs in the project area. Furthermore, widening parallel routes would not improve safety or upgrade features to meet current design standards along IL 131. Because it would not fully address the project purpose and need, this concept was not studied further.

An early concept preferred by the project working groups included building a 50-foot depressed grassy median along IL 131. This is the recommended typical section as outlined in IDOT's *Bureau of Design and Environment (BDE) Manual*. However, the wider median adds project costs to buy the land. It also requires more residential and business displacements and increased impacts to the natural environment. The project team determined that these impacts would be too great when compared to the extra safety benefits of a wider median. Therefore, this concept

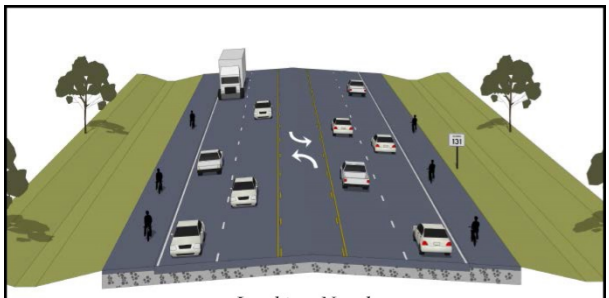
*Mobility, Access, and Community in Metropolitan Ch*icago (January 2009); *GO TO 2040 Comprehensive Regional Plan* (October 2014); *Congestion Reduction Demonstration for Northeastern Illinois: A Proposal for Direct Highway Pricing, Transit, Technology, and Supporting Strategies* (December 31, 2007)

was not studied further. As the alternatives evaluation moved forward, the project team only considered medians that were a maximum width of 22 feet, which allows for U-turn movements and the storage of passenger vehicles in the median crossover while minimizing costs and impacts.[4]

The project team also evaluated an early concept that kept one through lane in each direction from Kenosha Road to IL 173, where the projected traffic volumes are lower. Two through lanes were provided in each direction for the remainder of the project area. This concept did not meet the project purpose and need, because it will not improve levels of service between Kenosha Road and IL 173. Therefore, this concept was not studied further.

Once the early concepts described above were dismissed, the project team developed four preliminary alternatives that generally follow the existing alignment along IL 131. The preliminary alternatives widen the IL 131 roadway to provide two through lanes in each direction with dedicated left turn lanes at major intersections. Dedicated right turn lanes are also included where they are needed to provide acceptable traffic operations. These improvements, and all other project elements, will be built according to current design standards. The preliminary alternatives differ in how they address the center median, roadway edge, drainage and bicycle/pedestrian features. These factors also affect the total width needed to build the project. Below is a summary of the primary differences between the preliminary alternatives.

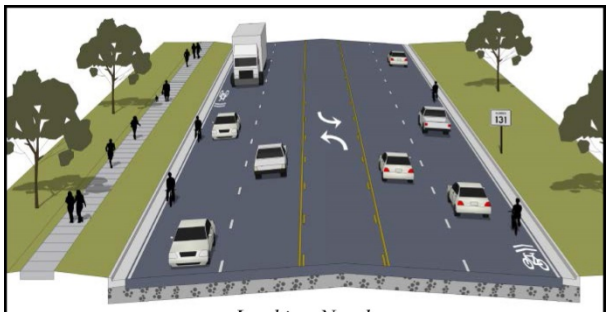
Figure 3-3: Preliminary Alternative A1



Alternative A1 *(see Figure 3-3)*

- 13-foot flush two-way left turn lane with unrestricted access to driveways and minor side street intersections
- 10-foot paved shoulders
- Open grass ditch for roadway drainage
- Shoulder for bicycles
- 120- to 140-foot total width for roadway, shoulder and ditches

Figure 3-4: Preliminary Alternative A2

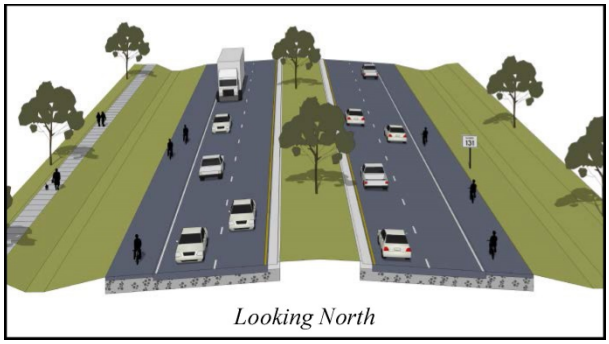


Alternative A2 *(see Figure 3-4)*

- 13-foot flush two-way left turn lane with unrestricted access to driveways and minor side street intersections
- Curb and gutter
- Storm sewer for roadway drainage
- Shared outside lanes both directions for bicycles
- Sidewalk on one side of IL 131
- 100- to 120-foot total width for roadway with shared outside lanes and sidewalk

[4] IDOT *BDE Manual*. Chapter 34, Cross Section Elements. 2010.

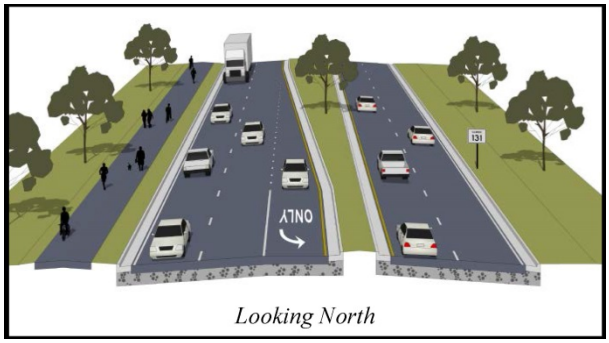
Figure 3-5: Preliminary Alternative B1



Alternative B1 *(see Figure 3-5)*

- 22-foot raised, grassy median
- Median openings and left turn lanes at approximately 1/4 mile intervals to allow U-turns and access to streets and driveways
- 10-foot paved shoulders
- Open grass ditch for roadway drainage
- Shared shoulders both directions for bicycles
- Sidewalk on one side of IL 131
- 135- to 155-foot total width for roadway, shoulders, grassy median, ditches and sidewalk

Figure 3-6: Preliminary Alternative B2



Alternative B2 *(see Figure 3-6)*

- 22-foot raised, grassy median
- Median openings and left turn lanes at approximately 1/4 mile intervals to allow U-turns and access to streets and driveways
- Curb and gutter
- Storm sewer for roadway drainage
- 10-foot shared-use path on one side of IL 131
- 110- to 130-foot total width for roadway, grassy median and shared-use path

3.5.1. Preliminary Alternatives Evaluation

Preliminary Alternatives A1, A2, B1 and B2 meet the project purpose and need by adding features that would improve mobility, safety, roadway design and pedestrian/bicycle access. The preliminary alternatives would require additional land – called right-of-way – to build the roadway, and some residences and businesses would need to relocate. In addition, the preliminary alternatives would impact natural resources such as farmland, wetlands and public parkland. Generally, the preliminary alternatives that require greater total width for the center median, roadway edge, drainage and bicycle/pedestrian features result in greater impacts. Accordingly, Preliminary Alternative B1 results in the greatest impacts, and Preliminary Alternative A2 results in the least.

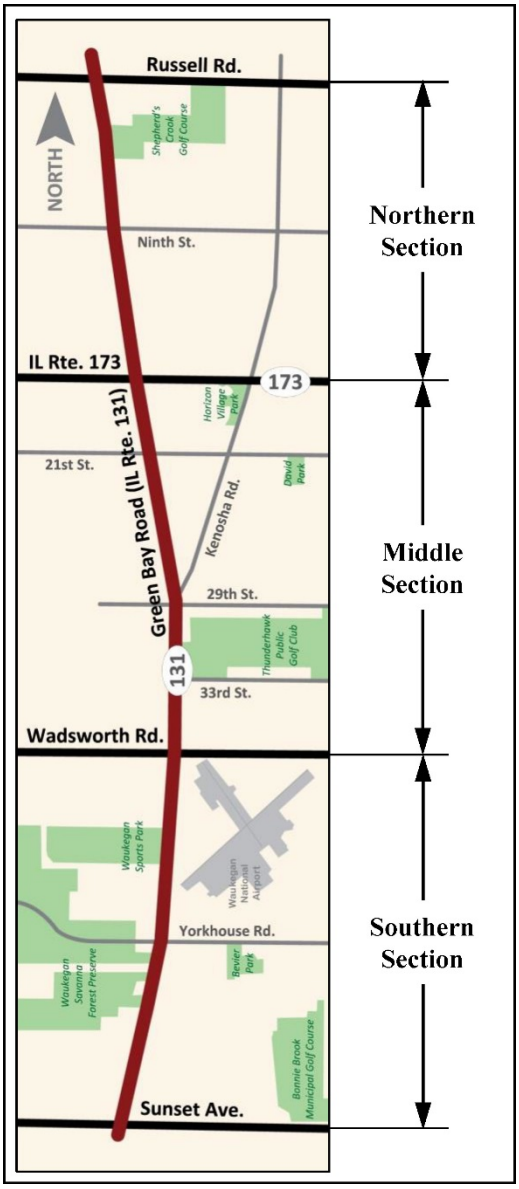
The preliminary alternatives were presented to the project working groups and the general public. The project working groups generally favored separate pedestrian and bicycle facilities to shared lanes or shoulders. They also identified a need for closer coordination with the Waukegan National Airport and a dedicated southbound right turn lane at Beach Road. Preferences among the project working groups and the general public varied regarding the benefits and drawbacks of the different center median and roadway edge treatments. Based on the feedback received, Preliminary Alternatives A1, A2, B1 and B2 were carried forward for further study.

3.6. Refined Alternatives

After the preliminary alternatives were presented to the project working groups and the public, the alternatives were refined based on the input received. As part of this process, the project area was divided into three sections based on factors such as land use and the width of the existing right-of-way. The three IL 131 sections are described below and shown in Figure 3-7.

- **Northern Section: IL 173 to Russell Road.** This section has wider existing right-of-way in some locations. Land use is mixed, including industrial, agricultural and residential.
- **Middle Section: Wadsworth Road to IL 173**. The existing right-of-way in this section widens at some locations. Residential and commercial are the most common land uses.
- **Southern Section: Sunset Avenue to Wadsworth Road.** The existing right-of-way in this section is narrow. The land use next to the roadway is mostly residential and commercial.

Figure 3-7: IL 131 Sections



IDOT typically prefers raised medians to improve safety on roadways like IL 131, because studies have shown that U-turns reduce crash rates by up to 20 to 35 percent by eliminating left-turns from driveways.[5] According to IDOT design guidelines, a raised median should be 16 to 22 feet wide to allow enough space for vehicles to make U-turns at median openings.[6] However, some areas along IL 131 have tight right-of-way with development close to the roadway. In these areas, property impacts could be minimized by building a 13-foot flush two-way left turn lane. Based on this, the project team combined the preliminary alternatives to form two refined alternatives with median treatments that best fit the amount of right-of-way that is available in each section. In addition, separate pedestrian and bicycle features were included in each alternative to address stakeholder comments and to meet the requirements of the Illinois Complete Streets legislation.[7] The refined alternatives also included ways to avoid or minimize impacts to sensitive resources, like parks and cemeteries.

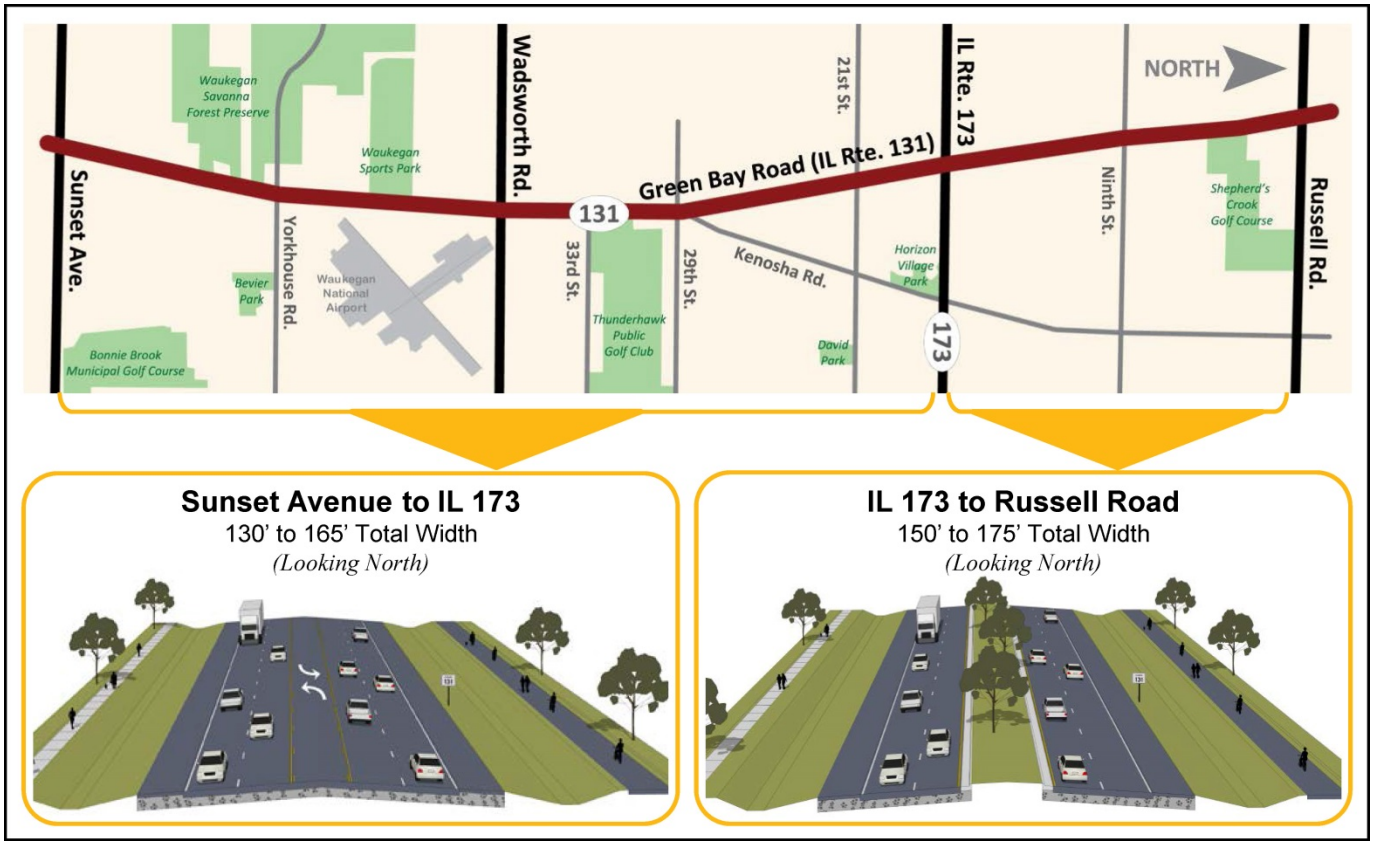
[5] Transportation Research Board. "Impacts of Access Management Techniques." National Cooperative Highway Research Program Report 420. Washington D.C.: National Academy Press, 1999.
[6] IDOT *BDE Manual*, Chapter 34, Cross Section Elements. 2010.
[7] Illinois Public Act 095-0665, effective July 1, 2007.

3.6.1. Refined Alternative E1

Preliminary Alternatives A1 and B1 were combined to form Refined Alternative E1 (see Figure 3-8). The roadway features for this alternative will meet current design standards and include:

- Two through lanes in each direction;
- Dedicated left turn lanes at major intersections;
- Dedicated right turn lanes where needed to provide acceptable traffic operations;
- 10-foot paved shoulders;
- Open grass ditch for roadway drainage;
- 10-foot shared-use path on the east side of IL 131;
- 5-foot sidewalk on the west side of IL 131;
- 22-foot raised grassy median with openings about every ¼ -mile in the northern section;
- 13-foot flush two-way left turn lane in the middle and southern sections; and
- Shifts in the roadway to avoid impacting the Waukegan Savanna Forest Preserve, Benton-Greenwood Cemetery, ThunderHawk Golf Club and Shepherd's Crook Golf Course.

Figure 3-8: Refined Alternative E1

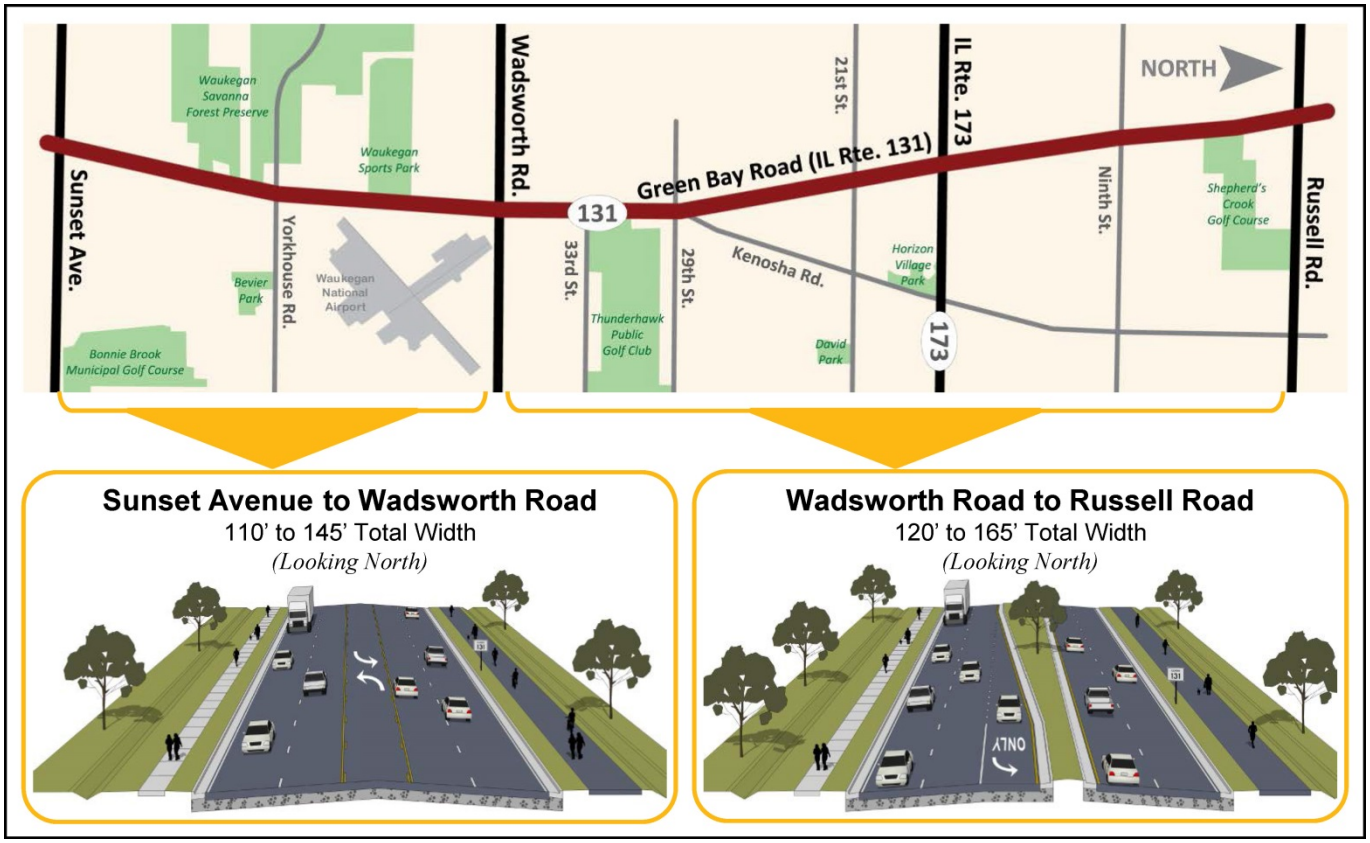


3.6.2. Refined Alternative E2

Preliminary Alternatives A2 and B2 were combined to form Refined Alternative E2 (see Figure 3-9). The roadway features for this alternative will meet current design standards and include:

- Two through lanes in each direction;
- Dedicated left turn lanes at major intersections;
- Dedicated right turn lanes where needed to provide acceptable traffic operations;
- Curb and gutter;
- Storm sewers for roadway drainage;
- 10-foot shared-use path on the east side of IL 131;
- 5-foot sidewalk on the west side of IL 131;
- 22-foot raised grassy median with openings about every ¼ -mile in the northern and middle sections;
- Flush 13-foot two-way left turn lane in the southern section; and
- Shifts in the roadway to avoid impacting the Waukegan Savanna Forest Preserve, Benton-Greenwood Cemetery, ThunderHawk Golf Club and Shepherd's Crook Golf Course.

Figure 3-9: Refined Alternative E2



3.6.3. Waukegan National Airport

The Waukegan National Airport is located east of IL 131 between Wadsworth Road and Yorkhouse Road. One runway is 470 feet from the existing IL 131 right-of-way. As a result, the roadway is in the Runway Safety Area (RSA), which is an open area that provides additional space if an aircraft overruns, undershoots or veer-offs the runway. IL 131 is also within the airport's Runway Protection Zone (RPZ), which includes areas in the path of airplanes that are taking off or landing. The RSA and RPZ are shown in Figure 3-10 and Figure 3-11. The Federal Aviation Administration (FAA) places restrictions on land use in the RSA and the RPZ. New construction or widening on IL 131, even if it stays within the existing right-of-way, would be subject to FAA regulations for these areas.

The Waukegan Port District (owner/operator of the airport), the Illinois Department of Transportation Division of Aeronautics, and the FAA prepared an *Environmental Screening Study and Description of Proposed Action Alternatives* (DOPAA)[8] to evaluate a range of alternatives for expanding facilities at the airport. That study selected one alternative for further evaluation in a separate Environmental Assessment that proposes to build a new runway and taxiway that cross existing IL 131. The project team looked at two options for improving IL 131 near the airport while meeting FAA requirements and making sure the project is compatible with the airport's future plans.

Option 1 shifts IL 131 more than 2,000 feet west to avoid FAA-regulated areas (see Figure 3-10). This alternative was removed from study due to substantial impacts to the Waukegan

Figure 3-10: Airport Option 1 Layout

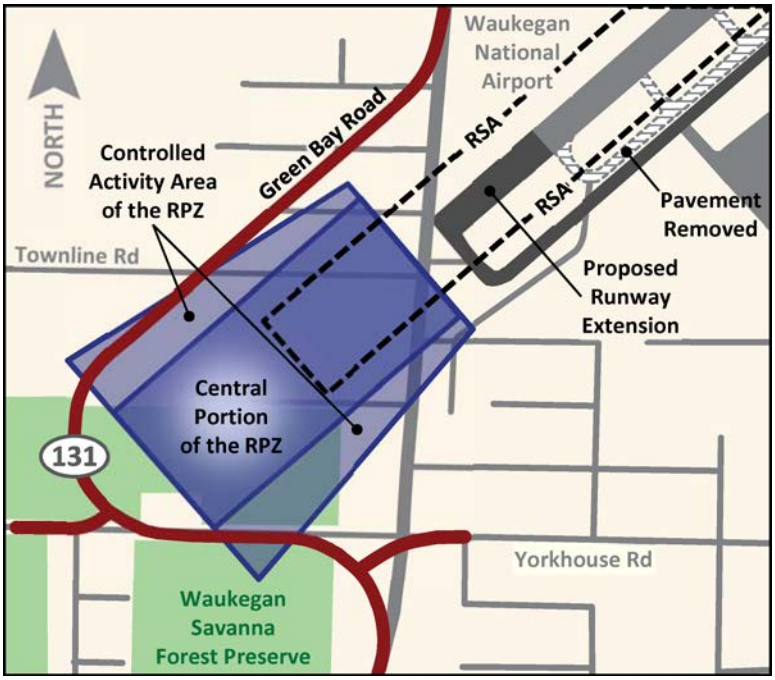
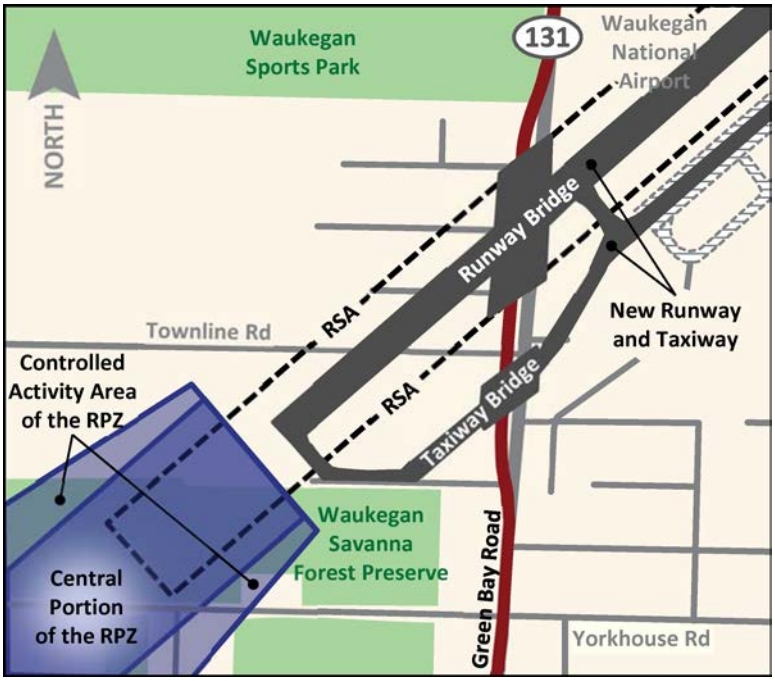


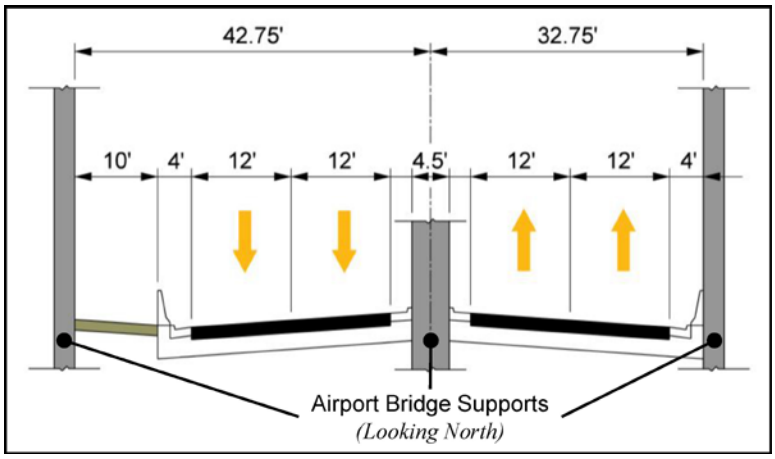
Figure 3-11: Airport Option 2 Layout



[8] Phased Environmental Assessment: Environmental Screening Study. Sponsored by Waukegan Port District, Illinois Dept. of Transportation – Division of Aeronautics, and Federal Aviation Administration. March 13, 2009.

Savanna Forest Preserve, floodplains, wetlands and homes.

Figure 3-12: Airport Option 2 Typical Section



Option 2 shifts IL 131 approximately 90 feet west and lowers the roadway approximately 25 to 30 feet. This avoids FAA-regulated areas and allows the planned new runway and taxiway to cross over IL 131 using bridges (see Figure 3-11, page 3-10). The width of IL 131 is also reduced to minimize property impacts and the cost of the airport bridges. The roadway includes two 12-foot wide travel lanes in each direction, a 4.5-foot wide raised median, curb and gutter, and an eight-foot wide shared-use path on the west side (see Figure 3-12). Pedestrian and/or bicycle facilities are not included on the east side of IL 131 in order to minimize the total project width. Locating the shared-use path on the west provides access to the Waukegan Sports Park, which is located north of the airport. Lowering IL 131 requires a pump station to remove water at the roadway's low point during rain events. The proposed pump station location is on airport property near the northwest corner of IL 131 and Yorkhouse Road. To meet FAA requirements, the pump outlet will be designed so that any on-airport storm water storage areas will completely drain within 48 hours and remain dry between rainfalls. Option 2 worked with both refined alternatives and was included in the evaluation of each.

3.6.4. Refined Alternatives Evaluation

The refined alternatives were presented to the project working groups; the general public; and local, state and federal agencies. The project working groups provided comments and evaluated the alternatives based on several factors, including:

- Ability to meet project purpose and need;
- Residential, industrial, agricultural and commercial property impacts;
- Impacts to the environment; and
- Estimated construction and land costs

Exhibit 1A in Appendix A compares the impacts for Refined Alternatives E1 and E2. Both refined alternatives meet the project purpose and need. In general, Refined Alternative E1 requires more right-of-way, including residential and commercial relocations. In addition, it results in greater impacts to natural resources such as farmland, wetlands, streams and ditches and public parkland. However, the cost for Refined Alternative E2 is greater primarily due to the inclusion of a curbs, storm sewers and retaining walls.

The project working groups rated Refined Alternative E2 better than E1 (see Appendix A, Exhibit 1). The general public showed varying reactions to the different center median and roadway edge treatments. Agency comments generally focused on minimizing impacts to resources such as farmlands and wetlands and further evaluating alternatives with a shared-use path and open grass ditches. Based on the feedback received, the project team carried forward both refined alternatives for further study.

3.7. Preferred Alternative

Based on the input received during the refined alternatives evaluation, features from both alternatives were combined and further refined to provide the best balance of benefits, impacts and costs. Features such as retaining walls, curb and gutter, roadway shifts, and narrower medians were added to minimize impacts to several sensitive areas. One example involves adding a retaining wall to avoid impacting one hole on the Shepherd's Crook Golf Course. Another example includes reducing the median width and using curb and gutter to minimize the land needed from two church properties. In addition, a lower median – also called a mountable median – was added along the southbound left turn lane at Yorkhouse Road to maintain access to Waukegan Fire Department Station #5. The location of the shared-use path was also refined to alternate between the east and west sides of IL 131 to provide better connections between the places where pedestrians and bicyclists are most likely to travel. Finally, the roadway grading and drainage features were refined to minimize wetland impacts.

Because IL 131 is an SRA and part of the National Highway System, a raised grassy median is preferred to maximize safety and mobility. To minimize property impacts, the median was refined to be 22 feet between Russell Road and 33rd Street and 14 feet between Yorkhouse Road and 33rd Street. Property impacts were further minimized by providing a two-way left turn lane between Yorkhouse Road and Sunset Avenue, where a wider roadway would result in substantial residential and business displacements.

Building a 10-foot paved shoulder and open grass ditch is preferred where there is enough room in the right-of-way. Building an open ditch for drainage is less expensive than building a storm sewer system. Grass ditches also help limit erosion and can help to improve water quality by absorbing unwanted particles in the soil. Paved shoulders provide space for stranded motorists and emergency vehicles. If drivers leave the travel lanes, shoulders also provide more room to recover control without crashing. Building curb and gutter is preferred to minimize property impacts in areas where the right-of-way is narrow. In these areas, the extra cost to build the storm sewer for roadway drainage is justified when compared to the potential property impacts.

Therefore, the preferred alternative was developed by combining elements of Refined Alternative E1 and Refined Alternative E2 to minimize impacts throughout the project area. The preferred alternative includes:

- Two through lanes in each direction;
- Dedicated left turn lanes at major intersections;
- Dedicated right turn lanes where needed to provide acceptable traffic operations;
- 8- to 10-foot shared-use path (or graded shelf, see Section 3.7.1);
- 5-foot sidewalk (or graded shelf, see Section 3.7.1);
- Combining and removing extra driveways located very close to major intersection areas;
- Retaining walls to avoid permanent impacts to the Waukegan Savanna Forest Preserve and the Shepherd's Crook Golf Course;
- Shifts in the roadway to avoid permanent impacts to the Benton-Greenwood Cemetery and ThunderHawk Golf Club;
- Roadway grading and drainage design that minimizes impacts to wetlands; and
- Relocation and lowering of IL 131 between Beach Road and Yorkhouse Road to comply with FAA regulations and planned expansions at the Waukegan National Airport (see Section 3.6.3).

Figure 3-13: Preferred Alternative

Two-Way Left Turn Lane	14-Foot Raised Median[2]	22-Foot Raised Median[2]		
Curb/ Gutter			Shoulder/ Ditch	Curb/ Gutter

Shoulder/Ditch

Median Type[1] Bridge[3]
Edge Treatment[1]

[1] See below for graphics showing different median and edge treatments.
[2] Provides median openings about every ¼ -mile and at major intersection to allow U-turns from dedicated left turn lanes.
[3] See Figure 3-12 on page 3-11 for preferred alternative at Waukegan National Airport.

Sunset Avenue to Yorkhouse Road

4 Lanes with Two-Way Left Turn Lane, Curb and Gutter
110' to 145' Total Width
(Looking North)

Yorkhouse Road to Stonebridge Drive
and
9th Street to Shepherd's Crook Golf Course

4 Lanes with Raised Median, Curb and Gutter
120' to 165' Total Width
(Looking North)

Stonebridge Drive to 9th Street
and
Shepherd's Crook Golf Course to Russell Road

4 Lanes with Raised Median, Shoulder and Ditch
150' to 175' Total Width
(Looking North)

Exhibit 1A in Appendix A compares the impacts for Refined Alternatives E1 and E2, the preferred alternative and the No-Build alternative. Figure 3-13 on page 3-13 shows the preferred alternative for the IL 131 corridor. Exhibits 2 and 3 in Appendix A show detailed typical sections and plan views of the preferred alternative. After the preferred alternative was identified, IDOT decided to use highway safety funds to move ahead with improvements at the Kenosha Road and Yorkhouse Road intersections to address some of the more pressing needs they heard from the public. These improvements are stand-alone projects with independent utility, which means that other transportation improvements are not needed for the projects to be useful to the public.

The total cost of the IL 131 project is estimated at $130 million in 2016 dollars. The project estimate considers all currently known work required to build the project – the costs for buying land, implementing environmental commitments and mitigation measures, and constructing the project. The project is included in the Chicago Metropolitan Area's (CMAP's) 2014-2019 Transportation Improvement Plan (TIP) 10-09-0024, which was accepted on October 21, 2014. At this time, there is no funding in either CMAP's TIP or IDOT's multi-year plan for project phases subsequent to this Phase I study.

3.7.1. IL 131 Purpose and Need

The preferred alternative meets the project purpose and need by improving mobility, improving safety and upgrading roadway features to meet current design standards.

Mobility

Providing additional through lanes and dedicated turn lanes will improve levels of service both along IL 131 and at intersections (see Figure 3-14, page 3-16) when compared to the No-Build condition. In some locations, the proposed improvements will not reach IDOT's target of LOS C for the through lanes on IL 131. Additional through and/or turning lanes would be needed to achieve LOS C at these locations. However, the property impacts from adding even more lanes would be too great when compared to the potential changes in levels of service.

Dedicated turn lanes and the two-way left turn lane will provide separate areas for vehicles to slow down and wait when turning from IL 131. The raised median will also keep vehicles from turning left into driveways and side streets. Instead, these vehicles will make U-turns from dedicated turn lanes at median openings. Finally, all of the traffic lights along IL 131 will be upgraded with modern equipment to provide for smooth traffic flow. These features will improve mobility by reducing delays caused by turning vehicles.

Safety

The preferred alternative includes several features that will address common causes of rear end, angle, turning, sideswipe and head-on crashes. These include:

- Additional through lanes to reduce traffic congestion;
- Dedicated turning lanes to separate turning and through traffic;
- Longer turn lanes so vehicles waiting to turn do not back up into the through traffic lanes;
- Raised median to reduce the number of places vehicles cross paths when turning out of driveways and side streets;

- Raised median to provide a barrier between north and southbound traffic;
- Utility poles, trees, vegetation and other objects moved further away from the roadway or protected by curb or guardrail; and
- Paved shoulders to provide space for stranded vehicles and an area for vehicles to recover and redirect if they leave the travel lane.

Current Design Standards

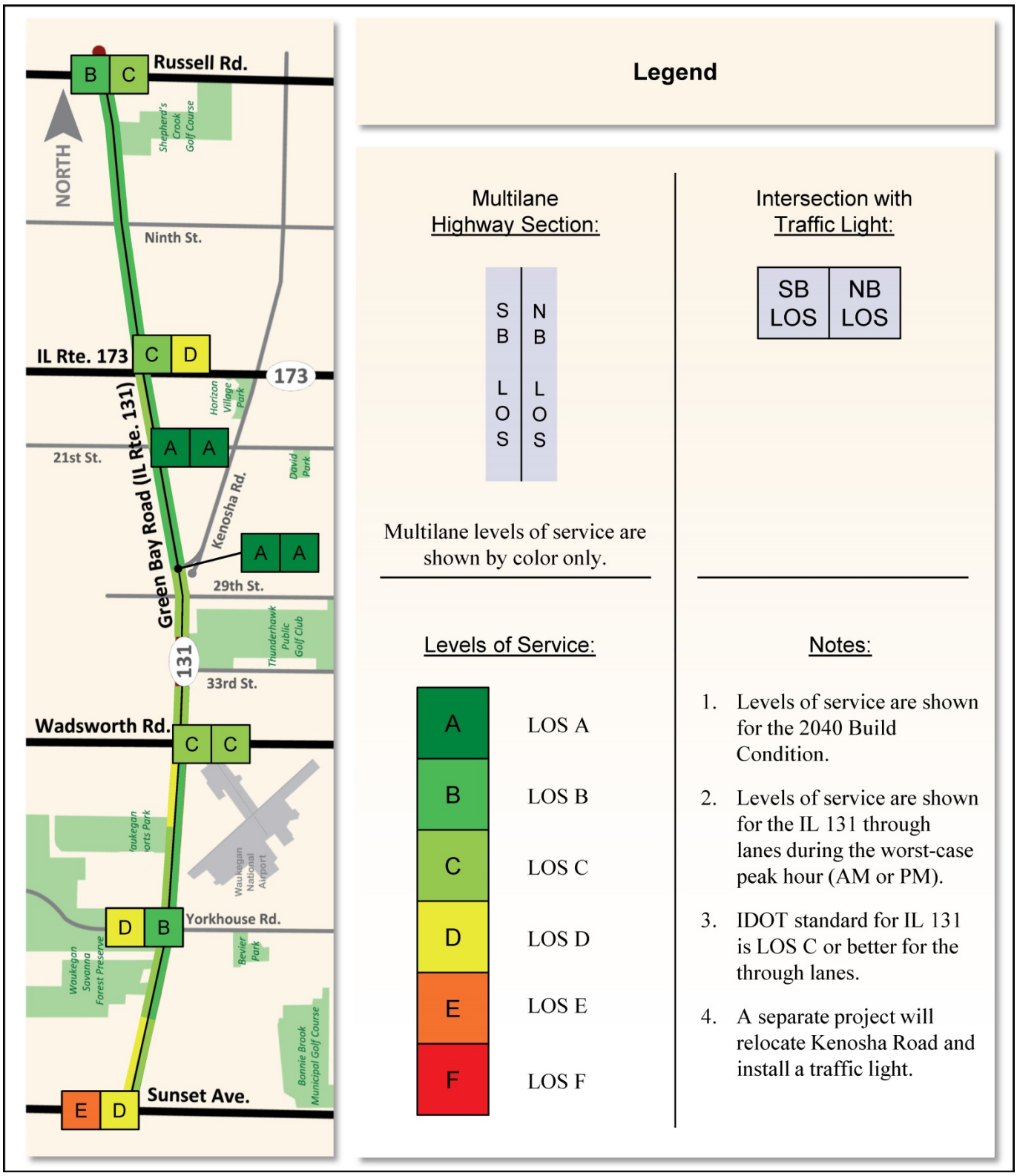
The roadway features included in the preferred alternative will be designed and built to meet current standards. These include providing paved shoulders or curbs; locating fixed objects away from the roadway or protecting them with curb or guardrail; lengthening existing turn lanes; sizing drainage structures to handle water from storm events; and designing the roadway pavement to drain adequately during rain events.

Bicycle and Pedestrian Facilities

The preferred alternative includes a shared-use path and a sidewalk along IL 131. In addition, the shared-use path alternates between the east and west sides of the roadway to provide better connections between the places where pedestrians and bicyclists are most likely to travel. These include the Waukegan Savanna Forest Preserve, the Waukegan Sports Park, schools, churches, residential developments and commercial areas.

The Illinois Complete Streets legislation requires local municipalities to pay 20 percent of the construction costs and 100 percent of the on-going maintenance costs for the shared-use path and sidewalk. If local funding is not available, a flattened area (graded shelf) for the shared-use path and sidewalks will be built, but it will not be paved.

Figure 3-14: Preferred Alternative Levels of Service



4. ENVIRONMENTAL RESOURCES, IMPACTS AND MITIGATION

4.1. Introduction

This chapter describes the human and natural resources within the project area. It also discusses resources that must be addressed to meet the requirements of federal, state or local laws and regulations. This chapter also includes data from field studies, which are incorporated by reference into this Environmental Assessment (EA). These documents are provided in Appendix C, which is located on the CD included with this EA.

As noted in Chapter 3, the No-Build alternative does not meet the purpose and need for the IL 131 project, and it was removed from further study. However, the No-Build alternative is discussed throughout this chapter as a way to compare the impacts, benefits and costs of the preferred alternative.

The sensitive environmental resources addressed in this chapter are shown on environmental inventory mapping in Appendix A (Exhibit 4). Preferred alternative mapping in Appendix A (Exhibit 3) shows the anticipated impacts to each resource. Table 4-1 summarizes the environmental resources, impacts and mitigation for the IL 131 project.

Table 4-1: Environmental Resources, Impacts and Mitigation Summary

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
Community Characteristics	No impacts.	No impacts.	None.
Title VI and Environmental Justice	No impacts.	No disproportionately high and adverse impacts.	None.
Public Facilities and Service	• No impacts.	• Minor impacts to water, sanitary, gas and electric utilities. • 8 private septic fields. • New median in front of Waukegan Fire Department Station #5. No impacts to operations. • Strip right-of-way from Beach Park Middle School. • Strip right-of-way from 2 places of worship. • Temporary easement from 1 cemetery.	• IDOT will determine final utility impacts during contract plan preparation and coordinate with the affected parties to avoid or minimize service disruptions. • Impacted septic fields will be relocated on the same property, if possible. IDOT will coordinate with property owners during contract plan preparation. • A mountable median will be built in front of the fire station. • Police, fire and emergency services will be notified before any temporary or permanent alterations to traffic patterns. • Median breaks will be provided at Beach Park Middle School. IDOT will coordinate with school officials to minimize disruptions during construction.

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Travel and Access	No impacts.	• Access restricted to right-in/right-out movements at side streets and commercial, residential, industrial and farm properties. • Travel distances increased by up to ½-mile. • Improved safety and mobility. • Improved pedestrian and bicycle access.	Median openings with dedicated lanes for U-turns will be provided about every ¼-mile and at intersections with traffic lights.
Relocations*	No impacts.**	• 1 industrial • 1 commercial	• IDOT will determine the mitigation for building impacts during contract plan preparation and coordinate with affected property owners. • IDOT will coordinate with the Waukegan Port District and the FAA during contract plan preparation.
Economic Impacts	Traffic congestion and safety problems may negatively affect economic conditions by making the area less attractive for economic investment.	• Positive economic effects due to improved mobility; safety; and pedestrian/bicycle access making the area more attractive for economic investment. • Minimal changes to the overall tax base due to potential displacements.	The project plans will require construction to be staged in a way that maintains access to businesses, including the use of temporary driveways where appropriate.
Land Use*	No impacts.**	48.0 acres of land permanently converted to transportation use.	None.

* The purchase of private property and cost of moving businesses to build the project is regulated by state and federal laws, including the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended" and IDOT's Land Acquisition Procedures Manual.

** Impacts to properties due to the lowering of IL 131 near the Waukegan National Airport will be evaluated, coordinated and approved through the environmental review process for the airport expansion project with the Federal Aviation Administration (FAA) as the lead federal agency.

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Growth and Economic Development	Increasing traffic congestion and continuing safety problems may negatively affect planned economic growth.	Improved mobility and safety will support existing and planned economic growth.	None.
Pedestrian, Bicycle and Transit Facilities	The project area will continue to have few places that support pedestrian and bicycle travel.	• New shared-use path and sidewalk (or graded shelf) will improve access, mobility and safety for pedestrians and bicycles. • Sidewalks will be compliant with the Americans with Disabilities Act. • Improved mobility and safety will benefit transit.	• Access to bus transit services will be maintained during construction. • IDOT will coordinate with Pace Suburban bus during contract plan preparation to identify transit features – such as bus pads – that may be included to support bus service adjustments within the roadway right-of-way. • IDOT will coordinate with Pace during contract plan preparation and construction to minimize service impacts.
Agricultural Resources	No impacts.	8.50 acres of permanent land and 0.10 acre of temporary easement from farms.	Temporary and permanent measures to manage erodible soils will be implemented according to the requirements of IDOT's *Bureau of Design and Environment (BDE) Manual* and IDOT's *Standard Specifications for Road and Bridge Construction*.
Cultural Resources	No impacts.	No impacts.	None.
Air Quality	No impacts.	• The project is not a project of air quality concern and meets all federal air quality requirements and standards. • The project meets the criteria for "Low Potential for MSAT effects."	None.

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Noise	Increased traffic noise levels due to increased traffic volumes.	Traffic noise impacts are predicted at 142 noise sensitive receptors.	• Noise walls are feasible, cost effective and meet IDOT's noise reduction design goals at 4 locations. • IDOT will gather input from residents and property owners who will benefit from the noise walls. Information about the noise analysis will be available at the EA public hearing. IDOT will decide whether to build the noise walls based on the viewpoints of the benefitted receptors.
Upland Plant Communities	No impacts.	• 10.06 acres of land from wooded plant communities. • 1,660 trees removed, including 13 trees with diameter greater than or equal to 24 inches.	Impacted trees will be replaced in accordance with IDOT Departmental Policy D&E-18.
Designated Special Lands	No impacts.	No impacts.	None.
Wildlife	No impacts.	Minimal increases in road-related mortality due to increased traffic and widened roadway.	Oversized and partially buried culverts will be provided in six locations to facilitate wildlife crossings for small to medium mammals.
Threatened and Endangered Species	No impacts.	• May affect the northern long-eared bat, but will not cause prohibited incidental take. • No effects to other listed species.	None.
Pollinator Habitat	No impacts	Removal of vegetation that may provide habitat for pollinators.	Habitat and other Best Management Practices (BMPs) for pollinators will be incorporated into the project's design during contract plan preparation.
Surface Water Resources and Aquatic Habitats	No impacts.	597 feet (0.030 acres) of impacts to 3 unnamed streams (WOUS).	Best Management Practices (BMPs) will be included in the project to protect water quality, preserve natural water resources and minimize the overall impact on aquatic resources.

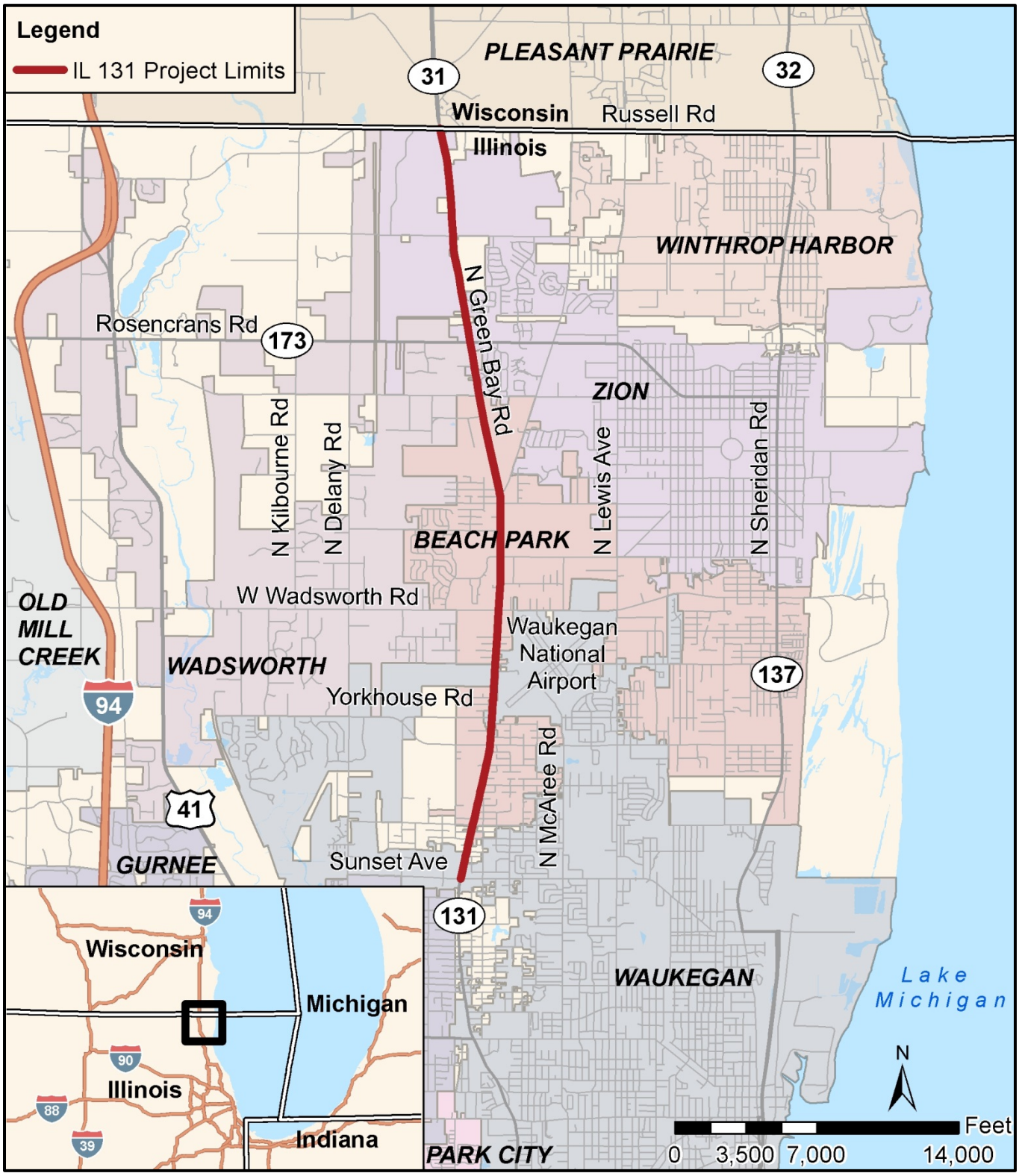
Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Groundwater Resources	No impacts.	9 private well relocations.	• IDOT will determine the mitigation for private well impacts during contract plan preparation and coordinate with affected property owners to avoid or minimize service disruptions. • BMPs will be included to minimize the potential for polluting private wells.
Floodplains	No impacts.	No impacts.	None.
Wetlands	No impacts.	Impacts to 0.383 acres of jurisdictional wetlands and 2.429 acres of isolated wetlands.	• IDOT will provide mitigation for wetland impacts that cannot be avoided. Mitigation details will be finalized during contract plan preparation and in coordination with USACE. • BMPs will be included at sensitive stormwater outfalls to minimize potential for negative impacts to wetlands.
Special Waste	No impacts.	• New land from 48 sites with Recognized Environmental Conditions (RECs). • Temporary easements from five sites with RECs.	During contract plan preparation, IDOT will determine if the proposed work will involve sites with RECs. Any right-of-way acquisition will be discussed with the IDOT Bureau of Land Acquisition.
Special Lands (6(f) and OSLAD)	No impacts.	No impacts.	None.
Section 4(f)	No impacts.	• Requires 0.10 acres of temporary easement from the Shepherd's Crook Golf Course. • Requires 1.08 acres of permanent land and 0.145 acres of temporary easement from the Waukegan Sports Park. The area impacted includes a gravel/asphalt parking lot and a driveway.	• Changes to the golf course will be temporary and minor and will not impact the recreation use of the facility. The land for the temporary easement will be fully restored. • The Sports Park driveway will be replaced. A median break will be provided on IL 131 to allow left-in and right-in/right-out access. The impacted parking lot will be expanded. IDOT will coordinate with the Waukegan Park District to finalize parking mitigation.

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Permits	None.	• Section 404 Permit (USACE).* • Section 401 Water Quality Certification (IEPA). • Section 402 NPDES Construction Permit (IEPA). • RCRA Permit (IEPA) • UST Permit (OSFM)	• IDOT will obtain any applicable permits and certifications prior to construction.
Aesthetics	No impact.	Improved aesthetics due to landscaped median and/or right-of-way.	• Enhanced landscaping may require funding from the local communities. • During contract plan preparation, IDOT will work with the local municipalities to develop landscape plans for the area within the proposed right-of-way according to the requirements of IDOT's *BDE Manual*.
Construction Impacts	No impact.	Temporary impacts to traffic flow and access, erosion, air quality and noise.	• IDOT will develop a detailed traffic management plan for construction. • Erosion and sediment control will be managed according to the requirements of IDOT's *BDE Manual and Standard Specifications for Road and Bridge Construction.* • IDOT will develop a SWPPP as part of the NPDES permitting process. • The contractor will follow the requirements for vehicle idling, diesel emissions control and dust control according to IDOT's *Standard Specifications for Road and Bridge Construction.* • Solid waste will be disposed in accordance with all state and federal laws.

* Based on the anticipated impacts to jurisdictional wetlands, the project is anticipated to qualify for USACE's Regional Permit Program.

Environmental Resource	No-Build Alternative	Preferred Alternative	Mitigation
(Table 4-1 cont'd.)			
Energy Consumption	Increasing traffic congestion will increase energy consumption.	Improved mobility and the new shared-use path and sidewalk will reduce energy consumption.	None.
Indirect and Cumulative Effects	No impact.	• The project will support local plans for future land use, economic development and job growth. • The project may cause planned land use changes to happen faster, causing indirect effects such as the permanent loss of farmland, threatened and endangered species habitat, wildlife habitat, wetlands and plant communities. • The project will shift traffic and decrease congestion on parallel transportation routes. • The project may cause increased stormwater runoff, which may indirectly affect downstream water quality and aquatic life. • Cumulative effects may include residential relocations; converting private land to transportation uses; permanent loss of natural resources such as wildlife habitat, wetlands and plant communities; and increased stormwater runoff.	Best Management Practices (BMPs) will be included to protect water quality, preserve natural water resources and minimize the overall impact on aquatic resources.

Figure 4-1: Project Location Map



4.2. Social, Economic and Community Resources

Between Russell Road and Sunset Avenue, IL 131 passes through portions of the City of Zion, Village of Wadsworth, Village of Beach Park, and City of Waukegan, unincorporated portions of Lake County, as well as Newport, Benton and Waukegan Townships (Figure 4-1, page 4-8). Between Russell Road and IL 173, the land use is a mix between industrial, agricultural and residential. Between IL 173 and Sunset Boulevard, residential and commercial developments are the most common land uses.

4.2.1. Community Characteristics and Cohesion

The preferred alternative is supported by the surrounding communities and is consistent with long term plans for the area. Widening IL 131 to provide more through and turning lanes will improve mobility and safety along IL 131, which will benefit residents and businesses. The widening is generally centered along the existing roadway. However, the preferred alternative shifts the roadway in specific areas to avoid and minimize impacts to sensitive resources such as existing residences, businesses and parks. The preferred alternative also provides a new shared-use path and sidewalk along IL 131, which will improve mobility and safety for pedestrians and bicyclists, as well.

The preferred alternative includes a raised median between Russell Road and Yorkhouse Road, which will restrict access to the driveways and streets in these areas to right-in/right-out movements. Limiting the number of turns will further improve mobility and safety along the roadway. The preferred alternative maintains access to the properties in these areas by providing median openings about every ¼-mile and dedicated lanes for U-turns.

Given the above, the preferred alternative is not anticipated to adversely affect community cohesion. The No-Build alternative will not improve mobility, safety or pedestrian/bicycle access which may negatively affect community cohesion over time.

4.2.2. Title VI and Other Protected Groups

Many groups are particularly sensitive to the changes brought about by transportation projects and are given special consideration under federal requirements[1]. These groups include:

- Disabled
- Religious minorities
- Older adults
- Low-income households
- Ethnic minorities
- Racial minorities

[1] Title VI of the Civil Rights Act of 1964; Fair Housing Act; and Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

No groups of people have been or will be excluded from participating in public involvement activities, denied the benefit of the project or subjected to discrimination in any way on the basis of race, age, sex, national origin, disability or religion.

Groups of disabled and religious minorities were not identified in the project area based on a review of existing literature and mapping; the project's public involvement activities; and site visits by the project team.

Older Adults

A community for residents aged 55 or greater is located within the Carillon at Heatherstone neighborhood in the Village of Beach Park. This neighborhood has access to IL 131 at 33rd Street/Wakefield Drive. During public involvement activities, residents shared concerns about safety at this intersection and asked for a traffic light to be installed. Traffic lights must meet certain requirements – also called "warrants" – that are based on factors such as traffic volumes, roadway type and spacing to other traffic lights. The project team conducted an analysis and found that a traffic light is not warranted at 33rd Street.

Source: https://www.55places.com

▲ *The Carillon at Heatherstone is a 55+ neighborhood in the project area.*

The preferred alternative provides additional through lanes on IL 131 and dedicated left turn lanes at the 33rd Street/Wakefield Drive intersection, which will improve mobility and safety. The preferred alternative also builds a new shared-use path and sidewalk, which will improve pedestrian and bicycle safety, including for those in the Carillon at Heatherstone neighborhood. Therefore, the preferred alternative is not expected to impact older adults.

The No-Build alternative will not improve mobility, safety or pedestrian/bicycle access for the older adult populations in the project area.

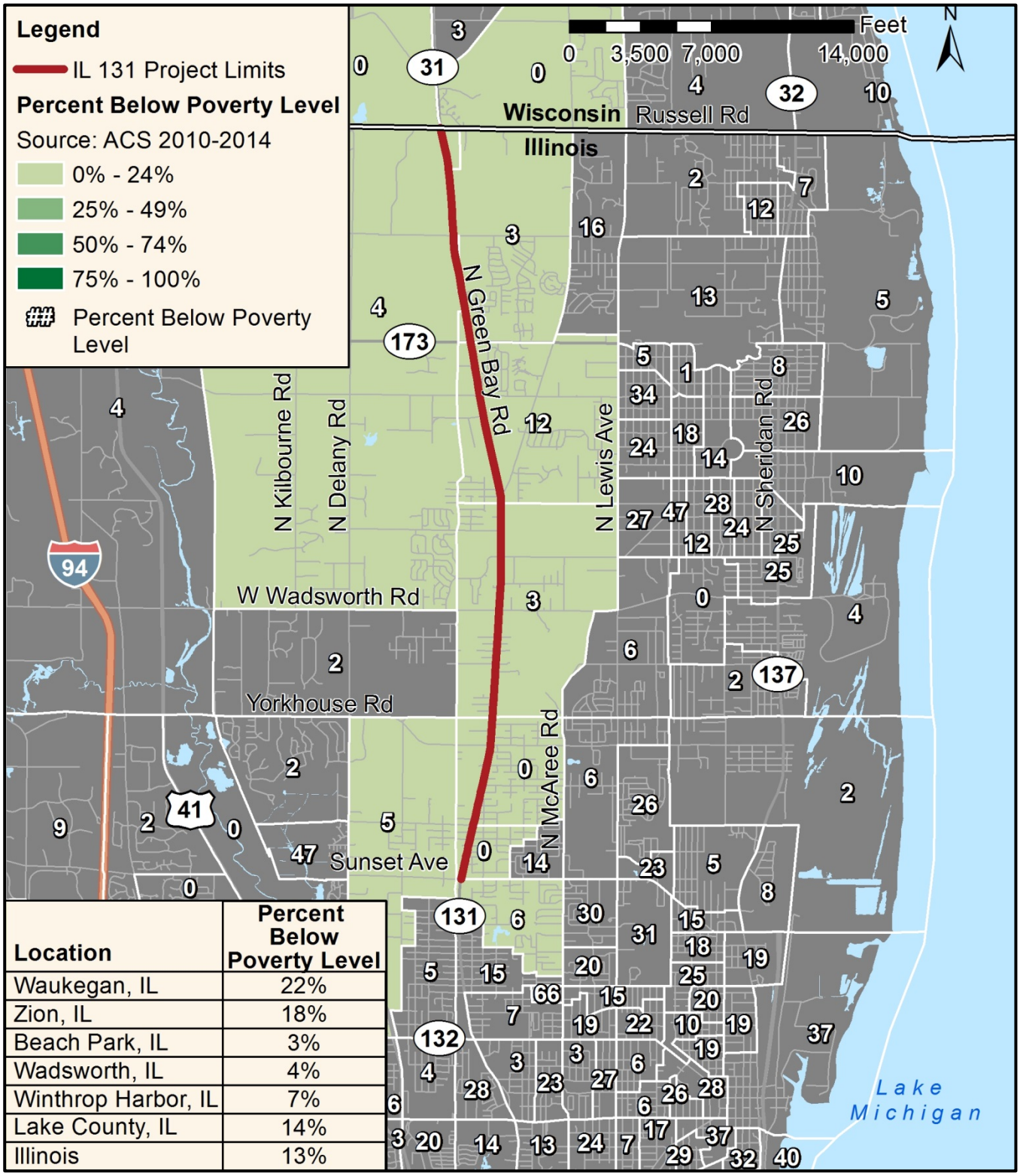
Low-income Households

The median household income throughout the project area is above the poverty guidelines set by the Department of Health and Human Services (see Figure 4-2, page 4-11). Impacts to low-income households are discussed in Section 4.2.3.

Minority Groups

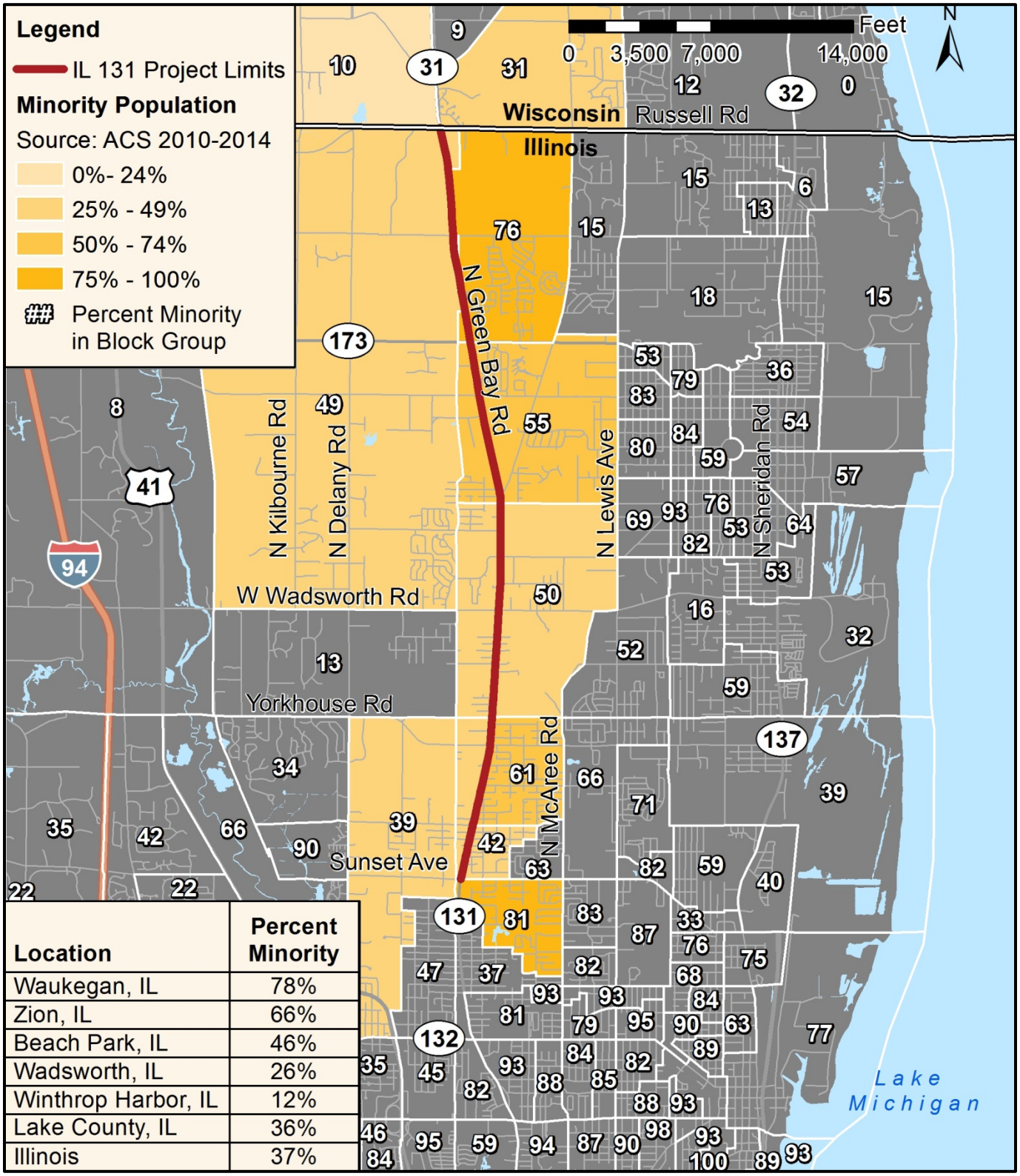
Most of the project area is located in areas with a high percentage (50 percent or greater) of minority populations (see Figure 4-3, page 4-12). Several places in the project area also have large Hispanic populations (see Figure 4-4, page 4-13). Impacts to minority groups are discussed in Section 4.2.3.

Figure 4-2: Low-Income Households



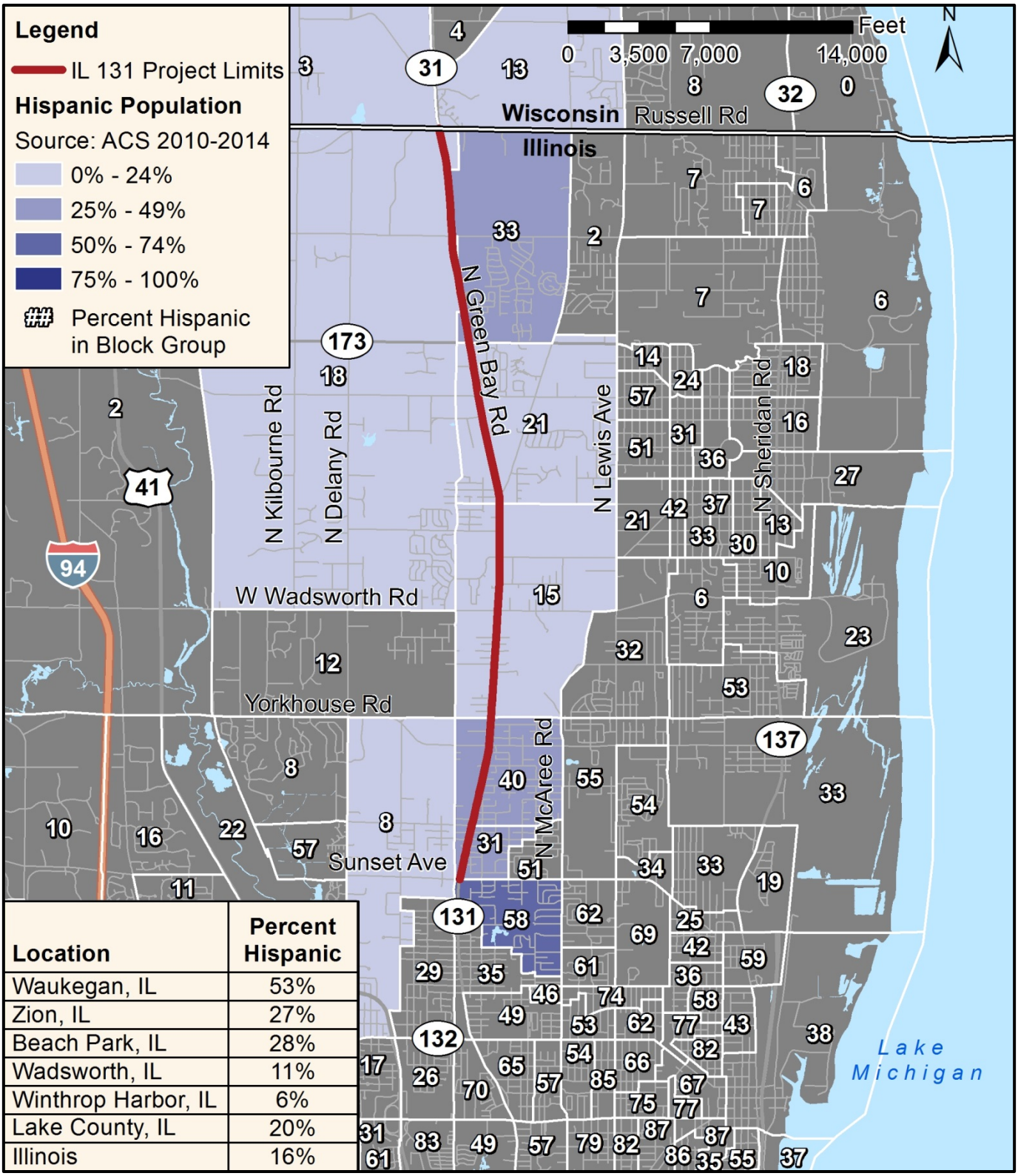
Location	Percent Below Poverty Level
Waukegan, IL	22%
Zion, IL	18%
Beach Park, IL	3%
Wadsworth, IL	4%
Winthrop Harbor, IL	7%
Lake County, IL	14%
Illinois	13%

Figure 4-3: Minority Populations



Location	Percent Minority
Waukegan, IL	78%
Zion, IL	66%
Beach Park, IL	46%
Wadsworth, IL	26%
Winthrop Harbor, IL	12%
Lake County, IL	36%
Illinois	37%

Figure 4-4: Hispanic Populations



Location	Percent Hispanic
Waukegan, IL	53%
Zion, IL	27%
Beach Park, IL	28%
Wadsworth, IL	11%
Winthrop Harbor, IL	6%
Lake County, IL	20%
Illinois	16%

4.2.3. Environmental Justice

In 1994, concern about low-income and minority populations bearing an unequal share of adverse health and environmental effects led President Bill Clinton to issue Executive Order 12898, focusing federal agency attention on environmental justice issues. In response, the U.S. Department of Transportation (USDOT) and the Federal Highway Administration (FHWA) developed a process to make sure that environmental justice was factored into all transportation-related decisions[2]. The three basic environmental justice principles are the following:

- To determine if a project has disproportionately high and adverse effects – or unequally negative impacts – to minority and low-income populations. This includes finding ways to avoid, minimize and mitigate these effects.
- To allow communities that could be affected by a project to have full and fair participation in the planning process. This includes allowing people to have access to information and input into the decisions that are made.
- To make sure that minority and low-income groups receive the same benefits from a project, including that benefits are not denied, reduced or significantly delayed.

As shown in Figure 4-2 on page 4-11, the project area does not contain high amounts of low-income households. Therefore, the preferred alternative is not expected to impact low-income populations. Figure 4-3 on page 4-12 shows the percentage of minority populations in almost all of the project area at or above 50 percent[3]. As a result, any project in the area – including the IL 131 project – would mostly affect minority populations.

The preferred alternative requires land from 288 residences and 162 businesses along IL 131. During the project's planning, property impacts were avoided and minimized to the greatest extent possible using measures such as: shifting the IL 131 roadway; reducing the median width; using curb and gutter instead of shoulders; and building retaining walls. The preferred alternative also includes raised medians which will restrict access to right-in/right-out movements at driveways and side streets between Russell Road and Yorkhouse Road. Access for local residents and businesses will be maintained by providing median openings with dedicated lanes for U-turns about every ¼-mile, which may result in small increases in travel distances for local residents (see Section 4.2.5). The preferred alternative will also increase noise levels at homes and businesses. Where possible, these impacts will be mitigated using noise walls if they are desired by the affected residents (see Section 4.6).

Property impacts will require two businesses to relocate. The business relocations include a local bar called Fritz's Corner (1670 Green Bay Road) and a small storage building for a recycling business owned by the Cleveland Corporation (42810 North Green Bay Road). Neither business is minority owned, and there is room to relocate both buildings on their existing properties. Therefore, the preferred alternative is not expected to adversely affect employment for minority individuals.

The project was developed using the Illinois Department of Transportation's (IDOT's) context sensitive solutions (CSS) process. As a result, the public and other stakeholders were given several opportunities to provide input and

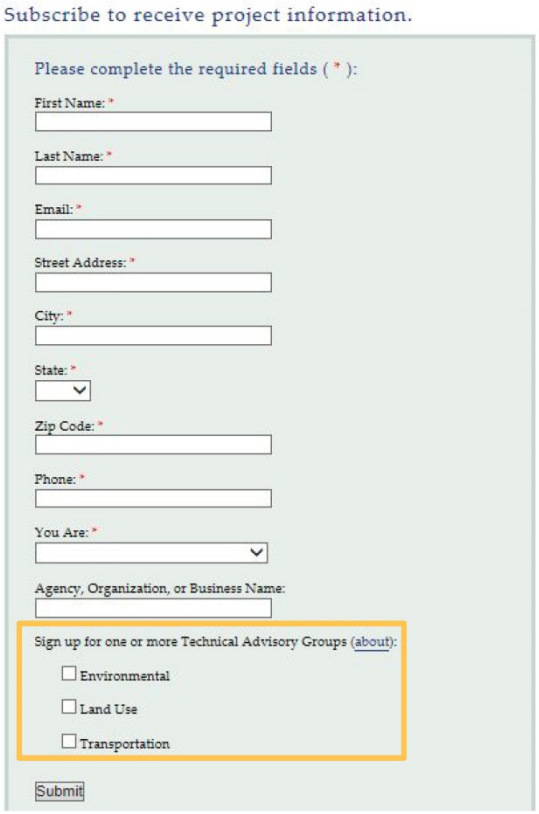
[2] US DOT Order 5610.2, "Order to Address Environmental Justice in Minority Populations and Low-Income Populations."
[3] According to guidance issued by the Council on Environmental Quality (CEQ), any area with minority populations above 50 percent or "meaningfully greater" is considered a notable environmental justice area.

participate in the decision-making process from the early planning stages (see Chapter 6). The outreach efforts included one-on-one meetings, small group meetings, newspaper advertisements, project newsletters, direct mailings to property owners and tenants, email messages, large-scale public meetings, working group meetings[4] and a project website.

The area surrounding the project area also contains higher percentages of Hispanic populations (see Figure 4-4, page 4-13). The public involvement activities included special efforts to engage these stakeholders. These efforts included providing project materials such as newsletters and meeting invitations to Hispanic organizations and publications. In addition, based on comments received at the first public meeting, key information on the project website was translated to Spanish. A Spanish translator was also present at the remaining public meetings.

To make sure local residents and stakeholders were given many chances to provide input, the project working group meetings were opened up to anyone with an interest. Sign-up sheets for the working groups were available at public meetings and on the project website (see Figure 4-5). This allowed local residents, if interested, to more actively participate in the project. Since the working group meetings were held in the morning or afternoon, they also gave persons who could not attend the evening public meetings a different time to participate and keep up to date on the project. IDOT's CSS process usually includes three times for the project team to touch base with stakeholders. For the IL 131 project, four public and working group meetings were held to provide more opportunities for feedback. These opportunities provided local residents, businesses and other stakeholders with meaningful opportunities to have a say in the design of the IL 131 project. In general, project stakeholders (including local residents) support the proposed improvements. They also voiced a need for improved multi-modal connections as part of the project.

Figure 4-5: Mailing List Sign Up



May 7, 2016 screen capture from the IL 131 project website (www.il131project.com) providing opportunity to sign up for the project working groups.

Benefits expected to result from the preferred alternative include improving mobility and safety along IL 131, which will benefit all those living and working near the project. A new shared-use path and sidewalk will also improve safety and provide different mode options for persons wishing to connect to the larger transportation system, including public transportation (see Section 4.2.10).

[4] The project working groups included the Corridor Planning Group and the Technical Advisory Group, see Chapter 6.

Based on the above, the proposed improvements will achieve an appropriate balance of benefits and burdens, which is a key consideration when looking at environmental justice. As a result, the preferred alternative will not result in disproportionately high and adverse impacts to environmental justice populations.

The No-Build alternative includes minor, short-term routine safety and maintenance efforts and some projects like the Kenosha Road intersection improvements. The impacts from these activities are lower than the impacts from the preferred alternative; however, the purpose and need for the project will not be met. As a result, local residents and businesses will not benefit from improved mobility and safety along IL 131.

4.2.4. Public Facilities and Services

There are no libraries, hospitals or nursing homes located in the project area. Therefore, the preferred alternative will not impact these resources. The sections below discuss how the preferred alternative will affect community access to public facilities and services that are located in the project area. The No-Build alternative will have no effect on public facilities or services.

Utilities

Several water mains are located in the IL 131 project area. One or more water mains may need to be relocated to move them out from under the widened IL 131 roadway. Building the project will require other minor impacts to the water distribution system, such as relocating valve vaults. None of these changes will permanently affect service. IDOT will determine water main relocations during contract plan preparation – also called Phase II of IDOT's project development process (see Chapter 7). IDOT will also coordinate with the affected municipalities to avoid or minimize service disruptions. Portions of the project area do not have municipal water service and obtain their water from private wells. Impacts to private wells are discussed in Section 4.9.

Several municipal sanitary sewer lines are located within the project area. The preferred alternative requires minor changes to sanitary sewer lines, such as adjusting manholes. In addition, there are 19 properties with septic systems along IL 131. The preferred alternative will impact eight private septic fields. The impacted septic fields will be relocated on the same property, if possible. Two properties may be completely acquired because there is not enough room to relocate the septic field. IDOT will determine the mitigation for septic field impacts during contract plan preparation (Phase II), which will include coordination with the affected property owners to avoid or minimize service disruptions.

Several natural gas pipelines are located in the project area. Additionally, electric transmission lines owned by Commonwealth Edison (Lake County's electric distribution company, also called ComEd) cross IL 131 at two locations. IDOT will determine impacts to natural gas pipelines and the electric transmission lines during contract plan preparation (Phase II). However, service will be maintained during construction.

Police and Fire

There are no police stations located within the project area. The Waukegan Fire Department Station #5 is located at 3221 North Green Bay Road (IL 131). The preferred alternative requires approximately 4,580 square feet (0.11 acres) of permanent land from the fire station property for the widened roadway. Additionally, the preferred alternative requires approximately 3,530 square feet (0.08 acres) of land on a short-term basis – also called

temporary easement – to build the improvements. The preferred alternative includes a retaining wall to minimize impacts to the fire station and will not permanently impact its operations, access, driveways or building. The preferred alternative includes a lower median – also called a mountable median – along the southbound left turn lane at Yorkhouse Road to provide a clear path for fire trucks traveling to and from the fire station. The project plans will require construction to be staged in a way that maintains access to the fire station, including the use of temporary driveways where appropriate. The project plans will also require police, fire and emergency services to be notified before any temporary or permanent changes to traffic patterns are made.

▲ *A mountable median at Yorkhouse Road will provide a clear path for fire trucks turning to and from the Waukegan Fire Department Station #5.*

Public Schools

There is one public school located in the IL 131 project area. Beach Park Middle School is part of Beach Park Community Consolidated School District and located at 340667 North Green Bay Road (IL 131). The proposed new shared-use path and sidewalk will improve pedestrian and bicycle connections to Beach Park Middle School. The preferred alternative requires approximately 23,050 square feet (0.53 acres) of permanent land from a grass area between IL 131 and the school's parking lot that is not being used for recreational purposes. During construction, 5,465 square feet (0.13 acres) of temporary easements will be required at the entrance and exit driveways to tie them into the widened IL 131 roadway. The preferred alternative avoids impacting the school parking area and provides median breaks to maintain access to the existing drives. IDOT will coordinate with school officials to minimize disruptions to school property during construction. IDOT will consider staging driveway construction when school is not in session.

Public Parks and Recreation Areas

The publicly-owned parks and recreational areas in the project area are listed below:

- Lake County Forest Preserves
  - ThunderHawk Golf Club, 39700 North Lewis Avenue, Beach Park
  - The Waukegan Savanna Forest Preserve, Yorkhouse Road and IL 131, Waukegan
- Zion Park District
  - Shepherd's Crook Golf Course, 351 Green Bay Road (IL 131), Zion
- Waukegan Park District
  - The Waukegan Sports Park, 38342 Green Bay Road (IL 131), Beach Park

The preferred alternative avoids impacts to the ThunderHawk Golf Club and the Waukegan Savanna Forest Preserve by shifting IL 131, using curb and gutter instead of shoulders, and building retaining walls. Prior to starting construction, IDOT will contact the Lake County Forest Preserve District to coordinate the schedule and timing of anticipated construction activities. The preferred alternative requires permanent land and temporary easements from the Waukegan Sports Park and a temporary easement from the Shepherd's Crook Golf Course. IDOT coordinated with the owners of public parks and recreational areas throughout the Phase I study process. This coordination will continue during contract plan preparation (Phase II). The impacts to public parks and recreation areas are discussed further in Section 4.14.

Places of Worship

There are three places of worship in the project area:

- Beach Community Church, 12735 W. Graves Avenue, Beach Park
- York House United Methodist Church, 37768 North Green Bay Road (IL 131), Beach Park
- Biblical Baptist Church and Academy, 39236 North Green Bay Road (IL 131), Beach Park

The preferred alternative requires approximately 11,987 square feet (0.28 acres) of permanent land along the Beach Community Church property. The church building, parking lot, driveway and access will not be impacted.

The preferred alternative requires approximately 8,320 square feet (0.19 acres) of permanent land from the York House United Methodist Church property. Curb and gutter is proposed in this area to minimize impacts to the church property and avoid the main church building and parking lots. Access to the property remains unchanged. The new limits of the widened IL 131 right-of-way will be about ten feet from the church's parsonage building and garage; however, these buildings will remain in-place.

The preferred alternative does not require land from the Biblical Baptist Church. The following measures are included to avoid impacts to the church property: shifting the IL 131 roadway; reducing the median width from 22 to 14 feet; and using curb and gutter instead of shoulders. The proposed raised median will restrict the existing driveway to right-in/right-out movements. However, U-turn locations will be provided via median breaks at Wadsworth Road and Wakefield Drive.

Cemeteries

The Benton Greenwood Cemetery is located at 39280 North Green Bay Road (IL 131) in Beach Park. The preferred alternative requires approximately 269 square feet of temporary easement at the cemetery driveway to tie it into the widened IL 131 roadway. The preferred alternative minimizes impacts to the cemetery by shifting the IL 131 roadway and reducing the median width from 22 to 14 feet. The proposed raised median will restrict the existing driveway to right-in/right-out movements. However, U-turn locations will be provided via median breaks at Wadsworth Road and Wakefield Drive.

4.2.5. Change in Travel Patterns and Access

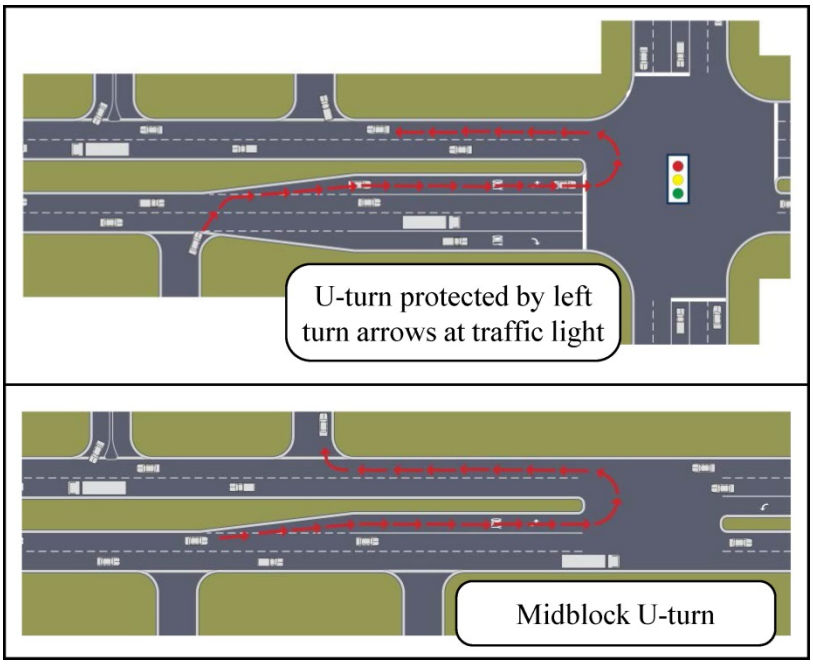
The preferred alternative will affect access and travel patterns for vehicles, pedestrians and bicycles. The proposed improvements include a two-way left turn lane to provide full access between Yorkhouse Road and Sunset Avenue. The proposed improvements also include a raised median between Russell Road and Yorkhouse Road, which will restrict access to right-in/right-out movements at the following locations:

- Side streets – Brooke Avenue, Barstow Street, Blossom Street, Reiner Street, Ford Street, Hart Street, Chaney Street, Chaplin Street, Aviation Drive, Waldo Avenue, Melbourne Courte, Clarendon Avenue, Maplewood Road and 28th Street.
- 23 commercial properties;
- 75 residences;
- 2 industrial properties;
- 13 farmland properties; and
- 1 church.

The preferred alternative maintains access to the properties listed above by providing median openings with dedicated lanes for U-turns about every ¼-mile and at intersections with traffic lights. For corner properties, existing access off of side streets will remain unchanged.

The raised median will increase travel distances by up to ½-mile for some drivers. Instead of turning left out of a driveway or side street, the driver will turn right then make a U-turn at the closest median opening (see Figure 4-6). Likewise, a driver wishing to turn left into a driveway or side street will drive to the closest median opening, make a U-turn and then turn right to reach his destination (see Figure 4-6).

Figure 4-6: Left Turns with Raised Median



The increased travel distances for turning vehicles (up to ½-mile) are relatively small compared to the 7.3-mile project length. Furthermore, the increased travel distances will be offset by the expected benefits to mobility and safety along IL 131.

The raised median will improve mobility by reducing delays from turning vehicles. Studies have shown that a right turn followed by a U-turn can result in less travel time along heavily traveled roads due to improved mobility, even

if the travel distances are increased by up to ½-mile[5]. Safety will also be improved by reducing the number of places vehicles cross paths when turning to and from driveways and side streets; providing dedicated turning lanes to separate turning and through traffic; and including a barrier between north and southbound traffic. Again, studies have shown that U-turns reduce crash rates by up to 20 to 35 percent by eliminating left-turns from driveways[5].

The preferred alternative includes median breaks at Beach Park Middle School to maintain school bus access. The preferred alternative also includes a lower median – also called a mountable median – along the southbound left turn lane at Yorkhouse Road to provide a clear path for fire trucks traveling to and from the fire station located north of the intersection. Median openings will provide access for other emergency vehicles, such as police cars.

The preferred alternative will lower IL 131 near the Waukegan National Airport, which will require Suddard Street, Center Street, Zephyr Street, Townline Road and Eastwood Road to be closed at IL 131. Properties along Townline Road have alternative access via Yorkhouse Road, but the 13 residences along the other streets have no alternate access and will be land locked (see Section 4.2.6).

The preferred alternative also improves access for pedestrians and bicycles. The proposed improvements include a shared-use path and a sidewalk, which alternate between the east and west sides of IL 131 to provide connections to the places where pedestrians and bicyclists are most likely to travel. These include the Waukegan Savanna Forest Preserve, the Waukegan Sports Park, schools, churches, residential developments and commercial areas.

The No-Build alternative will not change existing travel patterns or access in the project area.

4.2.6. Relocations (Business and Residential)

About 40.5 acres of permanent land – called fee simple right-of-way – are needed to build the preferred alternative. Approximately 7.1 acres of additional land – called temporary easement – are needed on a short-term basis while the project is being built. In some areas, IDOT will obtain a permanent easement to build and maintain the roadway. About 7.5 acres of permanent easement are needed for the preferred alternative.

What is fee simple right-of way?

Fee simple right-of-way is land where all real property rights and interest have been acquired by IDOT for roadway transportation purposes. This includes the land needed for roadway pavement, shared-use paths, sidewalks and drainage features.

What is a temporary easement?

A temporary easement is a right granted to IDOT to use land on a short-term basis to construct minor improvements. The property owner retains ownership, and the land cannot be permanently converted to transportation use.

What is a permanent easement?

A permanent easement allows IDOT to permanently use a property to build and maintain a transportation facility without changing the ownership of the land. Permanent easements become part of a property's deed and continue to affect the land, even if it's ownership changes.

[5] Transportation Research Board. "Impacts of Access Management Techniques." National Cooperative Highway Research Program Report 420. Washington D.C.: National Academy Press, 1999.

The preferred alternative also impacts buildings on one commercial and one industrial property. One business – Fritz's Corner located at 1670 Green Bay Road – will be displaced because the building is located close to the roadway and will be impacted by the widening. A small building used for storage on the Cleveland Corporation property located at 42810 N. Green Bay Road will be displaced because it will be impacted by the widened roadway. However, both locations may have enough land available to relocate the buildings within the same property boundaries. IDOT will determine the mitigation for the building impacts during contract plan preparation (Phase II), which will include coordination with the affected property owners.

Table 4-2 summarizes the land required for the preferred alternative, including potential relocations. The purchase of private property and cost of moving businesses to build the project is regulated by state and federal laws, including the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended" and IDOT's *Land Acquisition Procedures Manual*.

Table 4-2: Land Required for the Preferred Alternative

Land Use	Permanent Right-of-Way (acres)	Permanent Easement (acres)	Temporary Easement (acres)	Relocations (buildings)	Comments
Residential	19.10	0.00	0.64	0	
Commercial*	6.39	7.52	6.14	1	Impacts Fritz's Corner, 1670 Green Bay Road, Zion
Industrial	6.47	0.00	0.25	1	Impacts a building and shed on property owned by Cleveland Corporation, 42810 N. Green Bay Road, Zion
Agriculture	8.50	0.00	0.10	0	
Total	40.46	7.52	7.13	2	

* Permanent right-of-way includes 1.00 acre donated by the Waukegan Park District (see Section 4.14.2). Permanent easement includes 7.52 acres from Waukegan National Airport for shifting IL 131 near the airport.

The preferred alternative will shift and lower IL 131 between Beach Road and Yorkhouse Road to comply with Federal Aviation Administration (FAA) regulations and planned expansions at the Waukegan National Airport. Lowering the roadway will require Suddard Street, Center Street, Zephyr Street, Townline Road and Eastwood Road to be closed at IL 131 and will land lock 13 residences. The airport is currently acquiring homes in these areas as they become available on the open market. Close coordination will continue between IDOT, FHWA, the Waukegan Port District (owner/operator of the airport) and the FAA so that both projects will be compatible and the IL 131 project will not preclude the construction of the airport project. Based on the coordination efforts to date, the airport has agreed to buy the remaining properties that will be impacted by lowering IL 131. Impacts to these properties will be evaluated, coordinated and approved through the environmental process for the airport project with FAA as the lead federal agency. IDOT will continue to coordinate with the Waukegan Port District and the FAA during contract plan preparation (Phase II).

The No-Build alternative includes the planned expansions at the Waukegan National Airport, which will require residential relocations. Other minor improvement projects, such as the Kenosha Road intersection realignment, may require new permanent right-of-way. These impacts will occur whether or not the preferred alternative is built.

4.2.7. Economic Impacts

The preferred alternative includes raised medians that will restrict access to right-in/right-out movements at 23 commercial and two industrial businesses. Impacts to these businesses will be minimized by providing median openings with dedicated lanes for U-turns about every ¼-mile and at intersections with traffic lights. Overall, the preferred alternative is expected to benefit businesses along IL 131 by improving mobility and safety for their employees and customers. The proposed new shared-use path and sidewalk will also improve local business access for customers using alternate modes of travel.

▲ *The preferred alternative will impact one commercial building.*

The preferred alternative will convert approximately 48.0 acres of land to transportation use. In addition, parking or paved areas for 22 businesses will be impacted. A small building used for storage on the Cleveland Corporation property will be displaced because it will be impacted by the widened roadway. One business – Fritz's Corner located 1670 Green Bay Road – will also be displaced because the building is located close to the roadway and will be impacted by the widening.

The changes in the land use and potential displacements described above are expected to minimally alter the overall tax base in the project area. The proposed improvements will improve safety and mobility, which is expected to benefit the local economy over the long term by making the surrounding communities more attractive for continued economic investment. Increased tax revenue from economic investment in the long term is expected to offset any loss of tax base in the short term. Given the above, the overall economic impacts resulting from the preferred alternative are expected to be positive.

During construction, public funds will be spent in the project area, which may result in positive economic effects. These effects include direct income for construction workers who may then buy services and goods within the area. In addition, local materials suppliers may benefit from providing goods to the construction contractor(s). It is also possible that businesses fronting IL 131 may experience temporary negative economic impacts during construction. To minimize these impacts, the project plans will require construction to be staged in a way that maintains access to businesses, including the use of temporary driveways where appropriate.

The No-Build alternative will not improve mobility, safety or pedestrian/bicycle access along IL 131. It also will not impact the overall tax base by directly converting land to transportation use. Increasing traffic congestion and on-going safety problem may negatively affect economic conditions by making the project area less attractive for continued investment.

4.2.8. Land Use

The most recent land use map available for Lake County is included in Appendix A (Exhibit 5). In general, the existing land use is industrial and agricultural between Russell Road and IL 173. The land use changes to mostly single-family residential and commercial between IL 173 and Sunset Avenue. The project area also includes several recreational areas and the Waukegan National Airport.

Lake County is responsible for future land use planning for the portions of the IL 131 project area located in Newport, Benton and Waukegan townships. Lake County maintains a *Regional Framework Plan*[6] to establish future land use policies and goals. In addition, the proposed IL 131 project passes through portions of the City of Zion, the Village of Wadsworth, the Village of Beach Park and the City of Waukegan. Each of these municipalities maintains its own comprehensive plan, which establishes the land use vision and goals for that community. According to the Lake County future land use map (see Appendix A, Exhibit 6), future land use north of the Waukegan National Airport is expected to transition to mostly retail and commercial with some industrial and utility/waste uses. South of the airport, future land use is expected to remain mostly single-family residential, commercial and open space. This is consistent with the vision and goals laid out in the comprehensive plans for the municipalities in the project area[7].

The proposed improvements to IL 131 are consistent with existing and future land use plans. No substantial changes in land use are expected to result from the IL 131 project. The preferred alternative requires some additional land to construct the improvements. However, land beyond the area immediately next to IL 131 will not change uses as a direct result of the project.

The No-Build alternative will not result in any changes in land use beyond what is currently planned by the local communities.

4.2.9. Growth and Economic Development

Economic development is not an identified purpose for the proposed project. However, the project working groups showed a strong desire for the project to support ongoing and planned economic development. The Village of Beach Park maintains the Green Bay/Wadsworth business district along IL 131 to encourage retail development. Additionally, Beach Park set up a Tax Increment Finance (TIF) district adjacent to IL 131 to provide funding for redeveloping areas that are lagging economically. Both of these districts are located within the IL 131 project area.

Beach Park's *Green Bay Road TIF Redevelopment Plan and Project*[8] includes a goal of encouraging redevelopment by taking advantage of the location along IL 131 and the closeness of the Waukegan National Airport. Furthermore, the City of Zion's *Comprehensive Plan Update* dated December 1, 2015 identifies the land surrounding IL 131 as a "new growth area" where the city will focus on expanding the City's tax base through new mixed use developments. The IL 131 and IL 173 intersection was also noted as a key area with development potential.

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6 Lake County. *Regional Framework Plan. Lake County Board*, October 7, 2014. Accessed May 12, 2016. https://lakecountyil.gov/1974/Framework-Plan.

7 City of Zion. *Comprehensive Plan Update.* December 1, 2015; Village of Wadsworth. *Comprehensive Plan.* 2014; Village of Beach Park. *Comprehensive Plan.* May 27, 2008; City of Waukegan *Comprehensive Plan Report.* December 1987.

8 *Green Bay Road TIF Redevelopment Plan and Project*. Camiros, Ltd. August 2010.

The Waukegan Port District (owner/operator of the airport) and the FAA are currently studying ways to expand facilities at the Waukegan National Airport. One of the goals of the airport expansion is to enhance aviation-related commercial activities at the airport.

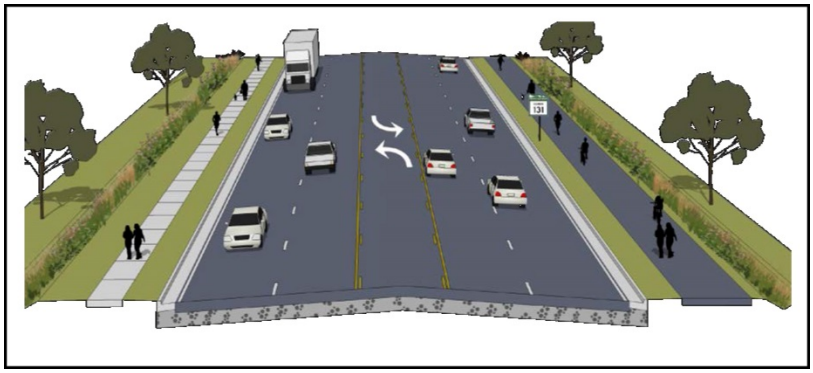
IL 131 is a Strategic Regional Arterial (SRA) and part of the National Highway System. It carries relatively long-distance and high-volume traffic and serves as a key north-south route in northeastern Illinois. In this role, IL 131 lends itself well to supporting planned developments in the project area. The preferred alternative will improve mobility and safety along IL 131, which will support existing and planned economic growth in the area.

The No-Build alternative will not improve mobility or safety along IL 131. Increasing traffic congestion and continuing safety problems will not support planned economic growth in the area.

4.2.10. Pedestrian, Bicycle and Transit Facilities

There are currently sidewalks and crosswalks on some side streets and within new residential subdivisions in the project area, but they generally do not exist along IL 131. There are also some off-road bicycle trails in the areas surrounding IL 131, including the Robert McClory Trail and the Zion Trail. In addition, several bicycle trails are currently planned within the Waukegan Savanna Forest Preserve. A new connection between the Robert McClory Trail, the Waukegan Savanna Forest Preserve and the Des Plaines River Trail is also planned using land owned by ComEd (see Appendix A, Exhibit 7).

Figure 4-7: Proposed IL 131 near Yorkhouse Road



The preferred alternative improves access, mobility and safety for bicycles and pedestrians by building a new shared-use path and a sidewalk along IL 131 (or graded shelf, see Section 3.7.1). The preferred alternative will require pedestrians and bicyclists to cross a wider roadway; however, the proposed improvements include proper bicycle and pedestrian crossings to help make these movements. In addition, the shared-use path alternates between the east and west sides of the roadway to provide better connections between the places where pedestrians and bicyclists are most likely to travel. These include the Waukegan Savanna Forest Preserve, the Waukegan Sports Park, schools, churches, residential developments and commercial areas. The shared-use path between Yorkhouse Road and the ComEd property (just north of Warner Avenue) will also be part of the planned connection between the Robert McClory Trail, the Waukegan Savanna Forest Preserve and the Des Plaines River Trail. Figure 4-7 shows IL 131 with the proposed shared-use path and sidewalk in this area. Sidewalks will be compliant with the Americans with Disabilities Act.

Pace Suburban Bus Service (Pace) operates two bus routes in the project area. Route 573 follows IL 131 between Yorkhouse Road and Sunset Avenue with bus stops at both intersections. Pace Route 562 provides east-west service along Sunset Avenue. Pace is currently studying ways to develop bus options to improve service in the area

between Sunset Avenue and Yorkhouse Road. The existing bus routes do not have designated bus stops. Rather, the bus driver can be flagged to stop at any safe intersection. The preferred alternative will allow these operations to continue. IDOT will coordinate with Pace during contract plan preparation (Phase II) to identify additional transit features – such as bus pads – that may be included in the project plans to support any bus service adjustments within the roadway right-of-way. The preferred alternative will also improve mobility and safety along IL 131, which is expected to benefit transit services.

Temporary transit disruptions or delays may occur during construction. To minimize these impacts, the project plans will require construction to be staged in a way that maintains access to bus stops. IDOT will also coordinate with Pace during contract plan preparation (Phase II) and during construction to minimize impacts to its services.

The No-Build alternative will have no effect on pedestrian and bicycle connections, access or safety. The project area will continue to have very few places that support pedestrian and bicycle travel. The No-Build alternative will not affect public transportation outside of Pace's current plans.

4.3. Agriculture Resources

Existing land uses in the project area include a mixture of residential, commercial, recreational, agricultural and undeveloped lands. Existing farms are generally located in the northern portion of the project area, between Russell Road and 33rd Street. Farmland is grouped into categories based on soil type: prime farmland, unique farmland and farmland of statewide or local importance.[9] Although there are a limited number of active farms, much of the project area contains prime farmland and farmland of statewide importance.

Twenty-one farm parcels owned by 14 different entities are located in the project area. The preferred alternative requires about 8.50 acres of permanent land acquisition and 0.10 acre of temporary easement from these farms. Most of these areas (6.33 acres) are considered land already in urban development.[9] The proposed improvements will not sever or landlock any farm units, nor will it impact any farm drainage systems. Access to eight farms will not be changed, because the preferred alternative includes a two-way left turn lane in these areas. Access to the thirteen remaining farms will be restricted to right-in/right-out movements due to the construction of a raised median. These impacts will be minimized by providing U-turn locations approximately every ¼-mile and at intersections with traffic lights.

What is prime farmland?

Prime farmland is land that has the best combination of physical and chemical properties for producing food, feed, forage, fiber and oilseed crops. The land could be cropland, pastureland, rangeland, forestland, or other land but not urban built-up land or water.

What is unique farmland?

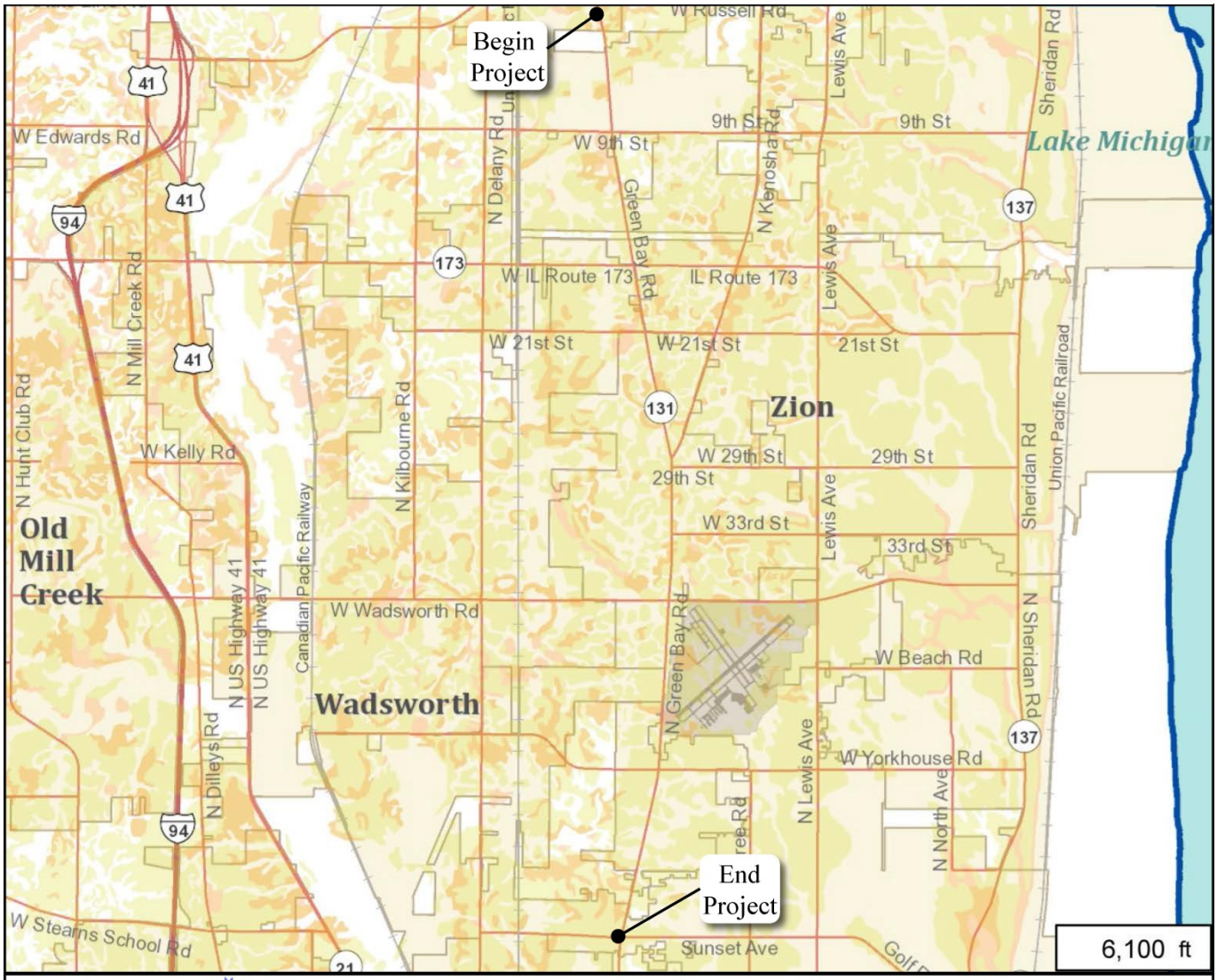
Unique farmland is land other than prime farmland that is used to grow specific high-value food and fiber crops. Examples of such crops are citrus, tree nuts, olives, cranberries, fruit and vegetables.

What is farmland of statewide or local importance?

Farmland of statewide or local importance is land that is important for producing food, feed, fiber, forage and oil seed crops on a state or local level, even though they are not identified as having national importance.

[9] U.S. Department of Agriculture, Natural Resources Conservation Service. Farmland protection policy act manual, title 440-V-CPM. Accessed February 9, 2017. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/16/stelprdb1049240.pdf.

Figure 4-8: Erodible Soils



LakeCounty Geographic Information System

Lake County
Department of Information Technology
18 N County St
Waukegan IL 60085
(847) 377-2373

Map Printed on 5/2/2016

N

Highly Erodible Soils
Soils mapped by the U.S. Department of Agriculture Natural Resources Conservation Service and categorized as being highly susceptible to erosion.

Prime Ag Soils
Soils mapped by the U.S. Department of Agriculture Natural Resources Conservation Service and categorized as prime (excellent) soils for agricultural purposes.

Protected agricultural areas include land that has been granted local protections from some projects that would change the land to other uses. There are no protected agricultural areas located in Lake County.[10] Additionally, there are no Centennial or Sesquicentennial Farms. Centennial farms have been held by the same family for at least 100 years. Sesquicentennial Farms have been held by the same family for at least 150 years.

IDOT coordinated the project with the National Resources Conservation Service (NRCS) and the Illinois Department of Agriculture (IDOA).[11] The impact of this project on farmland conversion has been evaluated in accordance with the requirements of the NRCS. The project will convert three acres or less of farmland per mile, and the conversion will not result in more than minor impacts. Accordingly, the project conforms to the general Form AD-1006 prepared by NRCS. Therefore, further coordination with NRCS on this project will not be necessary. A response was not received from IDOA prior to the publication of this EA. Copies of the coordination documents, including the AD-1006 form, can be found in Appendix C (Farmland).

The project area also includes several areas with erodible soils, which tend to be at a higher risk for wearing away (see Figure 4-8, page 4-26). The preferred alternative will include measures to manage erodible soils both during construction and after the project is built according to the requirements of IDOT's *Bureau of Design and Environment (BDE) Manual*[12] and IDOT's *Standard Specifications for Road and Bridge Construction*. Temporary measures that will be used to prevent erosion during construction may include the following: perimeter silt fence barriers, drop inlet filter bags (in areas where storm sewer is proposed), erosion control blankets to stabilize slopes, straw mulch, temporary seeding and aggregate ditch checks. After the project is built, the areas disturbed during construction will be reseeded. Grass ditches and other drainage features will also be designed to limit erosion. During contract plan preparation (Phase II), IDOT will finalize the erosion control measures for the project.

The No-Build alternative will not directly impact agriculture resources; however, Lake County's future land use map (see Appendix A, Exhibit 6) shows all existing agricultural land in the project area transitioning to residential and commercial uses.

4.4. Cultural Resources

Cultural resources include historic properties that are currently listed on the National Register of Historic Places (NRHP) or that are eligible for listing on the NRHP. Cultural resources can include districts, sites, buildings, structures and objects. They can be above ground, or they can be below the ground – as is the case with archaeological resources. Cultural resources are protected under Section 106 of the National Historic Preservation Act, which requires agencies to consider the effects of their actions on historic properties. In Illinois, impacts to cultural resources are reviewed by the State Historic Preservation Officer (SHPO). Staff for the SHPO are housed at the Illinois Historic Preservation Agency (IHPA).

[10] Illinois General Assembly, Illinois Compiled Statutes. *Agricultural Areas Conservation and Protection Act* (505 ILCS 5/5). Accessed May 11, 2016. http://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=1672&ChapterID=40.

[11] According to the Farmland Protection Policy Act (FPPA), land already in urban development is exempt from this Federal policy (7 USC 4201-4209, "Farmland Protection Policy Act of 1981" (Public Law 97-98) and 7 CFR 658, "Farmland Protection Policy Act"). However, the Illinois Department of Agriculture (IDOA) requires coordination for all farmland impacts on projects that use state funds.

[12] IDOT *BDE Manual*. Chapter 41, Construction Site Storm Water Pollution Control. Chapter 59, Landscape Design. 2010.

IDOT prepared an *Environmental Survey Request* and *Addendum Environmental Survey Request* to identify cultural resources in the project area. The surveys did not identify any archaeological sites or architectural resources listed on or eligible for the NRHP in the project area. Therefore, no historic properties subject to protection under Section 106 of the National Historic Preservation Act of 1966, as amended, will be affected by the proposed project. The Illinois SHPO agreed with these findings on August 30, 2011 and October 2, 2013 (see Appendix B).

The No-Build alternative will also have no effect on cultural resources.

4.5. Air Quality

The Clean Air Act (CAA) was established by the federal government to ensure that transportation projects meet national air quality standards. The primary purpose of the CAA is to protect public health and welfare by improving air quality. Many air quality issues are evaluated at the regional level. In the IL 131 project area, regional air quality evaluations are completed by the local Metropolitan Planning Organization, the Chicago Metropolitan Agency for Planning (CMAP), which is given this responsibility by the U.S. Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (IEPA).

The CMAP air quality evaluation considers regional air pollutants such as ozone. Ozone is found near the earth's surface, where pollutants emitted from society's activities react in the presence of sunlight to form ozone. Hot sunny weather with stagnant wind conditions favors ozone formation. Lake County does not currently meet national air quality standards for ozone, also called "nonattainment."[13] However, because the IL 131 project is listed in CMAP's approved Transportation Improvement Program (TIP) for fiscal years 2014-2019, ozone is addressed as part of that process.

CMAP is also responsible for developing a transportation plan that evaluates the impact of proposed transportation activities on the region's air quality. This evaluation, called a conformity analysis, must demonstrate that the emissions resulting from the plan meet all federal air quality standards. The IL 131 project is included in CMAP's approved transportation plan, which meets or "conforms to" all federal air quality standards. This means that the IL 131 project will not have an impact on regional air quality. The IL 131 project is part of CMAP's transportation plan, which meets all federal air quality standards.[14] In addition to looking at air quality in the region, an air quality study was also completed for the IL 131 project. The purpose of the study was to make sure no localized violations of the national air quality standards for carbon monoxide (CO) and particulate matter ($PM_{2.5}$) will occur as a result of the project. The study also looked at air pollutants known as mobile source air toxics (MSATs). A summary of the study results for the preferred alternative is provided in the sections below.

The No-Build alternative is not considered as part the CMAP transportation plan. The No-Build alternative will not lead to any localized violations of national air quality standards. Additionally, due to the implementation of USEPA's vehicle and fuel regulations, the overall MSAT emissions in the study area are expected to decrease in the future No-Build condition.

[13] Lake County is designated as marginal nonattainment for the 8-hour ozone standard. Accessed May 3, 2016. http://www3.epa.gov/airquality/greenbook/anayo_il.html.
[14] See Appendix C (Air Quality) for the detailed regional conformity analysis.

4.5.1. Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless and toxic gas that comes directly from the tailpipes of cars and trucks. Power plants and factories also emit CO. The IL 131 project does not exceed the traffic volume threshold to warrant a separate study of CO emissions.[15]

4.5.2. Particulate Matter ($PM_{2.5}$)

$PM_{2.5}$ is a mix of very small solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot or smoke are large or dark enough to be seen with the naked eye. Others are so small they can only be seen with a microscope. The project-level air quality study also looked at $PM_{2.5}$ levels. Based on the study, the IL 131 project does not present concern for air quality. Therefore, the project meets all federal air quality requirements and standards for $PM_{2.5}$.[16]

4.5.3. Mobile Source Air Toxics

Pollutants known as mobile source air toxics (MSATs) come from human sources including on-road moving sources (cars and trucks); non-road moving sources (airplanes); area sources (dry-cleaning businesses); and non-moving sources (factories or refineries). No national air quality standards exist for MSATs.

The air quality study found that the project may increase MSAT emissions in some locations along the IL 131 corridor where additional travel lanes will be added. However, overall, MSAT emissions within the study area are expected to decrease in the future because USEPA-required vehicle and fuel regulations will begin to take effect. The project meets the criteria for "Low Potential for MSAT effects" in accordance with the *FHWA Interim Guidance on Air Toxics Analysis in NEPA Documents*.[17]

4.6. Noise

A detailed traffic noise study for the IL 131 project was completed to predict future traffic noise levels, determine where impacts will occur, and identify ways to mitigate impacts. Existing land uses in the project area include a mixture of residential, commercial, recreational, agricultural and undeveloped lands. There are also institutional land uses such as churches and schools. Some land uses are more sensitive to traffic noise increases. As a result, different land uses have different criteria to help determine what is considered a noise impact from a transportation project.[18]

For the IL 131 project, noise-sensitive receptors included 175 homes, five churches, one school, two golf courses, five office buildings and one park. Traffic noise levels were evaluated for 45 common noise environments (CNEs), which are groups of one or more noise-sensitive receptors that are exposed to similar noise sources and levels. The

[15] See Appendix C (Air Quality) for more detailed information about and the results of the CO microscale analysis.
[16] See Appendix C (Air Quality) for more detailed information about the $PM_{2.5}$ analysis.
[17] See Appendix C (Air Quality) for more detailed information about the MSAT analysis.
[18] Traffic noise impacts occur when the projected noise levels approach (defined in Illinois as within 1 dB(A)), equal or exceed noise abatement criteria (NAC) established by FHWA for different land uses. Traffic noise impacts also occur when there is a substantial increase (defined in Illinois as greater than 14 dB(A)) in the design-year noise levels when compared to the existing conditions.

receptor closest to the roadway, also called a representative receptor, was evaluated to determine the worst-case traffic noise conditions within each CNE. Traffic noise impacts were identified in 36 CNE's. Within those CNE's traffic noise impacts were predicted at 137 homes, two churches, two golf courses, one office building and one park.[19] The noise analysis results are summarized in Appendix A (Exhibit 8). Mapping showing the locations of the noise sensitive receptors is included in Appendix A (Exhibit 10).

▲ *Noise walls, such as the one shown above, reduce overall noise levels. IDOT will decide whether to build walls based on the desires of the property owners and residents who will benefit from them.*

A total of 75 noise walls were evaluated to mitigate or reduce traffic noise impacts (see Appendix A, Exhibits 9 and 10). Noise walls are solid obstructions built between the roadway and the homes along it to reduce overall noise levels. Several factors play into whether a noise wall will work for any given spot. For example, mitigation must be feasible – meaning it must reduce traffic noise by a certain amount,[20] and engineering requirements must also be met to make sure mitigation is not too difficult or even impossible to build. Noise mitigation must also be reasonable – meaning it must meet IDOT's noise reduction design goals,[21] be cost effective, and consider the viewpoints of the property owners and residents who will benefit from the mitigation.

Four noise walls were found to be feasible and cost effective while meeting IDOT's noise reduction design goals. These noise walls are summarized in Table 4-3 and shown in Appendix A (Exhibit 3).

Table 4-3: Possible Noise Wall Locations and Sizes

Barrier Number	Location	Approximate Length (ft.)	Height Range (ft.)
B2	East side of IL 131 and north of Colorado Avenue	240	9 – 11
B9	East side of IL 131 and north of Graves Avenue	182	9 – 11
B33	East side of IL 131 and north of 21st Street	854	10 – 13
B63	West side of IL 131 and north of Chaney Street	217	7 – 9

The final step in determining if a noise wall is reasonable includes obtaining the viewpoints of the property owners and residents who will benefit from them, also called benefited receptors. According to IDOT's noise policy, IDOT will decide whether to build the four noise walls based on the viewpoints of the benefitted receptors. The results of the noise analysis will be presented at the public hearing, including exhibits showing the locations of barriers likely

[19] For the IL 131 project, all predicted traffic noise impacts are attributed to noise levels that approach, equal or exceed the respective NAC.
[20] IDOT's noise policy states that a feasible noise barrier must reduce traffic noise by at least 5 dB(A) for at least two impacted receptors.
[21] IDOT's noise policy states that a reasonable noise barrier must reduce traffic noise by at least 8 dB(A) for at least one benefitted receptor. This is referred to as the noise reduction design goal.

to be implemented depending on the resulting viewpoints of the benefited receptors. Supporting noise analysis information will also be available for review at the public hearing. The final decision about whether to build the noise walls will not be made until the project is in the design stage and the public involvement process is completed.

The noise study also identified where traffic noise impacts may occur if existing undeveloped lands were developed at some point in the future. The project team coordinated this information with the local communities to help guide future decisions about land use changes and potential development. The goal of this coordination is to avoid placement of noise-sensitive land uses in areas where traffic noise impacts could occur in the future.

Over time, the volume of traffic on local roadways will increase, even if the project is not built. The changes in traffic volumes will cause an increase in existing traffic noise levels. A substantial increase in noise levels is not predicted for the No-Build alternative.

Additional details about the noise study are contained in the *Noise Analysis Technical Report*, which can be found in Appendix C (Noise).

4.7. Natural Resources

Additional information about natural resources for the IL 131 project can be found in Appendix B and Appendix C.

4.7.1. Upland Plant Communities

Existing Conditions

Upland plant communities include trees, shrubs and other vegetation that are not associated with a body of water. Field surveys[22] were conducted to identify the types and sizes of the plant clusters – referred to as plant communities – that exist in the project area. The field surveys identified 15 types of naturally occurring wooded plant communities ranging in size from 0.03 acre to 2.89 acres. These plant communities have been disturbed by commercial, residential, industrial and agricultural development. The field surveys also identified invasive species, which are not native to the area and can harm the plants that do occur naturally in the area.

▲ *There are 15 types of naturally occurring plant communities in the IL 131 project area.*

Field surveys[22] were also conducted to identify tree resources in the project area. Most of the project area contains relatively small trees scattered in commercial and residential areas and in

[22] See Appendix C (Plant Communities) for copies of the *Tree Survey Technical Memorandum* (January 2009) and the *Tree and Plant Community Survey Technical Memorandum* (June 2011).

the wooded areas discussed above. However, there are several medium to large trees and 15 trees with a diameter of 24-inches or more located throughout the project area. No exceptional or specimen trees were identified in the project area. Exceptional trees are native or landscaped trees of average to high quality based on their age, large size, health and structure. Specimen trees are listed on the Illinois Big Tree Register and are outstanding examples due to their exceptional size, form or historical importance.

Additional details and mapping showing the location, size and make-up of the plant communities can be found in the technical memoranda documenting the tree and plant community field surveys, which are included in Appendix C (Plant Communities).

How does IDOT replace trees that are removed for a project?

Replacing trees removed for a highway project helps to enhance the roadside environment. IDOT's uses the following guidelines for isolated trees or small groups of trees like those in the IL 131 project area:

- If transplanted trees are used, a minimum of one tree is planted for every tree removed. These are also called bare root or "balled and burlapped" trees.
- If seedlings are used, a minimum of three seedlings are planted for every tree removed.
- Replacement trees are planted in suitable locations as close as possible to where the original tree was removed.

Impacts

The preferred alternative requires 10.06 acres of land from wooded plant communities. Approximately 1,660 trees will be removed, including thirteen trees with a diameter at breast height of 24-inches or more. During the project's planning, impacts to plant communities were avoided and minimized using measures such as: shifting the IL 131 roadway; reducing the median width; using curb and gutter instead of shoulders; and building retaining walls. To mitigate the unavoidable impacts, IDOT will replace impacted trees in accordance with IDOT Departmental Policy D&E-18, "Preservation and Replacement of Trees."

The No-Build alternative will have no effect on upland plant communities.

4.7.2. Designated Special Lands

Designated special lands include Illinois Natural Areas, Land and Water Reserves and Nature Preserves. IDOT reviewed the Illinois Natural Heritage Database and determined there are no Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves or registered Land and Water Reserves in the vicinity of the project area. As a result, the preferred alternative will not impact these resources. Other lands important for natural resources include publicly owned parks and recreational areas. These areas are discussed further in Section 4.14.

The No-Build alternative also will not impact any state designated lands.

4.7.3. Wildlife

Existing Conditions

Wildlife habitats in the project area occur in roadside, residential, commercial and agricultural areas. Habitats generally exist in the same location as wooded plant communities (see Section 4.7.1), small streams (see Section 4.8), and wetland areas (see Section 4.11). In addition, the Waukegan Savanna Forest Preserve and portions

of ThunderHawk Golf Club contain areas that could support wildlife. No specific wildlife surveys were conducted in the project area. Because the land use is mostly urban and suburban with occasional farm fields, wildlife within the project area expected to be tolerant of human disturbance. The species listed as critical for the Northeastern Morainal Division by the Illinois Wildlife Action Plan require habitat that is not found within the project area.

Impacts

The preferred alternative will not impact the ability of the Waukegan Savanna Forest Preserve and ThunderHawk Golf Club to support wildlife. The proposed improvements require land from some potential wildlife habitat located in upland plant communities, small streams and wetland areas (see Sections 4.7.1, 4.8 and 4.11). The preferred alternative is located in a relatively developed portion of Lake County where additional growth is planned. Therefore, the impact of the preferred alternative on potential wildlife habit is anticipated to be minimal.

Based on historic crash data, there were five animal-vehicle crashes involving large mammals between 2009 and 2013. In general, these crashes were not focused in any one particular area of the roadway. The preferred alternative will add lanes and is projected to increase traffic on IL 131. This may increase the chances of animal-vehicle collisions for large mammals. However, this is not likely to occur since historic crash data did not show a past problem. Therefore, the preferred alternative does not include dedicated wildlife crossings for large mammals.

Increased crossing distances may also lead to more instances of road-related mortality for small to medium-sized mammals, amphibians and reptiles. To mitigate these potential impacts, wildlife crossings are proposed at six locations along IL 131 (see Appendix A, Exhibit 3). The crossings will consist of culverts – or drainage structures – that have been oversized to allow wildlife to pass under the roadway. The oversized culverts are expected to be relatively dry under normal conditions and will be partially buried to provide a natural bottom for wildlife movements. The proposed wildlife crossings are located where culverts crossing under IL 131 connect plant communities, small streams or wetland areas on both sides of the roadway.[23] IDOT will determine the exact sizes and types for the modified culverts during contract plan preparation (Phase II).

What types of animals might use a wildlife crossing?

The modified culverts – or drainage structures – proposed for the IL 131 project will allow a range of wildlife to cross under the roadway, including:

- Medium sized mammals – raccoons, skunks and groundhogs.
- Small mammals – squirrels, voles and mice.
- Amphibians – frogs, toads, salamanders and turtles.
- Reptiles – snakes and lizards.

Given the above, the preferred alternative is not anticipated to impact wildlife.

The No-Build alternative also will not adversely impact wildlife.

[23] Wildlife Crossing Structure Handbook, Design and Evaluation in North America, Publication No. FHWA-CFL/TD-11-003, March 2011. Anthony P. Clevenger and Marcel P. Huijser.

4.7.4. Threatened and Endangered Species

Federally Listed Species

The United States Fish and Wildlife Service (USFWS) identified eight federally listed species that may be present in Lake County, including the Piping Plover (endangered), Pitcher's thistle (threatened), Karner blue butterfly (endangered), northern long-eared bat (threatened), Eastern massasauga (threatened), Rufa red knot (threatened), Rusty patched bumble bee (endangered) and Eastern prairie fringed orchid (threatened). Critical habitat for the Piping Plover was also identified in Lake County. The preferred habitat of each listed species was cross referenced with the known conditions in the project area. It was determined that only three of these species – the Eastern prairie fringed orchid (EPFO), the Rusty patched bumble bee and the northern long-eared bat (NLEB) – may have suitable habitat in the project area.

IDOT coordinated with the Illinois Natural History Survey (INHS) to complete a field survey to determine if the federally threatened EPFO or its habitat are present in the project area.[24] The study concluded that neither the EPFO nor its habitat exist in the project corridor. During the survey, no other threatened or endangered plant species or critical habitat for listed species were found. The EPFO survey report can be found in Appendix C (Threatened and Endangered Species).

The limits of the proposed improvement were evaluated for the presence of potentially suitable Rusty patched bumble bee habitat. Evaluation for potentially suitable habitat included the use of the guidance issued by USFWS, which uses modeling to identify zones where there is a high potential for the species to be present, called "high potential zones." [25] According the USFWS guidance, the rusty patched bumble bee is not likely to be present for any project located outside of a high potential zone, and consultation with the USFWS or incidental take coverage is not necessary. [26] Therefore, if the project is outside of a high potential zone, then a "no effect" determination is appropriate. The IL 131 project area does not overlap a USFWS high potential zone or known rusty patched bumble bee record. In accordance with USFWS guidance, the project will have no effect to the Rusty patched bumble bee.

What are federally listed species?

The federal Endangered Species Act of 1973 provides protections for two categories of plant and animal species and their habitats:

- Endangered species – any plant or animal species that is in danger of becoming extinct.
- Threatened species – any plant or animal species that is likely to become an endangered species within the foreseeable future.

The USFWS is responsible for developing the federal list of threatened and endangered species. Plants and animals included on the federal list are referred to as federally listed species.

[24] The criteria for determining an appropriate area to search for EPFOs are wetlands with an FQI score greater than 17 or a mean-C value greater than 3.5 and the presence of four or more associated species (see Section 4.11 for more detail regarding FQI and mean-C values).

[25] United States Fish and Wildlife Service, Regions 3, 4, 5 and 6. The Rusty Patched Bumble Bee (Bombus affinis): Interagency Cooperation under Section 7(a)(2) of the Endangered Species Act, Voluntary Implementation Guidance. March 21, 2017.

[26] Federal agencies must consult with the USFWS when any action the agency carries out, funds, or authorizes may affect a listed endangered or threatened species. In some cases, the USFWS finds that an action may adversely affect a species, but it will not not jeopardize its continued existence. This is called an incidental take.

White-nose syndrome is a disease affecting hibernating bats, including the NLEB. It is named for the white fungus that appears on the muzzle and other parts of bats and is associated with extensive bat mortality in eastern North America. The IL 131 project is located in the White-Nose Syndrome (WNS) zone, which includes areas where the disease or the fungus that causes it have been found.

▲ *The northern long-eared bat is a federally threatened species due to the spread of white-nose syndrome.*

Winter habitat for the NLEB includes caves and mines. There are no caves or mines present in or near the IL 131 project areas. Suitable summer habitat for the NLEB consists of a wide variety of forested/wooded habitats where they rest, search for food and travel. Their habitat may also include adjacent and scattered non-forested areas such as wetlands and the edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts,[27] as well as linear features such as fencerows, forests near streams and other wooded corridors. The NLEB has also been observed roosting in human-made structures such as buildings, barns, bridges and bat houses; therefore, these structures are considered potential summer habitat.[28]

The preferred alternative will remove approximately 1,660 trees. There are no known maternity roost trees, maternity colonies or hibernacula in the vicinity of the project corridor. The potential for adverse impacts to the northern long eared bat was assessed in accordance with the USFWS *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions*. Based on that assessment, it was determined that the proposed improvement may affect the bat, but it will not cause prohibited incidental take. A Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form was prepared for the proposed project on May 9, 2017 (see Appendix B). This form is being coordinated with USFWS via this EA.

The No-Build alternative will not impact federally listed species.

State Listed Species

The Illinois Endangered Species Protection Act provides protections to threatened and endangered species in the State of Illinois. IDOT coordinated with IDNR to determine there were no state-listed species in the project area (see Appendix B). Therefore, the preferred alternative will not impact state-listed species.

The No-Build alternative also will not impact state-listed species.

[27] Potential NLEB roost trees include live trees and/or snags greater than or equal to 3-inch diameter at breast height that have exfoliating bark, cracks, crevices, and/or cavities.
[28] U.S. of America. U.S Fish and Wildlife Service. 2016 Range-Wide Indiana Bat Summer Survey Guidelines, pp. 11-13. April 2016.

4.7.5. Pollinator Habitat

Pollinators are critical contributors to the United States' economy, food system and environmental health. Over the past few decades, there has been a substantial loss of pollinators from the environment, including honey bees, native bees, birds, bats and butterflies. Vegetation within the project area can provide much needed habitat for pollinators by providing food, shelter and connections to other patches of habitat. The preferred alternative will remove vegetation that may provide habitat for pollinators (see Section 4.7.1 and 4.11). Pollinator habitat will be included in the project where practical. In addition, methods described in the FHWA publication *Pollinators and Roadsides: Best Management Practices for Managers and Decision Makers*, will be incorporated into the project's design during contract plan preparation (Phase II).[29]

The No-Build alternative will not impact pollinator habitat.

4.8. Surface Water Resources and Aquatic Habitats

Water resources are important habitats for fish, mussels and other stream species. They can also support recreational activities. There are no dams, wastewater discharge locations or lakes in the project area. The project area is located on a ridge, or high point, between the Upper Des Plaines River watershed to the west and the Lake Michigan direct drainage area to the east. The Des Plaines River is generally located about 2-4 miles west of IL 131, and Lake Michigan is about 3-4 miles east of IL 131.[30]

Streams

The project area includes seven small unnamed streams/ditches and one pond which ultimately drain to the Des Plaines River and one unnamed stream (W8) which ultimately drains to Lake Michigan. These resources are shown on the preferred alternative mapping in Appendix A (Exhibit 3) and summarized in Table 4-4 on page 4-37.

Some unnamed streams and ditches are considered waters of the United States (WOUS), which are regulated by the Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. The USACE determined that four of the unnamed streams in the project area are considered WOUS on January 10, 2017 (see Appendix B). Water quality data for these resources are limited due to their small size. Field survey reports for the unnamed streams, including WOUS, can be found in the *Wetland Delineation Report* (July 2013) in Appendix C (Wetlands).

[29] U.S. Department of Transportation FHWA. *Pollinators and Roadsides: Best Management Practices for Managers and Decision Makers*, January 2016.
[30] Lake County. *Regional Framework Plan*, October 7, 2014. Accessed May 5, 2016. http://www.lake.k12.il.us/1974/Framework-Plan.

Table 4-4: Streams/Ditches in the IL 131 Project Area, including WOUS

Stream/ Site Name*	Watershed	Waters Type	WOUS?	Watershed Area (square miles)	Area in Project Corridor (acres)	Length in Project Corridor (feet)
W1	Des Plaines River	RPW** Stream	No	0.04	0.02	422
W2	Des Plaines River	RPW** Stream	No	0.19	< 0.01	97
W3	Des Plaines River	NRPW*** Ditch	No	0.06	0.08	986
W4	Des Plaines River	RPW** Stream	Yes	0.11	0.01	154
W5	Des Plaines River	RPW** Stream	Yes	0.26	0.04	273
W6	Des Plaines River	RPW** Stream	Yes	1.68	0.30	2,219
W7	Des Plaines River	NRPW*** Stream and Roadside Ditch	Yes	0.01	0.01	518
W8	Lake Michigan/ Pike Root	NRPW*** Roadside Ditch	No	<0.01	<0.01	79
W9	Des Plaines River	RPW** Pond	No	0.04	1.16	597

* All of the streams in the project area are small and unnamed. Therefore, they are referred to by a site designation consistent with the *Wetland Delineation Report* (July 2013) in Appendix C (Wetlands).

** Relatively Permanent Waters (RPW) where flows only seasonally.

*** Non-Relatively Permanent Waters (NRPW) where water flows only for brief periods after rainfall.

Special Designation Streams

Special designations for streams include:

- Navigable waters, or streams that can be used to transport interstate or foreign commerce;
- Nationwide Rivers Inventory (NRI), which lists river sections that possess one or more "outstandingly remarkable" natural or cultural values;
- Illinois Natural Areas Inventory (INAI), which lists high quality natural resources in the state;
- Biologically Significant Stream (BSS), or stream sections that have exceptional quality and are unique resources in the state; and
- Impaired, or stream sections the IEPA has determined have impaired quality due to pollutants from a variety of sources.[31]

The preferred alternative does not cross any special designation streams. Seven streams in the project area drain to the Des Plaines River 2-4 miles west of IL 131. The Des Plaines River is a navigable water that has been listed as "outstandingly remarkable" on the NRI for its scenery and recreation opportunities. The Des Plaines River is also designated an impaired stream.

[31] Impaired waters are identified to fulfill the requirements set forth in Section 303(d) of the federal Clean Water Act and the Water Quality Planning and Management Regulation in 40 CFR Part 130.

Impacts

The preferred alternative impacts three unnamed streams, all of which have been designated as WOUS, due to widening the IL 131 roadway and replacing and extending existing culverts, see Table 4-5. The culverts will be partially buried to allow for wildlife movements (see Section 4.7.3). This will also provide a more natural stream bottom when compared to the existing culverts. Impacts to WOUS will require IDOT to obtain a Section 404 permit from the USACE to build the IL 131 project (see Section 4.15).

The operation and maintenance of the preferred alternative may also have indirect and cumulative effects on streams. These impacts are discussed in Section 4.17.

The No-Build alternative will not directly impact any lakes, rivers or streams.

Table 4-5: Stream (WOUS) Impacts

Stream/ Site Name	Waters Type	WOUS?	Impact Area (acres)	Impact Length (feet)	Comments
W4	RPW* Stream	Yes	0.001	12	Impacted by grading for roadway drainage.
W5	RPW* Stream	Yes	0.019	160	Impacted by widening IL 131. Existing culvert to be replaced and extended.
W7	NRPW* Stream and Roadside Ditch	Yes	0.010	425	Impacted by widening IL 131. Existing culvert to be replaced and extended and existing ditch to be filled.
Total			0.030	597	

* Relatively Permanent Waters (RPW) or a stream with water that flows only seasonally.

** Non-Relatively Permanent Waters (NRPW) or a stream with water that flows only for brief periods after rainfall.

Measures to Minimize Effects to Surface Water Resources and Quality

The preferred alternative includes Best Management Practices (BMPs) to protect water quality, preserve water resources and minimize the overall impact on aquatic resources. The BMPs layout meets the requirements of IDOT's *BDE Manual* and *Standard Specifications for Road and Bridge Construction* and addresses USACE stormwater performance standards.

BMPs and locations were identified during the project's planning and are included in the right-of-way for the preferred alternative. BMPs include rip rap dissipaters, ditch checks, over-excavation of detention basins, and in-line stormwater detention where appropriate. Where swales and ditches are included in the proposed improvements, they will have vegetation to slow the runoff and help filter pollutants before it enters the storm sewer system. Where the improvements include a storm sewer system, BMPs such as catch basins with sumps and vortex separators will further trap sediments. The storm water runoff will eventually outlet to existing, grassy lands before flowing to unnamed tributaries to the Des Plaines River. The existing, grassy lands will further trap pollutants, allow the storm water to soak into the ground, and reduce the general speed of the runoff as it travels towards the

Des Plaines River. The selection and design of the BMPs was coordinated with USACE during the project's planning, see the USACE meeting minutes dated January 20, 2017 in Appendix C (NEPA-404 Merger).

Erosion control is also an important factor in protecting water quality. Areas with erodible soils have the greatest potential for soil loss. See Sections 4.3 and 4.16.2 for a discussion of erodible soils and erosion control.

4.9. Groundwater Resources

Existing Conditions

Lake County contains one shallow and one deep aquifer. In general, the shallow aquifer is less than 750 feet deep and is recharged by local rain or snowmelt. The recharge areas for the deep aquifer, which can be up to 1,500 feet deep, are located in Wisconsin and McHenry, Boone, DeKalb and Kane counties.[30] These areas are outside of the project area.

When an aquifer is the primary source of drinking water for an area, it is called a sole source aquifer. According to the USEPA's list of designated sole-source aquifers, there are no sole source aquifers in the project area.[32]

The municipalities in the project area obtain their drinking water from surface water sources, and there are no municipal wells in the project area. Portions of the project area do not have municipal water service. These areas obtain their water from private wells, which use groundwater from the shallow aquifer (See Appendix A, Exhibit 3). A total of 24 private wells are located in the project area. In addition, there are twelve non-Community Water Supply (CWS) Phase I Wellhead Protection Recharge Areas (WHPA) in the project area.[33] These areas are regulated to prevent contamination of a well or well-field that supplies a public water system.

Different areas are ranked according to their potential to contribute to groundwater recharge, with Zone 1 indicating the highest potential and Zone 7 indicating the lowest. The project area is primarily located in Zone 6, with a small portion in Zone 5.[33] The project area also does not contain any

What are Best Management Practices?

Best Management Practices (BMPs) reduce stormwater runoff by slowing it down, storing it and allowing it to soak into the ground. BMPs also help to filter pollutants from roadway runoff. The IL 131 preferred alternative includes the following BMPs:

- Rip rap dissipaters, or groupings of rock, to slow runoff;
- Ditch checks, or rocks placed in ditches to form barriers that slow and store water.
- Over-excavation to make deeper detention basins that store additional stormwater;
- In-line, or in-pipe, stormwater detention;
- Swales and ditches planted with vegetation;
- Catch basins with sumps to allow sediment to settle out;
- Vortex separators that use spinning mechanisms to separate out sediment.

What is an aquifer?

An aquifer is an underground area that stores groundwater. Aquifers are important sources of drinking water. They also contribute to the water found in rivers, lakes and wetlands. Groundwater found in aquifers is recharged, or restored, by water that seeps into the ground. This water comes from rain or snowmelt, as well as some lakes and rivers.

[32] "Designated Sole Source Aquifers in EPA Region 5." Accessed May 5, 2016. www3.epa.gov/region5/water/gwdw/solesourceaquifer/
[33] Illinois State Geological Survey. *Preliminary Environmental Site Assessment.* 2017.

Karst formations, which are caves and sinkholes in the underlying rock. Therefore, the project's potential to introduce groundwater contamination is low.

The IEPA has designated some groundwater in Illinois as "Class III: Special Resource Groundwater," meaning the groundwater is unique and vital for a particularly sensitive ecological system or contributes to a dedicated nature preserve.[34] There are no Class III groundwater resources in the project area or in the Des Plaines River watershed.[35]

Impacts

The preferred alternative will not create any new routes[36] for groundwater pollution movement or any new sources[37] of groundwater pollution. Furthermore, the preferred alternative will not result in a measurable change to the available water supply or recharge areas. As a result, no direct permanent impacts to groundwater are anticipated as a result of the preferred alternative.

The preferred alternative impacts nine private wells. It is anticipated these wells can be relocated on the same property. IDOT will determine the mitigation for private well impacts during contract plan preparation (Phase II), which will include coordination with the affected property owners to avoid or minimize service disruptions. The preferred alternative is not expected to measurably affect groundwater quality. However, wells within 200 feet of the roadway that are shallow, improperly cased or hydraulically connected directly to roadway runoff could show increased levels of deicing chemicals. Any water well within 200 feet of the right-of-way shall be properly abandoned in accordance with Illinois Department of Public Health requirements. The water well will be constructed such that susceptibility to surficial contamination is minimized, for example, by constructing the well in a deeper aquifer. The preferred alternative includes Best Management Practices (BMPs) to minimize the potential for polluting groundwater that supplies private wells (see Sections 4.8 and 4.16.2).

The No-Build alternative will not impact groundwater resources, groundwater quality or private wells.

4.10. Floodplains

There are no floodplains in the project area. Therefore, the preferred alternative will not impact any floodplains.

The No-Build alternative also will not affect any floodplains.

4.11. Wetlands

Existing Conditions

IDOT coordinated with the INHS to complete wetland field surveys to define the boundaries of potential wetland sites in the IL 131 project area – a process known as wetland delineation. A total of 53 wetlands covering

[34] 35 Illinois Administrative Code. Section 620.230.

[35] Illinois. Interagency Coordinating Committee on Groundwater. *Illinois Groundwater Protection Program: Biennial Comprehensive Status and Self-Assessment Report*. Springfield, IL: Illinois Environmental Protection Agency, Bureau of Water, 2012.

[36] As defined by the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.), "route" means abandoned and improperly plugged wells of all kinds, drainage wells, all injection wells, including closed loop heat pump wells, and any excavation for the discovery, development or production of stone, sand or gravel.

[37] As defined by the Illinois Environmental Protection Act (415 ILCS 5/3, et seq.), "source" means a unit that is utilized for the treatment, storage, or disposal of any hazardous or special waste not generated at the site.

approximately 38.3 acres were delineated in the IL 131 project area. Appendix B contains the wetlands coordination documents. The wetlands field survey reports can be found in Appendix C (Wetlands).

The wetlands in the project area are generally of low to fair natural quality. Four wetlands (41, 69, 70 and 71) are considered High Quality Aquatic Resources (HQAR), and one wetland (70) is a regionally noteworthy botanical area.[38] There are no Advanced Identification (ADID) High Functional Value wetlands in the project area. The wetlands are summarized in Appendix A (Exhibit 11).

Impacts

The preferred alternative impacts several wetlands in the project area due to the widened roadway, grading and construction access in the proposed right-of-way and easements. Wetland impacts are summarized in Table 4-6 on page 4-42. Impacts to wetland areas will continue to be minimized during contract plan preparation (Phase II). The operation and maintenance of the preferred alternative may also have indirect and cumulative effects on wetlands. These impacts are discussed in Section 4.17.

Wetlands that are connected to waters of the United States are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. These wetlands are called jurisdictional wetlands. The USACE issued a jurisdictional determination on January 10, 2017 (see Appendix B). According to the jurisdictional determination, fifteen of the wetlands in the project area are connected to waters of the United States (see Appendix A, Exhibit 11). Impacts to jurisdictional wetlands will require IDOT to obtain a Section 404 permit from the USACE to build the IL 131 project (see Section 4.15). Wetlands not regulated by the USACE are referred to as isolated wetlands. These wetlands are regulated by the Illinois Department of Natural Resources (IDNR) under the Interagency Wetland Policy Act of 1989.

The No-Build alternative will not impact any wetlands.

What is a High Quality Aquatic Resource?

A High Quality Aquatic Resource (HQAR) are aquatic areas considered to be important regional resources because of their uniqueness, scarcity and/or value. They also include wetlands considered important to the public interest.

How is wetland quality measured?

The quality of a wetland can be determined based on its Floristic Quality Index (FQI) and its mean C-value. The FQI is a rating that describes the natural quality of the plant communities in a wetland.

An FQI of less than 10 suggests low natural quality. An FQI between 10 and 20 suggests moderate natural quality. An FQI 20 or more suggests evidence of natural quality and potential environmental asset. An FQI of 35 or more suggests high natural quality.

The mean C-value is another measure of the quality of wetland plant communities. It ranges from 0 to 10, with higher values representing higher quality.

What is an Advanced Identification wetland?

An Advanced Identification (ADID) wetland has been determined to have high quality, or functional value. ADID wetlands have an FQI of 20 or greater or a C-value of 3.5 or greater. Excavating or filling in ADID wetlands is generally avoided.

[38] A regionally noteworthy botanical resource area is a relatively high quality natural community that is an outstanding example of a specific community type, or assemblage of community types, for a particular region of Illinois or within a defined project area. See the *Natural Resources Review* (January 2015) in Appendix B and the *Botanical Survey Report* (August 2014) included in Appendix C (Threatened and Endangered Species).

Table 4-6: Preferred Alternative Impacts to Wetlands

Site	Type*	Mean C-Value	FQI	HQAR	Area	Jurisdictional Status	Impact (acres)
4	Marsh	1.3	2.3	No	0.220	Isolated	0.169
6	Marsh	1.3	2.5	No	0.371	Isolated	0.215
7	Wet Meadow	2.7	4.6	No	0.080	Jurisdictional	0.080
8	Marsh	2.4	12.2	No	0.142	Jurisdictional	0.033
10	Wet Meadow	1.5	5.6	No	0.196	Isolated	0.134
14	Wet Meadow	2.2	9.6	No	0.238	Isolated	0.129
18	Forested Wetland	1.8	7.8	No	0.281	Isolated	0.206
19	Forested Wetland	3.2	18.8	No	0.961	Isolated	0.104
24	Farmed Wetland	1.8	7.0	No	0.444	Isolated	0.016
25	Forested Wetland	2.7	8.0	No	1.404	Isolated	0.478
31	Marsh	2.4	7.6	No	0.360	Isolated	0.003
33	Forested Wetland	2.7	15.8	No	0.242	Isolated	0.008
34	Wet Meadow	2.7	14.5	No	0.389	Isolated	0.120
35	Marsh	2.4	11.6	No	0.561	Isolated	0.017
38	Marsh	2.6	11.9	No	0.083	Isolated	0.083
39	Forested Wetland	2.8	18.8	No	0.458	Isolated	0.110
42	Forested Wetland	2.4	10.4	No	0.154	Isolated	0.110
45	Wet Meadow	2.3	9.3	No	0.231	Isolated	0.231
48	Marsh	2.4	10.6	No	0.198	Isolated	0.016
49	Forested Wetland	2.1	6.0	No	0.190	Isolated	0.050
50	Forested Wetland/Marsh	3.2	18.9	No	0.857	Isolated	0.070
51	Wet Meadow	3.0	13.5	No	0.176	Jurisdictional	0.090
52	Forested Wetland	2.3	6.4	No	0.134	Jurisdictional	0.050
55	Marsh	2.3	9.3	No	0.056	Jurisdictional	0.030
60	Wet Meadow	3.2	11.0	No	0.320	Isolated	0.160
65	Wet Meadow	2.1	9.6	No	1.690	Jurisdictional	0.074
69	Marsh	3.3	25.4	Yes	13.000	Jurisdictional	0.026
					Subtotal (Isolated)		2.429
					Subtotal (Jurisdictional)		0.383
					Grand Total		2.812

* There are no ADID wetlands in the project area.

Wetland Avoidance and Measures to Minimize Harm

Section 404 of the Clean Water Act and the Illinois' Interagency Wetland Policy Act of 1989 require IDOT to demonstrate avoidance and minimization of wetland impacts. Executive Order 11990 states that new construction should not take place in wetlands whenever there is a practicable alternative. Projects must also include all practicable measures to minimize harm. During the Phase I study, IDOT evaluated ways to completely avoid impacting wetlands. These included major shifts in the roadway, which would require even more land to build the project. In addition to increasing the project cost, this would create even greater impacts to existing homes and businesses. As a result of these considerations, IDOT determined that completely avoiding the wetlands was not practicable.

What is a sensitive stormwater outfall?

A sensitive stormwater outfall is a point where stormwater runoff may flow into high-quality environmental resources. These resources are considered important due to their uniqueness, scarcity or value to the natural environment. High-quality environmental resources may include – but may not be limited to – streams, rivers, wetlands, floodplains, as well as their related plant and animal habitats.

IDOT also evaluated ways to reduce or minimize the impacts to wetlands to the greatest extent possible. These included small shifts in the roadway, steeper side slopes and retaining walls in certain areas. Several of these measures were incorporated into the preferred alternative. Additionally, curb and gutter are proposed instead of a paved shoulder in several areas to minimize the total amount of land needed for the preferred alternative. Finally, the preferred alternative includes BMPs at sensitive stormwater outfalls to minimize potential for negative impacts to wetlands (see Sections 4.8 and 4.16.2).

Based upon the above considerations, it was determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

Mitigation for Wetland Impacts

IDOT will provide mitigation for wetland impacts that cannot be avoided. Mitigation is expected to take place off-site, but in the same drainage basin. The mitigation will be finalized during contract plan preparation (Phase II) and in coordination with USACE. These decisions will be made as part of the programmatic agreement that IDOT and IDNR have established to comply with the Interagency Wetland Policy Act (IWPA), as well as the Section 404 permit application process (see Section 4.15). Mitigation for wetlands impacted by the preferred alternative is summarized in Table 4-7 on page 4-44.

Table 4-7: Mitigation for Wetland Impacts

Site	Type	Mean C-Value	FQI	Jurisdictional Status	Mitigation Ratio*	Impact (acres)	Mitigation (acres)
4	Marsh	1.3	2.3	Isolated	1.5:1	0.169	0.254
6	Marsh	1.3	2.5	Isolated	1.5:1	0.215	0.323
7	Wet Meadow	2.7	4.6	Jurisdictional	1.5:1	0.080	0.12
8	Marsh	2.4	12.2	Jurisdictional	1.5:1	0.033	0.05
10	Wet Meadow	1.5	5.6	Isolated	1.5:1	0.134	0.201
14	Wet Meadow	2.2	9.6	Isolated	1.5:1	0.129	0.194
18	Forested Wetland	1.8	7.8	Isolated	1.5:1	0.206	0.309
19	Forested Wetland	3.2	18.8	Isolated	1.5:1	0.104	0.156
24	Farmed Wetland	1.8	7.0	Isolated	1.5:1	0.016	0.024
25	Forested Wetland	2.7	8.0	Isolated	1.5:1	0.478	0.717
31	Marsh	2.4	7.6	Isolated	1.5:1	0.003	0.005
33	Forested Wetland	2.7	15.8	Isolated	1.5:1	0.008	0.012
34	Wet Meadow	2.7	14.5	Isolated	1.5:1	0.120	0.18
35	Marsh	2.4	11.6	Isolated	1.5:1	0.017	0.026
38	Marsh	2.6	11.9	Isolated	1.5:1	0.083	0.125
39	Forested Wetland	2.8	18.8	Isolated	1.5:1	0.110	0.165
42	Forested Wetland	2.4	10.4	Isolated	1.5:1	0.110	0.165
45	Wet Meadow	2.3	9.3	Isolated	1.5:1	0.231	0.347
48	Marsh	2.4	10.6	Isolated	1.5:1	0.016	0.024
49	Forested Wetland	2.1	6.0	Isolated	1.5:1	0.050	0.075
51	Wet Meadow	3.0	13.5	Jurisdictional	1.5:1	0.090	0.135
52	Forested Wetland	2.3	6.4	Jurisdictional	1.5:1	0.050	0.075
50**	Forested Wetland/Marsh	3.2	18.9	Isolated	1.5:1	0.070	0.105
55	Marsh	2.3	9.3	Jurisdictional	1.5:1	0.030	0.045
60	Wet Meadow	3.2	11.0	Isolated	1.5:1	0.160	0.24
65	Wet Meadow	2.1	9.6	Jurisdictional	1.5:1	0.074	0.111
69	Marsh	3.3	25.4	Jurisdictional	5.5:1	0.026	0.143
					Total	2.812	4.326

* A mitigation ratio of 1.5:1 applies to all isolated and jurisdictional wetlands, with the exception of wetlands with an FQI > 20. These wetlands require a mitigation ratio of 5.5:1.

** A case-specific IEPA water quality certification is required, if certain conditions are met.

4.12. Special Waste

In May 2010, the Illinois State Geological Survey completed a Preliminary Environmental Site Assessment (PESA) to determine if any Recognized Environmental Conditions (RECs) exist in the project area. In August 2013 and February 2017, updated PESAs were prepared to address the most current conditions in the project area. A site is determined to have RECs if there are regulated substances on the property. A property may also have RECs if there are likely to be regulated substances present based on what is known about the site. The presence of RECs could be in the form of an existing release, a past release or a material threat of a release of any regulated substance into structures on the property or into the ground, groundwater or surface water.

The PESAs for the IL 131 project identified 78 sites with RECs and recommended further study as part of a Preliminary Site Investigation (PSI) if the project requires the following from one of these sites:

- New land (temporary or permanent);
- Digging or underground utility work on the site or in the existing right-of-way next to the site; or
- Building demolition or modification.

The preferred alternative requires:

- New land from 48 sites with RECs;
- Temporary easements from five sites with RECs; and
- Demolition of buildings on one commercial and one industrial property.

During contract plan preparation (Phase II), IDOT will determine if any of the sites with RECs or right-of-way next to the site with RECs will be impacted by the proposed work and/or if any new land will be required at any of the REC locations. Any right-of-way acquisition will be discussed with the IDOT Bureau of Land Acquisition before responding to the PESA to request further studies, such as a PSI. Copies of special waste coordination are included in Appendix B.

The No-Build alternative will not affect sites with RECs.

What is a regulated substance?

A regulated substance is a hazardous substance as defined under Section 101(14) of the *Comprehensive, Environmental Response, Compensation and Liability Act* of 1980. Regulated substances also include petroleum products containing crude oil, natural gas, natural gas liquids, liquefied natural gas or synthetic gas that can be used for fuel or mixtures.

What is a Preliminary Environmental Site Assessment?

A Preliminary Environmental Site Assessment (PESA) is a detailed evaluation of available records to determine the historic uses for a property. The PESA includes looking at the site's current conditions.

What is a Preliminary Site Investigation?

A Preliminary Site Investigation (PSI) is a preliminary study of a property's potential to contain regulated materials. It includes sampling, testing and analyzing the soil or groundwater, as necessary. If regulated materials are found, the PSI also estimates the cost of cleaning it up.

4.13. Special Lands

Some properties are subject to special protections if certain types of federal and state money were used to buy or develop the land. Two types of special lands are discussed below.

Section 6(f) of the Land and Water Conservation (LAWCON) Fund Act requires that any property using LAWCON money be kept and used for public outdoor recreation unless approved by the National Park Service (NPS). According to the online database maintained by the NPS, LAWCON Funds were not used to purchase any facilities in the project area.[39] Therefore, the preferred alternative will not impact Section 6(f) lands.

The Open Space Lands Acquisition and Development (OSLAD) Program is a grant program that provides state funds to help local government agencies buy and/or develop land for public parks and open space. No OSLAD funding has been used on properties in the project area. This was confirmed through coordination with officials from the Lake County Forest Preserves, the Zion Park District and the Waukegan Park District and through reviewing funding announcements from the Illinois Department of Natural Resources[40]. Therefore, the preferred alternative will not impact OSLAD land.

In summary, the preferred alternative will not impact Section 6(f) or OSLAD lands because no such grants were used to purchase land or facilities in the project area. The No-Build alternative will also have no effect on Section 6(f) or OSLAD lands.

4.14. Section 4(f) Evaluation

Section 4(f) of the USDOT Act of 1966, commonly called "Section 4(f)," offers protection for publicly owned wildlife and waterfowl refuges, parks or recreational areas affected by federal transportation projects.

There are no publicly owned wildlife and waterfowl refuges in the project area. The publicly owned parks and recreational areas in the project area include the ThunderHawk Golf Club, the Waukegan Savanna Forest Preserve, Shepherd's Crook Golf Course and the Waukegan Sports Park. The preferred alternative avoids impacts to the ThunderHawk Golf Club and the Waukegan Savanna Forest Preserve by shifting IL 131, using curb and gutter instead of shoulders, and building retaining walls. Impacts to the Shepherd's Crook Golf Course and the Waukegan Sports Park are discussed in the sections below.

The No-Build alternative will have no effect on Section 4(f) lands.

4.14.1. Shepherd's Crook Golf Course

During construction, the preferred alternative requires about 0.10 acres of land from the Shepherd's Crook Golf Course. The land will only be needed on a short-term basis to construct slide slopes for the drainage ditch and reconstruct the driveway entrance to the golf course. A temporary easement will be used to gain access during construction, but the ownership of the land will not change. The changes to the golf course land resulting from construction of the preferred alternative will be minor and will not impact the recreation use of the facility. Finally, the land needed for the temporary easement will be fully restored once construction activities are complete.

[39] "Project List by County and Summary Reports, Land & Water Conservation Fund." National Park Service. Accessed May 3, 2016. http://waso-lwcf.ncrc.nps.gov/public/index.cfm.

[40] "Press Releases." Illinois DNR. Accessed May 4, 2016. http://www.dnr.illinois.gov/news/Pages/default.aspx.

Specific requirements within Section 4(f) describe when a "use" of a resource occurs. The temporary impacts to the Shepherd's Crook Golf Course would not result in a use of Section 4(f) resources[41]. This finding was agreed to by the Zion Park District on June 4, 2012 (see Appendix B).

4.14.2. Waukegan Sports Park

The preferred alternative requires 1.08 acres of permanent land and 0.145 acres of temporary easement from the Waukegan Sports Park. The impacted area includes an existing driveway and a gravel/asphalt parking lot used for overflow parking. The preferred alternative replaces the driveway and provides a median break and dedicated left turn lane on IL 131 to allow left-in and right-in/right-out access. The parking impacts will be mitigated by expanding the existing parking lot to the west. During contract plan preparation (Phase II), IDOT will work with the Waukegan Park District to determine the final parking configuration, including how and when it will be built.

Impacts to the southern portion of the park occur where IL 131 will be shifted and lowered near the Waukegan National Airport. The preferred alternative includes a retaining wall to minimize impacts in this area. The shared-use path is also located on the west side of the road in front of the Waukegan Sports Park to provide improved access to the park's facilities. Additionally, undeveloped park land that is disturbed during construction will be restored to turf cover in accordance with IDOT's *BDE Manual* (Chapter 59, Landscape Design) and trees will be replaced according to IDOT's Department Policy D&E-18, "Preservation and Replacement of Trees."

Only the first phase of the Waukegan Sports Park has been built, but the Park District has future plans to develop the entire site. The Park District has plans to dedicate a 33.75-foot highway setback next to IL 131 and has agreed to donate 1.00 acre of this land (see Appendix A, Exhibit 12). Once the second phase is built, this area will be maintained as a buffer to allow for future transportation use. The IL 131 improvements will be located within the buffer area and will not interfere with the future development plans for the park. The Park District currently has no timeline for the next phase of development, and the plat of dedication has not yet been recorded. Furthermore, the donation will not occur until the IL 131 Phase I study is complete and will be processed according to applicable federal, state and local requirements.

What is a *de minimis* impact?

A *de minimis* impact does not adversely affect the activities, features or attributes that make a park eligible for protection under Section 4(f). It takes into account the net impact on a property, including balancing the negative effects with any measures to avoid, minimize or mitigate the impacts.

The official(s) with jurisdiction over the property must agree in writing with the *de minimis* impact determination, and the public must be allowed to comment on it.

The proposed improvements would not adversely affect the activities, features or attributes qualifying the park for protection under Section 4(f). The project team presented the impacts to Waukegan Sports Park to FHWA in a meeting on May 11, 2011. As a result, FHWA made a preliminary determination of *de minimis* impacts at the Waukegan Sports Park. The public will be able to comment on the impacts to the park at the public hearing for this EA and during the public comment period. Following the public hearing, IDOT will obtain written concurrence for the *de minimis* impact from the Waukegan Park District. FHWA will make the final *de minimis* impact determination based on the outcome of the public hearing and concurrence from the Waukegan Park District. Preliminary coordination with the Waukegan Park District is provided in Appendix C (Public Parkland).

[41] As set forth in 23 CFR 774.

4.15. Permits/Certifications Required

The proposed improvements will require several permits and/or certifications from federal and state agencies. These are summarized below:

- Section 404 Permit from the USACE for impacts to wetlands, streams and ditches connected to waters of the U.S., also called jurisdictional waters. Based on the anticipated impacts to jurisdictional waters, the IL 131 project is anticipated to qualify for the USACE's Regional Permit Program. See Sections 4.8 and 4.11.
- Section 401 Water Quality Certification from the IEPA for jurisdictional wetland, stream and ditch impacts. This permit is required in conjunction with the Section 404 permit and is built into the USACE's Regional Permit Program. Based on the estimated impacts, an individual Section 401 Water Quality Certification is not anticipated. See Sections 4.8 and 4.11.
- Section 402 National Pollutant Discharge Elimination System (NPDES) Construction Permit from IEPA for projects that disturb one or more acres of land. See Section 4.16.2.
- Resource Conservation and Recovery Act (RCRA) Permit from IEPA for remediating hazardous wastes. During contract plan preparation (Phase II), IDOT will conduct further special waste coordination to determine if the proposed improvements require remediation of any sites with hazardous wastes. See Section 4.12.
- Underground Storage Tank (UST) Permit from the Office of the State Fire Marshal (OSFM) for removing any underground storage tank. During contract plan preparation (Phase II), IDOT will conduct further special waste coordination to determine if the proposed improvements require UST removal. See Section 4.12.

IDOT will obtain any applicable permits and/or certifications prior to the beginning construction of the proposed improvements. All appropriate permit conditions will be included in the project's construction documents. All conditions of the permit(s) will be followed during construction.

The No-Build alternative will not require any federal, state or local permits and/or certifications.

4.16. Other Issues

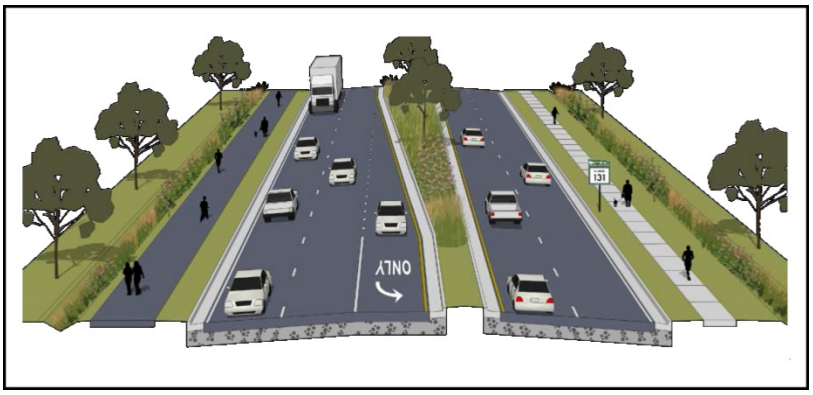
4.16.1. Aesthetics

The views along IL 131 are made up of generally flat, open land with industry and farms between Russell Road and IL 173. Single-family residential and commercial developments fill the visual landscape between IL 173 and Sunset Avenue. Other notable features of the visual landscape include the Waukegan Savanna Forest Preserve, two golf courses and the Waukegan National Airport. The preferred alternative involves widening an existing roadway and not expected to greatly affect the viewshed or aesthetics in the project area.

The preferred alternative was developed using a CSS process that allowed local stakeholders and communities to provide feedback about the project. Through the CSS process, the stakeholders requested grassy medians with additional landscape items, such as trees. The local municipalities must accept responsibility for the long-term

maintenance of landscaping within their boundaries. Placing trees in a roadway median typically does not require funding from the local municipality. Additional shrubs and perennials, as well as other decorative median or roadside features may require some funding from the local communities. During contract plan preparation (Phase II), IDOT will work with the local municipalities to develop landscape plans within the right-of-way for the proposed improvements according to the requirements of IDOT's *BDE Manual* (Chapter 59, Landscape Design). Figure 4-9 shows potential aesthetic treatments along IL 131.

Figure 4-9: Potential Aesthetic Treatments



The No-Build alternative will have no effect on the aesthetics of the project area.

4.16.2. Construction Impacts

Short-term impacts may occur while the proposed improvements are being built. Potential temporary construction effects of the preferred alternative are discussed below. Because no improvements will be built, the No-Build alternative will have no impacts from construction.

Traffic Flow and Access

Construction activities may result in some increased congestion along IL 131 and may at times disrupt access to properties along the roadway. The project team expects that one lane of traffic will be provided in each direction throughout construction, which will provide the same number of lanes that currently exist. During contract plan preparation (Phase II), IDOT will develop a detailed traffic management plan that outlines access to residences, businesses, public facilities, community services and local roads during construction. When necessary, access will be maintained using temporary driveways or connections. Local police, fire departments, school districts, park districts and transit providers will be notified in advance of construction activities to minimize disruption of services. Traffic signs and notices published in the local media will alert the public early about major construction activities that could disrupt the community.

Erosion

Construction such as removing vegetation and soil may cause increased erosion and sedimentation. Although no streams are present in the project area, increased sedimentation can impact aquatic habitat and species as drainage from the project site makes its way to downstream rivers and streams. Erosion and sediment control will be managed according to the requirements of IDOT's *Standard Specifications for Road and Bridge Construction* and *BDE Manual.* [42] IDOT will also develop a Storm Water Pollution Prevention Plan (SWPPP) as part of the NPDES permitting process (see Section 4.15). These measures will help minimize erosion and sedimentation impacts.

[42] IDOT *BDE Manual.* Chapter 41, Construction Site Storm Water Pollution Control. Chapter 59, Landscape Design. 2010.

Air Quality

Emissions from construction equipment or dust from construction activities may cause a temporary increase in air pollution levels. Reducing diesel emissions is one of IDOT's goals. Air quality impacts will be minimized by following the requirements for vehicle idling, diesel emissions control and dust control according to IDOT's *Standard Specifications for Road and Bridge Construction* (Articles 105.03, 107.41, and 107.36). Other special provisions to address air quality during construction will be developed during contract plan preparation (Phase II).

Noise

Construction equipment and activities may increase noise levels in the project area during the construction period. These increased noise levels will be temporary and localized and will be confined to normal working hours. To address temporary noise impacts, mitigation measures will be implemented according to Article 107.35 of IDOT's *Standard Specifications for Road and Bridge Construction*.

Solid Waste

Construction activities will generate solid wastes requiring offsite disposal. Wastes most often generated during construction include vegetation, old pavement and miscellaneous debris. Solid waste will be disposed in accordance with all state and federal laws.

4.16.3. Energy Consumption

During construction of the preferred alternative, the equipment and materials needed to build the proposed improvements will increase energy use in the project area. Temporary traffic delays may also occur during construction, which may increase the energy used by vehicles idling in traffic. Additional energy will be needed in the future to maintain features such as the new roadway lanes, drainage structures, retaining walls, noise walls, shared-use paths and sidewalks.

The preferred alternative will improve mobility by providing additional travel lanes and building a raised median and adding dedicated turn lanes to reduce disruptions from turning vehicles. The new pavement will also provide smoother travel surfaces throughout the project area. These measures are expected to reduce energy used in the project area as vehicles move more efficiently along the roadway.

The preferred alternative also improves access for bicycles and pedestrians by building a new shared-use path and a sidewalk along IL 131 (see Section 4.2.10). These improvements are expected to reduce energy consumption by promoting the use of non-motorized modes of transportation.

Based on the factors discussed above, the reduction in energy use over the long term is expected to offset any additional energy needed to build and maintain the preferred alternative. The No-Build alternative will not build any improvements; therefore, it will not use additional energy. However, with the No-Build alternative, traffic congestion is expected to increase, and vehicles traveling through the project area will continue slow or stop for vehicles turning into driveways and side streets along the roadway. These factors will increase energy use over time as vehicles take longer to move through the project area.

4.17. Indirect and Cumulative Effects

The previous sections considered mainly the direct impacts of the IL 131 project. Direct impacts are created by the construction of the project. IDOT is also required to consider potential indirect and cumulative effects, which are impacts not directly related to the construction of the project.

Indirect Effects

The preferred alternative may have an indirect effect on land use by supporting ongoing and planned economic development in the project area. The proposed improvements could cause development to happen sooner or to a greater degree. However, several other things need to happen for the surrounding cities, villages and townships to realize their future land use and economic visions. The effects of any future land use change will also largely be determined by local plans and regulations.

The Village of Beach Park and the City of Zion currently have master plans showing future land use in areas next to IL 131 redeveloping with commercial and mixed use developments (see Section 4.2.9). Lake County's future land use plan shows the agricultural uses in the project area changing to residential and commercial uses (see Appendix A, Exhibits 5 and 6). Development supported by the preferred alternative could provide more job opportunities for area residents. The preferred alternative may cause indirect effects by making these planned land use changes happen faster, including the permanent loss of farmland, threatened and endangered species habitat, wildlife habitat, wetlands and plant communities.

IL 131 is a Strategic Regional Arterial (SRA) that carries relatively long-distance and high-volume traffic and serves as a key north-south route in northeastern Illinois. CMAP projected the amount of traffic expected to travel in the region by the year 2040 with and without the proposed improvements. CMAP also projected the amount of traffic that, if IL 131 is widened, will divert from other north-south routes and use IL 131 instead (see Table 4-8). The traffic estimates show traffic decreasing on Kilbourne Road, Delany Road, McAree Road, Lewis Avenue, Sheridan Road (IL 137) and other routes. As a result, 7,000 to 12,000 more vehicles will travel on IL 131 each day if the preferred alternative is built (see Table 4-9, page 4-52). Based on the above, the preferred alternative will have an indirect

What are indirect effects?

Indirect effects are impacts caused by the project, but they occur later in time or in an area that is farther away from the project. Indirect effects could be a lot of different things, but they must be "reasonably foreseeable," or highly likely to occur because the project was built.

What are cumulative effects?

Cumulative effects are effects on the community or natural environment that occur from adding the impacts of one project with other past, present and likely-to-occur projects. When added together, minor impacts from several different and somewhat small projects could result in a greater impact on the community and natural environment.

Table 4-8: Changes in Regional Traffic Volumes

Roadway	Net Change in Average Daily Traffic (ADT)*
IL 131	+10,000
US 41	-600
Kilbourne Road	-1,100
Delany Road	-3,700
McAree Road	-2,100
Lewis Avenue	-1,200
IL 137	-900

* Net Change in ADT = 2040 Build ADT – 2040 No-Build ADT. ADT is the average number of vehicles traveling on IL 131 each day. Column does not sum to zero due to smaller changes on other routes not listed.

effect of reducing traffic congestion on other north-south routes. The proposed project has been developed to support the projected 2040 traffic volumes on IL 131.

Table 4-9: IL 131 Average Daily Traffic (ADT)

Section		2040 No-Build ADT*	2040 Build ADT*	Change in ADT*
From	To			
Russell Road	9th Street	13,000	22,000	+9,000
9th Street	IL 173	15,000	26,000	+11,000
IL 173	21st Street	13,000	21,000	+8,000
21st Street	Kenosha Road	13,000	20,000	+7,000
Kenosha Road	Wadsworth Road	17,000	27,000	+10,000
Wadsworth Road	Yorkhouse Road	16,000	27,000	+11,000
Yorkhouse Road	Blanchard Road	19,000	31,000	+12,000
Blanchard Road	Sunset Avenue	22,000	34,000	+12,000

* Average Daily Traffic (ADT) is the average number of vehicles traveling on a roadway each day (2040 traffic volumes by CMAP).

The proposed improvements will widen IL 131, build a raised median and add new pedestrian/bicycle facilities. Stormwater runoff transports pollutants that have accumulated on these hard surfaces. Within the project area, most of the roadway runoff tends to flow to the west into several unnamed tributaries to the Des Plaines River and thn eventually into the Des Plaines River, located 2-4 miles from the project limits.[43] Stormwater runoff and roadway pollutants related to the general operation of the IL 131 roadway may indirectly cause further degradation of these waters, flooding, erosion, harm to aquatic life and algal blooms. In addition, maintenance activities – specifically applying salt to the roads during winter months – may increase the amount of pollutants in roadway runoff.

The preferred alternative includes BMPs to protect water quality, preserve natural water resources and minimize the overall impact on aquatic resources (see Section 4.8). Therefore, the preferred alternative minimizes the potential for indirect effects to surface water resources and quality.

Cumulative Effects

The IL 131 project will also lead to cumulative impacts to natural and human resources. The Waukegan Port District and the FAA are currently studying ways to expand facilities at the Waukegan National Airport. The cumulative effects of the IL 131 and airport expansion projects include residential relocations; converting private land to transportation uses; permanent loss of natural resources such as wildlife habitat, wetlands and plant communities; and increased stormwater runoff which may affect downstream water quality and aquatic life. Direct, indirect and cumulative impacts are being studied as part of the environmental process for the airport project with FAA as the lead federal agency. IDOT will continue to coordinate with the Waukegan Port District and the FAA during contract plan preparation (Phase II).

[43] Illinois State Geological Survey. *Preliminary Environmental Site Assessment for IL 131 Phase I Study*. 2010

5. ENVIRONMENTAL COMMITMENTS AND MITIGATION

The following sections summarize the steps that will be taken to reduce or mitigate the impacts of the IL 131 project. The Illinois Department of Transportation (IDOT) will make sure that the final plan package includes the necessary engineering drawings, notes and specifications to carry out the environmental commitments outlined in this Environmental Assessment (EA).

5.1. Environmental Commitments

An environmental commitment includes any action that:

- Represents a condition that must be put in place to receive project approval; or
- Has been committed to by IDOT as part of the environmental review process[1].

The environmental commitments for the IL 131 project are listed below.

- Changes to the Shepherd's Crook Golf Course will be temporary and minor and will not impact the recreational use of the facility. The land needed for the temporary easement will be fully restored (see Section 4.14.1 and Appendix B).
- The Waukegan Sports Park driveway will be replaced. A median break will be provided on IL 131 to allow left-in and right-in/right-out access. The impacted parking lot will be expanded. IDOT will coordinate with the Waukegan Park District to finalize parking mitigation (see Section 4.14.2, Appendix A and Appendix C).
- Prior to starting construction, IDOT will contact the Lake County Forest Preserve to coordinate the schedule and timing of anticipated construction activities (see Section 4.2.4 and Appendix C).
- IDOT will continue to coordinate with the Waukegan Port District and the FAA during contract plan preparation (see Section 4.2.6, Section 4.17 and Appendix C).
- Four noise barriers are likely to be implemented within the project area (see Section 4.6 and Appendix C). IDOT will solicit the viewpoints of the property owners and residents who will benefit from possible noise wall during the public availability period for this EA. The final decision about whether to build the noise walls will not be made until contract plan preparation (Phase II) has begun and the public involvement process is complete.

[1] AASHTO Center Environmental Excellence. *Tracking Compliance with Environmental Commitments/Use of Environmental Monitors*. Publication No. 04. ASHTO Practitioner's Handbook. November 2006.

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6. PUBLIC INVOLVEMENT AND AGENCY COORDINATION

6.1. Introduction

Gathering input from project stakeholders and the general public was an important part of deciding the details of the IL 131 project. This chapter discusses the ways in which agency and public feedback were collected and how it influenced the design of the IL 131 project.

Feedback received from agencies, the public and other stakeholders led to design changes to reduce impacts and better meet the community's priorities and needs. These changes are discussed in detail in Chapter 3. Agency and stakeholder coordination also helped to shape the mitigation measures discussed in Chapter 5.

6.2. Context Sensitive Solutions

The Illinois Department of Transportation (IDOT) is using a process called context sensitive solutions, or CSS, to involve stakeholders in the IL 131 project (see Chapter 3). As part of the CSS process, IDOT formed three groups to provide input on the IL 131 project:

- The **Project Study Group** includes staff from IDOT, the Federal Highway Administration (FHWA) and their consultants. This group, also called the "project team," guides the engineering and environmental studies, coordinates feedback from the other working groups and the general public, and makes the final project decisions.
- The **Corridor Planning Group** includes high-level leaders, such as mayors, managers and executives, from Lake County and the six communities located along the project corridor, including Gurnee, Waukegan, Beach Park, Wadsworth, Zion and Winthrop Harbor.
- The **Technical Advisory Group** includes members of and staff from transportation and land use planning agencies, economic development councils, forest preserve districts, environmental conservation groups and other civic groups. Members are selected based on experience and knowledge of local issues related to transportation, environmental resources and land use planning in the project area.

For the remainder of this chapter, "project working groups" is used to jointly reference the Corridor Planning Group and the Technical Advisory Group.

The project team held multiple meetings with the project working groups throughout the Phase I study process, which includes engineering and environmental studies to find solutions to transportation problems. In addition, the project team held large-scale public meetings to provide the general public an opportunity to learn about and help shape the project. All of these meetings helped the project team design a project that best meets the community's needs while reducing possible impacts.

6.3. Stakeholder Involvement Plan

The project team created a *Stakeholder Involvement Plan* to guide the stakeholder and public involvement process. A stakeholder is anyone who could be affected by a project and has a stake in its outcome. Stakeholders include residents and other interested parties who can help IDOT understand the needs for and concerns about the proposed project. The *Stakeholder Involvement Plan* set goals for the outreach activities and identified ways to help reach those goals. The plan also identified the tools and schedule used to collect stakeholder feedback. The plan, which can be found in Appendix C, was posted to the project website (www.idot.illinois.gov/projects/il131-green-bay-rd) for easy access.

Figure 6-1: Project Newsletter

Working Together...Creating a Plan for Your Community

Issue No. 5, Summer 2014

IL131 PROJECT NEWSLETTER

ILLINOIS ROUTE 131 GREEN BAY ROAD

Illinois Department of Transportation

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Refined Project Alternatives p4

IL 131 GREEN BAY ROAD PROJECT

PURPOSE AND NEED

A major factor in the evaluation of the project alternatives for IL 131 is how the proposed solutions will address the PURPOSE of the project and the NEED for improvements. Through public involvement and technical analysis, the project Purpose was identified:

THE PURPOSE OF THE IL 131 ENGINEERING STUDY IS TO IMPROVE SAFETY AND FUNCTIONALITY ALONG IL 131 FROM RUSSELL ROAD TO SUNSET AVENUE. IMPROVEMENTS TO THIS ROUTE ARE NECESSARY TO ADDRESS ISSUES OF ROADWAY AND INTERSECTION CAPACITY AND EFFICIENCY; ENHANCE VEHICULAR, PEDESTRIAN, AND BICYCLE ACCOMMODATION AND SAFETY; AND BRING THE ROADWAY INTO COMPLIANCE WITH CURRENT IDOT STANDARDS.

The same data identified three key transportation Needs:

- IMPROVE SAFETY
- IMPROVE CAPACITY
- IMPROVE OPERATIONS AND MOBILITY

PROJECT COORDINATION CONTINUES

Progress on the IL 131 Phase I study from Russell Road to Sunset Avenue slowed as coordination efforts increased with the Waukegan Airport on their proposed planning efforts. Discussions continue among numerous agencies to determine how the two projects will work together, in anticipation of wrapping up the IL 131 Phase I study.

There will be one more Corridor Planning Group / Technical Advisory Group meeting, with a Public Hearing to follow approximately four to six weeks later. Notification of the Public Hearing will be provided to the general public as well as to the project stakeholder listing.

This Newsletter has been written to address comments that were made and submitted during and after Public Meetings 3 and 4. The Department has developed answers that address similar-themed questions from stakeholders. The input provided thus far on this study has been instrumental in the identification of solutions and the development of the project alternatives. We appreciate feedback, and look forward to any further discussion or comments that you may have as we complete the study.

PROJECT ALTERNATIVE DEVELOPMENT MILESTONES

The preliminary alternatives were refined to two remaining alternatives. The refinement process took into account stakeholder input received at the four public meetings and four stakeholder workshops, the project Purpose and Need, technical analysis and design requirements.

The Refined Alternatives are undergoing evaluation to determine the Preferred Alternative.

Traffic volumes require that two through lanes be provided in both directions on IL 131 for all studied alternatives. The treatment of the median and roadway edge vary between alternatives and sections of the project area.

www.dot.il.gov www.IL131Project.com

Cover of the Summer2014 project newsletter.

The project team used several tools to reach out to neighborhood residents, business owners and other project stakeholders. The purpose was to let the community know about the project and to provide many chances to give input. The tools included:

- Elected officials briefings;
- One-on-one meetings;
- Small group meetings;
- Stakeholder workshops (working group meetings);
- Large-scale public meetings;
- E-mail notifications;
- Direct mailings;
- Project newsletters;
- A project website;
- Newspaper advertisements; and
- Press releases.

The project website and newsletters were used to help stakeholders learn about the project and stay informed about the project (see Figure 6-1). In general, newsletters were also used to announce upcoming project meetings. Appendix C contains copies of the project newsletters.

Members of the project team were specialized in stakeholder involvement and helped to plan the outreach efforts and to measure how well they were working. Throughout the Phase I study, IDOT monitored the stakeholder involvement program and made changes when necessary to make sure the community was kept up to date and given chances to offer meaningful input. The project team also used the feedback received when planning future stakeholder involvement efforts. The *Stakeholder Involvement Plan* was updated, as needed, to reflect changes in

working group membership and elected officials. More details about the stakeholder and public involvement activities can be found in the following sections.

6.4. Project Working Group Meetings

The project team met with the project working groups five times during the development and analysis of alternatives for the IL 131 project. These meetings were announced to the project working group members by mail, e-mail and telephone.

Table 6-1 summarizes the project working group meetings. Appendix C contains detailed summaries and materials discussed at each meeting.

Table 6-1: IL 131 Project Working Group Meetings

Date & Time*	Topics Discussed
July 15, 2009 10:00 am to 12:00 pm	• Project introduction • Phase I study process • CSS process, including roles and responsibilities of working groups • Issues, concerns, goals and objectives related to transportation needs in the project area
October 19, 2009 10:00 am to 12:00 pm	• Problem statement • Draft purpose and need statement • Project design elements such as number of lanes, median treatment, edge treatment, as well as bicycle and pedestrian features
April 26, 2010 10:00 am to 12:00 pm	• Alternatives development process • Preliminary alternatives • Evaluation criteria for the alternatives • Feedback on preliminary alternatives
November 30, 2010 1:30 pm to 3:00 pm	• Alternatives development process • Refined alternatives • Evaluation criteria for the alternatives • Feedback on refined alternatives
August 29, 2016 1:30 pm to 3:00 pm	• Alternatives development process • Refined alternatives • Feedback on refined alternatives • Preferred alternative • Local cost participation • Traffic noise • Land acquisition

* All project working group meetings were held at the Zion-Benton Public Library, 2400 Gabriel Avenue, Zion, IL 60099

6.5. Public Meetings

The project team held four public meetings to allow people who live, work in and travel through the project area to be part of the decision-making process. The meetings were advertised in many ways, including e-mail, press releases, newspaper ads, direct mailings and a project newsletter sent directly to those on the project mailing list. Each of the public meetings consisted of an "open house" session where people could look at exhibits and review information about the project. Members of the project team were available at each of the exhibits to answer questions. A presentation with further project details ran continuously in a separate room. People who attended the meeting were able to provide written and verbal feedback to the project team.

▲ *Attendees at a public meeting provide input about the project.*

Table 6-2 summarizes the public meetings. Appendix C contains detailed summaries and materials presented at each public meeting.

Table 6-2: IL 131 Public Meetings

Date & Time*	Topics Discussed
October 29, 2008 4:00 pm to 7:00 pm	• Project introduction • Phase I study process • CSS process
December 2, 2009 4:00 pm to 7:00 pm	• Purpose and need statement • Transportation needs and potential solutions • Project design elements such as number of lanes, median treatment, edge treatment, as well as bicycle and pedestrian features
May 26, 2010 4:00 pm to 7:00 pm	• Alternatives development process • Preliminary alternatives • Alternatives evaluation criteria
March 23, 2011 4:00 pm to 7:00 pm	• Alternatives development process • Refined alternatives • Evaluation criteria for the alternatives • Feedback on refined alternatives

* All public meetings were held at Beach Park Middle School, 40677 North Green Bay Rd., Beach Park, IL 60099

6.5.1. Other Outreach Efforts

The area surrounding IL 131 project contains higher concentrations of Hispanic populations. As a result, the project team expanded the outreach efforts to more effectively reach out to these individuals. These efforts included sending project-related information to Hispanic organizations in both the general project area and the overall region; sending newspaper advertisements for the public meetings to Hispanic media outlets; and translating key information contained on the project website to Spanish (see Figure 6-2). A translator was also present at all public meetings to help the project team to talk with those better able to communicate in Spanish. A translator will also be available during the public hearing on this Environmental Assessment (see Sections 6.7 and 7.1). Appendix C contains a complete list of Hispanic organizations and media outlets that were contacted as part of the IL 131 public involvement process.

Figure 6-2: Spanish Project Website

April 29, 2016 screen capture from the IL 131 project website en Española, www.il131project.com.

6.6. Agency Coordination

As part of developing the IL 131 project, IDOT coordinated with local, state and federal agencies to get their feedback on and approval for different parts of the project. Table 6-3 summarizes these coordination efforts. Copies of the agency coordination documents can be found in Appendix C. Copies of specific agency approval or concurrence documents are included in Appendix B.

Table 6-3: Agency Coordination Summary

Agency	Topic	Date(s) of Coordination
• Federal Highway Administration • U.S. Army Corps of Engineers • U.S. Environmental Protection Agency • U.S. Fish & Wildlife Service • Illinois Department of Natural Resources	• Project introduction • Purpose and need statement	• June 11, 2010 *
• Federal Highway Administration • U.S. Environmental Protection Agency • U.S. Fish & Wildlife Service • Illinois Department of Natural Resources • Illinois Department of Agriculture • U.S. Army Corps of Engineers	• Alternatives to be carried forward	• September 9, 2010* • October 25, 2010* • February 4, 2011* • February 18, 2011*

Agency	Topic	Date(s) of Coordination
(Table 6-3 continued)		
• Federal Highway Administration • U.S. Army Corps of Engineers • U.S. Environmental Protection Agency	• Preview of the preferred alternative (information only)	• June 28, 2011*
• U.S. Army Corps of Engineers	• Wetlands, drainage, best management practices (BMPs)	• November 6, 2015* • January 10, 2017
• Illinois Historic Preservation Agency	• Cultural resources	• August 30, 2011 • October 2, 2013
• Waukegan Port District** • Waukegan National Airport** • Federal Aviation Administration** *Note: All coordination related to Waukegan National Airport, but not all of the agencies listed were part of each coordination event.*	• Waukegan National Airport	• October 6, 2009 • May 4, 2010 • June 29, 2010 • March 10, 2011 • September 28, 2011 • June 18, 2012 • July 10, 2012 • August 15, 2012 • December 7, 2012 • March 25, 2013 • October 28, 2014 • May 27, 2015 • September 18, 2015 • October 6, 2015
• Lake County Forest Preserve**	• Waukegan Savanna Forest Preserve • ThunderHawk Golf Course	• June 1, 2012 • June 18, 2012
• Waukegan Park District**	• Waukegan Sports Park	• June 18, 2012 • April 30, 2015 • May 17, 2016
• Zion Park District	• Shepherd's Crook Golf Course	• May 25, 2012 • June 6, 2012
U.S. Department of Agriculture – Natural Resources Conservation Service	Farmland	• April 28, 2017

Agency	Topic	Date(s) of Coordination
(Table 6-3 continued)		
• Illinois Department of Agriculture	• Farmland	• TBD
• Federal Highway Administration • U.S. Environmental Protection Agency • U.S. Fish & Wildlife Service • Illinois Department of Natural Resources • Illinois Historic Preservation Agency • Illinois Environmental Protection Agency • U.S. Army Corps of Engineers	• Preferred alternative	• September 7, 2016* • January 20, 2017* • March 27, 2017*

* Coordination was part of the NEPA/404 merger process, which is a formal agency coordination process set-up by IDOT to coordinate with federal and state agencies that are also part of the environmental permitting process. The purpose of the coordination is to address any issues or concerns as they come up rather than waiting until the permitting process.

** Also attended one or more project working group meetings, which are not reflected in the table.

6.7. Public Hearing

Publication of this Environmental Assessment (EA) is a major milestone for the IL 131 project. Agencies and the public will have the opportunity to review the EA document and other project information and provide their comments to IDOT. See Section 7.1 for additional details about this process.

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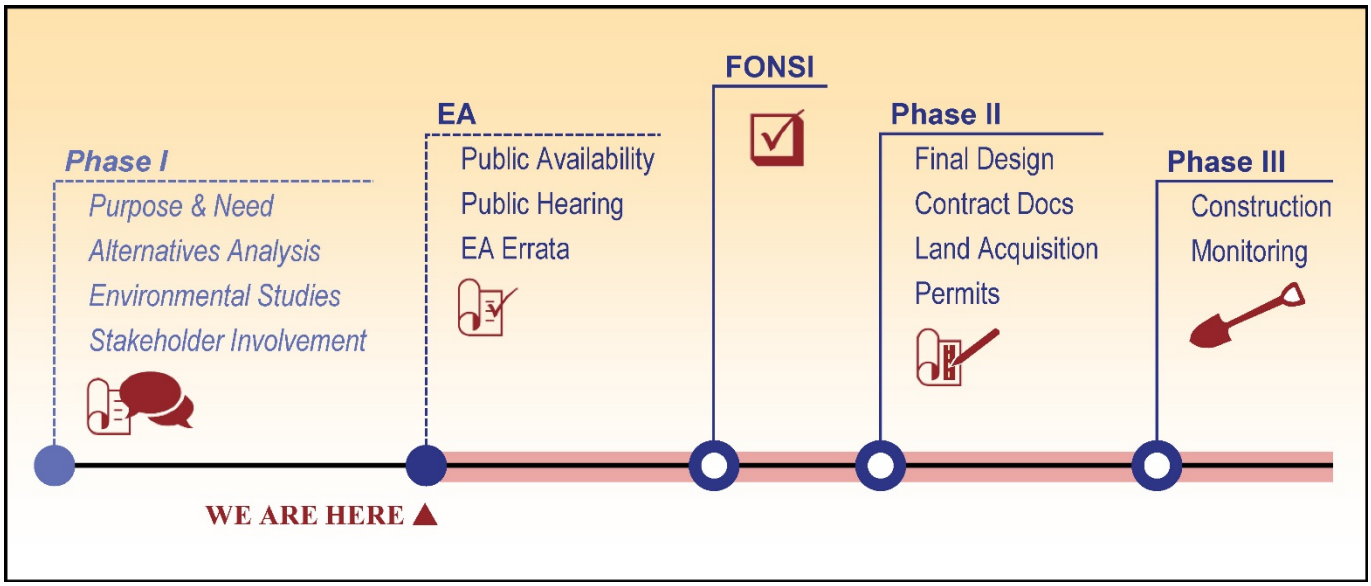
7. NEXT STEPS

The process IDOT uses to develop a complete project, from beginning to end, is broken into several phases. While many of the required efforts can overlap in time, it can take several years to develop a complete project. The process IDOT uses is shown in Figure 7-1.

Figure 7-1: IDOT Project Development Process



The IL 131 project is finalizing the Phase I study and is currently completing the Environmental Assessment (EA) phase of project development. This EA documents the Phase I activities, including:

- Why the transportation project is needed (see Chapter 2);
- The alternatives that were studied and why the preferred alternative was chosen (see Chapter 3);
- The effects of the preferred alternative on the human and natural environment (see Chapter 4); and
- Public and agency comments (see Chapter 6).

The next steps in the IL 131 project development process are described in the following sections.

7.1. Environmental Assessment

Publication of this EA is a major milestone for the IL 131 project. The activities required to complete the EA process are outlined below.

Public Availability Period

The IL 131 EA and other project information will be made available for agencies and the public to review and offer comments. Both paper and electronic copies of the EA will be available. The public availability period will last at least 30 days. IDOT will publish a public notice that the EA is available for review at least 15 days before the

public hearing. Comments will continue to be collected for 15 days after the public hearing, which will mark the end of the public availability period.

Public Hearing

The public hearing is the last public meeting that will be held before the end of the EA phase of the project. The public hearing will allow people to talk with the planners, engineers and officials directly involved with the project. At a minimum, the public hearing will provide the following information:

- The project's purpose and need, goals and objectives;
- The project's alternatives and major design features;
- The project's social, economic, environmental and other impacts;
- The relocation assistance program and the right-of-way acquisition process; and
- IDOT's procedures for receiving public comments in oral and written form.[1]

People will be able to provide their comments publicly at the hearing or in a written statement. Written comments will be accepted for 15 days after the public hearing.

EA Errata

After the public availability period, IDOT will review all of the input received. If necessary, IDOT will make changes to the project in response to the feedback received. IDOT will then prepare an Errata to the EA, which will describe:

- Any changes to the proposed action or mitigation measures resulting from comments received;
- Any necessary findings, agreements or determinations, such as the Section 4(f) *de minimis* coordination (see Section 4.14.2);
- Documentation of the public hearing
- Comments received on the EA and responses to those comments.

The EA Errata will be made available to the public at the conclusion of the environmental process.

IDOT will submit the public hearing transcript, IDOT's responses to any comments received on the EA, and the EA Errata to FHWA with a recommendation to issue a Finding of No Significant Impact (FONSI), concluding the process outlined in the National Environmental Policy Act of 1969 (NEPA). If FHWA determines there are no significant impacts, then FHWA will issue a FONSI, and IDOT may proceed to final design, right-of-way acquisition and construction. If FHWA determines there are significant impacts, then IDOT will prepare an Environmental Impact Statement.

[1] 23 CFR 771.111

7.2. Phase II

Phase II of the IL 131 project will begin after the NEPA process is complete, depending on funding availability. Phase II activities will include final design, the preparation of contract documents (plans, specifications and cost estimates) and land acquisition. Required permits will also be secured during Phase II, although coordination with permitting agencies often begins in Phase I and can extend into Phase III. See Section 4.15 for a discussion of the permits that may be required for the IL 131 project.

The IL 131 project is included in the Chicago Metropolitan Area's (CMAP's) 2014-2019 Transportation Improvement Plan (TIP) 10-09-0024, which was accepted on October 21, 2014. IDOT is currently evaluating several potential funding sources for Phase II of the IL 131 project, including local, state and federal funds.

7.3. Phase III

Construction of the IL 131 project will begin in Phase III. Other activities in Phase III will include project monitoring and on-going coordination with permitting agencies. During construction, IDOT will execute a detailed traffic management plan for maintaining access to residences, businesses, public facilities, community services and local roads (see Section 4.16.2). IDOT is also currently evaluating several potential funding sources for Phase III of the IL 131 project.

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ACRONYMS

ADID	Advanced Identification
ADT	Average Daily Traffic
BDE	Bureau of Design and Environment
BMP	Best Management Practice
BSS	Biologically Significant Stream
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CMAP	Chicago Metropolitan Agency for Planning
CMP	Congestion Management Process
CNE	Common Noise Environment
CO	Carbon Monoxide
CPG	Corridor Planning Group
CSS	Context Sensitive Solutions
CWS	Community Water Supply
EA	Environmental Assessment
EPFO	Eastern Prairie Fringed Orchid
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FQI	Floristic Quality Index
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HQAR	High Quality Aquatic Resource
HOV	High Occupancy Vehicle
IDNR	Illinois Department of Natural Resources
IDOA	Illinois Department of Agriculture
IDOT	Illinois Department of Transportation

IEPA	Illinois Environmental Protection Agency
IHPA	Illinois Historic Preservation Agency
IWPA	Interagency Wetland Policy Act
INAI	Illinois Natural Areas Inventory
INHS	Illinois Natural History Survey
LAWCON	Land and Water Conservation
LOS	Level of Service
MSAT	Mobile Source Air Toxic
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act of 1969
NLEB	Northern Long-Eared Bat
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resources Conversation Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NRPW	Non-Relatively Permanent Waters
OSFM	Office of the State Fire Marshal
OSLAD	Open Space Lands Acquisition and Development
PESA	Preliminary Environmental Site Assessment
$PM_{2.5}$	Particulate Matter
PSG	Project Study Group
PSI	Preliminary Site Investigation
RCRA	Resource Conservation and Recovery Act
RECs	Recognized Environmental Conditions
RPM	Relatively Permanent Waters
RPZ	Runway Protection Zone

RSA	Runway Safety Zone
SHPO	State Historic Preservation Officer
SRA	Strategic Regional Arterial
SWPPP	Storm Water Pollution Prevention Plan
TAG	Technical Advisory Group
TDM	Transportation Demand Management
TIF	Tax Increment Finance
TIP	Transportation Improvement Program
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
WHPA	Wellhead Protection Recharge Areas
WNS	White-Nose Syndrome
WOUS	Waters of the United States

GLOSSARY OF TERMS

Bureau of Design and Environment (BDE) Manual

The Bureau of Design and Environment (BDE) Manual provides uniform practices for preparing studies, reports and contract plans for IDOT projects. The BDE Manual presents most of the information normally required in the development of a typical roadway project.

Chicago Metropolitan Agency for Planning (CMAP)

The Chicago Metropolitan Agency for Planning (CMAP) is the metropolitan planning organization for northeastern Illinois which includes Cook, DuPage, Kane, Kendall, Lake, McHenry and Will counties. It is responsible for overseeing land use and transportation planning for the region.

Federal Aviation Administration (FAA)

The Federal Aviation Administration (FAA) is a part of the United States Department of Transportation and oversees the safety of civil aviation. The safety mission of the FAA is first and foremost and includes the issuance and enforcement of regulations and standards related to the manufacture, operation, certification and maintenance of aircraft. The agency is responsible for the rating and certification of airmen and for certification of airports serving air carriers. It also regulates a program to protect the security of civil aviation, and enforces regulations under the Hazardous Materials Transportation Act for shipments by air.

Federal Highway Administration (FHWA)

The Federal Highway Administration (FHWA) is a division of the United States Department of Transportation that specializes in highway transportation. The agency's major activities are grouped into two "programs," the Federal-Aid Highway Program and the Federal Lands Highway Program. FHWA's role in the Federal-Aid Highway Program is to oversee federal funds used for constructing and maintaining the National Highway System (primarily interstate highways, U.S. routes and most state routes). This funding mostly comes from the federal gasoline tax and mostly goes to state departments of transportation. FHWA oversees projects using these funds to ensure that federal requirements for project eligibility, contract administration and construction standards are adhered to.

Illinois Department of Agriculture (IDOA)

The Illinois Department of Agriculture (IDOA) is a department in the Illinois state government that regulates different aspects of the agriculture industries of Illinois; oversees Illinois soil and water conservation; supervises the weights and measures of various commodity products, including gasoline; and supervises the Illinois State Fair. Industries regulated by IDOA include the production of livestock; the growing of commodity crops such as corn and soybeans; and the operation of grain elevators.

Illinois Department of Natural Resources (IDNR)

The Illinois Department of Natural Resources (IDNR) is a department in the Illinois state government that operates the state parks and state recreation areas; enforces the fishing and game laws of Illinois; regulates Illinois coal mines; operates the Illinois State Museum system; and oversees scientific research into the soil, water, and mineral resources of the state.

Illinois Department of Transportation (IDOT)

The Illinois Department of Transportation (IDOT) is a department in the Illinois state government that is responsible for sustaining, strengthening, expanding and maintaining a multi-modal transportation system that includes roads, railways, airways, waterways, canals and terminals such as airports, railway stations, bus stations, warehouses, and intermodal facilities.

Illinois Environmental Protection Agency (IEPA)

The Illinois Environmental Protection Agency (IEPA) is an agency within the Illinois state government charged with safeguarding environmental quality to protect health, welfare, property and the quality of life while remaining consistent with the social and economic needs of the State. The IEPA regulates the protection of air, water and land resources.

Illinois Historic Preservation Agency (IHPA)

The Illinois Historic Preservation Agency (IHPA) is an agency within the Illinois state government charged with protecting the state’s historic resources and promoting them so that the public enjoys them and learns from them. The IHPA operates historic sites and monuments, manages the Abraham Lincoln Presidential Library and Museum, and oversees nominations for the National Register of Historic Places (NRHP).

Illinois Natural History Survey (INHS)

The Illinois Natural History Survey (INHS) is a Division of the Prairie Research Institute at the University of Illinois. The INHS investigates and documents the biological resources of Illinois and other areas. It also acquires and provides natural history information that can be used to promote the common understanding, conservation, and management of these resources.

Illinois State Geological Survey (ISGS)

The Illinois State Geological Survey (ISGS) is part of the Prairie Research Institute at the University of Illinois. The ISGS serves the needs of Illinois with earth science information relevant to the State's environmental quality, economic vitality, and public safety. ISGS scientists and technical support staff conduct basic and applied research in geology, compile geologic maps, and gather and manage the state's geological data to provide information to industry, governmental agencies and the public about the geology and mineral resources of Illinois.

Metropolitan Planning Organization (MPO)

A metropolitan planning organization (MPO) is a an organization that is required and funded by the federal government to oversee transportation policy in urban areas with a population greater than 50,000.

National Environmental Policy Act (NEPA)

The National Environmental Policy Act of 1969 (NEPA) is a federal law which requires federal agencies to take a hard look at the environmental consequences of a project in order to make a fully informed decision. NEPA prescribes three milestones during a project's study: purpose and need, alternatives to be carried forward and preferred alternative.

National Register of Historic Places (NRHP)

The National Register of Historic Places (NRHP) is the United States government's official list of districts, sites, buildings, structures and objects deemed worthy of preservation. Federally funded projects offer protections for a property listed in or eligible for the NRHP, or located within a National Register Historic District.

National Resources Conservation Service (NRCS)

The Natural Resources Conservation Service (NRCS) is the primary federal agency that works with private landowners to help them conserve, maintain and improve their natural resources. The Agency emphasizes voluntary, science-based conservation; technical assistance; partnerships; incentive-based programs; and cooperative problem solving at the community level.

Office of the State Fire Marshal (OSFM)

The Illinois Office of the State Fire Marshal (OSFM) provides professional personnel and programs for the citizens of Illinois and is charged with protecting life and property from fire and explosions through inspection, investigation, training, education, data processing and statistical fire reports. The services provided by the OSFM include: arson investigations, fire prevention safety in buildings, boiler and pressure vessel safety, the program for petroleum and chemical tanks, collecting and analyzing fire reports, and the personnel standards and education for the firefighters in Illinois.

Standard Specifications for Road and Bridge Construction

The Standard Specifications for Road and Bridge Construction is a policy that outlines the general requirements and covenants applicable to all IDOT highway construction improvements. It also contains provisions relating to materials, equipment, and construction requirements for individual items of work on road and bridge construction projects awarded by IDOT.

State Historic Preservation Officer (SHPO)

The State Historic Preservation Office (SHPO) is part of the Illinois Historic Preservation Agency. The SHPO is charged with administering federal and state preservation programs and laws, including: overseeing the nomination of sites to the National Register of Historic Places (NRHP); conducting surveys

of historic and archaeological resources; reviewing federal and state undertakings (such as road projects) for their impact on cultural resources; working with local governments in developing local historic preservation programs in preparation for designation as Certified Local Governments; administering rehabilitation tax incentives for qualified historic buildings; and providing education, training, and technical assistance to the public in historic preservation matters.

Storm Water Pollution Prevention Plan (SWPPP)

A SWPPP is a site-specific, written document that identifies potential sources of stormwater pollution at a construction site; describes practices to reduce pollutants in stormwater discharges from the construction site; and identifies procedures the operator will implement to comply with the terms and conditions of a construction general permit.

Transportation Improvement Program (TIP)

The TIP is a short-term implementation tool for a long-range plan. The TIP lists all federally funded projects and regionally significant, non-federally funded projects that are programmed for implementation in the next four years. CMAP develops the TIP for the Chicago area, including the IL Route 31 project study area.

United States Army Corps of Engineers (USACE)

The United States Corps of Engineers (USACE) is a federal agency under the Department of Defense. The USACE environmental mission has two major focus areas: restoration and stewardship. The USACE supports and manages numerous environmental programs that run the gamut from cleaning up areas on former military installations contaminated by hazardous waste or munitions to helping establish/reestablish wetlands that helps endangered species survive.

The USACE Regulatory Program is authorized to protect the nation's aquatic resources. The USACE evaluates permit applications for essentially all construction activities that occur in the nation's waters, including wetlands. Two primary authorities granted to the USACE by Congress fall under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

United States Census Bureau

The United States Census Bureau is part of the United States Department of Commerce. Its mission is to serve as the leading source of quality data about the nation's people and economy. The Census Bureau collects data about the economy and the people living in the United States from many different sources. Some data are collected from respondents directly (including businesses), through censuses and surveys. Primary sources for additional data are federal, state and local governments, as well as some commercial entities.

United States Department of Agriculture (USDA)

The United States Department of Agriculture (USDA) is made up of 29 agencies and offices. USDA provides leadership on food, agriculture, natural resources, rural development, nutrition and related issues

based on public policy, the best available science and effective management. USDAs vision is to provide economic opportunity through innovation, helping rural America to thrive; to promote agriculture production that better nourishes Americans while also helping feed others throughout the world; and to preserve our Nation's natural resources through conservation, restored forests, improved watersheds, and healthy private working lands.

United States Department of Transportation (USDOT)

The United States Department of Transportation (USDOT) was established by an act of Congress on October 15, 1966. The top priorities at USDOT are to keep the traveling public safe and secure, increase their mobility and have the transportation system contribute to the nation's economic growth. USDOT includes the Office of the Secretary of Transportation and many operating administrations and bureaus, each with its own management and organizational structure.

United States Environmental Protection Agency (USEPA)

The United States Environmental Protection Agency (USEPA) is an agency of the United States government which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress. The agency conducts environmental assessment, research and education. It has the responsibility of maintaining and enforcing national standards under a variety of environmental laws, in consultation with state, tribal and local governments. It delegates some permitting, monitoring and enforcement responsibility to U.S. states and the federal recognized tribes. EPA enforcement powers include fines, sanctions and other measures. The agency also works with industries and all levels of government in a wide variety of voluntary pollution prevention programs and energy conservation efforts.

United States Fish and Wildlife Service (USFWS)

The United States Fish and Wildlife Service (USFWS) is an agency within the United States Department of the Interior dedicated to the management of fish, wildlife and natural habitats. Among the service's responsibilities are enforcing federal wildlife laws; protecting endangered species; managing migratory birds; restoring fisheries; conserving and restoring wildlife habitat, such as wetlands; helping foreign governments with their international conservation efforts; and distributing money to states' fish and wildlife agencies through the Wildlife Sport Fish and Restoration program.