

# **I-55 at Airport Road and at IL Route 126/Essington Road**

## **PURPOSE AND NEED**

### **A. PURPOSE OF THE PROPOSED ACTION**

The purpose of the proposed action is to provide improved access to Interstate Route 55 (I-55). The specific needs to be addressed include providing regional connectivity between the local and regional roadway network and I-55 interchanges, and accommodating community and economic growth forecasted in the Villages of Romeoville, Bolingbrook and Plainfield and unincorporated portions of northwest Will County.

### **B. PROJECT BACKGROUND**

#### **1. I-55 Project Study Area**

The project is located in northwest Will County and is situated within the Villages of Romeoville, Bolingbrook and Plainfield and in unincorporated Will County. The study area is located on a six-mile section of Interstate Route 55 between existing interchanges at US Route 30 and Weber Road. The study limits are three and one-half miles in length and extend from one-half mile south of Airport Road to one mile north of IL 126. Other communities located within the regional area of the study at the US Route 30 interchange include Crest Hill and Joliet.

I-55 is a full access controlled north-south interstate freeway linking Chicago with the southwest suburbs and downstate Illinois. It is a regional route that connects to other northeastern Illinois interstate highways including I-355, I-294, I-94 and I-90 to the northeast and I-80 to the south. South of the Chicago area, I-55 travels through Illinois to the St. Louis, Missouri metropolitan area and eventually ends in New Orleans, Louisiana. I-55 is part of the Primary National Defense network and the National Highway System (NHS) which is a network of Interstates and other major routes that can be used during times of national crisis or need.

In 2008, I-55 was widened to three lanes in each direction between the interchanges of I-80 and Weber Road, providing an increase in mainline I-55 capacity. This improvement did not include provisions of new access to I-55 and did not increase access capacity to the existing interchange locations.

#### **2. Regional Roadway Network in the Study Area**

Collector and arterial roads within the study limits include IL Route 126, Essington Road, 135<sup>th</sup> Street, Remington Boulevard, Budler Road, Normantown Road, 143<sup>rd</sup> Street, Taylor Road, Lockport Road/Airport Road and US Route 30 (See Exhibits 1 and 2 for vicinity and study limits maps). IL Route 126 is a two-lane roadway classified as a major arterial that provides access to the Village of Plainfield and areas west in Kendall County. The IL 126 interchange with I-55 provides partial access with I-55 that consists of an entrance to northbound I-55 from westbound IL 126 and an exit to westbound IL

126 from southbound I-55. The study limits for IL 126 include 2,700 feet of IL 126 to the southwest of I-55.

Essington Road and 135<sup>th</sup> Street both feed regional traffic to the IL 126 interchange. Essington Road is a two-lane, north-south roadway classified as a major collector street that provides access to the north into Plainfield and Bolingbrook. It intersects IL 126 at a signalized intersection located at the end of the entrance and exit ramps to and from I-55. The study limits for Essington Road extend 3,500 feet north of IL 126. 135<sup>th</sup> Street is a two-lane minor collector street that provides east-west access to Bolingbrook, Plainfield and unincorporated Will County. It intersects Essington Road approximately ¼ mile north of IL 126. The study limits for 135<sup>th</sup> Street are 2,250 feet either side of Essington Road.

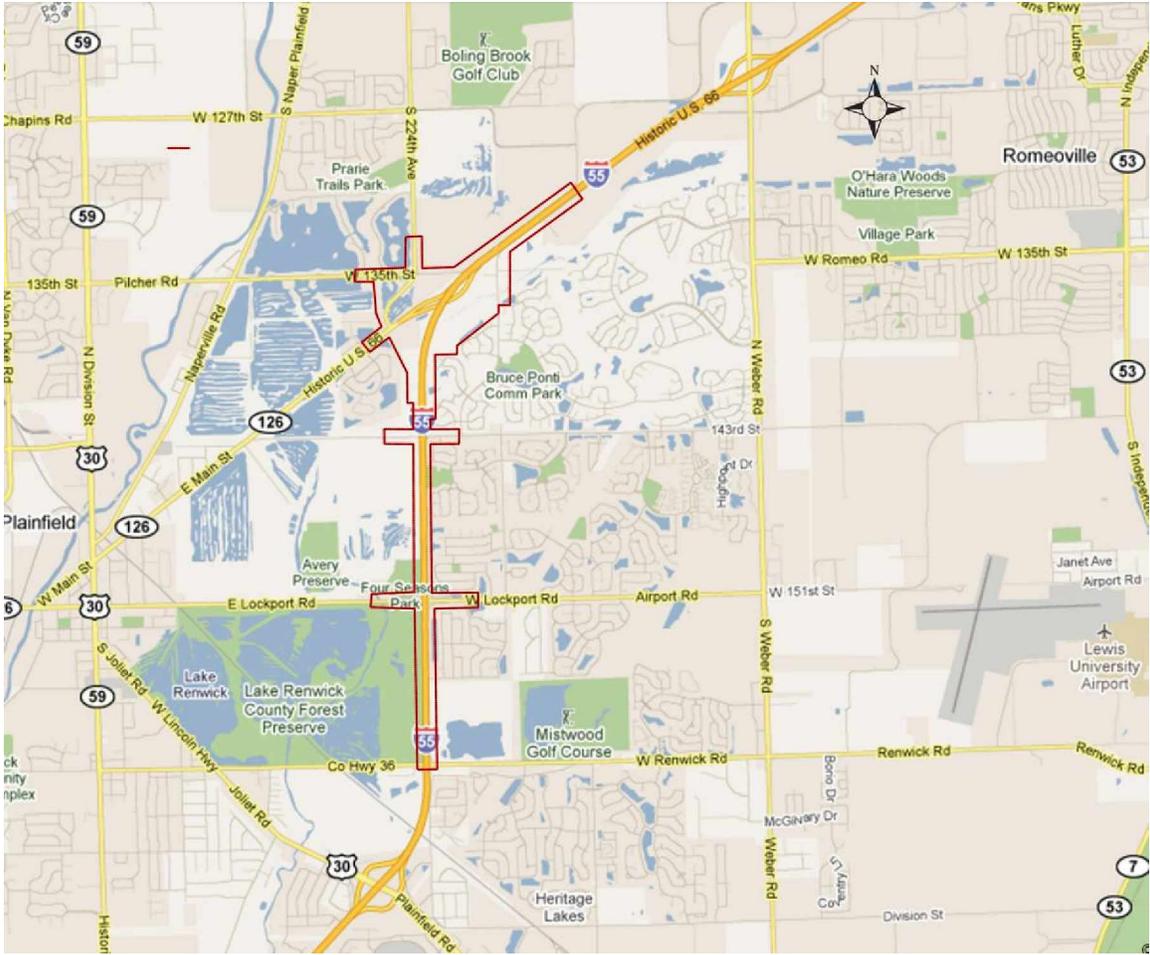
Remington Boulevard and Normantown Road are both frontage roads on either side of I-55 east of the IL 126 interchange. Remington Boulevard is a two-lane roadway classified as a major collector street that provides access to industrial/warehousing companies located north of I-55 within Bolingbrook. It intersects the east end of 135<sup>th</sup> Street. Normantown Road is a two-lane roadway classified as a collector street that provides access to warehousing and commercial companies south of I-55 within Romeoville. It connects to the north end of Budler Road.

Budler Road is a two-lane minor collector street located east of I-55 near the IL 126 interchange. It provides access to residential areas located within unincorporated Will County and the Village of Romeoville.

143<sup>rd</sup> Street and Taylor Road are both two-lane roadways that intersect the frontage roads on either side of I-55. They share a common east-west alignment but do not cross over I-55 or provide a continuous east-west roadway for travel between Plainfield and Romeoville. 143<sup>rd</sup> Street is located west of I-55 and is classified as a minor collector street by the Village of Plainfield. Taylor Road is located east of I-55 and is classified as a major collector street by the Village of Romeoville.

Airport Road/Lockport Road is a two-lane roadway that crosses over I-55 in the study area. The road is identified as Lockport Road west of I-55 and is classified as a major collector providing access to the Village of Plainfield. East of I-55, the road is identified as Airport Road and is classified as a major arterial providing access to the Village of Romeoville. A two-way, two-lane frontage road on the west side of I-55 connects Lockport Road to the north with 143<sup>rd</sup> Street. On the east side of I-55, Airport Road intersects two-way, two-lane frontage roads that connect to Renwick Road on the south and Taylor Road on the north. The frontage roads that parallel I-55 are included in the study area. There is no access to I-55 from Airport Road/Lockport Road. The study limits for Airport Road/Lockport Road extend 2,250 feet west and east of I-55.

US Route 30 is an existing two-lane roadway that widens to a four-lane divided highway at its interchange with I-55. The road is classified as a major arterial in the Village of Plainfield and is part of IDOT's Strategic Regional Arterial system. US Route 30 is proposed to be widened to four lanes between IL Route 59 and I-55 as part of IDOT's Fiscal Year 2012-2017 Proposed Highway Improvement Program.



**Exhibit 1  
Vicinity Map  
I-55 Study**



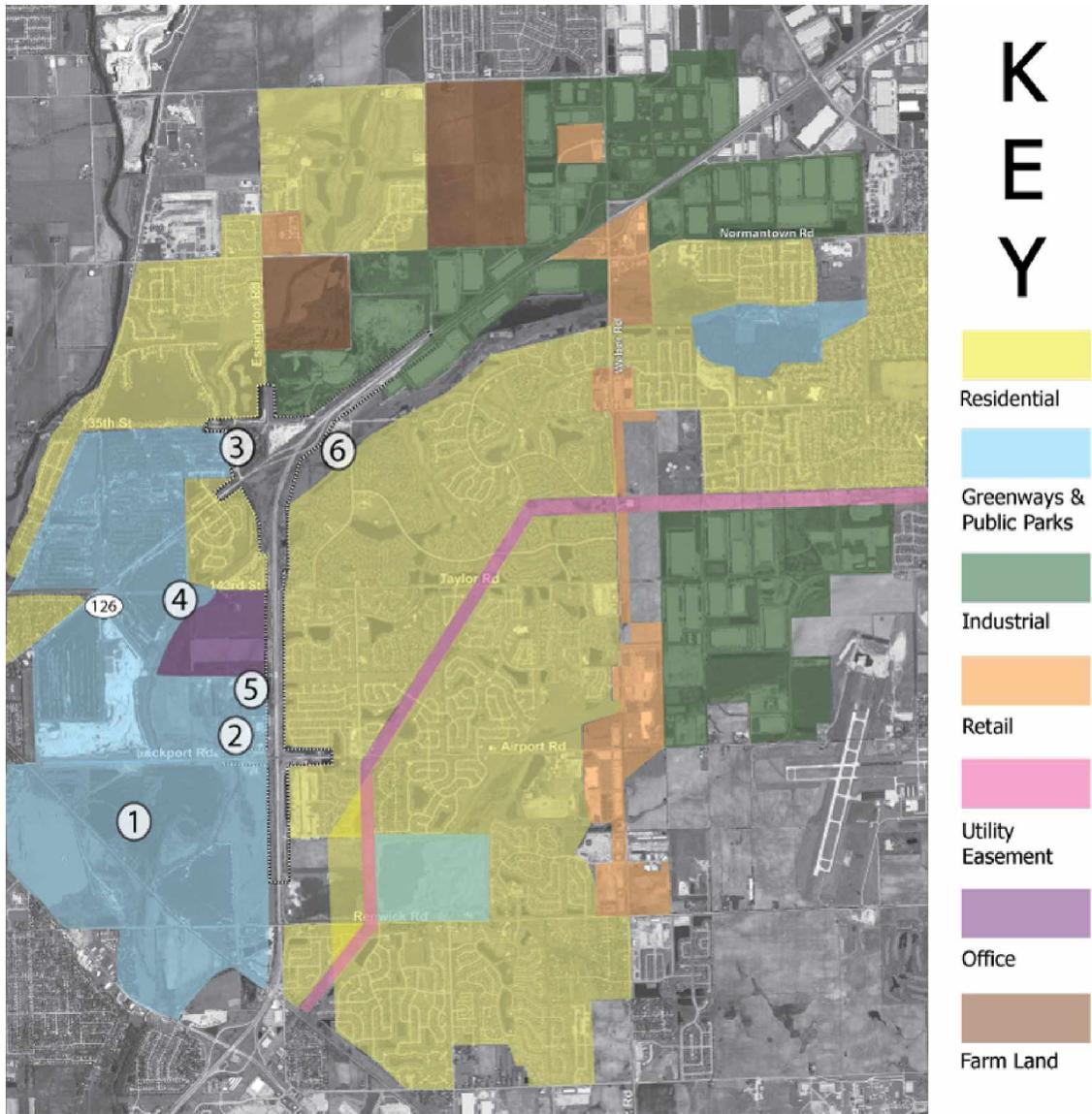
### **3. Regional Context**

Will County is one of the fastest growing counties in Illinois and has doubled in population in the last 25 years. The Chicago Metropolitan Agency for Planning (CMAP) projects that Will County's population will grow from 677,560 in 2010 to 1,215,818 by 2040 or a growth rate of 79%.

The Villages of Romeoville, Bolingbrook and Plainfield have also shown a substantial growth rate over the past two decades. Between 1990 and 2010, the population of the three communities combined grew from 59,474 to 152,627 or a growth rate of 157%. CMAP projects that the population of the three villages will grow from 152,627 in 2010 to 273,021 by 2040 or a growth rate of 79%.

Land use adjacent to the study area varies within the corridor along I-55. East of the IL 126 interchange and at the Weber Road interchange, land use consists of commercial, warehouse and industrial uses on both sides of the interstate. At the IL 126 interchange and south to the US 30 interchange, land use is a mix of residential, business, agricultural and public land uses. Adjacent to the US 30 interchange, land use is primarily commercial. Notably, there are several public and private recreational and natural areas and wetland areas fronting the right of ways of I-55, IL Route 126, Essington Road, 143<sup>rd</sup> Street and Airport Road/Lockport Road within the study area. These include the following (See Exhibit 3):

1. Forest Preserve District of Will County's (FPDWC) Lake Renwick Heron Rookery Nature Preserve and Lake Renwick East Illinois Natural Area located west of I-55 and south of Lockport Road
2. Plainfield Township Park District's Avery Preserve and Four Seasons Park, located west of I-55 and north of Lockport Road
3. Hickory Hills Rod & Gun Club, a private club, located on the northwest corner of IL 126 and Essington Road
4. Deer Creek Recreation Club, a private club, located west of I-55 and south of 143<sup>rd</sup> Street
5. Oak Park Sportsman Club, a private club, located on the frontage road west of I-55 midway between Lockport Road and 143<sup>rd</sup> Street
6. Lily Cache Creek and Slough



**Exhibit 3  
Area Land Use  
I-55 Study**

**4. Stakeholder Involvement**

IDOT has identified the I-55 Improvement Study as a project that will follow the Department’s Context Sensitive Solutions (CSS) principles. CSS is a process that requires early coordination with stakeholders to better understand the concerns and needs of the communities that encompass the project study area. As part of ongoing stakeholder involvement efforts that will be scheduled throughout the study process, an initial public information meeting was held on February 22, 2011. At the meeting, stakeholders were encouraged to provide their input in defining the area’s context by submitting written comments and completing a Community Context Survey. A

Community Advisory Group (CAG) has also been formed and two meetings have been held on May 17, 2011 and July 19, 2011 to seek input from CAG members on the need for improved access to I-55 between the interchanges at US 30 and Weber Road and in defining the Purpose and Need Statement for this project. A summary of comments received through the submitted comment sheets, completed surveys and CAG meeting discussions are as follows:

- The communities surrounding the study area need better access to I-55
- Current congestion is very heavy at the existing interchanges. Weber Road congestion is particularly bad and has negative effects to the viability of local businesses and travel times for residents and commuters
- It is difficult to travel in a north-south direction in the study area during certain times of day
- Better access is needed to facilitate development of businesses and employment opportunities and to attract new residents to locate to the area
- Need better access to southbound I-55 and from northbound I-55
- Additional access improvements will enhance traffic safety on I-55 and improve emergency response time by relieving traffic congestion on Weber Road

**C. NEED FOR PROPOSED ACTION**

The following sections address the need for the proposed action in terms of improving regional connectivity between the local roadway network and I-55 and accommodating community and economic growth forecasted in the Villages of Romeoville, Bolingbrook and Plainfield and unincorporated portions of northwestern Will County.

**1. Improve Regional Connectivity**

Projected 2040 traffic volumes for I-55 have been developed by CMAP and show a substantial increase from 2010 traffic volumes. Table 1 provides the existing and projected Average Daily Traffic (ADT) on I-55 in the roadway section south of US 30 to the roadway section north of Weber Road.

**Table 1  
Projected I-55 Average Daily Traffic**

<b>I-55 SECTION</b>	<b>2010 ADT</b>	<b>2040 ADT</b>	<b>% INCREASE</b>
South of US 30	74,000	103,000	39%
South of IL 126	76,000	108,000	42%
North of IL 126	98,000	148,000	51%
North of Weber Road	142,000	168,000	18%

As part of the Phase I study process, a CORSIM traffic model has been developed to project traffic operations for the local and regional roadway network under various access improvement alternatives. The model includes capacity improvements planned for the area on the roadway network by each of the three villages and Will County. Based on the traffic volumes projected by the model, capacity analyses were then conducted to determine the Level of Service (LOS) that would be expected at each ramp junction providing access to I-55 within the corridor using 2040 traffic projections provided by CMAP. LOS is the measure by which the quality of traffic flow on a roadway

or intersection operates under specific traffic conditions. LOS accounts for the operating speed, traffic density, driver comfort & convenience, and traffic safety. As travel speed decreases and traffic density increases, traffic flow becomes increasingly unstable. LOS is graded on a scale of A to F with LOS levels defined as follows:

- Level A: Optimum Free Flow
- Level B: Reasonable Free Flow
- Level C: Stable Flow
- Level D: Approaching Unstable Flow
- Level E: Unstable Flow
- Level F: Forced or Breakdown in Flow

In situations where the Level of Service drops below the LOS C threshold to LOS D, the roadway is considered as having constrained or limited capacity. When the LOS drops to either LOS E or F, it is considered as having inadequate capacity and operating in an unacceptable condition. This concept is based on the IDOT's Bureau of Design and Environment (BDE) Manual.

Table 2 provides a comparison of LOS at the ramp junction with the mainline I-55 travel lanes for existing and projected conditions during the morning and evening peak hours. The first column shows the current LOS at the ramps. The second column shows the LOS that is projected to occur with CMAP's 2040 ADT's and an improvement at Weber Road. The roadway network modeled for 2040 assumes that only those roadway improvements that are committed to implementation or included in CMAP's "Go To 2040" Comprehensive Regional Plan will be completed. Since improvements at the I-55 interchange with Weber Road through Phase III construction are included in IDOT's current 2012 to 2017 multi-year program, the second column assumes a preferred alternative for I-55 interchange improvements will be selected and functioning in 2040. Though the plan for the preferred alternative at Weber Road has not been determined, it is assumed that the preferred alternative will be designed to function with at least a LOS of D since that is the minimum level of service that IDOT strives to achieve with major transportation improvements. Other interchange improvements within the I-55 study limits have not been assumed since they are not included in CMAP's regional plan.

**Table 2  
I-55 Ramp Junctions  
Projected Level of Service in 2040**

<b>NORTHBOUND, AM</b>		<b>2010 ADT</b>	<b>2040 ADT</b>
<b>Interchange Location</b>		<b>Existing</b>	<b>No Build</b>
Weber Road	Exit	B	D*
	Entrance	F	D*
IL 126	Entrance	F	F
US 30	Exit	D	D
	Entrance	D	D
<b>SOUTHBOUND, PM</b>		<b>2010 ADT</b>	<b>2040 ADT</b>
<b>Interchange Location</b>		<b>Existing</b>	<b>No Build</b>
Weber Road	Exit	F	D*
	Entrance	F	D*
IL 126	Exit	F	F
US 30	Exit	C	C
	Entrance	D	D

\* - Assumed LOS after Weber Road Interchange is improved.

This analysis demonstrates that under projected 2040 traffic volumes, even with an improved interchange at Weber Road, an acceptable or stable level of service will not be achieved at ramp junctions for either the IL 126 or US Route 30 interchanges.

**2. Accommodating Community and Economic Growth**

As noted in Tables 3 and 4, CMAP projects that population and employment will grow by 79% and 53% respectively by 2040 in the Villages of Romeoville, Bolingbrook and Plainfield which surround the I-55 study area. This growth will not only mean more travel demand from new residents that live in the area but also more commuters driving to the area for employment opportunities. Part of what will encourage this growth, particularly for job creation, will be the adequacy of the transportation system in the area to serve the movement of goods and services in and out of the I-55 corridor. Considering that many traveling to the area will use I-55 as their primary route for the work commute, the capacity of interchange access to and from I-55 will be critical to serving the added traffic demand generated by projected economic development.

**Table 3  
Population Growth**

<b>POPULATION</b>	<b>2010</b>	<b>2040</b>	<b>% CHANGE</b>
Bolingbrook	73,366	116,463	59%
Plainfield	39,581	82,490	108%
Romeoville	39,680	74,068	87%
<b>Total</b>	<b>152,627</b>	<b>273,021</b>	<b>79%</b>

**Table 4  
Employment Growth**

<b>EMPLOYMENT</b>	<b>2010</b>	<b>2040</b>	<b>% CHANGE</b>
Bolingbrook	23,417	30,166	29%
Plainfield	14,144	23,464	66%
Romeoville	17,900	31,468	76%
<b>Total</b>	<b>55,461</b>	<b>85,098</b>	<b>53%</b>

Members of the Community Advisory Group already report that the area's roadway network and the interchanges providing access to I-55 are heavily congested under current traffic volumes. This congestion is occurring even with the slowdown in economic activity since 2008 and the 14.7% vacancy rate reported for the first quarter of 2011 by Crain's Chicago Business for industrial properties in the I-55 corridor.

The zoning maps for both Romeoville and Bolingbrook show that the land adjacent to the I-55 corridor between the IL 126 and Weber Road interchanges is zoned for industrial and manufacturing uses (See Exhibit 3). In their 2010 "State of the Village Report", Bolingbrook reported that there remains more than 5,000,000 square feet of industrial building area available in the village before the area reaches full build out. U.S. Census Bureau data for Romeoville shows a 93% increase in transportation and warehousing jobs between 2000 and 2008. As CMAP projects the employment growth to continue over the next 30 years, the need for a reliable and efficient access to I-55 on the local roadway network and at the interchanges will be critical.

The congestion and delay experienced now will only worsen, particularly for the existing high volume of truck traffic from warehouse and industrial centers within the I-55 corridor. The ability of the area to grow in population and attract new business activity into available vacant property and to developable industrial sites will be hindered without the benefit of improved interchange access and capacity.