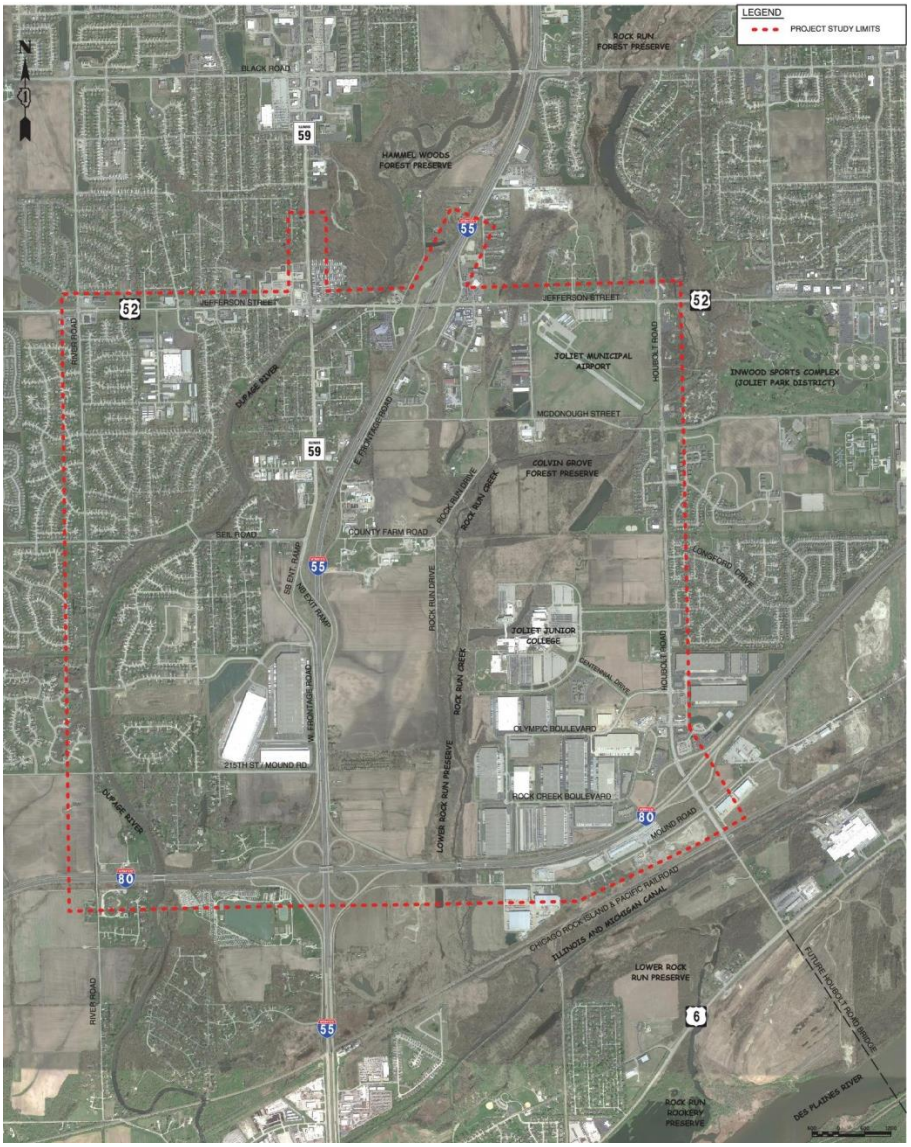
I-55 at IL 59 Access Project

Preferred Alternative

Interstate 55 from I-80 to US 52

September 2018

FAI 55, Will County
Job No. P-91-132-17



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1. Introduction

The existing IL 59/Seil Road Interchange at Interstate 55 is a partial service interchange that provides access to and from the south only. There is no I-55 access to or from the north, and there is no bridge/roadway crossing I-55 to connect Seil Road/IL 59 with County Farm Road. US 52 is the closest full access service interchange to the north of IL 59 (1.75 miles), while US 6 is the closest full access service interchange to the south (2.85 miles). US 52 is the only roadway within the project study area that crosses I-55, connecting traffic east and west.

The purpose of this document is to present and obtain concurrence on the preferred alternative for the I-55 at IL 59 Access Project.

1.1 Purpose and Need

The purpose of the proposed project is to improve regional mobility and local connectivity and to improve system linkage. Regional mobility refers to the ability or inability of traffic to move through an interchange, intersection or roadway section. Local connectivity refers to the ability to travel from local origins to local destinations within and through the study area without requiring adverse or indirect travel. System linkage refers to the ability to access higher functional roadways from local streets to arterial roadways such as the interstate system and state routes. Concurrence to the Purpose and Need (P&N) was received from the United States Environmental Protection Agency (USEPA) and the US Fish & Wildlife Service (FWS) on March 5, 2018 and from the US Army Corp of Engineers (USACE) on March 9, 2018.

1.2 Project Study Limits

The project is located in western Will County, within the Village of Shorewood and City of Joliet. The project is centered along the section of I-55, between I-80 and US 52, and has an extended east-west study area to include consideration of associated local route improvements. The project study area has been established for an approximate 6.5 square mile area bordered on the south by I-80, on the east by Houbolt Road, on the north by US 52, and on the west by River Road. The project study limits are shown below in **Figure 1.1**.

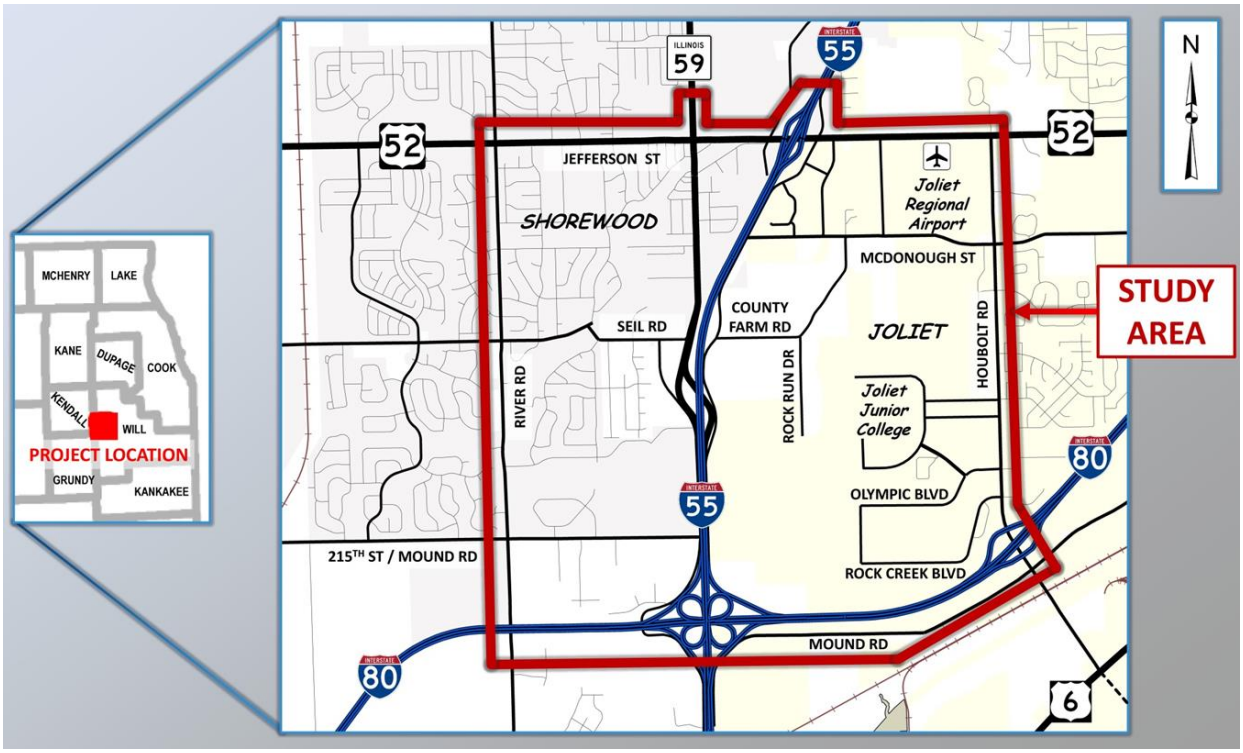


Figure 1.1 Project Location Map and Study Area

2. Alternatives Development and Evaluation

2.1 Alternatives Development

Once concurrence was received for the Purpose and Need, alternatives to address the stated needs were created. A wide range of options and combinations of alternatives have been developed and three categories of alternatives were utilized as follows:

- Interchange Alternatives
- East-West Connector Alternatives
- Capacity Improvement Alternatives

Community Advisory Group (CAG) – a group of volunteer stakeholders with a wide and diverse interest in the project which include local officials and agencies, businesses, resident and homeowners, local clubs and special interest groups.

Project Study Group (PSG) - a group of stakeholders responsible for the project technical expertise, and ensuring adherence with meeting policies and procedures. The PSG consists of IDOT, City of Joliet, and the Federal Highway Administration.

Conceptual alternatives were initially developed for each category, with consideration for compatibility between categories. Extensive coordination and public involvement has occurred with local agencies and project stakeholders, interactive collaboration with the project specific Community Advisory Group (CAG), Project Study Group (PSG) and additional public input was received through a second public meeting and through the comments portal from the project website.

Interchange Alternatives include the no-build condition, directional ramps with collector-distributor roadway system, new north directional ramps, single point urban interchange at County Farm Road, single point urban interchange south of Seil Road; new loop ramps, and extension of IL 59 with a diverging diamond interchange.

East-West Connector Alternatives include the no-build condition, improvement/expansion evaluation of existing roadways (County Farm Road, Rock Run Drive and McDonough Streets), new east-west route alignments between I-55 and Houbolt Road, and existing route alignment extensions (Rock Creek Boulevard and Olympic Boulevard).

Capacity Improvement Alternatives include the no-build condition and capacity improvements for the following three roadways: Seil Road, Mound Road and US 52.

- Build improvement conditions to Seil Road include mini-roundabouts at intersections with Raven Road and States Lane, traffic signals at the intersections with Raven Road and States Lane, and an add-lane improvement between River Road and IL 59. Seil Road alternatives also considered realignment of the bridge carrying Seil Road over the DuPage River.
- Build improvement to Mound Road includes extending the roadway over I-55 to connect to Houbolt Road on the east via one of the other east-west connector alternatives. Different alternatives for Mound Road deal with maintaining vehicular access to the existing I-55 Frontage Road system. Alternatives include elevated access to the frontage roads, at-grade jug handle access or no access.
- Build improvement conditions to US 52 include modifying the existing I-55 at US 52 interchange to improve operations and capacity, add-lane between River Road and IL 59, access control measures (raised median), and intersection capacity improvements.

2.2 Alternative Screening and Evaluation

A screening process was established for the evaluation of alternatives, and was performed in conjunction with the Project Study Group, the Community Advisory Group (CAG), and the public. The process included gathering a wide range of ideas and concepts which had the potential in addressing the Purpose and Need through the CSS/Public involvement process. A CAG meeting held on November 14, 2017 included a dedicated workshop for brainstorming ideas within the CAG. These ideas were included in the alternatives

identified by the Project Study Group. The objective of this process was to create a series of initial concepts, gauge potential effectiveness in addressing the Purpose and Need of the project, and screening of those concepts determined to meet the project needs, development of those concepts into preliminary alternatives, and repeated iteration of refinement, screening and development. With each level of screening the number of alternatives was reduced, and the alternatives best meeting the Purpose and Need while minimizing impacts to the environment were recommended as alternatives to be carried forward, which were further designed, detailed and evaluated. From this process, a manageable and presentable number of feasible and reasonable alternatives were presented to the Community Advisory Group (CAG) on March 15, 2018, again with a dedicated workshop session focused on discussing recommendations for alternatives to be carried forward. Recommendations for those to be carried forward and those recommended for dismissal were then presented to the public at Public Meeting #2 on April 11, 2018. The screening process utilized is summarized in **Figure 2.1**.

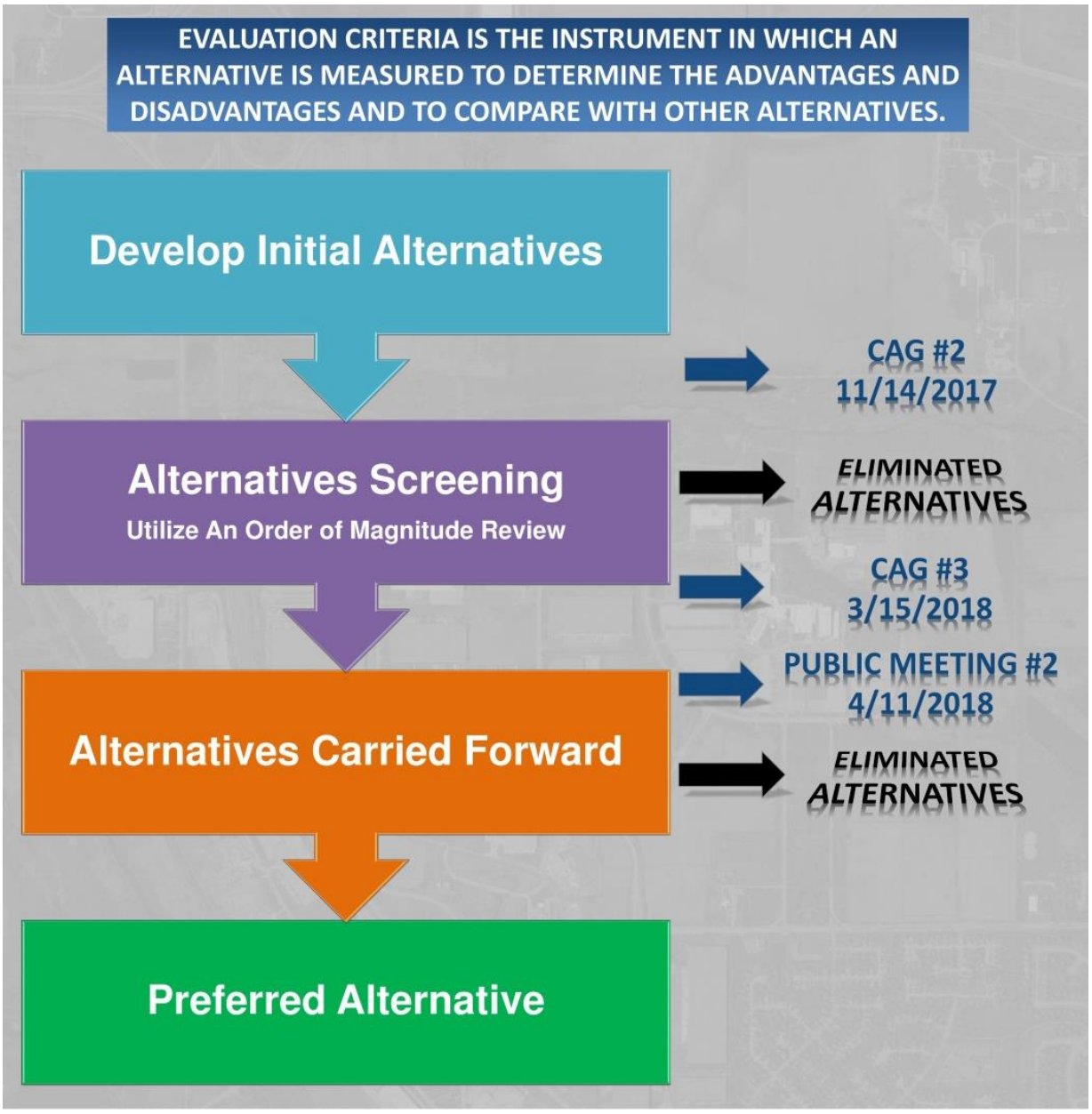


Figure 2.1 Alternative Screening Process

The conceptual alternative categories for the interchange alternatives, east-west connector alternatives and route capacity improvement alternatives are uniquely identified in the following manner. The interchange alternatives are designated with an "I" in front of the alternative number, and the east-west connector alternatives are designated with an "EW" in front of the alternative number. For the route capacity improvement alternatives, Seil Road alternatives are designated with an "S" prior to the alternative number, while Mound Road alternatives are designated with an "M" prior to the alternative number. US 52 alternatives are referred to as US 52 with the limits of improvement identified for each alternative. In summary, the alternative category designations are as follows:

- Interchange Alternatives (I-Designation)
- East-West Connector Alternatives (EW-Designation)
- Route Capacity Improvement Alternatives
    - Seil Rd (S-Designation)
    - Mound Rd (M-Designation)
    - US 52 (Limits of Improvement)

The initial round of screening was focused on identification of benefits and limitations, general levels of impacts to potential residential and business displacements, right-of-way, environmental resources including floodplains, wetlands, public and natural resource areas. A further refinement for the next level of screening was the evaluation of if and how each alternative met the transportation needs, quantified impacts, and established comparative levels of cost between alternatives. These screenings were then documented into an evaluation matrix (see **Section 5**) from which the Project Study Team, Community Advisory Group and general public could compare and make a determination of alternatives warranting further study.

3. Alternatives Carried Forward

Three of the six interchange alternatives (I-1, I-2, I-6) and the no build alternative were identified for further study. Two of the nine east-west connector route alternatives (EW-1, EW-6) were identified for further study. Two variations of EW-1 (improve existing McDonough Street), EW-1A and EW-1B were also identified for further study. For the route capacity improvement alternatives, all of the US 52 (Jefferson Street) and Seil Road alternatives were identified for further study, while all of the Mound Road alternatives were dismissed from further study.

Table 3.1 below summarizes which alternatives are being recommended for further study.

Table 3.1 Summary of Alternatives Recommended To Be Carried Forward

Alternative Analysis Category	Alternatives Being Recommended for Further Study
Interchange (I-55 / IL 59)	• I-0: No Build • I-1: Collector-Distributor Roadway System Along I-55 • I-2: New North Directional Ramps Only • I-6: Extension of IL 59 into a Diverging Diamond Interchange
East-West Connectors	• EW-0: No Build • EW-1: Improve McDonough Street to County Farm Road • EW-1A: Improve McDonough Street (Avoid Forest Preserve) • EW-1B: Improve McDonough Street / Rock Run Drive (Roundabout) • EW-6: Olympic Boulevard Extension
Route Capacity Improvements – Seil Road	• S-0: No Build • S-1: Mini-Roundabouts at DuPage River • S-1A: Mini-Roundabouts at DuPage River (with Bridge Realignment) • S-2: Traffic Signals at DuPage River • S-2A: Traffic Signals at DuPage River (with Bridge Realignment) • S-3: Widen to Four Lanes between River Road and IL 59
Route Capacity Improvements – Mound Road	• M-0: No Build
Route Capacity Improvements – US 52 (Jefferson Street)	• US 52 improvements from IL 59 to Houbolt Road[1] • US 52 improvements from River Road to Houbolt Road with add-lane west of IL 59 to River Road[1].

[1] These alternatives include a modified diamond interchange at I-55 and US 52.

3.1 Description of Alternatives Carried Forward

3.1.1 Proposed Interchange Alternatives

All of the proposed alternatives were designed to convert the existing partial access interchange to a full access interchange by providing new I-55 access to and from the north. A wide range of interchange alternatives were developed that include multiple interchange configurations. The no-build and three build interchange alternatives to be carried forward (I-1, I-2 and I-6) are summarized as follows:

Interchange – No Build Alternative Description
• The No-Build Alternative would maintain the existing facility without any improvements except for routine repairs and maintenance, such as pavement resurfacing, patching and bridge overlay or patching. • The No-Build Alternative would continue to operate as a partial interchange and offer no benefit to the stated needs; it would not meet the Purpose and Need.

Alternative I-1 / Collector-Distributor Roadway System Along I-55 Description (See Figure 3.1)
• This alternative includes a new southbound Collector-Distributor (C-D) roadway from US 52 with new interchange ramps at IL 59 on the west side of I-55. • The new C-D roadway would collect southbound I-55 entering traffic from US 52 and I-55 southbound traffic exiting to IL 59 / Seil Road / East Frontage Road. This configuration eliminates weaving on the southbound I-55 mainline. • The C-D roadway then would split into three different ramps with the following destinations: IL 59, I-55 East Frontage Road and the I-55 southbound mainline. This alternative has no new ramps connecting to Seil Road / County Farm Road. • This alternative would include a new bridge that connects Seil Road and County Farm Road over I-55 by creating the fourth leg of the existing signalized intersection at IL 59 / Seil Road. • The I-55 East Frontage Road is realigned / relocated in this alternative.

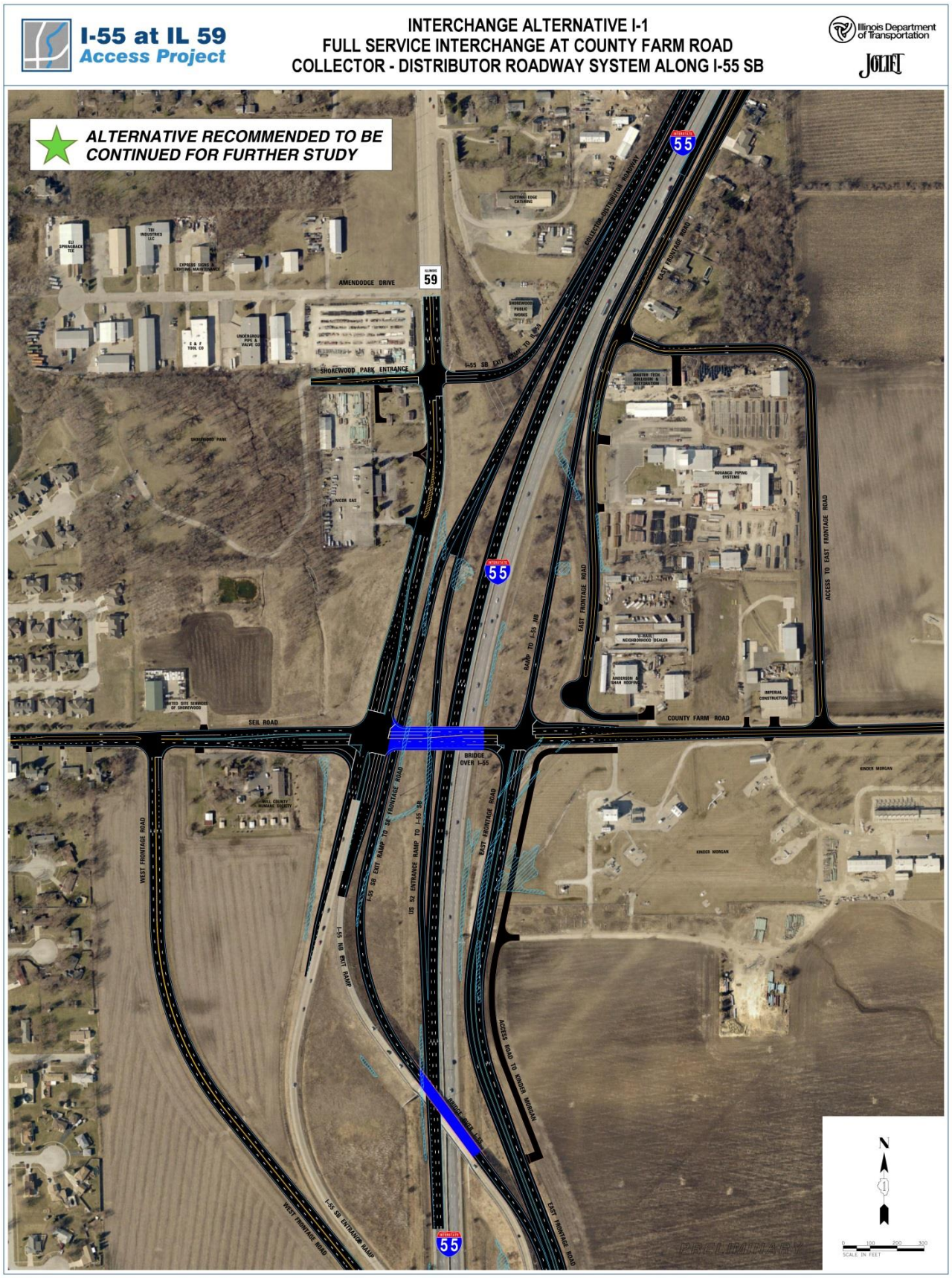


Figure 3.1 Interchange Alternative I-1 Concept Plan

Alternative I-2 / New North Directional Ramps Only Description (See Figure 3.2)

- Two new directional ramps that include a southbound exit and northbound entrance between I-55 and Seil Road / County Farm Road would be included in this alternative.
- The new southbound I-55 exit would be a flyover directional ramp and would create a new intersection on Seil Road / County Farm Road located east of IL 59. The south leg of this intersection would be the I-55 East Frontage Road.
- The new northbound I-55 entrance ramp would be located at the same intersection east of IL 59 on Seil Road / County Farm Road. Access to and from IL 59 and the new I-55 ramps would be via Seil Road / County Farm Road.
- This alternative would include a new bridge that connects Seil Road and County Farm Road over I-55 by creating the fourth leg of the existing signalized intersection at IL 59 / Seil Road.
- This alternative includes the addition of an auxiliary lane in each direction on I-55 between US 52 and the new directional ramps to allow for adequate weaving between entering and exiting traffic.
- The eastern I-55 Frontage Road is realigned/relocated in this alternative. This road would also require realignment north of County Farm Road to allow for construction of the new entrance and exit ramps while still providing access to local businesses.

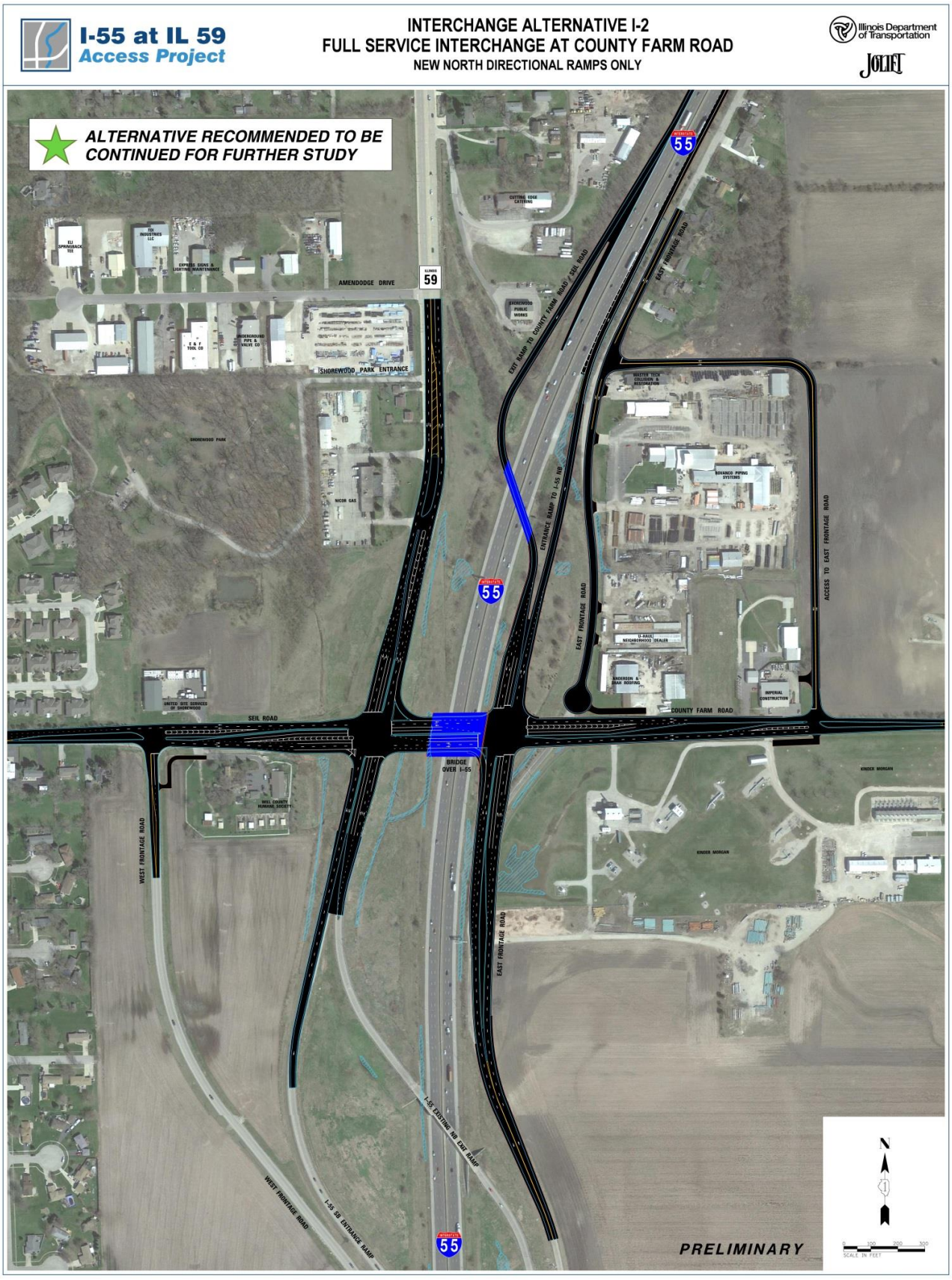


Figure 3.2 Interchange Alternative I-2 Concept Plan

Alternative I-6 / Extension of IL 59 into a Diverging Diamond Interchange Description (See Figure 3.3)

- This alternative includes extending IL 59 south of Seil Road and crossing over I-55 and introducing a new I-55 at IL 59 Diverging Diamond Interchange (DDI) south of the existing interchange.
- IL 59 would terminate ¼ mile south of the southern DDI signalized intersection into a realigned and improved East Frontage Road.
- This alternative would introduce two parallel structures spanning I-55 and would not include a bridge connecting Seil Road to County Farm Road.
- The existing ramp gore areas on I-55 located to the south would remain in this alternative.
- Two new ramps that include a southbound exit and northbound entrance between I-55 and IL 59 would be introduced in this alternative.
- This alternative also includes the addition of an auxiliary lane in each direction on I-55 between US 52 and the new DDI ramps to allow for adequate weaving between entering and exiting traffic.
- The eastern I-55 Frontage Road is realigned/relocated in this alternative.

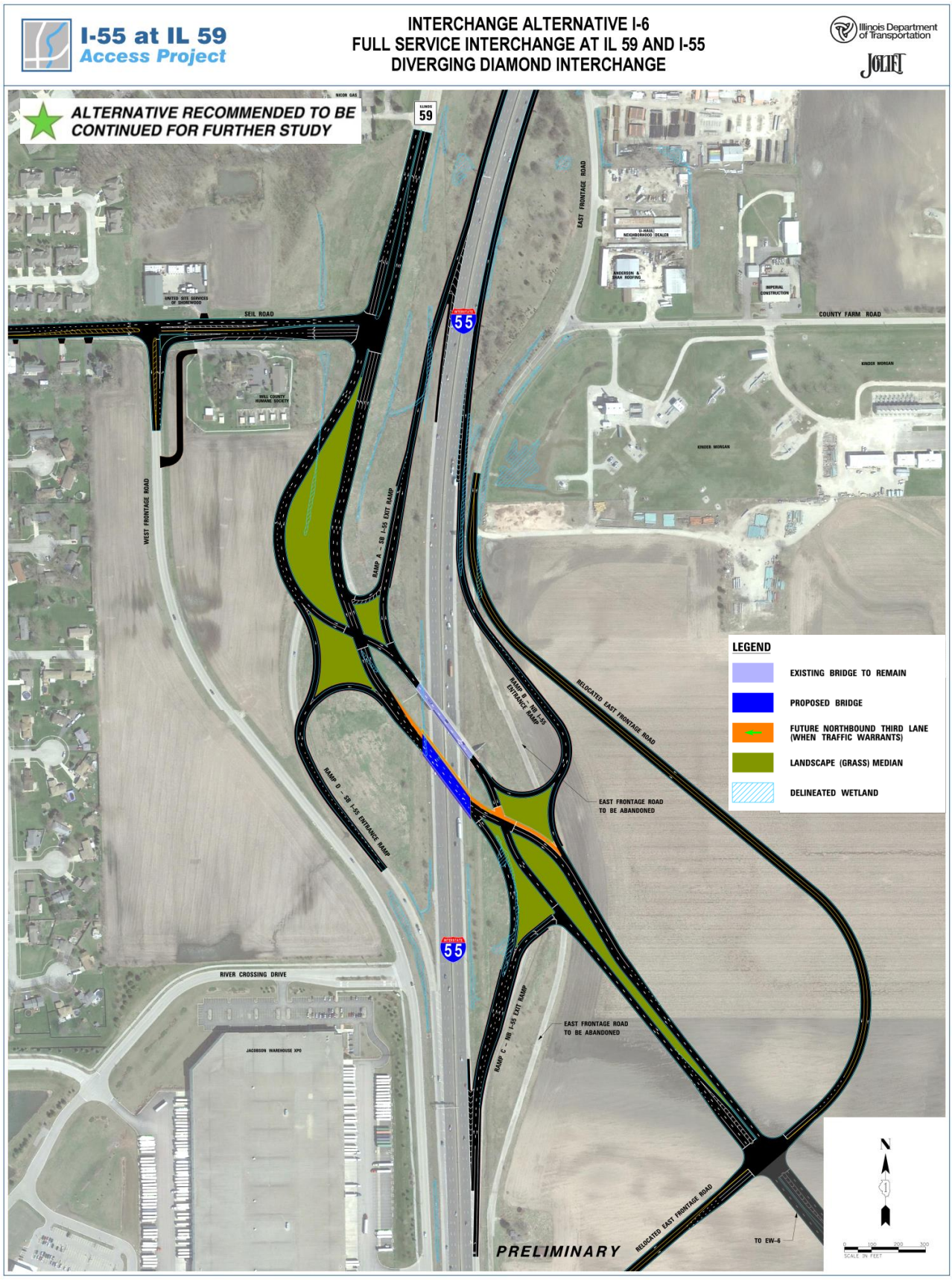


Figure 3.3 Interchange Alternative I-6 Concept Plan

3.1.2 East-West Connector Alternatives (EW-Designations)

All of the proposed east-west connector alternatives were designed to improve local connectivity by providing new or improved, or more direct access through the study area in the east and west directions. East-west connector alternates have been considered to provide a connection between the I-55 East Frontage Road and Houbolt Road, while also providing for the opportunity to work in tandem with the Interchange Alternatives. These alternatives are to complete the "missing" linkage between I-55 and Houbolt Road making new and viable east-west through routing options for the traveling public. A wide range of east-west connector alternatives were developed that included multiple alignments and configurations. The no-build and two build alternatives (EW-1 and EW-6) were carried forward and are summarized as follows:

East-West Connector – No Build Alternative Description

- The no-build east-west connector alternative would maintain the existing facility without any improvements except for routine repairs and maintenance, such as pavement resurfacing and patching.
- The no-build east-west connector alternative would continue to operate with no connectivity across I-55 except at US 52 within the study area.

Alternative EW-1 / Improve McDonough Street to County Farm Road Description (See Figure 3.4 through Figure 3.6)

- Alternative EW-1 provides for improvement of County Farm Road, Rock Run Drive and McDonough Street.
- This alternative includes realignment of McDonough Street near Rock Run Drive with a 30mph curve to develop east-west route connectivity. The west leg of the intersection would be reconfigured to intersect with the realigned east McDonough Street and Rock Run Drive.
- Improvements to McDonough Street include a three-lane cross section and intersection improvements and improved shoulders or combination curb and gutter.
- Intersection improvements are included at the McDonough Street and Houbolt Road for the added traffic demand.
- This alternative includes widening of the existing bridge crossing the Rock Run Creek floodplain and wetlands.
- The realignment of McDonough Street and Rock Run Drive encroach on the Colvin Grove Forest Preserve. Alternative EW-1A varies from EW-1 with a realigned Rock Run Drive to the west with a 30 mph curve to avoid the Colvin Grove Forest Preserve, but results in a residential property displacement.
- Alternative EW-1B varies from EW-1 with a roundabout proposed at the intersection of Rock Run Drive and McDonough Street. EW-1B keeps traffic moving through a roundabout, but the east-west route connectivity is lost.

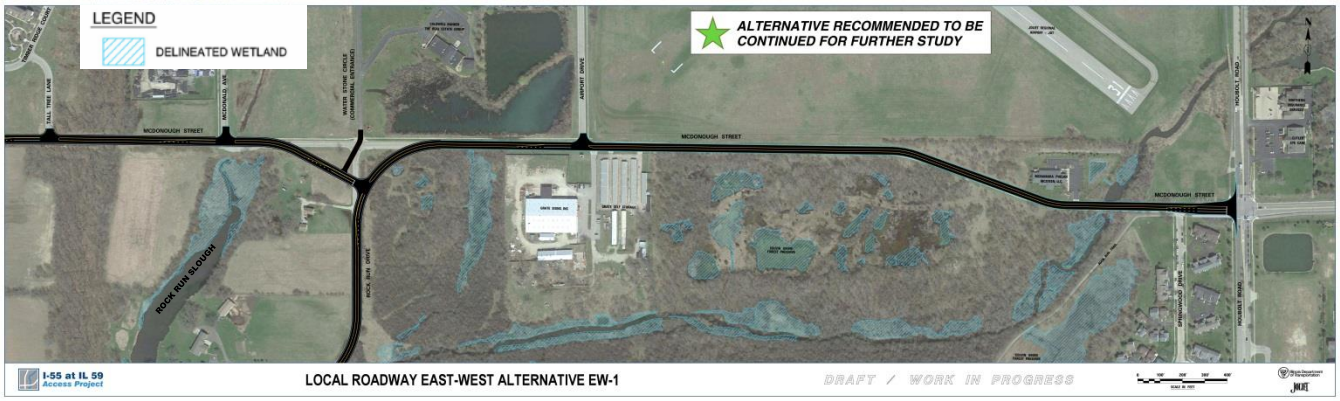


Figure 3.4 East-West Connector Alternative EW-1 Concept Plan

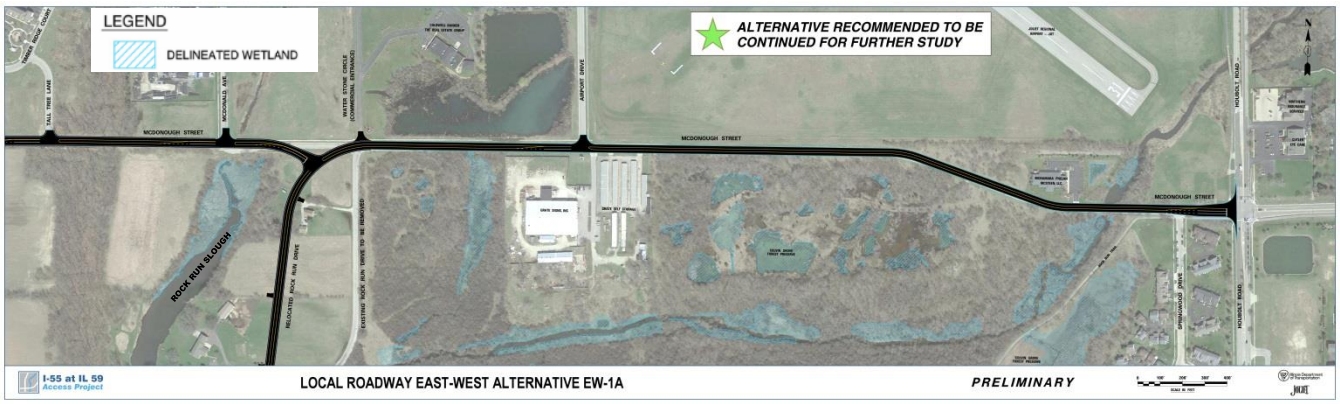


Figure 3.5 East-West Connector Alternative EW-1A Concept Plan

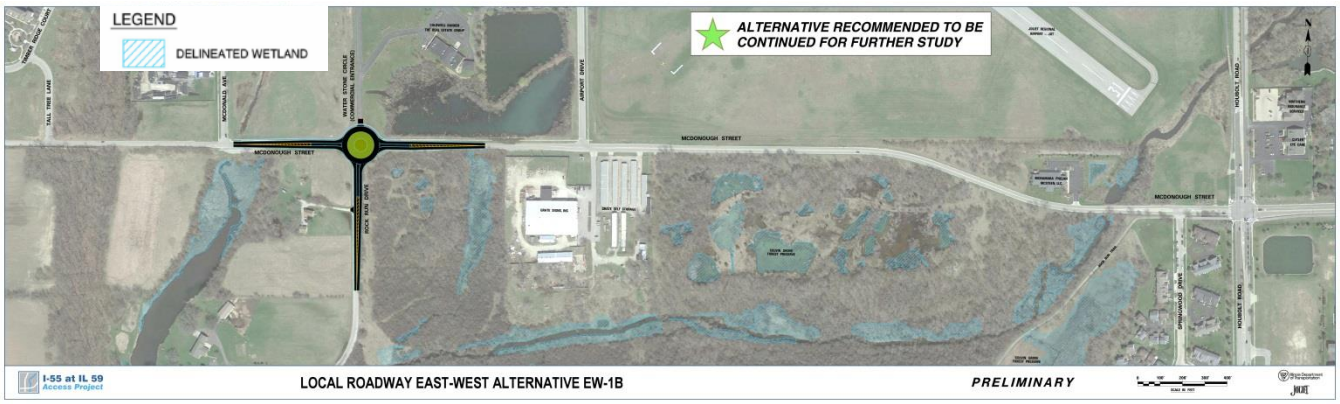


Figure 3.6 East-West Connector Alternative EW-1B Concept Plan

Alternative EW-6 / Olympic Boulevard Extension Description (See Figure 3.7)

- This alternative provides for improvements to Olympic Boulevard and its extended alignment roadway westward.
- This alternative includes intersection improvements at Houbolt Road and Olympic Boulevard.
- This alternative includes construction of a new bridge crossing the Rock Run Creek floodplain and wetlands.

Figure 3.7 East-West Connector Alternative EW-6 Concept Plan

3.1.3 Capacity Improvement Alternatives (S- and M- Designations and US 52)

2040 no-build traffic operations indicate an increasing number of failing locations where future traffic will exceed the capacity of the existing roadway network. Without improvements, traffic growth along US 52, Seil Road and Mound Road are anticipated to have a greater percentage increase than other routes within the study area. This would result in an increased amount of unacceptable levels of service and traffic congestion. The alternatives in this category were targeted to address capacity deficiencies on existing routes, either as a stand-alone improvement or in tandem with the interchange and east-west connector improvements. The no-build and build alternatives for Seil Road (S-1, S-1A, S-2, S-2A and S-3), and US 52 capacity improvements that were carried forward are summarized below. Note that the only alternative carried forward for Mound Road (M-Designation) was the no-build alternative (M-0).

Seil Road – No Build Alternative Description

- The no-build alternative would maintain the existing facility without any improvements except for routine repairs and maintenance, such as pavement resurfacing and patching.
- The no-build alternative would continue to operate with increasingly poor to failed Levels of Service.
- Existing all-way stop control at the Seil Road / States Lane and Seil Road / Raven Road intersections would remain in place.

Alternative S-1 / Seil Road at DuPage River – Mini-Roundabouts (See Figure 3.8 and Figure 3.9)

- This alternative includes new mini-roundabouts constructed at Seil Road intersections with Raven Lane and States Lane while preserving the existing bridge. Mini-roundabouts are a type of roundabout characterized by a small diameter and traversable islands (central island and splitter islands).
- Alternative S-1A includes the mini-roundabouts constructed at Seil Road intersections with Raven Lane and States Lane, but with a realigned, new bridge over the DuPage River.

Alternative S-2 / Seil Road at DuPage River – Traffic Signals (See Figure 3.8 and Figure 3.9)

- This alternative includes installation of new traffic signals at Seil Road intersections with Raven Lane and States Lane.
- The traffic signal alternative requires some minor widening to provide left and right turn lanes for channelization to meet acceptable levels of service.
- Alternative S-2A includes installation of new traffic signals and minor widening at the Seil Road intersections with Raven Lane and States Lane, but with a realigned, new bridge over the DuPage River.

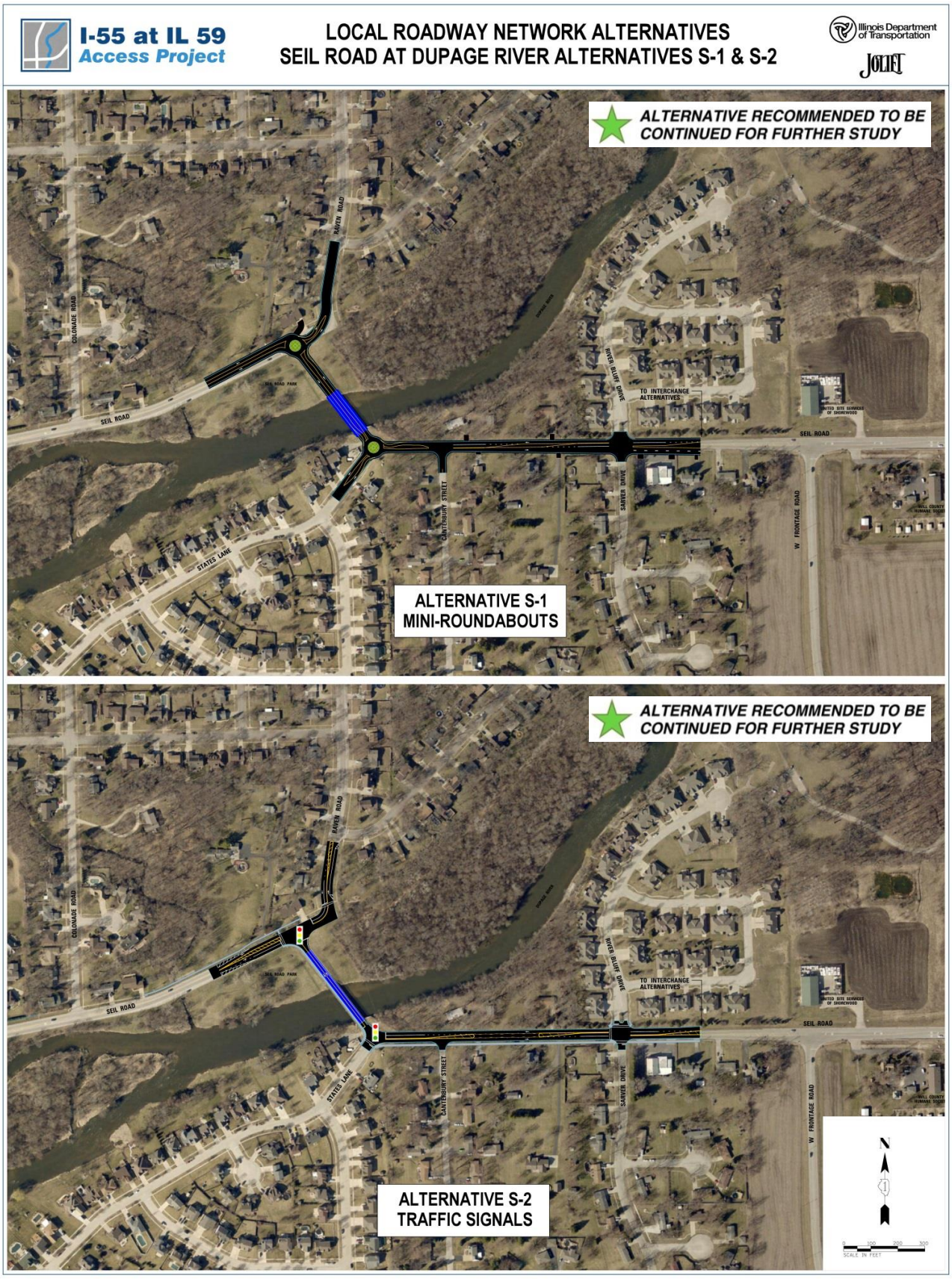


Figure 3.8 Seil Road Alternatives S-1 and S-2 Concept Plans

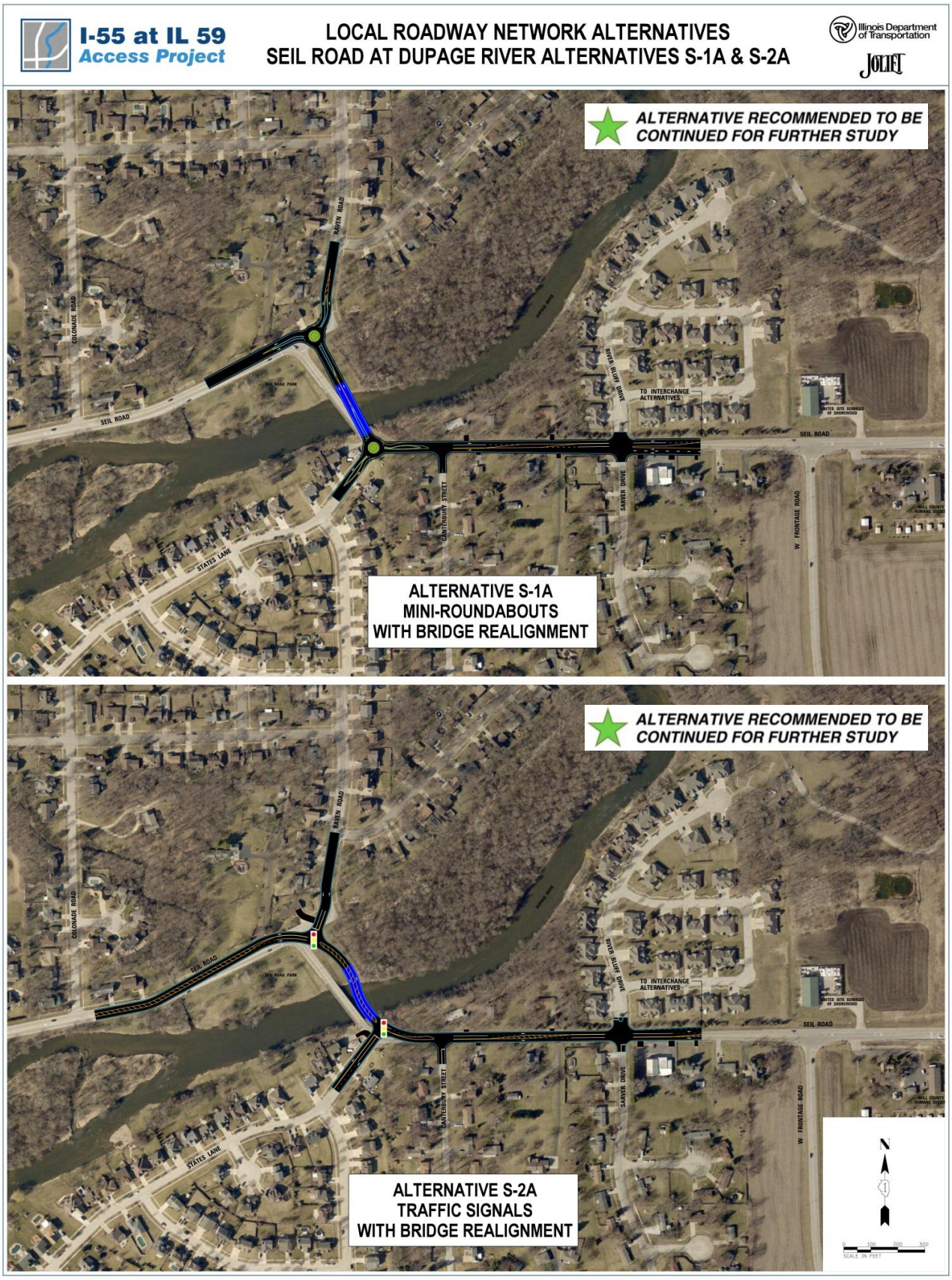


Figure 3.9 Seil Road Alternatives S-1A and S-1B Concept Plans

Alternative S-3 / Bridge Realignment – Free-Flow Seil Road with Add-Lane (See Figure 3.10)
• This alternative includes the realignment of Seil Road over the DuPage River with an add-lane improvement to provide a four-lane cross section with flush median between River Road and IL 59.

Figure 3.10 Seil Road Alternative S-3 Concept Plan

3.1.4 Proposed Capacity Improvement Alternatives – US 52 (Jefferson Street)

The existing average daily traffic (ADT) along US 52 (Jefferson Street) is between 24,200 to 43,000 vehicles per day within the study area. Many intersections are over-capacity with poor operations especially at IL 59 and the I-55 interchange entrance and exit ramps during peak periods. The ADT is projected to increase to a range of 34,000 to 43,000 vehicles per day in the 2040 no-build condition (see **Exhibit A** and **Exhibit B)**. No-build and build capacity improvement alternatives have been considered at US 52 (Jefferson Street) as follows:

US 52 – No Build Alternative Description
• The no-build alternative would maintain the existing facility without any improvements except for routine repairs and maintenance, such as pavement resurfacing and patching. • The no-build alternative would continue to operate with increasingly unacceptable levels of service.

Capacity Improvement Alternative – US 52 (Jefferson Street) From IL 59 to Houbolt Road (See Figure 3.11)

- This alternative includes a raised median providing access control to improve traffic throughput / improved mobility without widening to a six-lane cross section.
- This alternative involves intersection improvements at IL 59 and US 52 including dual-left turn lanes and right turn lanes and signal modernization.
- This alternative includes the widening of the US 52 over the DuPage River Bridge to accommodate intersection improvements.
- This alternative includes modifications/improvements to the existing diamond interchange by providing additional turn lanes on both exit ramps. This alternative includes providing additional left turn lane storage for both directions on US 52 with lead-in storage to accommodate left turn queues.
- This alternative involves intersection improvements at US 52 and Houbolt Road including dual-left turn lanes and additional right turn lanes. This alternative involves intersection improvements at IL 59 and US 52 including dual-left turn lanes and right turn lanes and signal modernization.

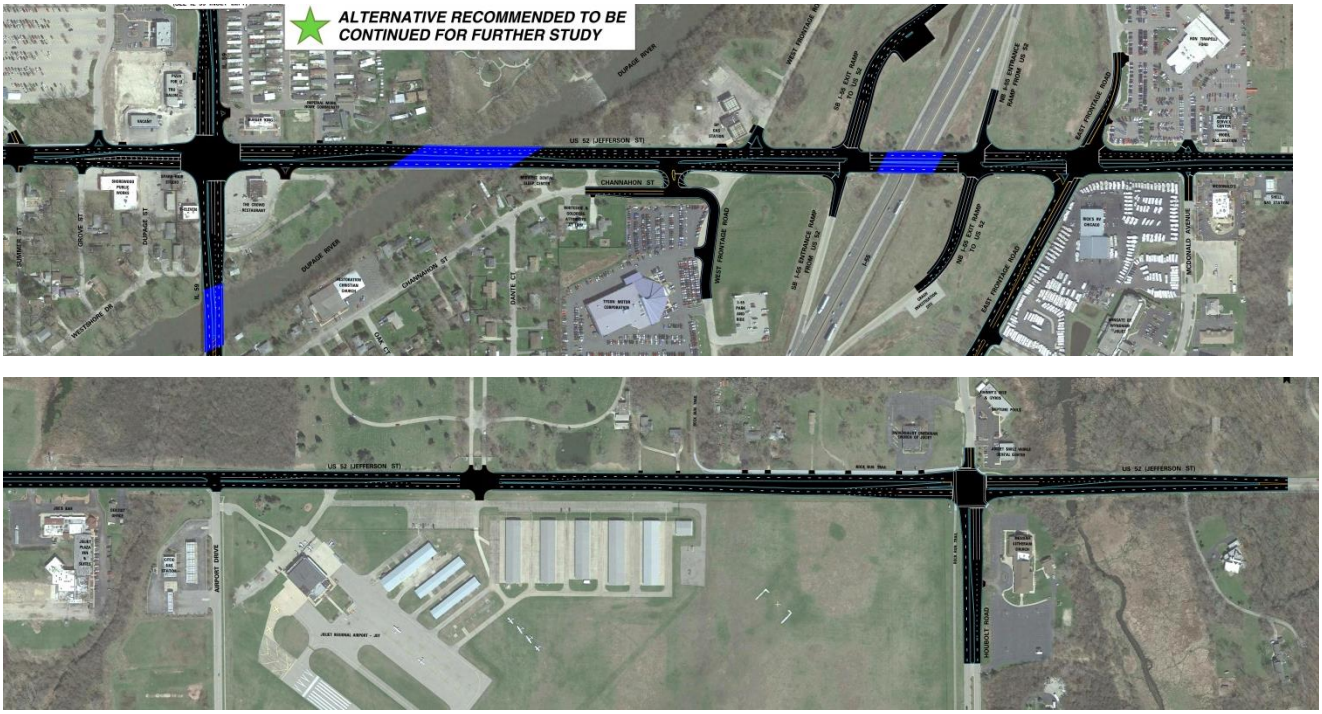


Figure 3.11 US 52 Alternative IL 59 to Houbolt Road Concept Plan

Capacity Improvement Alternative – US 52 (Jefferson Street) From River Road to Houbolt Road (See Figure 3.12)
• This alternative includes an add-lane in each direction from two to four lanes between River Road and IL 59 in addition to the improvements specified in the US 52 alternative from IL 59 to Houbolt Road. • This alternative includes a raised median providing access control to improve traffic throughput / improved mobility without widening to a six-lane cross section. • This alternative includes the intersection capacity improvements at US 52/IL 59 and US 52/Houbolt Road. • This alternative includes the widening of the US 52 over the DuPage River Bridge to accommodate intersection improvements.

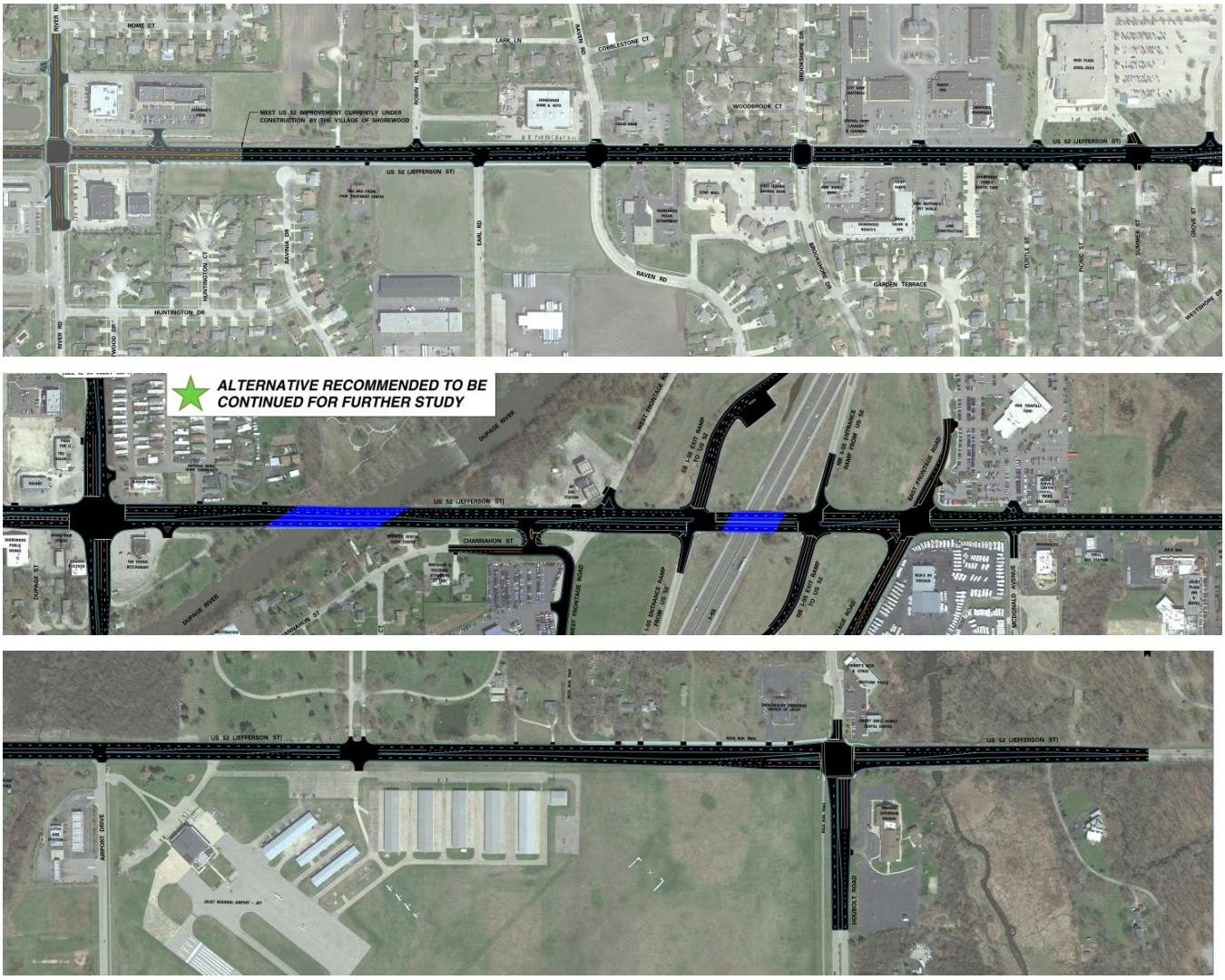


Figure 3.12 US 52 Alternative River Road to Houbolt Road Concept Plan

4. Traffic and Geometric Studies

Existing traffic counts were collected in 2016 and supplemented with additional counts in 2017 utilizing traffic data video collection systems. Future traffic was studied utilizing 2040 traffic projections from the Chicago Metropolitan Agency for Planning (CMAP) and also included development of a Travel Demand Model (TDM) for the project utilizing market development and population forecasts performed by S.B. Friedman Development Advisors. The travel demand model was used to determine most logical and predictable routing of traffic under the development of multiple build scenarios (see **Appendix C**), including new routes and/or realigned routes. The project proposed geometry has been developed utilizing applicable Bureau of Design and Environment (BDE) Manual guidelines, dependent on the classification of each roadway.

The I-55 at IL 59 interchange alternatives were analyzed for operations for mainline, weaving and ramp intersections based on BDE design standards and a preliminary layout of the probable geometric configurations that would be needed to service the projected Design Hourly Volumes (DHV's). The geometric layout of each alternative is anticipated to provide generally acceptable operational levels and meet the BDE criteria. During the alternatives to be carried forward process and screening, a more detailed evaluation of traffic operations utilizing Synchro/SimTraffic simulation and Highway Capacity Software (HCS) were employed to identify potential system deficiencies and to make refinements to address operational issues.

Highway Capacity Software (HCS) directly applies the methodologies outlined in the Highway Capacity Manual (HCM). Through various modules, traffic operations can be analyzed for intersections, roadway sections and various aspects of the freeway system.

Synchro/SimTraffic builds on the Highway Capacity Manual (HCM) by incorporating progression between coordinated traffic signals. This software is often used to develop optimized signal timings as part of the intersection capacity analysis along a given corridor.

When used for intersection analysis, both software packages provide an average delay per vehicle used to determine the Level of Service (LOS) score.

4.1 I-55 at IL 59/Seil Road Interchange Traffic and Geometric Studies

The existing I-55 at IL 59/Seil Road partial access interchange consists of three northbound and three southbound I-55 mainline lanes in each direction along Interstate 55, a one-lane northbound exit ramp to IL 59/Seil Road via flyover ramp, and a one-lane IL 59 southbound entrance ramp onto southbound Interstate 55. The partial access interchange does not accommodate any I-55 access movements to and from the north. A fourth (auxiliary lane) on I-55 is provided between the existing IL 59 ramps and the I-80 cloverleaf system interchange ramps to allow for weaving between the ramps and mainline in both directions. The build interchange alternative would complete all movement access to and from Interstate 55 from IL 59. The results of this analysis and the potential drawbacks of each build alternative are described below:

Interchange Alternative I-1

Based on a preliminary review, the geometrics proposed as part of interchange alternative I-1 (collector-distributor roadway system along I-55) would provide adequate capacity for the future 2040 build design hourly volumes. This interchange design, while efficient at moving high volumes of traffic, has been determined to not be cost-effective (see **Section 7**) in comparison to the remaining interchange alternatives to be carried forward.

This alternative introduces another signalized intersection on IL 59 north of Seil Road to accommodate the new I-55 southbound exit ramp terminal. To minimize impacts to adjacent properties, a 30 mph design curve is introduced to southbound exiting traffic on the ramp immediately following the gore area. While adequate distance is provided for deceleration on the proposed southbound I-55 auxiliary lane there is concern with the relatively short distance of the ramp combined with the low speed/sharp curve.

Another drawback to this alternative is the two closely spaced signalized intersections located on Seil Road / County Farm Road and the limited storage provided between intersections. This close spacing

best avoids impacts to major underground and aboveground pipeline utilities. This same problem exists in interchange alternative I-2 and is further discussed below.

Interchange Alternative I-2

Based on capacity analysis completed, the geometrics proposed as part of interchange alternative I-2 (new north directional ramps) would provide adequate capacity/operations to the majority of the movements for the future 2040 build design hourly volumes with some level of service design exceptions. Design exceptions identified include the following:

- Northbound IL 59 Through Movement (PM Period)
- Southbound IL 59 Through Movement (PM Period)
- Southbound IL 59 Left Turn Movement to County Farm Road (PM Period)
- Eastbound Seil Road Left Turn to IL 59 (PM Period)
- Eastbound Seil Road Right Turn to I-55 South (AM Period)

The operational levels of service for the I-2 interchange alternative are summarized in **Figure 4.1** below with the LOS design exceptions highlighted in red.

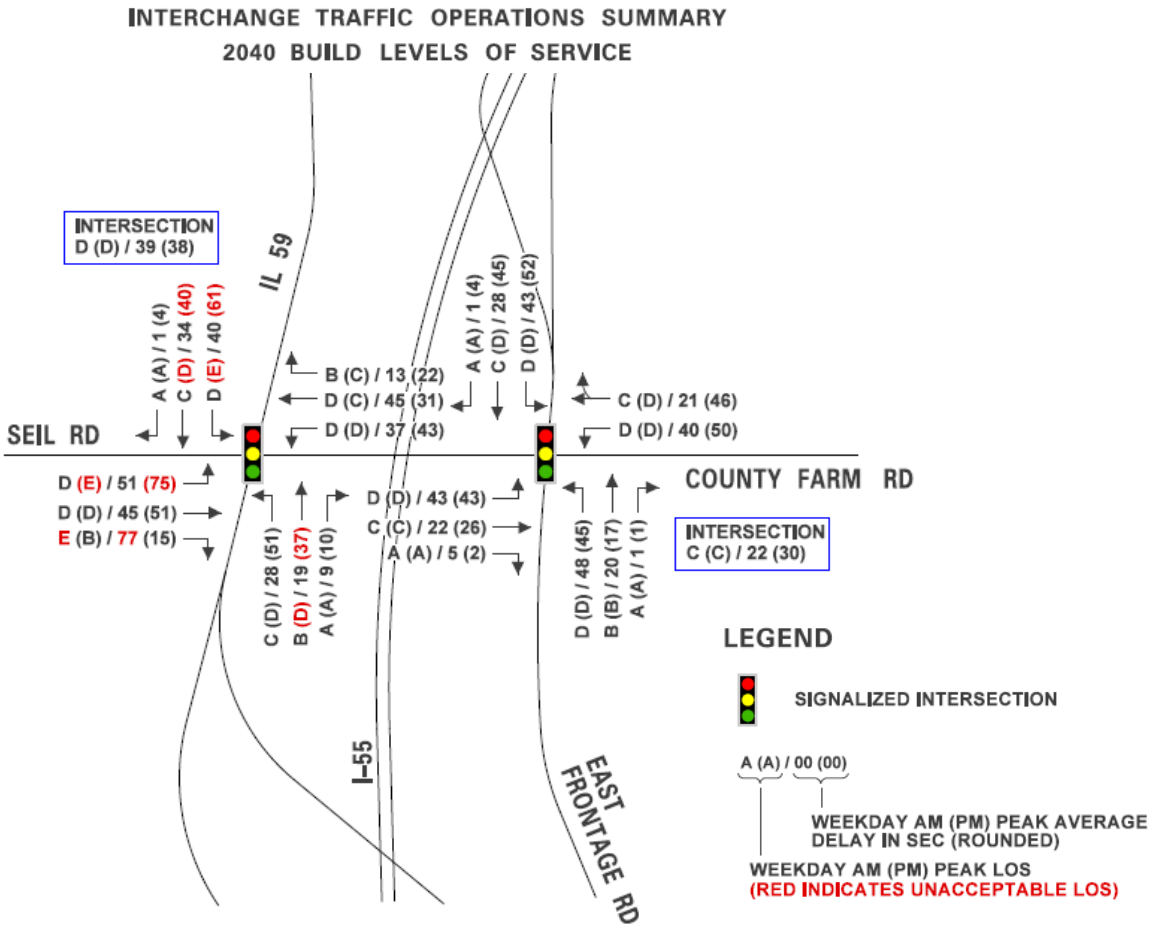


Figure 4.1 Interchange Alternative I-2 2040 Build Levels of Service

Another drawback of the I-2 alternative is that the existing northbound I-55 exit (single lane) ramp volume is anticipated to exceed its capacity by the year 2035 (LOS F). The existing IL 59 northbound exit ramp constructed in 2009 was designed to operate satisfactory under 2030 traffic projections. This operational deficiency would also require a design exception.

This interchange alternative also has two closely spaced signalized intersections located on Seil Road / County Farm Road and the limited storage provided between intersections. Due to the short distance (320 feet stop bar to stop bar), the bridge would require a 10-lane cross section to accommodate

anticipated queues from the heavy turning movements to prevent traffic from blocking the intersections. This cross section includes dual-left turn lanes, two through lanes and right turn lane in each direction. Because left turns are permitted in all directions at both intersections (unlike a conventional diamond interchange), lead-in left turn storage is not possible in the interchange alternative I-2 configuration. Similar to interchange alternative I-1, these intersections cannot be spaced farther apart due to impacts to the Kinder Morgan pipeline utilities. The closely spaced intersections would require drivers to perform a high amount of weaving (rapid lane changes) dependent on the desired destination for vehicles entering the bridge from all directions. For this reason, more conservative drivers will avoid weaving and will utilize the approach lane that requires the minimum amount or no lane changes to be performed due to the short distance. This would result in unbalanced lane utilization at the signalized intersections and an inefficient use of the numerous lanes provided. The poor lane utilization could potentially result in poor operations and side-swipe same direction crashes. This alternative is expensive requiring the construction of 10-lane wide structure with retaining walls along the East Frontage Road / I-55 Northbound Entrance Ramp. The reported levels of service may be over-estimating the intersection operations because unbalanced lane utilization is not usually considered in the analytical capacity analysis calculations. The traffic simulation animation confirms that there is unbalanced lane utilization for left turning vehicles waiting to complete the maneuvers at the interchange's two signalized intersections. The following movements show unbalanced lane utilization in the traffic simulation:

IL 59 / Seil Road (West Intersection) Poor Lane Utilization Movements

- Southbound IL 59 Left Turn to County Farm Road
- Eastbound Seil Road Through Movement (West Intersection)

County Farm Road / East Frontage Road (East Intersection) Poor Lane Utilization Movements

- Northbound East Frontage Road Left Turn

The new ramp configuration for this interchange alternative does not provide access to IL 59 directly and would require motorists to exit first to Seil Road / County Farm Road, a lower functional classification roadway than IL 59.

Interchange Alternative I-6

Based on capacity analysis completed, the geometrics proposed as part of interchange alternative I-6 (Extension of IL 59 into a Diverging Diamond Interchange) would provide adequate capacity/operations to all movements for the future 2040 build design hourly volumes. The northbound IL 59 cross section requires three northbound through lanes and a left turn lane (off-structure), and the southbound IL 59 cross section requires two through lanes. The existing flyover structure constructed in 2009 can be salvaged and reused for this interchange alternative. To accommodate the heavy northbound I-55 exit to IL 59 the existing single mandatory exit only lane would be revised to a two-lane exit with an option and mandatory exit only lane. Two left turn lanes and two right turn lanes would be provided on the ramp to accommodate the anticipated queues for each movement to prevent blockage.

The operational levels of service for the DDI I-6 interchange alternative are summarized in **Figure 4.2** below. In addition to the intersection levels of service, the freeway capacity analysis is also included in the figure. No level of service or geometric design exceptions are anticipated with this interchange alternative.

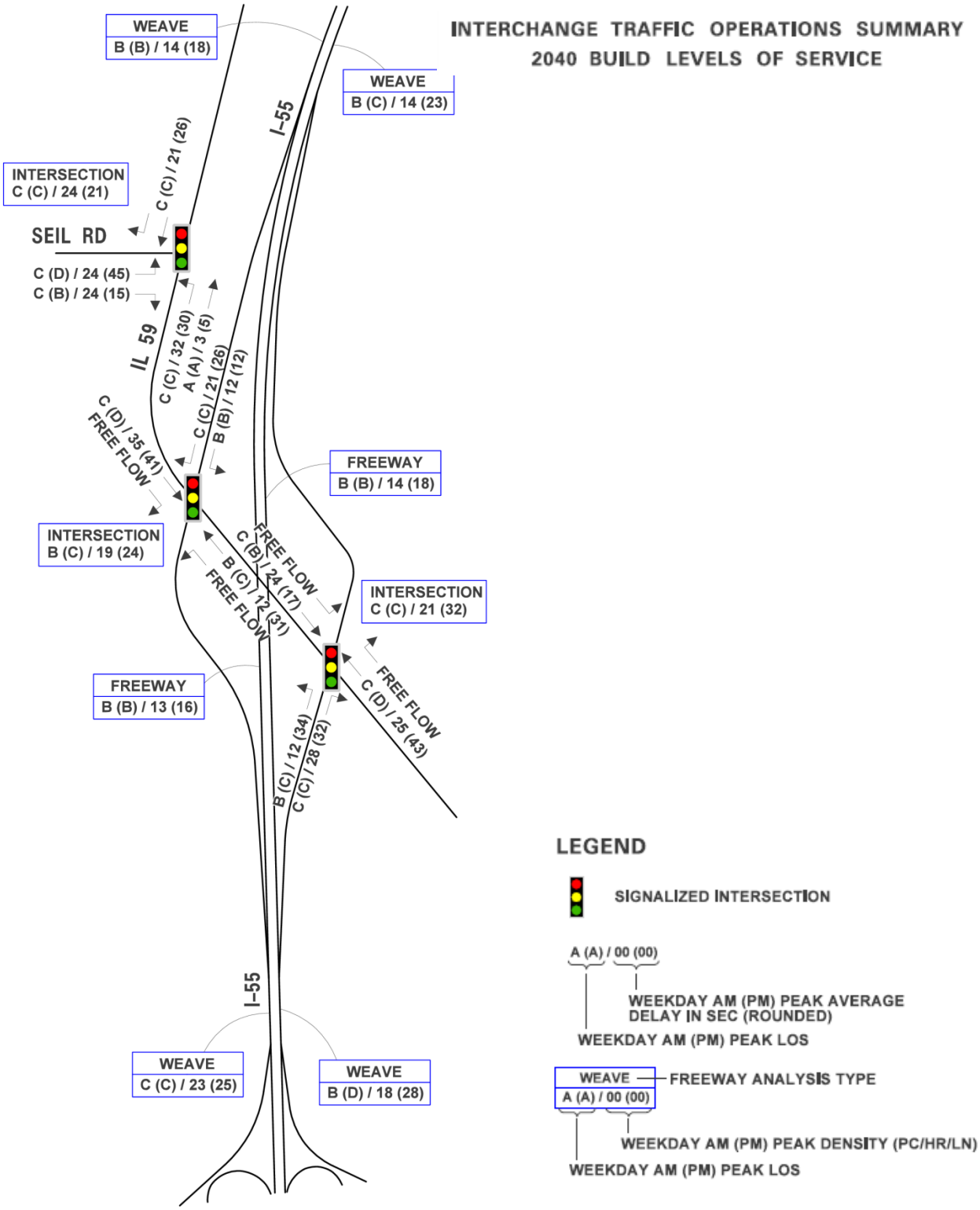


Figure 4.2 Interchange Alternative I-6 2040 Build Levels of Service

An advantage over the I-1 and I-2 interchange alternatives is that the DDI alternative (I-6) allows for free-flowing left turning movements onto I-55, which results in efficiency gains over the other interchange alternatives due to the heavy left-turn demand. Left turns from the ramps are similarly able to enter IL 59 in their desired direction of travel without crossing over the opposing through movement.

4.2 East-West Connector Traffic and Geometrics Studies

East-west travel across the study area is primarily indirect with poor connectivity and adverse traffic routing. The east-west connector alternatives were developed to decrease adverse travel and improve connectivity through the study area.

East-West Connector EW-1/1A/1B

The east-west connectors EW-1, EW-1A and EW-1B all utilize existing local routes (County Farm Road, Rock Run Drive and McDonough Street) with proposed improved conditions. All three alternatives are essentially the same basic alternative with three variations of how the intersection of McDonough Street and Rock Run Drive is improved. The existing route is indirect and is not attractive to the roadway user beyond the existing residents and businesses immediately served by the route. The total length of the route is 1.8 miles, and runs from the East Frontage Road (west) to Houbolt Road (east), and includes an adverse distance of approximately 0.4 miles due to the northeasterly jog of Rock Run Drive, between County Farm Road and McDonough Street. Both County Farm Road and Rock Run Drive are under the jurisdiction of Troy Township while McDonough Street is under the jurisdiction of the City of Joliet. Both County Farm Road and Rock Run Drive are two-lane rural roadways with no visible shoulders. McDonough Street is a two-lane roadway with curb and gutter on the north side and either shoulder on the south side (Rock Run Drive to Airport Road) or curb and gutter (Airport Road to Houbolt Road). The proposed improvements for EW-1/1A/1B roadways all have a proposed three-lane cross section, and all include a new roundabout to be constructed at the intersection of Rock Run Drive and County Farm Road (currently one-way stop controlled). Alternatives EW-1 and EW-1A introduce a realigned configuration and one-way stop controlled T-intersection at Rock Run Drive and McDonough Street, while EW-1B incorporates a roundabout at the intersection of Rock Run Drive and McDonough Street in its existing intersection location.

Based on the travel demand modeling, the projected 2040 average daily traffic on the EW-1/1A/1B route is highly dependent on the interchange configuration alternative (I-1, I-2 or I-6) and whether or not a bridge over I-55 connecting Seil Road and County Farm Road is constructed. Alternative EW-1/1A/1B when combined with interchange alternatives I-1 or I-2 results in an increase from 4,000 ADT (2040 no-build) to 7,000 ADT along the EW-1/1A/1B corridor. In comparison, when alternative EW-1/1A/1B is combined with interchange alternative I-6 and a bridge is constructed connecting Seil Road to County Farm Road the ADT along the route increases from 4,000 vehicles per day to 10,900 vehicles per day. Conversely, when alternative EW-1/1A/1B is combined with interchange alternative I-6 and no bridge is constructed between Seil Road and County Farm Road, average daily traffic only increases over the no-build scenario by 400 vehicles per day.

The single-lane roundabouts proposed under alternative EW-1B can accommodate the additional traffic demand for the 2040 build volumes with adequate capacity when a bridge is constructed connecting Seil Road and County Farm Road. Roundabouts are recommended to remove the existing one-way and all-way stops along the east-west route. Roundabouts were also selected to keep traffic moving along the route due to the heavy left and right turning traffic volumes at these intersections with minimal other traffic conflicts. Another option of stopping only the minor leg of the intersection was explored, but sight distance issues and the potential confusion to motorists of which intersection leg is required to stop could lead to potential crashes; therefore, the single-lane roundabout was selected as the best option for traffic operations and safety while minimizing impacts to adjacent properties and the forest preserve.

East-West Connector EW-6

The east-west connector EW-6 utilizes existing Olympic Boulevard, from Houbolt Road westward to its present termination, east of the Rock Run waterway. It is a wide, local two-lane street serving a light industrial/business park area. The proposed roadway incorporates a three-lane cross section, and extends Olympic Boulevard westward to the I-55 East Frontage Road, a distance of approximately 0.75 miles.

The projected 2040 average daily traffic on the route is anticipated to increase from 7,000 vehicles per day (no-build) to 15,000 vehicles per day with the build connection. The two-lane roadway with a left turn lane in the median can accommodate the anticipated traffic demand. Key intersections along the route include Houbolt Road / Olympic Boulevard, Centennial Drive / Olympic Boulevard and Crossroads

Boulevard / Olympic Boulevard. The capacity analysis results by intersection movement are summarized in **Exhibit G**.

The signalized intersection at Houbolt Road and Olympic Boulevard requires capacity improvements with the extension of Olympic Boulevard due to the increased traffic demand on the turning movements anticipated at this location. Recommended improvements include widening Houbolt Road to provide northbound dual left-turn lanes with the storage length maximized to the adjacent south intersection (Rock Creek Boulevard) to contain the left turning vehicle queues. New northbound and southbound right turn lanes are also proposed on Houbolt Road. On the Olympic Boulevard eastbound approach, dual left-turn lanes, a through lane and a free-flow right turn lane are proposed. The free-flow right turn lane from this intersection adds a third through (auxiliary) lane southbound on Houbolt Road to connect to the planned diverging diamond interchange at I-80 and Houbolt Road. With these improvements, the intersection movements are anticipated to operate acceptably with LOS D or better.

The existing T-intersection of Centennial Drive and Olympic Blvd is unsignalized with a one-way stop on the Centennial Drive approach. Centennial Drive serves as a primary access point to Joliet Junior College. The proposed geometrics include a southbound right and left turn lane, eastbound left turn lane and through lane, westbound right turn lane and through lane. The westbound, right through lane terminates into a mandatory right turn lane at Centennial Drive to facilitate the heavy right turning college traffic during the morning hours. As traffic volumes on Olympic Boulevard continue to increase with the proposed extension, gaps in cross traffic will be reduced causing additional delays to the Centennial Drive approach. By 2040, the left turn movement will operate unacceptably (LOS F) during the PM peak hour. A traffic signal will likely be warranted at this location and is recommended for installation in the future to return the Centennial Boulevard approach back to an acceptable level of service. A distance of 1000 feet between Houbolt Road and Centennial Drive is adequate to accommodate the anticipated queue lengths resulting from both traffic signals. The 2040 build EW-6 levels of service for both the existing intersection control (one-way stop) and a traffic signal are summarized in the capacity analysis tabled included in **Appendix D.**

The Olympic Boulevard extension creates a T-intersection with Crossroads Boulevard, a minor street located in the existing light industrial park. A one-way stop control on Crossroads Boulevard is being proposed. Crossroads Boulevard approach is anticipated to operate with acceptable traffic operations (LOS C or better) for the AM and PM peak hours.

4.3 Capacity Improvement Alternatives

2040 no-build traffic operations indicate an increasing number of failing locations where future and existing traffic exceed the capacity of the existing roadway network. These locations are summarized below in **Figure 4.3**. The alternatives in this category were targeted to address capacity deficiencies on existing routes, either as a stand-alone improvement or in tandem with the interchange and east-west connector improvements.

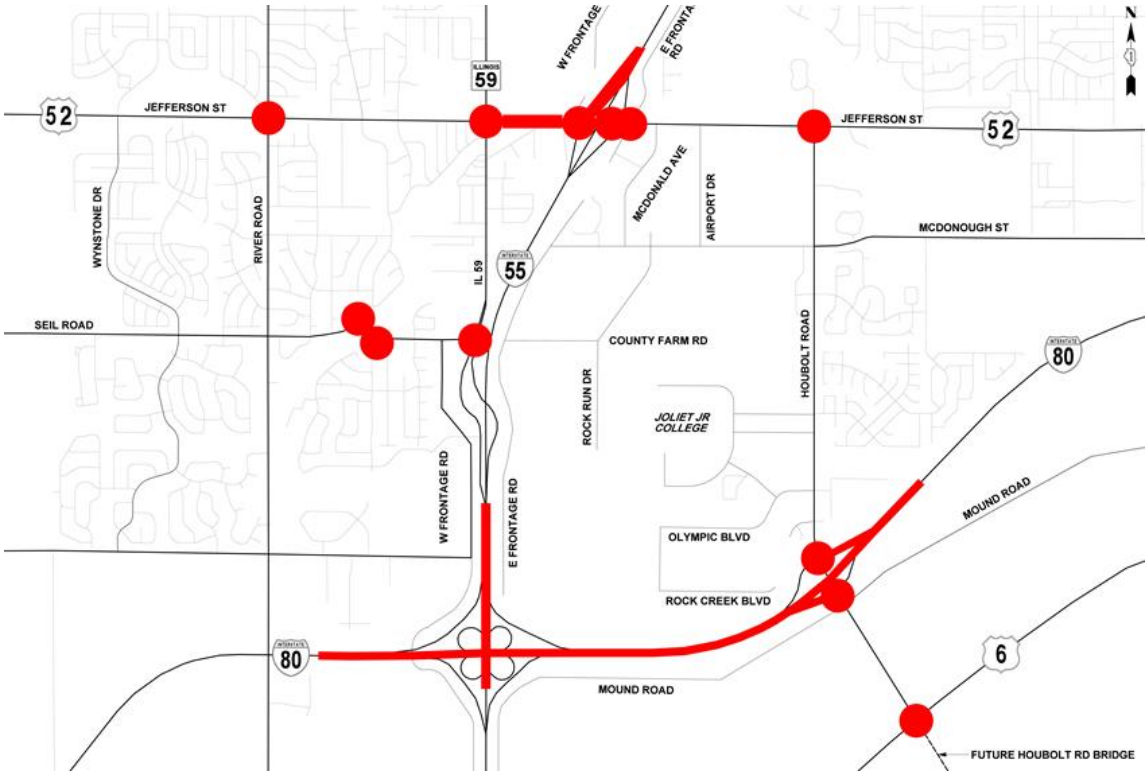


Figure 4.3 Unacceptable Traffic Operations within the study area (2040 No-Build)

Seil Road (S-1, S-1A, S-2, S-2A and S-3)

Seil Road is classified as a major collector and is a two-lane street serving primarily a residential corridor west of I-55 and is under the jurisdiction of the Village of Shorewood. The proposed roadway for alternatives S-1, S-1A, S-2, S-2A transitions from a three-lane cross section (west of I-55) to a two-lane roadway. Approaching the bridge carrying Seil Road over the DuPage River, there are existing all-way stop controlled intersections with poor operational levels of service. The all-way stop control exists because of the limited sight distance at the intersections due to the existing roadway alignment and bridge location. Alternatives S-1 and S-1A incorporate the construction of mini-roundabouts at Raven Road and States Lane to provide continuous and improved traffic flow at these locations. Alternatives S-2 and S-2A incorporate traffic signals at these two intersections to improve traffic flow. Alternative S-3 is an add-lane improvement providing a four-lane cross-section on Seil Road, between River Road and IL 59.

Capacity analyses results for the intersections of Seil Road / Raven Road and Seil Road / States Lane are summarized in **Appendix D**, for alternatives S-1, S-2 and S-3. The traffic signal option results in the most delay for the intersections of the three alternatives primarily due to lost time required to service the minor movements. The add-lane alternative with minor stop control (S-3) allows Seil Road to be free-flow and eliminates all delay for the major street; however, this alternative results in higher delays for the minor streets (LOS D or better) when compared with the roundabout option. The roundabout (S-1 alternative) maintains acceptable operations for all approaches at LOS C or better for both time periods and does not require any additional turn lanes or bridge reconstruction over the DuPage River. In conclusion, all three alternatives provide acceptable levels of service for the anticipated traffic growth

through the year 2040. Of the three alternatives, alternative S-1 provides acceptable levels of service with the best balance of operations for all movements with the smallest roadway footprint.

US 52 Capacity Improvements

US 52 is an existing four-lane route under the jurisdiction of the Illinois Department of Transportation (IDOT), and functionally classified as an Other Principal Arterial. One exception is the section between River Road and IL 59 which currently is a two-lane roadway with center turn lane. US 52 is the only route that provides an I-55 crossing with interchange access between US 6 and US 30, a distance of 9.2 miles. Both existing and future levels of service along US 52 at several intersections either are unacceptable or will become unacceptable without capacity improvements. Improvements noted include the introduction of a raised median, providing access control. The added access control would restrict left-turn movements and is expected to improve safety on a route with noted high crash severity history. The US 52 section between River Road and IL 59 is proposed to be expanded to a four-lane cross-section with a left turn lane in the median.

The intersection of US 52 and IL 59 is especially noted as a location with unacceptable levels of service. Queues during the PM peak hour extend well into and beyond the I-55 / US 52 interchange; this results in blockage of the signalized intersections at the I-55 at US 52 interchange ramps. This queue spillover then extends onto the I-55 southbound exit ramp onto the southbound I-55 mainline. The IL 59 intersection is proposed to be improved with dual left turn lanes and addition of right turn lanes on each approach. To keep westbound US 52 queues manageable and out of the I-55 / US 52 interchange area, a third westbound auxiliary lane (mandatory right turn lane) is also being proposed. The 2040 no-build and build traffic operations and levels of service are provided graphically in **Exhibit E** and **Exhibit G**, respectively. Generally, traffic operations are greatly improved with the capacity improvements (build condition) over the no-build condition. All through movements are anticipated to operate at LOS D or better with some of the left turning movements operating at LOS E. Level of service design exceptions will be required at this location. A third through lane in each direction on all four approaches to eliminate the level of service design exception is not feasible for the following reasons: impacts to adjacent commercial and residential properties, impacts to the Hammel Woods Forest Preserve and would require reconstruction of the IL 59 Bridge over the DuPage River.

The US 52 alternative includes modifications/improvements to the existing diamond interchange by providing additional turn lanes on both exit ramps and additional lead-in left turn storage on US 52 to prevent queue spillover from blocking the through lanes. An additional westbound right turn lane is provided between the US 52 / I-55 North Ramps and US 52 / East Frontage Road intersections to prevent queues from blocking the adjacent intersections. Turn lanes are also being recommended at the I-55 / East Frontage Road intersection on the Frontage Road approaches to improve channelization and capacity. The 2040 no-build and build traffic operations and levels of service for the three signalized intersections located within the I-55 / US 52 interchange area: US 52 / I-55 South Ramps, US 52 / I-55 North Ramps and US 52 / East Frontage Road is provided graphically in **Exhibit E** and **Exhibit G**. Generally, traffic operations are improved in the build condition with all the intersection movements operating at LOS D or better during both peak hours.

At Houbolt Road / US 52 intersection capacity improvements are also recommended, which include westbound dual-left turn lanes and an additional northbound and eastbound right turn lane. **Exhibit E and Exhibit G** summarize the 2040 no-build and build traffic operations and levels of service, respectively, for the intersection. Similarly, traffic operations are improved under the build condition with all intersection movements on US 52 to operate at LOS C or better during the peak hours. The Houbolt Road approaches will operate with LOS D or better in the future build condition during the peak hours.

As previously mentioned, part of the capacity improvements on US 52 include the addition of a through lane between River Road and just west of IL 59. This additional lane will provide additional capacity. The additional through lane will pass through the River Road and Brookshore Drive signalized intersections, which will also provide additional intersection capacity. **Exhibit E and Exhibit G** summarize the 2040 no-build and build traffic operations and levels of service, respectively, for these intersections. The majority of movements are anticipated to operate acceptably with LOS D or better for both peak hours. One exception is the northbound River Road through movement during the PM peak hour that would operate at LOS E and require a design exception.

5. Environmental Resource Impact Analysis

As shown on the environmental inventory map included in **Exhibit H**, there are several environmental resource areas within the study area including: Colvin Grove Forest Preserve, Hammel Woods Forest Preserve (see **Exhibit I**), Joliet Junior College Natural Areas and Trails, the Rock Run Greenway Trail (see **Exhibit J**), DuPage River and Rock Run waterways and associated floodplains and wetlands. The study area borders Woodlawn Memorial Cemetery, includes multiple Village of Shorewood Parks, and the Joliet Municipal Airport, owned by the Joliet Park District. A hanger on the airport is listed on the National Register of Historic Places.

During the screening process increasing levels of evaluation were performed to analyze avoidance and minimize impacts to these environmental resources as the study progresses and alternatives were carried forward. Impacts to resources were calculated and were presented in matrix form for comparison. Wetland impacts have been computed from field determinations performed by INHS in 2017 and 2018. The wetland determination report for areas performed in 2018 is expected to be issued by October 2018. GIS shapefiles received from INHS for the 2018 field studies are utilized in the evaluation and quantification of impacts in this report.

The environmental resource impact matrices are provided in **Figure 5.1** through **Figure 5.4** for each of the alternative categories from the Alternatives Carried Forward report.

I-55 at IL 59 Access Project — **I-55 / IL 59 Interchange Alternatives Screening Matrix (I-Designations)** — Illinois Department of Transportation — JOLIET

	Traffic Operations / BDE Geometrics		Major Utilities Impacts	Environmental									Cost
				Social and Economic		Water Resources				Natural Resources	Section 4F Properties	Agri-cultural	
Alternative Description	Geometric Concerns	Traffic Operations / LOS	(Electrical Substations, Transmission Lines, Major Pipelines, etc.)	Potential Residential Displace-ments	Potential Business Displace-ments	Fen*	Total Wetlands**	Flood Plains	Rivers, Creeks, and Tributaries Crossings (In-Stream Work)	Prairie/Savannah Restoration Area*	Forest Preserves, Park, Park District	Farmlands	
I-1 Directional Ramps with C-D Road	New Traffic Signal on IL 59 SRA (approx. 1/4 Mile min spacing); 1/2 Mile Preferred Additional Delay for IL 59	SB Exit Ramp to IL 59 Short Storage Length and Sharp Curve (From Colletor-Distributor Road)	Potential Pipelines Conflicts near I-55 Collector-Distributor Bridge	0	0	No Fen Impacts	Approx. 2.4 to 2.5 acre Impact	None	None	None	Approx. 0.0 to 0.1 Acre Impact Shorewood Park	Approx. 3.4-3.5 Acre Impact	$$$
I-2 New North Directional Ramps Only with I-55 Southbound Exit Ramp Flyover	Closely spaced signalized intersections along Seil Road / County Farm Road at IL 59 and East Frontage Road / N-S Connector. Southbound flyover exit ramp curve has a low design speed.	Simplified Access with normal intersection configurations (reduces potential for wrong-way entry)	Potential Impacts to Pipeline Above Ground Facilities (Expansion Area)	0	Access Impacts to Business Driveways	No Fen Impacts	Approx. 1.5 to 1.6 acre Impact	None	None	None	None	Approx. 1.4-1.5 Acre Impact	$$
I-6 Extend IL 59 into DDI Configuration			Avoids Pipeline Above Ground Facilities Nearby; Underground Pipelines in the vicinity	0	0	No Fen Impacts	Approx. 1.4 to 1.5 acre impact	None	None	None	None	Approx. 0.9-1.0 Acre Impact	$$

LEGEND

DENOTES CONDITIONS WITH MINIMAL ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH MODERATE ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH GREATER ANTICIPATED IMPACTS

*** Known Federally Listed Threatened and Endangered Species Next To Fen**

**** Total Wetlands Impact Area includes the Fen Impact Area if applicable**

Figure 5.1 Interchange Alternatives Evaluation Screening Matrix

East-West Connector Alternatives Screening Matrix (EW-Designations)

	Traffic Operations / BDE Geometrics		Major Utilities Impacts	Environmental									Cost
				Social and Economic		Water Resources				Natural Resources	Section 4F Properties	Agricultural	
Alternative Description	Geometric Concerns	Traffic Operations / LOS	(Electrical Substations, Transmission Lines, Major Pipelines, etc.)	Potential Residential Displace-ments	Potential Business Displace-ments	Fen*	Total Wetlands**	Flood Plains	Rivers, Creeks, and Tributaries Crossings (In-Stream Work)	Prairie/Savannah Restoration Area*	Forest Preserves, Park, Park District	Farmlands	
EW-1 Improve McDonough Street		Allows for better east-west roadway continuity. McDonough Street becomes the through route with minimal delays.	No Major Utilities Impacted	0	0	No Fen Impacts	Approx. 0.1 - 0.2 acre impact	Existing Crossings	YES (Existing Roadway)	None	Approx 1.8-1.9 Acre Impact Colvin Grove Forest Preserve	Approx. 1.3-1.4 Acre Impact	$$
EW-1A Improve McDonough Street (Avoid Forest Preserve)		Allows for better east-west roadway continuity. McDonough Street becomes the through route with minimal delays.	No Major Utilities Impacted	1	0	No Fen Impacts	Approx. 0.1 - 0.2 acre impact	Existing Crossings	YES (Existing Roadway)	None	Approx 0.4-0.5 Acre Impact Colvin Grove Forest Preserve	Approx. 4.1-4.2 Acre Impact	$$
EW-1B Improve McDonough Street and Rock Run Drive (Roundabout Intersection)		Does not provide a freeflow east-west route. Requires vehicles to slow at roundabout and incur delay compared to free-flow options.	No Major Utilities Impacted	0	0	No Fen Impacts	Approx. 0.1 - 0.2 acre impact	Existing Crossings	YES (Existing Roadway)	None	Approx 0.2-0.3 Acre Impact Colvin Grove Forest Preserve	Approx. 1.2-1.3 Acre Impact	$
EW-6 Olympic Blvd Extension		Scenario with I-1,I-2 Interchange Only without Northern EW improvement and No Mound Road Bridge results in E Frontage Rd Experiencing Traffic Increase & Poor LOS at US 52. I-6 does not require EW-1/1A/1B alternative. East-West Connection made from southern Houbolt Road to Seil Road with EW-6.	No Major Utilities Impacted	0	0	No Fen Impacts	Approx. 0.3 - 0.4 acre impact	1 New Crossing	YES (New Roadway)	None	None Lower Rock Run Preserve through Existing Rock Run Conservation Easement for Transportation Purposes	None	$$

LEGEND

DENOTES CONDITIONS WITH MINIMAL ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH MODERATE ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH GREATER ANTICIPATED IMPACTS

* Known Federally Listed Threatened and Endangered Species Next To Fen

** Total Wetlands Impact Area includes the Fen Impact Area if applicable

Figure 5.2 East-West Connector Alternatives Evaluation Screening Matrix

I-55 at IL 59 Access Project

Seil Road Alternatives Screening Matrix (S-Designations)

Illinois Department of Transportation JOLIET

	Traffic Operations / BDE Geometrics		Major Utilities Impacts	Environmental									
				Social and Economic		Water Resources				Natural Resources	Section 4F Properties	Agricultural	Cost
Alternative Description	Geometric Concerns	Traffic Operations / LOS	(Electrical Substations, Transmission Lines, Major Pipelines, etc.)	Potential Residential Displace-ments	Potential Business Displace-ments	Fen*	Total Wetlands**	Flood Plains	Rivers, Creeks, and Tributaries Crossings (In-Stream Work)	Prairie/Savannah Restoration Area*	Forest Preserves, Park, Park District	Farmlands	
S-1 **Seil Road at DuPage River** **Mini-Roundabouts**	Mini Roundabout Fail when ADT Exceeds 20,800 (LOS E on Seil Rd)	Mini Roundabouts reduce traffic speeds at sharp curves due to existing bridge alignments. Better safety benefits and less conflict points when compared with Traffic Signal Option.	Shorewood Existing Lift Station Seil and States	0	0	No Fen Impacts	None	1 Existing Crossing	YES (Existing Bridge Alignment)	None	Approx 0.2 to 0.3 Acre Impact Seil Road Park	None	$
S-1A **Seil Road at DuPage River** **Mini-Roundabouts with New Bridge**	Mini Roundabout Fail when ADT Exceeds 20,800 (LOS E on Seil Rd)	Mini Roundabouts reduce traffic speeds at sharp curves due to existing bridge alignments. Better safety benefits and less conflict points when compared with Traffic Signal Option.	Avoids Impacts to Existing Shorewood Existing Lift Station Seil and States	0	0	No Fen Impacts	Approx 0.0 to 0.05 Acre Impact	1 Existing Crossing (Larger Bridge)	YES (New Bridge Alignment)	None	Approx 0.5 to 0.6 Acre Impact Seil Road Park	None	$$$
S-2 **Seil Road at DuPage River** **Traffic Signals**		Traffic signals do not reduce speeds, have more conflict points and could lead to potential higher severity crashes when compared to mini-roundabout options.	Shorewood Existing Lift Station Seil and States	0	0	No Fen Impacts	None	1 Existing Crossing	YES (Existing Bridge Alignment)	None	Approx 0.4 to 0.5 Acre Impact Seil Road Park	None	$$
S-2A **Seil Road at DuPage River** **Traffic Signals**		Traffic signals do not reduce speeds, have more conflict points and could lead to potential higher severity crashes when compared to mini-roundabout options.	Avoids Impacts to Existing Shorewood Existing Lift Station Seil and States	0	0	No Fen Impacts	Approx 0.0 to 0.05 Acre Impact	1 Existing Crossing (Larger Bridge)	YES (New Bridge Alignment)	None	Approx 0.6 to 0.7 Acre Impact Seil Road Park	None	$$$
S-3 **Bridge Realignment** **(Free-Flow Seil Road)**		Keeps Seil Road Traffic Free-Flow, LOS Acceptable But also creates a large "induced traffic demand" through residential area with high ADT values.	Avoids Impacts to Existing Shorewood Existing Lift Station Seil and States	0	0	No Fen Impacts	Approx 0.05 to 0.1 Acre Impact	1 Existing Crossing (Larger Bridge)	YES (New Bridge Alignment)	None	Approx 0.8 to 0.9 Acre Impact Seil Road Park	None	$$$

LEGEND

DENOTES CONDITIONS WITH MINIMAL ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH MODERATE ANTICIPATED IMPACTS

DENOTES CONDITIONS WITH GREATER ANTICIPATED IMPACTS

*** Known Federally Listed Threatened and Endangered Species Next To Fen**

**** Total Wetlands Impact Area includes the Fen Impact Area if applicable**

Figure 5.3 Seil Road Capacity Improvement Alternatives Evaluation Screening Matrix

US 52 (Jefferson Street) Alternatives Screening Matrix

Alternative Description	Traffic Operations / BDE Geometrics		Major Utilities Impacts	Environmental									Cost
				Social and Economic		Water Resources				Natural Resources	Section 4F Properties	Agricultural	
	Geometric Concerns	Traffic Operations / LOS	(Electrical Substations, Transmission Lines, Major Pipelines, etc.)	Potential Residential Displace-ments	Potential Business Displace-ments	Fen*	Total Wetlands**	Flood Plains	Rivers, Creeks, and Tributaries Crossings (In-Stream Work)	Prairie/Savannah Restoration Area*	Forest Preserves, Park, Park District	Farmlands	
US 52 IL 59 to Houbolt Road - Modify Existing Diamond Interchange at I-55 - Install raised, barrier median / access control - IL 59 and US 52 Intersection Improvement - 52 Intersection Improvements - End Improvement west of IL 59 / meet existing 3-lane cross section.	US 52 west of IL 59 Average Daily Traffic Warrants a Four-Lane Roadway for its roadway functional classification.	Improves intersection capacity at US 52 and IL 59 and the I-55 / US 52 interchange. 2040 No Build traffic deficiencies remain west of IL 59.	No Major Utility Impacts Anticipated	0	1	No Fen Impacts	Approx. 0.3 to 0.4 Acre Impact	YES Existing Crossing at DuPage River and IL 59	YES Existing Crossing at DuPage River and IL 59	None Anticipated	Approx. 0.6 to 0.7 Acre Impact Hammel Woods Forest Preserve and Rock Run Preserve	None	$$
US 52 River Road to Houbolt Road - Widen US 52 to 4 Lanes between River Rd and IL 59 - Modify Existing Diamond Interchange at I-55 - Install raised, barrier median / access control - IL 59 and US 52 Intersection Improvement - 52 Intersection Improvements		Improves intersection capacity at US 52 and IL 59 and the I-55 / US 52 interchange. No Build LOS deficiencies along US 52 between River Road and Houbolt Road virtually eliminated with these improvements.	Existing Pipelines Crossing US 52 East of Raven Road	0	1	No Fen Impacts	Approx. 0.3 to 0.4 Acre Impact	YES Crossing at DuPage River	YES Existing Crossing at DuPage River and IL 59	None Anticipated	Approx. 0.6 to 0.7 Acre Impact Hammel Woods Forest Preserve and Rock Run Preserve	None	$$$

LEGEND

- DENOTES CONDITIONS WITH MINIMAL ANTICIPATED IMPACTS
- DENOTES CONDITIONS WITH MODERATE ANTICIPATED IMPACTS
- DENOTES CONDITIONS WITH GREATER ANTICIPATED IMPACTS

* Known Federally Listed Threatened and Endangered Species Next To Fen

** Total Wetlands Impact Area includes the Fen Impact Area if applicable

Figure 5.4 US 52 Capacity Improvement Alternatives Evaluation Screening Matrix

6. Summary of Environmental Resources Impact Analysis by Criteria

Natural resource surveys were conducted including: wetland delineations, a three parameter water quality survey, which includes fish, macroinvertebrate and water quality characterizations, as well as specific surveys for the Eastern Prairie Fringed Orchid (Platanthera Leucopheaea) and Blanding's Turtle. The final INHS Wetland Determination Report (Addendum A) is dated July 2018. The results of the surveys are incorporated in this document and the final reports have been completed with the exception to the following: Eastern Prairie Fringed Orchid report, aquatic macroinvertebrates and water quality characterizations report, which are all anticipated by October 31, 2018. No Eastern Prairie Fringed Orchid presence was identified during field surveys, and no Blanding's Turtle was found according to the report received on July 16, 2018.

6.1 Environmental Impacts

Environmental resources for the build alternatives for each criterion are described below:

Social and Economic

Potential residential and business displacements were evaluated with each of the alternatives and are reflected in the matrices.

- For alternatives within the interchange alternative category, there are no anticipated displacements.
- For alternatives within the east-west connector alternative category, Alternative EW-1A has one anticipated potential displacement.
- For alternatives within the capacity Improvements, the US 52 alternative has one anticipated potential displacement.

Water Resources

INHS has examined all potential wetlands within the project study area. A total of 109 wetland sites have been confirmed as meeting the criteria of wetlands; of those, 18 were deemed as High Quality Aquatic Resources (HQAR).

Calculated impacts to wetlands for the alternatives carried forward for each alternative category that have been surveyed to date are summarized in **Table 6.1**.

Table 6.1 Estimated Wetland Impacts for Alternative Categories

Interchange Alternative	Impacted Wetlands
No-Build	0 acres
I-1	2.5 acres
I-2	1.6 acres
I-6	1.5 acres

East-West Connector Alternatives	Impacted Wetlands
No-Build	0 acres
EW-1	0.2 acres
EW-1A	0.2 acres
EW-1B	0.2 acres
EW-6	0.4 acres

Capacity Improvement Alternatives (Seil Road)	Impacted Wetlands
No-Build	0 acres
S-1	0 acres
S-1A	0.05 acres
S-2	0 acres
S-2A	0.05 acres
S-3	0.10 acres

Capacity Improvement Alternatives (US 52)	Impacted Wetlands
No-Build	0 acres
US 52 Improvement from IL 59 to Houbolt Road	0.4 acres
US 52 Improvement from River Road to Houbolt Road	0.4 acres

Floodplains were identified and evaluated using FEMA Flood Insurance Rate Maps (see **Appendix E**). Floodplains are associated with both the DuPage River and the Rock Run, and their associated tributaries. Anticipated floodplain crossing/encroachments are as follows:

- For alternatives within the interchange alternative category, there are no anticipated crossings/encroachments.
- For alternatives within the east-west connector alternative category, Alternative EW-1, EW-1A and EW-1B all have similar conditions with existing crossings via bridge, which may require minor widening. Alternative EW-6 proposes a new crossing of the Rock Run floodplain and would be via bridge structure to minimize impacts to the floodplain. A past conservation easement was granted by the Forest Preserve District of Will County to the City of Joliet for transportation purposes. The conservation easement allows for a 66-ft wide right-of-way. The Forest Preserve has noted this past grant is applicable for this project.
- For alternatives within the capacity improvements, Seil Road Alternatives S-1, S-1A, S-2, S-2A, and S-3 all cross the DuPage River via structure. Alternatives S-1 and S-2 alternatives maintain the existing crossing structure, while S-1A and S-2A would have a realigned crossing via a new bridge structure. Alternate S-3 would have either a new bridge structure or widened structure to accommodate the add-lane improvement. The US 52 Alternatives have existing bridge crossings at both US 52 and IL 59 over the DuPage River.

Section 4(f) Lands

Section 4(f)/Public Lands were evaluated for potential impacts and are noted below:

- For alternatives within the interchange alternative category, Alternative I-1 has anticipated impacts to Shorewood Park (see **Exhibit K**).
- For alternatives within the east-west connector alternative category, Alternative EW-1 introduces a re-alignment of McDonough Street at the intersection of Rock Run Drive, which creates impacts to the northwest corner of Colvin Grove Forest Preserve. Alternatives EW-1, EW-1A and EW-1B all border Colvin Grove Forest Preserve and involve similar minor widening within these areas and profile changes to improve existing drainage conditions.
- For alternatives within the capacity improvements, Seil Road Alternatives S-1, S-1A, S-2, S-2A, and S-3 all abut Seil Road Park. Alternatives S-1 and S-2 maintain the existing bridge structure, with minimal anticipated impact to this land. Alternatives S-1A and S-2A would have a realigned crossing via new bridge structure and would impact Seil Road Park but would remove the existing roadway that severs the park. Alternate S-3 would have either a new bridge structure or widened structure to accommodate the add lanes improvement and would have the most anticipated impacts to Seil Road Park. The US 52 Alternative is adjacent to Hammel Woods Forest Preserve and the Rock Run Preserve.

Approximate calculated potential impacts to Section 4(f) properties for the alternatives carried forward are summarized in **Table 6.2** below for each alternative category.

Table 6.2 Estimated Section 4(f) Property Impacts for Alternative Categories

Interchange Alternative	Section 4(f) Impact (Shorewood Park)
No-Build	0 acres
I-1	0.1 acres
I-2	0 acres
I-6	0 acres

East-West Connector Alternatives	Section 4(f) Impact (Colvin Grove Preserve)
No-Build	0 acres
EW-1	1.9 acres
EW-1A	0.5 acres
EW-1B	0.3 acres
EW-6	0 acres

Capacity Improvement Alternatives (Seil Road)	Section 4(f) Impact (Seil Road Park)
No-Build	0 acres
S-1	0.3 acres
S-1A	0.6 acres
S-2	0.5 acres
S-2A	0.7 acres
S-3	0.9 acres

Capacity Improvement Alternatives (US 52)	Section 4(f) Impact Hammel Woods and Rock Run Preserve
No-Build	0 acres
US 52 Improvement from IL 59 to Houbolt Road	0.7 acres
US 52 Improvement from River Road to Houbolt Road	0.7 acres

Agricultural Lands

The Village of Shorewood current Land Use Plan designates less than 10% of their lands within the project study area as Agricultural/Rural Residential/Undeveloped. Their Comprehensive Long Range Plan indicates all of these properties/areas are planned for business park/office, commercial and residential land use. The City of Joliet Zoning Map does not reflect agricultural zoning within the alternative study areas, and has approximately 10% of undeveloped land within the study area.

As reflected in the alternative evaluation matrices, agricultural/farmland anticipated impacts are summarized in **Table 6.3** below.

Table 6.3 Estimated Farmland Impacts by Alternative Categories

Interchange Alternative	Impacted Farmlands
No-Build	0 acres
I-1	3.5 acres
I-2	1.5 acres
I-6	1.0 acres

East-west Connector Alternatives	Impacted Farmlands
No-Build	0 acres
EW-1	1.4 acres
EW-1A	4.2 acres
EW-1B	1.3 acres
EW-6	0 acres

Capacity Improvement Alternatives (Seil Road)	Impacted Farmlands
No-Build	0 acres
S-1	0 acres
S-1A	0 acres
S-2	0 acres
S-2A	0 acres
S-3	0 acres

Capacity Improvement Alternatives (US 52)	Impacted Farmlands
No-Build	0 acres
US 52 Improvement from IL 59 to Houbolt Road	0 acres
US 52 Improvement from River Road to Houbolt Road	0 acres

6.2 Public and Local Agency Input

The Public Involvement Plan for this project has followed the Principles of Context Sensitive Solutions (CSS). Local agencies, stakeholders and the general public have provided input throughout the study process including reviewing and providing comment on the alternatives carried forward and the preferred alternative. A brief summary of the Public and Local Agency input is provided below:

6.2.1 City of Joliet

As one of this project's co-sponsors and active member of the Project Study Group and Community Advisory Group (CAG), the City of Joliet has been represented at all one-on-one meetings with local agencies, stakeholders, at FHWA/BDE Coordination Meetings, at NEPA 404 Merger Meetings, at all Community Advisory Group meetings and at all Public Meetings. The City of Joliet has been an active participant in bi-weekly coordination meetings in which study progress and decision making are discussed.

6.2.2 Village of Shorewood

The Village of Shorewood has been represented at all Community Advisory Group meetings by multiple representatives. A total of five one-on-one Project Study Team meetings with the Village of Shorewood have occurred on the following dates to discuss progress and seek input on the project and the alternative analysis process:

- August 22, 2017
- November 7, 0217
- February 15, 2018
- March 21, 2018
- June 27, 2018

6.2.3 Troy Township

Troy Township has been represented at all Community Advisory Group meetings by multiple representatives. Three one-on-one Project Study Team meetings with the Township have occurred on the following dates to discuss progress and seek input on the project and the alternative analysis process:

- August 22, 2017
- March 20, 2018
- July 9, 2018

6.2.4 Forest Preserve District of Will County

The Forest Preserve District of Will County has been represented at all Community Advisory Group meetings by multiple representatives. Two one-on-one Project Study Team meetings with the District have occurred on the following dates to discuss progress and seek input on the project and the alternative analysis process:

- September 11, 2017
- March 26, 2018

6.2.5 Joliet Junior College

Joliet Junior College has been represented at all Community Advisory Group meetings by multiple representatives. Two one-on-one Project Study Team meetings with the Village have occurred on the following dates to discuss progress and seek input on the project and the alternative analysis process to date on:

- October 6, 2017
- February 20, 2018

6.2.6 Other Stakeholders

In addition to the above local agencies, additional one-on-one meetings have been held with the Chicago Metropolitan Agency for Planning (CMAP), Troy Township Fire Protection District, Will County Department of Land Use, the Joliet Park District, Kinder Morgan Pipeline, and Cullinan Properties.

6.2.7 Community Advisory Group

As part of the CSS process, a Community Advisory Group (CAG) was formed for this project. A summary of each community advisory group meeting is included in **Appendix F**. To date four CAG meetings have been held with their focus areas as follows:

CAG #1 was held on October 10, 2017 and included an introduction of the project, ground rules and expectations of the CAG, and workshop covering prioritized concerns and development of a Project Problem Statement.

CAG #2 was held on November 14, 2017 and included a review of the refined Project Problem Statement, introduction of the Purpose and Need Process, and workshop covering Purpose and Need elements and brainstorming of concepts to address identified needs.

CAG #3 was held on March 15, 2018 and included review of Community Context Audit responses, and introduction of the Alternatives to be Carried Forward and Screening Process. The workshop portion of the CAG was centered upon recommendation of alternatives to be carried forward and for those to be recommended for dismissal.

CAG #4 was held on July 16, 2018 and included a discussion and received stakeholder input toward recommendations for alternatives to be included in the preferred alternative.

6.2.8 General Public

To date, there have been two public meetings on this project. A more detailed summary of each public meeting are included in **Appendix F**.

The initial public meeting was held on September 14, 2017, as an introduction of the project, to present the defined study process, schedule and goals, and an opportunity for the public to meet with the Project Study Team and to share their concerns, thoughts and ideas, and to solicit stakeholder volunteers to join the Community Advisory Group. Stakeholders present were encouraged to take the on-line community context audit (project survey) and provide feedback/comments directly through the project website.

The second public meeting was held on April 11, 2018, as an opportunity for the public to preview and provide input on the alternatives; both those recommended for further study and those recommended for dismissal. Stakeholders attending the public meeting were generally appreciative of the opportunity to weigh in on the alternative analysis and provided general acceptance of the recommendations of the Project Study Team for the alternatives being recommended for further study.

7. Preferred Alternative

The Alternatives to Be Carried Forward have each been further advanced in alternative development, in terms of geometrics, traffic capacity analysis, impact evaluation and local agency / Project Study Group coordination. The recommendations for the preferred alternative are described for each alternative category separately. Interchange alternative I-6, the extension of IL 59 over I-55 into a diverging diamond interchange, has been selected as the preferred alternative for the interchange alternative category as explained below.

Interchange Alternative Category
Preferred Alternative: I-6 (Extend IL 59 over I-55 into Diverging Diamond Interchange)

- Does not impact existing Kinder Morgan Utility operations and their planned future expansion area. This is a key advantage over Interchange Alternatives I-1 and I-2.
- There is a moderate comparative construction cost when compared with the other interchange alternatives. I-1 is considerably more costly while I-2 was slightly less costly.
- Traffic Operations and level of service meet acceptable levels of operations
- Interchange alt that was most supported at CAG and Public Meeting
- Readily accommodates linkage with East-West Connector Alt EW-6.
- This interchange alternative results in a relative lower comparable cost ($71M).

Interchange Alternative I-1 is not selected as the preferred alternative for the following reasons:

- Impacts to Kinder Morgan Retention basin and expansion area
- Inadequate distance provided between signalized intersections on Seil Road / County Farm Road
- Construction of Collector-Distributor Roadway System that would impact additional environmental resources and properties when compared to the other alternatives.
- This interchange alternative results in a high comparative cost ($91M vs. $68M).

Interchange Alternative I-2 is not selected as the preferred alternative for the following reasons:

- Impacts to Kinder Morgan Retention basin and their expansion area
- Inadequate distance provided between signalized intersections on Seil Road / County Farm Road
- Weaving and rapid lane changes between signalized intersections results in less efficient operations
- Capacity analysis shows numerous level of service / operational design exceptions
- Although the cost is comparative to I-6 ($67M), the I-2 interchange does not satisfy the purpose and need of the project as well as I-6.

East-west alternative EW-6, the Olympic Boulevard extension, has been selected as the preferred alternative for the east-west connector route alternative category as explained below.

East-West Alternative Category
Preferred Alternative: EW-6 (Olympic Boulevard Extension)

- The Olympic Boulevard extension alternative does not encroach on Forest Preserved District or Joliet Junior College Natural Areas.
- This alternative utilizes existing infrastructure, an already wide, industrial street with low average daily traffic instead of introduction of new route.
- The westward extension has been planned for by the Forest Preserve District of Will County and City of Joliet Conservation Easement for transportation purposes allowing for a 66' wide right-of-way.
- All east-west alternatives south of Joliet Junior College had similar or worse environmental obstacles with the Rock Run and high quality wetlands. This alternative also provides additional separation from the planned I-80 / Houbolt Road diverging diamond interchange than alternative EW-8 (Rock Creek Boulevard).

East-west alternative EW-1 (and variations EW-1A / EW-1B) is not selected as the preferred alternative. Because alternative I-6 is the preferred interchange alternative (instead of I-1 or I-2), the travel demand modeling results indicate that alternative EW-1/1A/1B provides little to modest traffic diversion benefit (traffic rerouting from US 52). Dismissal of the EW-1 alternative (and its variations EW-1A and EW-1B) eliminates anticipated impacts including residential property displacement (Alternative EW-1A) and impacts to the Colvin Grove Forest Preserve (Alternatives EW-1/1A/1B).

Seil Road alternative S-1, mini-roundabouts at Seil Road/Raven Road and Seil Road/States Lane, has been selected as the preferred alternative for the route capacity improvement alternative category as explained below.

Capacity Improvement Alternative – Seil Road
Preferred Alternative: S-1 (Mini-Roundabouts Raven Road and States Lane)

- The mini-roundabout alternative has adequate capacity to accommodate the 2040 no-build (20,000 ADT) and build projected traffic (23,000 ADT) on Seil Road. The roundabout alternative maintains acceptable traffic operations (LOS D or better) on Seil Road until the ADT exceeds approximately 26,000 vehicles per day.
- Traffic operations and level of service meet acceptable levels of operations.
- There has been overwhelming stakeholder support received for this alternative over S-2 (traffic signals) and S-3 (add-lane).
- The mini-roundabouts better discourages illegal truck traffic along the residential collector roadway when compared with the other alternatives.
- This alternative maintains existing bridge over DuPage River.
- This alternative has the lowest overall comparable costs when compared with the other alternatives.
- The roundabout alternative does not result in induced travel demand as is the case with Alternative S-3 (add-lane) where additional traffic is attracted to the route up to +14,000 ADT over the no-build scenario.

The capacity improvement alternatives for Seil Road S-1A, 2, 2A and 3 are not selected as the preferred alternative. Alternative S-2 is not recommended as the traffic volumes on the minor streets are minimal compared with Seil Road and likely would not warrant a traffic signal. The minor streets would experience longer delay times with the traffic signal alternative. Alternative 2 also has increased initial costs for traffic signal installation and long term maintenance that are not associated with Alternative S-1. Alternative S-1A and S-2A, are variations of S-1 and S-2, with the sole difference being a new alignment approximately parallel to the existing

bridge, with increased impacts to Seil Road Park. Alternative S-3 is not recommended as it incorporates an add-lane improvement, which has greater right-of-way requirements, is more costly, causes high induced traffic demand and was unfavorably received by the public during presentations at Public Meeting #2 and CAG #4. Coordination with the Village of Shorewood is ongoing to confirm the preferred for this alternative since Seil Road is under their jurisdiction.

US 52 alternative with limits from River Road to Houbolt Road, has been selected as the preferred alternative for the route capacity improvement alternative category as explained below.

Capacity Improvement Alternative – US 52
Preferred Alternative: US 52 (Jefferson Street) From River Road to Houbolt Road

- The capacity improvements to US 52 are recommended to address existing and anticipated capacity deficiencies along US 52 between River Road and Houbolt Road due to traffic growth.
- The add-lane improvement between IL 59 and River Road is recommended to help keep average daily traffic volumes on Seil Road and Mound Road (other east-west routes) manageable as the Village of Shorewood continues to develop to the west.
- A raised median from River Road to Houbolt Road is recommended to provide additional mobility. A third through lane is not possible due to the limited right-of-way available, especially near the Hammel Woods. Better access control will limit access and improve mobility along the corridor by reducing turning conflicts and better channelizing traffic.
- The IL 59/US 52 intersection improvement with an additional westbound auxiliary lane between IL 59 and the I-55 southbound exit ramp is being recommended to keep queues manageable and prevent blockage of the I-55 interchange ramps and queue spill-over onto the I-55 mainline.
- Additional capacity and turn lanes are being recommended to improve levels of service and control queues at the I-55 / US 52 interchange.
- Additional left turn storage along US 52 for turning vehicles and lead-in storage is being recommended for inclusion into the preferred alternative to improve capacity and operations while minimizing impacts to adjacent properties with limited right-of-way.

The capacity improvement alternative for US 52 from IL 59 to Houbolt Road was not selected as the preferred alternative because it does not include capacity improvements along US 52, west of IL 59. This alternative does not provide a roadway cross-section and traffic operations consistent with a Village of Shorewood intersection improvement currently under construction at IL 59 and River Road.

The recommended preferred alternative concept plan and typical sections are included in **Appendix A** and **Appendix B**, respectively.

In conclusion, the preferred alternative for the I-55 at IL 59 Access Project includes the following category alternatives: interchange alternative I-6, east-west connector alternative EW-6, Seil Road alternative S-1 and US 52 alternative River Road to Houbolt Road. These four components of the preferred alternative act as independent transportation improvements. **Table 7.1** below summarizes the four components that are selected for the preferred alternative.

Table 7.1 Preferred Alternative Summary

Alternative Analysis Category	Selected Preferred Alternative
Interchange (I-55 / IL 59)	I-6: Extension of IL 59 into a Diverging Diamond Interchange
East-West Connector Routes	EW-6: Olympic Boulevard Extension
Route Capacity Improvements – Seil Road	S-1: Mini-Roundabouts at DuPage River
Route Capacity Improvements – Mound Road	M-0: No Build
Route Capacity Improvements – US 52 (Jefferson Street)	US 52 improvements from River Road to Houbolt Road with add-lane west of IL 59 to River Road and a modified diamond interchange at I-55 / US 52.

Preferred Alternative

Exhibits

Exhibit A – Existing and 2040 No-Build Average Daily Traffic / Roadway Functional Classification

Exhibit B – 2040 Build Average Daily Traffic

Exhibit C – Existing Hourly Traffic Volumes

Exhibit D – Projected 2040 No-Build Traffic Design Hourly Volumes

Exhibit E – Projected 2040 No-Build Levels of Service

Exhibit F – Projected 2040 Build Design Hourly Volumes

Exhibit G – Projected 2040 Build Levels of Service

Exhibit H – Environmental Inventory Map

Exhibit I – Will County Forest Preserve Properties

Exhibit J – Joliet Junior College Property Natural Areas Map

Exhibit K – Shorewood Parks and Recreation Properties

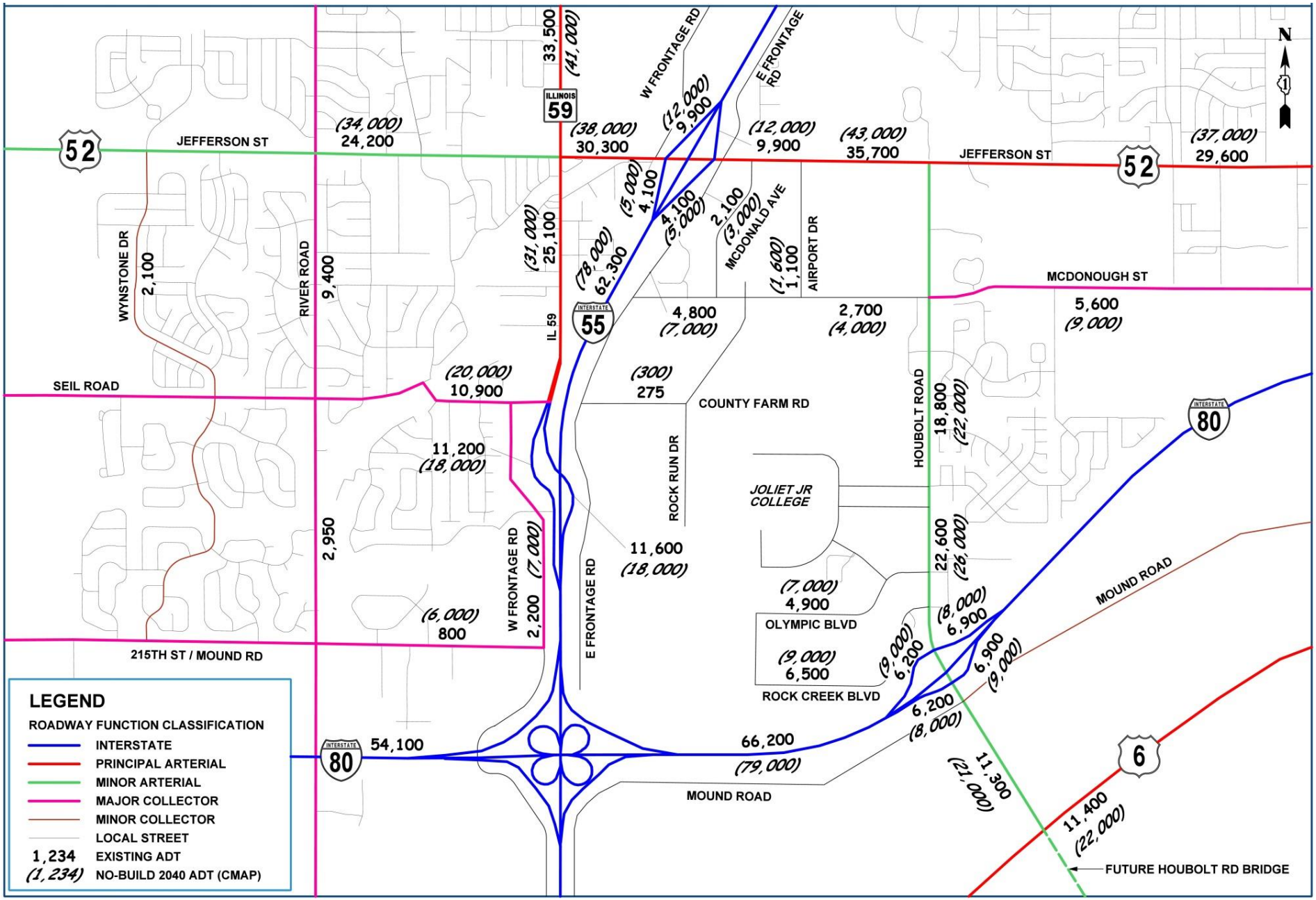


Exhibit A – Existing and 2040 No-Build Average Daily Traffic / Roadway Functional Classification

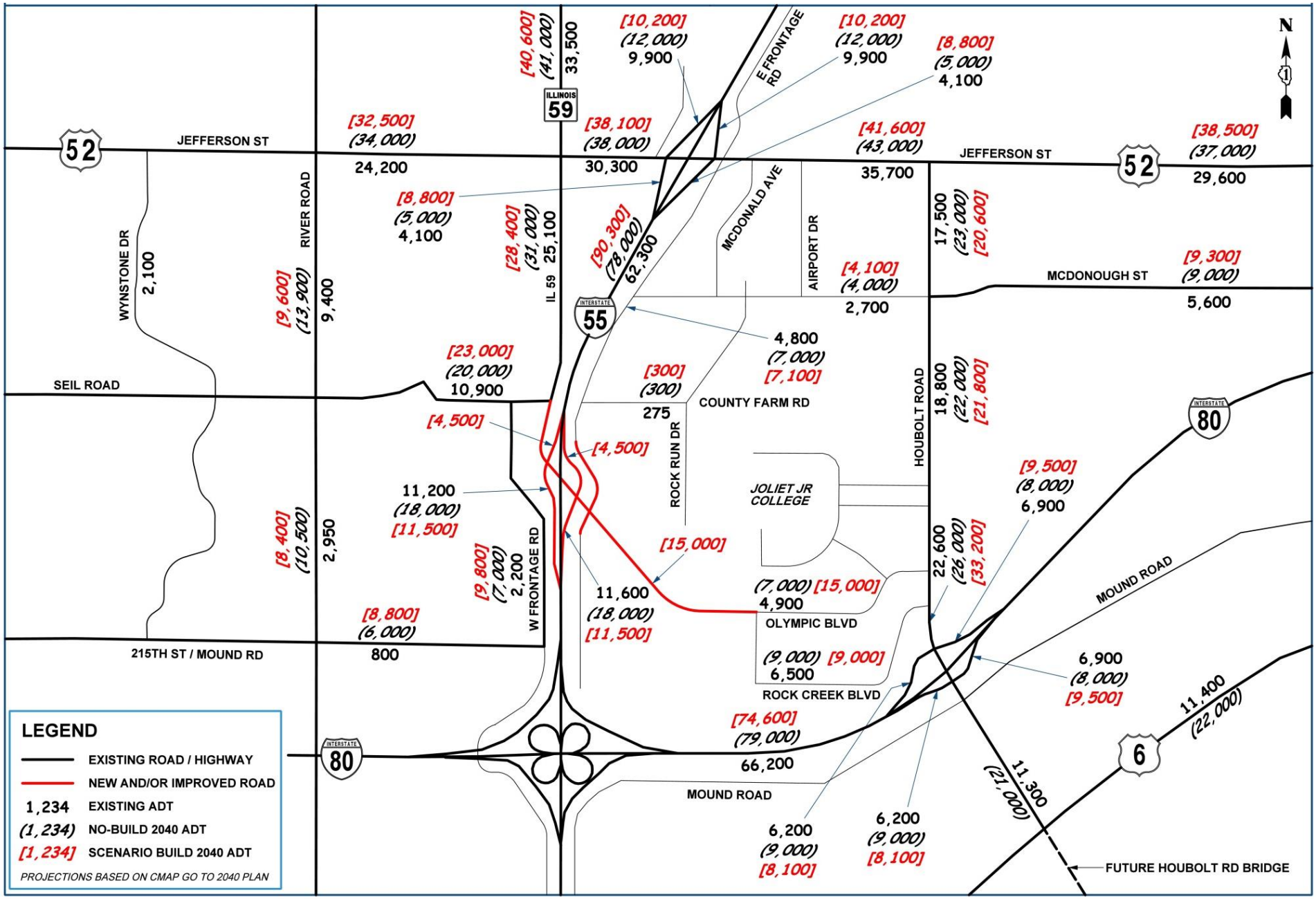


Exhibit B – 2040 Build Average Daily Traffic

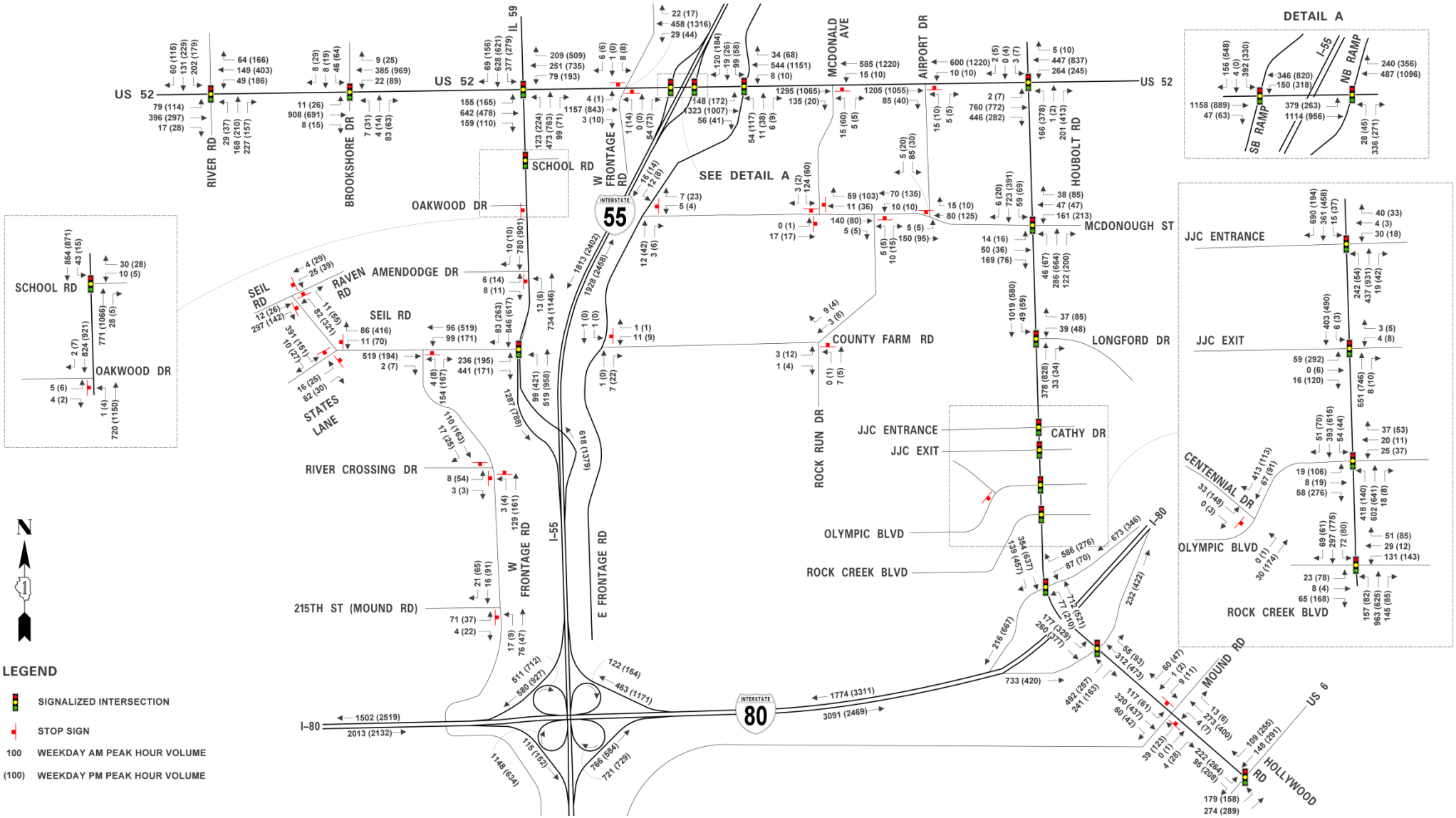


Exhibit C – Existing Hourly Traffic Volumes

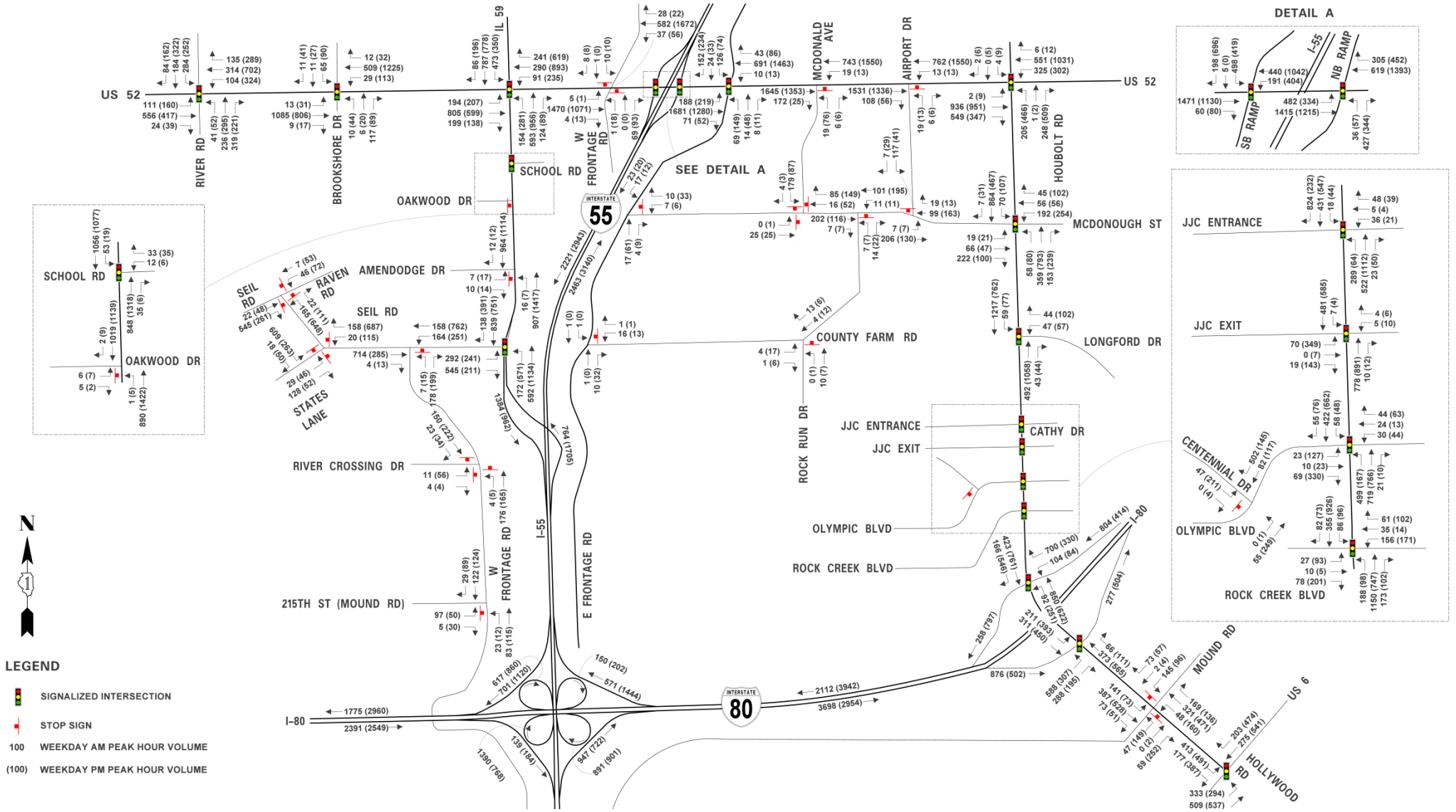


Exhibit D – Projected 2040 No-Build Traffic Design Hourly Volumes

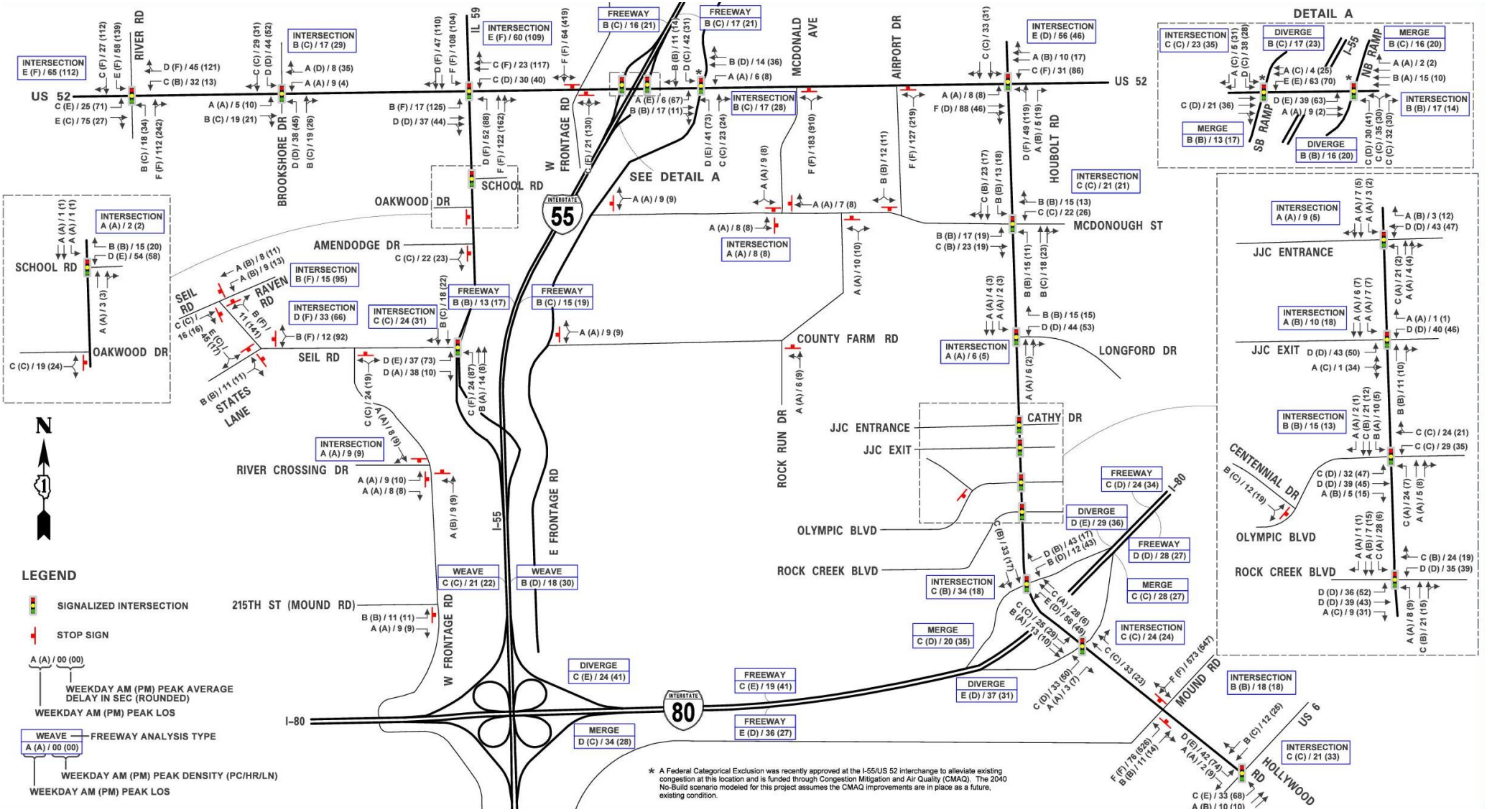


Exhibit E – Projected 2040 No-Build Levels of Service

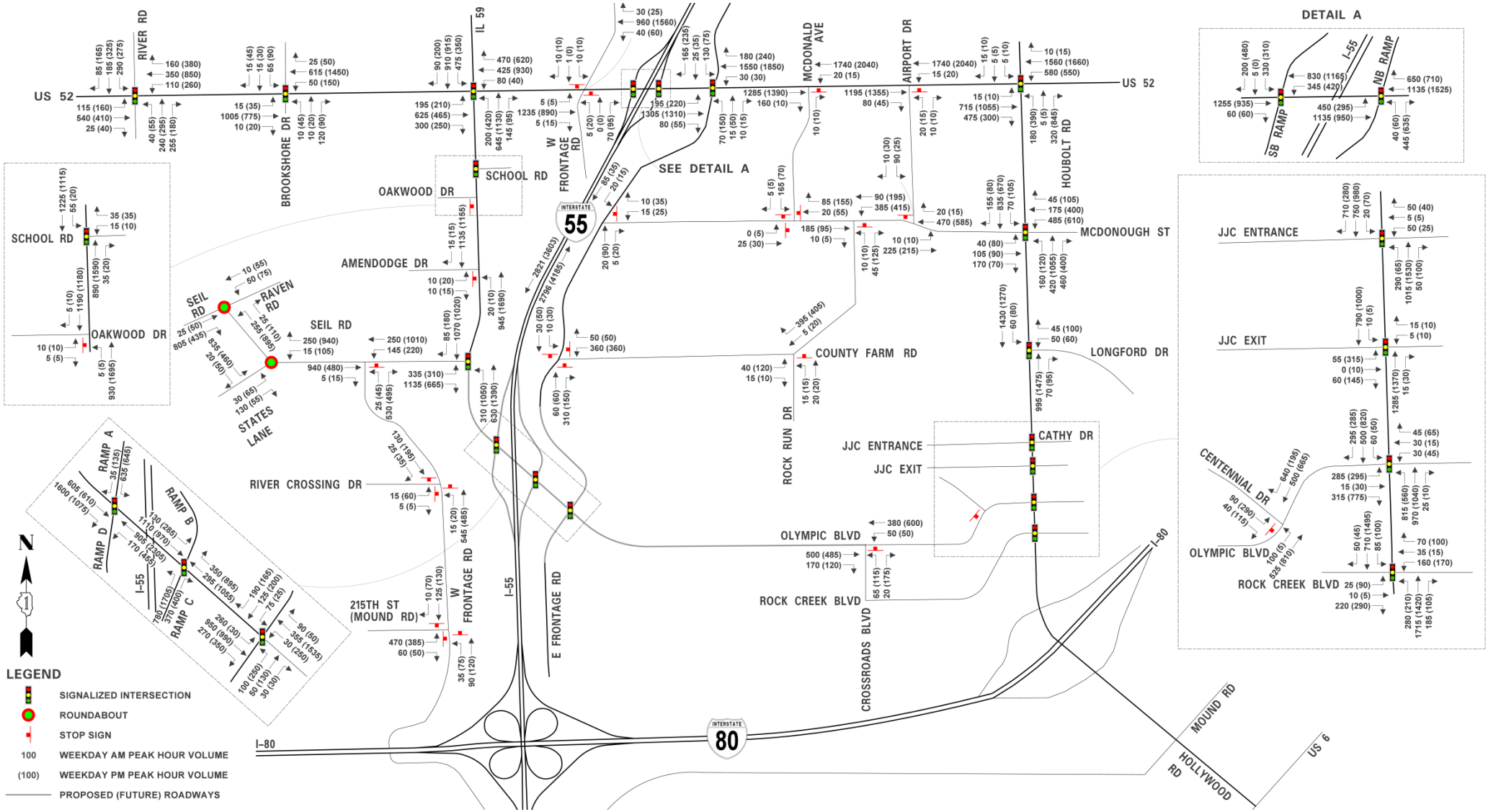


Exhibit F – Projected 2040 Build Design Hourly Volumes

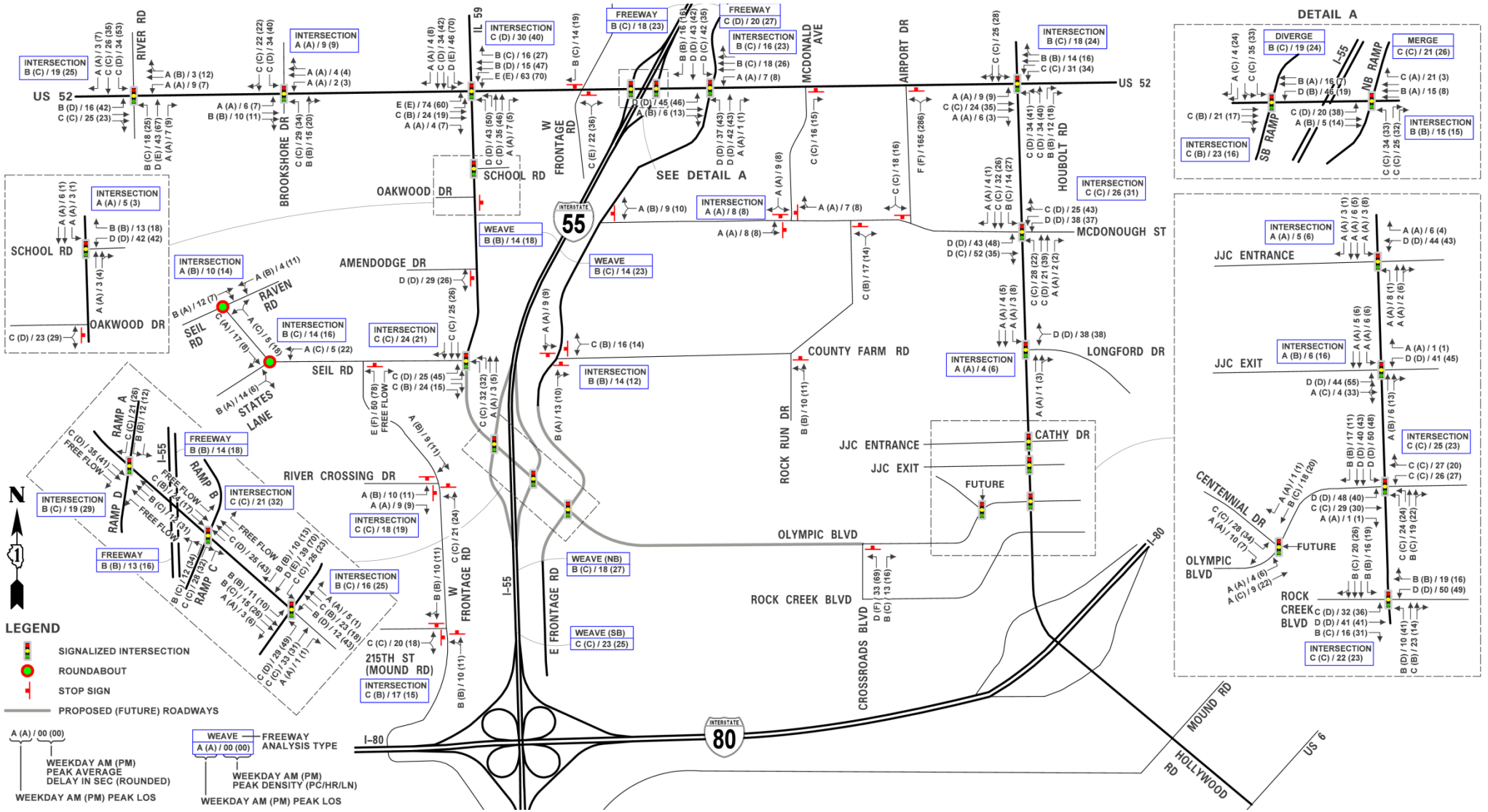


Exhibit G – Projected 2040 Build Levels of Service

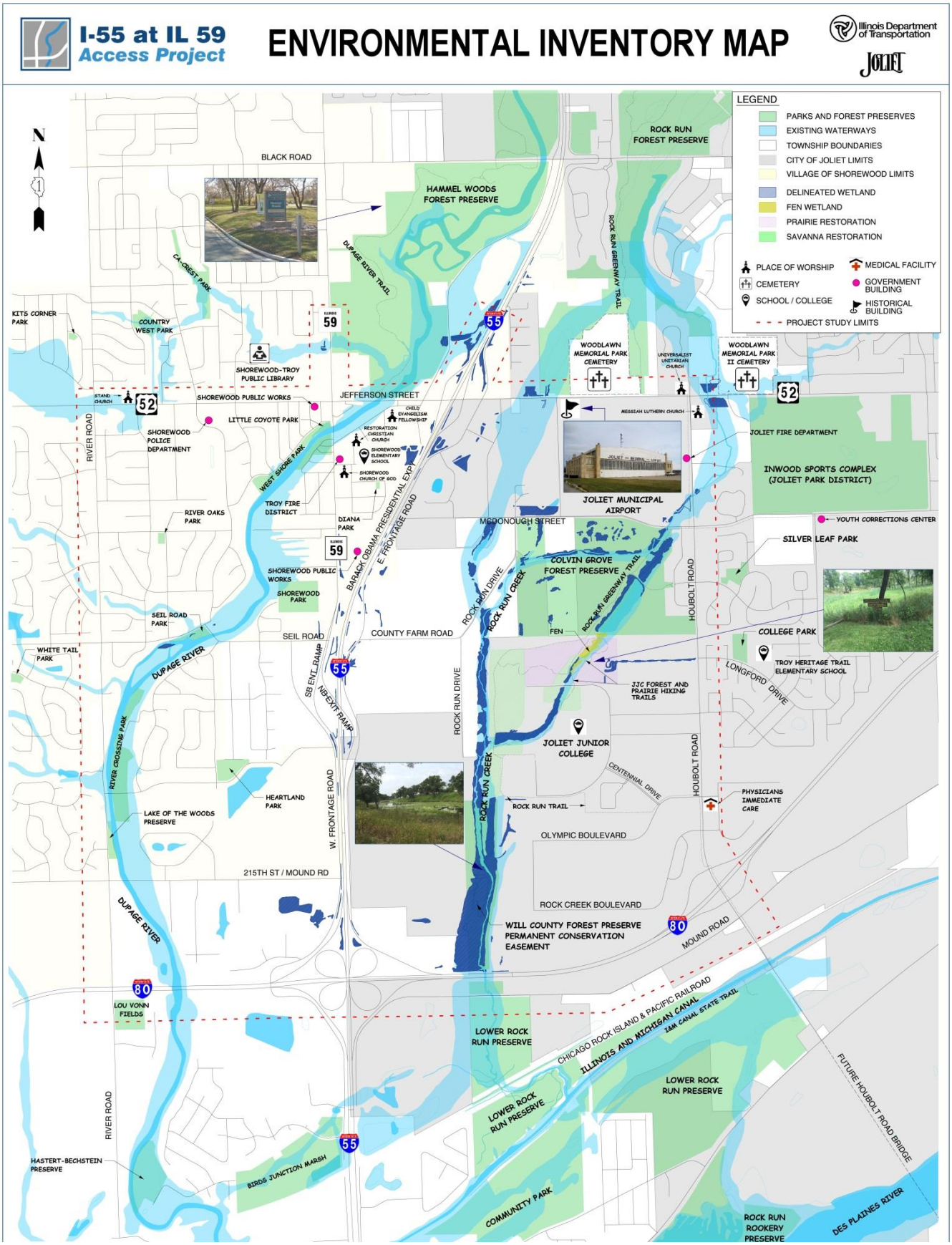


Exhibit H – Environmental Inventory Map

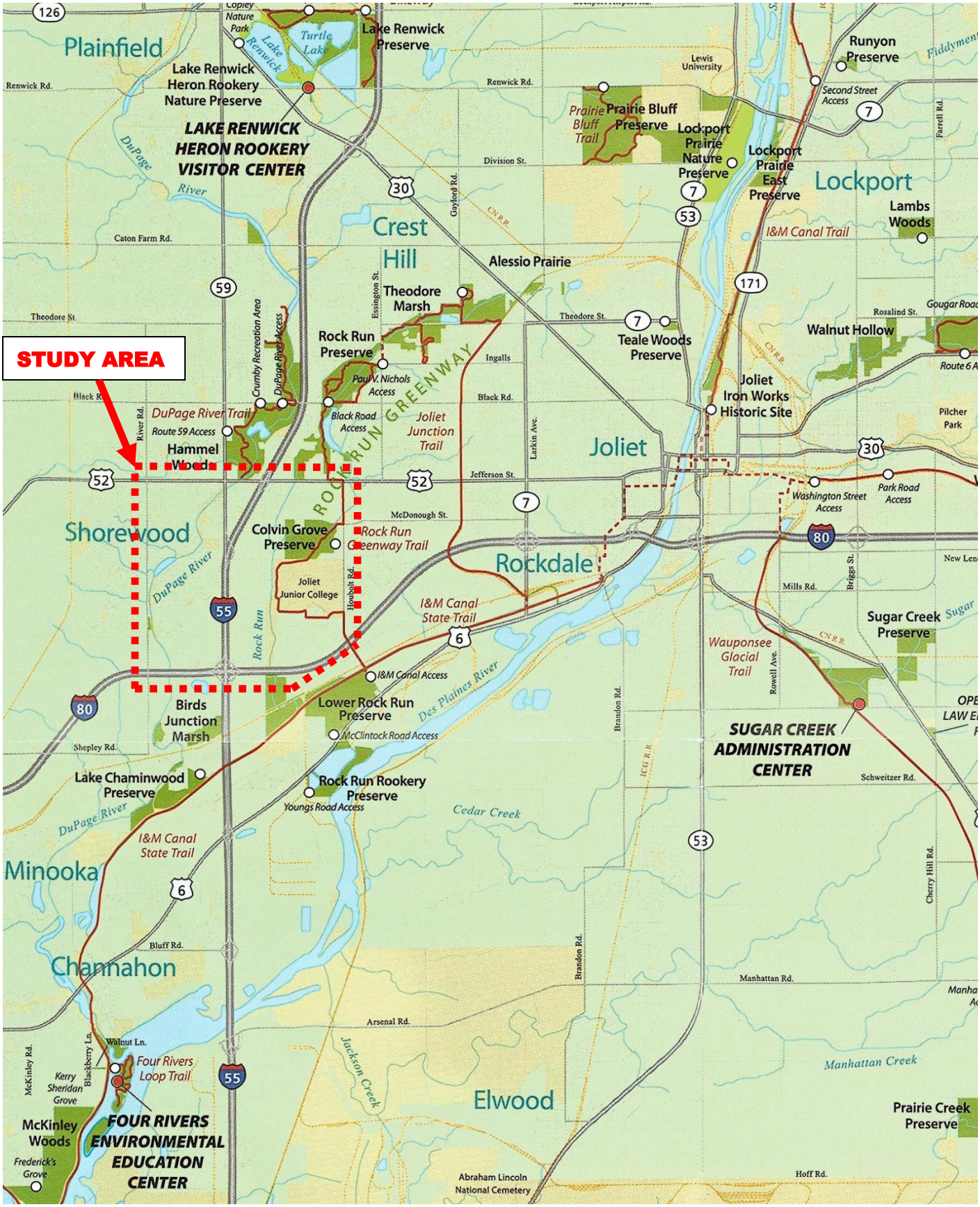


Exhibit I – Will County Forest Preserve Properties

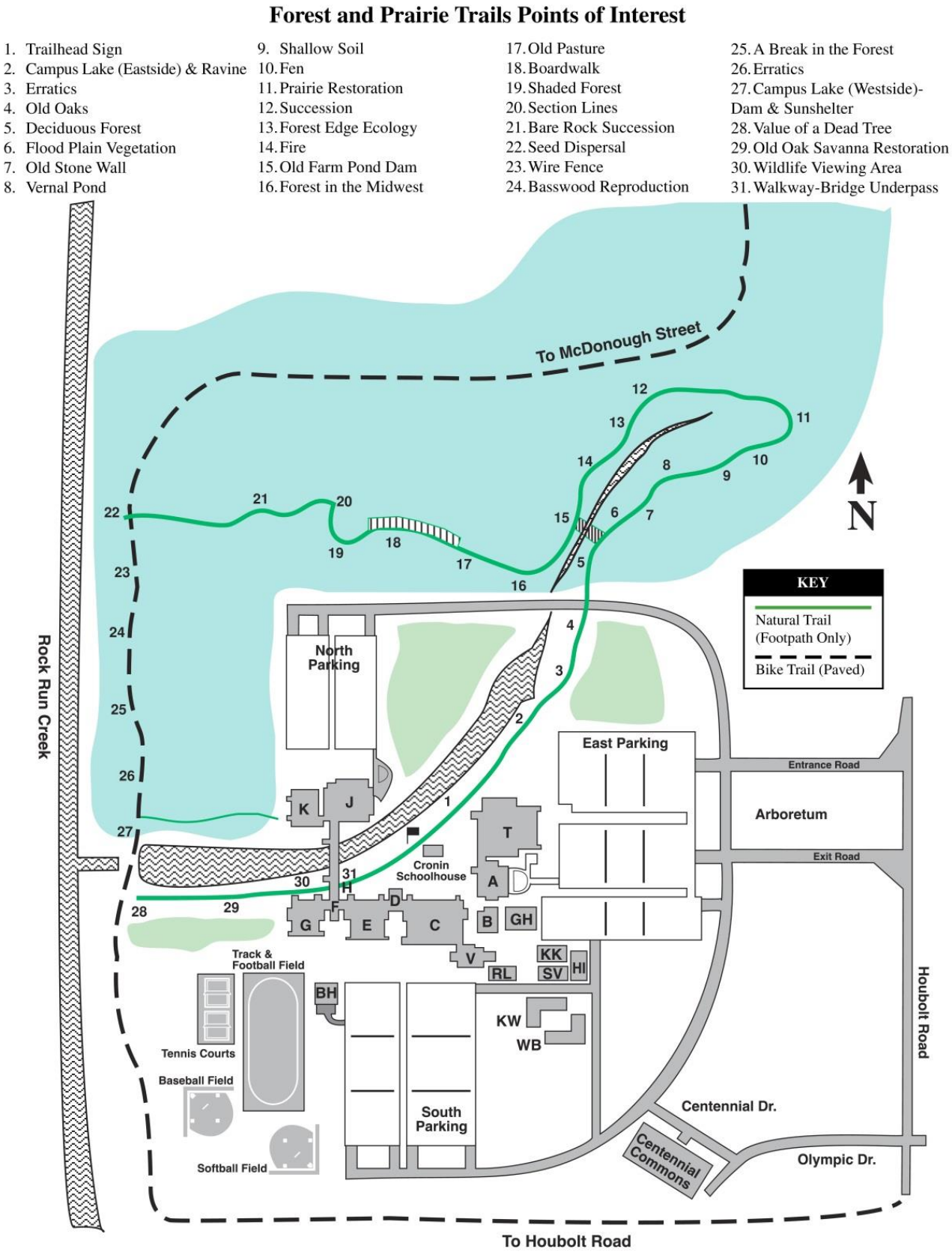
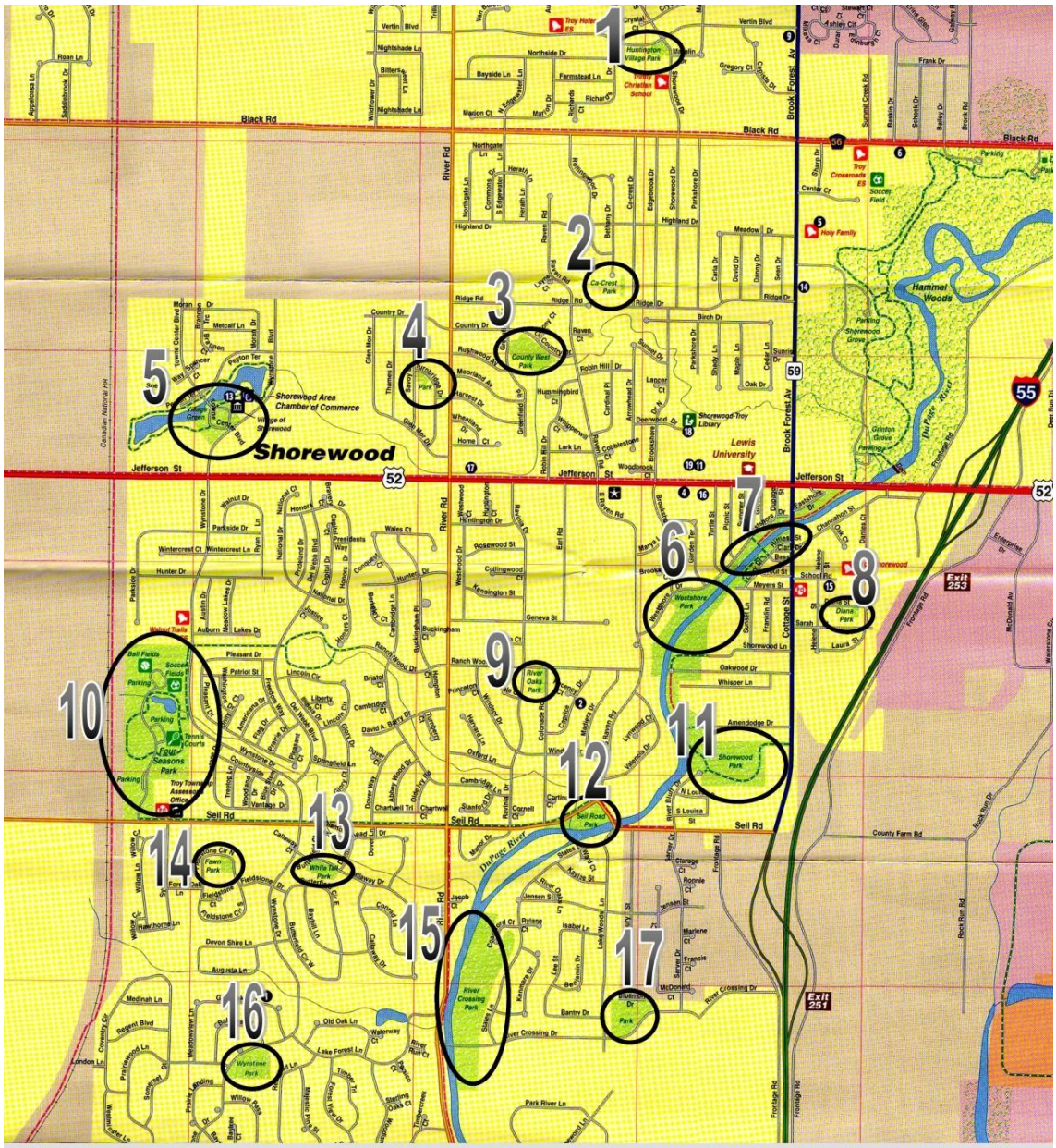


Exhibit J – Joliet Junior College Property Natural Areas Map



Shorewood Park Locations

1. Huntington Village Park
2. Ca-Crest Park
3. Country West Park
4. Kits Korner Park
5. Towne Center Park
6. West Shore Park
7. Little Coyote Park
8. Diana Park
9. River Oaks Park
10. Cene's Four Seasons Park
11. Shorewood Park
12. Seil Road Park
13. White Tail Park
14. Fawn Park
15. River Crossing Park
16. Wynstone Park
17. Heartland Park

Exhibit K – Shorewood Parks and Recreation Properties