Ryan Field

Concert Venue Traffic Impact Study

Evanston, Illinois

April 2023

Kimley»Horn

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EXECUTIVE SUMMARY

As part of Northwestern University's (NU's) proposed redevelopment of Ryan Field, the venue is proposed to host a limited number of concerts. Although the stadium plan includes reducing the capacity of Ryan Field, concerts are a new use with different transportation characteristics than exhibited for a football game. Thus, the objective of this study is to evaluate these characteristics and the associated traffic conditions to identify whether additional measures are needed, relative to football games, to address transportation impacts related to proposed concert events at Ryan Field.

Concert Event Transportation Parameters

Key parameters, characteristics, and assumptions informing the transportation evaluation of proposed concert events at Ryan Field are outlined below:

- Capacity for concert events is planned for up to 28,500 attendees. For comparison, the proposed stadium redevelopment capacity for football games is 35,000 and the current Ryan Field capacity is 47,000.
- Concert events are expected to occur primarily during weekend evenings, but some may be scheduled during weekday evenings.
- Concert start times and durations may vary from show to show, but for purposes of this study are assumed to start at 7:00 PM and end at 10:00 PM.
- Parking would be provided between a mix of on-site and off-site locations.
  - *On-Site:* 1,316 spaces will be available at the stadium's east and west lots
  - *Off-Site (Nearby):* Locations within walking distance are assumed to include approximately 850 spaces at Canal Shores Golf Club (Holes 1, 3, 11, and 12) and approximately 200 commuter parking spaces along Poplar Avenue. Canal Shores has plans to install new turf throughout the golf course and a new arrangement to use the golf course for event parking will need to be established.
  - *Off-Site (Campus):* 1,613 spaces are available within garages and surface lots on NU's campus
  - *Off-Site (Downtown):* The Church Street, Maple Avenue, and Sherman Plaza Garages collectively provide 3,583 spaces for public parking
- Off-site parking locations on campus and downtown would be served by shuttle buses, similar to football games. Downtown Evanston garage parkers can also be served by both CTA Rail and Metra options at their respective Davis Street stations.
- Event parking in the Evanston and Wilmette residential neighborhoods surrounding the stadium is assumed to be prohibited for concert events.

- Ryan Field is well-positioned to leverage multiple rail lines and two service operators (i.e., Metra and CTA) which is unique for such a venue in the Chicago market. Assumed transit use for concert attendees is assumed to be generally consistent with use of transit at other concert venues served by Metra (Ravinia) and CTA Rail (Wrigley Field).
- Additional transportation modes expected to serve concert attendees include taxis and transportation network companies (TNCs) such as Uber/Lyft, private charters, black car/limo livery, walking, and biking. For taxis and TNCs, two designated pick-up locations are planned – one east and one west of the stadium – in conjunction with an active geofence during events that is integrated through the respective TNC mobile apps.

Study Methodology

The study evaluates pre-event and post-event peak hours on a typical weekday evening and Saturday evening to cover the range of potential concert dates. These peak hours represent the hour before a concert starts (6:00-7:00 PM) and the hour after it ends (10:00-11:00 PM). It is worth noting that ambient traffic levels during these hours are less than the typical peak hours of traffic activity for each day with traffic volumes decreasing as the concert goes on.

Event-related traffic is routed to/from the on-site and off-site parking locations, both in the nearby vicinity, campus, and downtown areas. Intersection capacities are evaluated for each day and peak hour with a comparison of conditions without and with concerts, yielding levels of impact by concert event traffic. The analysis of study intersections factor event lane configurations and routing, traffic controls, and active management of intersections by Evanston Police, similar to many measures utilized for football games, who manually control traffic signals, as needed, to prioritize and flush traffic in peak directions, address building queues, and safely manage pedestrian-vehicle conflict points.

Based on evaluation of the projected traffic volumes at the study intersections, in combination with other strategies to manage and route traffic, parking, pedestrians, cyclists, shuttles, and other modes, recommendations are identified to accommodate concert-related transportation conditions at the proposed Ryan Field redevelopment.

Key Findings

A summary of key findings and recommendations to manage multimodal transportation conditions for concert events at Ryan Field are outlined below:

- **Concert event capacity reduces impacts compared to football games**
  The concert event capacity of 28,500 versus the proposed Ryan Field redevelopment capacity of 35,000 (19 percent less) and current Ryan Field capacity of 47,000 (39 percent less) contributes to less traffic generated by concert events at the proposed venue compared to football games.

- **Mix of limited on-site and multiple off-site parking options distributes traffic and limits impacts**
  The mix of on-site and off-site parking options distributes the traffic across a wide range of access routes and streets which avoids concentrating traffic volumes and impacts in the immediate stadium vicinity. Capacity concerts at Ryan Field are expected to generate a parking demand of 5,400-6,000 spaces. Without including the potential use of parking at Canal Shores, over 6,700 spaces are available on site, on campus, and within three downtown Evanston public parking garages.
- **Concert event parking restrictions in adjacent neighborhoods limits traffic volumes and circulation in the stadium area**
  Prohibition of event parking in the adjacent residential neighborhoods in Evanston and Wilmette will further distribute traffic compared to conditions for college football games, preserves parking for residents and their guests, and limits traffic circulation on nearby residential streets.
- **Current traffic volumes during evening concert peak hours are lower than volumes during typical weekday afternoon peak periods, resulting in additional capacity available to accommodate event traffic**
  Ambient traffic volumes at the study intersections during evening pre-event and post-event peak hours are 24-51 percent and 79-84 percent lower, respectively, than the weekday afternoon peak hour.
- **Partnerships with CTA and Metra can incentivize transit use**
  Ryan Field is uniquely positioned in the marketplace to take advantage of nearby rail transit options with both CTA Rail and Metra stations a short walk from the stadium to serve concert-goers without driving and parking. NU should seek to maximize transit use through partnerships with CTA and Metra to include transit fare in ticket prices and further promote use of these convenient transit options to and from concert events. CTA and Metra would also be in better position to supplement shuttles for downtown parkers, ultimately reducing vehicle trips in the area for events.
- **Study area intersections and streets will continue to accommodate event traffic conditions**
  During pre-event and post-event periods of peak traffic activity, a great majority of the study area intersections and approaches are expected to operate well (LOS D or better). Traffic conditions at intersection approaches and movements serving key routes for concert traffic are expected to approach capacity and function similar to conditions leading up to and following football games at Ryan Field. However, the intersections will be effectively managed through manual control of intersections by Evanston Police (10 locations), allowing them to prioritize peak directions of traffic flow, flush traffic as queues build, and address capacity issues as they occur, particularly in the hour before and after a concert event.
- **Maintain similar traffic controls and lane configurations in place for football games**
  In addition to establishing access and parking restrictions for adjacent residential neighborhoods, concert events should continue similar measures as deployed for

football games to temporarily configure lanes, orient directional traffic flows, restrict parking, and control intersections in the stadium vicinity.
While an updated event transportation management plan will be developed in conjunction with the City and available for periodic review/updates in partnership with City staff and a Community Advisory Committee, most measures used for football games are recommended to be in place to accommodate pre- and post-event traffic conditions.

- **Recommended traffic management measures during pre-event and post-event conditions are detailed in Table 14.**

INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Northwestern University (NU) to assess current multimodal transportation conditions at Ryan Field for college football game days and evaluate anticipated transportation and parking conditions associated with a proposed new event type at Ryan Field – concerts. The subject site is illustrated in **Exhibit 1** and the redevelopment site plan is presented in **Exhibit 2**. The plan includes a new 35,000-seat stadium on the same site as the existing 47,000-seat Ryan Field, although concert capacity is planned for 28,500 attendees.

Similar to football games, concert events will make use of the parking areas immediately adjacent to the stadium, as well as off-site parking options in Downtown Evanston and on NU's Campus. Off-site parking located on campus and downtown will be served by shuttle buses, and for the downtown locations, supplemented by CTA Rail and Metra transit options.

As part of the project review process, Kimley-Horn has undertaken preparation of a traffic impact study to evaluate traffic conditions along the roadways and at the key intersections serving Ryan Field during pre- and post-concert event peak hours on a typical weekday evening and Saturday evening. This report presents and documents the study methodology, outlines data collection and conceptual development traffic characteristics, highlights the evaluation of traffic conditions on the study intersections and roadways, and summarizes key findings and recommendations to address operational traffic impacts associates with proposed concerts at Ryan Field.

EXHIBIT 1
SITE LOCATION MAP

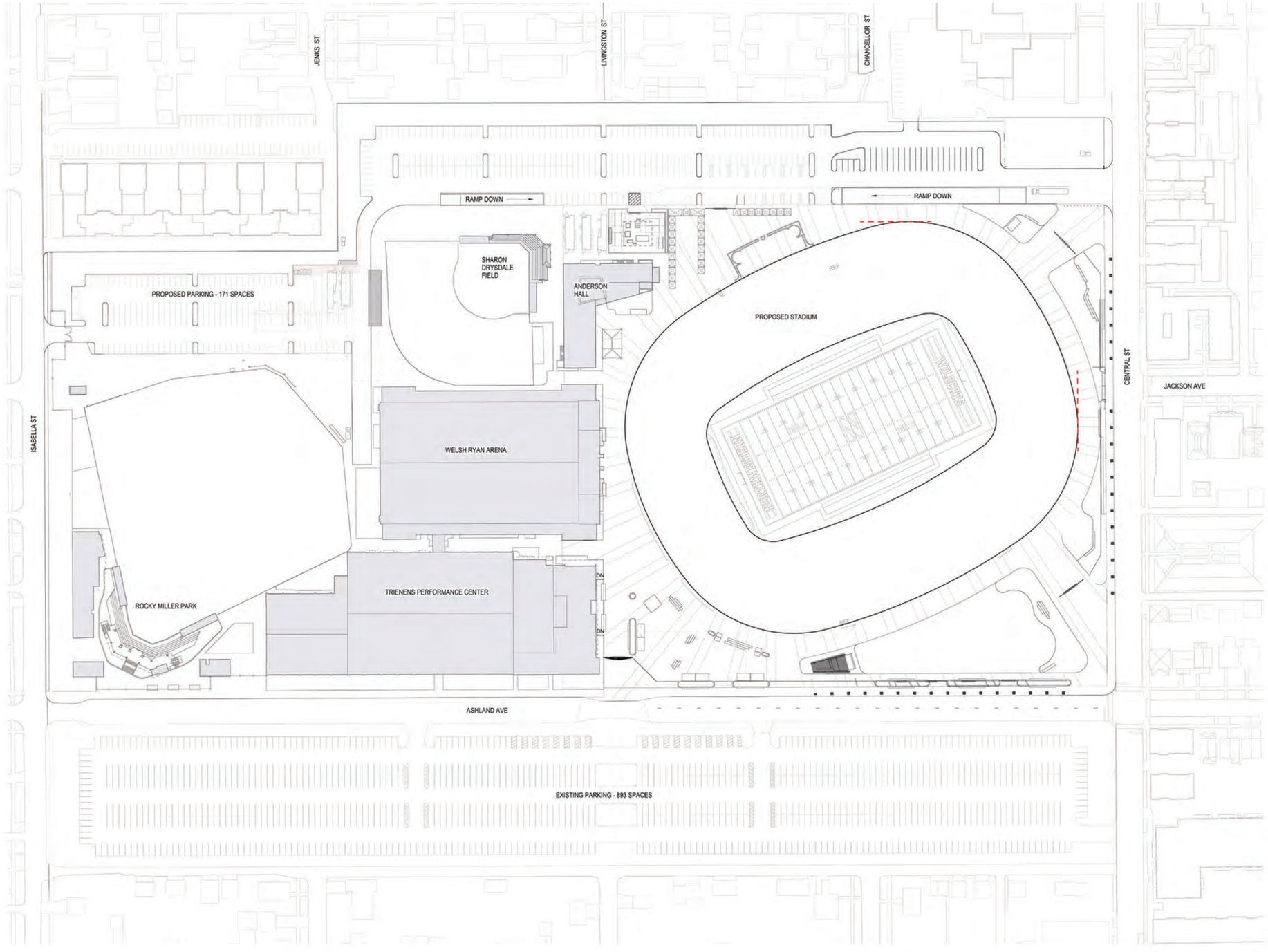

EXHIBIT 2
SITE PLAN

EXISTING CONDITIONS

Kimley-Horn conducted field visits to the subject site and surrounding area to collect relevant information pertaining to existing land uses in the surrounding area, the adjacent street system, multimodal transportation conditions, lane configurations and traffic controls at study intersections, and other key roadway characteristics. This section of the report details information on these existing conditions.

Area Land Uses

The subject site, Ryan Field, is an existing athletic stadium at Northwestern University. The site is bounded by residential neighborhoods in all directions with Central Avenue to the south, Ashland Avenue to the west, Isabella Street to the north, and Asbury Avenue to the east.

The areas surrounding the site primarily include residential neighborhoods with a mix of commercial and institutional uses. Multiple NU athletic facilities are located immediately north of the site, including a basketball arena (Welsh-Ryan Arena), a baseball field, and a multi-use practice field. Residential neighborhoods with mainly single-family detached homes and some multi-family low-rise buildings surround the site on all sides, with restaurant, retail, and office uses along Central Street primarily to the west of the site. The North Shore Channel is located approximately 1,500 feet east of the site and is bordered by Canal Shores Golf Course. The Evanston Fire Station and North Shore Evanston Hospital are located approximately 2,000 feet west of the site directly east of the golf course.

Roadway Characteristics

The site is largely served by Green Bay Road, Central Street, Ashland Avenue, and Isabella Street. Additional roadways in the broader area will also serve as key access routes to and from the site, including Sheridan Road, Ridge Avenue, Lincoln Street, and McCormick Boulevard. General descriptions of the roadways surrounding the subject site are provided below. All study area streets are under the jurisdiction of the City of Evanston, the Illinois Department of Transportation (IDOT), or as otherwise noted. Existing lane configurations for the study intersections are presented in **Exhibit 3**.

Green Bay Road

Green Bay Road is a north-south four-lane undivided roadway under the jurisdiction of the City of Evanston and located just west of the subject site. IDOT classifies Green Bay Road as a minor arterial. Green Bay Road runs parallel with the Union Pacific North (UP-N) Metra line. A 30-mile per hour (MPH) speed limit is posted on Green Bay Road throughout the study area.

Central Street

Central Street is an east-west two-lane undivided roadway located along the southern frontage of the subject site. Central Street through the study area is generally under IDOT jurisdiction, except between its intersections with Bryant Avenue and Girard Avenue as well as east of Sherman

Avenue where it is under the jurisdiction of the City of Evanston. IDOT classifies Central Street as a minor arterial. A 25 MPH speed limit is posted on Central Street throughout the study area.

Sheridan Road

Sheridan Road is a north-south two-lane roadway under the jurisdiction of the City of Evanston and located east of the subject site. IDOT classifies Sheridan Road as a minor arterial. Between the intersections Sheridan Road/Ridge Avenue/Isabella Street and Central Street/Sheridan Road Sheridan Road is classified as a minor collector. A dedicated bike lane runs along Sheridan Road from downtown Evanston, turns off on Sheridan Place, and then merges back onto Sheridan Road. A 25 MPH speed limit is posted on Sheridan Road throughout the study area.

Ridge Avenue

Ridge Avenue is a north-south two-lane roadway the jurisdiction of the City of Evanston and located just south of the subject site. IDOT classifies Ridge Avenue as a minor arterial. A 25 MPH speed limit is posted on Ridge Avenue throughout the study area.

McCormick Boulevard

McCormick Boulevard is a north-south two-lane roadway and is located southwest of the subject site. McCormick Boulevard is under the jurisdiction of the City of Evanston within the study area. South of Golf Road, McCormick Boulevard is a four-lane roadway under IDOT jurisdiction. IDOT classifies McCormick Boulevard as a minor arterial. A 35 MPH speed limit is posted on McCormick Boulevard throughout the study area.

Isabella Street

Isabella Street is an east-west two-lane roadway located along the northern frontage of the subject site. The street maintains shared jurisdiction between the City of Evanston and Village of Wilmette. IDOT classifies Isabella Street as a local road. A 25 MPH speed limit is posted on Isabella Street throughout the study area.

Ashland Avenue

Ashland Avenue is a north-south two-lane roadway the jurisdiction of the City of Evanston and located along the western frontage of the subject site. IDOT classifies Ashland Avenue as a local road. A 20 MPH school speed limit is the only posted speed signage on Ashland Avenue in the immediate study area. Ashland Avenue runs one-way southbound south of the project site.

Lincoln Street

Lincoln Street is an east-west two-lane roadway the jurisdiction of the City of Evanston and located just south of the subject site. IDOT classifies Lincoln Street as a local road. A 25 MPH speed limit is posted on Lincoln Street throughout the study area.

Asbury Avenue

Asbury Avenue is a north-south two-lane roadway the jurisdiction of the City of Evanston and located just south of the subject site. IDOT classifies Asbury Avenue as a local road. A 25 MPH speed limit is posted on Asbury Avenue throughout the study area.

Bryant Avenue

Bryant Avenue is a north-south two-lane roadway the jurisdiction of the City of Evanston and located just south of the subject site. IDOT classifies Bryant Avenue as a local road. A 25 MPH speed limit is posted on Bryant Avenue throughout the study area.

Girard Avenue

Girard Avenue is a north-south two-lane roadway the jurisdiction of the City of Evanston and located just south of the subject site. IDOT classifies Girard Avenue as a local road. A 25 MPH speed limit is posted on Girard Avenue throughout the study area.

Livingston Street

Livingston Street is an east-west two-lane roadway the jurisdiction of the City of Evanston and located just west of the subject site. IDOT classifies Livingston Street as a local road. A 20 MPH speed limit is posted on Livingston Street throughout the study area.

Chancellor Street

Chancellor Street is an east-west two-lane roadway the jurisdiction of the City of Evanston and located just east of the subject site. IDOT classifies Chancellor Street as a local road. A 25 MPH speed limit is posted on Isabella Street throughout the study area.

ISABELLA ST
GREEN BAY RD
ASHLAND AVE
ASBURY AVE
GIRARD AVE
SHERIDAN RD
SHERIDAN RD
LIVINGSTON ST
RYAN FIELD
RIDGE AVE
SHERIDAN RD
CENTRAL ST
CTA BUS ROUTE 201
LINCOLN ST
McCORMICK BLVD

LEGEND

- TRAVEL LANE
- TRAFFIC SIGNAL
- STOP SIGN
- CTA TRAIN PURPLE LINE STOP (CENTRAL)
- METRA RAIL UP-N LINE STATION (CENTRAL)
- BUS STOP

EXHIBIT 3

ROADWAY CHARACTERISTICS MAP

Non-Personal Auto Transportation System

The subject site is proximate to multiple public transit options, and observations at football games reveal that a multitude of non-personal auto transportation alternatives are used to access the subject site when events are being held. Additionally, urban context in which the site is located means the area is more walkable and bikeable. The existing transportation modes serving the site are detailed below.

Rail

Metra, the Chicagoland regional commuter rail agency, provides service within the study area along its UP-N line that operates between Ogilvie Transportation Center in Chicago and Kenosha. The Central Street Metra Station is located approximately a quarter-mile west of the project site. The station provides access via two separate tracks (one inbound, one outbound). It is important to note that Union Pacific Railroad owns and maintains jurisdiction over the railroad tracks, while Metra operates rail service on the tracks. Freight rail traffic also operates on the railroad tracks.

CTA, the Chicago Transit Authority, provides service within the study area along its Purple Line that operates between the Chicago Loop and Wilmette. The Central Purple Line Station is located approximately a quarter-mile east of the project site.

Bus

CTA also provides bus service within the study area along route 201 that operates between the Howard Red Line Station along Ridge Road, Church Street, Sheridan Road, and Central Street to Old Orchard Shopping Center in Skokie. Bus stops are located directly south of the subject site at the intersections of Central Street with Ashland Avenue and Jackson Avenue.

Bicycle and Pedestrian

Bicycle access near the subject site is provided along Sheridan Road approximately 3/4-mile east of the site which provides a two-way cycle track from Chicago to Highland Park. Dedicated bicycle lanes are also provided along Central Street approximately 1,500 feet east of the site along the bridge over the North Shore Channel.

Additionally, pedestrian access is generally provided via sidewalks along both sides of most study area roadways.

Existing Event-Related Transportation Options

Beyond the available public transit, there are several alternative transportation modes that are expected to be used to access events at the site. These transportation modes were observed at NU football games and are commonly used to travel to events such as concerts.

Shuttles, NU operates shuttles to and from the stadium during pre- and post-game periods during football games to transport attendees between the stadium and off-site parking locations on the main NU campus and in downtown Evanston. NU shuttles have a capacity of 40 passengers and currently operate along three routes – a Downtown Evanston route, a North Campus route, and a South Campus route – and it is assumed that shuttles would operate similarly during pre- and

post-event periods. More information on current shuttle routes is available via the University's Football Gameday Transportation website: https://nusports.com/sports/2018/6/28/football-gameday-transportation.aspx

Taxi / TNC (Uber/Lyft) Transportation network companies (TNCs), such as Uber and Lyft, currently provide service during gamedays as an alternative access option. During the pre-events periods, these vehicles were observed to drop-off passengers primarily along Central Street near Ryan Field. However, during the post-game periods a geofence was observed to be in place for TNC vehicles. A geofence is a digital boundary restricting where TNC vehicles can drop-off and pick-up via directions given to drivers within the app. This geofence directed drivers to load passengers post-game on Isabella Street between Ashland Avenue and Asbury Avenue in an effort to avoid this activity from occurring along Central Street. It was noted that some TNC vehicles followed the geofence location, while others were observed to conduct loading operations along Central Street near Ryan Field.

Charter Buses are often rented by attendees to accommodate larger groups of about 10-30 people. Charter buses typically pick up groups from a designated location and drop them off at the event venue, then return to pick up the group after the event. These vehicles are anticipated to operate similarly to shuttles, with pick-up and drop-off at the site occurring curbside along Ashland Avenue.

Limousine/Black Car, in addition to taxis and TNC vehicles, parties will often rent limousines or black cars to travel to concerts. Limousines and black cars are luxury vehicles that are rented for events to transport larger parties than what can be accommodated in a standard taxi/TNC vehicle. Limousines and black cars are anticipated to operate similarly to shuttles and charter buses, with pick-up and drop-off at the site occurring curbside along Ashland Avenue.

Traffic and Bicycle/Pedestrian Volumes

Traffic volumes quantifying current levels of vehicular traffic at study area intersections were collected by Kimley-Horn in January 2023 at the 12 intersections outlined below.

- Green Bay Road / Livingston Street
- Green Bay Road / Central Street
- Green Bay Road / Lincoln Street
- Green Bay Road / McCormick Drive
- Central Street / Ashland Avenue
- Central Street / Asbury Avenue
- Central Street / Girard Avenue
- Ridge Avenue / Sheridan Road / Isabella Street
- Central Street / Ridge Avenue
- Ridge Avenue / Lincoln Street
- Central Street / Sheridan Road
- Isabella Street / Ashland Avenue

The study area traffic count locations were developed to capture relevant signalized and unsignalized intersections surrounding the site that are expected to be utilized by event traffic. Traffic count data was collected in January 2023.

Traffic counts were conducted on a typical weekday from 4:00 PM to 12:00 AM and on a Saturday from 6:00 PM to 12:00 AM to capture peak hour of traffic activity in the area before and after events while most attendees arrive and depart from the stadium.

Past concert schedules at Wrigley Field, Ravinia, and SPACE were reviewed to determine an assumed concert start and end time of 7:00PM and 10:00PM, respectively. Therefore, the typical pre- and post-event peak hours would occur from 6:00-7:00PM and 10:00-11:00PM, respectively. It is important to note that the pre- and post-event peak hours do not coincide with the typical evening peak hour in the network (4:45-5:45PM), and it is expected that background traffic in the area during concert start and end periods will be low relative to traffic during peak periods. A comparison of pre- and post-event peak hour volumes and the typical evening peak hour volumes is outlined in **Table X**.

Table 1. Existing Traffic Volume Comparison at Study Intersections

Day of Week	Peak Period	Total Network Traffic Volume	Percent Difference
Weekday	Typical Evening (4:45-5:45PM)	14,337	--
Weekday	Pre-Event (6:00-7:00PM)	10,904	-24%
	Post-Event (10:00-11:00PM)	2,268	-84%
Weekend	Pre-Event (6:00-7:00PM)	7,084	-51%
	Post-Event (10:00-11:00PM)	3,007	-79%

The peak hour vehicle traffic volumes were rounded to the nearest multiple of five. The existing Weekday and Saturday peak hour traffic volumes are presented in **Exhibits 4** and **5**, respectively. Summaries of the traffic count data are provided in the Technical Appendix.

EXHIBIT 4A

EXISTING (2023) WEEKDAY TRAFFIC VOLUMES

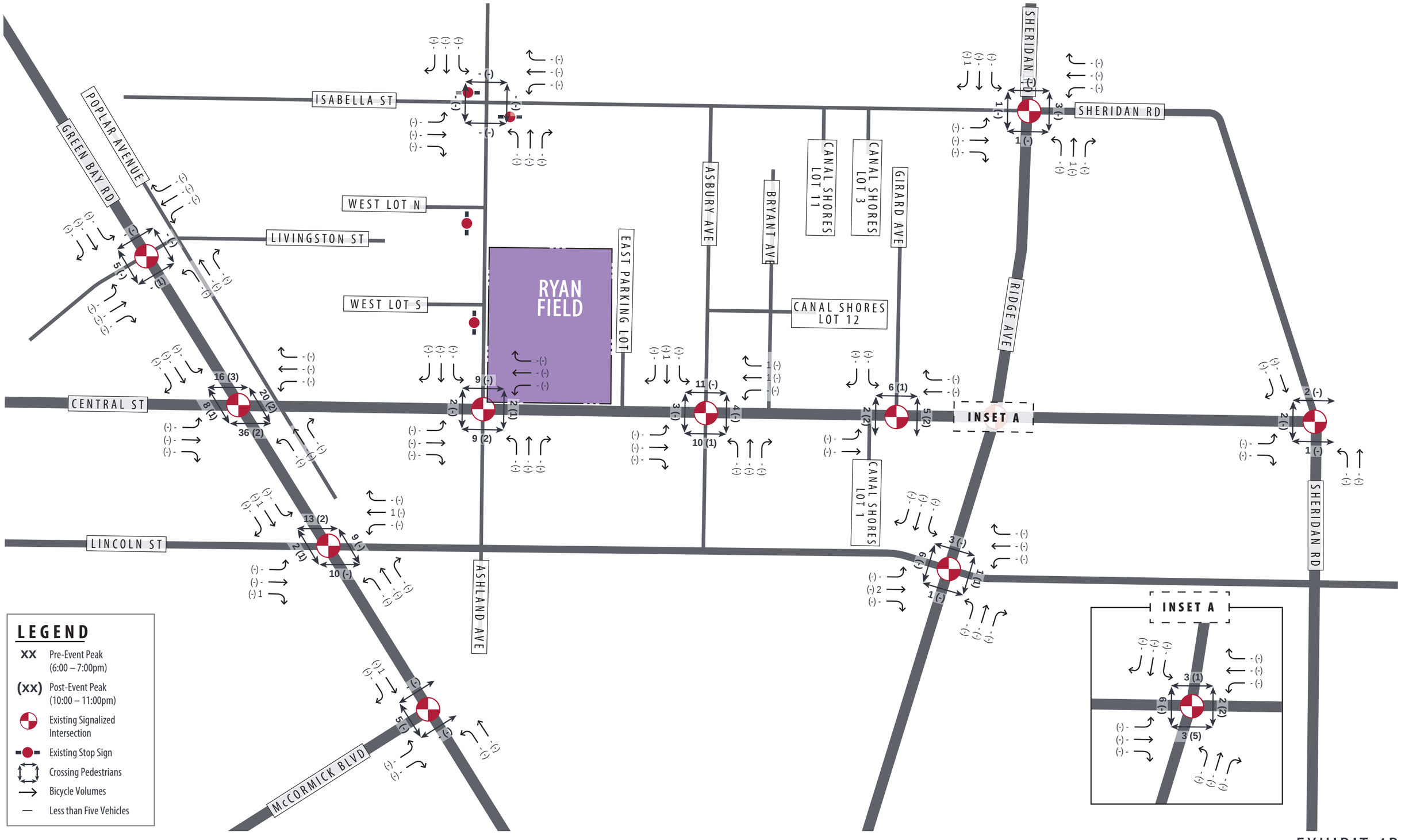

EXHIBIT 4B

EXISTING (2023) WEEKDAY PEDESTRIAN AND BICYCLE VOLUMES

EXHIBIT 5A

EXISTING (2023) WEEKEND TRAFFIC VOLUMES

ISABELLA ST
SHERIDAN RD
POPLAR AVENUE
GREEN BAY RD
WEST LOT N
LIVINGSTON ST
WEST LOT S
RYAN FIELD
EAST PARKING LOT
ASBURY AVE
BRYANT AVE
CANAL SHORES LOT 11
CANAL SHORES LOT 3
GIRARD AVE
CANAL SHORES LOT 12
RIDGE AVE
CENTRAL ST
INSET A
CANAL SHORES LOT 1
LINCOLN ST
ASHLAND AVE
SHERIDAN RD
McCORMICK BLVD

LEGEND

- XX — Pre-Event Peak (6:00 – 7:00pm)
- (XX) — Post-Event Peak (10:00 – 11:00pm)
- Existing Signalized Intersection
- Existing Stop Sign
- Crossing Pedestrians
- Bicycle Volumes
- Less than Five Vehicles

EXHIBIT 5B

EXISTING (2023) WEEKEND PEDESTRIAN AND BICYCLE VOLUMES

REDEVELOPMENT PLAN AND CONCERT VENUE CHARACTERISTICS

Redevelopment Plan

The proposed Ryan Field redevelopment plan for the approximately 29-acre site includes a new stadium within the area generally bounded by Ashland Avenue on the west, Wildcat Alley on the north, private residences to the east, and Central Avenue on the south. This section of the report outlines key characteristics for the stadium and redevelopment plan, primarily focusing on its use as a concert venue and the ensuing transportation characteristics and impacts. The section summarizes estimated traffic volumes and parking demands, as well as presents projected traffic volumes across the study area street network during both weekday and weekend (Saturday) pre-event (6:00 – 7:00 PM) and post-event (10:00 – 11:00 PM) peak hours.

Stadium Description

The proposed Ryan Field redevelopment plan includes a spectator capacity of approximately 35,000 for football games. Due to the placement of the stage and supporting infrastructure, the capacity for concert events is planned for up to 28,500 attendees. The proposed concert capacity is 19 percent less than the proposed seating capacity for football games and represents a 39 percent reduction from the current 47,000 capacity of Ryan Field. **Table 2** below depicts the existing and proposed seating capacity.

Table 2. Redevelopment Program Seating Capacity

Program Element	Unit
Existing Ryan Field Stadium	
College Football Games	47,000 seats
Proposed Ryan Field Stadium	
College Football Games	35,000 seats - *25% reduction in seating capacity*
Concert Venue	28,500 seats - *39% reduction in seating capacity over existing capacity for football games* - *19% reduction in seating capacity over proposed capacity for football games*

As can be seen on Exhibit 2 in the *Introduction* section, the proposed stadium is anticipated to be rotated approximately 15 degrees and be situated on a northwest-southeast axis, as opposed to the current stadium true north-south orientation. This provides more room in the southwest, northwest, and northeast corners of the immediate area surrounding the stadium for plaza-like pedestrianized areas for attendees to gather while entering or exiting football games or events.

Several factors will contribute to the potential timing of construction and development of the site. It is likely that demolition of the existing stadium will occur in 2023, while redevelopment of the proposed stadium will occur during the 2024 and 2025 seasons, with an expected opening date

before the beginning of the 2026 football season. For purposes of this study, all analysis considers the redevelopment plan in its entirety with development occupancy in Year 2026.

Days and Times of Events

Concert events at Ryan Field are expected to occur during weekday and primarily weekend evenings. The event times and durations will vary by number of acts and characteristics of the acts themselves.

Primary Access Routes

As illustrated on the redevelopment plan presented in Exhibit 2, site access is planned via the existing streets and routes that have served Ryan Field during football games. An overview of the primary routes anticipated to be used during concerts is highlighted below.

Central Street serves as the primary east-west route providing direct access to Ryan Field. This route connects to Green Bay Road, Ridge Avenue, and Sheridan Road which all provide local and regional north-south access to surrounding communities. Regional trips utilizing the Eden's Expressway (I-94) can access Central Street via the full interchange with Old Orchard Road and a short jog on Gross Point Road. Central Street also provides access to both the Central Street Metra Station along Metra's UP-N line and the CTA Central Purple Line Station. Central Street is anticipated to be the most utilized route by concert goers due to its direct accessibility to the stadium and intersections with most other routes within the study network.

Green Bay Road is a regional route that connects the north shore suburbs between Highland Park on the north and Evanston on the south. Green Bay Road intersects with Lake Avenue approximately 1.2 miles north of Ryan Field and Lake Avenue provides a full interchange with the Eden's Expressway. Most regional trips from the north and northwest suburbs are expected to utilize Green Bay Road to access the site.

Ridge Avenue is a local north-south route that traverses all of Evanston and portions of Rodgers Park and Andersonville in Chicago to the south. Green Bay Road has its southern terminus at Ridge Avenue approximately one mile south of Ryan Field. Local trips throughout Evanston and the northern community neighborhoods of Chicago (Rodgers Park, Andersonville, Ravenswood, West Ridge, etc.), along with regional trips from Chicago along Jean Baptiste Point Du Sable Lake Shore Drive (LSD) are anticipated to utilize Ridge Avenue.

Isabella Street is a local east-west route that is discontinuous at the Metra railroad tracks and Green Bay Road on the west and turns into Sheridan Road east of Ridge Avenue. This street intersects with Ashland Avenue and is anticipated to serve concert events in a similar nature to football games. Some trips exiting the West Parking Lot are anticipated to utilize Isabella Street to navigate east to access Ridge Avenue or Sheridan Road.

Sheridan Road provides local north-south access between the northern lakeside community neighborhoods of Chicago (Rodgers Park and Edgewater) and throughout Evanston, as well as the north shore suburbs between Evanston and Glencoe. This route is expected to carry local trips of residents who live in close proximation to Lake Michigan, as well as some regional trips from Chicago along LSD.

McCormick Boulevard is a sub-regional route that runs along the west side of the North Shore Channel between Lincoln Avenue in Lincolnwood on the south and Green Bay Road in Evanston on the north. Some trips arriving from and departing to the near north suburbs of Lincolnwood, Skokie, as well as the northern community neighborhoods of Chicago (North Park, Arcadia Terrace, Lincoln Square, Hollywood Park, etc.) are anticipated to utilize McCormick Boulevard to access Ryan Field.

Other Routes such as Golf Road-Emerson Street, Dempster Street, Crawford Avenue, Lake Avenue, Old Orchard Road, and Gross Point Road are anticipated to serve fans attending concerts at Ryan Field. As these routes are located further away from Ryan Field, the anticipated traffic impact lessens as the well-designed grid street network of the near north-northwestern suburbs is able to disperse and distribute traffic efficiently.

Parking (On-Site and Off-Site)

Parking for concert events at Ryan Field is planned to operate similarly to football games. Parking is available in surface lots immediately adjacent to Ryan Field, as well as a mix of surface lots and structured parking decks within Downtown Evanston and on NU Campus. The parking locations, along with supplied number of spaces in each location are detailed on **Exhibits 6A-6D**.

The parking is categorized into on-site and off-site areas, with the breakdown between the three areas noted in **Table 3**. The parking spaces located in Downtown Evanston and on NU Campus are assumed to have 80 percent availability during concert events with the remaining 20 percent of spaces available for students, residents, business patrons, and employees.

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EXHIBIT 6A
PARKING LOCATIONS MAP

NORTH
NOT TO SCALE

900

500

70

60

70

11
200

3
150

12
300

1
200

LEGEND

- STADIUM PARKING
- # CANAL SHORES PARKING
- OTHER PAID PARKING
- NO ON-STREET PARKING
- # PARKING CAPACITY

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EXHIBIT 6B

PARKING LOCATIONS MAP - ON-SITE

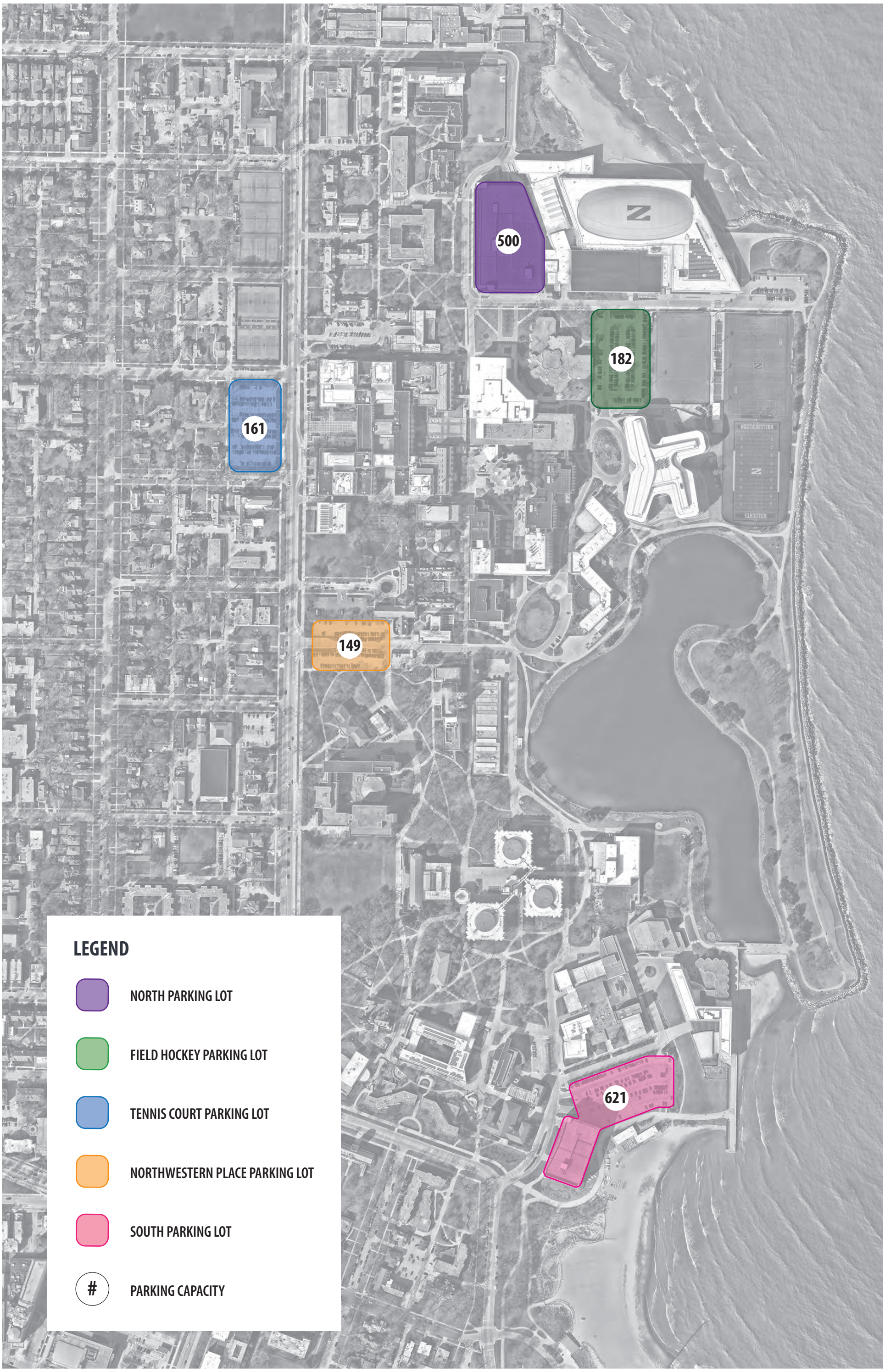

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EXHIBIT 6C

PARKING LOCATIONS MAP - NU CAMPUS

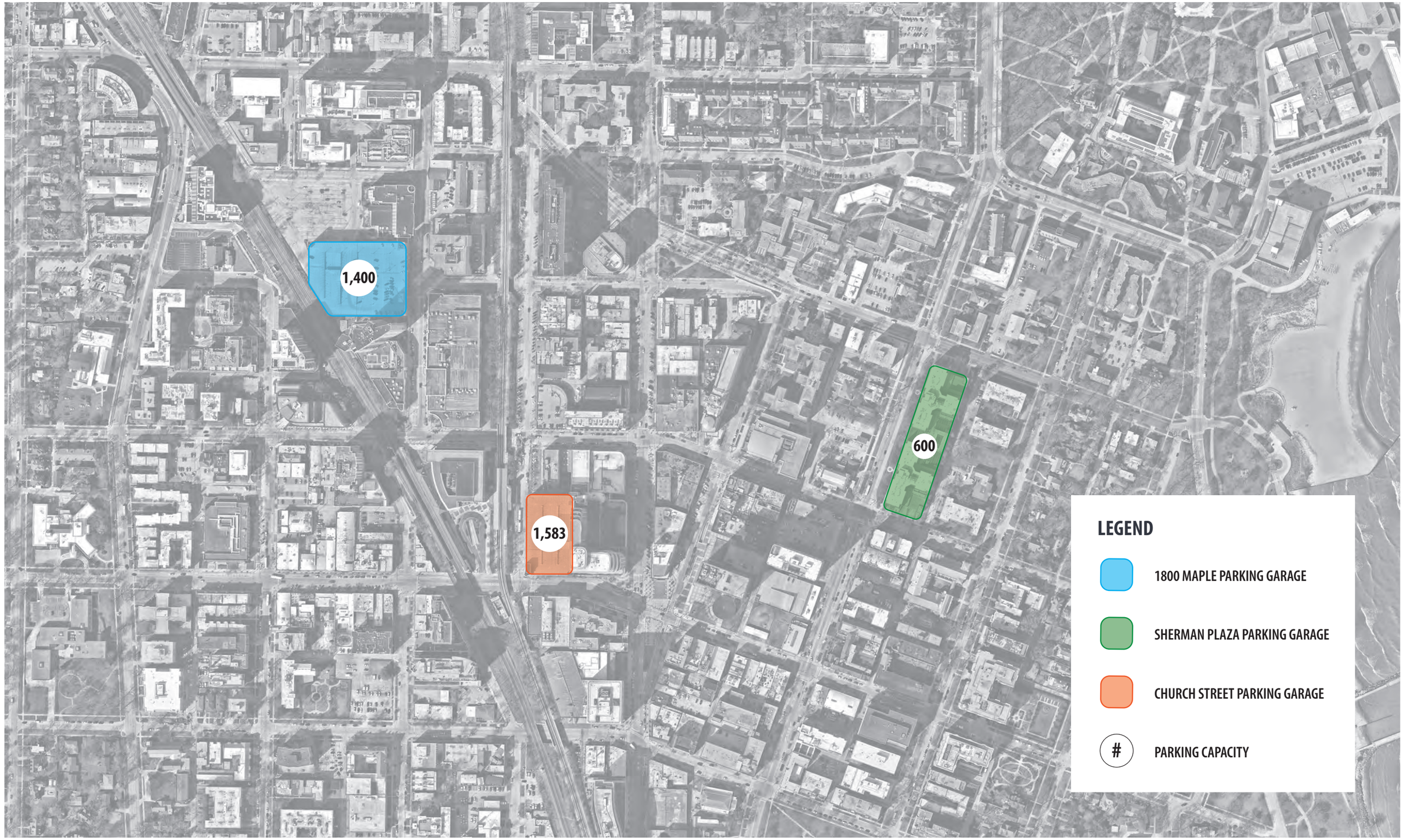

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EXHIBIT 6D

PARKING LOCATIONS MAP - DOWNTOWN EVANSTON

Table 3. Parking Spaces and Availability

Parking Area	Number of Spaces
On-Site	
West Parking Lot	901
East Parking Lot	415
Canal Shores Lot #1	200
Canal Shores Lot #3 (North Only)	150
Canal Shores Lot #11	200
Canal Shores Lot #12	300
Poplar Avenue (Metra Parking Spaces) [1]	200
Sub-Total	2,366
Off-Site (Downtown Evanston) [2]	
Maple Street Garage	1,400
Sherman Plaza Garage	1,583
Church Street Garage	600
Sub-Total	3,583
80% Availability	2,866
Off-Site (Northwestern Campus) [2]	
North Campus Garage	500
South Campus Garage	621
Tennis Court Lot	161
Field Hockey Lot	182
Northwestern Place Lot	149
Sub-Total	1,613
80% Availability	1,290
Total Parking Available (On-Site and Off-Site)	**7,562**
On-Site + 80% Availability of Off-Site Capacity	6,522

[1] Approximately 85% of the supplied spaces along Poplar Avenue could be utilized by Concert venue traffic as some spaces may still be occupied by Metra riders returning from work.

[2] Approximately 80% of the supplied spaces located in Downtown Evanston and on NU Campus are assumed to be available for Concert venue attendees with remaining spaces available for parking by others (e.g., students, residents, and business patrons).

This report assumes the usage of Canal Shores Parking Lots #1, #3 (North Only), #11, and #12 which total approximately 850 parking spaces. This analysis assumes these spaces would be available during concert events and would operate similar to football games, however, Canal Shores has plans to install new turf throughout the golf course and a new arrangement to use the golf course for parking will need to be established.

Should the Canal Shores golf course not allow parking for concerts, traffic routed to these parking lots near Ryan Field would instead be routed to additional off-site parking areas on the NU Campus or in Downtown Evanston. With a more distributed parking arrangement, the traffic

impact near Ryan Field, and particularly along Central Street and Isabella Street, would be lessened due to fewer vehicles being parked near the stadium.

Although an arrangement for the use of Canal Shores for concert parking leads to a conservative traffic impact analysis with more concentrated traffic activity in the stadium vicinity relative to use of more off-site parking locations. Should Canal Shores not be available, the grid-layout of Evanston's street network and many routes that attendees could utilize to access the additional parking areas would distribute traffic more broadly and lessen impacts. Similar to the current off-site parking areas contemplated in Downtown Evanston and on the NU Campus, attendees utilizing the additional areas would access Ryan Field via shuttle or the transit options like the CTA Purple Line.

Multiple access points to ingress and egress the on-site parking areas near Ryan Field are currently utilized during football games. Access to these parking lots during concerts would function similarly and is summarized in **Table 4** below.

Table 4. Parking Access Overview

Parking Lot	Access	Description
West Parking Lot	Ashland Avenue (North and South Access)	Central Street intersects with Ashland Avenue in the southwest corner of the stadium site and Ashland Avenue is the primary route that provides access to the West Parking Lot, which is located immediately west of Ryan Field. Two access points are provided into the West Parking Lot, north access and south access. Ashland Avenue is anticipated to function similar to operations during football games. Pre-event, Ashland Avenue will function one-way northbound with vehicles entering the north and south access points receiving a dedicated inbound turn lane via traffic cones. With this configuration, there is still sufficient room along Ashland Avenue for a bypass lane and the east curb line to conduct shuttle loading operations. Post-event, vehicles exiting the South Access point will be directed one-way southbound along Ashland Avenue, while vehicles exiting the North Access point will have the opportunity to exit north or south along Ashland Avenue. Shuttles will still operate one-way northbound during the post-event period.
East Parking Lot	Central Street	Central Street provides direct access to the East Parking Lot, which is located immediately east of Ryan Field. With the redevelopment of the stadium, the East Parking Lot is slightly reconfigured to assume the practice field currently located east of Sharon J. Drysdale Field, as well as provide a connection to an extension of the lot east of Rocky Miller Park. It is assumed that the access point along Central Street would operate similar to football games, with traffic functioning enter-only during pre-event and exit-only during post-event.
	Isabella Street	The Site Plan on Exhibit 2 depicts the redesigned East Parking Lot connecting north to Isabella Street via a new access point. This access point is assumed to be utilized by team buses and media/vendor vehicles that arrive and depart outside of the pre-event and post-event peak hours. Personal vehicles parking in the East Parking Lot were assumed to utilize the access point on Central Street in order to reduce the impact to adjacent residential areas along Isabella Street.

Table 4. Parking Access Overview (Continued)

Parking Lot	Access	Description
Canal Shores Lot #1	Central Street	Parking access at Canal Shores Lot #1 is provided via the existing access point at the Chandler-Newberger Recreation Center and the nearby American Legion Evanston Post 42, which is located just west of the CTA Central Purple Line Station. It is assumed that access point along Central Street would operate similar to football games, with parking traffic functioning enter-only during pre-event and exit-only during post-event. It should be noted that for purposes of this study, the surface lot north of the community center is preliminarily assumed to serve as an eastern designated area for Taxi/TNC staging and pick-up zone during the post-event period.
Canal Shores Lot #3 (North Only)	Isabella Street	Canal Shores Lot #3 (North Only) is located just southwest of the intersection at Isabella Street / Girard Avenue and east of the North Shore Channel. The parking location encompasses the area between Isabella Street and south to the green of hole three. The southern portion of hole 3 (fairway) is not contemplated for parking operations, as Girard Avenue near Evanston Hospital is reserved for hospital access. It is assumed that the access point along Isabella Street would operate similar to football games, with traffic functioning enter-only during pre-event and exit-only during post-event. This location will be confirmed/refined through development of the Transportation Management Plan.
Canal Shores Lot #11	Isabella Street	Canal Shores Lot #11 is located along the south side of Isabella Street east of the Metra railroad tracks and west of the North Shore Channel. It is assumed that the access point along Isabella Street would operate similar to football games, with traffic functioning enter-only during pre-event and exit-only during post-event.
Canal Shores Lot #12	Bryant Avenue / Central Street	Canal Shores Lot #12 is located along the east side of Bryant Avenue north of Central Street and west of the North Shore Channel. The access point to ingress and egress this lot is the east leg of the intersection at Bryant Avenue / Chancellor Street. Pre-event, traffic would be routed north along Bryant Avenue from Central Street to enter the lot at Chancellor Street. Conversely, post-event, traffic would be routed south along Bryant Avenue to Central Street. Traffic would function enter-only during pre-event and exit-only during post-event, similar to football games.

Event-Related Traffic Control

Similar to football games, management of traffic throughout the study area and at key intersections will include functional deviations from the marked lane configurations and typical traffic control in order to accommodate the large inflow and outflow of attendees. These adjustments reflect temporary event-condition lane configurations and traffic control to reflect active management by police or authorized traffic control personnel.

Examples of such temporary adjustments include conditions such as modifying a two-way street to provide one-way traffic and operating a traffic signal manually to allocate green time in a way that prioritizes certain high-volume movements more than what is conventionally assigned to the movement or to help pedestrians cross the street.

Shuttles

Shuttle service for concert events at Ryan Field is planned to operate similarly to football games, as noted in the *Non-Personal Auto Transportation System* section of this report. Three shuttle routes – a Downtown Evanston route, a North Campus route, and a South Campus route – would provide service between Ryan Field along designated stops located close to parking garages in Downtown Evanston and NU Campus. All shuttles are planned to drop-off and pick-up passengers along the east curb line of Ashland Avenue near the stadium and Wildcat Alley. Routing for these vehicles would operate the same as football games, with access to Ashland Avenue provided via Lincoln Street. Ashland Avenue is planned to operate one-way northbound between Central Street and Lincoln Street and would be restricted to shuttle operation only, with the exception being residents who live on that block.

Taxi / TNC (Uber/Lyft)

Transportation network companies (TNCs), such as Uber and Lyft, are planned to provide service during concert events as an alternative access option. During the pre-events periods, these vehicles are assumed to drop-off passengers primarily along Central Street near Ryan Field. As a result of traffic being less concentrated during the pre-event peak hour, no geofence restriction is planned. A geofence is a digital boundary restricting where TNC vehicles can drop-off and pick-up coupled with designated locations communicated to drivers and passengers through the TNC/s mobile app.

However, during the post-event peak hour, traffic is anticipated to be more concentrated as more fans are expected to leave directly after the conclusion of the event. A geofence is recommended to be in place during the post-event period directing Taxi / TNC vehicles to pick-up in two separate locations, one east of the stadium and another to the west. Two loading locations are recommended to increase efficiency, accommodate the projected number of Taxi / TNC vehicles, distribute traffic, and also moving their activity to off-site locations to avoid concentrated activity along Central Street adjacent to the venue. For purposes of this study, the parking lot north of the Chandler-Newberger Recreation Center and the Haven Middle School Parking Lot are assumed as the east and west locations for taxi/TNC staging and pick-up activity. These locations are preliminary and will be confirmed and/or refined as part of the operations plan developed in the Transportation Management Plan.

Concert Venue Traffic Characteristics

The following provides a summary and rationale behind multiple assumptions that influence the volumes of traffic associated with events at Ryan Field during the weekday and weekend pre- and post-event peak hours. The following assumptions related to venue capacity, schedule, and timeline were assumed:

Table 5. Proposed Concert Operations

Concert Characteristic	Operational Parameter
Venue Capacity	28,500 Attendees
Assumed Event Start Time	+/- 7:00 PM
Assumed Event End Time	+/- 10:00 PM

It should be noted that these are assumptions and are subject to change based upon who is performing. Concert are assumed to be held primarily during late spring to early fall, so as to not conflict with College Football games.

Transportation Mode Share

Not everyone travelling to and from Ryan Field will be arriving via a personal vehicle. The site is served by the Central Street Metra Station along Metra's UP-N line serving visitors from Chicago and the north suburbs. This station is located approximately 1/4-mile west of Ryan Field. Furthermore, the stadium is also served by the Central Street CTA Purple Line Station, which is located 1/4-mile east at the North Shore Channel.

Through preliminary conversations with Metra, the cost to ride Metra to/from an event at the new stadium could likely be integrated with the event ticket price, allowing a free ride for passengers with a ticket to the event. This method to promote use of Metra as an alternative to driving is similar to what has been enacted for concerts at Ravinia, which also has the benefit of an adjacent Metra station.

Transportation network companies (TNCs), such as Uber and Lyft, will also provide service during concerts as an alternative access option. Shuttles, charter services, and limousines (black car) are also popular options to travel to events. NU currently provides shuttle service during football games between Ryan Field and Downtown Evanston, as well as the northern and southern areas of NU Campus. NU has indicated they will provide similar services during concert events. All the above-mentioned transportation modes were factored into the evaluation with the assumed mode share as outlined in **Table 6**. The mode share summarized is informed by our experience with similar stadiums across the country and ridership data referenced from CTA, which is provided in the appendix.

Table 6. Estimated Concert Transportation Mode Share

Travel Mode	Percent Share
Automobile + Park	52%
CTA (Purple Line)	30%
Metra	10%
Taxi / TNC	5%
Limo / Black Car	1%
Party Bus / Trolley	1%
Pedestrian / Bicycle	1%
Total	100%

Due to the limited number of parking spaces in the immediate area adjacent to Ryan Field (2,250 spaces) including the West Parking Lot, East Parking Lot, Canal Shores Lots 1, 3, 11, and 12, as well as along Poplar Avenue, it is anticipated that a percentage of the attendees arriving by personal vehicle will end up parking in parking garages within Downtown Evanston or NU's Campus. On-site parking is expected to be pre-sold, similar to football games. Those without pre-purchased parking on-site will be directed via event wayfinding signs and other communications to the off-site parking options, generally in a way that circumvents the immediate stadium vicinity.

The mode share split between personal vehicles parking on-site (20%) and personal vehicles parking off-site (32%) was estimated by the number of available parking spaces in areas adjacent to the stadium versus the number of anticipated parking spaces available in Downtown Evanston and NU Campus. After parking in Downtown Evanston or on Campus, these concert goers would then utilize either the Shuttle system or the CTA Purple Line to travel to/from Ryan Field. This is explained in more detail in the preceding *Parking* section of the report.

Vehicle Occupancy

Typically, people travelling to and from events via either personal vehicle, transit, or TNC's, will be travelling, on average, with more than one person per vehicle. Many factors contribute to automobile occupancy, including parking costs, whether parking is bundled with the ticket price, distance traveled to the event, etc. For many concerts, a common average occupancy ranges from 2.5 to 2.75 people per car; however, some concerts experience higher occupancies ranging between 3.0 and 3.4 people per car. While attendee demographics would influence the likeliness for the number of people that ride together for a show, other factors can also influence this characteristic, such as parking pricing – higher prices generally encourage attendees to ride together and reduce the cost to attend a show. As a conservative approach, this analysis assumes an average vehicle occupancy of 2.5 people per vehicle.

Strategies revolving around the price of parking and other factors should be evaluated to maximize vehicle occupancy, which in turn reduces parking demand and traffic generation while encouraging carpooling or even other modes. The occupancy rates summarized in **Table 7** are informed by our experience with similar stadiums across the country and data collected at other major concert venues located in urban environments, which is provided in the appendix.

Table 7. Vehicle Occupancy Assumptions

Travel Mode	People per Vehicle
Automobile + Park	2.5
Taxi / TNC	3.0
Limo / Black Car	5.0
Party Bus / Trolley	20
Shuttle	40

Peak Hour Distribution

For events, and particularly concert events, attendee arrival and departure are spread over more than one hour. This is due to a range of factors such as pre- and post-event activities and

promotions (number of opening acts, merchandise availability, etc.), visiting adjacent land uses (e.g., restaurants, retail), traffic conditions, personal schedules, etc. For concerts, the peak hours generally align with the hour before the main event and the hour following completion of the main event. Many fans arrive early, prior to the hour before the main event headliner to see opening acts, patronize restaurants and bars, while some fans will arrive a little late after the main event and the peak hour.

Post-event, some fans will also visit restaurants, bars, and other businesses following the concert to continue celebrating and/or wait for traffic to lighten. The urban nature of the location around Ryan Field, specifically Central Street toward Green Bay Road, is expected to offer an experience that extends beyond the end of the event. Conversely, some fans may decide to leave a bit early and beat the peak hour.

Ultimately, attendee arrival and departure are spread over more than an hour. Based on our experience at Ryan Field and other stadiums, approximately 50 percent of fans are expected to arrive during the hour before the main event and approximately 85 percent of fans are expected to depart in the hour following the main event.

Trip Generation

Typically, traffic impact studies include trip generation estimates based on rates published in the Institute of Transportation Engineers (ITE) manual titled Trip Generation, 11th Edition. However, trip generation projections for stadiums and concert events are more appropriately derived from event characteristics that reflect the local area, transportation infrastructure, and characteristics unique to the planned event (i.e., seating capacity, percent arriving/departing during peak hours, mode share, and vehicle occupancy). Based on these factors, the pre- and post-event trip generation estimates are outlined in **Table 8**.

Table 8. Concert Event Trip Generation Estimate

Description		Pre-Event Peak Hour		Post-Event Peak Hour	
Event Capacity		28,500 seats			
Percent During Peak Hour		50%		85%	
Mode Share		Attendees		Attendees	
Automobile + Park ON-SITE	20%	2,850		4,845	
Automobile + Park OFF-SITE	32%	4,560		7,750	
Taxi / TNC	5%	715		1,190	
Limo / Black Car	1%	145		245	
Party Bus / Trolley	1%	145		245	
Shuttle [1]	--	--		--	
Vehicle Occupancy		Trips Arriving	Trips Departing	Trips Arriving	Trips Departing
Automobile + Park ON-SITE	2.5	1,125	--	--	1,915
Automobile + Park OFF-SITE	2.5	1,840	--	--	3,125
Taxi / TNC	3.0	240	240	405	405
Limo / Black Car	5.0	30	30	50	50
Shuttle	40	45	45	60	60

[1] All personal automobile trips that park off-site (Automobile + Park OFF-SITE) were conservatively assumed to utilize the shuttle system to access Ryan Field.

It should be noted that trips traveling via Taxi / TNC, Limo / Black Car, and Shuttle are assumed to generate two separate trips for each arrival or departure. For example, arriving taxis generate one trip as the taxi pulls up to drop off a passenger, and a second trip as the taxi departs the site to pick up another fare. All taxi and TNC trips were assumed to originate outside of the study area.

Parking Projections

Factoring similar site characteristics as referenced in the trip generation estimates (i.e., stadium capacity, mode share attributed to driving and parking, and the average number of people per car), **Table 9** outlines projections for concert parking needs.

Table 9. Stadium Event Parking Demand Estimate

Description		
Stadium Capacity	28,500 seats	
Mode Share (Auto + Park)	52%	
Vehicle Occupancy (people/veh)	2.50	2.75
Parking Demand Range (spaces)	6,000	5,400

Applying a conservative approach to the average vehicle occupancy range (2.5 people per vehicle), the projected concert parking demand is 6,000 spaces.

Directional Distribution

The distribution of concert-generated traffic across the street network and primary access routes is based on factors including population centers, regional connections, key routes to and through the study area, type of vehicle trip, and parking locations among other considerations. In this case, parking locations and the broader street network are significant factors in estimating the directional distribution and routing of traffic through the study intersections as the locations for event parking are not all in the immediate site vicinity.

The parking locations planned to serve concert events, as presented in Exhibits 6A-6D, can be categorized as on-site and off-site (nearby, campus, and downtown). On-site parking and nearby off-site locations (shown in Exhibit 6B) will entirely orient traffic through the study intersections and account for approximately 40 percent of the event parking. Alternatively, traffic to/from off-site parking options located on NU's campus (shown in Exhibit 6C) and Downtown Evanston (shown in Exhibit 6D) accounts for approximately 60 percent of event parking and, depending on its direction, is expected to travel through a portion of the study area intersections or not at all. For example, traffic from the south that parks in the Maple Avenue Garage will not travel through the study intersections to the north. Other routes may travel through a portion of the study area, but not necessarily adjacent to the venue. For example, traffic from the north on Green Bay Road that parks in the Maple Avenue Garage is assumed to travel south along the corridor through intersections on Livingston Street, Central Street, Lincoln Street, and McCormick Boulevard, but not in the immediate vicinity of Ryan Field.

In addition to concert attendees that use a car and park, other attendees will use a taxi, TNC, or black car/limo livery to travel to/from the Ryan Field redevelopment. Rather than be oriented to parking areas, these vehicular modes are oriented to/from designated drop-off and pick-up locations with an assumed directional distribution and routing. Taxis and TNCs are assumed to drop off along Central Street near the stadium, using the available curb lane with event parking restrictions. Pick-up locations for these vehicles following a concert would be handled at two locations – one east of the stadium and one west of the stadium – through the activation of a geofence established with the respective mobile apps. While further planning is needed to coordinate and confirm taxi/TNC staging locations, the study assumes the use of the parking lot immediately west of the CTA Purple Line station, north of the Chandler-Newberger Center as an eastern location and the parking lot at Haven Middle School as a western location. Two locations help to distribute vehicle staging, traffic routes, and pedestrian flows. These two locations are assumed for purposes of this study, but will be defined and laid out in detail through development of the Transportation Management Plan.

Private bus/van charters and black car/limo livery services are assumed to use a curbside drop-off/pick-up location along Ashland Avenue north of the stadium and south of Isabella Street.

Table 10 summarizes the estimated directional distribution by vehicular mode and parking zone.

Table 10. Estimated Directional Distribution

Orientation To/From	Percent Distribution						
	Parking On-Site	Parking Off-Site (Nearby)	Parking Off-Site (Campus)	Parking Off-Site (Downtown)	Taxi / TNC	Private Charter	Black Car / Limo
North on Green Bay Road	20%		20%		15%	30%	15%
North on Sheridan Road	5%		5%		10%	-	10%
South on Sheridan Road	10%		-		20%	-	20%
South on Ridge Road	5%		-		15%	-	10%
South on Green Bay Road	5%		-		10%	10%	10%
Southwest on McCormick Blvd	15%		15%		15%	30%	15%
West on Central Street	40%		40%		15%	30%	20%
Total	100%		80%[1]		100%	100%	100%

[1] Traffic oriented to/from the south on Sheridan Road, Ridge Road, and Green Bay Road that parks off-site on campus or downtown will not pass through study intersections.

Site Traffic Assignment

The assignment of traffic projections across the site access locations and surrounding street network is a function of factoring the trip generation (Table 8) with the directional distribution percentages (Table 10). The peak hour site traffic assignments for each transportation mode are presented in **Exhibits 7A-E**, respectively.

Background Traffic Volumes

With a future condition analysis horizon of Year 2026, representing an assumed site construction and occupancy by Year 2026, consideration is made for ambient traffic growth related to general development growth in the surrounding area.

Based on information provided by the Chicago Metropolitan Agency for Planning (CMAP), an annual 0.38 percent growth rate was applied to existing traffic volumes at the study intersections over a 3-year period to develop ambient traffic growth to Year 2026.

Total Traffic Assignment

The total traffic assignment represents future anticipated traffic volumes at the study intersections upon construction and full occupancy of the redevelopment plan. The total traffic assignment is the sum of existing traffic counts (Exhibits 4A and 5A), application of the 0.38 percent annual growth rate from Year 2023 to 2026, and the projected site traffic assignment (Exhibit 7E).

The Weekday and Weekend (Saturday) peak hour total traffic assignments are presented in **Exhibits 8** and **9**, respectively.

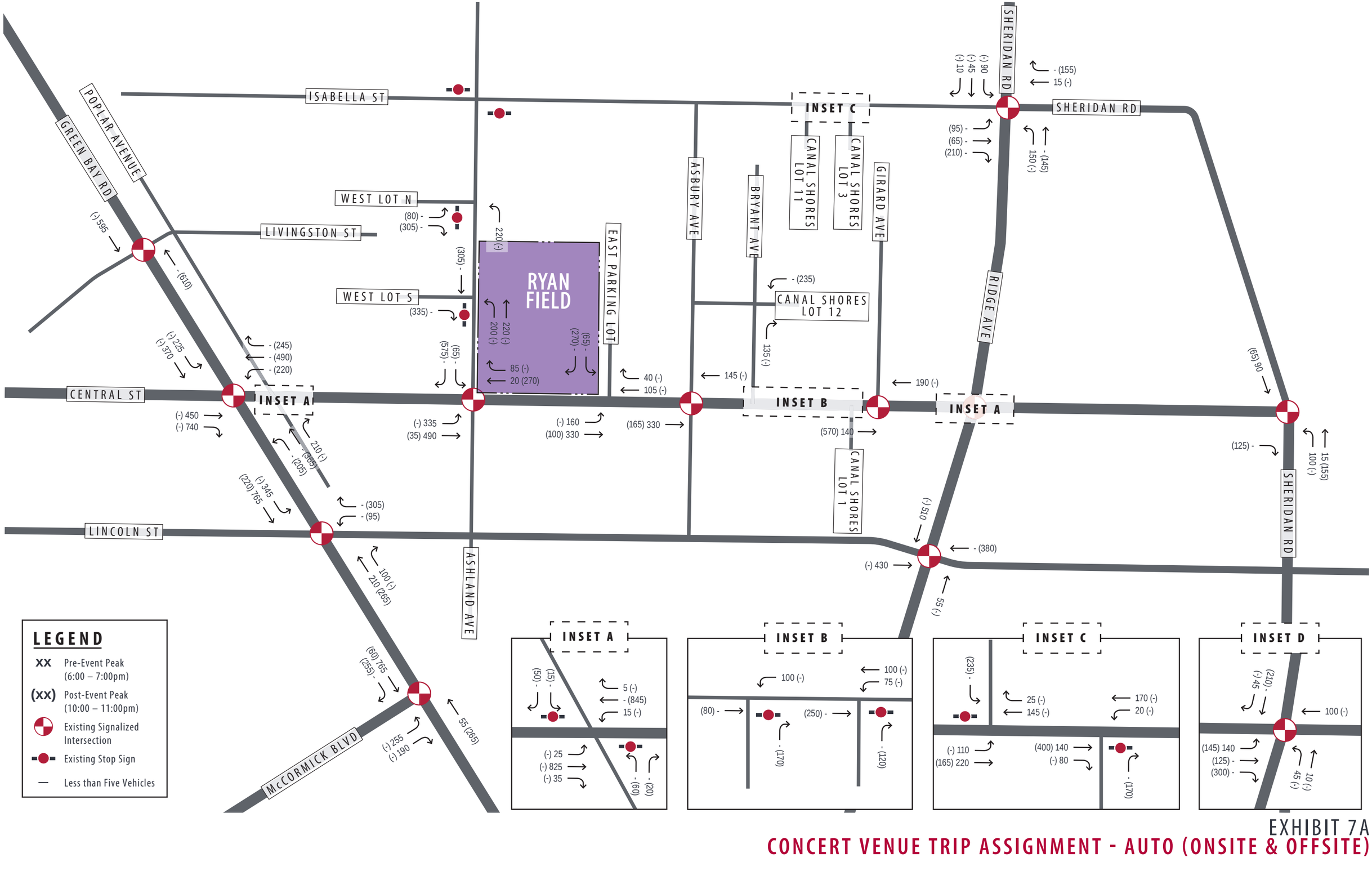


EXHIBIT 7A

CONCERT VENUE TRIP ASSIGNMENT - AUTO (ONSITE & OFFSITE)

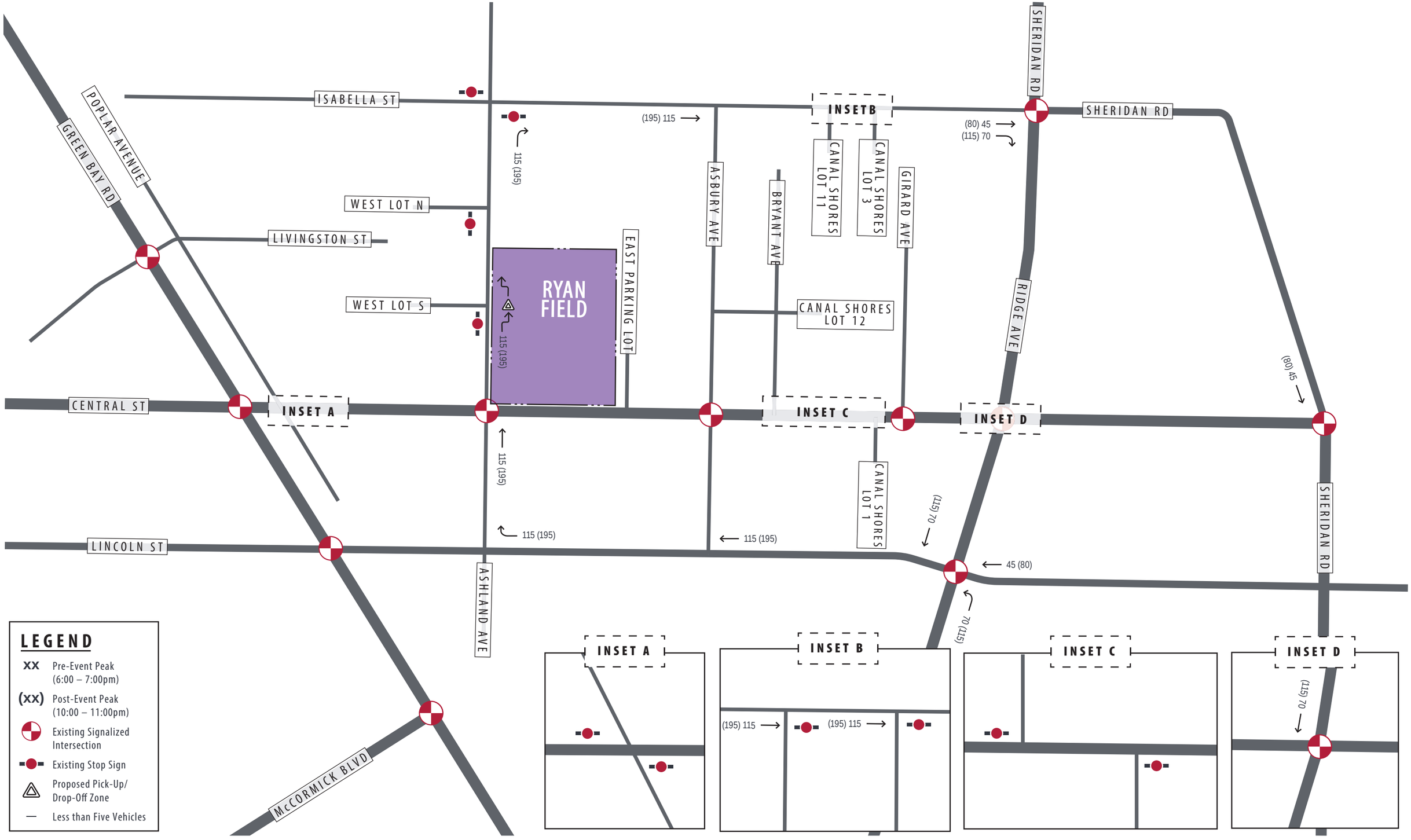
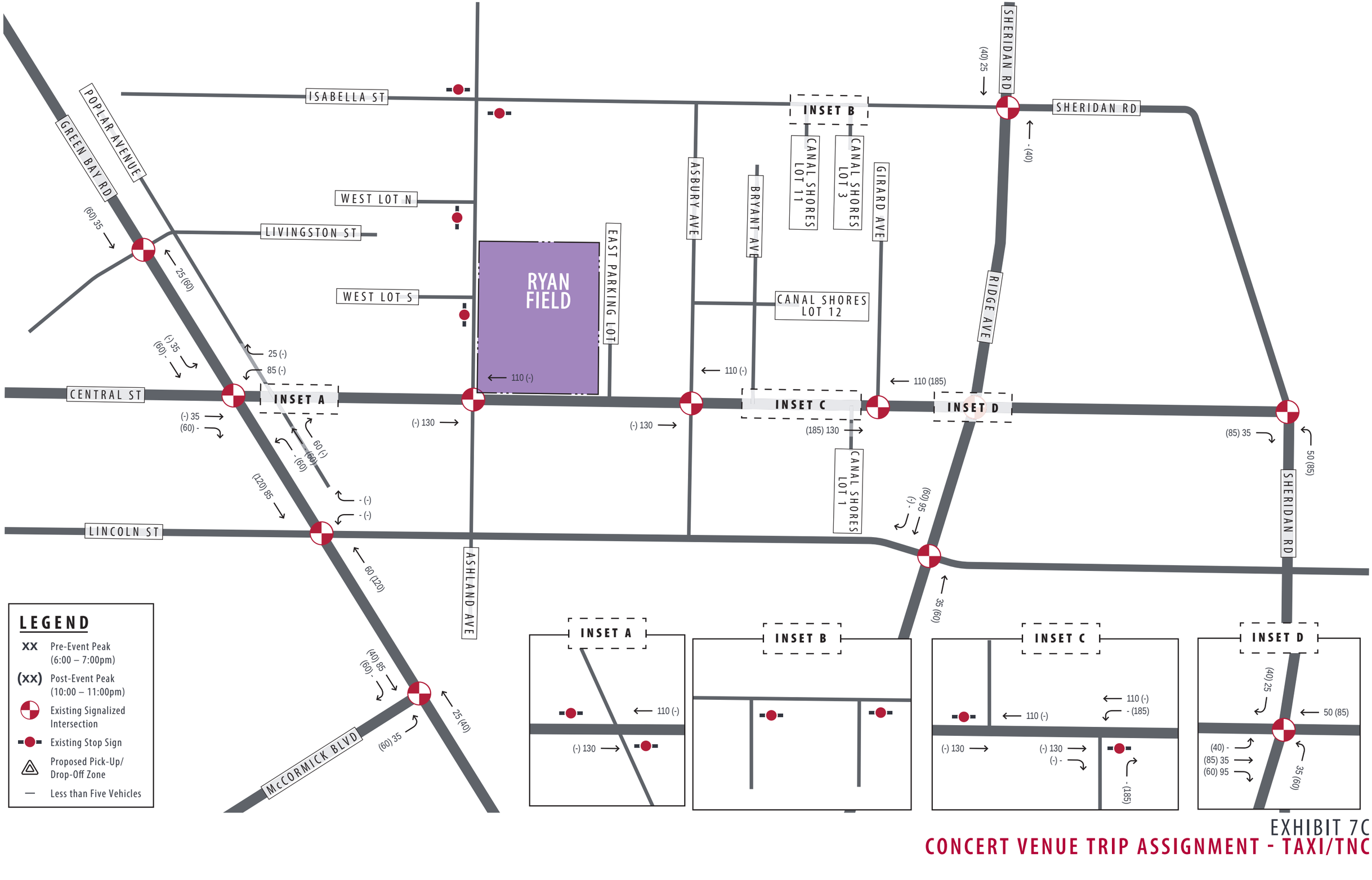


EXHIBIT 7B

CONCERT VENUE TRIP ASSIGNMENT - SHUTTLE BUS

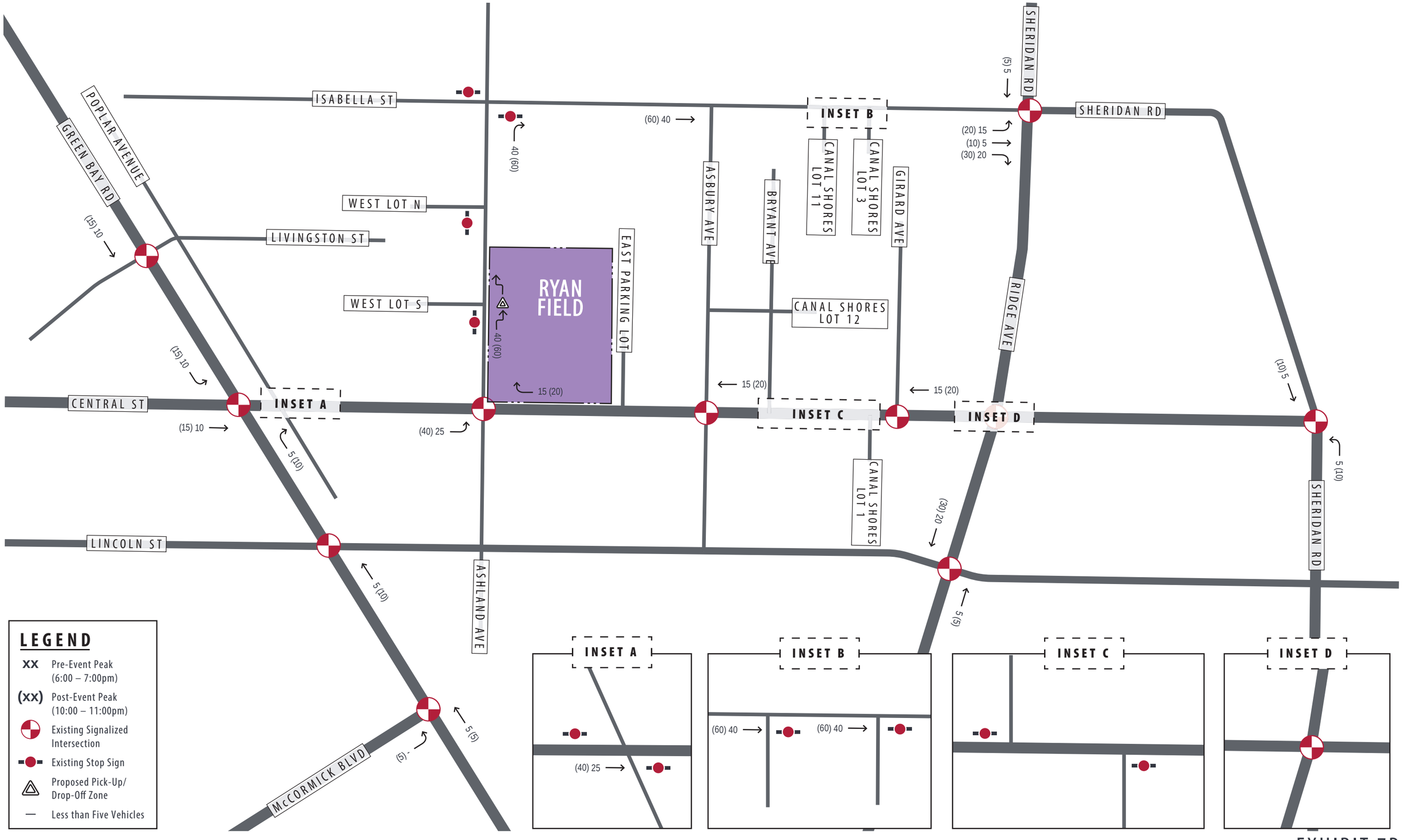


LEGEND

- **XX** Pre-Event Peak (6:00 – 7:00pm)
- **(XX)** Post-Event Peak (10:00 – 11:00pm)
- Existing Signalized Intersection
- Existing Stop Sign
- Proposed Pick-Up/ Drop-Off Zone
- — Less than Five Vehicles

EXHIBIT 7C

CONCERT VENUE TRIP ASSIGNMENT - TAXI/TNC



LEGEND

- **XX** Pre-Event Peak (6:00 – 7:00pm)
- **(XX)** Post-Event Peak (10:00 – 11:00pm)
- Existing Signalized Intersection
- Existing Stop Sign
- Proposed Pick-Up/ Drop-Off Zone
- — Less than Five Vehicles

EXHIBIT 7D

CONCERT VENUE TRIP ASSIGNMENT - PARTY BUS/TROLLEY AND BLACK CAR

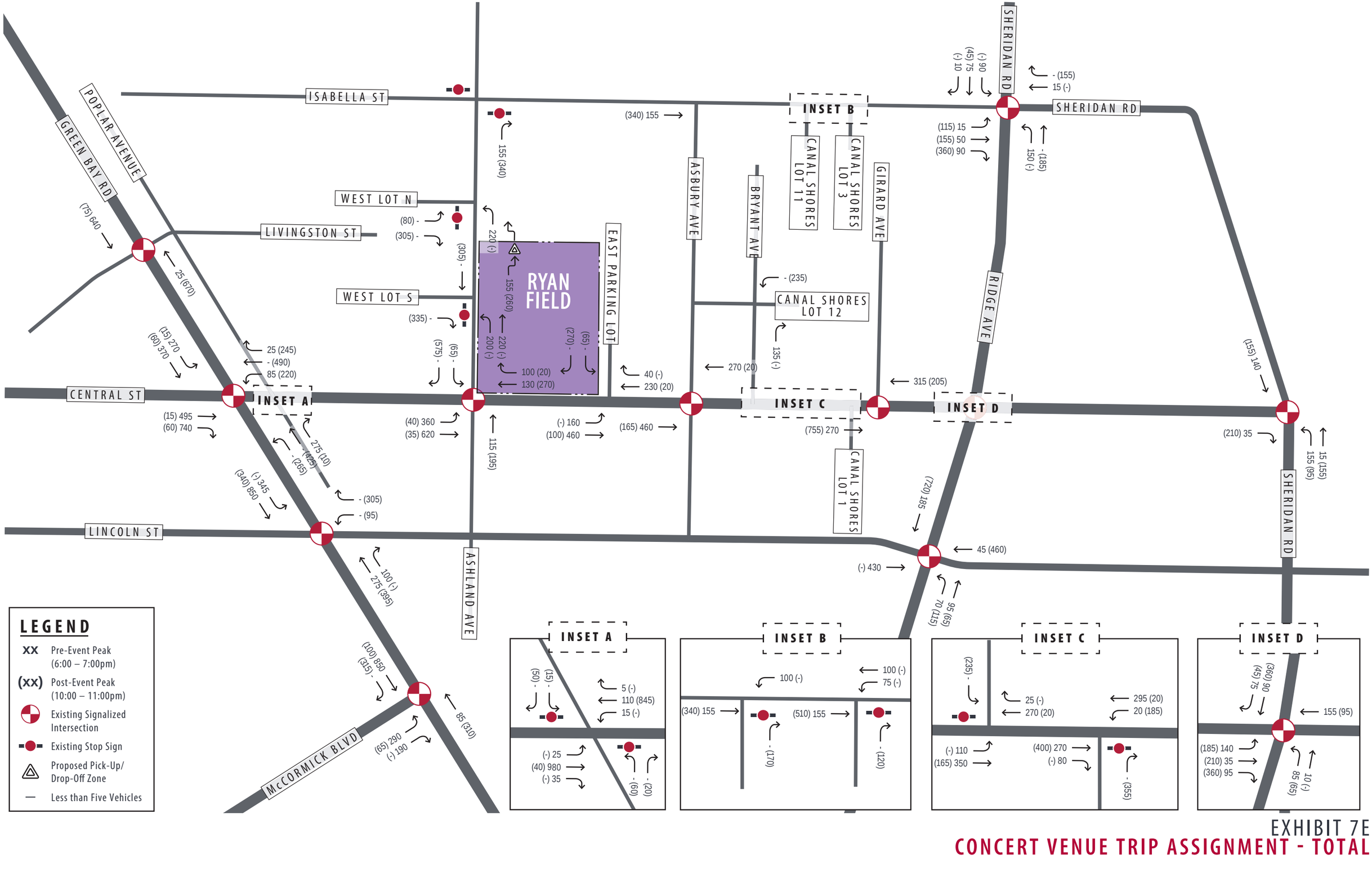


EXHIBIT 7E

CONCERT VENUE TRIP ASSIGNMENT - TOTAL

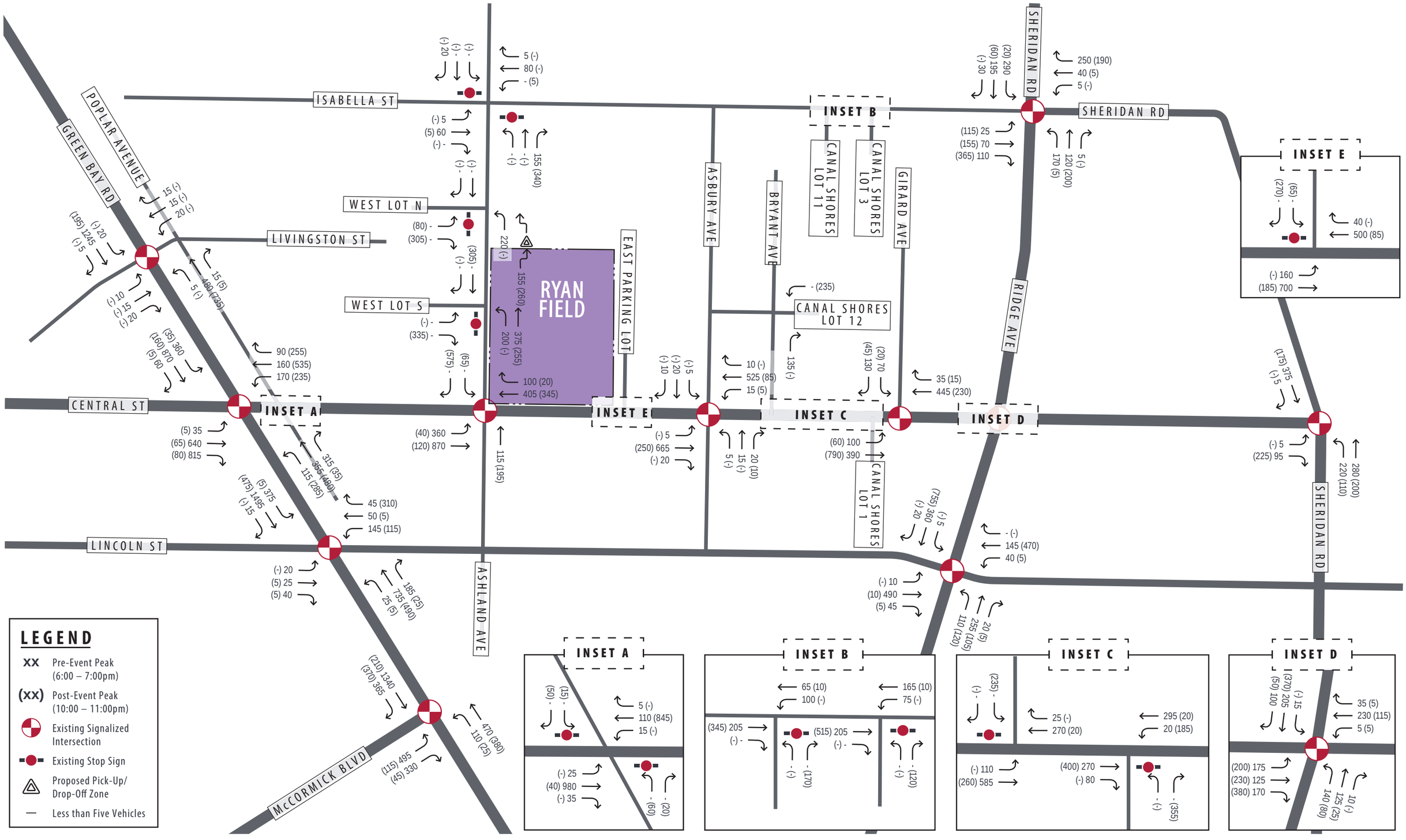


EXHIBIT 8

FUTURE (2026) WEEKDAY TRAFFIC PROJECTIONS

LEGEND

- **XX** Pre-Event Peak (6:00 – 7:00pm)
- **(XX)** Post-Event Peak (10:00 – 11:00pm)
- Existing Signalized Intersection
- Existing Stop Sign
- Proposed Pick-Up/ Drop-Off Zone
- — Less than Five Vehicles

EXHIBIT 9

FUTURE (2026) WEEKEND TRAFFIC PROJECTIONS

ANALYSES

This section of the report provides an overview of projected traffic conditions across the study intersections, evaluates the projected parking demands for the site relative to available capacity, and highlights key transportation elements of the Ryan Field redevelopment plan. Based on this review, key recommendations and site design components intended to mitigate transportation impacts and aid in event traffic management are summarized.

Capacity Analyses

Capacity analyses were conducted at each of the study intersections to assess the existing and future operating conditions during the weekday and weekend (Saturday) pre-event and post-event peak hours. The existing condition analysis represents a baseline scenario that future conditions will be compared to for purposes of evaluating impacts.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS) according to the average delay per vehicle passing through the intersection. Levels of service range from A to F with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). Typically, the minimum acceptable level of service accepted by jurisdictional agencies in Northeastern Illinois is LOS D. However, in some circumstances due to physical constraints or other design considerations, some intersections or individual movements/approaches may operate at LOS E or LOS F during peak periods.

A detailed description of each LOS rating can be found in **Table 11**. The range of control delay for each rating (as detailed in the HCM) is shown in **Table 12**.

Table 11. Level of Service Grading Descriptions[1]

Level of Service	Description
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	High control delay; average travel speed no more than 33 percent of free flow speed.
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

[1] Highway Capacity Manual, 6th Edition

Table 12. Level of Service Grading Criteria[1]

Level of Service	Average Control Delay (s/veh) at:	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F[2]	> 50	> 80

1 Highway Capacity Manual, 6th Edition

2 All movements with a volume-to-capacity (v/C) ratio greater than 1 receive a rating of LOS F.

Synchro software (version 11) was utilized to evaluate capacity of the study intersections (reported overall and by approach) for the study peak hours. **Table 13** summarizes the existing and total traffic conditions capacity analysis results for the weekday and weekend (Saturday) pre-event and post-event peak hours. In this table, operation on each approach is quantified according to the average delay per vehicle and the corresponding LOS.

The results presented in Table 13 for signalized intersections are based on Synchro's Lanes, Volumes, Timings (LVT) methodology, while minor-leg stop controlled intersections are based on HCM 6th Edition methodology. Detailed capacity analysis worksheets are included in the Technical Appendix.

Existing Conditions Analyses Assumptions

The capacity analysis includes functional deviations from the marked lane configurations at select intersection approaches within the study area. These deviations are incorporated into the analysis to reflect how traffic actually uses the streets, rather than limitations of the lane markings. For example, many single-lane approaches to intersections function similar to having a short (25 to 50-foot) bypass lane around vehicles waiting for oncoming traffic before turning left or while vehicles wait for pedestrians to clear the crosswalk before turning right. These lanes aren't specifically marked, but from a practical standpoint, vehicles have been regularly observed to be able to go around 1-2 vehicles waiting to complete turns. To reflect these observed conditions and flexibility available for traffic on marked single-lane approaches, the Synchro model incorporates short-auxiliary lanes at the following intersections:

- Green Bay Road / Central Street
- Green Bay Road / Lincoln Street
- Central Street / Ashland Avenue
- Ridge Avenue / Lincoln Street

Event Conditions Analyses Assumptions

Capacity analysis for the weekday and weekend (Saturday) pre- and post-event peak hours incorporate several functional deviations from the marked lane configurations and traffic control at key intersections. These adjustments reflect temporary event-condition lane configurations, traffic control, and signal timings to reflect active management by police or authorized traffic

control personnel. These temporary modifications and flexible use of available lanes and street width are used to help accommodate the larger directional traffic flows associated with stadium events than what is experienced on typical days through the year. These configurations and traffic control help to load the site before a concert and exit the site following a concert.

Examples of such temporary adjustments include conditions such as, directing all approaching traffic to complete right turns, modifying a two-way street to provide one-way traffic, and operating a traffic signal manually to allocate green time in a way that prioritizes certain high-volume movements more than what is conventionally assigned to the movement. The capacity analysis results reflect these event-condition functional adjustments, and they are noted as strategies to manage gameday peak traffic flows.

Kimley»Horn

Table 13. Capacity Analysis - Typical Weekday and Weekend (Saturday) Pre-Event and Post-Event Peak Hours

Intersection	Weekday								Weekend							
	Pre-Event				Post-Event				Pre-Event				Post-Event			
	Existing		Future		Existing		Future		Existing		Future		Existing		Future	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
Green Bay Road / Livingston Street ✱																
Eastbound	14	B	14	B	18	B	18	B	12	B	12	B	19	B	19	B
Westbound	16	B	16	B	18	B	18	B	15	B	15	B	18	B	18	B
Northbound	3	A	8	A	3	A	9	A	3	A	8	A	3	A	10-	A
Southbound	9	A	13	B	7	A	7	A	8	A	11	B	7	A	7	A
Intersection	*7*	*A*	*12*	*B*	*6*	*A*	*9*	*A*	*6*	*A*	*11*	*B*	*6*	*A*	*9*	*A*
Green Bay Road / Central Street ✱ P																
Eastbound	18	B	50	D	14	B	6	A	16	B	53	D[3]	14	B	6	A
Westbound	19	B	65	E[1]	15	B	71	E[5]	16	B	18	B	15	B	71	E[5]
Northbound	26	C	81	F	23	C	40	D	25	C	61	E	24	C	43	D
Southbound	13	B	76	E[1]	12	B	44	D	12	B	67	E[1]	12	B	47	D
Intersection	*19*	*B*	*66*	*E*	*16*	*B*	*52*	*D*	*17*	*B*	*56*	*E*	*16*	*B*	*54*	*D*
Green Bay Road / Lincoln Road ✱ P																
Eastbound	11	B	28	C	14	B	14	B	12	B	34	C	13	B	13	B
Westbound	18	B	52	D[4]	16	B	9	A	16	B	45	D[4]	15	B	10+	B
Northbound	23	C	25	C	15	B	18	B	21	C	12	B	18	B	18	B
Southbound	11	B	16	B	9	A	17	B	10	B	7	A	9	A	17	B
Intersection	*16*	*B*	*22*	*C*	*13*	*B*	*15*	*B*	*15*	*B*	*11*	*B*	*14*	*B*	*16*	*B*
Green Bay Road / McCormick Boulevard ✱ P																
Eastbound	13	B	>120	F	12	B	28	C	13	B	94	F	13	B	29	C
Northbound	8	A	18	B[4]	7	A	3	A	7	A	12	B	7	A	3	A
Southbound	11	B	76	E[5]	6	A	6	A	8	A	48	D	5	A	6	A
Intersection	*10+*	*B*	*89*	*F*	*9*	*A*	*8*	*A*	*9*	*A*	*55-*	*D*	*8*	*A*	*8*	*A*
Central Street / Poplar Avenue P																
Eastbound	-	-	11	B	-	-	2	A	-	-	11	B	-	-	2	A
Westbound	-	-	2	A	-	-	8	A	-	-	2	A	-	-	8	A
Northbound	-	-	39	D	-	-	48	D	-	-	39	D	-	-	50	D
Southbound	-	-	39	D	-	-	23	C	-	-	39	D	-	-	23	C
Intersection	*-*	*-*	*9*	*A*			*11*	*B*			*9*	*A*			*11*	*B*
Central Street / Ashland Avenue ✱ P																
Eastbound	8	A	8	A	7	A	34	C	8	A	9	A	7	A	10+	B
Westbound	9	A	3	A	7	A	44	D	7	A	3	A	7	A	13	B
Northbound	-	-	61	E	-	-	9	A	-	-	72	E	-	-	11	B
Southbound	18	B	-	-	19	B	11	B	13	B	-	-	12	B	10+	B
Intersection	*10*	*A*	*10-*	*A*	*9*	*A*	*22*	*C*	*8*	*A*	*15*	*B*	*8*	*A*	*11*	*B*

Table 13. Capacity Analysis - Typical Weekday and Weekend (Saturday) Pre-Event and Post-Event Peak Hours (Continued)

Intersection	Weekday								Weekend							
	Pre-Event				Post-Event				Pre-Event				Post-Event			
	Existing		Future		Existing		Future		Existing		Future		Existing		Future	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
Isabella Street / Ashland Avenue △ **P**																
Eastbound (Left)	1	A	7	A	1	A	7	A	<1	A	7	A	<1	A	7	A
Westbound (Left)	2	A	-	-	5	A	-	-	2	A	-	-	2	A	-	-
Northbound	10-	A	9	A	9	A	10+	B	9	A	9	A	9	A	10+	B
Southbound	10+	B	9	A	9	A	10+	B	10-	A	9	A	9	A	9	A
Ashland Avenue / N West Lot Drive **P**																
Eastbound	-	-	-	-	-	-	3	A	-	-	-	-	-	-	3	A
Northbound	-	-	<1	A	-	-	8	A	-	-	<1	A	-	-	8	A
Southbound	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Intersection	-	-	-	-	-	-	*5*	*A*	-	-	-	-	-	-	*5*	*A*
Ashland Avenue / S West Lot Drive **P**																
Eastbound	-	-	-	-	-	-	3	A	-	-	-	-	-	-	2	A
Northbound	-	-	0	A	-	-	6	A	-	-	0	A	-	-	6	A
Southbound	-	-	-	-	-	-	7	A	-	-	-	-	-	-	7	A
Intersection	-	-	-	-	-	-	*5*	*A*	-	-	-	-	-	-	*5*	*A*
Central Street / East Lot Drive[6] △ **P**																
Eastbound	-	-	9	A	-	-	7	A	-	-	9	A	-	-	6	A
Westbound	-	-	-	-	-	-	6	A	-	-	-	-	-	-	6	A
Southbound	-	-	28	D	-	-	6	A	-	-	21	C	-	-	6	A
Intersection	-	-	-	-	-	-	*6*	*A*	-	-	-	-	-	-	*6*	*A*
Central Street / Asbury Avenue ✱ **P**																
Eastbound	3	A	5	A	2	A	2	A	3	A	4	A	2	A	2	A
Westbound	3	A	4	A	2	A	2	A	3	A	3	A	2	A	2	A
Northbound	7	A	16	B	10-	A	10-	A	8	A	17	B	11	B	12	B
Southbound	8	A	18	B	13	B	13	B	9	A	18	B	10+	B	11	B
Intersection	*3*	*A*	*5*	*A*	*3*	*A*	*2*	*A*	*3*	*A*	*4*	*A*	*3*	*A*	*2*	*A*
Central Street / Bryant Avenue[6] △/ **P**																
Eastbound	-	-	8	A	-	-	9	A	-	-	8	A	-	-	8	A
Westbound	-	-	-	-	-	-	7	A	-	-	-	-	-	-	7	A
Southbound	-	-	<1	A	-	-	13	B	-	-	<1	A	-	-	13	B
Intersection	-	-	-	-	-	-	*11*	*B*	-	-	-	-	-	-	*11*	*B*
Isabella Street / Lot 11 △																
Westbound (Left)	-	-	8	A	-	-	-	-	-	-	8	A	-	-	-	-
Northbound	-	-	11	B	-	-	12	B	-	-	11	B	-	-	12	B
Isabella Street / Lot 3 △																
Westbound (Left)	-	-	8	A	-	-	-	-	-	-	8	A	-	-	-	-
Northbound	-	-	11	B	-	-	14	B	-	-	11	B	-	-	14	B
Bryant Avenue / Lot 12 △																
Westbound	-	-	8	A	-	-	10-	A	-	-	8	A	-	-	10-	A

Table 13. Capacity Analysis - Typical Weekday and Weekend (Saturday) Pre-Event and Post-Event Peak Hours (Continued)

Intersection	Weekday								Weekend							
	Pre-Event				Post-Event				Pre-Event				Post-Event			
	Existing		Future		Existing		Future		Existing		Future		Existing		Future	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
Eastbound	-	-	-	-	-	-	16	B	-	-	-	-	-	-	42	D
Westbound	-	-	8	A	-	-	4	A	-	-	8	A	-	-	24	C
Northbound	-	-	>1	A	-	-	5	A	-	-	12	B	-	-	4	A
Intersection	-	-	-	-	-	-	*9*	*A*	-	-	-	-	-	-	*24*	*C*
Central Street / Girard Avenue ✱																
Eastbound	5	A	6	A	4	A	7	A	4	A	5	A	4	A	5	A
Westbound	10-	A	11	B	7	A	7	A	8	A	9	A	6	A	5	A
Southbound	10+	B	13	B	9	A	15	B	11	B	14	B	9	A	17	B
Intersection	*8*	*A*	*9*	*A*	*6*	*A*	*8*	*A*	*7*	*A*	*7*	*A*	*6*	*A*	*5*	*A*
Central Street / Ridge Avenue ✱ P																
Eastbound	15	B	22	C	10-	A	26	C	14	B	19	B	10-	A	27	C
Westbound	14	B	27	C	9	A	20+	C	11	B	25	C	9	A	22	C
Northbound	13	B	16	B	11	B	34	C	11	B	14	B	11	B	32	C
Southbound	18	B	27	C	12	B	39	D	15	B	24	C	11	B	39	D
Intersection	*15*	*B*	*23*	*C*	*10+*	*B*	*30*	*C*	*13*	*B*	*21*	*B*	*10+*	*B*	*31*	*C*
Central Street / Sheridan Road ✱																
Eastbound	11	B	9	A	16	B	7	A	13	B	10+	B	16	B	7	A
Northbound	8	A	9	A	7	A	8	A	7	A	8	A	7	A	8	A
Southbound	14	A	16	B	11	B	13	B	12	B	14	B	12	B	14	B
Intersection	*11*	*A*	*12*	*B*	*9*	*A*	*9*	*A*	*10-*	*A*	*11*	*B*	*9*	*A*	*9*	*A*
Sheridan Road / Ridge Avenue / Isabella Street ✱																
Eastbound	23	B	35-	C	12	B	31	C	14	B	26	C	13	B	34	C
Westbound	5	A	7	A	5	A	2	A	6	A	9	A	5	A	2	A
Northbound	26	B	35-	C	14	B	49	D	17	B	28	C	13	B	51	D
Southbound	15	B	25	C	10+	B	45	D	13	B	23	C	11	B	48	D
Intersection	*14*	*B*	*25*	*C*	*9*	*A*	*30*	*C*	*11*	*B*	*22*	*C*	*9*	*A*	*32*	*C*
Ridge Avenue / Lincoln Street ✱																
Eastbound	9	A	23	C	8	A	8	A	9	A	22	C	10-	A	10-	A
Westbound	13	B	15	B	11	B	23	C	12	B	13	B	10+	B	25	C
Northbound	12	B	14	B	9	A	64	E[1]	10+	B	12	B	9	A	72	E[1]
Southbound	11	B	15	B	10-	A	70	E	10+	B	13	B	9	A	76	E
Intersection	*11*	*B*	*18*	*B*	*9*	*A*	*53*	*D*	*11*	*B*	*17*	*B*	*10-*	*A*	*57*	*E*

✱ - Signalized Intersection △ - Minor-Leg Stop-Controlled Intersection **P**- Intersection Operated under Police Control

[1]Left-turn movement operates at LOS F [2]Right-turn movement operates at LOS F [3]Right-turn movement operates at LOS E [4]Left-turn movement operates at LOS E [5]Through movement operates at LOS F

[6]Central Street/Bryant Avenue, Central Street/East Lot Drive, and Central Street/Canal Shores Lot 1 operate under Minor-Leg Stop Control during the Pre-Event peak period and under Police Control during the Post-Event peak period.

Green Bay Road / Livingston Street

Existing Operations

Under existing conditions, the signalized intersection of Green Bay Road / Livingston Street operates well at LOS B or better on all approaches during all peak hours with 95th percentile queues of approximately four vehicles (100 feet) or less.

Future Pre-Event Operations

The addition of pre-event site traffic is expected to have little impact on intersection operations, with levels of service during future weekday and weekend pre-event peak hours remaining at LOS B or better. During weekday and weekend pre-event conditions, 95th percentile queues are projected to remain at four vehicles or less at the east, west, and northbound approaches, and the 95th percentile queues on the southbound approach are projected to increase to a maximum of approximately 11 vehicles (280 feet).

Future Post-Event Operations

Future post-event conditions are expected to operate similarly to pre-event conditions during weekday and weekend event days. All approaches are projected to continue operating at LOS B or better, and the east, west, and southbound approaches have projected 95th percentile queues of two vehicles (50 feet) or less, while the northbound approach has projected 95th percentile queues of less than 6 vehicles (150 feet).

Green Bay Road / Central Street

Existing Operations

The signalized intersection of Green Bay Road / Central Street operates well under existing conditions, with all approaches operating at LOS B except for the northbound approach which operates at LOS C during all peak hours. All existing 95th percentile queues are six vehicles (150 feet) or less and accommodated by existing storage.

Future Pre-Event Operations

As a key intersection in the network that experiences arrivals and departures to/from main routes located west of the site, Green Bay Road / Central Street is expected to experience increases in delays and queues with the addition of pre-event concert venue traffic. As such, it is recommended that the traffic signal be controlled by police officers to maintain efficient flow through the intersection.

With these changes, the eastbound approach, which includes most traffic travelling to the concert venue from the west, is expected to operate acceptably at LOS D during both weekday and weekend events. The projected 95th percentile queue for the eastbound right-turn movement extends west 830-885 feet to Stewart Avenue near Independence Park. When right-turn volumes are high, the current approach geometry on Central Street at Green Bay Road functions like having an eastbound right-turn only lane, maintaining projected delays of less than one minute per vehicle. During the weekday peak hour, the westbound approach is projected to operate at LOS E with an average delay of approximately one minute and 95th percentile queues for the westbound left-turn movement of approximately 12 vehicles (300 feet) extending just east of Poplar Avenue. The westbound approach during

the weekend peak hour is expected to operate at LOS B with 95th percentile queues of less than four vehicles (100 feet). During both the weekday and weekend peak hours, the north and southbound approaches are projected to operate at LOS E or LOS F with average delays of less than one and a half minutes. The projected northbound left-turn 95th percentile queues are accommodated within the existing storage, and the projected southbound left-turn 95th percentile queues exceed the existing storage and taper by 10 vehicles (250 feet) or less, which will likely result in queue spillback into the through lanes. It should be noted this queue does not extend north past Livingston Street.

Based on site observations, such delays and queues at Green Bay Road / Central Street are comparable to those experienced during peak arrival times for NU football games where, despite heavier-than-normal traffic, police control facilitated acceptable traffic flow.

Future Post-Event Operations

Consistent with future pre-event conditions, it is recommended that police control be posted at Green Bay Road / Central Street to facilitate post-event traffic flow. With the addition of concert traffic, all approaches are expected to operate acceptably at LOS D or better with delays of 47 seconds or less during both weekday and weekend peak hours. With traffic exiting the event and heading west on Central Street, maximum projected 95th percentile queues on the westbound approach extend east approximately 840 feet to Eastwood Avenue, and maximum northbound left-turn projected 95th percentile queues exceed existing storage and taper by approximately 7 vehicles (175 feet) which will likely result in queue spillback into the through lanes. All projected 95th percentile queues for other approaches and movements are accommodated by the existing storage.

Similar to pre-event operations, the projected delays and queues are comparable to those experienced during NU football games.

Green Bay Road / Lincoln Street

Existing Operations

Under existing conditions, all approaches at the signalized intersection of Green Bay Road / Lincoln Street operate at LOS C or better during the weekday peak hour and LOS B or better during the weekend peak hour, and all existing 95th percentile queues are accommodated by existing storage.

Future Pre-Event Operations

To accommodate concert traffic travelling southbound along Green Bay Road to off-site parking locations, it is recommended that police be posted at the Green Bay Road / Lincoln Street intersection to control the traffic signal.

It is anticipated that all approaches operate acceptably at LOS D or better during the weekday and weekend peak hours. Maximum projected 95th percentile queues for the southbound left-turn movement exceed available storage and taper by approximately four vehicles (100 feet), and all other projected 95th percentile queues are accommodated within existing storage.

Future Post-Event Operations.

During the both the weekday and weekend peak hour, the addition of site traffic is not expected to nominally impact traffic operations, with all approaches operating at LOS B or better and all 95th percentile queues adequately accommodated by the existing storage.

During the post-event peak hours, it is recommended that police be present at the intersection to facilitate pedestrian crossing along Green Bay Road to access the proposed taxi/TNC vehicle pick-up location at Haven Middle School.

Green Bay Road / McCormick Boulevard

Existing Operations

Existing traffic at the signalized intersection of Green Bay Road / McCormick Boulevard operates at LOS B or better on all approaches during both the weekday and weekend peak hour, and all 95th percentile queues are accommodated by existing storage.

Future Pre-Event Operations

Similar to the intersection of Green Bay Road / Lincoln Street, police control at the traffic signal is recommended to accommodate event traffic travelling southbound along Green Bay Road to off-site parking locations.

With the addition of concert traffic, the northbound approach is projected to operate at LOS A, and the east and southbound approaches are projected to operate at LOS F. Despite the anticipated southbound through movement 95th percentile queue of 1,500 feet extending through Lincoln Street, it is anticipated that the actual queue would extend near Haven Middle School as a result of Green Bay Road transitioning to provide two southbound through lanes just north of Kingsley Elementary School. All other projected 95th percentile queues do not exceed available storage.

Future Post-Event Operations

The addition of event traffic is not expected to nominally impact operations during the weekday and weekend post-event peak hours. All approaches are estimated to operate at LOS C or better, and the projected 95th percentile queues are adequately accommodated by the existing storage.

Central Street / Poplar Avenue

Future Pre-Event Operations

As a proximate intersection to the Metra Central Station, police control is recommended at the intersection of Central Street / Poplar Avenue to facilitate crossing for pedestrians travelling east to the stadium from the train. It is projected that all approaches on the intersection operate with acceptable delay at LOS D or better during the weekday and weekend peak hours. The 95th percentile queues on the west, north, and southbound intersections are projected to be approximately one vehicle (25 feet) or less. On the eastbound approach, as vehicles travel east to the stadium, the projected 95th percentile queue is projected to be approximately 13 vehicles (325), which extends west past the Green Bay Road / Central Street intersection.

Future Post-Event Operations

Similar to pre-event operations, police control is recommended at the Central Street / Poplar Avenue intersection to aid pedestrian crossing back to the Metra Central Street Station. The intersection is expected to operate at LOS D or better on all approaches during both the weekday and weekend peak hours. On the west, north, and southbound approaches, the projected 95th percentile queues are approximately four vehicles (100 feet) or less. On the westbound approach, the 95th percentile queue is estimated to be approximately six vehicles (150 feet).

Central Street / Ashland Avenue

Existing Operations

At all approaches, the signalized intersection of Central Street / Ashland Avenue currently operates at LOS B or better during all peak hours, with a maximum 95th percentile queue of 4 vehicles (100 feet).

Future Pre-Event Operations

As a key intersection to access the West Parking Lot and shuttle loading activity along Ashland Avenue, police control of the traffic signal is recommended to both manage concert traffic flow and facilitate pedestrian crossings adjacent to the stadium. With Ashland Avenue operating as one-way northbound and the northbound approach at the intersection restricted to only shuttle traffic, the east and westbound approaches are estimated to operate at LOS A. The maximum projected eastbound queue is 12 vehicles (300 feet), while the projected westbound queues is three vehicles (75 feet) or less. The northbound approach is estimated to operate at LOS E due to the priority that will be given to east and west movements before shuttles can cross the intersection, and the projected 95th percentile queue is approximately 75 feet (two shuttles).

Despite the increase traffic due to concerts, the one-way northbound configuration of Ashland Avenue during the pre-event peak hour allows for more efficient allocation of green time at the intersection.

Future Post-Event Operations

Consistent with pre-event operations, police control is recommended at the intersection to aid vehicular and pedestrian traffic exiting the stadium. With police control, it is estimated that all approaches will operate acceptably at LOS D or better during the weekday and weekend peak hours. With one-way northbound operations still in effect on the south leg of the intersection, northbound 95th percentile queues are projected to be less than one vehicle (25 feet), and 95th percentile queues on the southbound right-turn movement are projected to be approximately six vehicles (300 feet). The eastbound approach is estimated to have a 95th percentile queue of approximately five vehicles, and the westbound projected 95th percentile queue is approximately seven vehicles (325 feet).

Isabella Street / Ashland Avenue

Existing Operations

Under existing conditions, the minor-leg intersection of Isabella Street / Ashland Avenue operates well at LOS B or better on all approaches during all peak hours with 95th percentile queues of less than one vehicle.

Future Pre-Event Operations

Since most event traffic travelling along Ashland Avenue is expected to enter the West Parking Lot south of the Isabella Street / Ashland Avenue intersection, the intersection is expected to operate at LOS A on all approaches during the weekday and weekend pre-event peak hours, and all 95th percentile queues are estimated to be less than one vehicle.

Future Post-Event Operations

Future post-event conditions are expected to operate similarly to pre-event conditions with all approaches operating at LOS A and all estimated 95th percentile queues at less than one vehicle.

Ashland Avenue / West Parking Lot Drive (North)

Future Pre-Event Operations

With Ashland Avenue operating as one-way northbound and the driveway operating as inbound-only, the northbound left-turn movement during both the weekday and weekend peak hours is projected to operate at LOS A with 95th percentile queues of less than one vehicle.

It should be noted that queues are expected to be slightly longer during peak concert arrival times due to the time taken for parking patrol officers to verify parking credentials before vehicles enter the parking lot. Similar operations were observed during football games with the intersection continuing to operate efficiently.

Future Post-Event Operations

With two-way operations along Ashland Avenue and right-out only operations at the driveway, the eastbound right, and north and southbound though movements are projected to operate at LOS A during both the weekday and weekend peak hours. The southbound through movement is projected to experience a 95th percentile queue of approximately two vehicles (50 feet), and the eastbound right and northbound through movements have projected 95th percentile queues of less than one vehicle (25 feet).

These results are consistent with observations during football games, where the West Parking Lot access driveways operated with minimal delays and queueing.

Ashland Avenue / West Parking Lot Drive (South)

Future Pre-Event Operations

Similar to the Ashland Avenue / West Parking Lot Drive (North) intersection, Ashland Avenue operates as one-way northbound and the driveway operates as inbound-only, and the northbound left-turn movement during both the weekday and weekend peak hours is projected to operate at LOS A with 95th percentile queues of less than one vehicle.

Future Post-Event Operations

With two-way operations along Ashland Avenue and right-out-only operations at the driveway, the eastbound right, and north and southbound though movements are projected to operate at LOS A during both the weekday and weekend peak hours. The southbound through movement is projected to experience a 95th percentile queue of approximately two vehicles (50 feet), and the eastbound right and northbound through movements have projected 95th percentile queues of less than one vehicle (25 feet).

Central Street / East Parking Lot Drive

Future Pre-Event Operations

With the East Parking Lot driveway operating as inbound-only, the eastbound left-turn and westbound right-turn movements at Central Street / East Parking Lot Drive are projected to operate at LOS A with 95th percentile queues of less than one vehicle (25 feet) during the weekday and weekend peak hours.

Similar to the West Parking Lot driveways, slightly longer queues are anticipated while parking credentials are verified for each vehicle, but efficient operations are expected to be maintained.

Future Post-Event Operations

With the East Parking Lot driveway operating as outbound-only, the southbound approach at Central Street / East Parking Lot Drive is projected to operate at LOS A with a 95th percentile queue of approximately 2 vehicles (50 feet).

Central Street / Asbury Avenue

Existing Operations

Existing traffic at the signalized intersection of Central Street / Asbury Avenue operates at LOS B or better on all approaches during both the weekday and weekend peak hour, and 95th percentile queues on all approaches are approximately three vehicles (75 feet) or less.

Future Pre-Event Operations

Due to its proximity to the stadium, police control is recommended at this intersection to aid traffic flow and pedestrian crossings. With this change, the addition of concert traffic is not expected to nominally impact traffic operations, and all approaches are projected to continue operating at LOS B or better during the weekday and weekend peak hours. The projected eastbound 95th percentile queue is approximately eight vehicles (200 feet), and the projected westbound 95th percentile queue is approximately six vehicles (150 feet). The projected north and southbound 95th percentile queues are approximately one vehicle (25 feet) or less.

Future Post-Event Operations

Similar to the pre-event peak hours, with police control at the traffic signal, all approaches are estimated to continue to operate at LOS B or better during the weekday and weekend peak hours, and all 95th percentile queues are projected to be two vehicles (50 feet) or less.

Isabella Street / Canal Shores Lot 11

Future Pre-Event Operations

With the Canal Shores Lot 11 driveway operating as inbound-only, the eastbound left-turn and westbound right-turn movements at Isabella Street / Canal Shores Lot 11 are projected to operate at LOS A with 95th percentile queues of less than one vehicle (25 feet) during the weekday and weekend peak hours.

Future Post-Event Operations

With the Canal Shores Lot 11 driveway operating as outbound-only, the northbound approach at Isabella Street / Canal Shores Lot 11 is projected to operate at LOS A with a 95th percentile queue of approximately one vehicle (25 feet).

Isabella Street / Canal Shores Lot 3

Future Pre-Event Operations

Consistent with operations at the intersection of Isabella Street / Canal Shores Lot 11, the eastbound left-turn and westbound right-turn movements at Isabella Street / Canal Shores Lot 3 are projected to operate at LOS A with 95th percentile queues of less than one vehicle (25 feet) during the weekday and weekend peak hours.

Future Post-Event Operations

With the Canal Shores Lot 3 driveway operating as outbound-only, the northbound approach at Isabella Street / Canal Shores Lot 3 is projected to operate at LOS A with a 95th percentile queue of approximately one vehicle (25 feet).

Bryant Avenue / Canal Shores Lot 12

Future Pre-Event Operations

Similar to football game day operations, it is recommended that Bryant Avenue be restricted to northbound local traffic only during the pre-event peak hour. With this change and the Canal Shores Lot 12 driveway operating as inbound-only, the northbound right-turn movement is expected to operate at LOS A with a 95th percentile queue of less than one vehicle during the weekday and weekend peak hours.

Future Post-Event Operations

With the Canal Shores Lot 12 driveway operating as outbound-only, the westbound left-turn movement at Bryant Avenue / Canal Shores Lot 12 is projected to operate at LOS A with a 95th percentile queue of approximately one vehicle (25 feet).

Central Street / Canal Shores Lot 1

Future Pre-Event Operations

With the Canal Shores Lot 1 driveway operating as inbound-only, the eastbound right-turn and westbound left-turn movements are expected to operate at LOS A with a 95th percentile queue of less than one vehicle during the weekday and weekend peak hours.

As was observed during football game days, slightly higher delays are expected to be experienced as parking credentials are verified for each vehicle and as vehicles allow pedestrians travelling to/from the CTA Central Purple Line Station to cross.

Future Post-Event Operations

Police control during the weekday and weekend peak hours is recommended to facilitate both Canal Shores Lot 1 traffic and taxi/TNC vehicle traffic entering and exiting the Canal Shores Lot 1 driveway. It is projected that the eastbound and westbound approaches will operate acceptably at LOS D or better, while the northbound approach operates at LOS A due to priority being given to northbound right-turning vehicles exiting the parking lot and taxi/TNC pick-up zone. On the eastbound approach, the projected 95th percentile queue extends west approximately 14 vehicles (350 feet) to just west of the bridge, and on the westbound approach, the projected 95th percentile queue extends east approximately 4 vehicles (100 feet). The northbound 95th percentile queue is projected to be less than three vehicles (75 feet).

Central Street / Girard Avenue

Existing Operations

Under existing conditions, all approaches at the signalized intersection of Central Street / Girard Avenue operate at LOS B or better during both the weekday and weekend peak hour, with 95th percentile queues of approximately two vehicles (50 feet) or less.

Future Pre-Event Operations

With the addition of concert traffic, all approaches are projected to continue operating at LOS B or better during the weekday and weekend peak hours. The projected east and westbound 95th percentile queues are approximately seven vehicles (175 feet) or less, and the projected southbound queue is less than three vehicles (75 feet).

Without the utilization of the southern portion of Canal Shores Lot 3, the intersection of Central Street / Girard Avenue is expected to operate more efficiently than during football games due to less projected traffic on the southbound approach and less pedestrian activity.

Future Post-Event Operations

Consistent with the pre-event peak hours, all approaches are projected to operate at LOS B or better during the weekday and weekend peak hours. The eastbound 95th percentile queue is projected to be approximately 12 vehicles (325 feet) due to increased traffic exiting the taxi/TNC pick-up zone in the 1026 Central Street parking lot and the traffic exiting Canal Shores Lot 1 to travel eastbound. The projected west and southbound 95th percentile queues are approximately three vehicles (75 feet) or less.

Central Street / Ridge Avenue

Existing Operations

Existing traffic at the signalized intersection of Central Street / Ridge Avenue operates at LOS B or better on all approaches during both the weekday and weekend peak hour, and 95th percentile queues on all approaches are approximately four vehicles (100 feet) or less.

Future Pre-Event Operations

With the addition of concert traffic, the signalized intersection is estimated to operate acceptably at LOS C or better on all approaches during both the weekday and weekend peak hours. All 95th percentile queues are projected to be contained within the existing storage, with a maximum projected 95th percentile queue of approximately 10 vehicles (250 feet).

These results are consistent with site observations during football games at this intersection, where traffic volumes were heavier than normal but still operated acceptably and with satisfactory delays.

Future Post-Event Operations

As a key intersection for vehicles exiting from parking lots and the taxi/TNC pick-up zone east of the stadium, police control at Central Street / Ridge Avenue is recommended to facilitate post-event traffic flow. With the introduction of site traffic, the east, west, and northbound approaches operate at LOS C, and the southbound approach operates at LOS D due to traffic exiting from Canal Shores Lots 11 and 3 to the north and more priority being given to eastbound movements at the intersection. On the eastbound approach, the 95th percentile queue is projected to be approximately 22 vehicles (550 feet) which extends west near the Central Street / Girard Avenue intersection. On the southbound approach, the projected 95th percentile queue of approximately 13 vehicles (375 feet) extends to just south of the Evanston Hospital driveway.

Similar to the pre-event conditions, these delays and queues are comparable to those observed at the intersection during NU football games when police control was present.

Central Street / Sheridan Road

Existing Operations

Under existing conditions, the signalized intersection of Central Street / Sheridan Road operates well at LOS B or better on all approaches during all peak hours with 95th percentile queues of approximately six vehicles (150 feet) or less.

Future Pre-Event Operations

The addition of pre-event site traffic is expected to have little impact on intersection operations, with levels of service during future weekday and weekend pre-event peak hours remaining at LOS B or better. During weekday and weekend pre-event conditions, 95th percentile queues are projected to remain at six vehicles or less on the east, west, and northbound approaches, and the 95th percentile queues on the southbound approach are projected to increase to a maximum of approximately 9 vehicles (225 feet).

Future Post-Event Operations

Future post-event conditions are expected to operate similarly to pre-event conditions during weekday and weekend event days. All approaches are projected to continue operating at LOS B or better, and all approaches have projected 95th percentile queues of four vehicles (100 feet) or less.

Ridge Avenue / Lincoln Street

Existing Operations

The signalized intersection of Ridge Avenue / Lincoln Street currently operates at LOS B or better on all approaches during all peak hours with 95th percentile queues of approximately 4 vehicles (100 feet) or less.

Future Pre-Event Operations

The addition of pre-event concert traffic is expected to have little impact on intersection delays, with levels of service during future weekday and weekend pre-event peak hours expected to operate acceptably at LOS C or better. During weekday and weekend pre-event conditions, 95th percentile queues are projected to be six vehicles (150 feet) or less on the west, north, and southbound approaches. On the eastbound approach, the projected 95th percentile queue is approximately 12 vehicles (300 feet).

Future Post-Event Operations

With the addition of post-event traffic, all approaches at the Ridge Avenue / Lincoln Street intersection operate acceptably at LOS D or better. On the east and northbound approaches, the projected 95th percentile queues are four vehicles (100 feet) or less. On the westbound approach, the projected 95th percentile queue is approximately nine vehicles (225 feet). On the southbound approach, the 95th percentile queue is projected to be approximately 18 cars (450 feet), which extends just north of Milburn Street.

Parking Evaluation

Based on the noted assumptions for transportation mode share for concert goers driving and parking (52 percent), and the low end of the typical vehicle occupancy range experienced for concert events (2.5-2.75 people per vehicle), parking for approximately 6,000 vehicles is anticipated to serve a sellout concert at a 28,500-seat stadium. Fluctuations in mode share, vehicle occupancy, attendance, and various other factors can result in higher or lower parking needs, so it is appropriate to secure additional parking resources and monitor conditions until conditions at Ryan Field normalize and adjustments can be made accordingly to right-size the collective parking capacity serving the site.

However, with respect to the projected need for approximately 6,000 spaces, the redevelopment plan includes use of 6,522 spaces in a mix of on-site and off-site locations. Of these spaces, 2,366 spaces are planned in on-site locations adjacent to the stadium, including the West Parking Lot, East Parking Lot, Canal Shores Parking Lots #1, #3 (North Only), #11, #12, and Metra parking along Poplar Avenue. Parking within the neighborhoods east of Green Bay Road, west and north of the North Shore Channel, and south of Maple Avenue was not anticipated to be available and is recommended to be restricted so as to reduce the impact on nearby residences. Furthermore, 4,156 spaces of the 6,522 planned spaces are located in off-site locations either in Downtown Evanston or within NU Campus. These spaces are assumed to have 80% availability during concert events due to a mix of students, residents, and patrons already occupying the remaining 20% of spaces.

As stated in the *Redevelopment Plan* section of this report, the parking analysis assumes the usage of Canal Shores Parking lots, which total approximately 850 parking spaces. It is assumed these spaces would be available during concert events and operate similar to football games, however, Canal Shores has plans to install new turf throughout the golf course and the use of the golf course for parking is not finalized. Should the Canal Shores golf course not allow parking for concerts, it is anticipated that the traffic routed to these parking lots near Ryan Field would be re-routed to additional parking areas in Downtown Evanston or on the NU Campus.

With 6,522 spaces planned on-site and off-site, it is anticipated that the projected parking demand of 6,000 spaces can be accommodated.

Shuttle Routes

Shuttle services on concert days is planned to operate similarly to NU football games, with dedicated routes and shuttle stops for off-site parking locations in Downtown Evanston and on NU's main campus. Routing and loading operations would function the same, with shuttles routed westbound along Lincoln Street and northbound along Ashland Avenue to pick-up and drop-off passengers along the east curb of Ashland Avenue directly adjacent to the stadium. NU shuttles were observed to operate efficiently during football games with little disruption to traffic in the surrounding network, and it is recommended that shuttle operations be maintained during event peak hours.

Given the anticipated number of attendees who are projected to drive personal vehicles and park off-site in Downtown Evanston or on NU Campus at 9,195, and the assumed capacity per shuttle at 40 people, along with the estimate that one shuttle can complete two-three round trips in an hour to an hour and a half, it is recommended to procure the services of 75 – 115 shuttles.

Taxi / TNC (Uber/Lyft)

TNCs are planned to provide service during Ryan Field concert events. During the pre-events periods, these vehicles are assumed to drop-off passengers primarily along Central Street near Ryan Field. However, during the post-event peak hour, traffic is anticipated to be more concentrated as more fans are expected to leave directly after an event. Containing their activity to off-site locations and away from Ryan Field will help to avoid increased activity and congestion along Central Street.

As such, a geofence is recommended to be in place during the post-event period directing Taxi / TNC vehicles to pick-up in two separate locations, one east and one west of the stadium. For purposes of this study, the assumed locations are the parking lot north of the Chandler-Newberger Center and the Haven Middle School parking lot. These locations are preliminary and will be confirmed or revised during the development of the Transportation Management Plan. These two loading locations are recommended to increase efficiency and accommodate the projected 405 Taxi / TNC vehicles. Active management of loading operations within these parking lots by event staff will be necessary to promote safety and compliance with the geofence.

Loading Docks and Service Access

Loading docks and their services access points are planned on the east side of the stadium in the East Parking Lot. The loading docks are proposed below-grade, preliminarily planned to be accessible via two ramps with one ramp facing north near the northeastern side of the stadium and the other ramp facing south near the southeastern side of the stadium. The southern ramp would provide two-way access, meaning trucks, teamTNC buses, and vendor vehicles could enter and exit at the same time, if needed. The northern ramp is currently planned for exit-only operations. The two-ramp system is preliminary.

Vehicles accessing the loading docks to service concert events would generally arrive and depart the site during off-peak periods and likely have minimal impact on traffic conditions in the site area and surrounding intersections.

RECOMMENDATIONS AND CONCLUSIONS

Based on an evaluation of existing and projected future traffic conditions, the recommendations summarized below in **Table 14** are identified to manage projected traffic demands during the weekday and weekend (Saturday) pre- and post-event peak hours associated with concert events at a redeveloped Ryan Field. Furthermore, diagrammatic representations of the conceptual intersection improvements are depicted in **Exhibit 11**, which follows after Table 14.

Table 14. Recommended Traffic Management Measures – Pre-Event and Post-Event Concert Scenarios

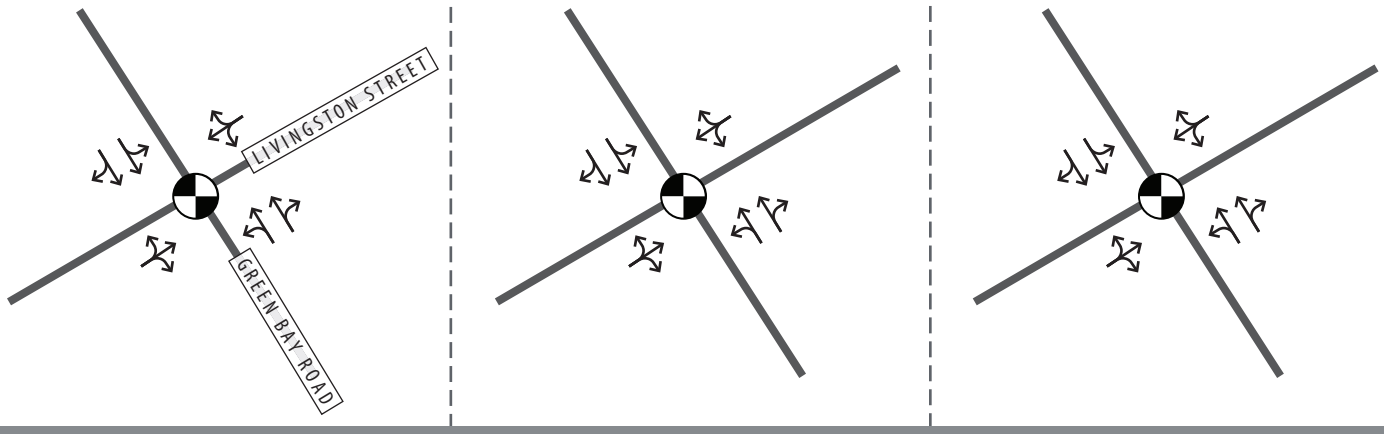
Segment of Street or Intersection	Pre-Event	Post-Event
Central Street *(Poplar Avenue to Bryant Avenue)*	On-street parking restrictions with strict enforcement on both sides of Central Street. This allows for short-term drop-offs and pick-ups along with flexibility for traffic to bypass left-turn queues at parking access locations and side streets. It also provides the benefit of space for vehicles to maneuver, providing a clear path for emergency vehicle access to/from Ryan Field, Evanston Hospital, and Fire Station #3.	
Ashland Avenue *(Central Street to Isabella Street)*	Temporarily convert to one-way northbound directional traffic flow. Shuttle operations one-way northbound with passenger unloading on the east curb line of Ashland Avenue.	Return street to two-way traffic control. Allow West Lot (North Access) to exit north- or southbound, direct West Lot (South Access) to exit southbound only. Shuttle operations maintained one-way northbound with passenger staging and loading on the east curb line of Ashland Avenue.
Ashland Avenue *(Lincoln Street to Central Street)*	Temporarily convert to one-way northbound directional traffic flow with shuttle operation only. Restrict on-street parking.	
Adjacent Residential Neighborhood Parking Restrictions	Parking is assumed to be restricted within residential neighborhoods in Evanston and Wilmette surrounding Ryan Field. See Exhibits 6B-D. If desirable, details of this strategy would be developed in coordination with the City, elected officials, Evanston Police, and neighborhood residents. Potential options include permitting, signing, enforcement, significantly increased fines for event dates, and temporary traffic barricades/cones that discourage access for non-residents/guests.	

Table 14. Recommended Traffic Management Measures – Pre-Event and Post-Event Concert Scenarios (Continued)

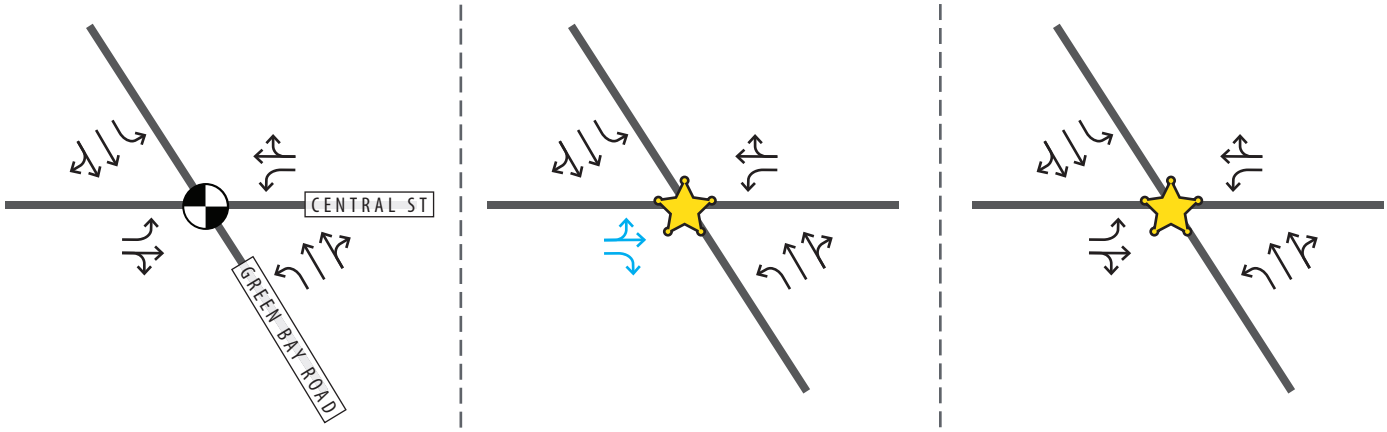
Segment of Street or Intersection	Pre-Event	Post-Event
Green Bay Road / Central Street Green Bay Road / Lincoln Street Green Bay Road / McCormick Boulevard Central Street / Poplar Avenue Central Street / Ashland Avenue Isabella Street / Ashland Avenue Central Street / East Parking Lot Drive Central Street / Asbury Avenue Central Street / Ridge Avenue	Police traffic control of the intersection. Active management and manual control of intersections by Evanston Police allows posted officers to override the signal timing to prioritize peak directions of traffic flow, flush traffic for specific approaches and movement as queues build, and address capacity issues as they occur, particularly in the hour before and after a concert event. Police also manage vehicle-pedestrian conflict points at intersections, driveways, and crosswalks to provide safe walking routes and allow efficient entries/exits at driveways and side streets. Additionally, police are able to coordinate among posts to facilitate a clear path and efficient access emergency vehicles traveling through the Central Street corridor during stadium events.	

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

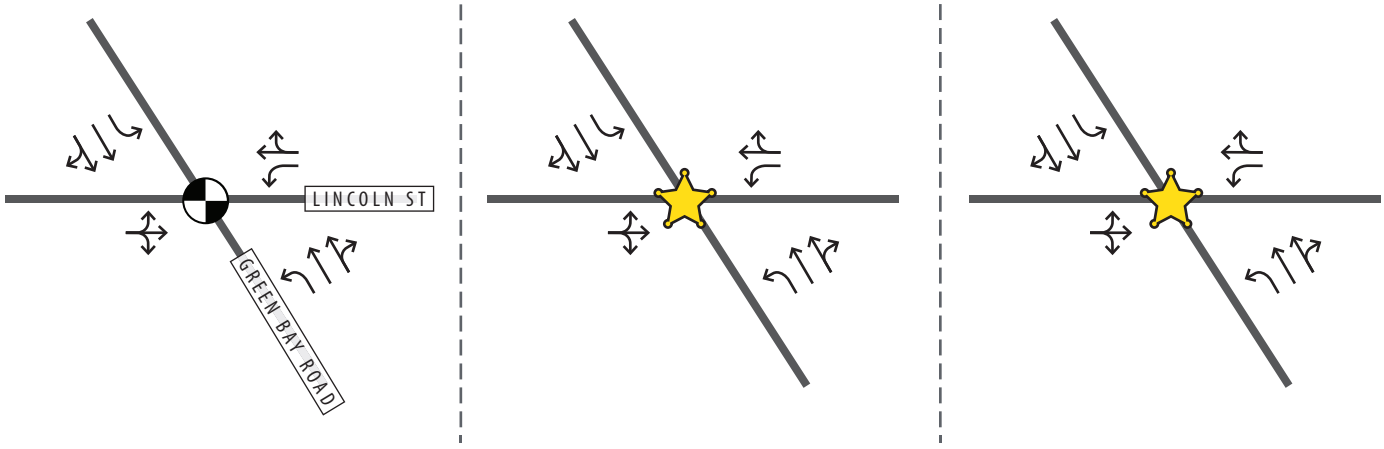
GREEN BAY ROAD / LIVINGSTON STREET



GREEN BAY ROAD / CENTRAL STREET



GREEN BAY ROAD / LINCOLN STREET



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

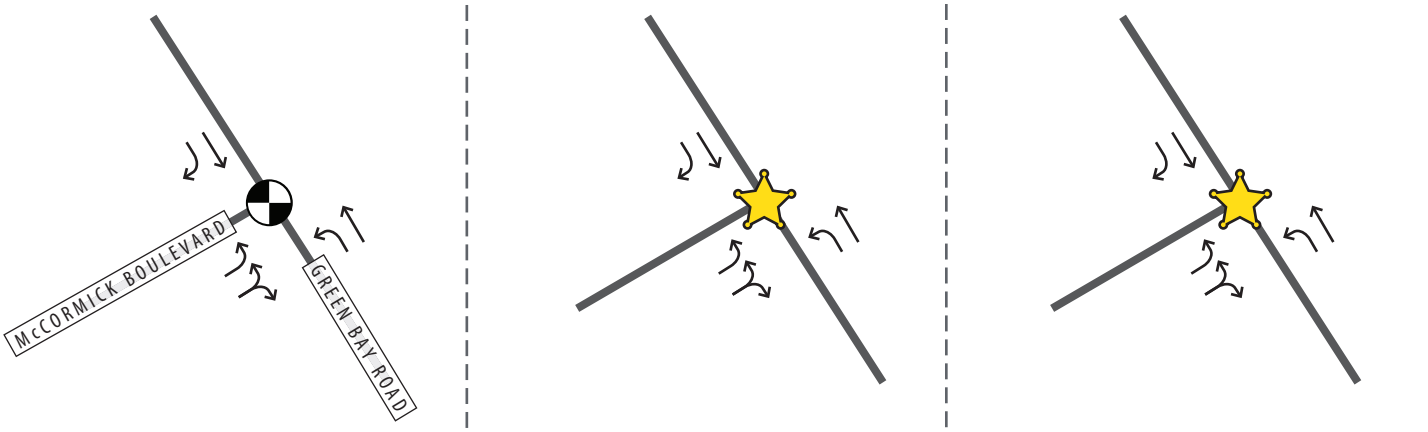
Kimley»Horn

EXHIBIT 10A

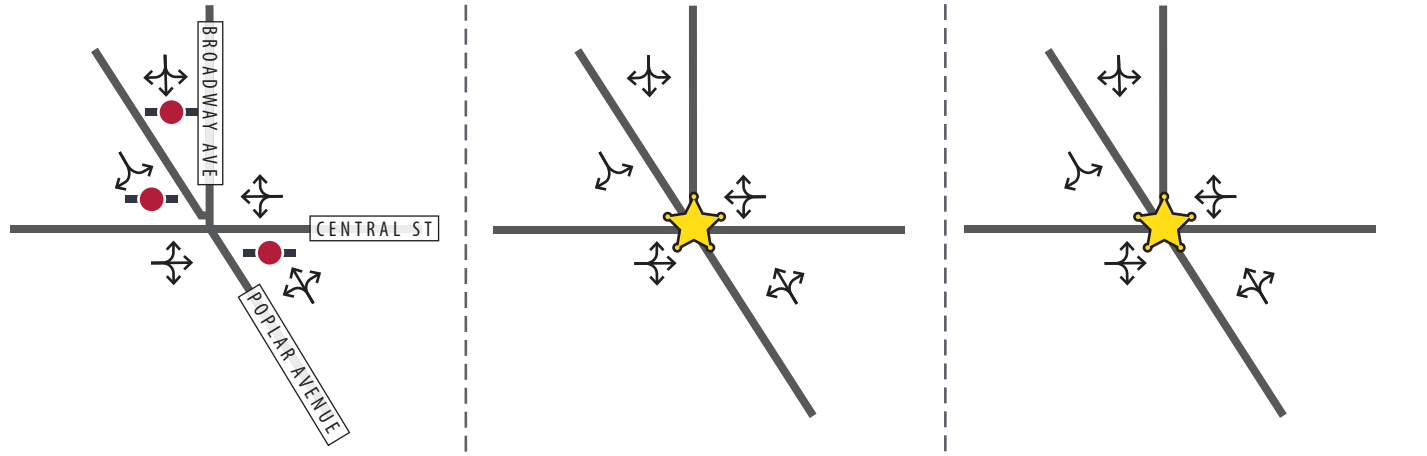
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

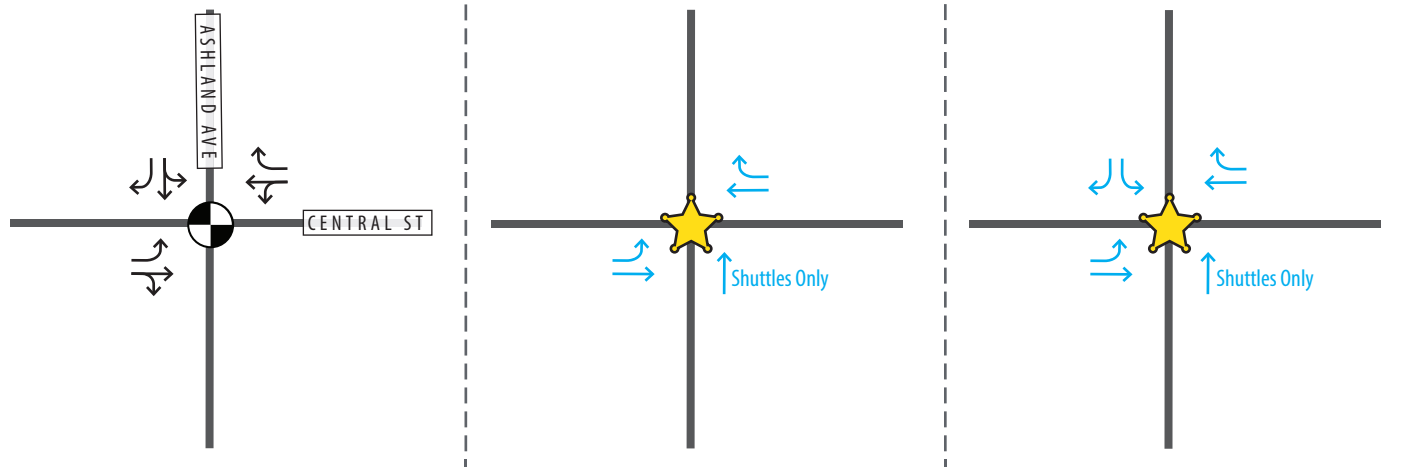
GREEN BAY ROAD / McMCORMICK BOULEVARD



CENTRAL STREET / POPLAR AVENUE



CENTRAL STREET / ASHLAND AVENUE



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

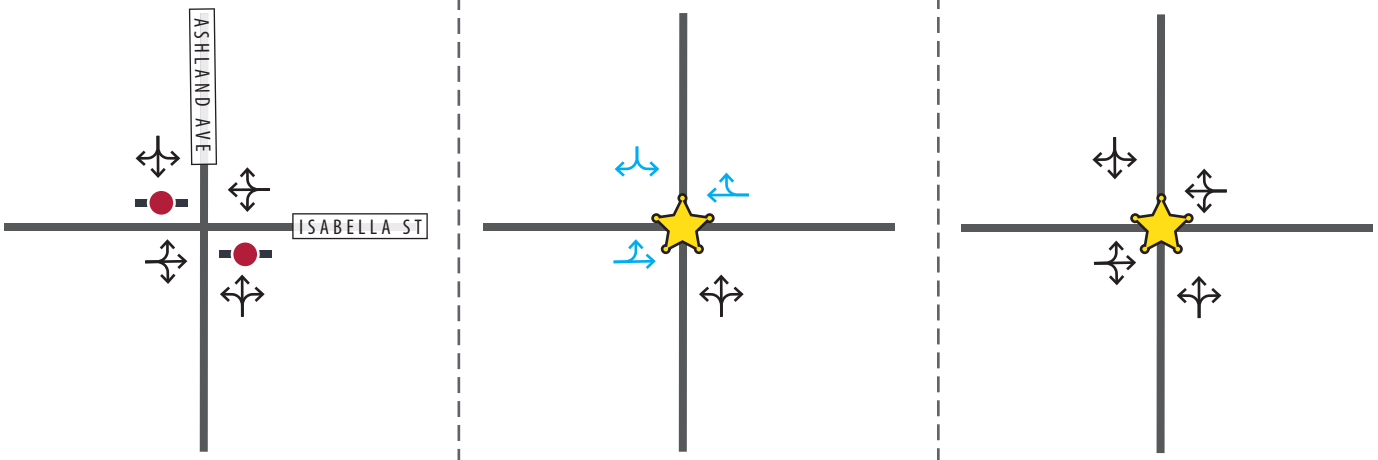
Kimley»Horn

EXHIBIT 10B

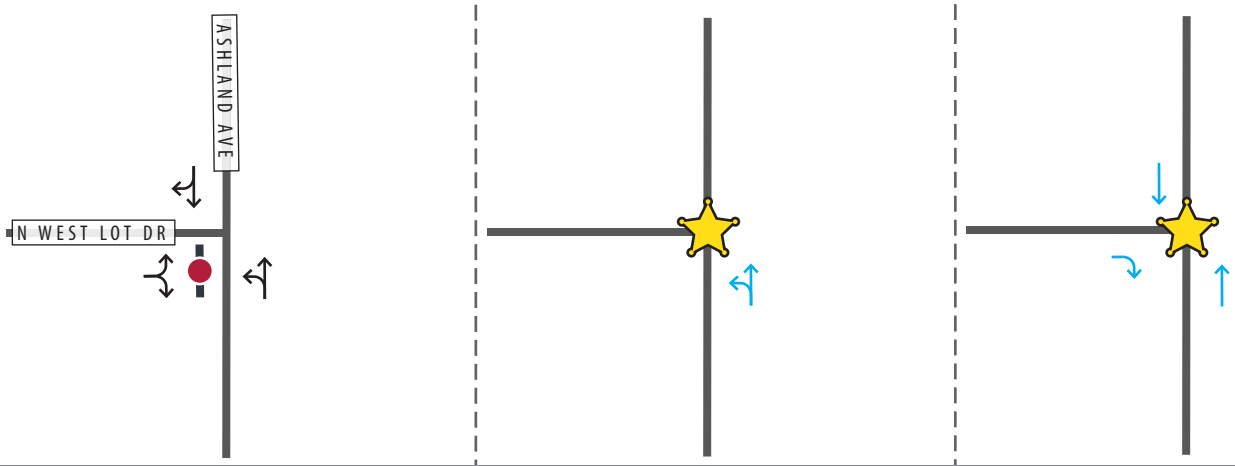
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

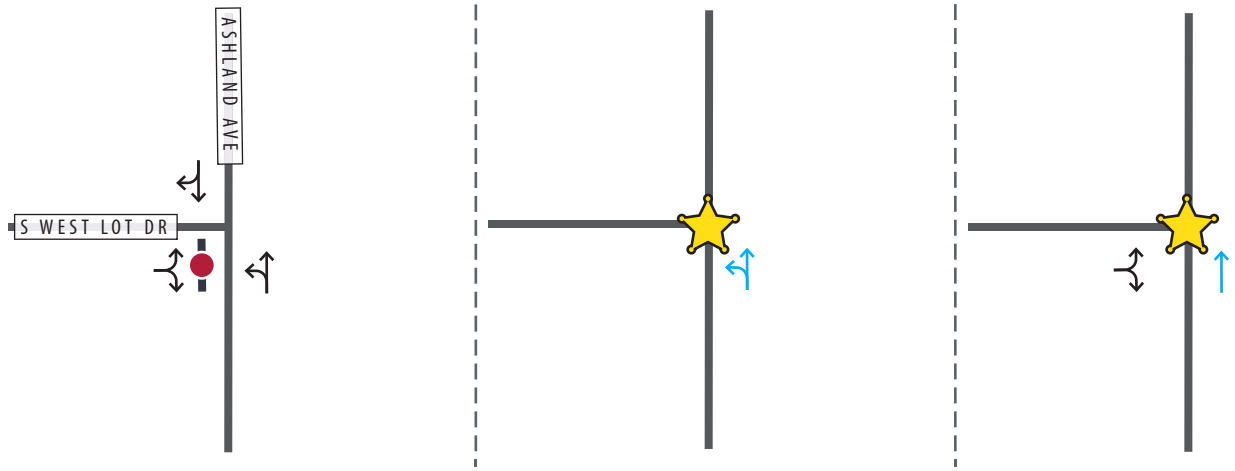
ISABELLA STREET / ASHLAND AVENUE



ASHLAND AVENUE / N WEST LOT DRIVE



ASHLAND AVENUE / S WEST LOT DRIVE



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

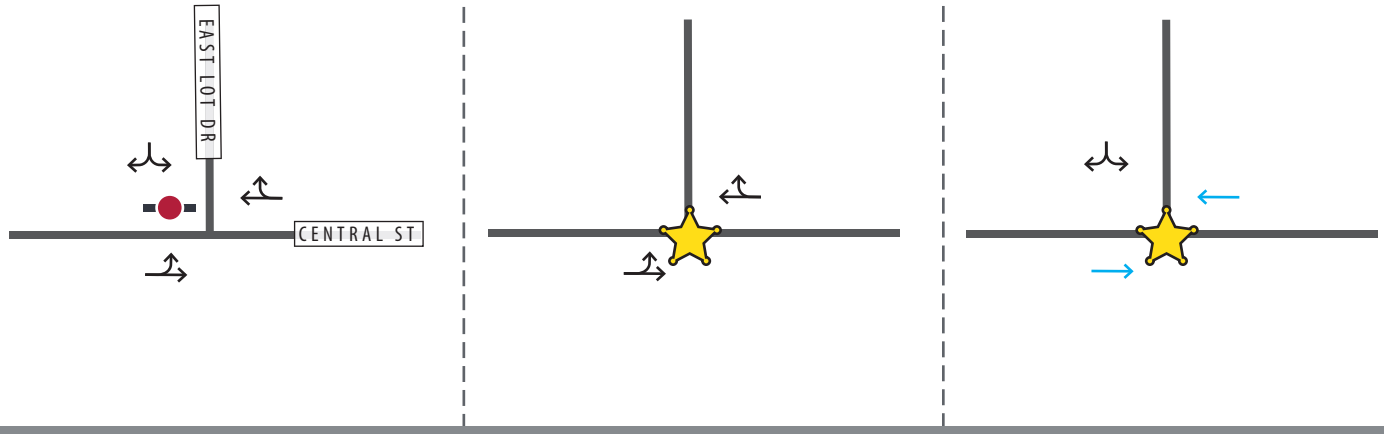
Kimley»Horn

EXHIBIT 10C

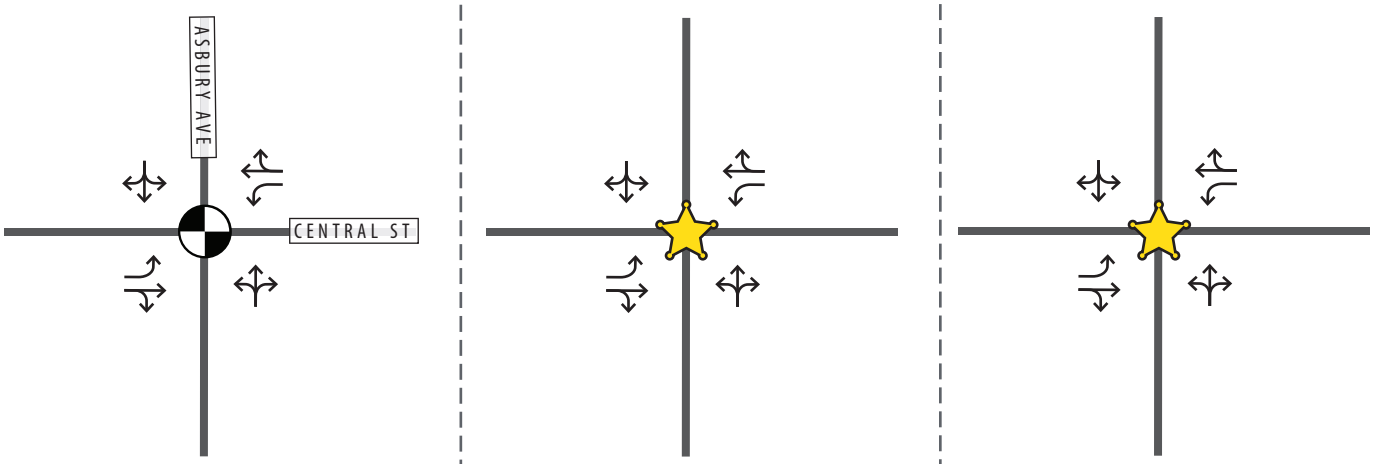
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

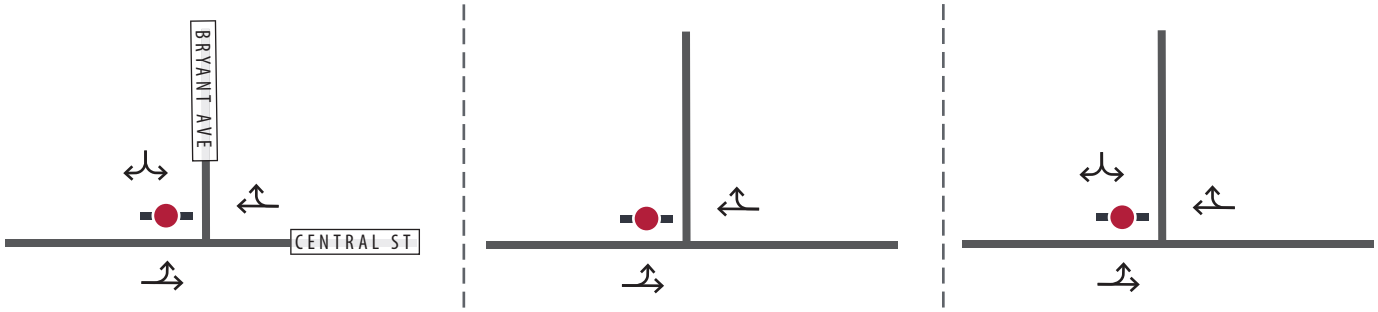
CENTRAL STREET / EAST LOT DRIVE



CENTRAL STREET / ASBURY AVENUE



CENTRAL STREET / BRYANT AVENUE



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

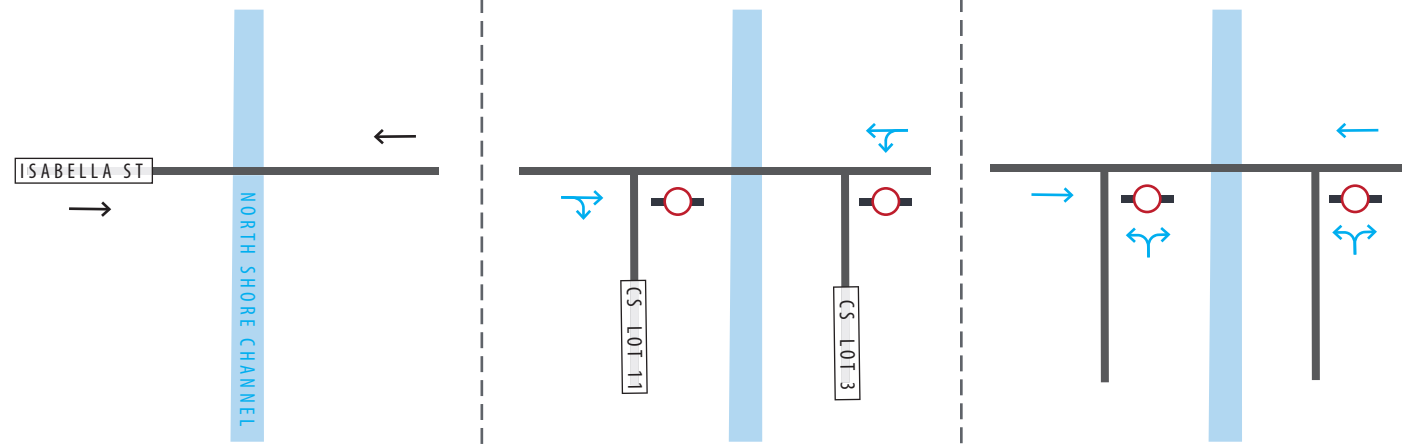
Kimley»Horn

EXHIBIT 10D

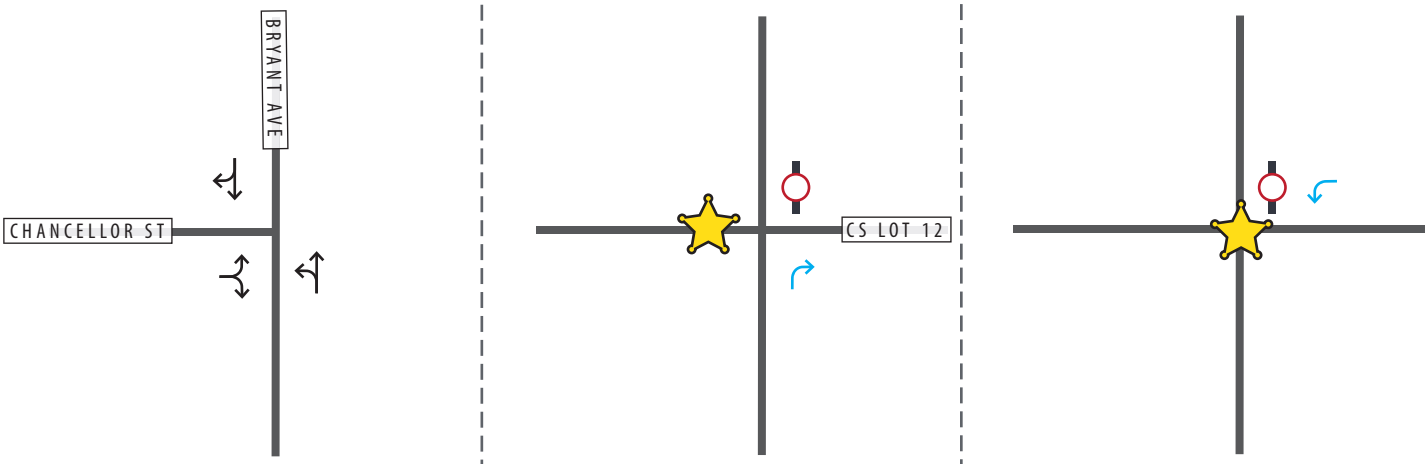
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

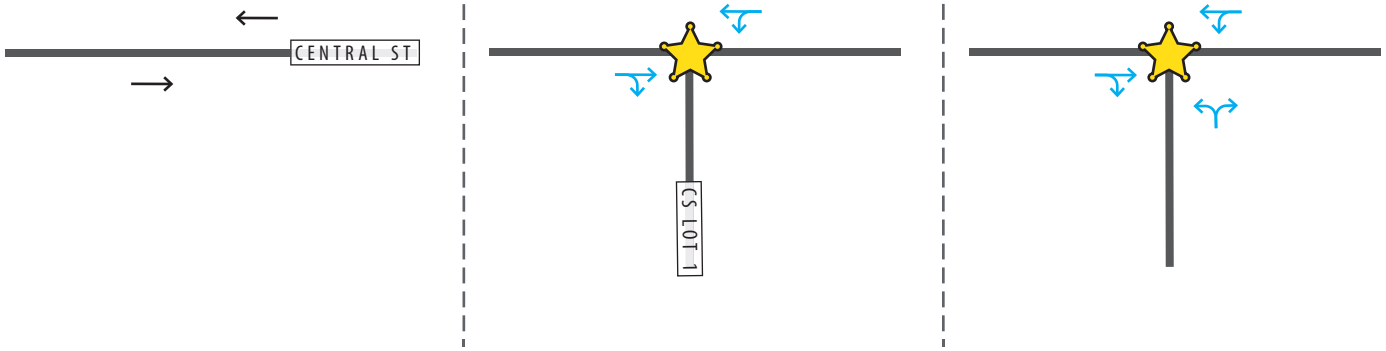
ISABELLA STREET / LOT 11 & 3



BRYANT AVENUE / LOT 12



CENTRAL STREET / LOT 1



LEGEND

- Existing Geometrics
- Existing Traffic Signal
- Existing Stop Sign
- Recommended Stop Sign
- Police/Actively Controlled Intersection
- Pre/Post-Event Lane Modification

NORTH

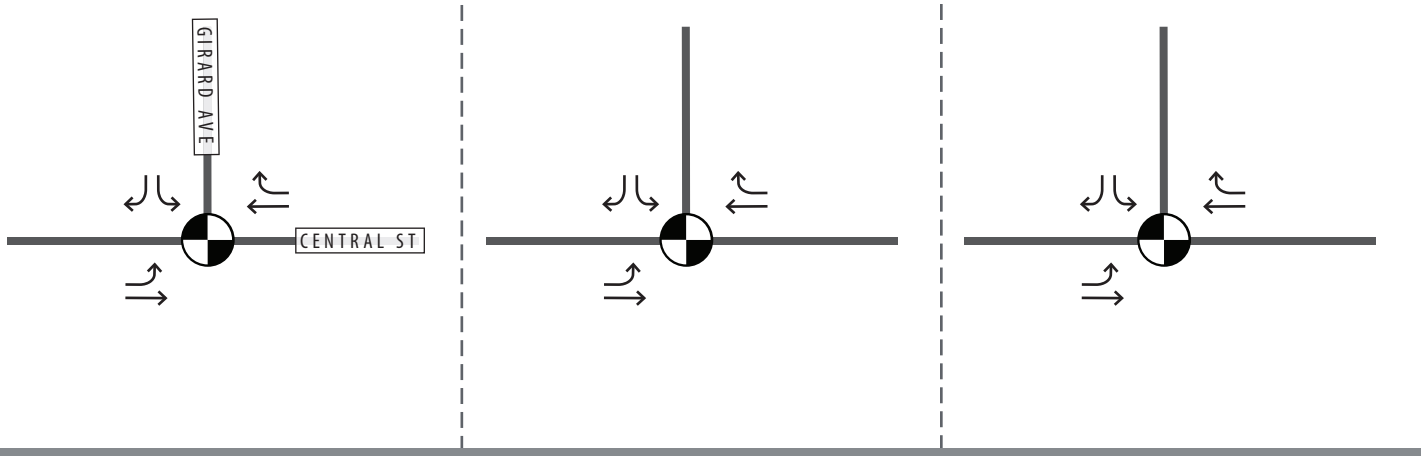
Kimley»Horn

EXHIBIT 10E

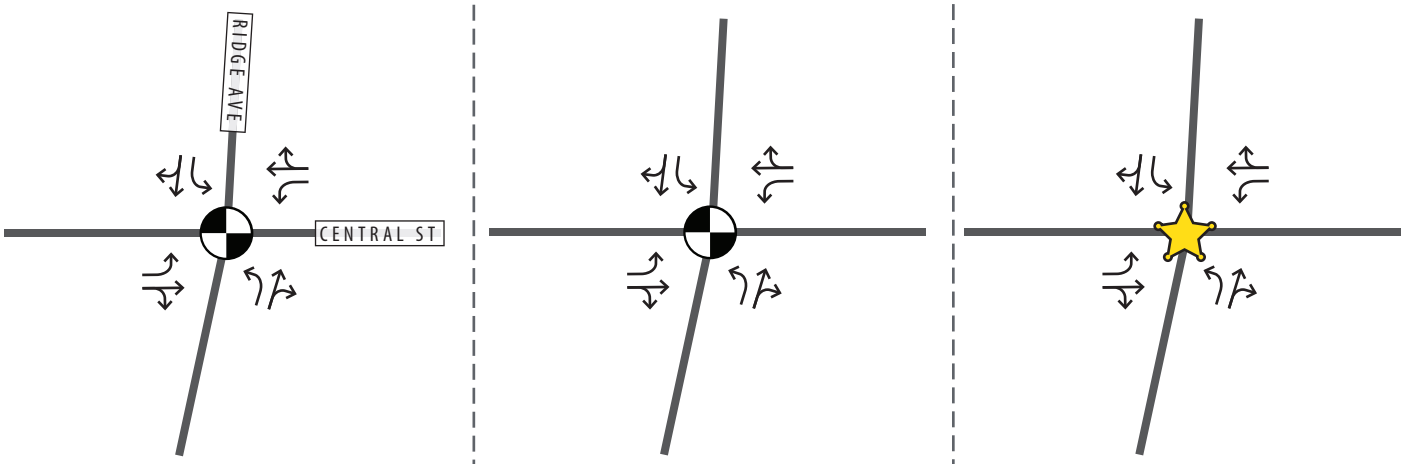
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

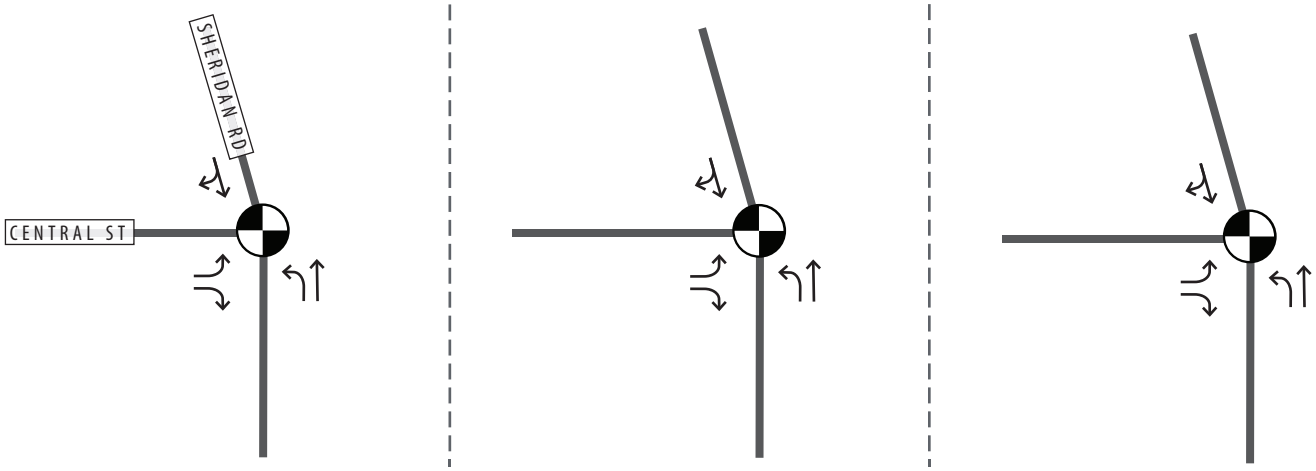
CENTRAL STREET / GIRARD AVENUE



CENTRAL STREET / RIDGE AVENUE



CENTRAL STREET / SHERIDAN ROAD



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

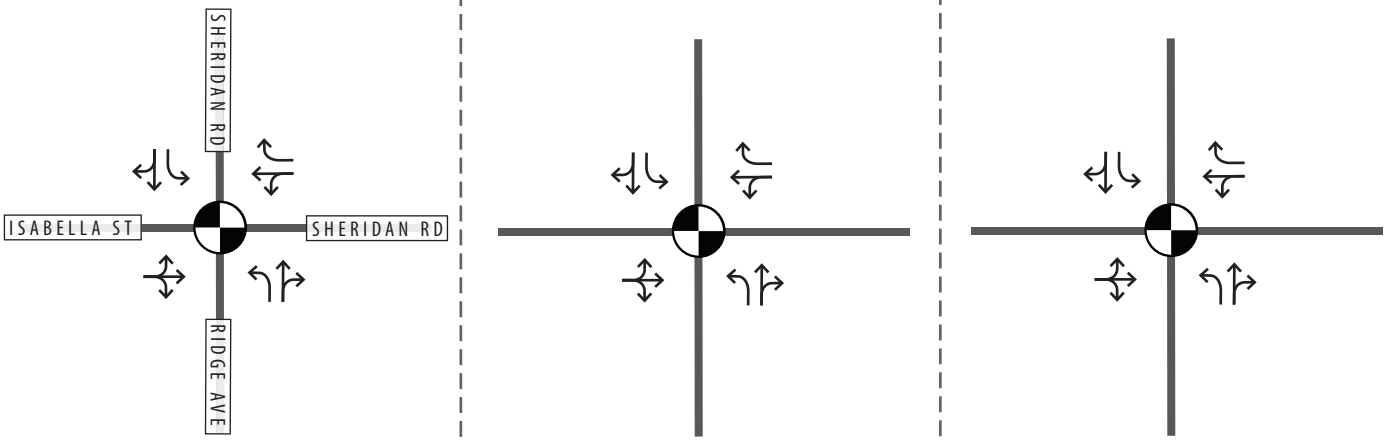
Kimley»Horn

EXHIBIT 10F

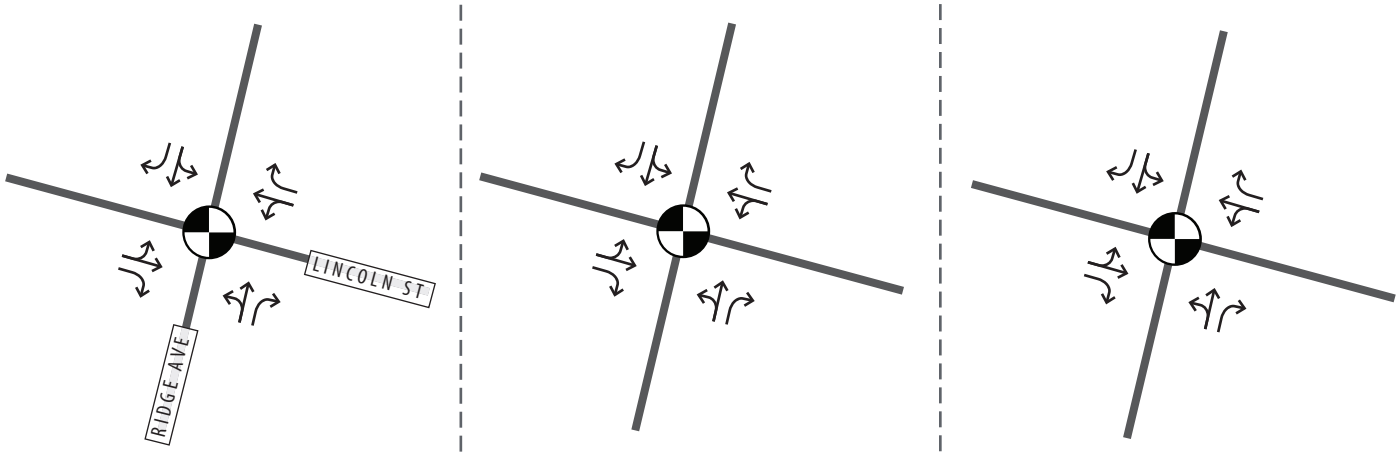
EVENT INTERSECTION CONFIGURATIONS AND CONTROLS

EXISTING + IMPROVEMENTS	YEAR 2026 PRE-EVENT CONDITIONS	YEAR 2026 POST-EVENT CONDITIONS

SHERIDAN ROAD / RIDGE AVENUE / ISABELLA STREET



RIDGE AVENUE / LINCOLN STREET



Existing Geometrics
Existing Traffic Signal
Existing Stop Sign
Recommended Stop Sign
Police/Actively Controlled Intersection
Pre/Post-Event Lane Modification
NORTH

Kimley»Horn

EXHIBIT 10G

EVENT INTERSECTION CONFIGURATIONS AND CONTROLS