

JACKSON PARK REVITALIZATION TRAFFIC IMPACT STUDY FINAL REPORT



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EXECUTIVE SUMMARY

The City of Chicago and Chicago Park District are considering a large-scale revitalization plan for Jackson Park updating the South Lakefront Framework Plan that would increase green space, improve pedestrian connectivity, and create new and upgraded facilities. Part of that plan is the construction of the future Obama Presidential Center (OPC), which would be located on a site between Stony Island Avenue and Cornell Drive, just south of the Midway Plaisance, and is anticipated to be operational in late 2021. A second planned project would merge the Jackson Park and South Shore golf courses located south of Hayes Drive as part of a plan to redesign and upgrade those public golf facilities.

As part of the updated South Lakefront Framework Plan, the following roadway segments within Jackson Park would be closed and converted into open space:

- Cornell Drive between North Midway Plaisance and Hayes Drive
- South Midway Plaisance between Stony Island Avenue and Cornell Drive
- Marquette Drive between Stony Island Avenue and Richards Drive
- Northbound Cornell Drive from 68th Street to where Cornell Drive becomes two-way (approximately midway between 64th Street and 65th Street)

A traffic impact analysis was performed to identify potential traffic impacts associated with the proposed project. The future traffic volume projections to the 2040 horizon year accounted for the reassignment of traffic due to the proposed roadway closure, background traffic growth, and trips generated by the OPC development. The Chicago Metropolitan Agency for Planning (CMAP) assisted with the development of future traffic volumes based on their in-house travel demand model, which provided projections for the reassignment of Cornell Drive traffic volumes to alternate routes as well as general background growth associated with the expected economic growth of nearby neighborhoods and other known development projects between 2016 and 2040.

Traffic Impact Analysis

The study area is generally bounded by Lake Shore Drive (US 41) to the east, Stony Island Avenue to the west, 57th Drive to the north, and 67th Street to the south and includes 36 intersections where traffic data was collected in October 2016.

Traffic analyses were performed using the Synchro/SimTraffic software package for the weekday AM and PM peak hours, and the capacity analysis results were compared for the following conditions:

- 2016 Existing Condition (baseline conditions for the current year)
- 2040 No Build Condition (future conditions without the proposed OPC and roadway closures)
- 2040 Build Condition (future conditions with the proposed OPC and roadway closures)

Mitigation

Traffic mitigation in the form of signal timing and phasing changes, parking regulation changes, and capital improvements along key roadways and at key intersections to increase capacity would be implemented along with the roadway closures to accommodate the changes in traffic patterns. The recommended mitigation measures that would successfully offset any potential traffic impacts are summarized in the table on the next page. By providing acceptable levels of service for traffic flow, bus transit demand can also be accommodated through the future horizon year.

The 2040 Build Condition includes proposed mitigation measures and is compared to the 2040 No Build Condition to identify potential traffic impacts. The traffic analysis results show that the proposed improvements would successfully mitigate any potential traffic impacts in the 2040 horizon year and there would be no significant traffic impacts as a result of the proposed project.

Parking Analysis

A parking analysis was performed that shows the proposed on-site parking would be sufficient to accommodate the projected peak parking demand for the OPC site. Due to the proposed roadway changes, there would be a net loss in on-street parking supply of 236 spaces within the study area, leaving a total on-street parking supply of 569 spaces, which can still accommodate the surveyed peak demand of 270 parked cars. There is additional parking availability for a fee in the public parking lots within Jackson Park.

Location	Proposed Mitigation/Improvements
Lake Shore Dr between 57th Dr and Hayes Dr	<ul style="list-style-type: none"> - Increase from two to three southbound travel lanes - Widen travel way on 59th St Harbor Bridge to provide six lanes - Widen pedestrian underpass structure north of Hayes Dr
Lake Shore Dr & 57th Dr intersection	<ul style="list-style-type: none"> - Geometric modifications within existing curb-to-curb width - Lane configuration changes - Modify signal timing
Lake Shore Dr & Science Dr intersection	<ul style="list-style-type: none"> - Geometric and lane modifications within existing curb-to-curb width - Modify signal timing and phasing
Lake Shore Dr & Hayes Dr intersection	<ul style="list-style-type: none"> - Intersection widening to accommodate continuous flow right-turn lane from SB Lake Shore Drive - Intersection widening of Hayes approach to provide 3 left-turn lanes - Add new crosswalk across south leg - Modify signal timing and phasing - Provide a N-S pedestrian underpass on west leg of Hayes Dr.
Hayes Dr between Richards Dr and Cornell Dr	<ul style="list-style-type: none"> - Restripe section with 2 travel lanes in each direction with a physical median. - Prohibit on-street parking along both curbs lengths
Hayes Dr & Richards Dr intersection	<ul style="list-style-type: none"> - Consolidate 3 separate intersections into a single T-intersection - Install new traffic signal - Widen Hayes Dr slightly to north at intersection
Hayes Dr & Cornell Dr intersection	<ul style="list-style-type: none"> - Remove north leg of intersection - Modify intersection geometry to facilitate WB-SB leg alignment - Remove at-grade crosswalks and replace with two pedestrian underpasses across west and south legs - Modify signal timing and phasing
Stony Island Ave between 59th St & 60th St	<ul style="list-style-type: none"> - Widen Stony Island Ave to east to provide new NB right-turn lane - Restripe Stony Island Ave between North Midway Plaisance and South Midway Plaisance to accommodate 5 travel lanes - Remove traffic signals at 59th and 60th Streets and geometrically restrict intersection to Right-In / Right-Out operation - Remove east leg of South Midway Plaisance/Stony Island Avenue intersection - Modify traffic signals equipment at Stony Island Ave / South Midway Plaisance and Stony Island Ave / North Midway Plaisance intersections - Modify traffic signal timing and phasing
Stony Island Ave between 60th St & 65th St	<ul style="list-style-type: none"> - Widen Stony Island Ave to east to allow for upgraded cross section - New cross section will provide 2 travel lanes and a parking lane in each direction with a landscaped median/left-turn lane - Provide pedestrian bump outs and refuge islands at intersections. - Add a NB LTL on Stony Island Avenue with 65th Place
Stony Island Ave & 63rd St/Hayes Dr intersection	<ul style="list-style-type: none"> - Modify signal timing - Provide NB/SB left-turn arrows - Extend SB left-turn lane
Stony Island Ave & 64th St intersection	<ul style="list-style-type: none"> - Install traffic signal
Stony Island Ave & Southbound Cornell Drive	<ul style="list-style-type: none"> - Convert WB Cornell Dr approach to two-way and widen approach for two lanes in each direction - Provide two NB Right-Turn lanes - Modify signal timing
Stony Island Ave & Marquette Dr intersection	<ul style="list-style-type: none"> - Remove east leg of intersection - Modify Signal Timing
67th St & Stony Island Ave intersection	<ul style="list-style-type: none"> - Remove segment of NB Cornell Dr and Intersection with 67th St - Widen NB Stony Island with an additional travel lane. - Modify signal timing - Restripe EB/WB approaches to provide exclusive LTLs, Extend NB and SB LTLs - Add WB RTL on 67th Street
57th Dr & Hyde Park Blvd/Museum Dr intersection	<ul style="list-style-type: none"> - Modify signal timing
North Midway Plaisance & 57th Dr/MSI Garage Driveway intersection	<ul style="list-style-type: none"> - Modify signal timing
67th St & Jeffery Ave intersection	<ul style="list-style-type: none"> - Modify signal timing - Provide a pedestrian underpass along Jeffery Avenue between 67th and Marquette Dr
Lake Shore Dr/Jeffery Ave & Marquette Dr intersection	<ul style="list-style-type: none"> - Modify signal timing
67th St & South Shore Drive	<ul style="list-style-type: none"> - Provide a pedestrian underpass on the north leg of intersection - Modify signal timing

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1.0 INTRODUCTION

The City of Chicago and Chicago Park District are considering a large-scale revitalization plan for Jackson Park that would increase green space, improve pedestrian connectivity, and create new and upgraded facilities. Part of that plan is the construction of the future Obama Presidential Center (OPC), which would be located on a site between Stony Island Avenue and Cornell Drive, just south of the Midway Plaisance, and is anticipated to be operational in late 2021. A second potential large-scale project would merge the Jackson Park and South Shore golf courses located south of Hayes Drive as part of a plan to redesign and upgrade those public golf facilities.

The approximate locations of the OPC and golf course projects as well as the proposed roadway closures are shown on **Figure 1-1**. As shown in the figure, Cornell Drive would be closed and vacated between North Midway Plaisance and Hayes Drive, and South Midway Plaisance would be closed and vacated between Stony Island Avenue and Cornell Drive (Segment A on the figure). In addition, Marquette Drive between Stony Island Avenue and Richards Drive and Cornell Drive Northbound between 68th Street and approximately midway between 64th Street and 65th Street would be closed and vacated (Segments B and C on the figure, respectively). Traffic mitigation in the form of signal timing and phasing changes, parking regulation changes, and capital improvements along key roadways and at key intersections would be implemented along with the roadway closures to accommodate the changes in traffic patterns. By providing acceptable levels of service for traffic flow, bus transit demand can also be accommodated through the future horizon year.

The purpose of this report is to perform a traffic impact analysis of the proposed roadway closure plan, identify potential traffic impacts, and recommend mitigation measures and other improvements to offset impacts.

1.1 South Lakefront Framework Plan (1999)

The South Lakefront Framework Plan was completed in 1999 and outlined a number of transportation related improvements for future consideration. Relevant transportation-related improvements or recommendations from the plan include the following:

- Consider enhancing Cornell Drive south of 60th Street as a park road by reducing pavement widths based on future traffic studies and community input.
- Consider eliminating Northbound Cornell Drive between 65th and 67th Streets and reconfiguring lanes on Stony Island between 65th and 67th Streets with a different connection to Hayes.
- Consider creating improvements to the roundabout at the Golden Lady.
- Create well-marked and signaled pedestrian crossings at key selected intersections, especially along Stony Island at 59th, 63rd, and 67th Streets.
- Consider removing Marquette Drive between Richards Drive and Stony Island Avenue and replacing with a pedestrian/bicycle path.



Figure 1-1: Location of Proposed Developments and Roadway Closures

1.2 Obama Presidential Center Site

As shown in **Figure 1-2**, the proposed OPC would be located within Jackson Park along the east side of Stony Island Avenue between the Midway Plaisance to the north and 62nd Street to the south.

The OPC development would also include the construction of a maximum 450-space underground parking garage to be located on site with access to the garage provided opposite 61st Street. The access drive will provide one inbound lane and two outbound lanes, with outbound movements under stop-sign control. On-street parking would be prohibited along the east curb of Stony Island Avenue between 60th Street to just south of 62nd Street to provide curbside space for visitor and bus pick-up and drop-off activity.

Delivery/loading access to and from the OPC center would be provided via an underground loading dock within the OPC site, east of Stony Island Avenue. The loading access drive would provide one inbound lane and one outbound lane with outbound movements under stop-sign control.



Figure 1-2: Obama Presidential Center Preliminary Site Plan

1.3 Study Area and Study Locations

The study area is generally bounded by Lake Shore Drive (US 41) to the east, Stony Island Avenue to the west, 57th Drive to the north, and 67th Street to the south. This area includes all of the key intersections within and near Jackson Park, as well as the surrounding intersections that would experience changes in traffic volumes as part of the proposed closure of a segment of Cornell Drive.

As shown on **Figure 1-3**, the study locations selected for detailed traffic analyses are as follows:

1. 68th Street with Stony Island Avenue and Northbound (NB) Cornell Drive
2. 57th Drive with Hyde Park Boulevard and Museum Drive
3. 57th Drive with Everett Avenue and Museum Drive
4. 57th Drive with Lake Shore Drive
5. 57th Street with Stony Island Avenue
6. 57th Street with Cornell Drive and Museum of Science and Industry (MSI) Parking Garage
7. Science Drive with Lake Shore Drive
8. 59th Street with Stony Island Avenue
9. North Midway Plaisance with Stony Island Avenue
10. North Midway Plaisance with Cornell Drive
11. South Midway Plaisance with Stony Island Avenue
12. 60th Street with Stony Island Avenue
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19. Hayes Drive with Lake Shore Drive
20. 64th Street with Stony Island Avenue
21. 65th Street with Stony Island Avenue
22. Southbound (SB) Cornell Drive and 65th Place with Stony Island Avenue
23. Marquette Drive with Stony Island Avenue
24. Marquette Drive with Northbound Cornell Drive
25. Marquette Drive with Richards Drive (East Intersection)
26. Marquette Drive with Richards Drive (West Intersection)
27. Marquette Drive with Richards Drive (North Intersection)
28. Marquette Drive with Lakeshore Drive and Jeffery Avenue
29. 67th Street with Stony Island Avenue
30. 67th Street with Northbound Cornell Drive
31. 67th Street with Cornell Avenue
32. 67th Street with East End Avenue
33. 67th Street with Cregier Avenue
34. 67th Street with Bennett Avenue
35. 67th Street with Jeffery Avenue
36. 67th Street with South Shore Drive



Figure 1-3: Study Intersection Locations

2.0 EXISTING TRANSPORTATION SYSTEM

This section describes the existing transportation system, including the roadway network, transit connections, and bicycle and pedestrian facilities.

2.1 Roadway System Characteristics

The physical and operational characteristics of the major roadways in the study area are shown in **Figure 2-1** and described as follows:

Cornell Drive is a six-lane, median-divided principal arterial roadway. At its signalized intersection with North Midway Plaisance, Cornell Drive provides two through lanes in the northbound direction and three through lanes in the southbound direction. Cornell Drive becomes **57th Drive** north of 57th Street, approximately 1/3-mile west of Lake Shore Drive. At its signalized intersection with Lake Shore Drive, 57th Drive provides three left-turn lanes and a right-turn lane in the eastbound (EB) direction. Cornell Drive/57th Drive is under the jurisdiction of the Illinois Department of Transportation (IDOT) and is designated as a strategic regional arterial (SRA). The SRA designation controls roadway access and signal installation to facilitate efficient and safe transportation.

Lake Shore Drive (US 41) is a six-lane, divided principal arterial roadway, designated as a SRA to the north of 57th Drive. South of 57th Drive, Lake Shore Drive provides three through lanes in the northbound direction and two through lanes in the southbound direction and is classified as a minor arterial. On-street parking is prohibited along Lake Shore Drive within the study area. At its signalized intersection with 57th Drive, Lake Shore Drive provides a left-turn lane and three through lanes in the northbound direction and two through lanes and a right-turn lane in the southbound direction. Left-turn movements are prohibited from northbound Lake Shore Drive onto westbound (WB) 57th Street from 3 to 7 PM, Monday through Friday. Lake Shore Drive is under the jurisdiction of IDOT.

Stony Island Avenue is a two-lane, minor arterial roadway, with on-street, unregulated parking provided on both sides of the street south of 60th Street and north of 59th Street. At its signalized intersection with 63rd Street, Stony Island Avenue provides one left-turn, one through, and one shared through/right-turn lane in both directions. At its signalized intersection with Cornell Avenue/65th Place, Stony Island Avenue provides three through lanes and a shared through/right-turn lane in the southbound direction and a shared through/left-turn lane and a through lane in the northbound direction. Stony Island Avenue is under the jurisdiction of CDOT north of 67th Street and under IDOT jurisdiction to the south. It is designated as an SRA.

Midway Plaisance is a linear park with one-way couplets (North Midway Plaisance is one-way westbound and South Midway Plaisance is one-way eastbound) running along the perimeter of the park and serves as a green connection between Lake Michigan and Jackson Park to the east and Washington Park to the west. Midway Plaisance is a principal arterial roadway, providing two travel lanes in each direction and on-street parking on both sides of the street.

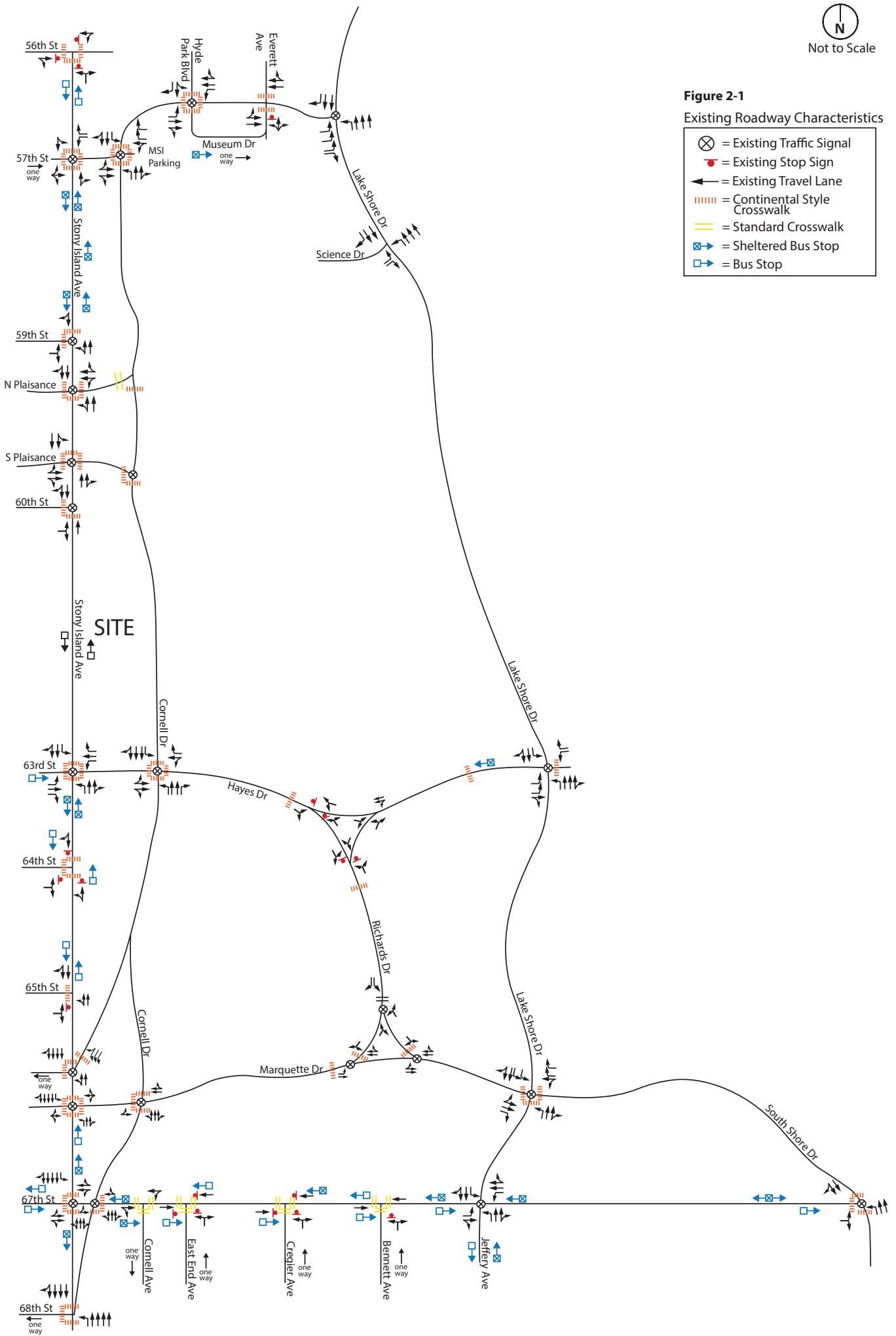
63rd Street is an east-west, two-lane, minor arterial roadway, with on-street parking provided on both sides of the road near the study area. As 63rd Street enters Jackson Park (east of Stony Island Avenue), it becomes **Hayes Drive**, which generally carries one travel lane in each direction with on-street parking and terminates to the east at the intersection with Lake Shore Drive where it provides vehicular access to 63rd Street Beach Park. East of Richards Drive, on-street parking is prohibited, and Hayes Drive operates with two travel lanes in each direction.

The 63rd Street eastbound and Hayes Drive westbound approaches at its signalized intersection with Stony Island Avenue each provide one left-turn, one through, and one right-turn lane.

67th Street is an east-west two-lane major collector roadway adjacent to the south edge of Jackson Park and the north edge of the Jackson Park Highlands neighborhood. Within the study area, on-street parking is provided on both sides of the street. The majority of the intersections along this segment are unsignalized, with all-way STOP control provided where northbound streets intersect 67th Street. 67th Street is under traffic-signal control at its intersections with Stony Island Avenue and Cornell Drive, Jeffery Avenue, and South Shore Drive, which are spaced approximately every half-mile.

Figure 2-1
Existing Roadway Characteristics

- ⊗ = Existing Traffic Signal
- = Existing Stop Sign
- ← = Existing Travel Lane
- ||||| = Continental Style Crosswalk
- = Standard Crosswalk
- ☒ = Sheltered Bus Stop
- = Bus Stop



2.2 Public Transit

The project area is served by both the Chicago Transit Authority (CTA) Green Line and the Metra-Electric commuter rail line. The nearest Green Line Station at 63rd/Cottage Grove is approximately one mile west of the proposed site, while the nearest Metra-Electric station is the 59th/60th Street Station approximately 500 feet west of the proposed OPC site.

In addition to the rail service, numerous CTA bus routes run through the study area. These bus routes include both local service routes, as well as express routes to and from the downtown Loop. Service is summarized below in **Table 2-1** and illustrated in **Figure 2-2**.

Table 2-1: Study Area CTA Bus Routes

Route #	Route Name	From	To	Service Times	Distance to Nearest Stop	Metra/CTA Rail Connections	Average Weekday Ridership
2	Hyde Park Express	60th/Cottage Grove	Navy Pier	Peak Periods Monday thru Friday	Adjacent	None	3,222
N5	South Shore Night Bus	95th Red Line Station	69th Red Line Station	Overnight (Midnight to 4:00 AM)	3/4 Mile	CTA Red Line	439
6	Jackson Park Express	79th/ South Shore	Wacker/ Columbus	Daily (Weekends and Holidays)	Adjacent	None	9,430
10	MSI	MSI Campus	Michigan/ Chestnut	Daily (Weekends and Holidays)	1/4 Mile	None	691
J14	Jeffery Jump	103rd/ Stony Island	Washington/ Jefferson	Daily (Weekends and Holidays)	1 Mile	Ogilvie Metra Station (1)	10,963
15	Jeffery Local	103rd/ Stony Island	47th Street Red Line Station	Daily (Weekends and Holidays)	Adjacent	CTA Red and Green Lines	7,168
26	South Shore Express	103rd/ Stony Island	Chicago/ Fairbanks	Monday thru Friday	1 Mile	None	3,609
28	Stony Island	103rd/ Stony Island	47th/ Lake Park Ave	Daily (Weekends and Holidays)	Adjacent	None	6,414
55	Garfield	Midway Orange Line Station	MSI Campus	Daily (Weekends and Holidays)	1/4 Mile	CTA Red, Green, and Orange Lines	10,565
59	59th/61st	Midway Orange Line Station	60th/ Stony Island	Weekdays and Saturday	Adjacent	CTA Orange Line and 59th Street Metra-Electric Station	3,380
63	63rd Street	Midway Orange Line Station	63rd/ Stony Island	Daily (Including Night Owl 24-Hr)	1/8 Mile	CTA Red, Green, and Orange Lines	16,053
67	67th/69th/71st	Ford City Mall	67th/ South Shore Drive	Daily (Including Night Owl 24-Hr)	1 Mile	CTA Red Line	11,397
171	U.O.C/Hyde Park	54th/ South Shore	60th/ University	Daily (Weekends and Holidays)	1/4 Mile	None	1,172
192	U.O.C Hospital Express	Clinton/ Madison	Cottage Grove/ 57th	Peak Periods Monday thru Friday	Adjacent	Ogilvie Station (1), Union Station (2), and CTA Red, Green, and Orange Lines	842
(1)	Ogilvie Station provides connections to the Union Pacific (UP) - North, UP - Northwest, and UP - West Metra Lines						
(2)	Union Station provides connections to the Burlington Northern- Santa Fe (BNSF), Milwaukee District (MD) - North, MD - West, SouthWest Service, North Central Service, and Heritage Corridor Metra Lines as well as 18 Amtrak Service Lines						

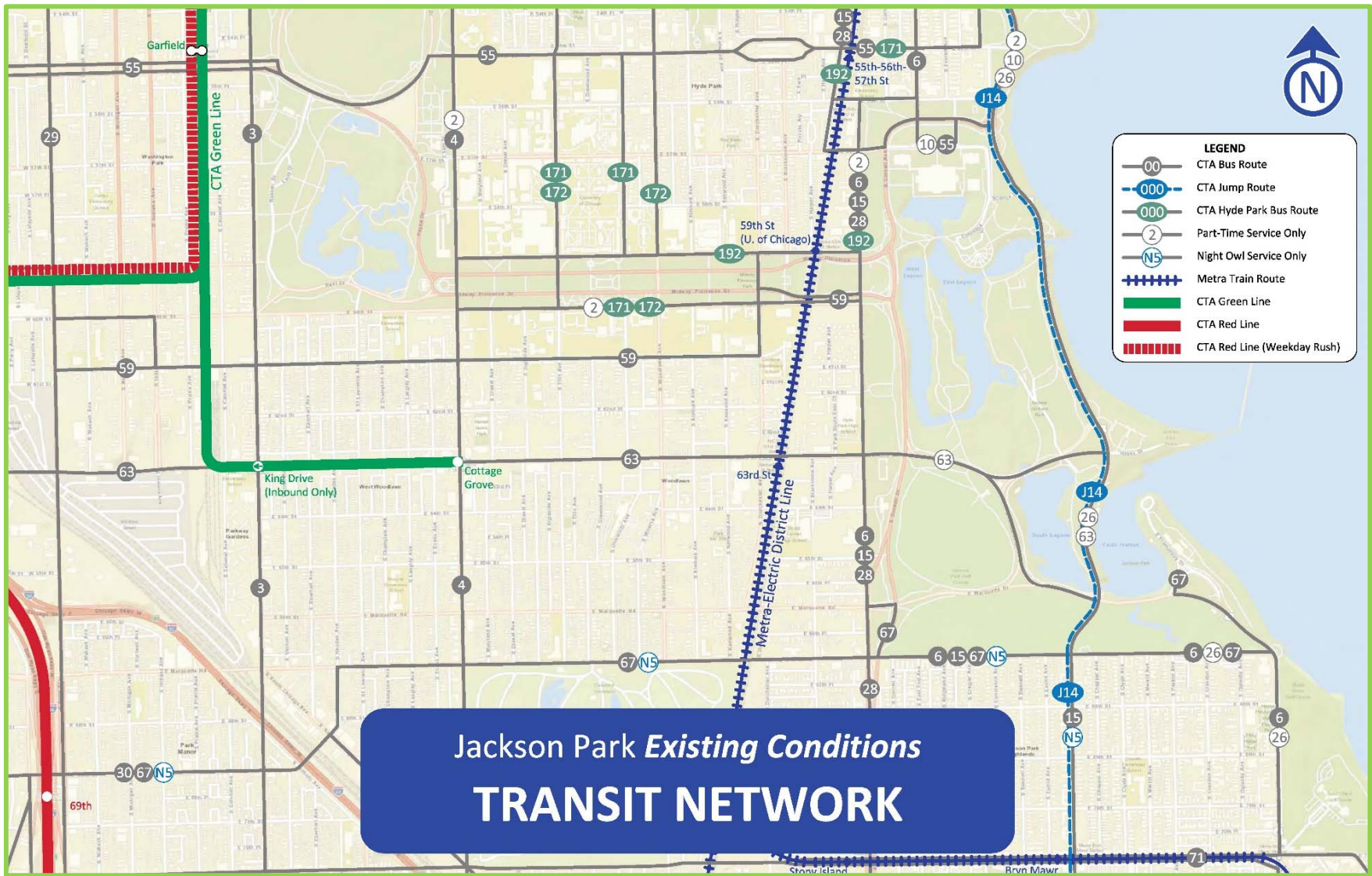


Figure 2-2: Existing Transit Network

2.3 Pedestrian/Bicycle Facilities

Sidewalks are provided along all study roadways on both sides of the street, except for the roadways traversing Jackson Park where multi-purpose off-street paths are provided. Generally, high-visibility crosswalks are provided at all study area intersections with the exception of pedestrian crossings at minor, unsignalized intersections along 67th Street, which have edge lines but no ladder striping. Additionally, pedestrian countdown signals are provided at most signalized intersections within the study area. As part of any future roadway improvements at these intersections, it is recommended that any affected signals be upgraded to include countdown signals.

The primary pedestrian/bicycle facility within the study area is the 18-mile Lakefront Trail, which is an off-street pedestrian and bicycle path that runs along the east side of Lake Shore Drive and South Shore Drive. From the Lakefront Trail, additional off-street trails extend into Jackson Park, as shown in **Figure 2-3**.

On-street bicycle facilities are also provided within the study area. These include a buffered bicycle lane on Marquette Drive, west of Stony Island Avenue, and a shared bike lane on 55th Street, just north of the study area. Additionally, the *City of Chicago Streets for Cycling Plan 2020* designates the following segments within the study area as bicycle routes that should be prioritized for improvements in the future:

- Crosstown Bike Routes
 - Stony Island Avenue
 - 63rd Street
 - North Midway Plaisance
 - South Midway Plaisance
- Neighborhood Bike Routes
 - 57th Street
 - 56th Street and Harper Avenue between 55th Street and Stony Island Avenue.

Docking stations associated with Divvy, Chicago's bikeshare system, are provided at the following locations within the study area:

- The 55th/56th/57th Street Metra Station (18 docks, ½ mile north of the site)
- The 59th Street Metra Station (13 docks, 500 feet west of the site)
- The 63rd Street Metra Station (14 docks, ½ mile southwest of the site)
- 64th Street and Stony Island Avenue (14 docks, ½ mile south of the site)
- The Museum of Science and Industry (26 docks, ¼ mile north of the site)
- 63rd Street Beach (22 docks, ½ mile east of the site)
- 67th Street and Stony Island Avenue (11 docks)
- 67th Street and Jeffery Boulevard (15 docks)
- 67th Street and South Shore Drive (19 docks)

Figure 2-3 also illustrates the existing and planned bicycle network within the study area, as well as the location of nearby Divvy bikeshare stations.



Figure 2-3: Existing and Planned Bicycle Route/Trail Network

3.0 TRAFFIC VOLUMES

This section describes the methodology for developing existing and future traffic volume networks and establishes the peak hour volume networks used in the traffic impact analysis. Traffic volumes were developed for the 2016 Existing Condition and then projected to the 2040 No Build (without the proposed project) and 2040 Build (with the proposed project) conditions.

3.1 Existing Traffic Volumes

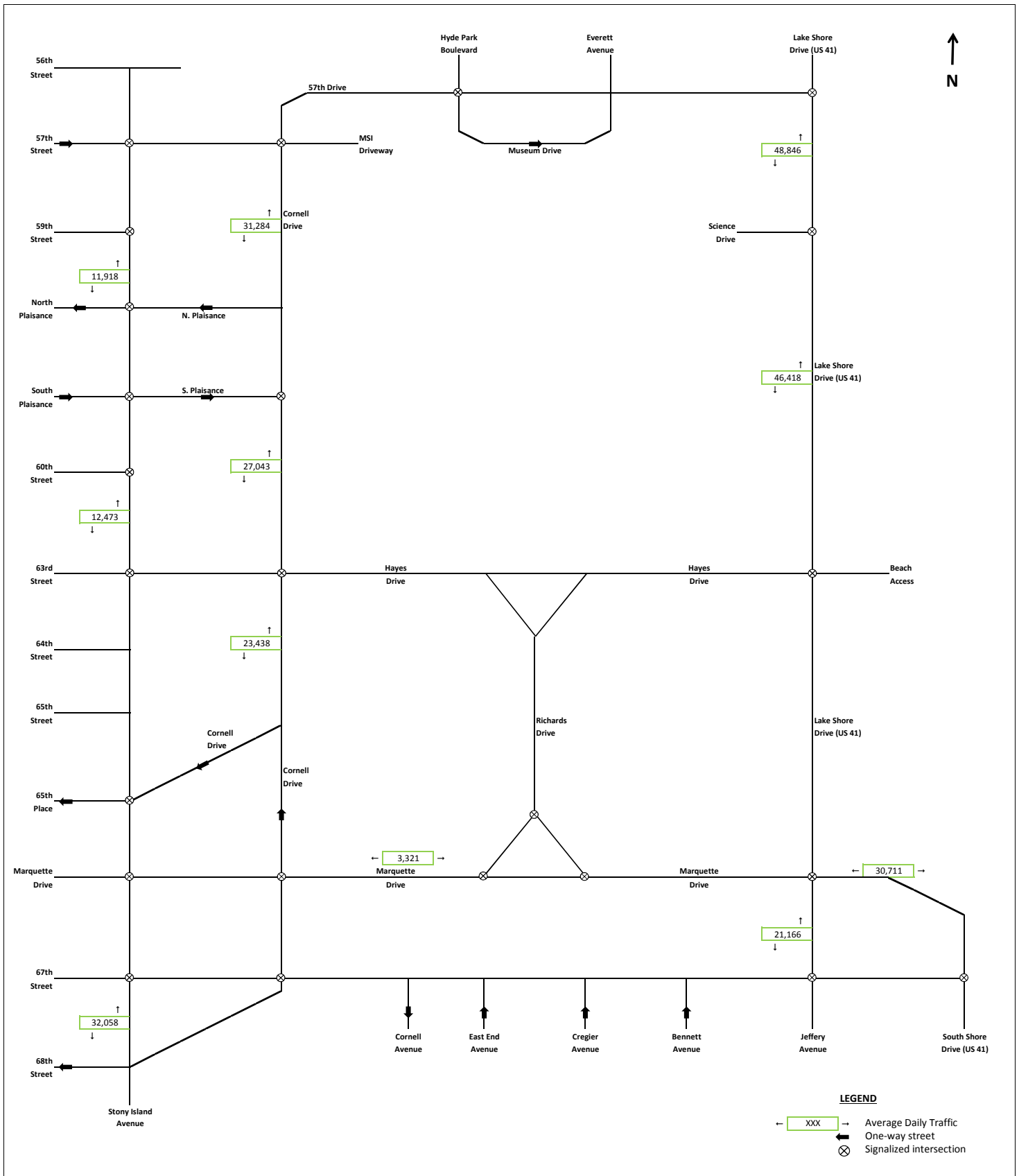
Intersection turning movement counts were performed in early October 2016 during the following four peak periods at each of the 36 study locations:

- Weekday morning (AM): 7:00 AM to 9:00 AM
- Weekday midday (MD): 11:00 AM to 1:00 PM
- Weekday evening (PM): 3:30 PM to 6:30 PM
- Saturday MD: 11:00 AM to 3:00 PM

In addition, Automatic Traffic Recorders (ATRs) were installed at the following 11 locations to collect mid-week (Tuesday, Wednesday, and Thursday) 72-hour traffic volumes for a continuous three-day period:

- Lake Shore Drive NB and SB, between 57th Drive and Science Drive
- Lake Shore Drive NB and SB, between Science Drive and Hayes Drive
- Jeffery Avenue NB and SB, between Marquette Drive and 67th Street
- Cornell Drive NB and SB, between Hayes Drive and Marquette Drive
- Cornell Drive NB and SB, between Hayes Drive and South Midway Plaisance
- Cornell Drive NB and SB, between North Midway Plaisance and 57th Street
- Stony Island Avenue NB and SB, between 67th Street and 68th Street
- Stony Island Avenue NB and SB, between 63rd Street and South Midway Plaisance
- Stony Island Avenue NB and SB, between North Midway Plaisance and 57th Street.
- South Shore Drive/Marquette Drive EB and WB, between Lake Shore Drive and La Rabida Drive
- Marquette Drive EB and WB, between Richards Drive and Cornell Drive

The ATR counts collected vehicle speed data as well as vehicle classification data, and the average daily traffic values from the ATR counts are presented in **Figure 3-1**. All raw traffic data is included in Appendix A.



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Figure 3-1
2016 Two-Way ADT Volumes
October 11th to 14th, 2016

Based on the traffic data collected, the weekday AM, MD, and PM peak hours were identified as 7:30 to 8:30 AM, 12:00 to 1:00 PM, and 4:00 to 5:00 PM, respectively, while the Saturday MD peak hour was identified as 2:00 to 3:00 PM.

The proposed closure of Cornell Drive is the critical element of the revitalization of Jackson Park that would change traffic patterns and thus require a detailed traffic impact analysis. Hourly traffic volumes on Cornell Drive are shown in **Figure 3-2**, where the weekday traffic volumes are sourced from the ATR counts to show the full weekday temporal variations, while the Saturday traffic volumes are sourced from the peak period intersection counts. The peak hour volumes from the intersection counts are summarized in **Table 3-1**, which show that Cornell Drive NB peaks during the AM peak hour at 1490 vehicles per hour (vph), while Cornell Drive SB peaks during the PM peak hour at 2165 vph. The table also shows that the peak hour volumes during the weekday MD and Saturday MD peak hours are less than half of the highest peak commuter period direction volumes on Cornell Drive. As such, after consultation with CDOT, detailed traffic impact analyses were performed for the weekday AM and PM peak hours only.

Marquette Drive, which is the other proposed roadway closure, carries significantly lower traffic volumes, with no more than 200 vph in either direction during the AM and PM peak hours.

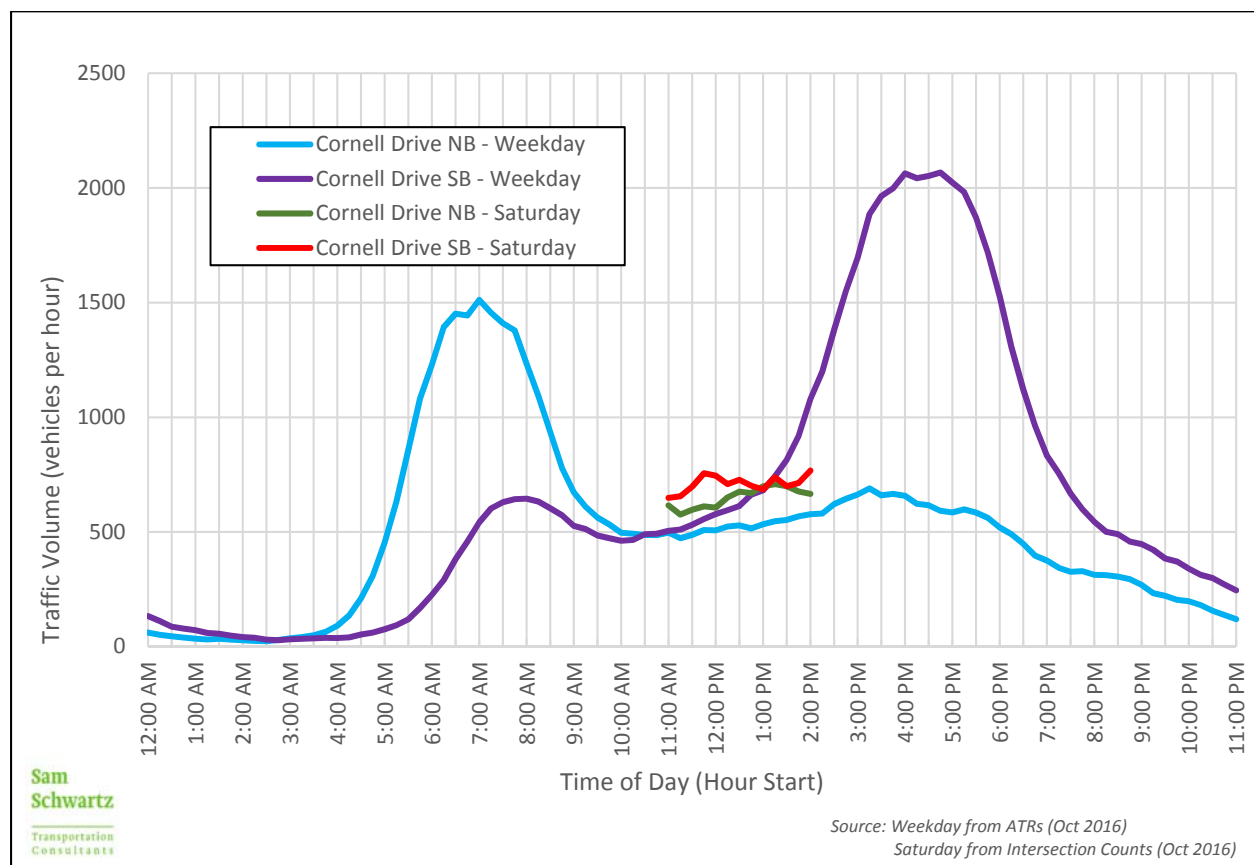


Figure 3-2: Cornell Drive Hourly Traffic Volumes (October 2016)

Table 3-1: Cornell Drive Peak Hour Volumes from Intersection Counts

Peak Hour	NB (vph)	SB (vph)
Weekday AM	1490	630
Weekday MD	541	549
Weekday PM	665	2165
Saturday	666	768

The 2016 Existing Condition traffic volume diagrams for the weekday AM and PM peak hours are shown in **Figure 3-3** and **Figure 3-4**, respectively. Pedestrian and bicycle volumes were also collected at the study locations and are presented in **Figure 3-5**.

3.2 Future Traffic Volumes

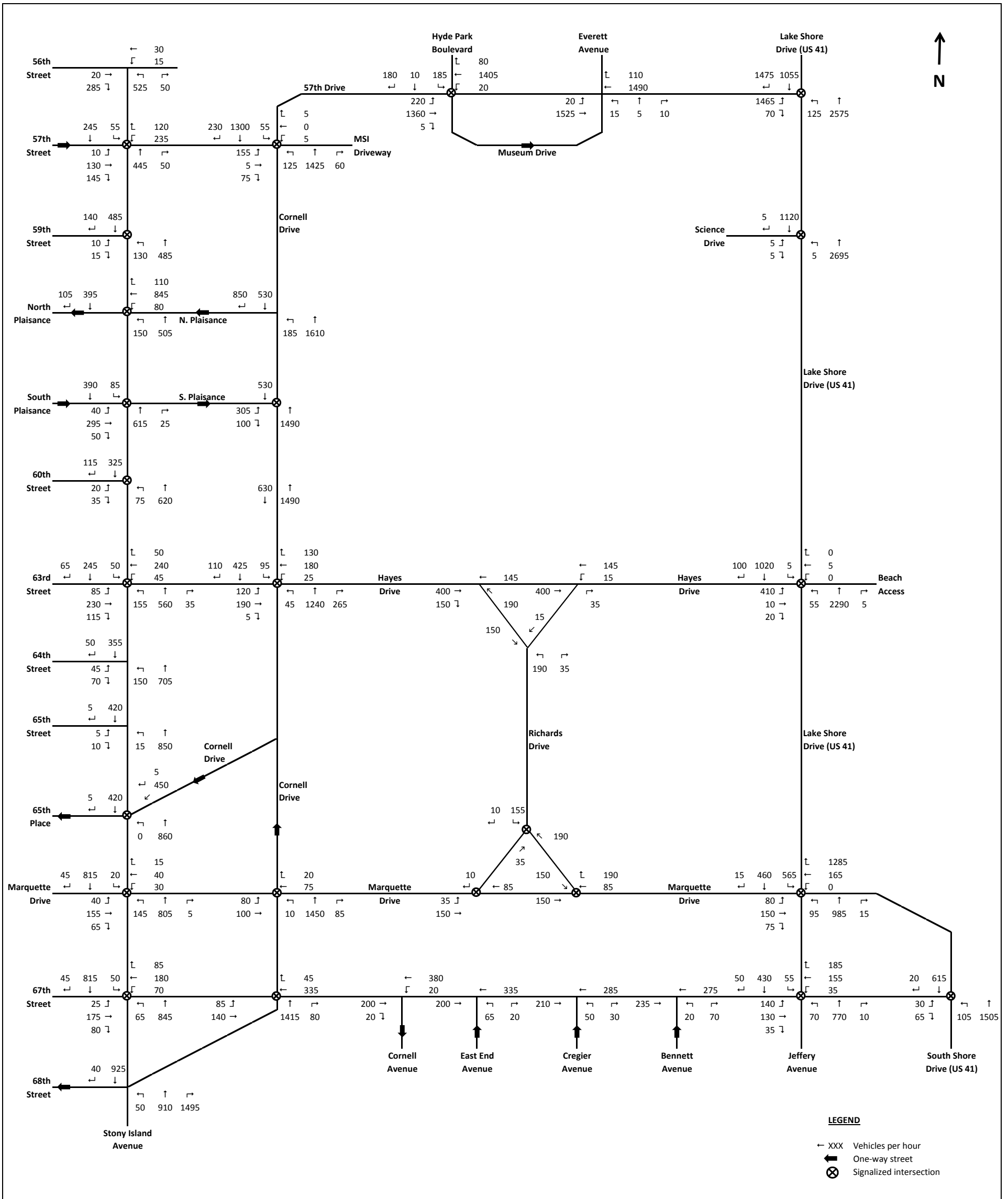
The proposed closure of a portion of Cornell Drive through Jackson Park would need to occur by the end of 2019 in order for the OPC to be constructed in time for its projected opening year of 2021. While the OPC site is expected to be open and operational by 2021, it was determined through coordination with CDOT and IDOT that a future horizon year of 2040 should be considered for the purposes of identifying traffic impacts.

The future traffic volume projections for the 2040 No Build Condition accounted for future traffic growth, including site-specific traffic growth associated with near-term University of Chicago development projects. The 2040 Build Condition traffic volumes build upon the 2040 No Build traffic volumes by incorporating the reassignment of traffic due to the proposed roadway closures and the trips generated by the OPC development. Since details regarding the proposed golf course redevelopment are not yet available and because golf courses already exist on the site where the new golf course would be constructed, it was assumed that any new project-generated trips by the proposed golf course redevelopment would be negligible during the weekday AM and PM peak hours.

3.2.1 Traffic Volume Reassignment

The Chicago Metropolitan Agency for Planning (CMAP) assisted with the development of future traffic volumes based on their in-house travel demand model. The CMAP model provided projections on the reassignment of Cornell Drive traffic volumes to alternate routes as well as general background growth associated with the expected economic growth of nearby neighborhoods and other known development and transportation infrastructure projects. CMAP manipulated the 2016 and 2040 models to remove the roadway links that would be closed and then used the model to reassign that traffic. Since preliminary traffic analyses showed that the southbound through movement for Lake Shore Drive at 57th Drive would be over capacity during the PM peak hour, the CMAP model was re-run with the assumption that a third southbound lane would be provided on Lake Shore Drive.

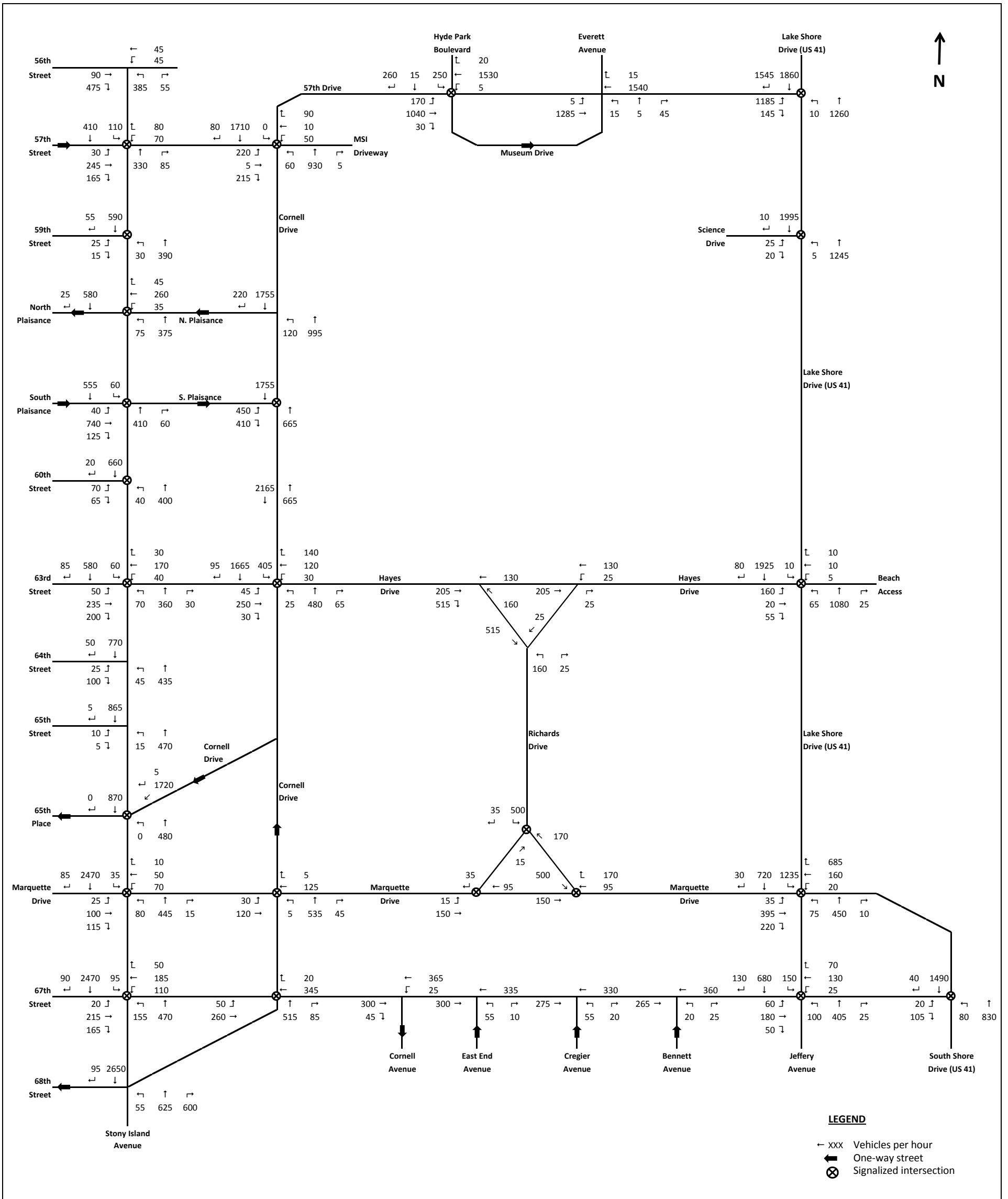
The model output provided existing and future daily traffic volumes for links within the study, and an east-west screenline north of Hayes Drive was established to determine where the existing traffic using Cornell Drive would be diverted.



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Figure 3-3
2016 Existing Condition Traffic Volumes
AM Peak Hour



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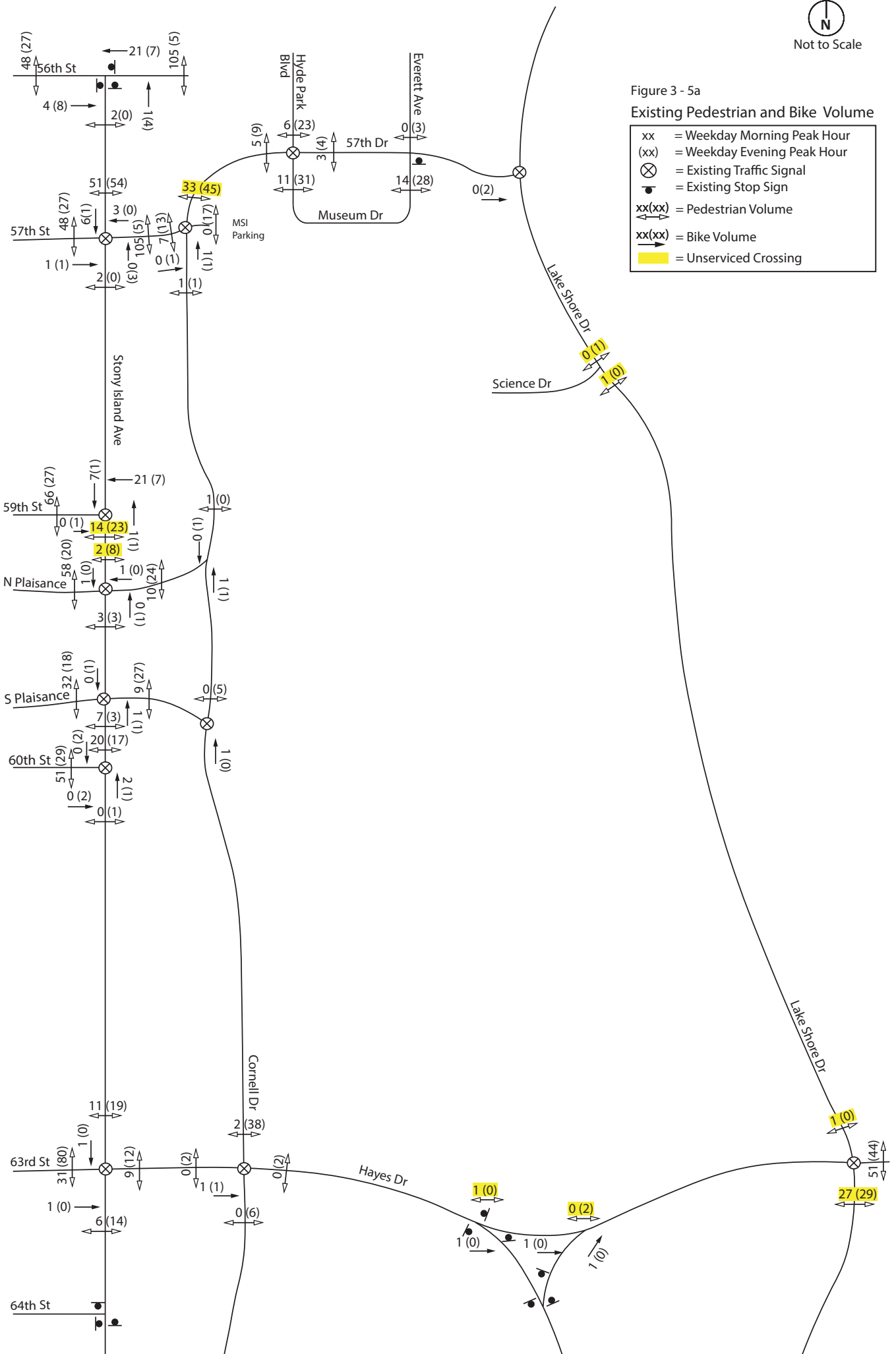
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Figure 3-4
2016 Existing Condition Traffic Volumes
PM Peak Hour

Figure 3 - 5a

Existing Pedestrian and Bike Volume

- xx = Weekday Morning Peak Hour
- (xx) = Weekday Evening Peak Hour
- ⊗ = Existing Traffic Signal
- = Existing Stop Sign
- xx(xx) = Pedestrian Volume
- xx(xx) = Bike Volume
- = Unserviced Crossing



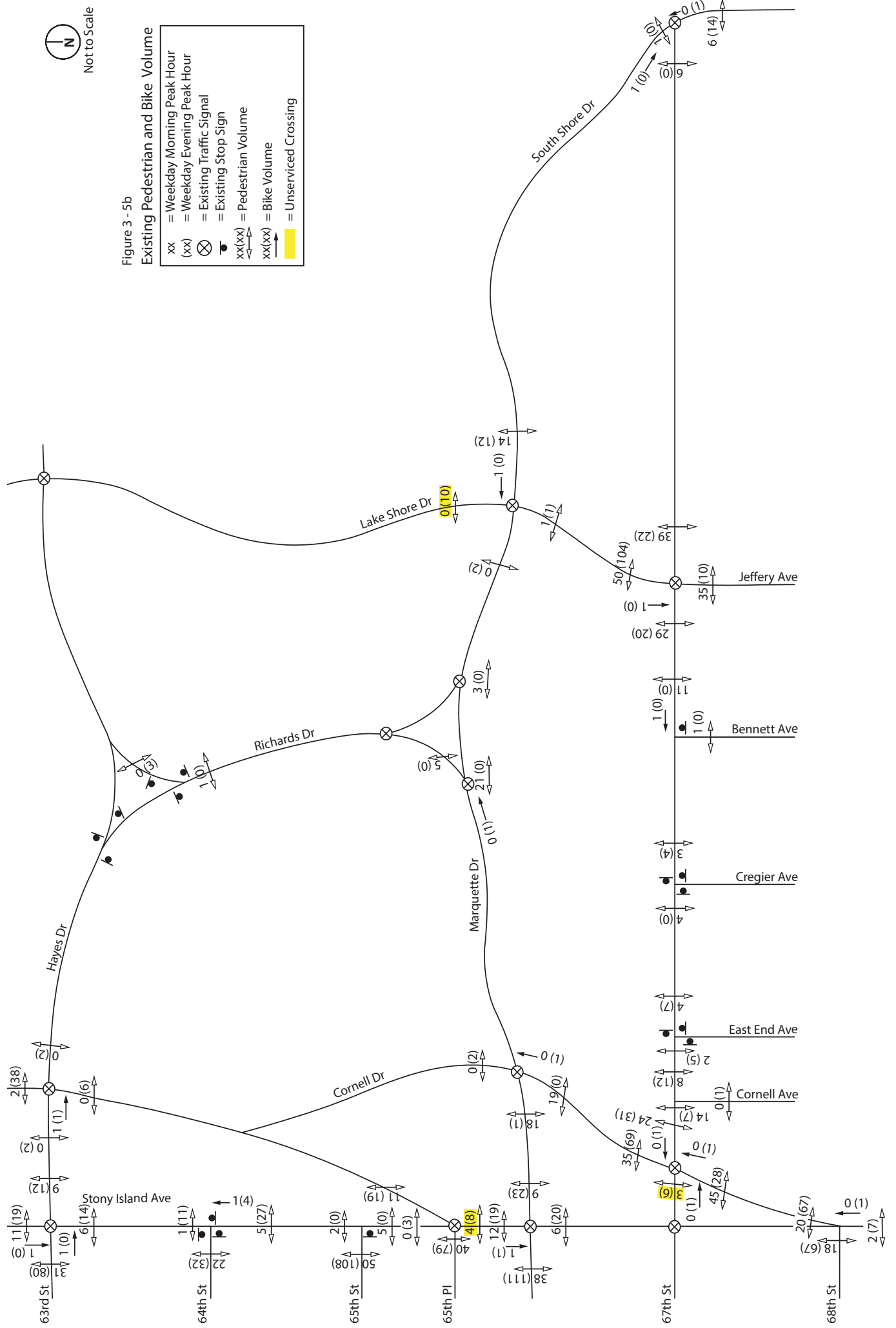


Not to Scale

Figure 3 - 5b

Existing Pedestrian and Bike Volume

- xx = Weekday Morning Peak Hour
- (xx) = Weekday Evening Peak Hour
- ⊗ = Existing Traffic Signal
- = Existing Stop Sign
- ↔ = Existing Stop Sign
- xx(xx) = Pedestrian Volume
- xx(xx) = Bike Volume
- █ = Unserviced Crossing



The CMAP reassignment of Cornell Drive traffic to the parallel roadways of Lake Shore Drive to the east and Stony Island Avenue to the west is shown in **Table 3-2**. As shown in the table, the CMAP model predicted that the majority of Cornell Drive traffic (51% to 57%) would be diverted to Lake Shore Drive, 19% to 21% would be diverted to Stony Island Avenue, and the remaining 24% to 28% would be assigned to alternate routes outside of the study area.

Table 3-2: Cornell Drive Traffic Reassignment

Corridor	Cornell Drive NB Diversion	Cornell Drive SB Diversion
Cornell Drive	-100%	-100%
Lake Shore Drive	+51%	+57%
Stony Island Avenue	+21%	+19%
Other roadways to the west	+28%	+24%

Source: CMAP model output

Of the 24% to 28% assigned to alternate north/south routes west of Stony Island Avenue, CMAP’s projections showed that approximately half would divert to the Dan Ryan Expressway with the remainder distributed over other north-south collectors and arterials to the west of Stony Island Avenue. The general traffic increases due to these diversions, as provided by CMAP in terms of Average Annual Daily Traffic (AADT), is presented in **Table 3-3**. The CMAP model results are summarized in a memorandum prepared by CMAP that is included in Appendix B.

Table 3-3: Reassignment of Traffic to Alternate North/South Routes(Source: CMAP)

Phase	Dan Ryan Expressway	State Street	Dr. Martin Luther King Jr. Drive	Cottage Grove Avenue	Woodlawn Avenue	Stony Island Avenue	Cornell Drive	Lake Shore Drive
2016 Existing AADT	314,600	4,300	11,100	18,400	3,500	13,800	27,000	46,300
Projected Reassignment	318,100	4,800	11,800	19,600	4,200	19,200	0	60,900
Maximum Projected Capacity	-	18,000	12,400	25,000	10,000	30,000	-	65,000

Note - 10% was assumed to travel via North/South Collectors such as Dorchester Avenue or Ellis Avenue

While these traffic reassignment assumptions were used as an initial baseline, some adjustments were made to balance travel times across alternate routes under the expectation that drivers would find alternate routes that would minimize their delay through the study area.

3.2.2 Background Traffic Growth

Background traffic growth between 2016 and 2040 was estimated for each of the three north/south corridors within the study area based on the CMAP output by comparing the CMAP volumes for the 2016 and 2040 reassigned networks, as summarized in **Table 3-4**.

Table 3-4: Average Growth Rates by Corridor (2016-2040)

Corridor	Background Growth (2016-2040)
Cornell Drive	2.37%
Lake Shore Drive	-1.67%
Stony Island Avenue	-0.33%

Source: CMAP model output

The results show that on average, Cornell Drive is projected to experience an overall background traffic growth of 2.37% between 2016 and 2040, while Lake Shore Drive and Stony Island Avenue would experience slight decreases in growth over the same time period. To be conservative, existing traffic was projected to 2040 using the highest of the three growth rates (2.37%), which was applied to all traffic volumes within the study area.

3.2.3 University of Chicago Traffic Increment

The University of Chicago provided information on the development of several ongoing projects to be located just west of the study area. These projects include a 180-key hotel and an approximately 90,000 square foot forum/meeting complex. Both developments are to be developed on the south side of 60th Street between Dorchester Avenue and Woodlawn Avenue, 1/4 to 1/2 mile west of Stony Island Avenue.

Traffic volumes for the proposed University developments were obtained from CDOT and were based on a traffic study prepared by KLOA, Inc., for the University (relevant pages provided in Appendix D) and carried through the OPC study area based on likely travel paths to and from the site.

3.2.4 Obama Presidential Center Site Traffic Increment

The OPC will include a museum dedicated to the presidency of Barack Obama, the 44th President of the United States, as well as hosting programs of the Obama Foundation and community. Certain amenity elements, such as an athletic center, food service, and a bookstore, will also be included on site. The main campus buildings are estimated to total approximately 285,000 square feet, while the athletic center is estimated to be approximately 40,000 square feet. It is anticipated the typical hours of operation will be between 9:00 AM and 5:00 PM and the OPC will be open nearly year-round. Estimates of expected annual OPC museum attendance to be approximately 600,000. As much as 50% of those visitors are preliminarily expected to originate from outside the Chicagoland area. In addition, approximately 160,000 visitors are expected for community programming or special events at the center.

Trip generation for the OPC site was estimated for the AM and PM peak hours based on assumptions provided by the Barack Obama Foundation and supplemented with data from other presidential libraries and centers as well as other similar facilities in Chicago.

The following assumptions were used to develop the trip generation for the OPC site for the 30th design day (i.e., the 30th highest attendance day of the year):

- Annual center attendance of 760,000 visitors, including 600,000 visitors to the museum and 160,000 non-museum visitors for programs, special events, and community access
- Based on data from other presidential centers, 0.7% of the annual museum attendance would be present on the design day, or approximately 4,200 museum visitors
- An hourly distribution of arrivals based on data from other presidential centers
- 50% of the visitors would travel by car
- 18% of the visitors would arrive by taxi, Uber, Lyft, etc.
- 12% of the visitors would arrive via a tour/school bus
- 20% of the visitors would arrive via transit, walk, or bike
- An estimated average “visit time” of 3 hours
- Estimated staff size of approximately 150 persons
- An average vehicle occupancy of:
 - Visitor: 2.5 persons per vehicle
 - Employee: 1.2 persons per vehicle
 - Bus: 48.5 persons per bus

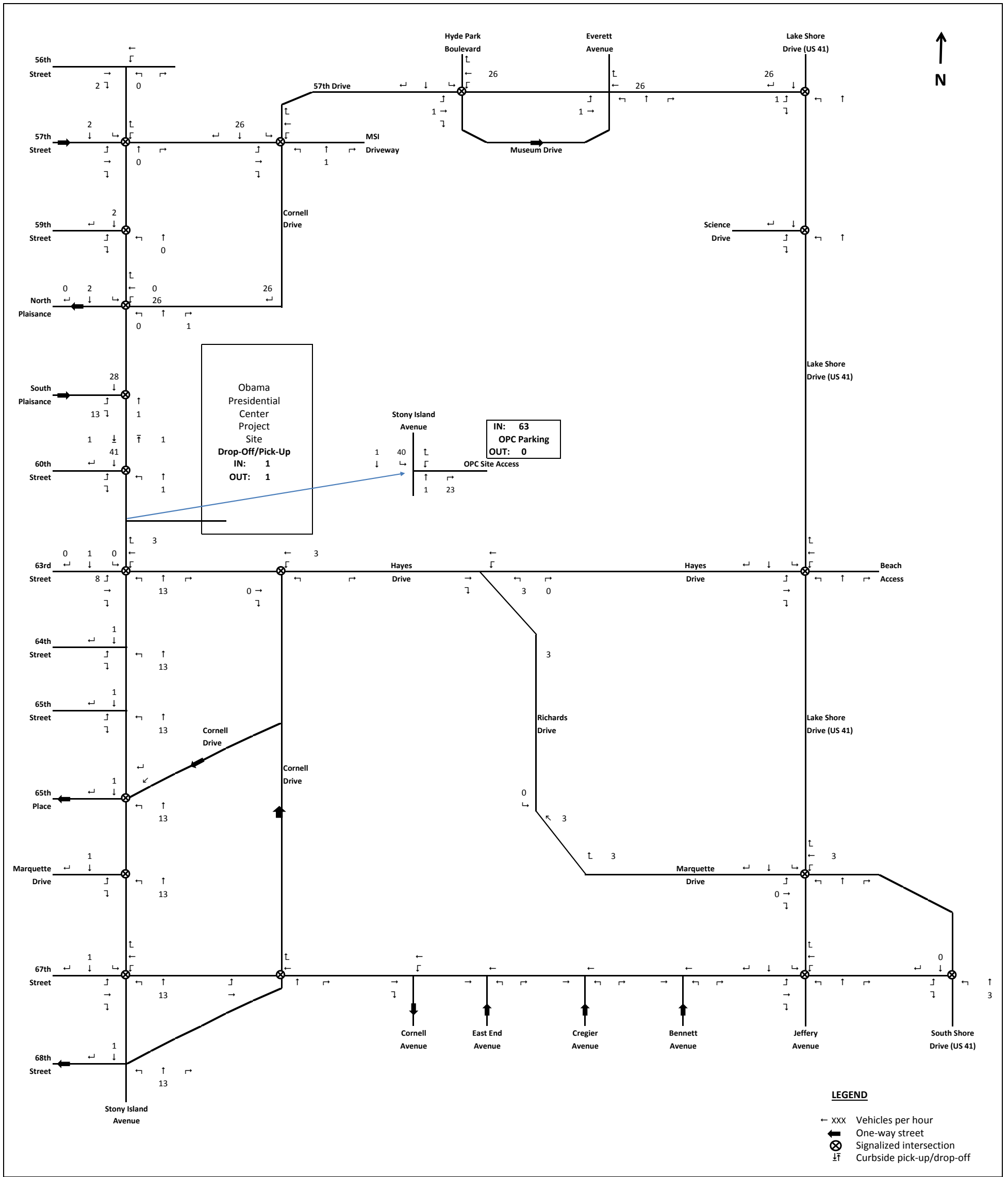
Additional information is provided in the trip generation and parking calculator in Appendix C.

Table 3-5 presents the estimated trip generation for the OPC during the peak AM and PM hours of the adjacent street network, and the assignment of these trips to the surrounding roadway network are shown in **Figure 3-6** and **Figure 3-7** for the AM and PM peak hours, respectively. These trips were included in the 2040 Build volumes.

Table 3-5: Vehicle Trip Generation for 30th Design Day

	Weekday AM Peak of Street			Weekday PM Peak of Street		
	In	Out	Total	In	Out	Total
Employees	62	0	62	5	30	35
Visitors who park	2	0	2	16	48	64
Drop-off/pick-up	12	12	24	26	26	52
Bus	1	1	2	1	2	3
Total	77	13	90	48	106	154

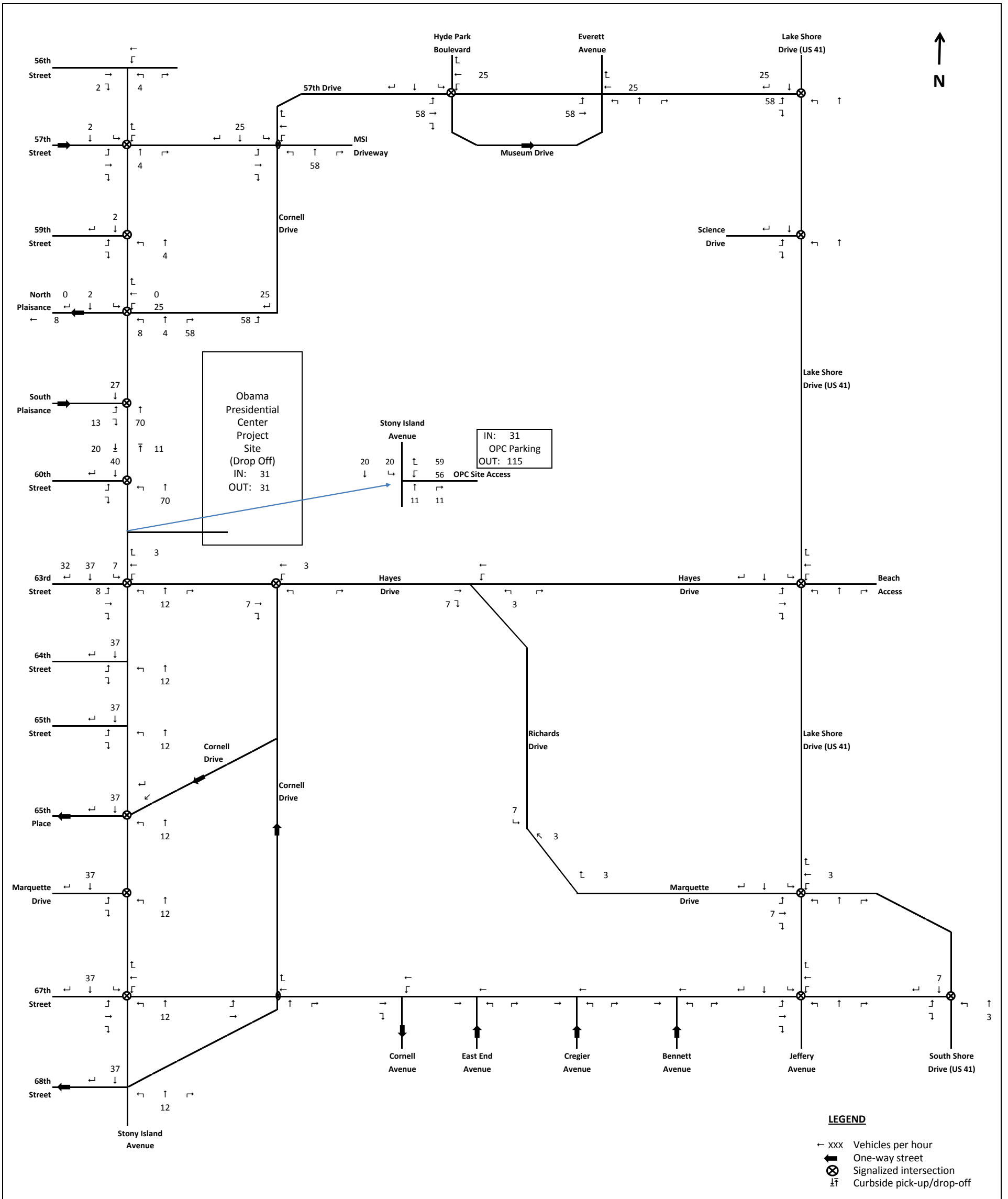
Note: This estimate is based on an annual center attendance of 820,000, including 600,000 museum visitors and 220,000 non-museum visitors. Current attendance estimates are lower (760,000 total, including 600,000 museum visitors and 160,000 non-museum visitors); therefore, the trip generation used in the traffic analysis is conservative.



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Figure 3-6
OPC Site Generated Traffic
AM Peak Hour



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Figure 3-7
 OPC Site Generated Traffic
 PM Peak Hour

3.2.5 2040 No Build Traffic Volumes

The background growth rate and University of Chicago development increment were applied to the 2016 Existing Condition traffic volumes to develop the 2040 No Build Condition traffic volumes, which are shown in **Figure 3-8** and **Figure 3-9**.

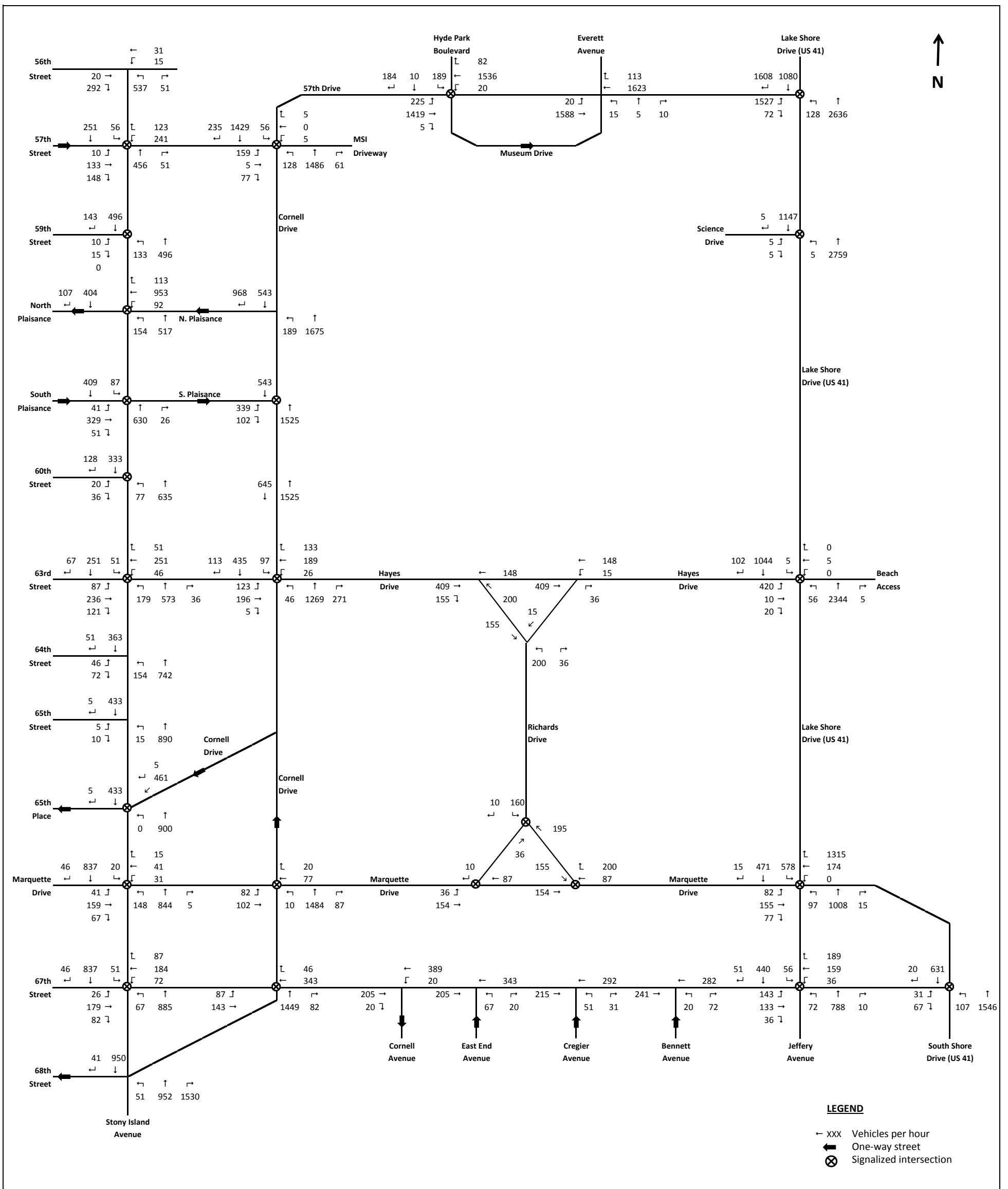
3.2.6 2040 Build Traffic Volumes

To calculate the 2040 Build Condition traffic volumes, the reassignment increment and OPC traffic increment were added to the 2040 No Build Condition traffic volumes, and the resulting 2040 Build Condition traffic volumes are shown in **Figures 3-10 through 3-11**.

Additionally, to capture the increased pedestrian activity along Stony Island Avenue near the proposed OPC site, pedestrian volumes were increased at intersections near the project site using assumptions developed in coordination with CDOT. These updated pedestrian volumes analyzed during Build Condition analysis were developed by using the following methodology:

- All pedestrian volumes within the study area were doubled (i.e., +100% growth)
- Bicycle and pedestrian volumes during the PM peak hour at the six intersections closest to the proposed OPC Site were tripled. These intersections include:
 - Stony Island Avenue and 59th Street
 - Stony Island Avenue and North Midway Plaisance/Cornell Drive
 - Stony Island Avenue and South Midway Plaisance
 - Stony Island Avenue and 60th Street
 - Stony Island Avenue and Hayes Drive/63rd Street
 - Cornell Drive and Hayes Drive
- Finally, the north-side crosswalk at the intersection of Stony Island Avenue and South Midway Plaisance was assumed to be the primary pedestrian path that would connect the OPC Site to the University of Chicago Campus and the Midway Plaisance. In coordination with CDOT, this crosswalk volume was raised to 100 pedestrians for the AM and PM peak hours to be conservative.

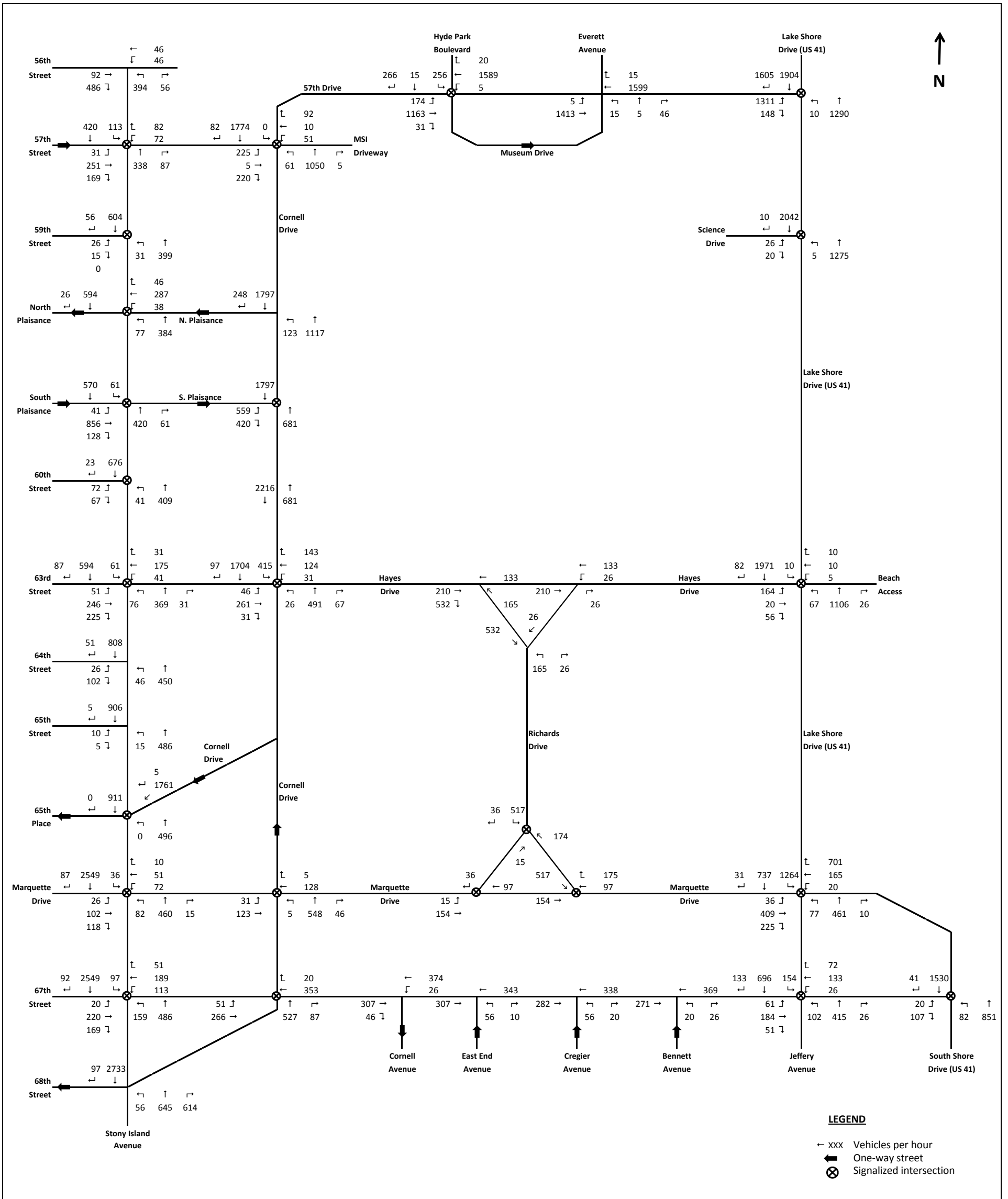
The detailed diversion, growth, and site traffic increments are included in Appendix D.



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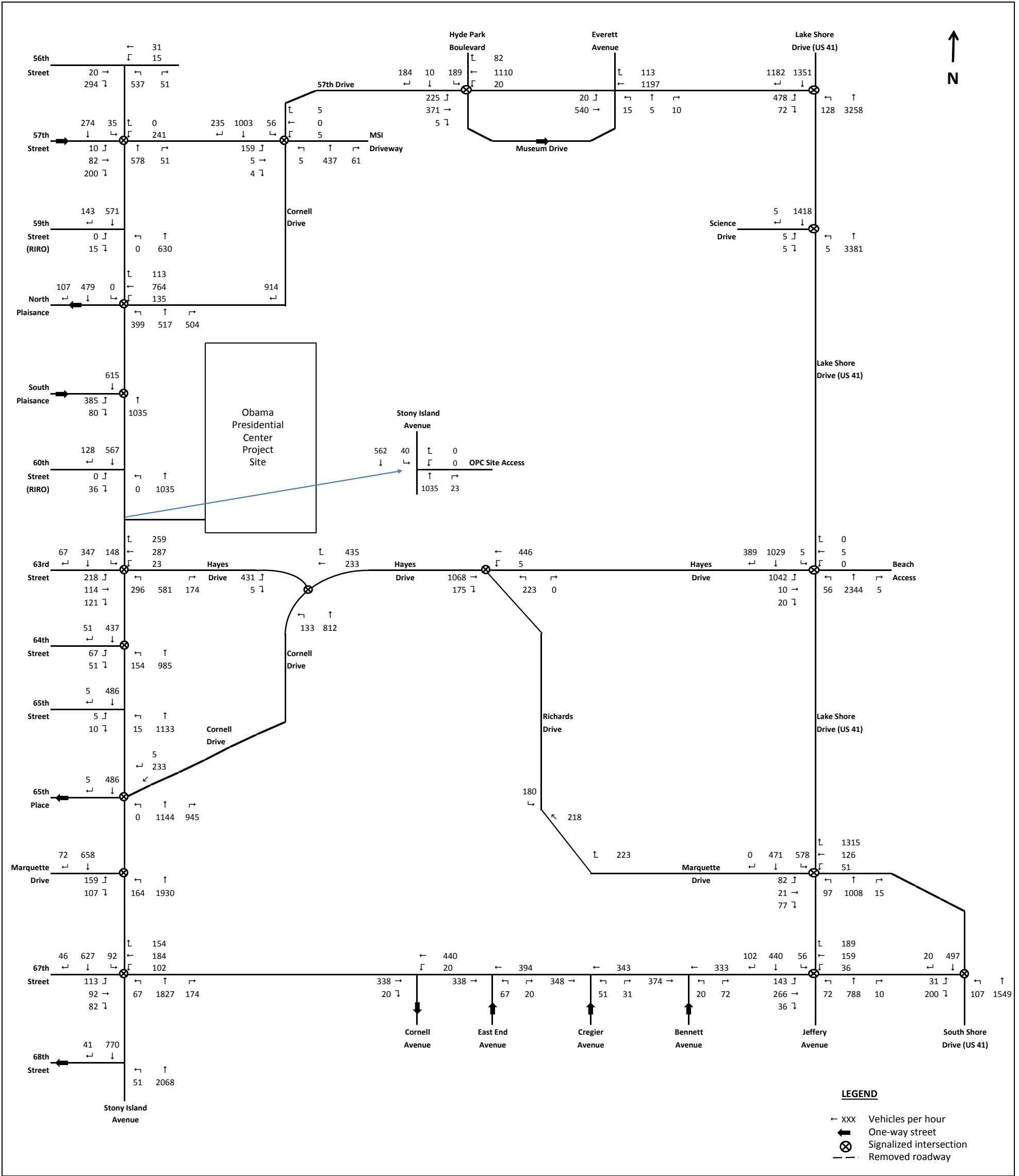
Figure 3-8
2040 No-Build Traffic Volumes
AM Peak Hour



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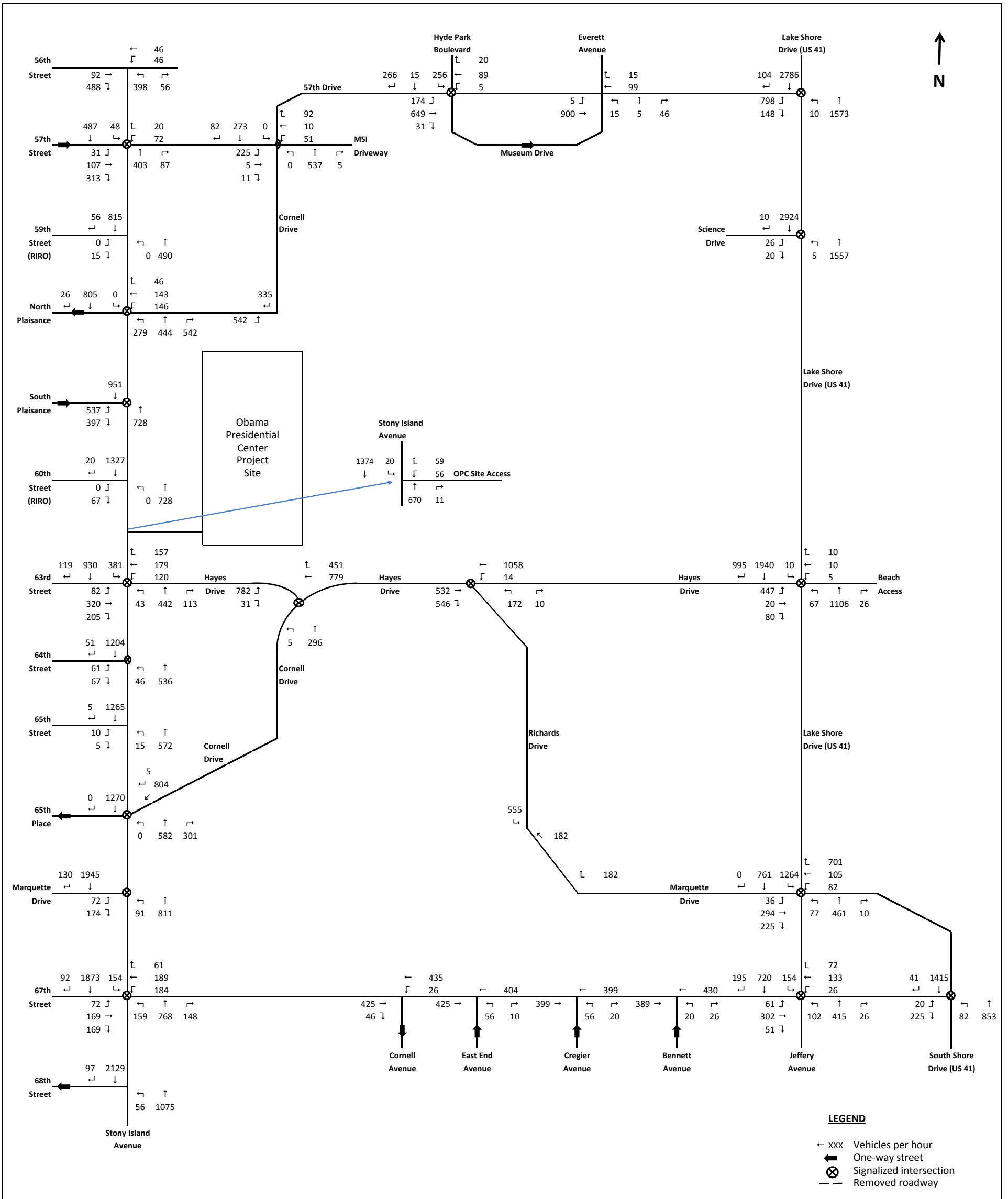
Figure 3-9
2040 No-Build Traffic Volumes
PM Peak Hour



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Figure 3-10
2040 Build Traffic Volumes
AM Peak Hour



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Figure 3-11
2040 Build Traffic Volumes
PM Peak Hour

4.0 TRAFFIC IMPACT ANALYSIS

A traffic impact analysis was performed to identify potential traffic impacts associated with the proposed revitalization of Jackson Park, which includes multiple roadway closures and the proposed OPC and golf course projects. Traffic analyses were performed for the weekday AM and PM peak hours, and capacity analysis results were developed for the following conditions:

- 2016 Existing Condition, which establishes baseline conditions for the current year
- 2040 No Build Condition, which represents future conditions without the proposed OPC or the proposed roadway closures
- 2040 Build Condition, which represents future conditions with the proposed OPC and the proposed roadway closures.

The 2040 Build Condition includes proposed mitigation measures and is compared to the 2040 No Build Condition to identify potential traffic impacts.

4.1 Capacity Analysis Methodology

The Synchro (version 10) traffic analysis software was used to analyze traffic operations for the Existing Condition as well as for each scenario in the 2040 horizon year. The capacity analysis results from Synchro provide volume-to-capacity (v/c) ratios, average vehicle delays, levels of service (LOS), and queue lengths (95th-percentile) for each study intersection. SimTraffic, the traffic simulation module of the Synchro software package, was also used to develop traffic simulations for each scenario and peak hour to further inform traffic operations and to assist in determining the effectiveness of the proposed mitigation measures. Pavement striping and traffic signal timings for signalized intersections were obtained from CDOT (see Appendix E) and verified in the field.

The LOS of a signalized intersection is defined in terms of control delay per vehicle (seconds per vehicle), and control delay is the portion of total delay experienced by a motorist that is attributed to the traffic signal. For signalized intersections, LOS A describes operations with minimal delays (up to 10 seconds per vehicle), while LOS F describes operations with delays in excess of 80 seconds per vehicle. In general, delays experienced at LOS D or better are generally considered “acceptable” operating conditions, while LOS E and F are generally considered “unacceptable” operating conditions. The LOS criteria for signalized intersections, as defined in the 2010 Highway Capacity Manual (HCM 2010), are provided in **Table 4-1**.

Table 4-1: LOS Criteria for Signalized Intersections

Level of Service (LOS)	Average Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 20.0 seconds
C	> 20.0 and ≤ 35.0 seconds
D	> 35.0 and ≤ 55.0 seconds
E	> 55.0 and ≤ 80.0 seconds
F	> 80.0 seconds

Transportation Research Board. *Highway Capacity Manual*, 2010.

For unsignalized intersections, the total delay is defined as the total elapsed time from which a vehicle stops at the back of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The LOS thresholds for unsignalized intersections are different from those for signalized intersections and are summarized in **Table 4-2**.

Table 4-2: LOS Criteria for Unsignalized Intersections

Level of Service (LOS)	Average Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Transportation Research Board. *Highway Capacity Manual*, 2010.

4.2 Existing Conditions

The intersection capacity analysis results for the Existing Condition for signalized and unsignalized intersections are shown in **Table 4-3** and **Table 4-4**, respectively. The majority of the analyzed intersection approaches and lane groups operate at LOS D or better during both peak hours. The Synchro files for all conditions and peak hours are provided in Appendix F.

Signalized intersections with lane groups that currently operate at LOS E or LOS F include the following:

Stony Island Avenue and 67th Street

- The NB left-turn movement operates at LOS E during the AM and PM peak hours.
- The SB left-turn movement operates at LOS F during the PM peak hour.

Jeffery Avenue and 67th Street

- The EB left-turn movement operates at LOS F during the AM peak hour.

57th Drive and Hyde Park Blvd/Museum Drive

- The EB left-turn movement operates at LOS F during the AM peak hour.

Stony Island Avenue and N. Midway Plaisance

- The WB approach operates at LOS E during the AM peak hour.

Stony Island Avenue and 57th Street

- The EB approach operates at LOS F during the PM peak hour.

**Table 3-3: 2016 Existing Conditions
Capacity Analysis Results - Signalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour						
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)		
3	Lake Shore Dr & 57th Drive												
	Eastbound	L	0.81	28.9	C	328	L	0.82	33.3	C	268		
		R	0.09	3.5	A	8	R	0.31	23.7	C	86		
	Northbound	L	0.49	46.6	D	129	L	0.14	10.3	B	8		
		T	0.98	31.2	C	787	T	0.40	7.5	A	169		
	Southbound	T	0.80	32.4	C	441	T	0.85	18.5	B	597		
		R	0.96	16.7	B	170	R	0.96	17.3	B	178		
Intersection					27.7	C	Intersection					18.9	B
6	Lake Shore Dr & Science Dr												
	Eastbound	L	0.03	43.6	D	15	L	0.16	45.6	D	43		
		R	0.02	20.2	C	10	R	0.09	28.1	C	29		
	Northbound	L	0.04	45.4	D	15	L	0.04	45.4	D	15		
		T	0.60	2.5	A	248	T	0.28	1.8	A	73		
	Southbound	T	0.37	3.5	A	171	T	0.70	6.8	A	338		
		R	0.00	0.0	A	0	R	0.01	0.9	A	1		
Intersection					2.9	A	Intersection					5.4	A
13	Stony Island Ave & 67th St												
	Eastbound	LTR	0.36	24.9	C	108	LTR	0.58	26.6	C	129		
		LTR	0.46	2.7	A	13	LTR	0.42	2.9	A	24		
	Northbound	L	0.63	72.7	E	112	L	0.75	68.3	E	203		
		TR	0.65	26.8	C	326	TR	0.30	19.7	B	142		
	Southbound	L	0.41	42.3	D	80	L	0.69	728.4	F	94		
		TR	0.35	7.9	A	35	TR	0.99	39.3	D	611		
Intersection					18.1	B	Intersection					50.0	D
15	South Shore Dr & 67th St												
	Eastbound	L	0.08	39.2	D	51	L	0.05	38.8	D	38		
		R	0.21	41.6	D	92	R	0.29	43.1	D	135		
	Northbound	L	0.26	7.9	A	48	L	0.51	18.6	A	48		
		T	0.67	13.6	B	458	T	0.36	9.1	A	186		
	Southbound	TR	0.32	12.9	B	177	TR	0.74	20.4	C	577		
		Intersection					14.3	B	Intersection				
19	Jeffery Ave/Lake Shore Dr & Marquette Dr												
	Eastbound	LT	0.55	48.5	D	124	LT	0.53	31.2	C	177		
		R	0.28	43.8	D	96	R	0.56	34.7	C	201		
	Westbound	LT	0.50	48.3	D	144	LT	0.42	45.0	D	196		
		R	0.88	15.5	B	125	R	0.34	5.9	A	105		
	Northbound	L	0.49	50.2	D	105	L	0.46	52.5	D	91		
		TR	0.85	33.2	C	462	TR	0.51	30.4	C	196		
Southbound	L	0.47	14.3	B	81	L	0.81	30.0	C	462			
	TR	0.22	7.7	A	37	TR	0.33	9.8	A	164			
Intersection					23.7	C	Intersection					23.7	C
20	Stony Island Ave & 63rd Street/Hayes Dr												
	Eastbound	L	0.43	37.0	D	101	L	0.17	29.2	C	58		
		T	0.47	33.7	C	213	T	0.43	32.8	C	208		
		R	0.28	8.0	A	46	R	0.35	6.0	A	55		
	Westbound	L	0.22	24.6	C	38	L	0.16	21.4	C	34		
		T	0.50	26.8	C	138	T	0.31	22.0	C	109		
	Northbound	R	0.12	5.6	A	4	R	0.07	5.3	A	11		
L		0.32	11.9	B	91	L	0.19	10.7	B	44			
Southbound	TR	0.35	10.6	B	136	TR	0.20	9.0	A	80			
	L	0.15	8.6	A	38	L	0.11	6.0	A	25			
	TR	0.19	5.9	A	64	TR	0.34	7.3	A	134			
Intersection					16.0	B	Intersection					12.9	B

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
23	Jeffery Ave & 67th St										
	Eastbound	L	0.96	98.4	F	183	L	0.31	35.6	D	67
		TR	0.36	33.0	C	76	TR	0.52	39.2	D	104
	Westbound	L	0.19	31.3	C	44	L	0.12	31.5	C	35
		TR	0.70	28.4	C	105	TR	0.50	30.5	C	77
	Northbound	L	0.15	5.7	A	32	L	0.22	5.5	A	36
		TR	0.40	10.7	B	206	TR	0.21	10.2	B	108
	Southbound	L	0.15	2.4	A	14	L	0.22	4.3	A	44
TR		0.25	2.9	A	38	TR	0.40	9.3	A	144	
		Intersection	19.5	B		Intersection	15.5	B			
27	Cornell Dr & Hayes Dr										
	Eastbound	LTR	0.49	23.5	C	84	LTR	0.40	18.4	B	56
		LT	0.24	31.0	C	95	LT	0.17	30.2	C	69
	Westbound	R	0.23	17.2	B	91	R	0.18	3.5	A	34
		L	0.12	5.6	A	0	L	0.25	13.3	B	39
	Northbound	T	0.67	7.8	A	197	T	0.27	6.9	A	59
		R	0.28	1.6	A	35	R	0.08	1.7	A	0
	Southbound	L	0.45	12.2	B	52	L	0.65	10.5	B	143
TR		0.18	4.5	A	71	TR	0.53	9.1	A	95	
		Intersection	10.5	B		Intersection	10.5	B			
31	Cornell Dr & S. Midway Plaisance										
	Eastbound	L	0.36	17.2	B	52	L	0.51	9.4	A	27
		R	0.13	0.6	A	2	R	0.56	7.5	A	19
	Northbound	T	0.70	5.6	A	107	T	0.31	4.4	A	58
		T	0.18	5.0	A	50	T	0.56	6.9	A	139
		Intersection	6.7	A		Intersection	6.8	A			
38	MSI Drop Off/Hyde Park Blvd & 57th Drive										
	Eastbound	L	1.16	135.1	F	255	L	0.80	50.7	D	134
		TR	0.66	6.8	A	174	TR	0.55	12.8	B	178
	Westbound	L	0.08	4.8	A	5	L	0.01	4.4	A	1
		TR	0.81	21.9	C	487	TR	0.79	19.7	B	451
	Southbound	LT	0.58	44.8	D	206	LT	0.72	50.9	D	281
		R	0.39	21.9	C	131	R	0.52	26.2	C	190
		Intersection	24.4	C		Intersection	22.0	C			
41	Stony Island Ave & N. Midway Plaisance										
	Westbound	LTR	0.81	61.5	E	460	LTR	0.33	28.1	C	141
		LT	0.60	4.5	A	26	LT	0.31	2.4	A	18
	Northbound	TR	0.37	3.5	A	13	TR	0.36	2.5	A	13
		Intersection	31.2	C		Intersection	8.7	A			
44	Stony Island Ave & S. Midway Plaisance										
	Eastbound	LTR	0.41	31.2	C	162	LTR	0.94	53.1	D	463
		TR	0.44	2.9	A	16	TR	0.31	4.4	A	39
	Northbound	LT	0.38	4.8	A	38	LT	0.41	2.7	A	20
		Intersection	10.8	B		Intersection	26.0	C			
54	Stony Island Ave & Cornell Dr1										
	Southwestbound	LR	0.20	4.8	A	22	LR	0.66	9.7	A	203
		T	0.61	8.7	A	105	T	0.36	16.5	B	195
	Northbound	T	0.17	18.7	B	70	T	0.36	23.8	C	151
		Intersection	10.1	B		Intersection	14.8	B			
56	Cornell Dr & 67th St										
	Eastbound	LT	0.21	2.5	A	5	LT	0.60	19.5	B	91
		TR	0.42	30.4	C	156	TR	0.39	31.7	C	151
	Westbound	LTR	0.74	28.2	C	379	LTR	0.28	18.0	B	117
		Intersection	25.9	C		Intersection	22.3	C			
58	Stony Island Ave & Marquette Dr										
	Eastbound	L	0.13	31.3	C	51	L	0.08	30.4	C	36
		TR	0.50	34.9	C	203	TR	0.47	28.5	C	170
	Westbound	L	0.16	15.8	B	15	L	0.32	15.5	B	42
		TR	0.11	7.7	A	15	TR	0.11	7.0	A	5
	Northbound	L	0.39	11.4	B	58	L	0.51	40.5	D	73
		TR	0.43	5.0	A	72	TR	0.23	4.1	A	41
	Southbound	L	0.06	5.1	A	11	L	0.06	2.4	A	4
TR		0.29	13.2	B	120	TR	0.73	13.4	B	393	
		Intersection	12.4	B		Intersection	13.7	B			

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
59	Cornell Dr & Marquette Dr											
	Eastbound	LT	0.35	11.5	B	41	LT	0.26	19.2	B	73	
	Westbound	TR	0.10	21.6	C	40	TR	0.14	26.8	C	57	
	Northbound	LTR	0.50	6.0	A	116	LTR	0.19	3.5	A	30	
	Intersection					7.4	A	Intersection			9.7	A
64	Marquette and Richards (East Intersection)											
	Eastbound	LT	0.16	27.0	C	68	LT	0.16	27.0	C	68	
	Westbound	T	0.09	6.4	A	9	T	0.10	12.2	B	36	
		R	0.13	0.2	A	0	R	0.12	0.2	A	0	
	Southeastbound	LR	0.15	7.2	A	64	LR	0.47	17.2	B	236	
	Intersection					9.9	A	Intersection			15.1	B
70	Marquette & Richards (North Intersection)											
	Northbound	TR	0.03	2.1	A	5	TR	0.03	11.6	B	10	
	Southbound	L	0.13	0.4	A	0	L	0.37	0.9	A	0	
		T	0.01	0.0	A	0	T	0.02	0.0	A	0	
	Northwestbound	LR	0.19	0.4	A	0	LR	0.19	1.8	A	23	
	Intersection					0.5	A	Intersection			1.3	A
71	Marquette & Richards (West Intersection)											
	Eastbound	L	0.33	12.4	B	23	L	0.14	6.5	A	9	
		T	0.12	3.0	A	28	T	0.13	3.7	A	33	
	Westbound	TR	0.14	22.8	C	33	TR	0.13	21.1	C	34	
	Southbound	R	0.01	0.0	A	0	R	0.03	0.1	A	0	
	Intersection					10.0	B	Intersection			8.7	A
74	Stony Island Ave & 59th St											
	Eastbound	LR	0.09	20.4	C	27	LR	0.15	28.1	C	47	
	Northbound	LT	0.51	5.9	A	50	LT	0.20	1.9	A	14	
	Southbound	TR	0.58	32.0	C	264	TR	0.40	12.3	B	120	
	Intersection					19.1	B	Intersection			8.9	A
76	Stony Island Ave & 60th St											
	Eastbound	LR	0.27	23.0	C	52	LR	0.50	37.2	D	127	
	Northbound	LT	0.58	16.6	B	273	LT	0.33	13.4	B	151	
	Southbound	TR	0.22	1.0	A	2	TR	0.29	2.9	A	40	
	Intersection					11.2	B	Intersection			10.3	B
78	Stony Island Ave & 57th Street											
	Eastbound	LT	0.51	46.0	D	159	LT	0.64	106.7	F	265	
	Westbound	L	0.60	43.6	D	228	L	0.25	31.8	C	54	
		R	0.23	10.5	B	51	R	0.15	8.9	A	26	
	Northbound	TR	0.67	22.3	C	475	TR	0.45	31.6	C	325	
	Southbound	L	0.25	19.1	B	52	L	0.26	15.9	B	78	
		T	0.32	17.7	B	164	T	0.43	17.0	B	242	
	Intersection					25.0	C	Intersection			36.4	D
81	Cornell Dr/57th Drive & 57th Street/MSI Garage											
	Eastbound	LTR	0.93	58.0	E	282	LTR	1.35	199.6	F	582	
	Westbound	LT	0.03	34.4	C	13	LT	0.24	36.1	D	73	
		R	0.01	0.6	A	0	R	0.10	4.9	A	18	
	Northbound	L	1.07	115.4	F	163	L	0.83	89.0	F	125	
		TR	0.73	9.1	A	354	TR	0.47	15.5	B	273	
	Southbound	L	0.25	9.2	A	9	L	0.00	0.0	A	0	
		TR	0.67	5.1	A	166	TR	0.77	7.3	A	215	
	Intersection					14.5	B	Intersection			36.5	D
83	Lake Shore Dr & Hayes Dr											
	Eastbound	L	0.55	36.8	D	168	L	0.62	69.0	E	117	
		TR	0.08	30.0	C	34	TR	0.66	85.2	F	151	
	Westbound	L	0.00	0.0	A	0	L	0.07	59.6	E	18	
		TR	0.02	39.2	D	14	TR	0.16	40.9	D	36	
	Northbound	L	0.16	10.0	B	17	L	0.42	64.3	E	104	
		TR	0.69	12.9	B	723	TR	0.27	3.7	A	145	
	Southbound	L	0.02	8.0	A	6	L	0.07	55.8	E	26	
	TR	0.57	17.4	B	448	TR	0.78	14.2	B	712		
	Intersection					16.8	B	Intersection			16.2	B
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. Analysis Conducted in Synchro Version 10.1.2.20												

**Table 3-4: 2016 Existing Conditions
Capacity Analysis Results - Unsignalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
32	MSI Drop Off/Everett Ave & 57th Drive (TWSC)											
	Northbound	LTR	3.74	Err	F	Err	LTR	1.21	306.6	F	147.0	
51	Hayes & Richards (West Intersection) (TWSC)											
	Eastbound	T	Stop sign configuration cannot be analyzed using HCM methodology.				T	Stop sign configuration cannot be analyzed using HCM methodology.				
	Westbound	T					T					
	Northbound	L					L					
69	Hayes & Richards (South Intersection) (AWSC)											
	Northbound	T	0.27	8.2	A	-	T	0.24	8.3	A	-	
		R	0.04	5.9	A	-	R	0.03	6.2	A	-	
	Southbound	LT	0.20	8.4	A	-	LT	0.68	15.9	C	-	
		Southwestbound	LR	0.02	8.1	A	-	LR	0.04	9.0	A	-
		Intersection		8.1		A		Intersection	13.7		A	
82	Stony Island Ave & 64th St (AWSC)											
	Eastbound	LR	0.23	11.3	B	-	LR	0.23	11.1	B	-	
	Northbound	L	0.29	10.2	B	-	L	0.08	8.5	A	-	
		T	1.25	141.5	F	-	T	0.74	21.5	C	-	
	Southbound	T	0.67	19.1	C	-	T	1.27	152.3	F	-	
		R	0.09	8.0	A	-	R	0.07	7.0	A	-	
	Intersection		79.8		F		Intersection	90.3		F		
88	East End Ave & 67th St (AWSC)											
	Eastbound	T	0.27	9.5	A	-	T	0.38	10.2	B	-	
	Westbound	T	0.44	11.1	B	-	T	0.42	10.7	B	-	
	Northbound	LR	0.13	9.1	A	-	LR	0.10	9.0	A	-	
		Intersection		10.3		B		Intersection	10.3		B	
90	Cregier Ave & 67th St (AWSC)											
	Eastbound	T	0.31	9.8	A	-	T	0.37	10.1	B	-	
	Westbound	T	0.41	10.7	B	-	T	0.43	10.8	B	-	
	Northbound	LR	0.13	9.0	A	-	LR	0.12	9.0	A	-	
		Intersection		10.1		B		Intersection	10.3		B	
92	Bennett Ave & 67th St (TWSC)											
	Northbound	LR	0.16	11.6	B	14.0	LR	0.09	12.0	B	7.0	
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service (AWSC) = All-Way Stop Control, (TWSC) = Two-Way Stop Control, Err = Delay > 999.9 sec Analysis Conducted in Synchro Version 10.1.2.20												

Cornell Drive/57th Drive and 57th Street/MSI Garage Driveway

- The EB approach operates at LOS E during the AM peak hour and at LOS F during the PM peak hour.
- The NB left-turn movement operates at LOS F during the AM and PM peak hours.

Lake Shore Drive and Hayes Drive

- The EB left-turn movement operates at LOS E during the PM peak hour.
- The EB shared through/right movement operates at LOS F during the PM peak hour.
- The WB left-turn movement operates at LOS E during the PM peak hour.
- The NB left-turn movement operates at LOS E during the PM peak hour.
- The SB left-turn movement operates at LOS E during the PM peak hour.

Unsignalized intersections with lane groups that operate at LOS E or LOS F include the following:

57th Drive and Everett Avenue/MSI Driveway

- The NB approach operates at LOS F during the AM and PM peak hours.

Stony Island Avenue and 64th Street

- The NB through movement operates at LOS F during the AM peak hour.
- The SB through movement operates at LOS F during the PM peak hour.

4.3 2040 No Build Conditions

Table 4-5 and **Table 4-6** presents the 2040 No Build Conditions traffic analysis results for the signalized and unsignalized study intersections, respectively. Based on the analysis results, the majority of the approaches/lane groups would operate at the same LOS as in the existing conditions.

At the following two locations, the increase in traffic volumes due to traffic growth between the Existing and No Build conditions would result in a change in LOS beyond LOS D:

Stony Island Avenue and North Midway Plaisance

- The WB approach would degrade from LOS E to LOS F during the AM peak hour.

Stony Island Avenue and South Midway Plaisance

- The EB approach would degrade from LOS D to LOS F during the PM peak hour.

**Table 3-5: 2040 No Build Condition
Capacity Analysis Results - Signalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
3	Lake Shore Dr & 57th Drive										
	Eastbound	L	0.85	30.1	C	339	L	0.91	38.0	D	345
		R	0.09	3.7	A	8	R	0.31	24.3	C	88
	Northbound	L	0.50	47.1	D	133	L	0.14	10.3	B	7
		T	1.00	36.1	D	821	T	0.41	7.6	A	173
	Southbound	T	0.82	33.4	C	456	T	0.86	19.6	B	631
		R	1.05	39.9	D	372	R	1.00	25.6	C	267
Intersection			35.1	D		Intersection			22.6	C	
6	Lake Shore Dr & Science Dr										
	Eastbound	L	0.03	43.6	D	15	L	0.16	45.7	D	44
		R	0.02	20.2	C	10	R	0.09	29.4	C	30
	Northbound	L	0.04	45.4	D	15	L	0.04	45.4	D	15
		T	0.61	2.6	A	261	T	0.29	1.8	A	76
	Southbound	T	0.38	3.6	A	175	T	0.71	7.3	A	353
		R	0.00	0.0	A	0	R	0.01	0.9	A	1
Intersection			3.0	A		Intersection			5.7	A	
13	Stony Island Ave & 67th St										
	Eastbound	LTR	0.37	25.2	C	111	LTR	0.59	27.1	C	133
		LTR	0.48	2.9	A	15	LTR	0.43	3.1	A	26
	Northbound	L	0.65	74.3	E	117	L	0.77	70.3	E	209
		TR	0.68	27.6	C	346	TR	0.31	19.8	B	147
	Southbound	L	0.41	42.7	D	82	L	0.71	728.1	F	93
		TR	0.35	7.9	A	36	TR	1.02	46.4	D	644
Intersection			18.6	B		Intersection			54.6	D	
15	South Shore Dr & 67th St										
	Eastbound	L	0.08	39.2	D	51	L	0.05	38.8	D	38
		R	0.21	41.7	D	94	R	0.30	43.2	D	137
	Northbound	L	0.27	8.0	A	49	L	0.55	22.9	C	59
		T	0.69	14.1	B	481	T	0.37	9.2	A	192
	Southbound	TR	0.33	13.0	B	182	TR	0.76	21.1	C	607
		Intersection			14.6	B		Intersection			18.2
19	Jeffery Ave/Lake Shore Dr & Marquette Dr										
	Eastbound	LT	0.56	48.3	D	126	LT	0.54	31.2	C	181
		R	0.28	43.5	D	98	R	0.57	34.6	C	205
	Westbound	LT	0.52	47.6	D	145	LT	0.42	45.1	D	200
		R	0.90	16.4	B	139	R	0.35	5.9	A	107
	Northbound	L	0.50	50.9	D	107	L	0.47	52.6	D	94
		TR	0.88	34.9	C	479	TR	0.53	31.1	C	201
Southbound	L	0.48	14.2	B	83	L	0.83	31.0	C	514	
	TR	0.23	7.6	A	40	TR	0.34	9.9	A	168	
Intersection			24.4	C		Intersection			24.1	C	
20	Stony Island Ave & 63rd Street/Hayes Dr										
	Eastbound	L	0.46	38.4	D	104	L	0.17	29.4	C	60
		T	0.48	33.9	C	218	T	0.45	33.3	C	218
		R	0.29	8.4	A	48	R	0.40	8.5	A	78
	Westbound	L	0.23	24.7	C	39	L	0.17	21.4	C	34
		T	0.52	27.0	C	142	T	0.32	22.0	C	112
		R	0.12	5.5	A	4	R	0.07	5.2	A	11
Northbound	L	0.37	12.8	B	108	L	0.21	11.0	B	48	
	TR	0.36	10.7	B	140	TR	0.20	9.1	A	82	
Southbound	L	0.15	8.9	A	39	L	0.12	6.0	A	25	
	TR	0.19	6.1	A	68	TR	0.35	7.5	A	140	
Intersection			16.3	B		Intersection			13.3	B	

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
23	Jeffery Ave & 67th St											
	Eastbound	L	0.98	103.0	F	188	L	0.32	35.6	D	68	
		TR	0.36	32.8	C	77	TR	0.53	39.3	D	106	
	Westbound	L	0.19	31.0	C	44	L	0.13	31.4	C	36	
		TR	0.71	29.4	C	110	TR	0.50	30.3	C	78	
	Northbound	L	0.15	5.9	A	33	L	0.23	5.6	A	37	
		TR	0.41	11.1	B	215	TR	0.22	10.4	B	112	
	Southbound	L	0.16	2.6	A	13	L	0.23	4.4	A	45	
		TR	0.25	3.0	A	39	TR	0.41	9.4	A	147	
			Intersection	20.1	C		Intersection	15.6	B			
27	Cornell Dr & Hayes Dr											
	Eastbound	LTR	0.51	23.9	C	88	LTR	0.41	18.1	B	57	
		LT	0.25	31.2	C	100	LT	0.18	30.3	C	71	
	Westbound	R	0.23	17.8	B	94	R	0.19	3.5	A	35	
		L	0.12	5.7	A	0	L	0.28	15.0	B	39	
	Northbound	T	0.68	8.0	A	212	T	0.28	6.9	A	61	
		R	0.29	1.7	A	42	R	0.08	1.7	A	0	
	Southbound	L	0.48	13.6	B	56	L	0.67	11.0	B	147	
		TR	0.18	4.6	A	78	TR	0.55	9.2	A	0	
			Intersection	10.9	B		Intersection	10.6	B			
31	Cornell Dr & S. Midway Plaisance											
	Eastbound	L	0.40	16.8	B	54	L	0.64	8.8	A	27	
		R	0.13	0.4	A	0	R	0.57	6.4	A	15	
	Northbound	T	0.72	5.8	A	111	T	0.31	4.4	A	60	
		T	0.18	5.1	A	56	T	0.58	7.2	A	140	
		Intersection	6.9	A		Intersection	6.8	A				
38	MSI Drop Off/Hyde Park Blvd & 57th Drive											
	Eastbound	L	1.25	172.2	F	264	L	0.83	53.9	D	149	
		TR	0.69	7.6	A	198	TR	0.61	15.0	B	212	
	Westbound	L	0.09	4.8	A	4	L	0.02	4.4	A	1	
		TR	0.88	23.6	C	494	TR	0.82	20.3	C	451	
	Southbound	LT	0.59	45.2	D	210	LT	0.74	51.9	D	290	
		R	0.40	22.2	C	135	R	0.53	26.6	C	195	
			Intersection	27.5	C		Intersection	23.0	C			
	41	Stony Island Ave & N. Midway Plaisance										
		Westbound	LTR	0.91	93.6	F	543	LTR	0.36	29.1	C	153
LT			0.61	4.7	A	27	LT	0.32	2.3	A	18	
Northbound		TR	0.38	3.5	A	13	TR	0.37	2.5	A	13	
		T	0.17	18.7	B	71	T	0.38	24.1	C	159	
		Intersection	48.4	D		Intersection	9.2	A				
44	Stony Island Ave & S. Midway Plaisance											
	Eastbound	LTR	0.45	31.8	C	177	LTR	1.06	81.6	F	561	
		TR	0.45	3.0	A	16	TR	0.31	4.4	A	40	
	Northbound	LT	0.40	5.0	A	43	LT	0.42	2.7	A	21	
		T	0.17	18.7	B	71	T	0.38	24.1	C	159	
		Intersection	11.3	B		Intersection	40.9	D				
54	Stony Island Ave & Cornell Dr1											
	Southwestbound	LR	0.20	4.8	A	23	LR	0.68	10.7	B	210	
		T	0.64	9.0	A	114	T	0.37	16.6	B	202	
	Northbound	T	0.17	18.7	B	71	T	0.38	24.1	C	159	
		T	0.17	18.7	B	71	T	0.38	24.1	C	159	
		Intersection	10.2	B		Intersection	15.5	B				
56	Cornell Dr & 67th St											
	Eastbound	LT	0.21	2.5	A	5	LT	0.61	19.7	B	95	
		TR	0.43	30.6	C	160	TR	0.39	32.0	C	154	
	Westbound	LTR	0.76	28.8	C	392	LTR	0.29	18.1	B	120	
		T	0.17	18.7	B	71	T	0.38	24.1	C	159	
		Intersection	26.3	C		Intersection	22.5	C				
58	Stony Island Ave & Marquette Dr											
	Eastbound	L	0.13	31.4	C	52	L	0.08	30.5	C	36	
		TR	0.52	35.3	D	208	TR	0.48	28.8	C	174	
	Westbound	L	0.17	16.2	B	15	L	0.33	15.9	B	43	
		TR	0.11	7.7	A	16	TR	0.12	7.0	A	6	
	Northbound	L	0.41	12.3	B	58	L	0.52	41.8	D	75	
		TR	0.45	5.0	A	75	TR	0.24	4.1	A	41	
	Southbound	L	0.06	5.2	A	11	L	0.07	2.4	A	4	
		TR	0.30	13.3	B	124	TR	0.76	14.3	B	410	
			Intersection	12.5	B		Intersection	14.4	B			

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
59	Cornell Dr & Marquette Dr										
	Eastbound	LT	0.36	11.4	B	41	LT	0.27	19.4	B	76
	Westbound	TR	0.10	21.7	C	40	TR	0.14	26.9	C	58
	Northbound	LTR	0.51	6.4	A	127	LTR	0.20	3.5	A	30
	Intersection			7.7	A	Intersection			9.8	A	
64	Marquette and Richards (East Intersection)										
	Eastbound	LT	0.17	27.0	C	69	LT	0.16	27.0	C	69
	Westbound	T	0.09	7.3	A	12	T	0.10	12.1	B	38
		R	0.14	0.2	A	0	R	0.12	0.2	A	0
	Southbound	LR	0.15	7.2	A	67	LR	0.49	18.5	B	247
Intersection			10.0	A	Intersection			15.9	B		
70	Marquette & Richards (North Intersection)										
	Northbound	TR	0.03	2.1	A	5	TR	0.03	11.6	B	10
	Southbound	L	0.14	0.4	A	0	L	0.39	1.0	A	0
		T	0.01	0.0	A	0	T	0.02	0.0	A	0
	Northwestbound	LR	0.19	0.4	A	0	LR	0.14	0.2	A	0
Intersection			0.5	A	Intersection			1.0	A		
71	Marquette & Richards (West Intersection)										
	Eastbound	L	0.34	12.8	B	24	L	0.14	6.5	A	9
		T	0.12	3.0	A	29	T	0.13	3.7	A	34
	Westbound	TR	0.14	22.9	C	34	TR	0.14	21.2	C	36
	Southbound	R	0.01	0.0	A	0	R	0.03	0.1	A	0
Intersection			10.1	B	Intersection			9.0	A		
74	Stony Island Ave & 59th St										
	Eastbound	LR	0.09	20.4	C	27	LR	0.15	28.4	C	48
	Northbound	LT	0.52	6.1	A	51	LT	0.21	2.0	A	15
	Southbound	TR	0.60	32.2	C	271	TR	0.41	12.3	B	123
	Intersection			19.3	B	Intersection			8.9	A	
76	Stony Island Ave & 60th St										
	Eastbound	LR	0.27	22.8	C	52	LR	0.52	38.0	D	130
	Northbound	LT	0.60	16.9	B	282	LT	0.34	13.5	B	156
	Southbound	TR	0.23	1.0	A	4	TR	0.30	2.9	A	41
	Intersection			11.2	B	Intersection			10.4	B	
78	Stony Island Ave & 57th Street										
	Eastbound	LT	0.52	46.4	D	163	LT	0.66	107.7	F	272
	Westbound	L	0.62	43.1	D	221	L	0.26	32.2	C	53
		R	0.23	10.3	B	38	R	0.16	8.7	A	23
	Northbound	TR	0.68	22.8	C	487	TR	0.46	31.8	C	332
	Southbound	L	0.26	19.5	B	54	L	0.27	16.1	B	80
		T	0.33	17.9	B	168	T	0.44	17.2	B	249
Intersection			25.2	C	Intersection			36.7	D		
81	Cornell Dr/57th Drive & 57th Street/MSI Garage										
	Eastbound	LTR	0.95	62.1	E	295	LTR	1.39	217.1	F	597
	Westbound	LT	0.03	34.4	C	13	LT	0.25	36.2	D	73
		R	0.01	0.6	A	0	R	0.10	8.5	A	25
	Northbound	L	1.42	248.6	F	193	L	0.88	100.2	F	113
		TR	0.76	10.2	B	397	TR	0.53	16.2	B	290
	Southbound	L	0.27	12.6	B	10	L	0.00	0.0	A	0
		TR	0.73	5.9	A	204	TR	0.80	7.8	A	241
	Intersection			20.1	C	Intersection			38.7	D	
83	Lake Shore Dr & Hayes Dr										
	Eastbound	L	0.55	36.4	D	173	L	0.63	69.6	E	121
		TR	0.08	29.7	C	39	TR	0.67	85.9	F	153
	Westbound	L	0.00	0.0	A	0	L	0.07	59.6	E	18
		TR	0.02	39.2	D	14	TR	0.16	40.9	D	36
	Northbound	L	0.17	11.2	B	17	L	0.43	64.7	E	107
		TR	0.72	13.5	B	751	TR	0.28	3.7	A	149
	Southbound	L	0.02	8.2	A	6	L	0.07	55.8	E	26
	TR	0.59	18.1	B	494	TR	0.80	14.9	B	755	
Intersection			17.3	B	Intersection			16.7	B		
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. Analysis Conducted in Synchro Version 10.1.2.20											

**Table 3-6: 2040 No Build Condition
Capacity Analysis Results - Unsignalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour					Weekday PM Peak Hour				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
32	MSI Drop Off/Everett Ave & 57th Drive (TWSC)										
	Northbound	LTR	5.85	Err	F	Err	LTR	1.77	587.5	F	184.0
51	Hayes & Richards (West Intersection) (AWSC)										
	Eastbound	T	Stop sign configuration cannot be analyzed using HCM methodology.				T	Stop sign configuration cannot be analyzed using HCM methodology.			
	Westbound	T	Stop sign configuration cannot be analyzed using HCM methodology.				T	Stop sign configuration cannot be analyzed using HCM methodology.			
	Northbound	L	Stop sign configuration cannot be analyzed using HCM methodology.				L	Stop sign configuration cannot be analyzed using HCM methodology.			
		Intersection					Intersection				
69	Hayes & Richards (South Intersection) (AWSC)										
	Northbound	T	0.29	8.3	A	-	T	0.25	8.4	A	-
		R	0.04	5.9	A	-	R	0.03	6.2	A	-
	Southbound	LT	0.20	8.4	A	-	LT	0.69	16.5	C	-
	Southwestbound	LR	0.02	8.2	A	-	LR	0.05	9.1	A	-
		Intersection					Intersection				
82	Stony Island Ave & 64th St (AWSC)										
	Eastbound	LR	0.24	11.4	B	-	LR	0.24	11.2	B	-
	Northbound	L	0.29	10.4	B	-	L	0.08	8.5	A	-
		T	1.32	171.1	F	-	T	0.76	23.3	C	-
	Southbound	T	0.69	20.1	C	-	T	1.34	181.5	F	-
		R	0.09	8.0	A	-	R	0.07	7.0	A	-
		Intersection					Intersection				
85	Stony Island Ave & 65th St (TWSC)										
	Eastbound	L	0.01	14.9	B	1.0	L	0.07	30.1	D	5.0
		R	0.01	9.8	A	1.0	R	0.01	11.8	B	1.0
	Northbound	LT	0.02	0.6	A	1.0	LT	0.03	1.3	A	2.0
88	East End Ave & 67th St (AWSC)										
	Eastbound	T	0.28	9.6	A	-	T	0.39	10.3	B	-
	Westbound	T	0.45	11.3	B	-	T	0.44	10.8	B	-
	Northbound	LR	0.13	9.2	A	-	LR	0.10	9.1	A	-
			Intersection					Intersection			
90	Cregier Ave & 67th St (AWSC)										
	Eastbound	T	0.32	9.9	A	-	T	0.38	10.2	B	-
	Westbound	T	0.42	10.9	B	-	T	0.45	11.0	B	-
	Northbound	LR	0.13	9.0	A	-	LR	0.12	9.1	A	-
			Intersection					Intersection			
92	Bennett Ave & 67th St (TWSC)										
	Northbound	LR	0.17	11.7	B	15.0	LR	0.09	12.1	B	7.0
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service (AWSC) = All-Way Stop Control, (TWSC) = Two-Way Stop Control, Err = Delay > 999.9 sec Analysis Conducted in Synchro Version 10.1.2.20											

4.4 Recommended Mitigation

Roadway and intersection improvements are recommended to offset projected traffic impacts associated with the proposed roadway closures. These improvements include modifications to intersection and roadway geometry, intersection traffic controls, and adjustments to traffic signal timings and phasing.

Figure 4-1 presents an overall key map showing where mitigation measures are proposed, and each location is described in further detail below.



Figure 4-1: Proposed Mitigation Measures

4.4.1 Lake Shore Drive Improvements

The proposed closure of the segment of Cornell Drive north of Hayes Drive would divert a significant portion of that traffic to Lake Shore Drive. Currently, Lake Shore Drive provides three northbound travel lanes but only two southbound travel lanes through much of the study area. With the additional traffic on Lake Shore Drive as a result of the proposed roadway closure, it is anticipated that the two southbound lanes on Lake Shore Drive would be insufficient to maintain acceptable levels of service (LOS D or better) in the southbound direction during the PM peak hour. As such, it is recommended that Lake Shore Drive be modified to accommodate three NB lanes and three SB lanes between 57th Drive and Hayes Drive. The additional travel lane would be achieved primarily through widening Lake Shore Drive along the western curb line into Jackson Park.

Lake Shore Drive at 57th Drive

At the 57th Drive intersection (see **Figure 4-2**), the following modifications are proposed to provide three NB lanes and three SB lanes through the intersection without having to widen beyond the existing curb-lines:

- Realign the median on Lake Shore Drive along the NB and SB approaches to create the space for a third SB travel lane.
- Modify the existing channelized island for the free flow SB right turn to accommodate the additional travel lane on Lake Shore Drive and to provide more separation between SB right turns and NB left turns.
- South of 57th Drive, the center grass median on Lake Shore Drive would be removed and replaced with a narrow concrete barrier (see photo below), which would create the space for the third SB travel lane. This segment of Lake Shore Drive is approximately 71 feet wide curb-to-curb, which can accommodate six 11-foot travel lanes (three NB and three SB) and a 5-foot median.
- Modify signal timings to reallocate green time from 57th Drive to Lake Shore Drive, since 57th Drive volumes would significantly decrease, and Lake Shore Drive volumes would significantly increase due to the proposed closure of Cornell Drive.

Specifically, the following modifications to the signal timing at the Lake Shore Drive/57th Drive intersection are proposed:

- During the AM peak:
 - Remove EB right-turn overlap from NB lead phase
 - Reallocate 6 seconds of green time from the NB lead phase to the NB/SB phase
 - Reallocate 21 seconds of green time from the EB phase to the NB/SB phase
 - Modify offset from 26 seconds to 0 seconds
- During the PM peak:
 - Reallocate 3 seconds of green time from the EB phase to the NB/SB phase
 - Maintain existing NB left-turn prohibition during the PM peak period

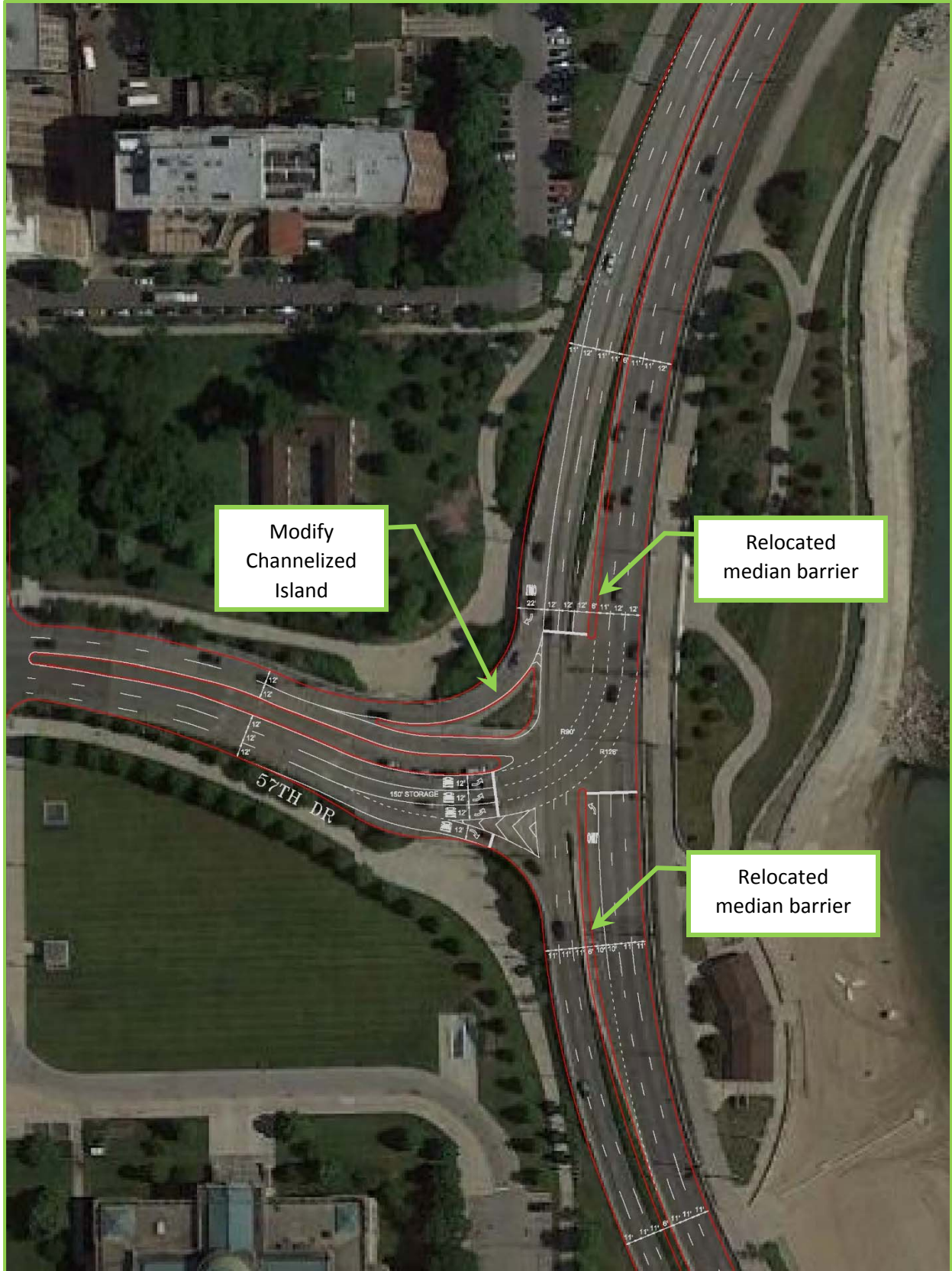


Figure 4-2: Lake Shore Drive at 57th Drive, Third SB Lane



Lake Shore Drive at 57th Drive, looking north

Lake Shore Drive at Science Drive

As shown in **Figure 4-3**, the proposed widening of Lake Shore Drive to accommodate a third southbound travel lane would continue through the Science Drive intersection. For much of the distance between 57th Drive and Lake Shore Drive, the third southbound lane could generally be accommodated within the existing roadway by replacing the landscaped median with a narrow median barrier. However, as the proposed widening approaches Science Drive, Lake Shore Drive would need to be widened to the west by approximately 11 feet to accommodate the additional southbound travel lane and to maintain the existing southbound right-turn bay.

Additionally, the following signal timing modifications are proposed:

- During the AM peak:
 - Reallocate 9 seconds from the EB phase to the NB/SB phase
 - Reallocate 11 seconds from the NBL phase to the NB/SB Phase
- During the PM peak:
 - Reallocate 15 seconds from the EB phase to the NB/SB phase
 - Reallocate 8 seconds from the NBL phase to the NB/SB Phase
 - Modify offset from 24 seconds to 34 seconds.



Figure 4-3: Lake Shore Drive at Science Drive, Third SB Lane

Lake Shore Drive at 59th Street Harbor Bridge (Figure 4-4)

Lake Shore Drive narrows as it crosses over the 59th Harbor Street Bridge where it is reduced from a 71-foot cross-section to a 60-foot cross-section. To provide a six-lane section over this segment of Lake Shore Drive, the bridge would need to be widened to the west.



Figure 4-4: Lake Shore Drive at 59th Street Harbor Bridge, Third SB Lane

Lake Shore Drive and Hayes Drive intersection (Figure 4-5)

At the Hayes Drive intersection with Lake Shore Drive, the following modifications are proposed:

- Continue the widening of southbound Lake Shore Drive to maintain three SB travel lanes alongside the existing SB left-turn lane to the 63rd Street Beach Area. The rightmost SB lane would become a continuous-flow, exclusive right-turn lane at the intersection with Hayes Drive. Hayes Drive would also need to be widened west of the intersection to accept the channelized right-turn lane. This Lake Shore Drive widening would impact the pedestrian underpass structure north of Hayes Drive.
- Widen the eastbound Hayes Drive approach to provide an exclusive right-turn lane and restripe the existing shared through/right lane to a shared left-turn/through lane.
- Provide a new crosswalk across the south leg of the intersection to improve pedestrian connectivity across Lake Shore Drive and address an observed pedestrian desire path.
- During the AM peak, the cycle length would be increased from 100 seconds to 105 seconds, while during the PM peak, the existing cycle length of 130 seconds would be maintained. The phase order would be as follows:
 - Concurrent NB and SB lead left-turn phase on Lake Shore Drive; the EB right turn would overlap with the NB lead left turn
 - NB and SB phase on Lake Shore Drive (left-turns prohibited during this phase), concurrent with east leg crosswalk
 - EB Hayes Drive phase, concurrent with south leg crosswalk
 - WB Hayes Drive phase, concurrent with south leg crosswalk
 - Modify offset from 30 seconds to 38 seconds during the AM peak period and from 0 seconds to 125 seconds during the PM peak period
- A seasonal timing plan with longer maximums for the NB/SB protected left turn and WB phases during the summer months when the 63rd Street Beach Area is more active should be implemented.

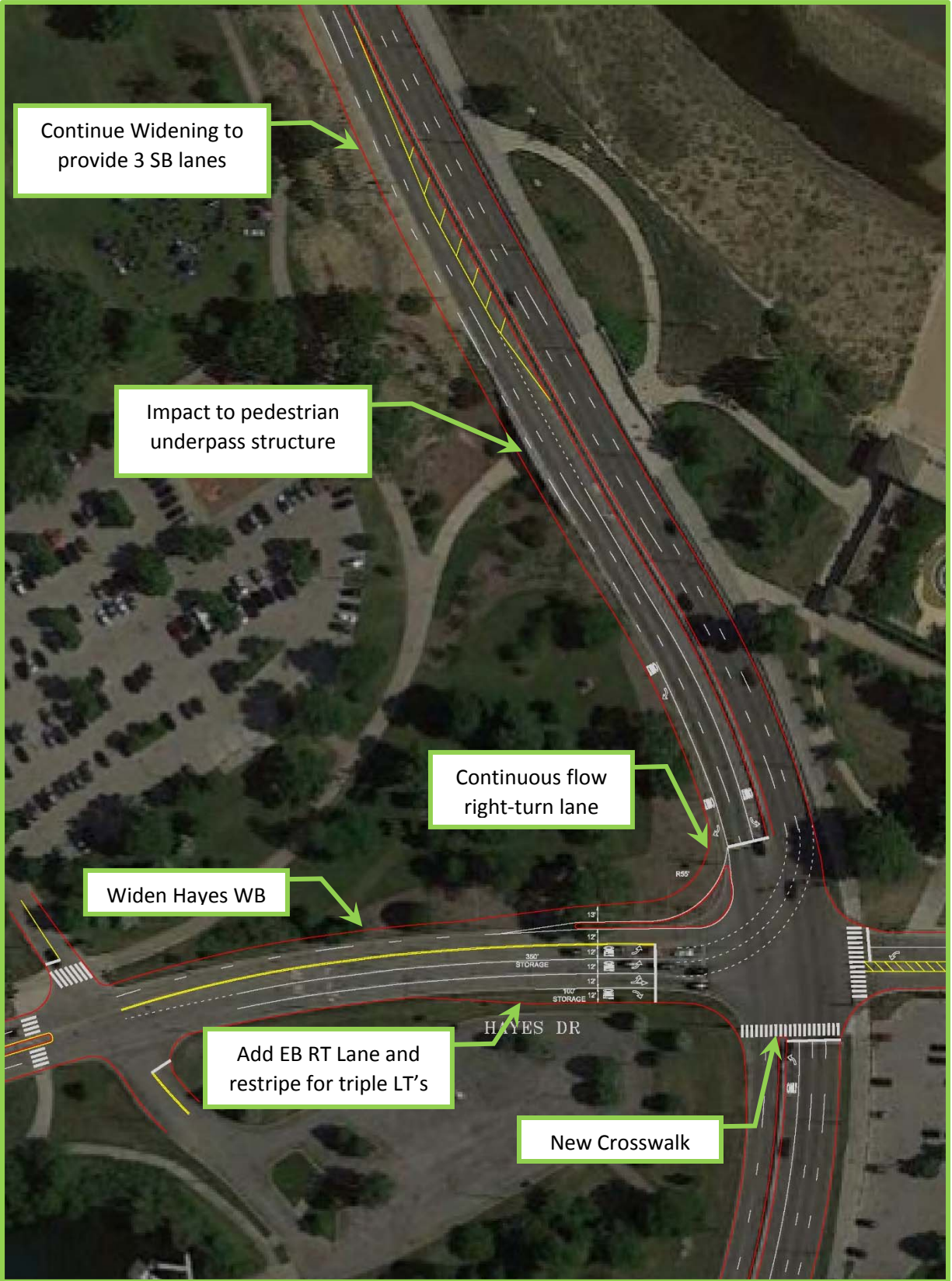


Figure 4-5: Lake Shore Drive at Hayes Drive, Third SB Lane

4.4.2 Hayes Drive Improvements

Hayes Drive would require an increase from two travel lanes to four travel lanes to accommodate the additional traffic resulting from the proposed roadway closures, as Hayes Drive would replace 57th Drive/Cornell Drive as the main connector roadway between Lake Shore Drive and Stony Island Avenue for accessing points south of Jackson Park. The additional traffic on Hayes Drive would be highly directional, with higher EB volumes during the AM peak hour and higher WB volumes during the PM peak hour.

Hayes Drive between Richards Drive and Cornell Drive

On-street parking is currently permitted along Hayes Drive between Richards Drive and Cornell Drive, which is used by park visitors as well as buses that are laying over between dropping off and picking up MSI visitor groups. Where parking is prohibited, Hayes Drive generally operates with four travel lanes (two in each direction).

To provide additional roadway capacity along this section of Hayes Drive, on-street parking would be restricted along both sides of Hayes Drive to allow for a cross-section of one 10-foot inside lane and one 11-foot outside lane in each direction, plus a 6-foot median barrier. With the increase in traffic volumes and the horizontal curvature of Hayes Drive, the median will provide a physical separation of traffic that would help mitigate the risk of head-on collisions.

Pedestrian underpasses are also recommended at various locations along Hayes Drive including the west leg of the Lake Shore Drive intersection and the west and south legs of the Cornell Drive intersection. These pedestrian underpasses would improve pedestrian and bicycle safety by providing grade-separated crossings across the higher-volume Hayes Drive and eliminate the potential conflicts with vehicular traffic.

Hayes Drive at Richards Drive (Figure 4-6)

The Hayes Drive and Richards Drive intersection is currently comprised of three separate stop-controlled intersections that form a triangle around the Statue of the Republic. With the increased traffic on Hayes Drive (due to the Cornell Drive closure) and Richards Drive (due to the proposed Marquette Drive closure), it is recommended that this cluster of intersections be consolidated into a single, signalized T-intersection.

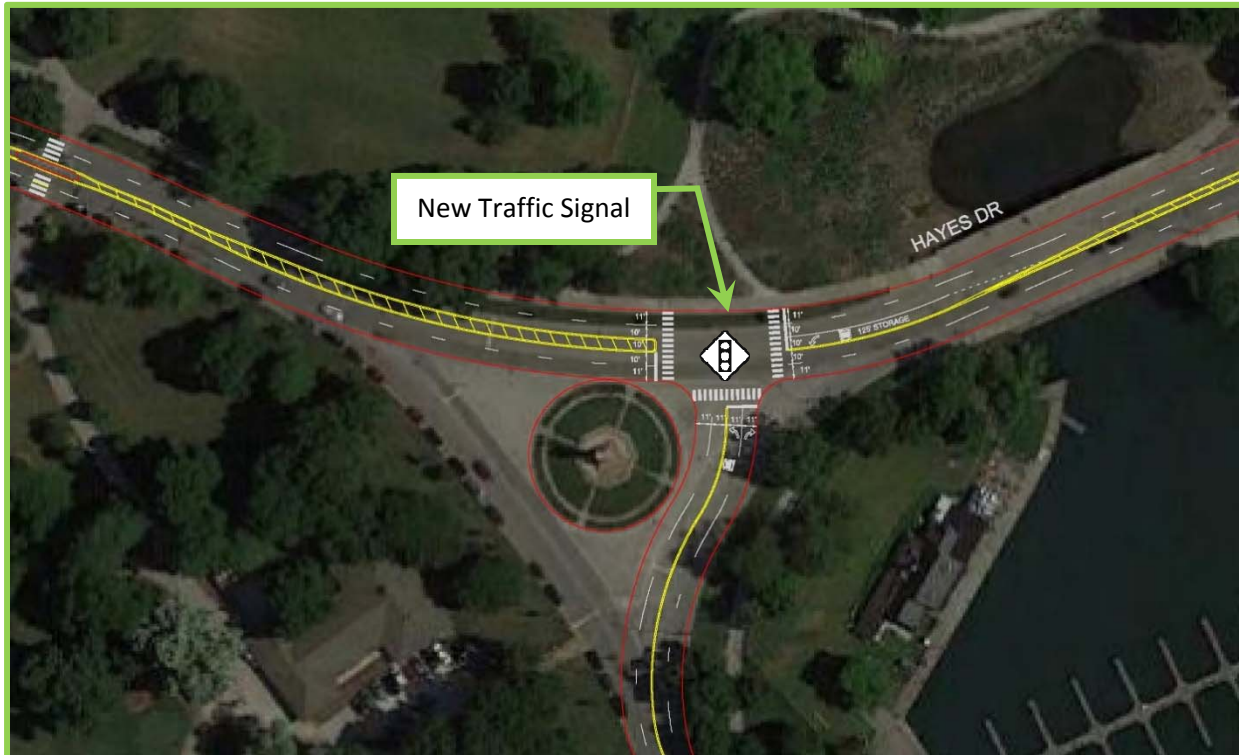


Figure 4-6 – Hayes Drive and Richards Drive Mitigation

Richards Drive would be realigned to intersect Hayes Drive perpendicularly, and Hayes Drive would need to be widened by approximately 9 feet to the north over a short distance in order to provide a westbound left-turn lane and maintain a four-lane section along Hayes Drive. Despite the slight widening, the reconfiguration of the Hayes Drive and Richards Drive intersection would provide additional parkland by eliminating the west leg of the triangle of intersections and would also improve pedestrian access to the Statue by eliminating a roadway barrier.

A new traffic signal would be installed that would operate as a simple two-phase signal on the same 105-second cycle length as the other intersections to the west (73 seconds EB/WB and 32 seconds NB for both peak hours). A signal warrant analysis has been performed for this intersection (**Table 4-7**), which indicates that MUTCD “Warrant 2 - Four Hour Volumes” and “Warrant 3 - Peak Hour Volumes” would be met with 2022 traffic volumes.

Table 4-7: Hayes Drive and Richard Drive Warrant Analysis

60 Minute Traffic Volumes Hayes Drive with Richards Drive		2022 Build Projected Conditions 2 Lane Major Street / 1 Lane Minor Street		
Start Time	Major Approach (Hayes Dr)	Minor Approach (Richards Dr)	Warrant 2	Warrant 3
Morning Peak Period				
7:00 AM	1484	187	Warrant Met	Warrant Met
8:00 AM	1054	133	Warrant Met	Not Met
Midday Peak Period				
11:00 AM	900	59	Not Met	Not Met
12:00 PM	974	73	Not Met	Not Met
Evening Peak Period				
3:30 PM	1955	196	Warrant Met	Warrant Met
4:30 PM	2076	172	Warrant Met	Warrant Met
5:30 PM	1780	176	Warrant Met	Warrant Met
Commuter Peak Hours (Not Included in "Independent Hours" below)				
7:30 AM	1694	223	Warrant Met	Warrant Met
4:00 PM	2150	182	Warrant Met	Warrant Met
Total Independent Hours Met			5	4
Hours Needed for Warrant			4	1
Warrant Condition Met			Yes	Yes

Hayes Drive at Cornell Drive (Figure 4-7)

The removal of Cornell Drive north of Hayes Drive would allow for significant modifications to this intersection, which include converting it to a three-leg (“T”) intersection and realigning it to favor the higher volume movements between Hayes Drive and Cornell Drive.

The new intersection would have the following lane configurations:

- The northbound Cornell Drive approach would provide an exclusive left-turn lane and two through lanes.
- The westbound Hayes Drive approach would provide two through lanes and an exclusive right-turn lane.
- The eastbound Hayes Drive approach would intersect as the third (minor) leg of the intersection and would provide an exclusive left-turn lane and a shared left/right-turn lane.
- Pedestrian underpasses are proposed for the south and west legs of this intersection to improve safety by eliminating potential pedestrian-vehicle conflicts.

The signal would have a 105-cycle length during the AM and PM peak hours with the following phasing:

- AM Peak:
 - 10-second protected NB lead phase for Cornell Drive
 - 55-second NB/SB phase (for Cornell Drive/Hayes Drive through movements)
 - 40-second EB phase for the minor Hayes Drive approach, with a SB right overlap
 - Offset of 74 seconds
- PM Peak:
 - 10-second protected NB lead phase for Cornell Drive
 - 50-second NB/SB phase (for Cornell Drive/Hayes Drive through movements)
 - 45-second EB phase for the minor Hayes Drive approach, with a SB right overlap
 - Offset of 90 seconds

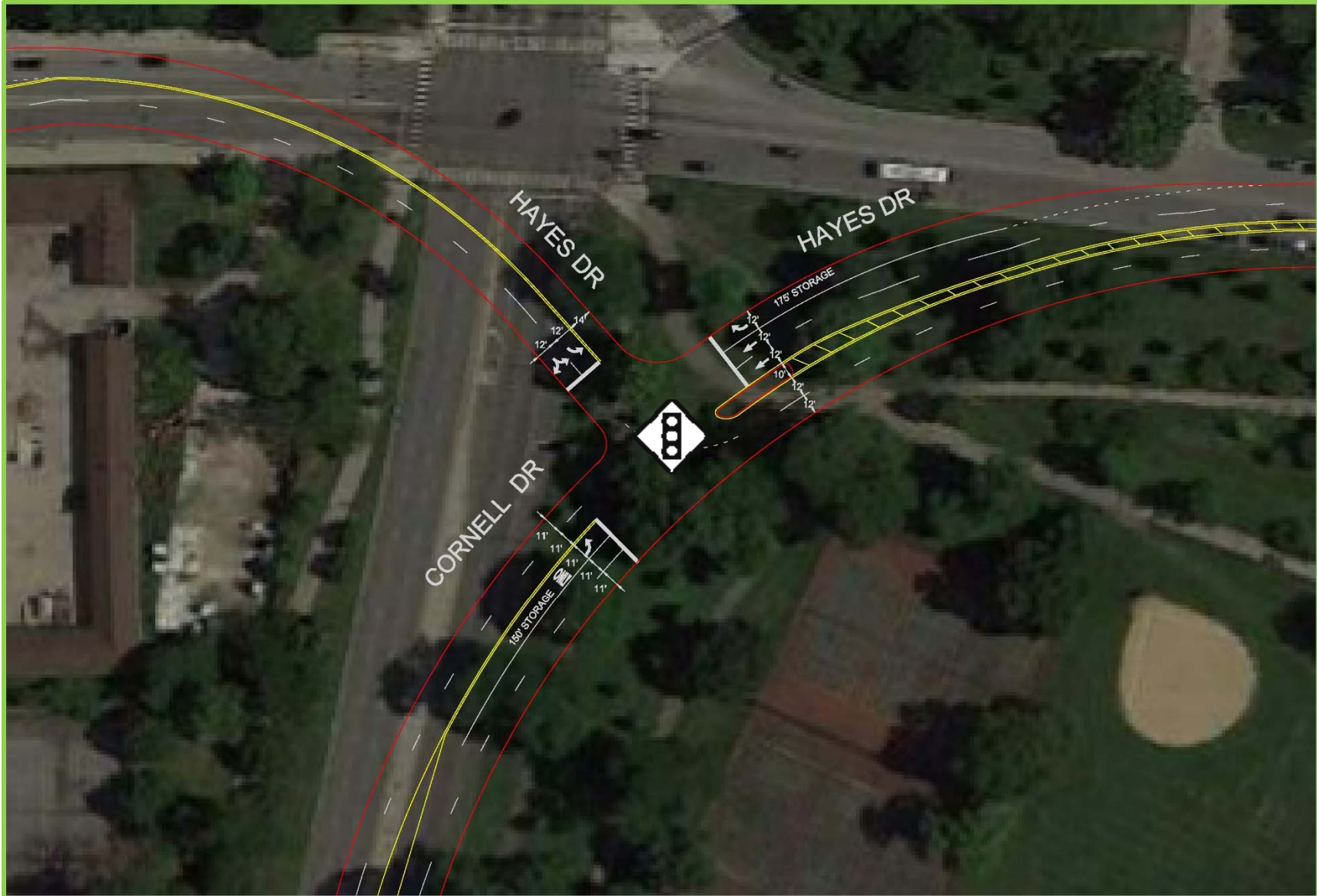


Figure 4-7 – Hayes Drive and Cornell Drive Mitigation

4.4.3 *Stony Island Avenue Improvements*

Stony Island Avenue would require modifications to accommodate the additional traffic resulting from the proposed roadway closures and the increased traffic and curbside activity from the proposed OPC.

Stony Island Avenue between 59th Street and 60th Street (Figure 4-8)

The segment of Stony Island Avenue between 59th Street and 60th Street includes four closely spaced intersections. Currently, on-street parking is prohibited along this segment of Stony Island Avenue, which allows for four travel lanes (two in each direction).

With the removal of the short one-way EB segment of South Midway Plaisance between Stony Island Avenue and Cornell Drive, traffic traveling EB on South Midway Plaisance would need to either turn left or right onto Stony Island Avenue. Furthermore, the short one-way WB segment of North Midway Plaisance between Stony Island Avenue and Cornell Drive/57th Drive would need to be modified to accommodate two-way traffic to connect South Midway Plaisance EB traffic with 57th Drive to the north.

The following improvements are proposed:

- Prohibit left turns in and out of 59th Street and 60th Street by installing a median barrier; this would also allow for the removal of the traffic signals at these two intersections.
- Reconfigure the South Midway Plaisance intersection as a T-intersection due to the removal of South Midway Plaisance, east of Stony Island Avenue, and modify signal equipment as appropriate
- Restripe the EB approach of South Midway Plaisance to provide two exclusive left-turn lanes and one right-turn lane. No widening would be required as the second left-turn lane would replace approximately 250 feet of parking along the north curb.
- Restripe and widen Stony Island Avenue between South Midway Plaisance and North Midway Plaisance to provide one left-turn lane, one through lane, and two right-turn lanes in the northbound direction and two through lanes and a curbside parking lane in the southbound direction. A widening of approximately 23 feet to the east into Jackson Park would be required to accommodate the recommended cross-section.
- Remove the “No Right Turn on Red” restriction for South Midway Plaisance EB traffic at Stony Island Avenue. Currently, this restriction is posted for weekdays from 7 AM to 7 PM.
- Significant signal modifications (new and relocated equipment) would be required at both intersections to accommodate proposed geometric modifications and new turning movements.



Figure 4-8 – Stony Island Avenue at Midway Plaisance / 59th Street / 60th Street Mitigation

- At the Stony Island Avenue/North Midway Plaisance intersection, the following timings and phasings are proposed:
 - NB lead phase with protected left turn
 - 24 seconds during AM peak
 - 37 seconds during PM peak
 - NB/SB phase
 - 43 seconds during AM peak
 - 39 seconds during PM peak
 - WB phase including a 7-second split leading pedestrian interval (LPI) which would hold the WB left turn for 7 seconds but allow the WB through and right-turn movements to proceed
 - 38 seconds during AM peak (including 7-second split LPI)
 - 29 seconds during PM peak (including 7-second split LPI)
- At the Stony Island Avenue/South Midway Plaisance intersection, the following timings and phasings are proposed:
 - NB/SB phase
 - 60 seconds during AM peak
 - 50 seconds during PM peak
 - EB phase
 - 5-second LPI during the AM and PM peaks
 - 40 seconds during AM peak
 - 50 seconds during PM peak

Stony Island Avenue between 60th Street and 65th Street

Between 60th Street and 65th Street, Stony Island Avenue would be widened west into Jackson Park by approximately 17 to 19 feet to accommodate a wider cross-section that would include four travel lanes, on-street parking along both curbs, and a center landscaped median. The median would transition into left-turn lanes and would also provide pedestrian refuge islands at intersections.

Additionally, a northbound left-turn lane (approximately 50 feet of storage) would be provided at the intersection of 65th Street and Stony Island Avenue to accommodate left-turning traffic such that NB through traffic would not be impacted by vehicles waiting to turn left.

Stony Island Avenue at 63rd Street / Hayes Drive

At the Stony Island Avenue / 63rd Street / Hayes Drive intersection, the SB left-turn bay would be lengthened from 100 feet to approximately 250 feet. Additionally, the signal timing and phasing would be modified to provide a dual NB and SB left-turn lead phase by reducing the green time for the NB/SB approach. While not needed for mitigation, CDOT should consider upgrading the signal from pretimed to actuated so that phases can be skipped or shortened when traffic demand is lower.

Stony Island Avenue at 64th Street

The intersection of Stony Island Avenue at 64th Street is currently under all-way STOP control and already operates at LOS F for Stony Island Avenue in the peak direction. To mitigate increases in delay with the additional traffic on Stony Island Avenue, one option would be to convert the intersection from an all-way STOP to just having STOP control for the 64th Street approach; however, removing STOP control along Stony Island Avenue would require the removal of the north and south side crosswalks at this intersection. This would impact pedestrian access to Jackson Park and is not recommended.

Therefore, the proposed mitigation is to install a traffic signal at this location. As shown in **Table 4-8**, a signal would be warranted at this location based on MUTCD “Warrant 2 – Four Hour Volumes” and “Warrant 3 – Peak Hour Volumes.”

Table 4-8: Stony Island Avenue and 64th Street Warrant Analysis

60 Minute Traffic Volumes Stony Island Avenue with 64th Street		2022 Build Projected Conditions 2 Lane Major Street / 1 Lane Minor Street		
Start Time	Major Approach (Stony Island Ave)	Minor Approach (64th Street)	Warrant 2	Warrant 3
Morning Peak Period				
7:00 AM	1532	117	Warrant Met	Not Met
8:00 AM	888	39	Not Met	Not Met
Midday Peak Period				
11:00 AM	727	46	Not Met	Not Met
12:00 PM	779	53	Not Met	Not Met
Evening Peak Period				
3:30 PM	1729	124	Warrant Met	Warrant Met
4:30 PM	1741	83	Warrant Met	Not Met
5:30 PM	1631	94	Warrant Met	Not Met
Commuter Peak Hours (Not Included in "Independent Hours" below)				
7:30 AM	1627	118	Warrant Met	Not Met
4:00 PM	1829	128	Warrant Met	Warrant Met
Total Independent Hours Met			4	1
Hours Needed for Warrant			4	1
Warrant Condition Met			Yes	Yes

The new signal would provide controlled crossings, which would provide a safety benefit for Mt. Carmel High School, which is adjacent to this intersection.

The new signal should match the existing cycle lengths along Stony Island Avenue (105 seconds) and be designed as a two-phase actuated signal with 83 seconds allocated to the NB/SB phase and 22 seconds allocated to the EB phase.

Stony Island Avenue at Marquette Drive

With the closure of Marquette Drive between Stony Island Avenue and Richards Drive, the Stony Island Avenue and Marquette Drive intersection would be converted to T-intersection through the removal of the east leg, and the signal equipment would need to be modified to accommodate the new geometry.

Stony Island Avenue / Cornell Drive between 68th Street and 65th Place (Figure 4-9)

The closely spaced Stony Island Avenue / 67th Street / Cornell Drive intersections operate under a single traffic signal controller. As part of the road closures the traffic currently using the northbound section of Cornell Drive would be diverted to northbound Stony Island Avenue. Therefore, Stony Island Avenue would need to be widened between 68th Street and 65th Place to accommodate this additional traffic.

The following is a summary of the recommended mitigation:

- Widen Stony Island Avenue by up to 24 feet to the east into Jackson Park as shown in **Figure 4-9**.
- Widen Southbound Cornell Drive by approximately 10 to 12 feet to accommodate northbound travel along this section.
- Restripe the 67th Street EB approach at Stony Island Avenue to provide one left-turn bay and one shared through/right-turn lane.
- Restripe the 67th Street WB approach at Stony Island Avenue to provide one-left-turn bay, one through lane, and one exclusive right-turn lane.
- Lengthen the northbound and southbound left-turn lanes as follows:
 - The northbound left-turn lane should be lengthened to approximately 185 feet.
 - The southbound left-turn lane should be lengthened to approximately 215 feet.
- Modify the signal timing and phasing at Stony Island Avenue and 67th Street:
 - Concurrent NB and SB lead left turns
 - NB/SB phase (with NB/SB left turns prohibited)
 - EB/WB phase (with EB/WB left turns permitted)
- Modify signal timing at Stony Island Avenue and Cornell Drive:
 - During the AM peak, reallocate 5 seconds of green time from the WB phase to the NB/SB phase.

Further study is required regarding the treatment and alignment of the pedestrian crossing across Cornell Drive (westbound leg) at its intersection with Stony Island Avenue.

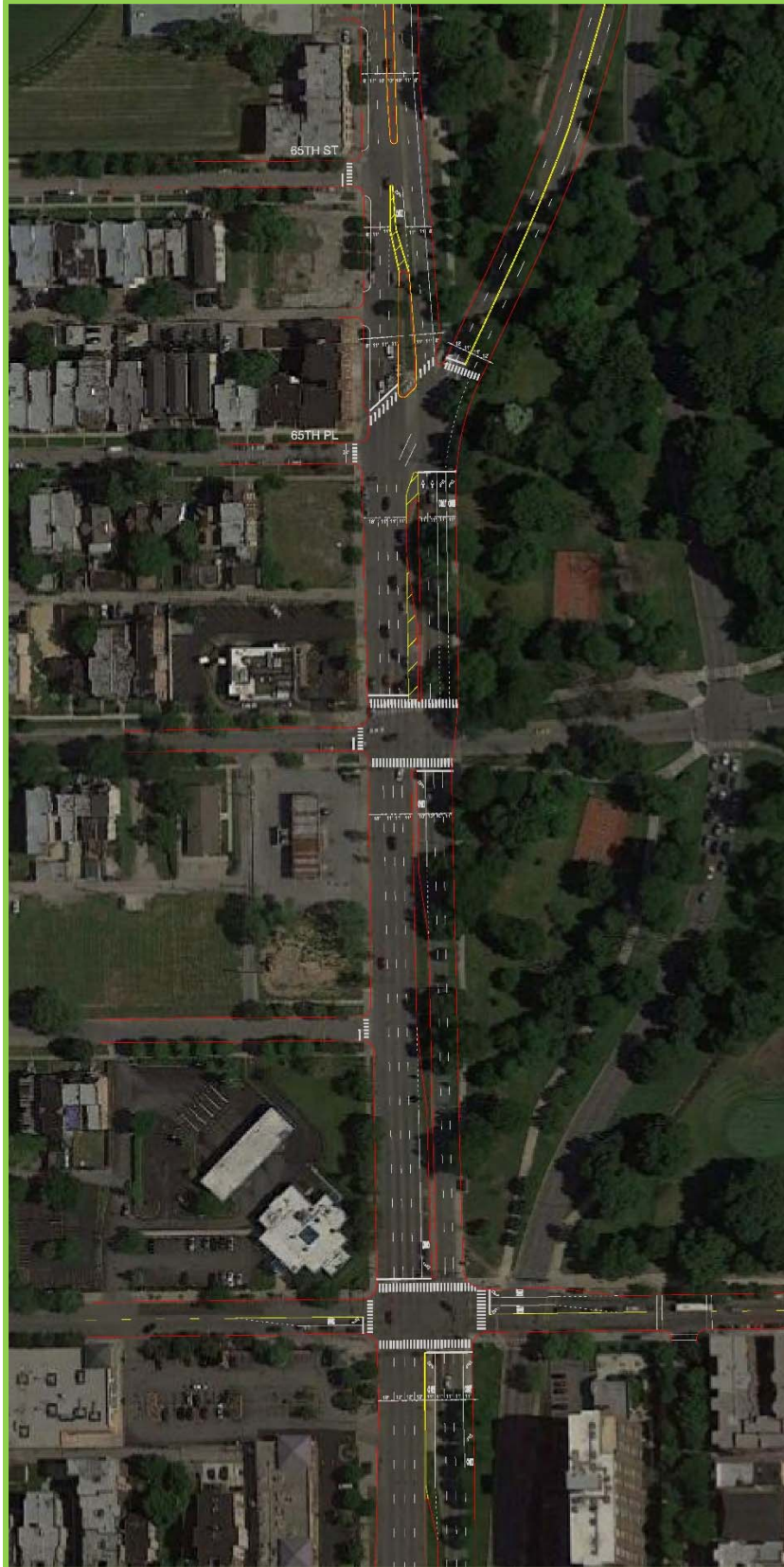


Figure 4-9 – Stony Island Avenue between 68th Street and 65th Place/SB Cornell Mitigation

Additional Signal Timing Changes

In addition to the locations described above, the following minor signal timing and/or phasing changes are recommended at the following intersections:

- North Midway Plaisance / 57th Drive / Cornell Drive / MSI Garage Access
 - Reallocate 6 seconds of green time from the NB/SB phase to the EB/WB phase during both peak periods.
- 57th Drive / Hyde Park Boulevard / Museum Drive
 - During the PM peak, reallocate 5 seconds of green time from the EB/WB phase to the SB phase.
- 67th Street / Jeffery Avenue
 - During the AM peak, reduce NB/SB phase by 4 seconds and reallocate 3 seconds of green time to the EB/WB lead left-turn phase and 1 second of green time to the EB/WB phase.
- Lake Shore Drive / Marquette Drive / Jeffery Avenue
 - During the AM peak, change cycle length to 105 seconds.
 - During the PM peak, change cycle length to 130 seconds to match the new cycle length for the Lake Shore Drive / Hayes Drive intersection.

Potential Impacts to 67th Street Operations

Based on the previously outlined traffic reassignments, growth forecasts, and mitigation measures, the proposed street closures would have a negligible impact on 67th Street for the following reasons:

- The current design of the roadway provides frequent all-way stop signs and parking on both sides of the street, making the roadway unattractive for cut-through traffic due to slow speeds and longer travel times compared to other east/west streets.
- Per the CMAP traffic forecasts, the proposed closure of Cornell Drive would result in increased traffic volumes on Lake Shore Drive, Hayes Drive, Stony Island Avenue, and other parallel north/south corridors to the west. 67th Street traffic volumes would be unaffected. While the closure of Marquette Drive could increase traffic volumes on 67th Street, Marquette Drive currently carries relatively low traffic volumes, and the majority of those volumes would be diverted to the improved Hayes Drive segment to the north, which will progress traffic more effectively than 67th Street with the recommended mitigation.
- Traffic operations along 67th Street are likely to improve over current conditions due to the elimination of the intersection of 67th Street with NB Cornell Drive, which would eliminate a traffic signal and simplify the traffic movements at 67th Street and Stony Island Avenue. Furthermore, the proposed EB and WB left-turn lanes for 67th Street at Stony Island Avenue would also help to reduce queuing and delays along 67th Street.
- Pedestrian underpasses are proposed for South Shore Drive north of 67th Street and for Jeffery Drive between 67th Street and Marquette Drive; these underpasses will improve safety and traffic flow by eliminating pedestrian-vehicular conflicts.

4.4.4 Cornell Drive Improvements

With the reduction in volume on Cornell Drive due to the closure of the street between North Midway Plaisance and Hayes Drive, the opportunity for a road diet along portions of Cornell Drive between Stony Island Avenue and 57th Street, as shown in **Figure 4-10**, is currently being explored. The road diet would convert the outside lanes from travel lanes into on-street parking lanes, thereby reducing the number of travel lanes from four lanes to two lanes (one lane in each direction) between intersections. The proposed reduction in travel lanes along this section would:

- Calm traffic speeds to improve vehicular safety along a segment that CDOT has identified as having a history of speed-related crashes
- Improve pedestrian safety by creating shorter pedestrian crossing distances; this includes the installation of a pedestrian refuge island at the existing midblock crosswalk, which is a desire line for pedestrians west of Cornell Drive walking to the Clarence Darrow Bridge, Wooded Island, and the Lakefront Trail, and volumes at the crosswalk are expected to increase in the future.
- Provide an opportunity to offset some of the on-street parking loss that would occur along Hayes Drive.

As two travel lanes in each direction would be maintained at the signalized intersections along this section, intersection capacity would be unaffected. Approximately 200 feet south of the Cornell Drive and 57th Street intersection, the cross-section on Cornell Drive would transition to provide a 9-foot parking lane and 11-foot travel lane in each direction separated by a 10-foot painted median. The median would transition to a left-turn lane at intersections.

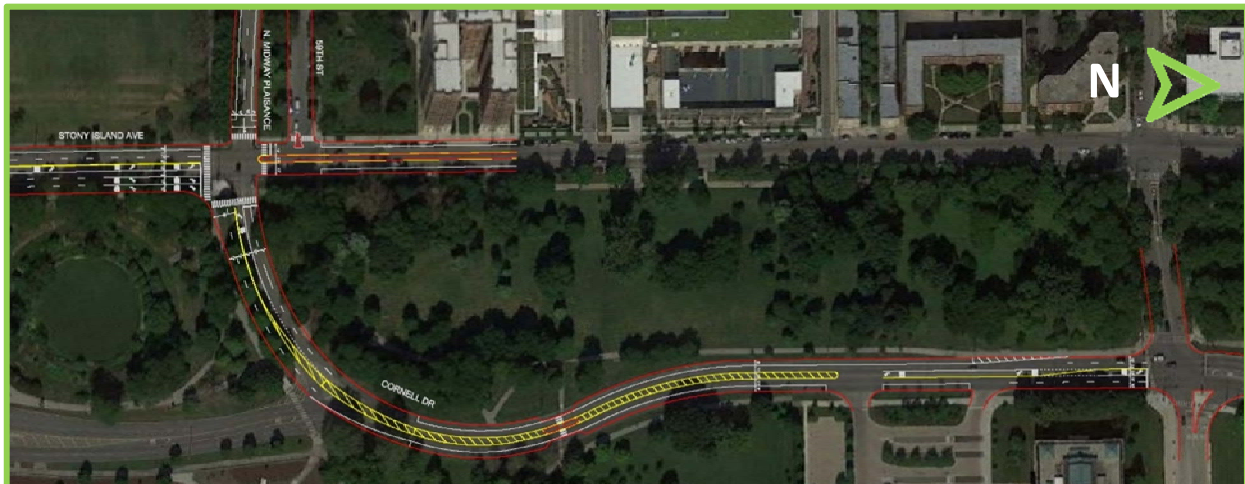


Figure 4-10 – Cornell Drive Road Diet Concept

The design presented was primarily developed from a traffic perspective. As design progresses, modifications could be made to this concept or portions of the concept to incorporate other design options in lieu of a full-lane reduction to achieve some or all of the desired safety goals, such as narrower lane widths and/or rush hour parking controls. However, the concept shown in **Figure 4-10** represents a conservative assumption for traffic impact analysis purposes and is therefore the condition that was selected for inclusion in this traffic study.

4.4.5 Pedestrian and Bicycle Improvements

Improving pedestrian and bicycle safety and circulation within and around Jackson Park is vital to supporting continued economic development in the surrounding neighborhoods. Therefore, it is a crucial part of the traffic mitigation package and site planning efforts, particularly as recreational and economic activity in the area is expected to increase with the opening of the OPC.

The pedestrian and bicycle improvements that are included in the traffic mitigation package or suggested as part of the OPC site or the South Lakefront Plan are as follows:

- Close Cornell Drive to improve park connectivity for pedestrians and provide a way to travel between the OPC, MSI, and the lagoons that is free from vehicular conflicts.
- Provide a separated north-south off-street bike facility through the OPC site.
- Provide an east-west separated off-street bike facility south of the OPC site and along the north side of Hayes Drive to connect Stony Island Avenue with the existing shared use path along Hayes Drive.
- Provide signage along the Lakefront Trail directing bicyclists to OPC and vice versa.
- Provide pedestrian refuge areas at crossing locations within the proposed raised median along Stony Island Avenue to reduce crossing distances and calm traffic.
- Provide curb extensions framing the parking/loading lanes along Stony Island Avenue to reduce crossing distances and slow down turning vehicles.
- Provide a pedestrian refuge island on Cornell Drive where travel lanes can be reduced north of the Midway Plaisance.
- Provide a crosswalk and pedestrian phase across the south leg of Lake Shore Drive at Hayes Drive to accommodate a desire path that results in jaywalking across Lake Shore Drive.
- Provide crosswalks and pedestrian phases at the new signalized intersection at Hayes Drive and Richards Drive. This new intersection configuration reduces intersection/paved area in the vicinity of the Statue the Republic and provides improved north-south pedestrian access within the park.
- Provide continental-style striped crosswalks at all marked crossings.
- Provide pedestrian countdown signals at all new signalized intersections.
- Provide a pedestrian underpass on the west leg of Hayes Drive at Lake Shore Drive to facilitate pedestrian movements and trail connectivity.
- Provide a pedestrian underpass on the west leg of Hayes Drive and the south leg of Cornell Drive at the realigned intersection of Cornell Drive and Hayes Drive to facilitate pedestrian movements and trail connectivity.
- Provide a pedestrian underpass along Jeffery Drive between 67th Street and Marquette Drive to improve safety and accommodate increased non-motorized activity.
- Provide a pedestrian underpass under the north leg of South Shore Drive at 67th Street to improve safety and accommodate increased non-motorized activity.
- Reconstruct the Clarence Darrow Bridge, which is expected to be completed before the end of 2019.

Additionally, pending further development of the golf course redevelopment plan, CDOT and the Park District will revisit the specific proposals for underpass locations identified in CDOT's Lakefront Protection Ordinance applications in the context of future pedestrian desire paths and confirm underpass locations and/or improved pedestrian connections across Hayes Drive.

4.5 2040 Build Conditions (with Mitigation)

The 2040 Build Conditions reflect future traffic conditions with the proposed street closures and incorporate the traffic volume pattern changes, the trip generation for the OPC site, and the mitigation measures described in the previous section. The 2040 Build Conditions are compared to the 2040 No Build Conditions to identify potential traffic impacts. **Table 4-9** and **Table 4-10** presents this comparison for the signalized and unsignalized study intersections, respectively.

As shown in the tables, one of the following conditions are met for all intersections and lane groups during both peak hours:

- For all lane groups that operate at LOS D or better in the 2040 No Build Condition, the same lane group would operate at LOS D or better in the 2040 Build Condition.
- For all lane groups that operate at LOS E in the 2040 No Build Condition, the same lane group would operate at LOS E or better in the 2040 Build Condition.
- For all lane groups that operate at LOS F in the 2040 No Build Condition, the same lane group would remain at LOS F with reduced delay or improve to LOS E or better in the 2040 Build Condition.

The few exceptions to these conditions are described in further detail below:

- At the Lake Shore Drive and Science Drive intersection, the NB left-turn movement would degrade from LOS D (45.4 seconds of delay) in the No Build Condition to LOS E (55.6 seconds of delay) in the Build Condition during the AM peak hour. However, the projected volume for this movement is only 5 vehicles during the AM peak hour, and the projected 95th-percentile queue length is calculated by Synchro as 4 feet, which is negligible and can easily be accommodated within the storage bay. Therefore, this does not represent a significant traffic impact.
- At the Stony Island Avenue and 67th Street intersection, the SB left-turn movement would degrade from LOS D in the No Build Condition to LOS E in the Build Condition during the AM peak hour. However, the projected volume for this movement is only 92 vehicles during the PM peak hour. Furthermore, the projected 95th-percentile queue is calculated by Synchro as 135 feet, which can be accommodated within the existing storage bay length (which could be further lengthened if necessary as part of the proposed mitigation for this intersection). Therefore, this condition does not represent a significant traffic impact.
- At the Stony Island Avenue and 65th Street intersection, the EB left-turn movement would degrade from LOS D in the No Build Condition to LOS E in the Build Condition during the PM peak hour. However, the projected volume for this movement is only 10 vehicles during the PM peak hour, and the delay would be 37.8 seconds (which is just

beyond the LOS D/E threshold of 35 seconds). Furthermore, the projected 95th-percentile queue is calculated by Synchro as 7 feet, which is negligible. Therefore, this LOS E condition does not represent a significant traffic impact.

- At the modified intersection of Stony Island Avenue and the proposed OPC Access Driveway at 61st Street, the left-turn movement exiting the OPC garage would operate at LOS E during the AM peak hour and LOS F during the PM peak hour; however, queue lengths – which would all be contained on-site – would not exceed 55 feet (approximately two to three vehicles), and the v/c ratios do not exceed 0.48. Therefore, this condition does not represent a significant traffic impact.

Therefore, the traffic analysis results show that the proposed improvements would successfully mitigate any potential traffic impacts in the 2040 horizon year and there would be no significant traffic impacts as a result of the proposed project.

Appendix G contains travel time comparisons between the 2016 Existing and 2040 Build conditions for various travel routes through the study area, which were approximated using the SimTraffic traffic simulation models based on the mitigation measures presented to the public in August 2017. This traffic report presents an updated mitigation package not reflected in the Build Condition travel time results; however, the enhancements made since August 2017, in total, would likely improve travel times for the 2040 Build Condition. Therefore, the travel time comparisons presented in the appendix are conservative

**Table 4-9: 2040 No Build vs. 2040 Build Conditions
Capacity Analysis Results Comparison - Signalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour										Weekday PM Peak Hour										
		No-Build Condition					Build Condition					No-Build Condition					Build Condition					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
3	Lake Shore Dr & 57th Drive																					
	Eastbound	L	0.85	30.1	C	339	LR	0.66	36.8	D	183	L	0.91	38.0	D	345	LR	0.76	29.4	C	159	
		R	0.09	3.7	A	8						R	0.31	24.3	C	88						
	Northbound	L	0.50	47.1	D	133	L	0.70	53.2	D	121	L	0.14	10.3	B	7	L	0.16	11.7	B	8	
		T	1.00	36.1	D	821	T	0.91	12.0	B	469	T	0.41	7.6	A	173	T	0.50	8.2	A	202	
	Southbound	T	0.82	33.4	C	456	T	0.44	9.2	A	186	T	0.86	19.6	B	631	T	0.88	17.2	B	603	
R		1.05	39.9	D	372	R	0.78	3.8	A	0	R	1.00	25.6	C	267	R	0.07	0.1	A	0		
Intersection		35.1 D					12.8 B					22.6 C					16.4 B					
6	Science Dr & Lake Shore Dr																					
	Eastbound	L	0.03	43.6	D	15	L	0.03	43.6	D	15	L	0.16	45.7	D	44	L	0.17	46.4	D	46	
		R	0.02	20.2	C	10	R	0.02	21.8	C	11	R	0.09	29.4	C	30	R	0.10	34.5	C	33	
	Northbound	L	0.04	45.4	D	15	L	0.05	55.6	E	4	L	0.04	45.4	D	15	L	0.06	49.4	D	16	
		T	0.61	2.6	A	261	T	0.75	5.3	A	700	T	0.29	1.8	A	76	T	0.36	1.9	A	95	
	Southbound	T	0.38	3.6	A	175	T	0.32	0.5	A	19	T	0.71	7.3	A	353	T	0.71	1.4	A	39	
R		0.00	0.0	A	0	R	0.00	0.0	A	0	R	0.01	0.9	A	1	R	0.01	0.0	A	0		
Intersection		3.0 A					4.0 A					5.7 A					2.0 A					
13	Stony Island Ave & 67th St																					
	Eastbound	LTR	0.37	25.2	C	111	L	0.47	35.8	D	127	LTR	0.59	27.1	C	133	L	0.22	21.7	C	69	
		TR	0.38	23.7	C	138	TR	0.38	23.7	C	138	TR	0.57	23.3	C	252	TR	0.57	23.3	C	252	
	Westbound	LTR	0.48	2.9	A	15	L	0.42	34.3	C	114	LTR	0.43	3.1	A	26	L	0.78	49.3	D	247	
		T	0.37	30.3	C	171	T	0.37	30.3	C	171	T	0.28	21.4	C	145	T	0.28	21.4	C	145	
	Northbound	L	0.65	74.3	E	117	L	0.38	49.2	D	93	L	0.77	70.3	E	209	L	0.64	52.4	D	185	
TR		0.68	27.6	C	346	TR	0.76	21.7	C	432	TR	0.31	19.8	B	147	TR	0.45	25.2	C	192		
Southbound	L	0.41	42.7	D	82	L	0.62	60.9	E	135	L	0.71	728.1	F	93	L	0.74	65.3	E	215		
	TR	0.35	7.9	A	36	TR	0.23	16.7	B	84	TR	1.02	46.4	D	644	TR	0.94	34.3	C	315		
Intersection		18.6 B					22.3 C					54.6 D					31.9 C					
15	South Shore Dr & 67th St																					
	Eastbound	L	0.08	39.2	D	51	L	0.08	39.2	D	51	L	0.05	38.8	D	38	L	0.05	38.8	D	38	
		R	0.21	41.7	D	94	R	0.64	54.1	D	257	R	0.30	43.2	D	137	R	0.56	29.0	C	189	
	Northbound	L	0.27	8.0	A	49	L	0.23	7.5	A	49	L	0.55	22.9	C	59	L	0.58	24.2	C	56	
		T	0.69	14.1	B	481	T	0.69	14.1	B	482	T	0.37	9.2	A	192	T	0.38	9.3	A	196	
	Southbound	TR	0.33	13.0	B	182	TR	0.26	12.3	B	141	TR	0.76	21.1	C	607	TR	0.73	8.2	A	180	
Intersection		14.6 B					17.1 B					18.2 B					11.0 B					
19	Jeffery Ave/Lake Shore Dr & Marquette Dr																					
	Eastbound	LT	0.56	48.3	D	126	LT	0.26	51.9	D	65	LT	0.54	31.2	C	181	LT	0.49	43.2	D	167	
		R	0.28	43.5	D	98	R	0.28	52.9	D	93	R	0.57	34.6	C	205	R	0.66	51.8	D	252	
	Westbound	LT	0.52	47.6	D	145	LT	0.57	42.5	D	128	LT	0.42	45.1	D	200	LT	0.78	52.7	D	240	
		R	0.90	16.4	B	139	R	0.89	14.4	B	21	R	0.35	5.9	A	107	R	0.37	8.2	A	242	
	Northbound	L	0.50	50.9	D	107	L	0.51	51.4	D	119	L	0.47	52.6	D	94	L	0.32	22.5	C	44	
TR		0.88	34.9	C	479	TR	0.88	41.0	D	491	TR	0.53	31.1	C	201	TR	0.72	54.4	D	273		
Southbound	L	0.48	14.2	B	83	L	0.48	11.0	B	82	L	0.83	31.0	C	514	L	0.79	19.2	B	751		
	TR	0.23	7.6	A	40	TR	0.23	2.1	A	82	TR	0.34	9.9	A	168	TR	0.36	4.3	A	186		
Intersection		24.4 C					23.5 C					24.1 C					24.0 C					
20	Stony Island Ave & 63rd Street/Hayes Dr																					
	Eastbound	L	0.46	38.4	D	104	L	0.72	38.3	D	227	L	0.17	29.4	C	60	L	0.27	27.1	C	84	
		T	0.48	33.9	C	218	T	0.16	19.1	B	88	T	0.45	33.3	C	218	T	0.55	31.1	C	276	
	Westbound	R	0.29	8.4	A	48	R	0.21	4.0	A	31	R	0.40	8.5	A	78	R	0.42	11.5	B	92	
		L	0.23	24.7	C	39	L	0.05	20.8	C	29	L	0.17	21.4	C	34	L	0.63	51.1	D	155	
	Northbound	T	0.52	27.0	C	142	T	0.41	24.6	C	244	T	0.32	22.0	C	112	T	0.31	33.5	C	183	
R		0.12	5.5	A	4	R	0.37	5.9	A	64	R	0.07	5.2	A	11	R	0.29	11.9	B	74		
Southbound	L	0.37	12.8	B	108	L	0.82	29.4	C	219	L	0.21	11.0	B	48	L	0.26	14.3	B	35		
	TR	0.36	10.7	B	140	TR	0.81	30.1	C	370	TR	0.20	9.1	A	82	TR	0.62	26.0	C	259		
Intersection		16.3 B					23.4 C					13.3 B					28.2 C					

#	Intersection & Approach	Weekday AM Peak Hour										Weekday PM Peak Hour										
		No-Build Condition					Build Condition					No-Build Condition					Build Condition					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
23	Jeffery Ave & 67th St																					
	Eastbound	L	0.98	103.0	F	188	L	0.74	50.6	D	131	L	0.32	35.6	D	68	L	0.27	30.2	C	64	
		TR	0.36	32.8	C	77	TR	0.57	39.4	D	140	TR	0.53	39.3	D	106	TR	0.71	44.5	D	163	
	Westbound	L	0.19	31.0	C	44	L	0.20	28.4	C	41	L	0.13	31.4	C	36	L	0.18	28.7	C	34	
		TR	0.71	29.4	C	110	TR	0.69	28.9	C	110	TR	0.50	30.3	C	78	TR	0.41	25.5	C	74	
	Northbound	L	0.15	5.9	A	33	L	0.17	7.4	A	38	L	0.23	5.6	A	37	L	0.34	9.0	A	49	
		TR	0.41	11.1	B	215	TR	0.43	13.1	B	242	TR	0.22	10.4	B	112	TR	0.26	13.7	B	137	
Southbound	L	0.16	2.6	A	13	L	0.17	7.6	A	31	L	0.23	4.4	A	45	L	0.27	7.3	A	69		
	TR	0.25	3.0	A	39	TR	0.30	11.2	B	151	TR	0.41	9.4	A	147	TR	0.54	16.1	B	307		
Intersection		20.1 C					20.8 C					15.6 B					20.5 C					
27	Cornell Dr & Hayes Dr																					
	Eastbound	LTR	0.51	23.9	C	88	LR	0.70	33.3	C	165	LTR	0.41	18.1	B	57	LR	0.80	30.1	C	277	
		Westbound	LT	0.25	31.2	C	100					LT	0.18	30.3	C	71						
	Northbound	R	0.23	17.8	B	94					R	0.19	3.5	A	35							
		L	0.12	5.7	A	0	L	0.19	2.0	A	14	L	0.28	15.0	B	39	L	0.01	9.6	A	10	
	Southbound	T	0.68	8.0	A	212	T	0.37	2.0	A	33	T	0.28	6.9	A	61	T	0.16	10.3	B	128	
		R	0.29	1.7	A	42					R	0.08	1.7	A	0							
Intersection		10.9 B					9.8 A					10.6 B					17.1 B					
31	Cornell Dr & S. Midway Plaisance																					
	Eastbound	L	0.40	16.8	B	54	Intersection Eliminated					L	0.64	8.8	A	27	Intersection Eliminated					
		R	0.13	0.4	A	0						R	0.57	6.4	A	15						
	Northbound	T	0.72	5.8	A	111						T	0.31	4.4	A	60						
		Southbound	T	0.18	5.1	A						56	T	0.58	7.2	A						140
Intersection		6.9 A										6.8 A										
38	MSI Drop Off/Hyde Park Blvd & 57th Dr																					
	Eastbound	L	1.25	172.2	F	264	L	0.87	51.0	D	142	L	0.83	53.9	D	149	L	0.25	8.0	A	77	
		TR	0.69	7.6	A	198	TR	0.18	9.4	A	80	TR	0.61	15.0	B	212	TR	0.40	19.4	B	188	
	Westbound	L	0.09	4.8	A	4	L	0.03	6.5	A	7	L	0.02	4.4	A	1	L	0.01	6.6	A	5	
		TR	0.88	23.6	C	494	TR	0.65	20.8	C	394	TR	0.82	20.3	C	451	TR	0.07	10.7	B	31	
	Southbound	LT	0.59	45.2	D	210	LT	0.60	45.3	D	210	LT	0.74	51.9	D	290	LT	0.66	43.4	D	270	
		R	0.40	22.2	C	135	R	0.40	21.2	C	131	R	0.53	26.6	C	195	R	0.41	4.5	A	52	
Intersection		27.5 C					24.1 C					23.0 C					19.1 B					
41	Stony Island Ave & N. Midway Plaisance																					
	Westbound	LTR	0.91	93.6	F	543	L	0.31	51.2	D	148	LTR	0.36	29.1	C	153	L	0.53	49.2	D	165	
		TR	0.75	49.0	D	382					TR	0.22	27.8	C	85							
	Northbound	LT	0.61	4.7	A	27	L	0.79	53.2	D	335	LT	0.32	2.3	A	18	L	0.46	19.8	B	292	
		TR	0.38	3.5	A	13	T	0.50	14.6	B	302	TR	0.37	2.5	A	13	T	0.38	7.7	A	159	
	Southbound	R	0.32	10.5	B	93	R	0.32	10.5	B	93	R	0.65	39.0	D	262	R	0.65	39.0	D	262	
		LTR	0.51	20.3	C	190	LTR	0.51	20.3	C	190	LTR	0.78	32.6	C	290	LTR	0.78	32.6	C	290	
Intersection		48.4 D					31.8 C					9.2 A					28.6 C					
44	S. Midway Plaisance & Stony Island Ave																					
	Eastbound	LTR	0.45	31.8	C	177	L	0.44	28.6	C	155	LTR	1.06	81.6	F	561	L	0.48	22.7	C	188	
		Northbound	TR	0.45	3.0	A	16	T	0.62	12.8	B	167	TR	0.31	4.4	A	40	T	0.54	15.7	B	160
	Southbound	LT	0.40	5.0	A	43	T	0.37	7.7	A	59	LT	0.42	2.7	A	21	T	0.70	22.6	C	388	
Intersection		11.3 B					13.9 B					40.9 D					22.2 C					
52	Richards Dr & Hayes Dr																					
	Eastbound	Unsignalized					TR	0.60	9.5	A	371	Unsignalized					TR	0.50	4.2	A	98	
							L	0.03	3.6	A	2						L	0.05	5.5	A	10	
	T						0.21	3.4	A	27	T						0.47	6.7	A	223		
	Northbound						L	0.69	49.2	D	141						L	0.70	54.5	D	182	
R	0.00						0.0	0	R	0.05	17.0						15					
Intersection		12.7 B					9.1 A															
54	Stony Island Ave & SB Cornell Dr																					
	Southwestbound	LR	0.20	4.8	A	23	LR	0.17	7.0	A	16	LR	0.68	10.7	B	210	LR	0.47	13.9	B	197	
		Northbound	T	0.64	9.0	A	114	T	0.73	22.7	C	487	T	0.37	16.6	B	202	T	0.46	21.5	C	256
	Southbound	R	0.55	5.5	A	147	R	0.55	5.5	A	147	R	0.13	0.4	A	0	R	0.13	0.4	A	0	
		T	0.17	18.7	B	71	T	0.22	6.3	A	23	T	0.38	24.1	C	159	T	0.72	16.4	B	197	
Intersection		10.2 B					12.7 B					15.5 B					15.1 B					

#	Intersection & Approach	Weekday AM Peak Hour										Weekday PM Peak Hour										
		No-Build Condition					Build Condition					No-Build Condition					Build Condition					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
56	NB Cornell Dr & 67th St																					
	Eastbound	LT	0.21	2.5	A	5	Intersection Eliminated					LT	0.61	19.7	B	95	Intersection Eliminated					
	Westbound	TR	0.43	30.6	C	160						TR	0.39	32.0	C	154						
	Northbound	LTR	0.76	28.8	C	392						LTR	0.29	18.1	B	120						
Intersection		26.3	C	Intersection		22.5						C										
58	Stony Island Ave & Marquette Rd/Marquette Dr																					
	Eastbound	L	0.13	31.4	C	52	LR	0.81	52.3	D	245	L	0.08	30.5	C	36	LR	0.80	42.3	D	182	
		TR	0.52	35.3	D	208	TR	0.48	28.8	C	174											
	Westbound	L	0.17	16.2	B	15	L	0.33	15.9	B	43											
		TR	0.11	7.7	A	16	TR	0.12	7.0	A	6											
	Northbound	L	0.41	12.3	B	58	L	0.52	41.8	D	75	L	0.60	53.8	D	95						
		TR	0.45	5.0	A	75	T	0.61	2.1	A	45	T	0.25	1.1	A	19						
	Southbound	L	0.06	5.2	A	11	L	0.07	2.4	A	4											
		TR	0.30	13.3	B	124	TR	0.76	14.3	B	410	TR	0.58	14.4	B	297						
	Intersection		12.5	B	Intersection		8.4	A	Intersection		14.4	B	Intersection		14.3	B						
59	Marquette Dr & NB Cornell Dr																					
	Eastbound	LT	0.36	11.4	B	41	Intersection Eliminated					LT	0.27	19.4	B	76	Intersection Eliminated					
	Westbound	TR	0.10	21.7	C	40						TR	0.14	26.9	C	58						
	Northbound	LTR	0.51	6.4	A	127						LTR	0.20	3.5	A	30						
Intersection		7.7	A	Intersection		9.8						A										
64	Marquette and Richards (East Intersection)																					
	Eastbound	LT	0.17	27.0	C	69	Intersection Eliminated					LT	0.16	27.0	C	69	Intersection Eliminated					
	Westbound	T	0.09	7.3	A	12						T	0.10	12.1	B	38						
	Southeastbound	R	0.14	0.2	A	0						R	0.12	0.2	A	0						
LR		0.15	7.2	A	67	LR						0.49	18.5	B	247							
Intersection		10.0	A	Intersection		15.9	B															
70	Marquette & Richards (North Intersection)																					
	Northbound	TR	0.03	2.1	A	5	Intersection Eliminated					TR	0.03	11.6	B	10	Intersection Eliminated					
	Southbound	L	0.14	0.4	A	0						L	0.39	1.0	A	0						
	Northwestbound	T	0.01	0.0	A	0						T	0.02	0.0	A	0						
LR		0.19	0.4	A	0	LR						0.14	0.2	A	0							
Intersection		0.5	A	Intersection		1.0	A															
71	Marquette & Richards (West Intersection)																					
	Eastbound	L	0.34	12.8	B	24	Intersection Eliminated					L	0.14	6.5	A	9	Intersection Eliminated					
	Westbound	T	0.12	3.0	A	29						T	0.13	3.7	A	34						
		TR	0.14	22.9	C	34						TR	0.14	21.2	C	36						
Southbound	R	0.01	0.0	A	0	R						0.03	0.1	A	0							
Intersection		10.1	B	Intersection		9.0	A															
74	59th St & Stony Island Ave																					
	Eastbound	LR	0.09	20.4	C	27	Intersection Unsignalized					LR	0.15	28.4	C	48	Intersection Unsignalized					
	Northbound	LT	0.52	6.1	A	51						LT	0.21	2.0	A	15						
	Southbound	TR	0.60	32.2	C	271						TR	0.41	12.3	B	123						
Intersection		19.3	B	Intersection		8.9						A										
76	Stony Island Ave & 60th St																					
	Eastbound	LR	0.27	22.8	C	52	Intersection Unsignalized					LR	0.52	38.0	D	130	Intersection Unsignalized					
	Northbound	LT	0.60	16.9	B	282						LT	0.34	13.5	B	156						
	Southbound	TR	0.23	1.0	A	4						TR	0.30	2.9	A	41						
Intersection		11.2	B	Intersection		10.4						B										
78	Stony Island Ave & 57th Street																					
	Eastbound	LT	0.52	46.4	D	163	LT	0.35	42.0	D	111	LT	0.66	107.7	P	272	LT	0.45	41.0	D	153	
	Westbound	R	0.62	43.1	D	221	L	0.60	18.2	B	96	L	0.26	32.2	C	53	L	0.33	43.8	D	92	
		R	0.23	10.3	B	38	R	0.00	0.0	0.0	0	R	0.16	8.7	A	23	R	0.06	10.8	B	2	
	Northbound	TR	0.68	22.8	C	487	TR	0.84	25.5	C	294	TR	0.46	31.8	C	332	TR	0.58	21.1	C	282	
		L	0.26	19.5	B	54	L	0.27	22.2	C	41	L	0.27	16.1	B	80	L	0.16	12.8	B	38	
	Southbound	T	0.33	17.9	B	168	T	0.36	18.3	B	184	T	0.44	17.2	B	249	T	0.53	16.5	B	311	
Intersection		25.2	C	Intersection		22.1	C	Intersection		36.7	D	Intersection		37.2	D							

#	Intersection & Approach	Weekday AM Peak Hour										Weekday PM Peak Hour										
		No-Build Condition					Build Condition					No-Build Condition					Build Condition					
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	
81	Cornell Dr/57th Dr & 57th St/MSI Garage																					
	Eastbound	LTR	0.95	62.1	E	295	LTR	0.75	59.0	E	162	LTR	1.39	217.1	F	597	LTR	0.90	60.2	E	319	
	Westbound	LT	0.03	34.4	C	13	LT	0.02	30.0	C	12	LT	0.25	36.2	D	73	LT	0.22	31.0	C	71	
		R	0.01	0.6	A	0	R	0.01	0.6	A	0	R	0.10	8.5	A	25	R	0.10	4.0	A	17	
	Northbound	L	1.42	248.6	F	193	L	0.03	2.0	A	1	L	0.88	100.2	F	113	L	0.00	0.0	0.0	0	
		TR	0.76	10.2	B	397	TR	0.25	2.0	A	33	TR	0.53	16.2	B	290	TR	0.31	7.7	A	62	
	Southbound	L	0.27	12.6	B	10	L	0.10	4.0	A	12	L	0.00	0.0	A	0	L	0.00	0.0	A	0	
TR		0.73	5.9	A	204	TR	0.56	5.2	A	133	TR	0.80	7.8	A	241	TR	0.18	6.4	A	71		
Intersection		20.1	C	Intersection		9.0	A	Intersection		38.7	D	Intersection		18.0	B							
82	Stony Island Ave & 64th St																					
	Eastbound	Unsignalized					LR	0.63	46.1	D	121	Unsignalized					LR	0.64	45.7	D	128	
	Northbound	Unsignalized					L	0.34	1.6	A	3	Unsignalized					L	0.23	5.1	A	25	
		Unsignalized					T	0.42	0.6	A	8	Unsignalized					T	0.23	0.5	A	6	
	Southbound	Unsignalized					TR	0.23	2.9	A	76	Unsignalized					TR	0.57	16.9	B	524	
Intersection		4.4	A	Intersection		14.0	B															
83	Lake Shore Dr & Hayes Dr																					
	Eastbound	L	0.55	36.4	D	173	L	0.80	33.8	C	355	L	0.63	69.6	E	121	L	0.65	58.6	E	198	
		TR	0.08	29.7	C	39	R	0.04	18.6	A	17	TR	0.67	85.9	F	153	R	0.25	37.2	D	94	
	Westbound	L	0.00	0.0	A	0	L	0.00	0.0	A	0	L	0.07	59.6	E	18	L	0.06	59.4	E	18	
		TR	0.02	39.2	D	14	TR	0.03	45.6	D	15	TR	0.16	40.9	D	36	TR	0.17	41.4	D	36	
	Northbound	L	0.17	11.2	B	17	L	0.30	45.2	D	43	L	0.43	64.7	E	107	L	0.47	74.3	E	108	
		TR	0.72	13.5	B	751	TR	0.85	20.3	C	696	TR	0.28	3.7	A	149	TR	0.31	3.2	A	73	
	Southbound	L	0.02	8.2	A	6	L	0.04	38.2	D	10	L	0.07	55.8	E	26	L	0.08	59.3	E	27	
		TR	0.59	18.1	B	494	T	0.62	28.5	C	471	TR	0.80	14.9	B	755	T	0.85	21.8	C	827	
	Intersection		17.3	B	Intersection		24.1	C	Intersection		16.7	B	Intersection		18.2	B						
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. Analysis Conducted in Synchro Version 10.1.2.20																						

**Table 4-10: 2040 No Build vs. 2040 Build Conditions
Capacity Analysis Results Comparison - Unsignalized Intersections**

Synchro Node #	Intersection & Approach	Weekday AM Peak Hour										Weekday PM Peak Hour									
		No-Build Condition					Build Condition					No-Build Condition					Build Condition				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)	Lane Group	v/c Ratio	Delay (sec)	LOS	Queue Length (ft)
31	Stony Island Ave with 59th St	(TWSC)																			
	Eastbound	Signalized Intersection					R	0.03	11.1	B	2	Signalized Intersection					R	0.03	11.9	B	2
32	MSI Drop Off/Everett Ave & 57th Drive	(TWSC)																			
	Northbound	LTR	5.85	Err	F	Err	LTR	0.34	61.4	F	33	LTR	1.77	587.5	F	184	LTR	0.21	18.9	C	20
51	Hayes & Richards (West Intersection)	Intersection Eliminated																			
	Eastbound	T	Stop sign configuration cannot be analyzed using HCM methodology.													T	Stop sign configuration cannot be analyzed using HCM methodology.				
	Westbound	T														T					
	Northbound	L														L					
31	Stony Island Ave with 60th St	(TWSC)																			
	Eastbound	Signalized Intersection					R	0.04	9.2	A	3	Signalized Intersection					R	0.09	9.8	A	7
56	Stony Island Ave with OPC Access & 61st St	(TWSC)																			
	Eastbound	LTR	0.04	20.8	C	3	Intersection Not Analyzed					LTR	0.13	31.1	D	11					
	Westbound	Intersection Not Analyzed					L	0.01	48.6	E	1	Intersection Not Analyzed					L	0.48	57.3	F	55
			R	0.00	12.8	B	0							R	0.10	11.4	B	8			
69	Hayes & Richards (South Intersection)	(AWSC)																			
	Northbound	T	0.29	8.3	A	-	Intersection Eliminated					T	0.25	8.4	A	-	Intersection Eliminated				
		R	0.04	5.9	A	-						R	0.03	6.2	A	-					
	Southbound	LT	0.20	8.4	A	-						LT	0.69	16.5	C	-					
	Southwestbound	LR	0.02	8.2	A	-						LR	0.05	9.1	A	-					
	Intersection		8.1	A	-						Intersection		14.1	A	-						
82	Stony Island Ave & 64th St	(AWSC)																			
	Eastbound	LR	0.24	11.4	B	-	Intersection Signalized					LR	0.24	11.2	B	-	Intersection Signalized				
	Northbound	L	0.29	10.4	B	-						L	0.08	8.5	A	-					
		T	1.32	171.0	F	-						T	0.76	23.3	C	-					
	Southbound	T	0.69	20.1	C	-						T	1.34	181.5	F	-					
		R	0.09	8.0	A	-						R	0.07	7.0	A	-					
	Intersection		96.4	F	-						Intersection		107.5	F	-						
85	Stony Island Ave & 65th St	(TWSC)																			
	Eastbound	L	0.01	14.9	B	1	L	0.02	18.7	C	1	L	0.07	30.1	D	5	L	0.09	37.8	E	7
		R	0.01	9.8	A	1	R	0.02	11.6	B	2	R	0.01	11.8	B	1	R	0.02	16.0	C	1
88	East End Ave & 67th St	(AWSC)																			
	Eastbound	T	0.28	9.6	A	-	T	0.47	12.1	B	-	T	0.39	10.4	B	-	T	0.59	14.5	B	-
	Westbound	T	0.45	11.3	B	-	T	0.54	13.3	B	-	T	0.44	10.8	B	-	T	0.56	13.8	B	-
	Northbound	LR	0.13	9.2	A	-	LR	0.15	9.8	A	-	LR	0.10	9.1	A	-	LR	0.11	9.8	A	-
	Intersection		10.5	B	-	Intersection		12.5	B	-	Intersection		10.5	B	-	Intersection		13.8	B	-	
90	Cregier Ave & 67th St	(AWSC)																			
	Eastbound	T	0.32	9.9	A	-	T	0.53	13.1	B	-	T	0.38	10.2	B	-	T	0.61	15.4	C	-
	Westbound	T	0.42	10.9	B	-	T	0.51	12.7	B	-	T	0.45	11.0	B	-	T	0.61	15.1	C	-
	Northbound	LR	0.13	9.0	A	-	LR	0.15	9.7	A	-	LR	0.12	9.1	A	-	LR	0.14	10.2	B	-
	Intersection		10.3	B	-	Intersection		12.6	B	-	Intersection		10.5	B	-	Intersection		14.8	B	-	
92	Bennett Ave & 67th St	(TWSC)																			
	Northbound	LR	0.17	11.7	B	15	LR	0.22	14.4	B	21	LR	0.09	12.1	B	7	LR	0.14	15.9	C	12

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
(AWSC) = All-Way Stop Control, (TWSC) = Two-Way Stop Control
Analysis Conducted in Synchro Version 10.1.2.20

5.0 PARKING ANALYSIS

A parking analysis was performed to determine if the proposed on-site parking could accommodate the projected peak parking demand for the OPC site and to determine the potential impact that the loss of parking associated with the proposed mitigation measures might have on the off-site parking supply.

5.1 Existing Parking Conditions

Parking within and around Jackson Park is provided via free on-street spaces and metered off-street parking lots. Currently, there are a total of approximately 790 on-street parking spaces and over 2,300 off-street parking spaces, including the MSI parking garage. To estimate existing parking supply where on-street spaces are not marked with pavement striping, either (a) the actual number of legally parked cars was counted on blocks where parking was fully utilized or (b) the number of legal parking spaces was estimated by assuming one space per 20 feet of continuous available curb length on blocks where parking utilization was lower. **Figure 5-1** depicts the free on-street and metered/paid off-street parking locations within the study area.



Figure 5-1 – Existing Public Parking Locations

5.2 On-Site Parking Analysis

OPC development plans include the construction of a maximum 450-space underground parking garage located on the east side of Stony Island Avenue within the boundaries of the site. Access to the parking garage is proposed to be provided via a single access drive that will align opposite 61st Street. The access drive will provide one inbound lane and two outbound lanes with outbound movements under stop-sign control.

Sam Schwartz conducted an analysis of OPC's parking needs, including visitor and employee parking demand estimates. Parking is typically designed to accommodate the 30th highest day of a facility to provide a good experience accessing the site and that costs and land are used in the most efficient manner. For days higher than the 30th design day peak, parking management strategies can be implemented that could include timed ticketing, reserving space in nearby lots such as MSI, and/or providing shuttle service to and from remote parking lots.

To estimate vehicular demand generated by OPC on the 30th design day, historical data from the National Archives and Records Administration (NARA) on all other Presidential Centers were analyzed to understand daily and hourly distribution, average vehicle occupancy, average visit time, and staffing levels. Data from MSI was also reviewed. The historical information was modified in cases where more specific information was available from OPC.

The following assumptions or inputs were used in the calculation:

- 4,200 museum visitors arriving on the 30th day
- An hourly distribution of arrivals 8 AM to 8 PM based on data from other presidential centers
- Vehicular mode share for staff and visitors (% of total that arrives by car and parks)
 - 50% of the visitors would travel by car
 - 50% of employees would travel by car
- An average visit time of 2.5 hours for museum visits and 3 hours for programs/events
- Estimated staff size of approximately 150 persons
- An average vehicle occupancy of:
 - Visitor: 2.5 persons per vehicle
 - Employee: 1.2 persons per vehicle

A screenshot of the parking demand calculator is shown in **Figure 5-2**, and additional detail is included in Appendix C.

Design Day	% Annual Traffic [C]	Peak Day Visitors [D]=[A]*[B]/[C]	Annual Attendance [A]	820000	Inputs																																																																																																																																																																																																																																																																																																											
10th	2.2%	13,069	Visitor as % of Annual Attendance [B]	73%	Assumptions																																																																																																																																																																																																																																																																																																											
15th	1.7%	9,977	(select below)	30th	0.7%																																																																																																																																																																																																																																																																																																											
20th	1.1%	6,784	Calculated values	##																																																																																																																																																																																																																																																																																																												
30th	0.7%	4,190																																																																																																																																																																																																																																																																																																														
45th	0.5%	2,893																																																																																																																																																																																																																																																																																																														
Visitor Vehicle Occupancy [VO_1]	2.5	Visitor Vehicular Mode Share [MS_2]	50.0%	Total Peak Parking Demand	344																																																																																																																																																																																																																																																																																																											
Staff Vehicle Occupancy [VO_2]	1.2	Staff Vehicular Mode Share [MS_3]	50.0%																																																																																																																																																																																																																																																																																																													
Tour Bus Occupancy [VO_3]	48.5	Bus Mode Share [MS_4]	12.0%																																																																																																																																																																																																																																																																																																													
<table border="1"> <thead> <tr> <th colspan="5">People Arriving [E]</th> <th colspan="5">People on Site [G]</th> <th colspan="5">Vehicles Arriving = [F]*[MS_x]/[VO_x]</th> <th colspan="5">Vehicles on Site (Parking Demand) = [G]*[MS_x]/[VO_x]</th> </tr> <tr> <th>Hour</th> <th>% of Daily Arrivals [E]</th> <th>Museum Visitors = [D]*[E]</th> <th>Foundation</th> <th>Other Staff</th> <th>Program Visitors</th> <th>Museum Visitors</th> <th>Program Visitors</th> <th>Foundation</th> <th>Other Staff</th> <th>Museum Visitors (Buses)</th> <th>Program Visitors</th> <th>Foundation</th> <th>Other Staff</th> <th>Museum Visitors (Buses)</th> <th>Program Visitors</th> <th>Foundation</th> <th>Other Staff</th> <th>Total Cars</th> </tr> </thead> <tbody> <tr> <td>8 AM</td> <td>0.3%</td> <td>11</td> <td>100</td> <td>50</td> <td>0</td> <td>11</td> <td>0</td> <td>100</td> <td>50</td> <td>2</td> <td>1</td> <td>0</td> <td>42</td> <td>2</td> <td>1</td> <td>0</td> <td>42</td> <td>21</td> <td>65</td> </tr> <tr> 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Figure 5-2 – Parking Demand Calculator

Figure 5-3 displays the hourly parking demand for the site compared with the proposed capacity of the OPC parking facility and shows that the peak parking demand is estimated to be 344 vehicles, which would occur at approximately 1:00 PM on the design day. As the OPC parking facility would provide a maximum of 450 off-street parking spaces, the garage would be able to accommodate the peak site-generated parking demand.

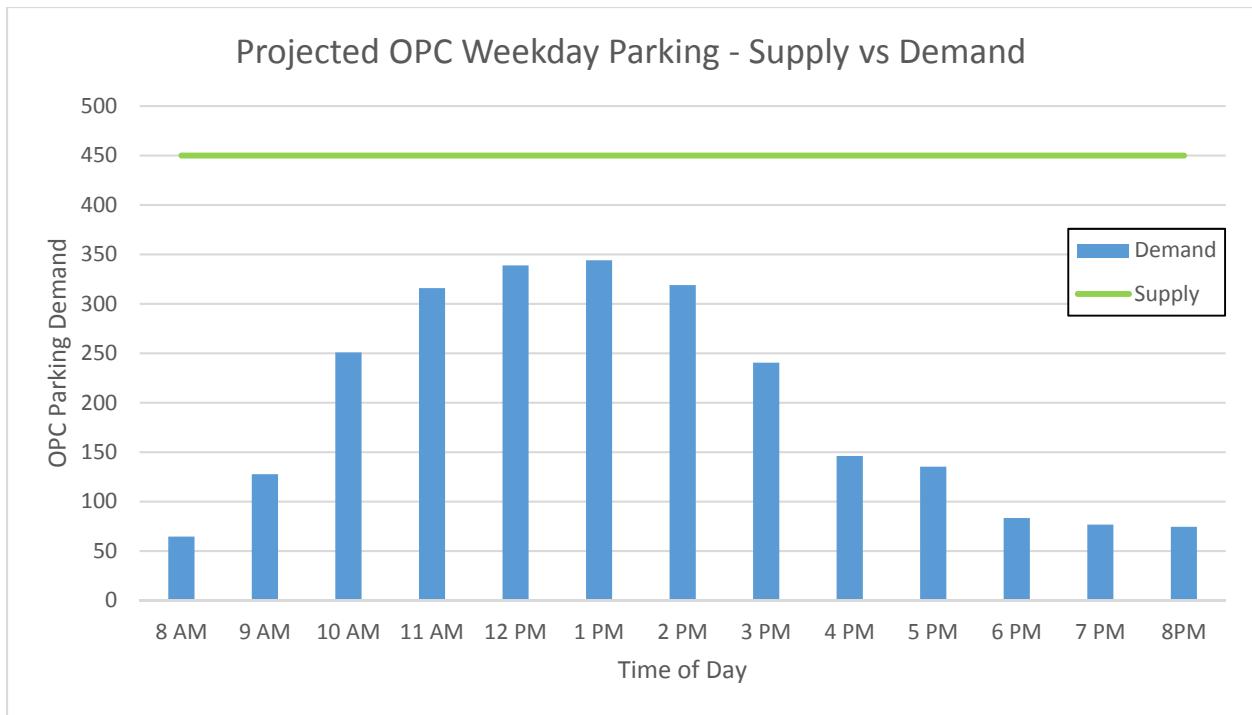


Figure 5-3 – OPC Hourly Parking Demand

5.3 Off-Site Parking Analysis

An evaluation of parking was conducted to quantify the number of parking spaces that would potentially be impacted by the proposed traffic improvements outlined in the previous sections. Each area shown in **Figure 5-1** was surveyed.

5.3.1 Parking Inventory

Sam Schwartz conducted a parking inventory survey of the streets within Jackson Park and adjacent to OPC to establish existing on-street parking supply. Changes to on-street parking resulting from the roadway improvements proposed are summarized below and tabulated in **Table 5-1** by street segment:

- On-street parking would be prohibited along the east curb of Stony Island Avenue between 60th Street and just south of 62nd Street to provide curbside space for visitor and bus pick-up and drop-off activity, which would result in a loss of approximately 30 parking spaces.
- On-street parking would be eliminated on Hayes Drive to accommodate an additional travel lane in each direction, which would result in a loss of approximately 147 parking spaces.
- The closure of Marquette Drive between Stony Island Avenue and Richards Drive would result in a loss of approximately 125 on-street parking spaces; however, due to the distance of these on-street spaces from park attractions, this location is only significantly utilized during peak summer days.
- Converting two travel lanes on 57th Drive between 57th Street and North Midway Plaisance into parking lanes is an option that is under consideration that could provide approximately 80 new parking spaces.
- The provision of an additional left-turn lane on South Midway Plaisance with its intersection at Stony Island Avenue will result in the removal of approximately 14 spaces from the north side of South Midway Plaisance.

With a total projected loss of 316 spaces and gain of 80 spaces, the net loss in on-street parking supply due to the proposed roadway changes would be approximately 236 parking spaces.

Table 5-1: On-Street Parking Supply

<i>Parking Supply</i>					
Segment	From	To	Approximate Existing Supply (Legal)	Impact of Traffic Mitigation	Approximate Future Supply
56th Street	Shore Dr	Stony Island	101		101
Everett Avenue	56th	Cornell	18		18
57th Drive	57th	Midway	0	+80	80
Stony Island Avenue	56th	59th	102		102
	59th	60th	0		0
	60th	61st	41	-20	21
	61st	62nd	19	-10	10
	62nd	63rd	42		42
Hayes Drive	63rd	67th	76		76
	LSD	Richards	65	-65	0
Richards Drive	Richards	Cornell	82	-82	0
	Hayes	Marquette	78		78
Marquette Drive	LSD	Richards	40		40
	Richards	Stony Island	125	-125	0
S. Midway Plaisance	Stony Island	Rail Viaduct	<u>52</u>	<u>-14</u>	<u>38</u>
Total			842	-236	607

Note: All on-street parking within the study area is unmetered.

5.3.2 Parking Utilization

Sam Schwartz also conducted a parking utilization survey in Jackson Park to determine the existing parking demand within the park. The surveys were conducted on Saturday, September 30, 2017. On-street surveys were conducted three times between 1:00 PM and 5:00 PM, and off-street parking lots were surveyed once at various times from 1:00 to 5:00 PM. **Table 5-2** shows the results of the parking survey compared with existing and future supply. The highest parking demand occurred at approximately 3:00 PM with a peak of 270 vehicles parked on-street. Overall, the numbers show there was ample available on-street parking at the time of the count. Specifically, the only area where demand exceeded future supply was on Hayes Drive where 33 vehicles would no longer be allowed to park.

As shown in the table, there are off-street lots that could accommodate the loss of on-street spaces; however, all but one of these off-street lots are metered/paid lots. As shown, at least 500 unoccupied off-street spaces were observed within the off-street parking lots, excluding the MSI lots where data was not collected on the day of the observations.

Table 5-2: Parking Utilization

On-Street Parking				Parking Demand (Saturday, Sept 30)		
Segment	From	To	Approximate Future Supply	1:00PM	3:00PM	5:00PM
56th Street	Shore Dr	Stony Island	101	88	95	97
Everett Avenue	56th	Cornell	18	17	17	18
57th Drive	57th	Midway	80	0	0	0
Stony Island Avenue	56th	59th	102	59	62	60
	59th	60th	0	0	0	0
	60th	61st	21	3	6	3
	61st	62nd	10	8	6	10
	62nd	63rd	42	0	0	1
Hayes Drive	63rd	67th	76	46	37	37
	LSD	Richards	0	3	5	0
Richards Drive	Richards	Cornell	0	30	27	4
	Hayes	Marquette	78	1	1	0
Marquette Drive	LSD	Richards	40	11	14	16
	Richards	Stony Island	0	0	0	0
TOTAL			569	266	270	246
Off-Street Parking Lots	Type		Supply	Maximum Parking Demand (Saturday, Sept 30)		
A 63rd Street Beach	Metered		168	57		
B Southwest Quadrant of Lake Shore Drive and Hayes Drive	Metered		63	3		
C Northwest Quadrant of Lake Shore Drive and Hayes Drive	Metered		202	17		
D Northeast Quadrant of Cornell Drive and Hayes Drive	Metered		170	12		
E North of Tennis Courts	Free		18	8		
F South and East of MSI	Metered		226	Unknown		
G Directly East of MSI	Metered		76	Unknown		
H Underground Museum of Science and Industry Garage	Paid/Attendant		1,405	Unknown		
TOTAL			2,328			

6.0 OPC SITE AND CURBSIDE CHARACTERISTICS

The OPC will include a museum dedicated to the presidency of Barack Obama, the 44th President of the United States, as well as hosting programs of the Obama Foundation and community. This section describes how the transportation-related components of the OPC site will interface with the right-of-way and public realm. It describes loading dock access and operations, parking garage access, general pedestrian access points, and bike facilities. Curbside uses along the east side of Stony Island are also discussed, including bus and visitor pick-ups and drop-offs.

6.1 Service Access and Loading Docks

Delivery/loading access to and from the OPC center is proposed via an underground service area within the OPC site. The service access drive is proposed on the east side of Stony Island Avenue, north of 61st Street, and will provide access to eight VIP parking spaces and a loading dock with three bays (including trash). All vehicles will be scheduled and will gain access to the service entrance via a secure gate along Stony Island Avenue. Security screenings and truck maneuvering will both occur entirely on-site. The current design can accommodate a WB-40 design vehicle. The driveway will be full-access from Stony Island Avenue and will provide one inbound lane and one outbound lane with outbound movements under stop-sign control.

The following delivery types and frequencies are anticipated:

- Food service delivery/operations: 3 to 5 times per week
- Trash removal: 3 to 5 times per week
- Retail deliveries: once per week
- Art deliveries: 1 to 2 times per month
- Large event delivery: 2 to 5 times per week

6.2 Garage Access

The OPC will include the construction of a maximum 450-space underground parking garage to be located on-site with access to the garage provided opposite 61st Street. The access drive will provide one inbound lane and two outbound lanes, with outbound movements under stop-sign control.

6.3 Pedestrian Access

A network of walking and multi-use paths is shown on the site plan connecting OPC with Stony Island Avenue and Jackson Park. Connection points and continuity are being coordinated with CDOT and the Park District. The main pedestrian access points into the OPC buildings will occur along Stony Island Avenue surrounding the plaza space just south of 60th Street. In an effort to increase foot traffic in the park and on Stony Island, there will be no direct pedestrian access from the parking garage to the plaza or OPC building. Instead, there will be multiple pedestrian exits from the parking garage into the park and Stony Island Avenue. Pedestrian access will also be provided on the east side of the site into Jackson Park connecting to the network of existing multi-use paths.

6.4 Bike Facilities

A network of walking and multi-use paths is shown on the site plan and are being coordinated with CDOT and the Park District. An east-west separated off-street multi-use path is shown north of Hayes Drive to complete the shared use bike path to Stony Island Avenue. Within the OPC site, there will be multi-use east-west paths to connect Stony Island to the paths within the park, and there will also be a main north-south multi-use path along the east side of the OPC buildings to be integrated into a future bike path along Stony Island Avenue.

A docking station associated with Divvy, Chicago's bikeshare system, within the OPC site is being studied in coordination with CDOT and the Park District. Siting of the station should consider convenience for transit along Stony Island and connectivity with the Lakefront Trail system, as well as placement of nearby docking stations. Stations are currently provided at the following locations within the study area:

- The 55th/56th/57th Street Metra Station (18 docks, ½ mile north of the site)
- The 59th Street Metra Station (13 docks, 500 feet west of the site)
- The 63rd Street Metra Station (14 docks, ½ mile southwest of the site)
- 64th Street and Stony Island Avenue (14 docks, ½ mile south of the site)
- The Museum of Science and Industry (26 docks, ¼ mile north of the site)

6.5 Curbside Operations

On-street parking will be prohibited along the east curb of Stony Island Avenue between 60th Street and 62nd Street to provide curbside space for visitor and bus pick-up and drop-off activity. Curbside uses will be organized as illustrated in **Figure 6-1**. Vehicular loading areas are shown in front of the OPC and adjacent to the Athletic Center; these spaces will be used for pick-ups and drop-offs by Transportation Network Companies (Uber, Lyft, etc.), taxis, and the general public. CTA bus stops are shown generally unchanged at 60th, 61st, and 62nd Streets (near-side), and CTA bus stop locations and amenities are still being coordinated with CTA and CDOT.

Charter and school bus drop-off and pick-up will also occur on the east side of Stony Island Avenue. A visitor study performed by the Obama Foundation projected a peak need of six bus loading spaces on Stony Island Avenue. Buses will be scheduled through a designated Obama Foundation process, such as Group Visitors or an Education Department. That same process will staff the curbside space to greet buses and manage their flow. As buses will not be allowed to park on campus, several possibilities for bus parking have been identified and are being analyzed for feasibility. The most viable options will be presented to CDOT for their review and comment over the next few months.

OPC: STONY ISLAND RIGHT-OF-WAY STUDY
JANUARY 11, 2017
1"=50"



Figure 6-1: OPC Curbside and Access Plan

7.0 CONCLUSION

The City of Chicago and Chicago Park District are considering a large-scale revitalization plan for Jackson Park that would increase green space, improve pedestrian connectivity, and create new and upgraded facilities. As part of the that revitalization plan, Cornell Drive would be closed between North Midway Plaisance and Hayes Drive, South Midway Plaisance would be closed between Stony Island Avenue and Cornell Drive, and Marquette Drive would be closed between Stony Island Avenue and Richards Drive. Traffic mitigation in the form of signal timing and phasing changes, parking regulation changes, and capital improvements along key roadways and at key intersections to increase capacity would be implemented along with the roadway closures to accommodate the changes in traffic patterns. By providing acceptable levels of service for traffic flow, bus transit demand can also be accommodated through the future horizon year.

The traffic analysis results for the weekday AM and PM peak hours show that the proposed improvements would successfully mitigate any potential traffic impacts in the 2040 horizon year and there would be no significant traffic impacts as a result of the proposed project.

A parking analysis was performed that shows the proposed on-site parking would be sufficient to accommodate the projected peak parking demand for the OPC site. Due to the proposed roadway changes, there would be a net loss in on-street parking supply of 236 spaces within the study area, leaving a total on-street parking supply of 569 spaces, which can still accommodate the surveyed peak demand of 270 parked cars. There is additional parking available for a fee in the public parking lots within Jackson Park.