

Preliminary Engineering Report

PC-0616

Task 1B – Street Enhancement – On Street Bike Lanes Crosstown Connection

Prepared by:

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The City of Oklahoma City

March 2024

THE CITY OF OKLAHOMA CITY

APPROVAL SHEET

PC-0616

**PRELIMINARY ENGINEERING REPORT
TASK 1B - STREET ENHANCEMENT – ON STREET BIKE LANES
CROSSTOWN CONNECTION**

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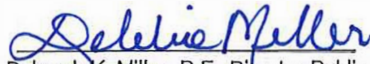
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Luke Schmidt, P.E., PTOE

Recommended for Approval

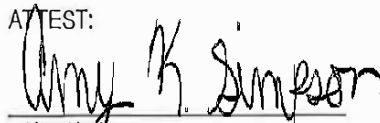



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APPROVED by the Mayor and City Council of the City of Oklahoma City this 9TH
day of APRIL 2024.

ATTEST:


City Clerk




David Holt

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1.0 Executive Summary

1.1 Scope

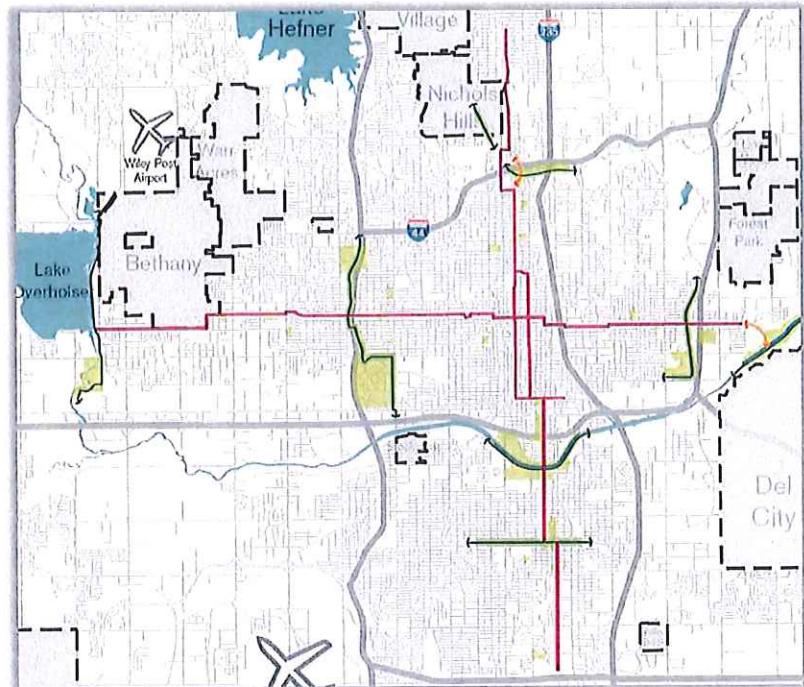
With the adoption of the bikewalkokc, Oklahoma City has a comprehensive masterplan that is guiding the implementation of bicycle facilities throughout the City. As part of this document, a bicycle facility connection running north/south and east/west was proposed called the Crosstown Connection. This facility was proposed to connect many parks, amenities, and trails to/from the downtown area via an on-street facility.

The intent of Task 1A of the PC-0616 Street Enhancement project was to perform the preliminary analysis, conceptual design, and cost estimates for approximately 11 miles of bike facilities throughout Oklahoma City. These on-street bike facilities consisted of a mix of Tier 1,2 and 3 on-street bike facilities (from shared lanes to buffered bike lanes).

Task 1B of the PC-0616 Street Enhancement project builds on Task 1A. The intent of this task is to perform the preliminary design field review, confirm base files, revised intersection level of service (LOS) analysis, and prepare preliminary design plans. The extents of this project are consistent with the Crosstown Connection outlined in bikewalkokc.

The corridors outlined in this report depicted in **Figure 1**:

- **South Corridor 1** - Along S Robinson Avenue/S Santa Fe Avenue from W Sheridan Avenue to SW 104th Street
- **South Corridor 2** – Along S Walker Avenue from SW 36th Street to SW 104th Street



Excerpt from bikewalkokc

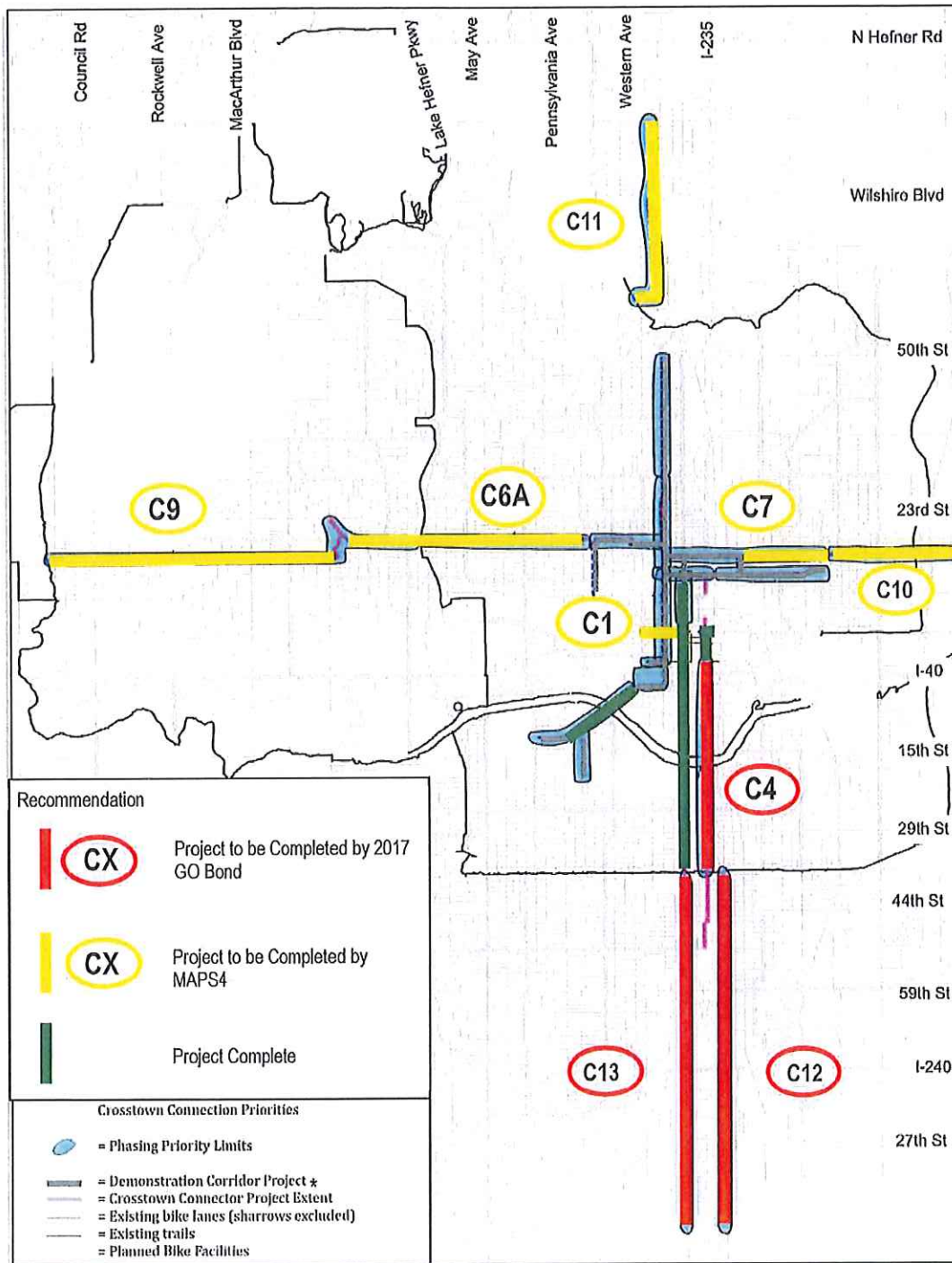
Figure 1: Project Corridors

1.2 Budget

The intent of this Task 1B for PC-0616 is to evaluate the proposed facilities along the project corridors to determine the proposed Tier facility/cross section, challenges, and planning level construction cost estimates. **Table 1** below illustrates the Opinion of Probable Construction Cost (OPCC) for the proposed on-street bike facility improvements by each benefit area. The OPCC is based on available bid tabulations in the area, recent on-call bike facility construction contract (MC-0652), on-call traffic signal construction/modification contract (TC-0470), as well as previous experience with corridor improvements similar to the proposed facilities. Due to the OPCC exceeding the fixed limit of construction budget, Oklahoma City Planning staff prioritized segments of the project for implementation. **The areas listed below will be designed, but the intent is to build only the priority projects that fit within the \$2,520,000 via the 2017 GO Bond funded fixed limit of construction.** The OPCCs below are broken down by priority area, and the proposed priority map is shown on the following page. A detailed OPCC can be referenced in the appendix, the quantities are estimated based on the conceptual corridor design plans in **Appendix A**.

Table 1: Cost Estimate				
Project Number	Priority Area	Project Location	Average Daily Traffic (Veh/Day)	Opinion of Probable Construction Cost Estimate
PC-0616	South Corridor			\$4,776,000
	Priority Area C4	S Robinson Ave - W Sheridan Ave to SW 36th St	6,983	\$1,433,000
	Priority Area C12	S Santa Fe Ave - SW 36th St to SW 104th St	12,006	\$2,297,000
	Priority Area C13	S Walker Ave - SW 36th St to SW 104th St	10,300	\$1,046,000
Total of Corridors				\$4,776,000

Fixed Limit of Construction - \$2,520,000



*Note: Watch for Me Demonstration Corridors are currently being designed and constructed by others.

Figure 2: Crosstown Connection Priorities

1.3 Schedule

Kimley-Horn anticipates submitting the 60% design plans by Summer of 2024 and construction starting in 2025. The following schedule is estimated for the design and construction of this project.

Project Schedule	January	February	March	April	May	June	July	August	September	October	November	December	January	Q1	Q2	Q3	Q4	Q1
	2024												2025				2026	
Key Task Name	6	7	8	9	10	11	12	13	14	15	16	17	18	19-21	22-24	25-27	28-30	31-33
A - Design																		
1. 30% PER Approval																		
2. 60% Design Plans																		
3. Plan Review																		
4. 90% Design Plans																		
5. Plan Review																		
6. 100% Plan Submittal and Approval																		
B - Construction - Priority Projects																		
1. Advertisement, Bidding, and Award																		
2. Construction																		
3. Project Close Out																		

Updated: 12/20/2023

1.4 Recommendation

The proposed fixed limit of construction for the initial phase of this project is \$2,520,000. Due to the budget constraints only, a portion of the Crosstown Connection can be constructed now. The provided prioritization will allow the following segments to be constructed initially.

- Segment C4 – S Robinson Ave, W Sheridan Ave to SW 36th St = \$ 1,433,000
- Segment C12 – S Santa Fe Ave, SW 36th St to SW 104th St = \$ 2,297,000
- Segment C13 – S Walker Ave, SW 36th St to SW 104th St = \$ 1,046,000
- Total = \$ 4,776,000

As further funding is available, it is recommended to continue constructing the projects in the proposed order. In the meantime, it would be beneficial to design the entirety of the crosstown connection as to be ready when funding is available.

2.0 Introduction

2.1 Background

With the adoption of the bikewalkokc, Oklahoma City has a comprehensive masterplan that is guiding the implementation of bicycle facilities throughout the City. As part of this document, a bicycle facility connection running north/south and east/west was proposed called the Crosstown connection. This facility was proposed to connect many parks and amenities to trails and the downtown area via an on-street facility.

The intent of Task 1A of this project (PC-0616 Street Enhancement) was to perform the preliminary analysis, conceptual design, and cost estimates for approximately 26 miles of bike facilities throughout Oklahoma City. These on-street bike facilities are to consist of a mix of Tier 1,2 and 3 on-street bike facilities (from shared facilities to buffered bike lanes).



Task 1B (current effort) of the PC-0616 Street Enhancement project builds on Task 1A. The intent of this task is to perform the preliminary field review to verify the existing base files, revised intersection level of service (LOS) analysis, and prepare preliminary design plans. The extents of this project are consistent with the Crosstown Connection outlined in bikewalkokc.

The corridors outlined in this report depicted in **Figure 1**:

- **North Corridor** - Along N Classen Boulevard from NW Grand Blvd to W Britton Road
- **West Corridor** - Along NW 16th Street from Lake Overholser to N Indiana Avenue
- **East Corridor** - Along NE 16th Street from N Shartel Avenue to Redbud Drive
- **South Corridor 1** - Along S Robinson Avenue/S Santa Fe Avenue from W Sheridan Avenue to SW 104th Street
- **South Corridor 2** – Along S Walker Avenue from SW 36th Street to SW 104th Street.
- **Additional Corridor** - NW 4th St from N Classen Blvd to N Shartel Ave

2.2 Scope

The scope of Task 1B for this project includes the preliminary analysis, preliminary design (30%), preliminary design report, and cost estimate of the proposed facilities. The items included in this study are the following:

- Preliminary design field review
- Confirmation of base files
- Revised intersection level of service (LOS) analysis
- Preliminary design (30%)

The intent is that portions of this project will proceed to final design and construction as budget allows.

2.3 Field Review and Base File Preparation

A field review was performed for Task 1A on January 7, 2020. The field review consisted of taking measurements of cross sections of roadways at varying increments, verifying the accuracy of aerial photography, and to identify any potential geometric and pavement constraints. This field work served as the basis for analysis, design and planning level construction cost estimates.

For Task 1B, a more in-depth preliminary design field review was performed on April 14, 2021. The field review consisted of confirming field measurements of the prepared base files and critical dimensions, collecting existing sign locations, verifying existing pavement and pavement marking conditions, locating existing traffic signal equipment, and identifying intersection sight distance and sight distance obstructions. **Figure 3** displays some of the observations made during the April field review.



Bike route sign



Pavement marking condition



Poor pavement



Traffic signal equipment



Drainage inlet

Figure 3: Field Review Observations

3.0 Level of Service Analysis Methodology

3.1 Traffic Data Collection

The existing traffic data collected as part of Task 1A was also utilized for Task 1B analysis. When designing bicycle facilities, the critical element in evaluating the feasibility of a bicycle facility is the intersection operations. To better evaluate how the intersections along the corridor operate, traffic data was collected at the congested and critical intersections during the peak morning, midday, and evening traffic conditions. The traffic data provides an insight as to how the existing intersections function and how altering the intersection geometry will impact intersection operations. The turning movement counts were collected on November 20, 2019 and December 4, 2019 at 54 intersections along the analysis corridors. A summary of the number of intersection counts collected by corridor are detailed in **Table 2** below, and the raw traffic volume data is in **Appendix B**.

Table 2: Collected Turning Movement Counts by Corridor		
Corridor	Signalized Intersections	Unsignalized Intersections
North	12	3
West	4	7
East	2	6
South	19	1

3.2 Intersection Level of Service Analysis

The peak hour turning movement counts and existing traffic signal operations were used to develop a corridor traffic analysis model using Synchro 10™. The model was used to determine the existing Level of Service (LOS) at each of the evaluated intersections. This traffic model served as the baselines to test future traffic volumes and potential intersection geometry modifications to accommodate the planned bicycle facilities along the study corridors.

To develop future traffic volumes, an average growth rate was applied to the collected 2020 turning movement volumes to forecasted 2030 conditions. Average growth rates by benefit area were developed for Project TC-0473, Traffic Impact Fee Study, approved by City Council on July 2, 2019. Due to the overlap in project area, these average growth rates were applied to forecast future turning movement counts. **Table 3** below details the annual growth rates that were applied to each corridor.

Table 3: Average Annual Traffic Growth Rates		
Corridor		Annual Growth Rate
North		1.057%
West		
East		
South	North of SW 51 st St	
	SW 51 st St to SW 104 th St	1.228%

3.3 Level of Service Summary

The Synchro 10™ model was used to evaluate the Level of Service (LOS) for the following scenarios at each intersection:

- Existing traffic (2020) + Existing intersection geometry
- Existing traffic (2020) + Proposed intersection geometry (planned bike facility)
- Future forecasted traffic (2030) + Existing intersection geometry
- Future traffic (2030) + Proposed intersection geometry (planned bike facility)

Capacity defines the volume of traffic that can be accommodated by a roadway at a specified “level of service.” Capacity is affected by various geometric factors including roadway type (e.g. divided or undivided), number of lanes, lane widths, and grades. Level of service (LOS), which is a measure of the degree of congestion, ranges from LOS A (free flowing) to LOS F (a congested, forced flow condition). A description of each operational state for both signalized and unsignalized intersections is presented in **Table 4**.

Table 4: Level of Service Definitions			
LOS	Average Control Delay (Sec/Veh)		Description
	Signalized	Unsignalized	
A	≤ 10	≤ 10	No delays at intersections with continuous flow traffic. Uncongested operations; high frequency of long gaps available for all left and right-turning traffic; no observable queues.
B	> 10 and ≤ 20	> 10 and ≤ 15	
C	> 20 and ≤ 35	> 15 and ≤ 25	Moderate delays at intersections with satisfactory to good traffic flow. Light congestion; infrequent backups on critical approaches.
D	> 35 and ≤ 55	> 25 and ≤ 35	Increased probability of delays along every approach. Significant congestion on critical approaches, but intersection functional. No long-standing lines formed.
E	> 55 and ≤ 80	> 35 and ≤ 50	Heavy traffic flow condition. Heavy delays probable. No available gaps for cross-street traffic or main street turning traffic. Limit of stable flow.
F	> 80	> 50	Unstable traffic flow. Heavy congestion. Traffic moves in forced flow condition. Average delays greater than one minute highly probable. Total breakdown.

The existing and future LOS as describe above is reported in **Appendix C**. Below in **Table 5** is some of the intersections that operate at or below a LOS D with the proposed geometry in 2030.

For the intersections that operate at or below a LOS E in 2030, one opportunity to improve the intersection operations is by reducing the bike lane width and buffer width to accommodate a dedicated right turn lane auxiliary. For example, at the intersection of S Santa Fe Avenue and SE 89th Street, this would improve the 2030 evening intersection operations one letter grade.

Table 5: Intersections Operating at or Below a LOS D in 2030

Intersection	Corridor	2020 Existing Traffic + Existing Roadway Geometry				2030 Forecasted Traffic + Existing Roadway Geometry				2030 Forecasted Traffic + Proposed Roadway Geometry			
		AM		PM		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
N Classen Blvd & NW 63 rd St	North corridor	34.8	C	35.5	D	33.7	C	35.7	D	34.7	C	40.1	D
S Santa Fe Ave & I-240 EB Serv Rd	South Corridor	40.3	D	48.4	D	45.2	D	75.0	E	42.6	D	72.7	E
S Santa Fe Ave & I-240 WB Serv Rd		27.2	C	65.7	E	30.2	C	72.5	E	30.2	C	76.2	E
S Santa Fe Ave & SE 89 th St		28.9	C	38.6	D	31.2	C	42.3	D	37.7	D	117.3	F
S Santa Fe Ave & SW 59 th St		26.7	C	52.6	D	36.1	D	43.0	D	36.8	D	65.1	E
S Walker Ave & SW 44 th St		36.6	D	47.7	D	35.7	D	55.6	E	33.3	C	79.9	E
S Walker Ave & SW 59 th St		37.2	D	48.6	D	44.5	D	54.0	D	44.7	D	63.2	E
S Walker Ave & SE 89 th St		32.1	C	37.3	D	32.9	C	38.9	D	37.4	D	39.8	D
Note: Delay is reports in average seconds per vehicle													

The complete LOS analysis results can be referenced in **Appendix C**.

4.0 Design Considerations

4.1 Tiered Facilities From bikewalkokc

As previously mentioned, the initial on-street facility recommendations were outlined in the bikewalkokc master plan, approved in 2018. **Figure 4** below shows the bike facilities detailed in bikewalkokc for the Crosstown Connection.

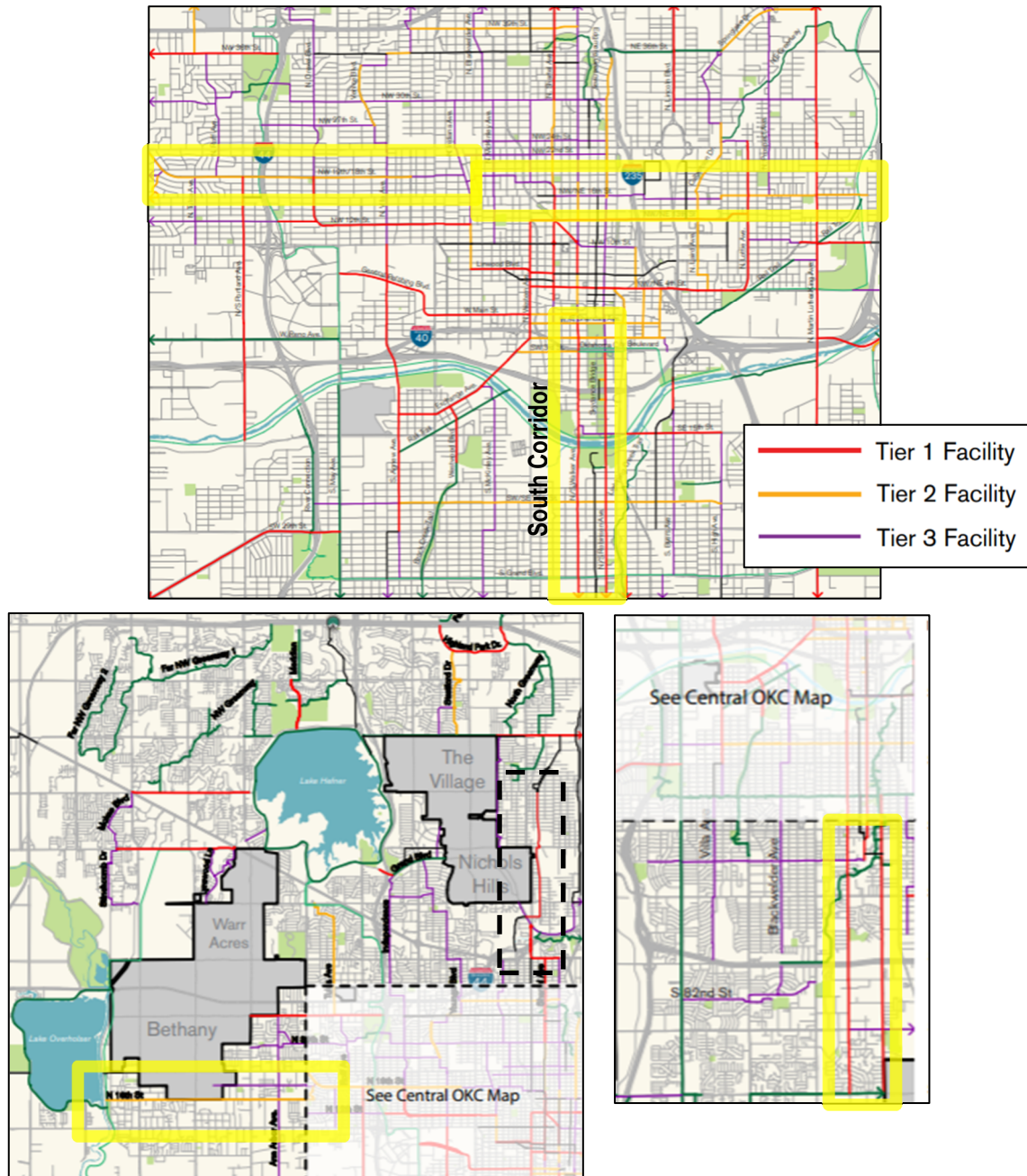


Figure 4: Excerpts from Bikewalkokc – Tiered Facility Maps

4.2 Alternate Routes

During Task 1A, alternate route options were evaluated for the corridors. Bike routes were finalized during the final conceptual design review meeting of the 15% plans. The following sections summarize options that were evaluated through the project as well as the recommendations.

4.2.1 West Corridor

Two alignments for the west corridor between N Peniel Avenue and N Warren Avenue were initially considered. The parallel corridors of NW 16th Street and NW 19th Street are both two-lane roadways with similar widths. The major intersections along NW 19th Street are unsignalized from N Peniel Avenue to N Meridian Avenue whereas the N MacArthur Boulevard and N Meridian Avenue intersections along NW 16th Street are signalized.

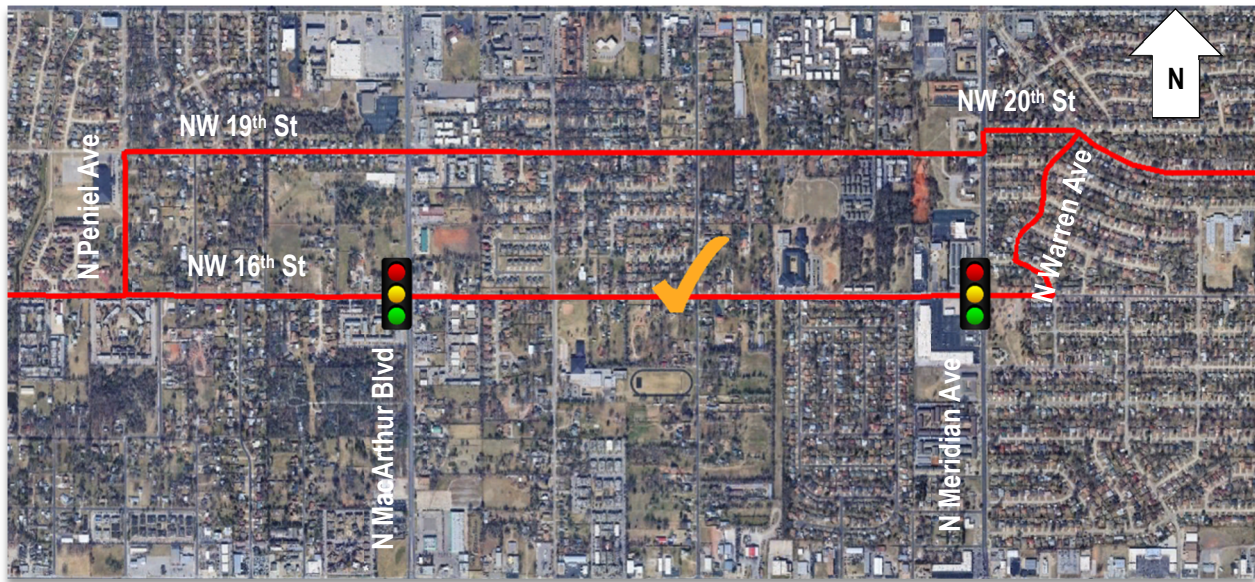


Figure 5: West Corridor Alignment Options

Based on analysis and input from the City, the preferred alignment is along NW 16th Street. The crossing of N Meridian Avenue from NW 19th Street to NW 20th Street would be an unprotected crossing for a cyclist. As such, the NW 16th Street alignment is recommended based on the signalized intersection of NW 16th Street and N Meridian Avenue to provide cyclists a safer crossing point.



Figure 6: West Corridor - N Meridian Ave Crossing at NW 19th Street

4.2.2 North Corridor

The proposed alignment for the north corridor in bikewalkokc is planned along N Western Avenue from NW Grand Boulevard to NW 50th Street. North of NW Grand Boulevard, N Classen Boulevard is designated as the planned bike facility.

N Western Avenue currently experiences high traffic volumes from the I-44 interchange and the Chesapeake Energy campus/other office uses in the area. This decreases the possibility of a dedicated bike facility along N Western Ave and the I-44 bridge. Due to the existing congestion along N Western Ave, this section of N Western Avenue has been selected to receive funding for intersection capacity improvements as part of the Transportation Impact Fee funding (TC-0518). The proposed impact fee improvements will improve both terminals of the N Western Avenue at the I-44 interchange.



Figure 7: North Corridor Alignment Options

Due to the existing traffic on N Western Avenue, an alternate route above is proposed. This alternate route would utilize a trail connection under I-44, as part of a current trail project under design. The alternate route would tie into the proposed trail near the I-44 westbound off-ramp on NW Grand Boulevard. The alternate route would then utilize N Shartel Avenue to connect back at N Classen Boulevard. Using the proposed Deep Fork Creek connection, this option creates connectivity to the Classen Curve area while also avoiding the heavy traffic on N Western Ave.

4.3 Minor Construction

4.3.1 Roadway Widening

Bike lane standards, developed by the City, require a minimum vehicular travel lane width of 11' and minimum bike lane width of 5'. Based on these requirements, the minimum cross section width to develop a bike lane is 32' wide from face-of-curb to face-of-curb. A roadway cross section less than 32' is required to be a shared bike lane facility. A majority of the roadway cross section widths across the corridors are fairly consistent, except for a portion of NW 16th Street within the west corridor.

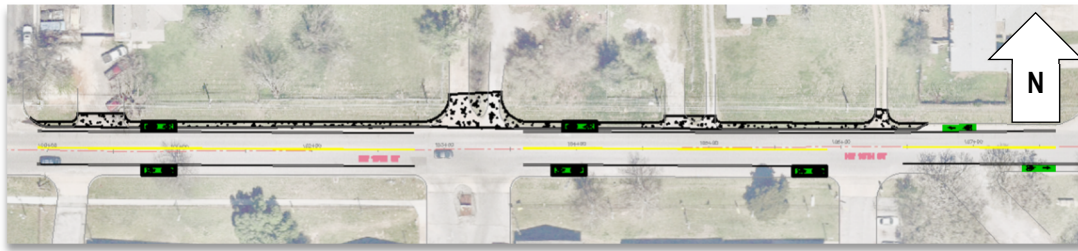


Figure 8: Proposed Roadway Widening

A portion of NW 16th Street between N Rockwell Avenue and N Peniel Avenue reduces in width for a small portion, which requires the proposed bike lane to end and begin in a short distance. This transition from a bike lane to a shared facility and back to a bike lane creates the potential to confuse drivers and creates an extra merge condition for cyclists with traffic. To create a more continuous corridor and increase cyclist safety, it is proposed to widen approximately 700 linear feet of roadway along NW 16th St to create a longer continuous bike lane. These improvements are reflected in the proposed bike lane concept plans attached and provided Opinion of Probable Construction Cost. This roadway widening would connect 600 linear feet of bike lanes to the west to 600 linear feet of bike lanes to the east, creating a continuous bike lane approximately 1,865 linear feet in length.

4.3.2 Pavement Repair

During the field work, the existing pavement condition was also reviewed. Existing pavement conditions are critical to develop a facility that is safe and comfortable for bike traffic. Through the corridors, there are examples of poor joint conditions, poor pavement conditions, vertical separation between the gutter and roadway pavement, and curb and gutter sections requiring rehabilitation (shown below). For this task, a pavement repair allocation has been added to the Opinion of Probable Construction Cost to mitigate potential safety concerns within the proposed bike lanes and shared bike/vehicular lanes.



Figure 9: Pavement Surface Condition

We recommend coordinating pavement repairs identified in this project in conjunction with the Oklahoma City Master Pavement Repair Plan as shown in **Figure 10**, as there may be an opportunity to partner on pavement rehabilitation.

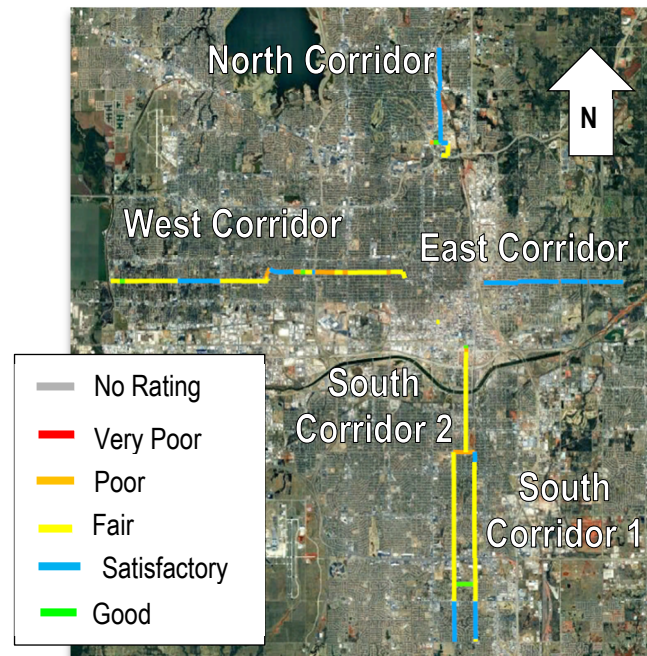


Figure 10: Pavement Conditions

4.4 Other Considerations

4.4.1 High Volume Intersection Conflict Marking

Due to high traffic volumes through some of the study intersections along the corridors, crossing these intersections as a cyclist would benefit from conflict markings to better delineate the bike path through the intersection to provide additional awareness for conflicting vehicle movements or inattentive drivers. As a result, several intersections are proposed to include conflict pavement markings, as shown in **Figure 11**.

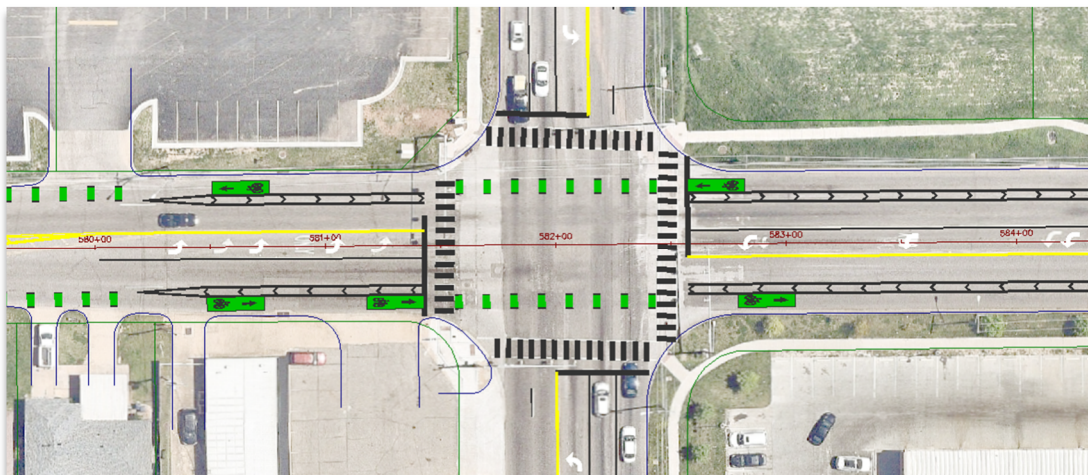


Figure 11: High Volume Intersection Conflict Marking

Below is the list of intersections, by corridor, where conflict markings are proposed through the intersection.

North Corridor:

- N Classen Blvd at NW 63rd St

West Corridor:

- N Rockwell Ave at NW 16th St
- N MacArthur Blvd at NW 16th St

South Corridor:

- Robinson and SW 29th St
- Santa Fe and SW 59th St
- Santa Fe and SW 89th St

4.4.2 Line-of-Sight Considerations

A major concern for cyclist safety is sight distance at driveways, intersections, and major crossings. The intersection of NE 16th St and N Lincoln Blvd has an irregular geometry, and that geometry, combined with the historic landmark on the south side of the intersection, creates a line-of-sight obstruction for eastbound travelers in the median as shown in **Figure 12**.



Figure 12: N Lincoln Blvd Sight Distance Concern

4.4.3 Bus Stop Locations

The proposed on-street bicycle facilities proposed for this project cover a significant portion of the City. Portions of the proposed facilities either intersect or run along existing EMBARK fixed transit route services. At locations with existing transit stops, the proposed bicycle facilities will have alternate designs for Tier 1 and Tier 2 facilities to accommodate the transit stops, as outlined by the OKC Bike Standards dated November 4, 2020. As seen in **Figure 13** below, all four corridors overlap with Embark Bus routes.

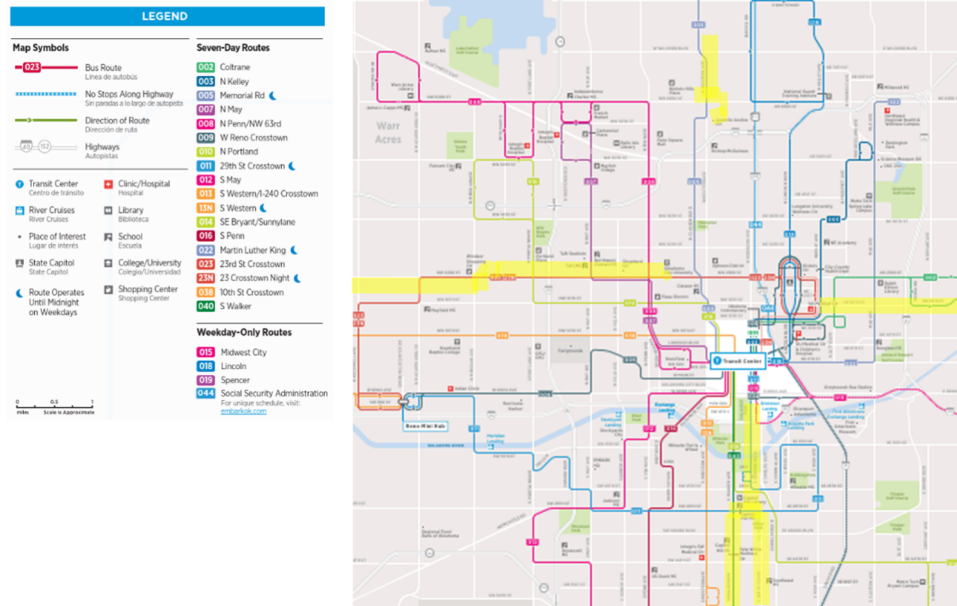


Figure 13: Embark Bus Route Overlap

Figure 14 below displays an example of a near side transit stop as detailed in the design standards. Near side transit stops are located on the approach side of intersection.

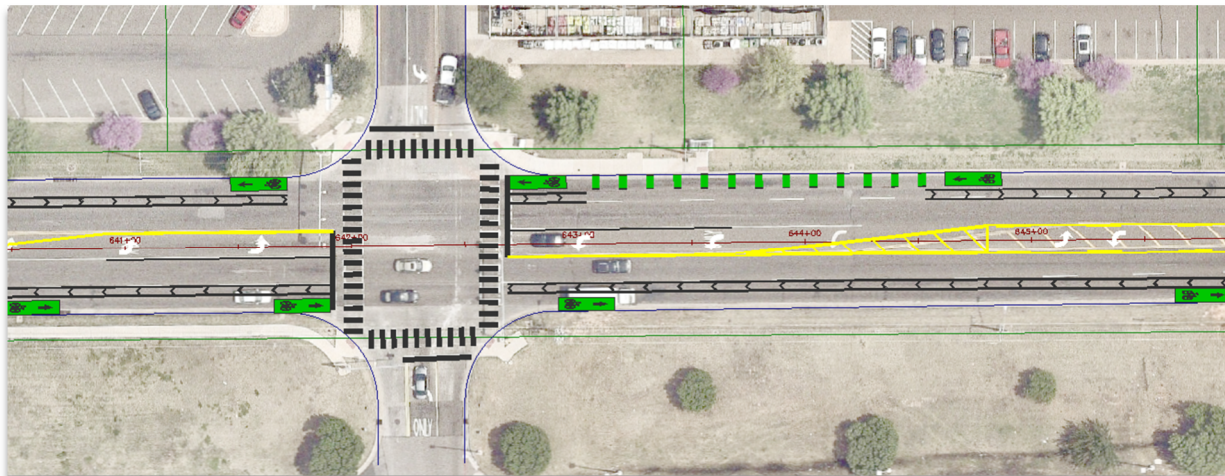


Figure 14: Near Side Transit Stop

Far side transit stops, as detailed in the design standards, are located on the departure side of intersections. An example of a typical far side transit stop is shown below in **Figure 15**.



Figure 15: Far Side Transit Stop

For transit stops located adjacent to parallel parking, a special design consideration may be appropriate. **Figure 16** details a bus pull-out option that could be used along the NW 4th Street corridor.

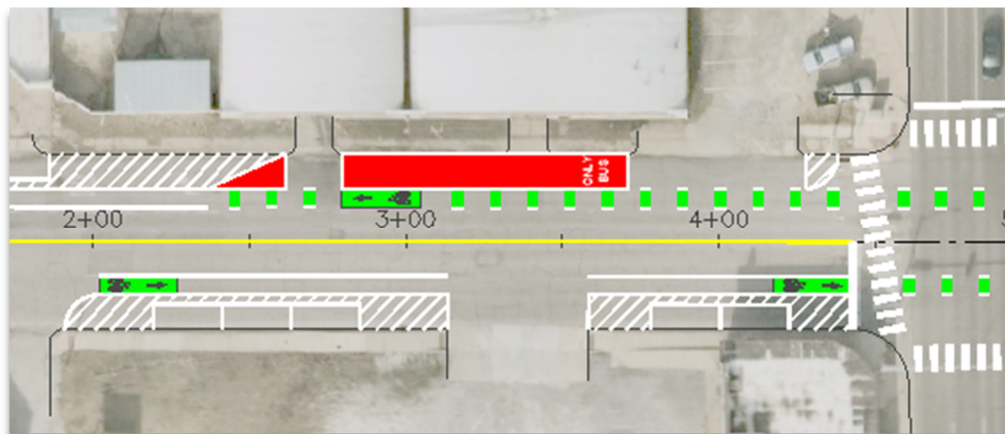


Figure 16: Example Bus Pull-Out

4.4.4 Utilities and Right-of-Way

Oklahoma City owned utilities were obtained from an open records request. GIS files were provided from the City and referenced into the plans. Traffic signal pole foundations will be the only potential impact to utilities for the project.

Right-of-Way lines referenced in the plans are from the Oklahoma City Open Data Portal. All proposed improvements are in locations where existing pavement markings, signage, and traffic signal poles currently exist, there are no anticipated right-of-way needs for this project.

Coordination will be required between the City and the City of Bethany for the section of the west corridor from N Glade Ave to N Peniel Ave as the streets are on the boundaries of the two cities.

5.0 30% Preliminary Plans

5.1 Develop Basefiles

During Task 1A, existing base files were created using CAD software to aid in the design of the bike facilities. The base files include existing curb lines, roadway center lines, and driveways using high-resolution georeferenced aerial photographs. Curb Lines were traced on the high-resolution aerials and field reviewed for accuracy.

For Task 1B, the base files were updated and confirmed based on an additional field review of the existing corridors and comments from 15% conceptual design plans.

5.2 General Design Considerations

Bike lanes were designed according to the design standards from the City dated November 4, 2020. Apart from the guidance provided in the design standards, experience with previous bike lane projects was applied to the design of these corridors as well as national reference manuals like the 2nd Edition of the *Urban Bikeway Design* by the National Association of City Transportation Officials (NAACTO).

5.3 Highway and Interstate Crossing Design

Bike facilities are highly complex to design for many reasons. This is especially true at unique locations like highway/interstate crossing locations. The following sections address how the corridors are proposed to address these crossings to provide a comfortable facility for cyclists.

5.3.1 I-40 Westbound Off Ramp at S Robinson Ave

The existing S Robinson Avenue cross section over I-40 is a four-lane cross section with a gore buffer dividing the northbound and southbound lanes. S Robinson Avenue is designated as a Tier 1 facility in bikewalkokc. The proposed cross section is a Tier 1 facility with a two-lane cross section with designated bike lanes, as detailed in **Figure 17** below.

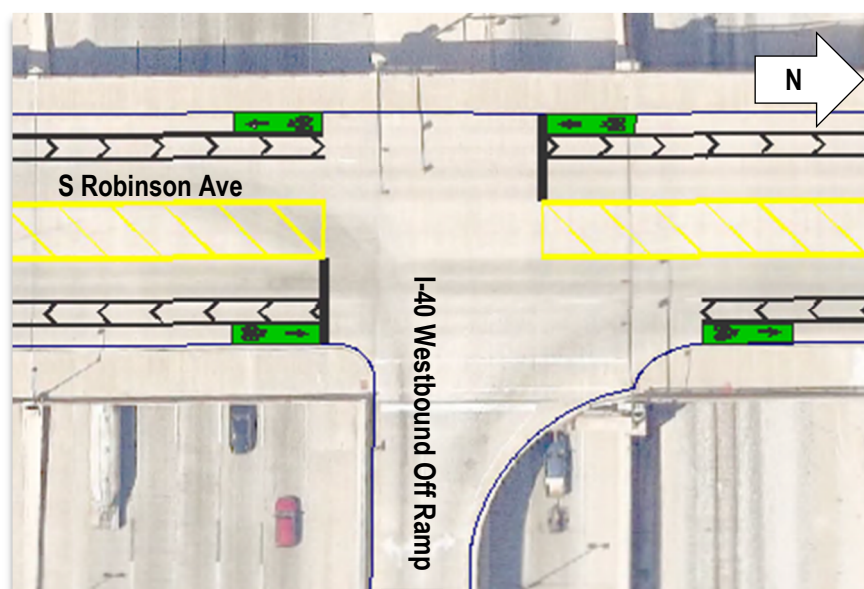


Figure 17: I-40 and S Robinson Interchange

5.3.2 I-240 at S Santa Fe Ave

Near the existing I-240 at S Santa Fe Avenue interchange, Santa Fe Avenue is currently a five-lane cross section both north and south of the interchange. At the I-240 underpass, S Santa Fe Avenue is a six-lane cross section with two through lanes and a left turn lane in both the north and south directions. S Santa Fe Ave is designated as a Tier 1 facility in bikewalkokc. Due to the traffic analysis, a lane reduction to accommodate a dedicated bike lane is not feasible. As such, the proposed cross section is a Tier 3 facility and maintains the existing lane geometry using shared bike lanes, as shown in **Figure 18** below. Another alternative is the usage of an off-street sidewalk/trail to traverse cyclist through the interchange off street. Due to the existing bridge structures and existing u-turn channelizing island size, a narrow sidewalk would be the only off-street facility possible without modifying the existing I-240 bridge structure.

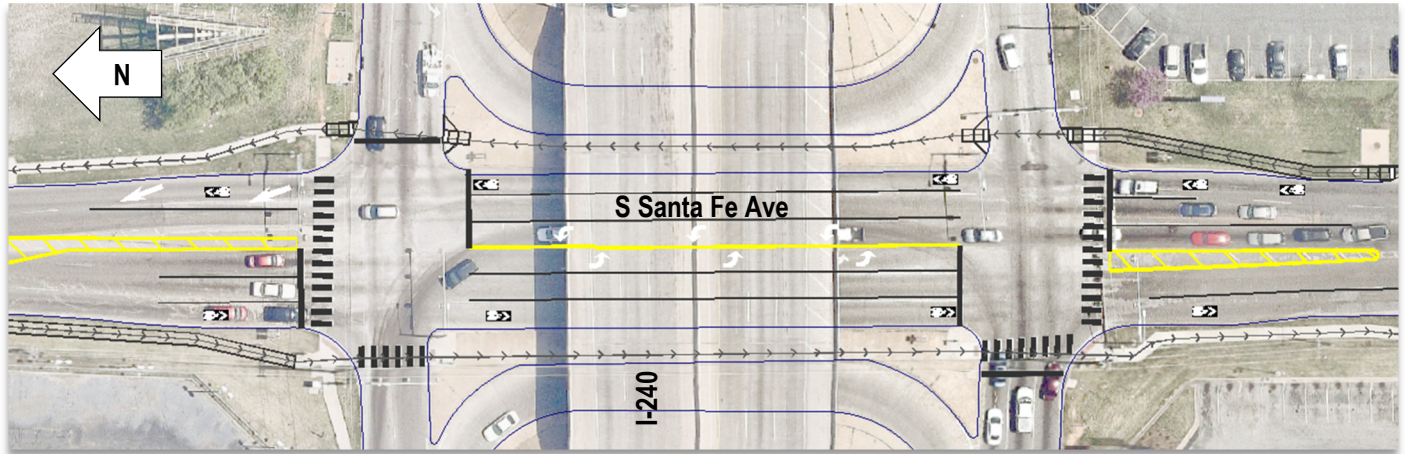


Figure 18: I-240 at S Santa Fe Ave Interchange

5.3.4 I-35 at NE 16th St

Near the existing I-35 at NE 16th Street interchange, NE 16th Street is currently a three-lane cross section on the east and west sides of the interchange. At the I-35 overpass, NE 16th Street is a four-lane cross section with a dedicated through lane and left turn lane in both the eastbound and westbound directions. NE 16th Street is designated as a Tier 2 facility in bikewalkokc. The proposed cross section is a Tier 3 facility to maintain the existing geometry and traffic operations through the interchange. This is shown in **Figure 20** below.

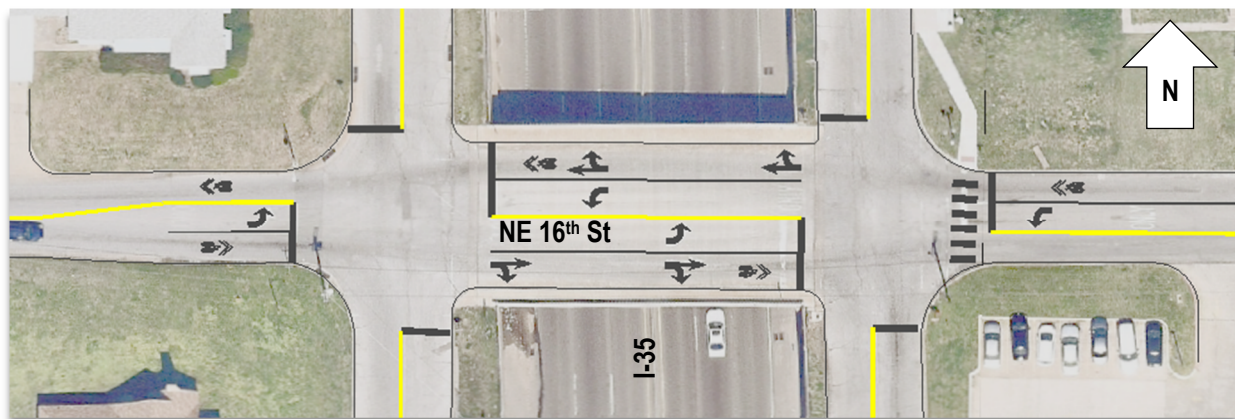


Figure 20: I-35 at NE 16th St Interchange

5.4 On-Street Parking

Portions of the west corridor along NW 19th Street currently allow on-street parking. The proposed cross section along NW 19th Street will eliminate the on-street parking due to the proposed bike lanes, which is consistent with bikewalkokc. This proposed on-street parking reduction is from NW 20th Street to Youngs Boulevard along NW 19th Street. The length of parking reduction is approximately 2.6 miles. This will require further discussions during preliminary and final design with the local property owners and stakeholders. **Figure 21** below displays an example of a typical cross section of a buffered bike lane along NW 19th St.



Figure 21: On-Street Parking Reduction Along NW 19th St

5.5 Detection

Along the proposed bike routes, four different types of traffic signal vehicular detection equipment exist at the signalized intersections. The different types of detection are the following:

- In Pavement Induction Loop Detection
- Thermal Detection (FLIR)
- Video Detection
- Radar Detection (Wavetronix)

Table 6 summarizes the quantity of the different types of detection along the corridors.

The proposed bike lane improvements will alter the existing lane geometry at some of the signalized intersections to accommodate protected bike lanes. Not all traffic signal detection can be adjusted with lane geometry modifications or can be used to detect cyclist. For example, the existing in pavement induction loops will not likely be able to detect cyclists, especially if the cyclist is riding a bike made from a nonferrous material. It is recommended to replace all existing detection that is not Radar detection, to meet the current City standards and properly detect cyclists. However, due to project budget constraints, it is proposed to only replace the Induction Loop Detection that will not be compatible with the proposed intersection lane geometry. An illustration of how converting a four-lane roadway to a three-lane roadway with bike lanes can impact the placement of the Induction Loop equipment. **Table 7** summarizes the number of proposed detection upgrades that will be required by project corridor. This cost has been included in the construction cost estimate.

5.6 Mast Arm Length

The previously mentioned changes to the existing lane geometry will also impact the existing traffic signal pole/mast arms as well as the traffic signal heads. Some traffic signal heads can be adjusted on the mast arm to re-center them over the travel lanes. Other intersections will require the existing pole/mast arm to be extended if possible or replaced. This will allow the proposed traffic signal heads to be within the line of sight of the proposed intersection lane geometry. This cost has been included in the construction cost estimate. **Table 8** below details the number of pole and mast arm upgrades required along each corridor to accommodate the proposed intersection lane geometry. The proposed upgrade location locations are located below:

- S Robinson Ave at SW 23rd St
- S Robinson Ave at SW 25th St/Commerce
- S Santa Fe Ave at SW 83rd St/Springfield Dr
- S Santa Fe Ave at SW 89th St

Table 6: Existing Detection

Corridor	Loop	Thermal	Video	Radar
North	10	4	0	1
West	1	2	0	3
East	1	1	0	0
South	13	1	1	9

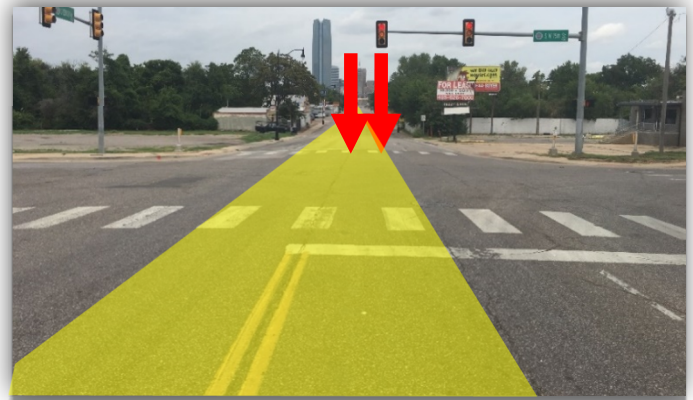


Figure 22: I-35 at NE 16th St Interchange

Table 7: Proposed Detection Upgrades

Corridor	Rec. Radar Detection	Req. Radar Detection
North	10	2
West	1	1
East	1	0
South	13	7
Total	25	10

Table 8: Pole and Mast Arm Replacements

	North	South	East	West
New Traffic Signal Pole and Mast Arm Assemblies by Corridor	0	5	0	0

6.0 Typical Roadway Cross Sections

The existing roadway width from face-of-curb to face-of-curb varies throughout each of the corridors under design as part of the Crosstown connection outlined in bikewalkokc. The proposed preliminary design plans in **Appendix A** addresses and accommodates these variations. However, this section illustrates the most common proposed cross sections for a typical roadway within each design corridor.

The following general bike lane and buffer design preferences were discussed and decided upon with the City:

- 9' of usable space – 3' wide buffer, 6' wide bike lane
- 8' of usable space – 3' wide buffer, 5' wide bike lane
- 7' of usable space (12' travel lane) – no buffer, 7' wide bike lane
- 7' of usable space (11' travel lane) – 2' wide buffer, 5' wide bike lane

6.1 Typical Cross Sections

The sections below detail some of the standard approaches that were applied to the linear corridors in this project.

6.1.1 North Corridor

Typical dimensions for the divided cross section along N Classen Blvd from W Britton Rd to NW 63rd St is a 12' travel lane, 3' buffer with delineators, and a 7' buffered bike lane.

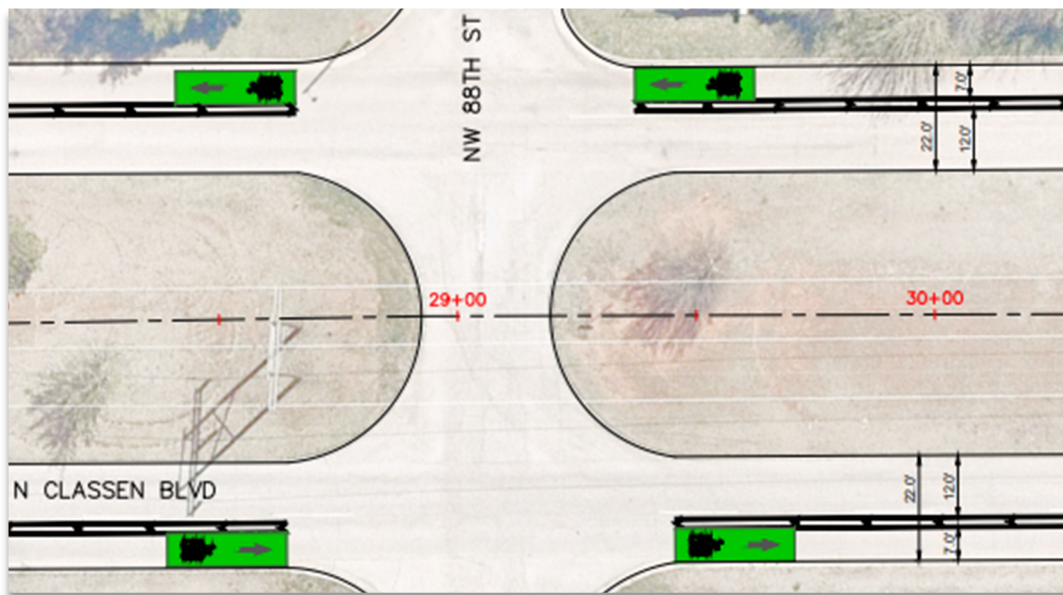


Figure 23: North Corridor Divided Cross Section

6.1.2 South Corridor

Typical dimensions for the section of bike facilities along S Robinson Ave from SE 17th St to SW 36th St is a 5' buffered bike lane, 2' buffer with delineators, 11' travel lanes, and a 12' two-way left turn lane.

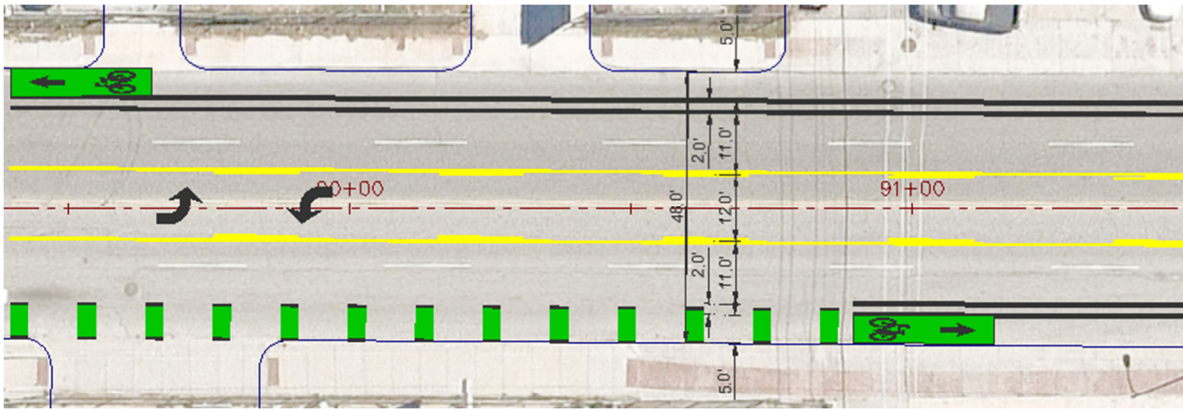


Figure 24: South Corridor - S Robinson Ave Cross Section

Along the S Santa Fe Avenue corridor, cross sections from 22' to 30' in width are proposed to have shared bike lane facilities with equal width travel lanes.



Figure 25: South Corridor - 22-30' Cross Section

Typical dimensions for the wider section of S Santa Fe Avenue with widths ranging from 48-50' are 11' travel/turn lanes, 12' two-way left turn lane, 2-3' buffer with delineators, and 5' bike lanes.

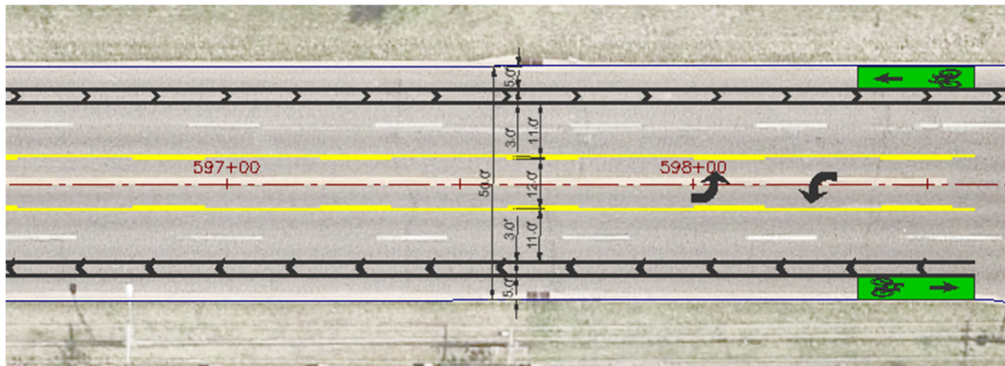


Figure 26: South Corridor - 48-50' Cross Section

Typical cross sections along S Walker Ave that are 44' wide have the dimensions of 11' travel lanes with shared lane bike pavement markings.

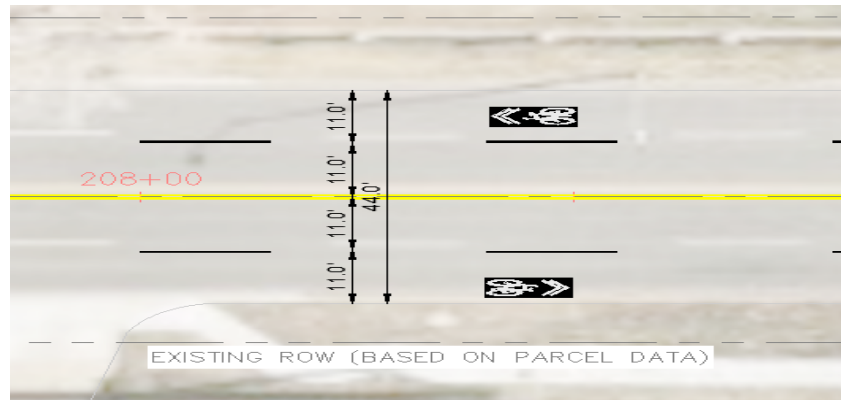


Figure 27: South Corridor - 44' Cross Section

6.1.3 East Corridor

Typical dimensions for the wider portions of the east corridor along sections of NE 16th Street with an approximate roadway width of 32' is 11' travel lanes, and 5' bike lanes.

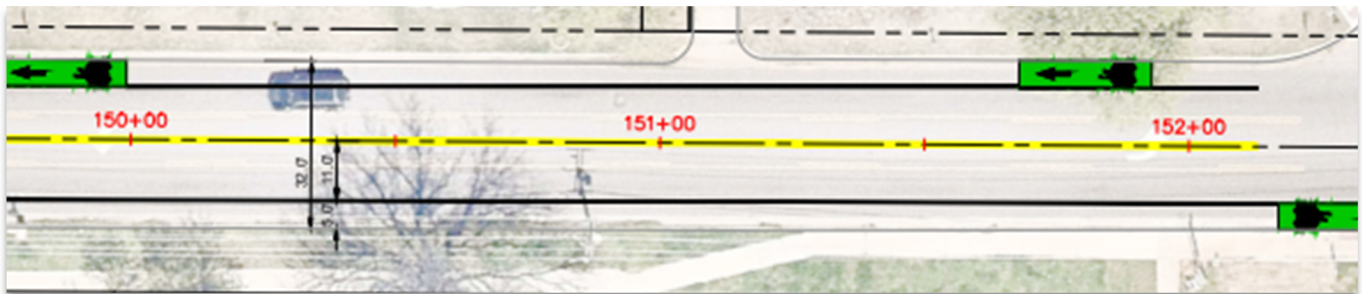


Figure 28: East Corridor - 32' Cross Section

6.1.4 West Corridor

Typical dimensions for the divided cross section along NW 19th Street from N Warren Avenue to N Young Boulevard is 11' travel lanes, 2' buffers with delineators, and 6' buffered bike lanes.



Figure 29: West Corridor Divided Cross Section

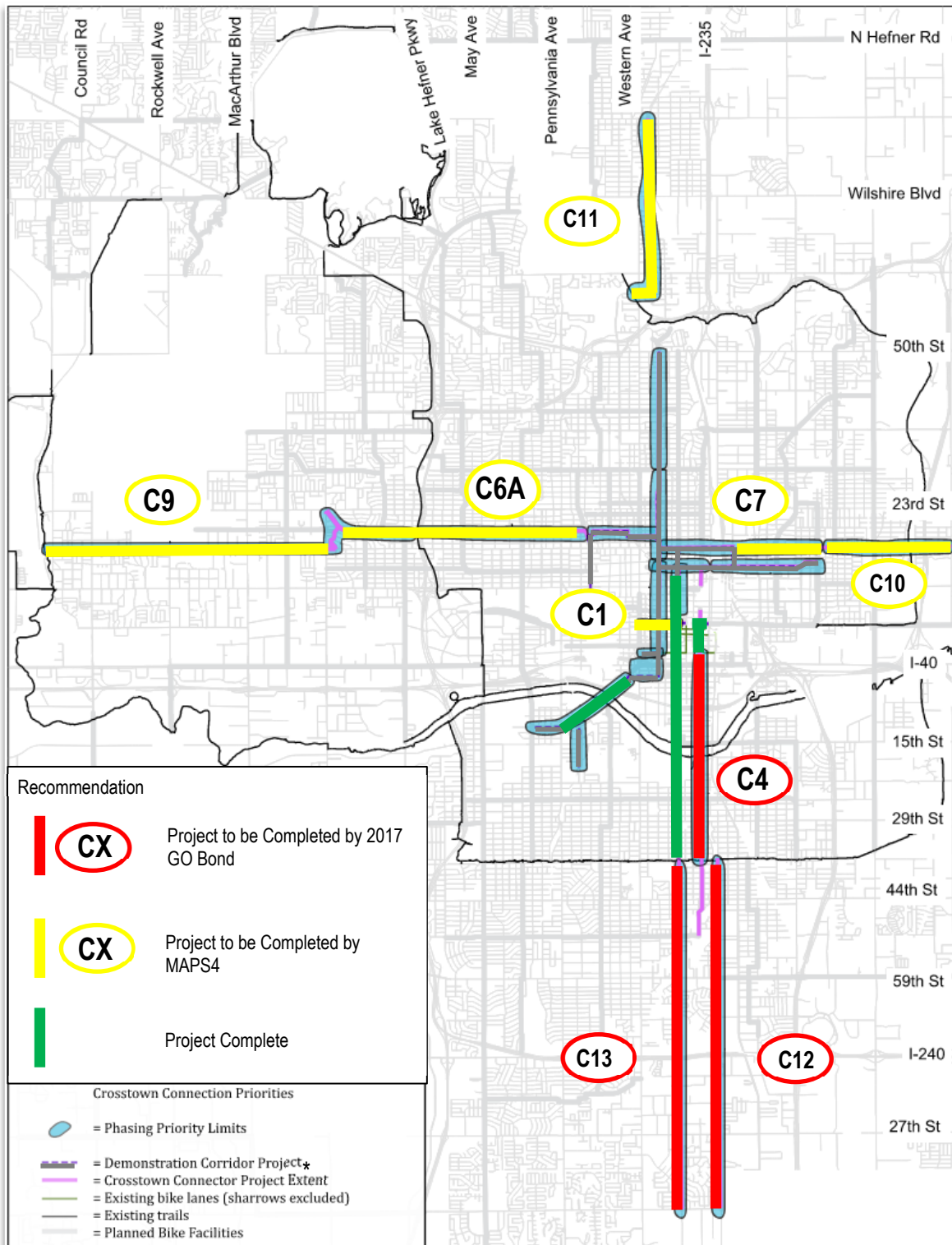
7.0 Cost Estimate and Project Prioritization

7.1 Opinion of Probable Construction Cost

The intent of this Task 1B for PC-0616 is to evaluate the proposed facilities along the project corridors to determine the proposed Tier facility/cross section, challenges, and planning level construction cost estimates. **Table 9** below illustrates the Opinion of Probable Construction Cost (OPCC) for the proposed on-street bike facility improvements by each benefit area. The OPCC is based on available bid tabulations in the area, recent on-call bike facility construction contract (MC-0652), on-call traffic signal construction/modification contract (TC-0470), as well as previous experience with corridor improvements similar to the proposed facilities. Due to the OPCC exceeding the fixed limit of construction budget, Oklahoma City Planning staff prioritized segments of the project for implementation. **The areas listed below will be designed, but the intent is to build only the priority projects that fit within the \$2,520,000 via the 2017 GO Bond funded fixed limit of construction.** The OPCCs below are broken down by priority area, and the proposed priority map is shown on the following page. A detailed OPCC can be referenced in the appendix, the quantities are estimated based on the conceptual corridor design plans in **Appendix A**.

Table 9: Cost Estimate				
Project Number	Priority Area	Project Location	Average Daily Traffic (Veh/Day)	Opinion of Probable Construction Cost Estimate
PC-0616	South Corridor			\$4,776,000
	Priority Area C4	S Robinson Ave - W Sheridan Ave to SW 36th St	6,983	\$1,433,000
	Priority Area C12	S Santa Fe Ave - SW 36th St to SW 104th St	12,006	\$2,297,000
	Priority Area C13	S Walker Ave - SW 36th St to SW 104th St	10,300	\$1,046,000
Total of Corridors				\$4,776,000

Fixed Limit of Construction - \$2,520,000



*Note: Watch for Me Demonstration Corridors are currently being designed and constructed by others.

Figure 30: Crosstown Connection Priorities

7.2 Prioritization

The proposed fixed limit of construction for the initial phase of this project is **\$2,520,000**. Due to the budget constraints only, a portion of the Crosstown Connection can be constructed now. The provided prioritization will allow the following segments to be constructed initially.

- Segment C4 – S Robinson Ave, W Sheridan Ave to SW 36th St = \$ 1,433,000
- Segment C12 – S Santa Fe Ave, SW 36th St to SW 104th St = \$ 2,297,000
- Segment C13 – S Walker Ave, SW 36th St to SW 104th St = \$ 1,046,000
- Total = \$ 4,776,000

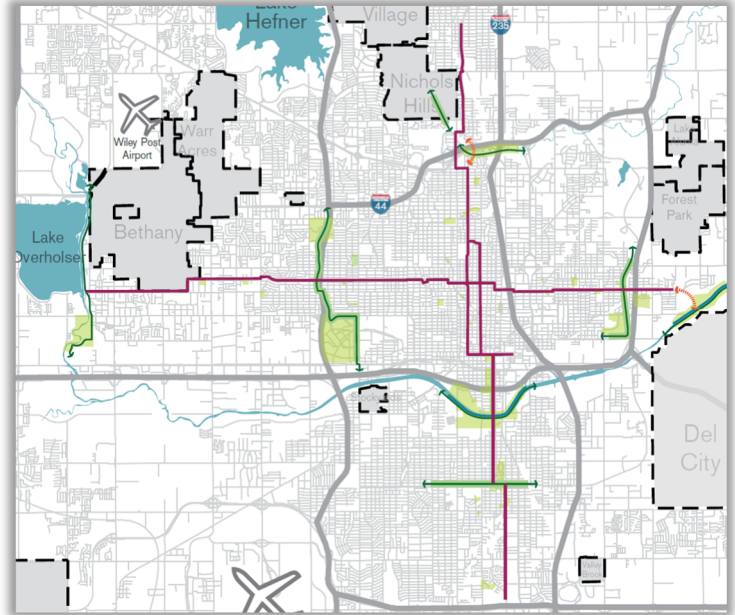
8.0 Conclusion

8.1 Scope

With the adoption of the bikewalkokc, Oklahoma City has a comprehensive masterplan that is guiding the implementation of bicycle facilities throughout the City. As part of this document, a bicycle facility connection running north/south and east/west was proposed called the Crosstown connection. This facility is proposed to connect many parks and amenities to trails and the downtown area via an on-street facility.

The intent of Task 1A of the PC-0616 Street Enhancement project was to perform the preliminary analysis, conceptual design, and cost estimates for approximately 11 miles of bike facilities throughout Oklahoma City. These on-street bike facilities are to consist of a mix of Tier 1,2 and 3 on-street bike facilities (from shared lanes to buffered bike lanes).

Task 1B of the PC-0616 Street Enhancement project builds on Task 1A. The intent of this task is to perform the preliminary design field review, confirm base files, revised intersection level of service (LOS) analysis, and prepare preliminary plans. The extents of this project are consistent with the Crosstown Connection outlined in bikewalkokc.



Excerpt from bikewalkokc

Figure 31: Project Corridors

The corridors outlined in this report:

- **South Corridor 1** - Along S Robinson Avenue/S Santa Fe Avenue from W Sheridan Avenue to SW 104th Street
- **South Corridor 2** – Along S Walker Avenue from SW 3th Street to SW 104th Street

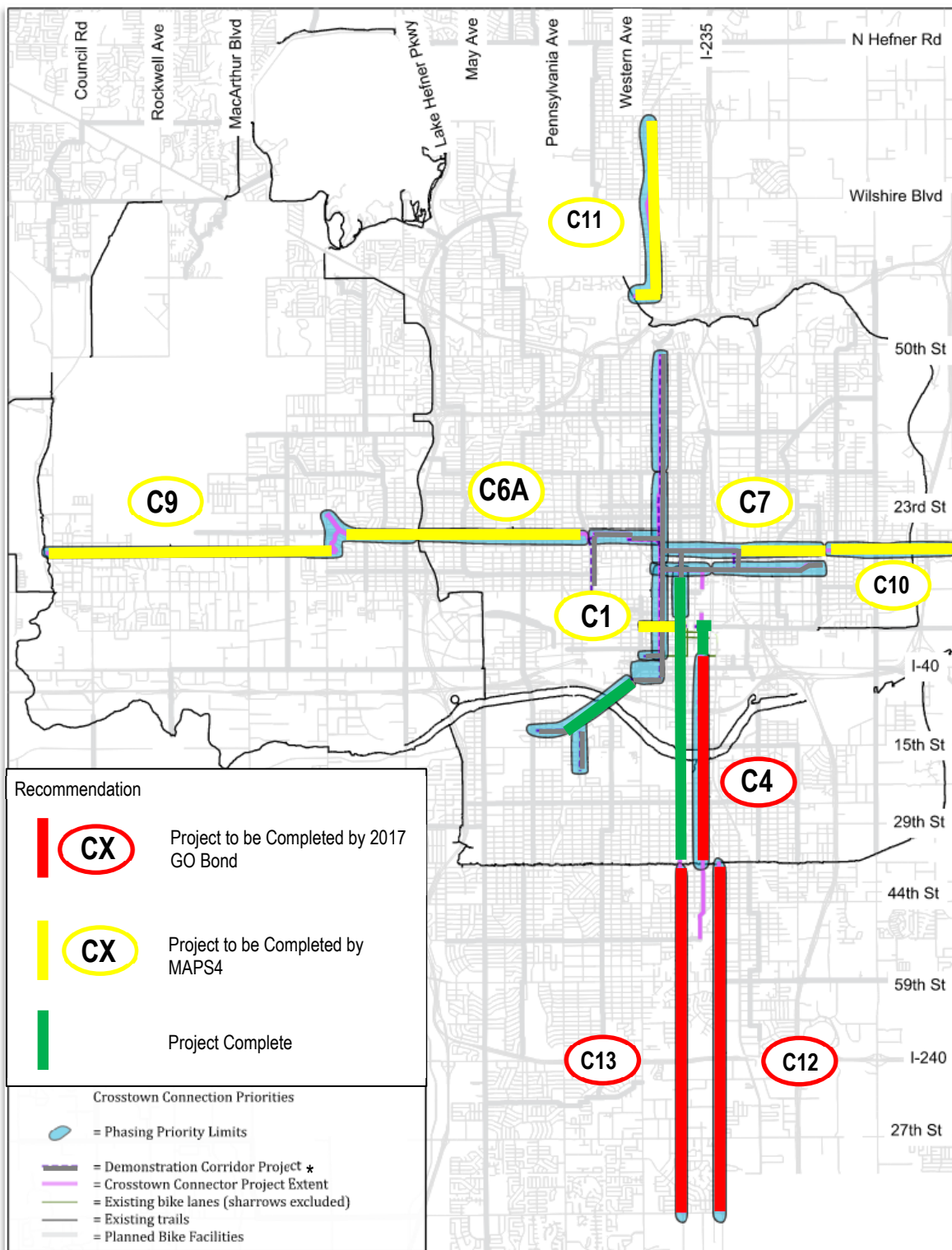
These corridors are depicted in **Figure 31**.

8.2 Budget

The intent of this Task 1B for PC-0616 is to evaluate the proposed facilities along the project corridors to determine the proposed Tier facility/cross section, challenges, and planning level construction cost estimates. **Table 10** below illustrates the Opinion of Probable Construction Cost (OPCC) for the proposed on-street bike facility improvements by each benefit area. The OPCC is based on available bid tabulations in the area, recent on-call bike facility construction contract (MC-0652), on-call traffic signal construction/modification contract (TC-0470), as well as previous experience with corridor improvements similar to the proposed facilities. Due to the OPCC exceeding the fixed limit of construction budget, Oklahoma City Planning staff prioritized segments of the project for implementation. **The areas listed below will be designed, but the intent is to build only the high priority projects that fit within the \$2,520,000 via the 2017 GO Bond funded fixed limit of construction.** The OPCCs below are broken down by priority area, and the proposed priority map is shown on the following page. A detailed OPCC can be referenced in the appendix, the quantities are estimated based on the conceptual corridor design plans in **Appendix A**.

Table 10: Cost Estimate				
Project Number	Priority Area	Project Location	Average Daily Traffic (Veh/Day)	Opinion of Probable Construction Cost Estimate
PC-0616	South Corridor			\$4,776,000
	Priority Area C4	S Robinson Ave - W Sheridan Ave to SW 36th St	6,983	\$1,433,000
	Priority Area C12	S Santa Fe Ave - SW 36 th St to SW 104 th St	12,006	\$2,297,000
	Priority Area C13	S Walker Ave - SW 36 th St to SW 104 th St	10,300	\$1,046,000
Total of Corridors				\$4,776,000

Fixed Limit of Construction - \$2,520,000



*Note: Watch for Me Demonstration Corridors are currently being designed and constructed by others.

Figure 32: Crosstown Connection Priorities

8.3 Schedule

Kimley-Horn anticipates submitting the 60% design plans by Spring of 2024 and construction starting in 2025. The following schedule is estimated for the design and construction of this project.

Project Schedule	January	February	March	April	May	June	July	August	September	October	November	December	January	Q1	Q2	Q3	Q4	2026
	2024												2025				2026	
Key Task Name	6	7	8	9	10	11	12	13	14	15	16	17	18	19-21	22-24	25-27	28-30	31-33
A - Design																		
1. 30% PER Approval																		
2. 60% Design Plans																		
3. Plan Review																		
4. 90% Design Plans																		
5. Plan Review																		
6. 100% Plan Submittal and Approval																		
B - Construction - Priority Projects																		
1. Advertisement, Bidding, and Award																		
2. Construction																		
3. Project Close Out																		

Updated: 12/20/2023

8.4 Recommendation

The proposed fixed limit of construction for the initial phase of this project is **\$2,520,000**. Due to the budget constraints only, a portion of the Crosstown Connection can be constructed now. The provided prioritization will allow the following segments to be constructed initially.

- Segment C4 = \$ 1,433,000
- Segment C12 = \$ 2,297,000
- Segment C13 = \$ 1,046,000
- Total = \$ 4,776,000

As further funding is available, it is recommended to continue constructing the projects in the proposed order. In the meantime, it would be beneficial to design the entirety of the crosstown connection as to be ready when funding is available.

Appendix A: Corridor Design Concept Plans

Appendix B: Traffic Counts

Leg	N Classen Boulevard						Chesapeake Drive						N Classen Boulevard						Int Total
Direction	Southbound						Northbound						Eastbound						
Start Time	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	11	25	0	36	0	0	11	7	2	20	0	0	4	1	0	5	0	0	61
2019-11-20 07:15:00	4	23	0	27	0	1	11	9	2	22	0	0	2	1	0	3	0	0	52
2019-11-20 07:30:00	4	31	0	35	4	5	14	8	1	23	0	0	0	2	0	2	0	0	60
2019-11-20 07:45:00	3	41	0	44	6	10	30	12	3	45	0	0	0	2	0	2	0	1	91
2019-11-20 08:00:00	1	32	1	34	6	7	25	1	0	26	1	0	0	0	0	0	1	0	60
2019-11-20 08:15:00	2	20	0	22	7	7	13	2	1	16	0	0	0	0	0	0	1	0	38
2019-11-20 08:30:00	1	15	0	16	0	1	11	6	2	19	0	0	1	0	0	1	0	0	36
2019-11-20 08:45:00	2	15	0	17	4	9	9	0	0	9	0	0	0	0	0	0	4	1	26
2019-11-20 16:00:00	0	9	0	9	4	2	17	0	1	18	0	0	0	2	0	2	0	0	29
2019-11-20 16:15:00	0	18	0	18	0	2	33	2	5	40	0	0	1	4	0	5	1	1	63
2019-11-20 16:30:00	0	29	0	29	1	0	42	0	2	44	0	0	5	11	0	16	0	0	89
2019-11-20 16:45:00	0	17	0	17	1	0	45	2	4	51	0	0	1	6	0	7	0	2	75
2019-11-20 17:00:00	2	46	0	48	0	0	73	2	5	80	0	0	4	6	0	10	1	1	138
2019-11-20 17:15:00	2	32	0	34	0	0	75	4	4	83	0	0	1	3	0	4	0	0	121
2019-11-20 17:30:00	2	23	0	25	0	0	60	1	2	63	0	0	4	2	0	6	0	0	94
2019-11-20 17:45:00	5	16	0	21	0	0	46	5	6	57	0	0	6	1	0	7	0	0	85

Leg	N Western Avenue						NW Grand Boulevard						N Western Avenue						NW Grand Boulevard						Int Total			
Direction	Southbound						Westbound						Northbound						Eastbound									
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	84	8	0	92	0	0	16	10	10	0	36	0	0	57	101	13	0	171	1	0	37	8	0	0	45	0	0	344
2019-11-20 07:15:00	131	5	0	136	0	0	14	15	15	0	44	0	0	64	132	7	0	203	0	3	34	20	0	0	54	0	0	437
2019-11-20 07:30:00	145	4	1	150	1	0	23	13	14	0	50	0	0	62	146	15	0	223	0	0	65	18	2	0	85	1	0	508
2019-11-20 07:45:00	162	6	2	170	0	0	20	23	31	0	74	0	0	91	183	31	0	305	0	0	80	32	0	0	112	0	0	661
2019-11-20 08:00:00	178	11	1	190	0	0	19	29	28	0	76	0	0	66	203	30	0	299	0	0	119	35	1	0	155	0	0	720
2019-11-20 08:15:00	179	12	1	192	0	0	21	26	26	0	73	0	0	55	180	39	0	274	0	0	92	23	0	0	115	0	0	654
2019-11-20 08:30:00	104	8	1	113	0	0	18	25	25	0	68	0	0	63	134	30	0	227	0	0	53	11	0	0	64	0	0	472
2019-11-20 08:45:00	103	4	0	107	0	0	14	27	28	0	69	0	0	44	117	20	0	181	0	0	50	13	2	0	65	0	0	422
2019-11-20 16:00:00	129	5	2	136	0	0	18	42	43	0	103	0	0	14	198	37	0	249	0	0	42	8	0	0	50	0	0	538
2019-11-20 16:15:00	139	2	4	145	0	0	18	23	37	0	78	0	0	22	241	50	0	313	0	0	53	7	0	0	60	0	0	596
2019-11-20 16:30:00	169	1	2	172	0	0	14	24	37	0	75	0	1	14	219	68	0	301	0	1	43	4	2	0	49	0	0	597
2019-11-20 16:45:00	166	1	1	168	0	0	16	33	42	0	91	0	0	28	242	64	0	334	0	0	62	9	1	0	72	0	0	665
2019-11-20 17:00:00	222	4	2	228	0	1	28	61	48	0	137	0	0	17	219	62	0	298	0	0	63	6	1	0	70	0	0	733
2019-11-20 17:15:00	182	3	4	189	0	0	23	59	41	0	123	0	0	20	274	64	0	358	0	0	74	11	0	0	85	0	0	755
2019-11-20 17:30:00	142	3	1	146	0	0	16	49	43	0	108	0	0	21	256	60	0	337	0	0	64	13	0	0	77	0	0	668
2019-11-20 17:45:00	155	6	2	163	0	0	13	33	35	0	81	0	0	28	232	68	0	328	0	0	50	10	1	0	61	0	0	633

Leg	NW Grand Boulevard							N Classen Boulevard							NW Grand Boulevard							N Classen Boulevard							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	11	42	10	0	63	0	0	1	23	0	0	24	0	0	0	20	3	0	23	0	0	5	23	4	0	32	0	0	142
2019-11-20 07:15:00	18	47	3	0	68	0	0	0	29	0	0	29	0	0	0	20	1	0	21	0	0	6	39	9	0	54	2	1	172
2019-11-20 07:30:00	33	71	4	0	108	0	0	3	40	1	0	44	0	0	0	23	1	0	24	0	0	8	52	15	0	75	0	0	251
2019-11-20 07:45:00	40	102	13	0	155	0	0	2	45	2	0	49	0	0	2	39	2	0	43	0	0	9	71	14	0	94	1	0	341
2019-11-20 08:00:00	36	156	11	0	203	0	0	2	43	3	0	48	0	0	1	44	6	0	51	0	0	14	44	23	0	81	0	0	383
2019-11-20 08:15:00	33	79	4	0	116	0	2	4	46	2	0	52	0	0	2	54	5	0	61	0	0	8	51	23	0	82	0	0	311
2019-11-20 08:30:00	31	68	6	0	105	1	1	3	33	1	1	38	0	0	1	49	6	0	56	0	0	5	39	14	0	58	0	0	257
2019-11-20 08:45:00	29	66	5	0	100	0	0	3	34	1	0	38	0	0	0	40	3	0	43	0	0	2	35	17	0	54	0	0	235
2019-11-20 16:00:00	27	42	1	0	70	0	0	7	42	3	0	52	0	0	9	66	7	0	82	0	0	6	59	62	0	127	0	0	331
2019-11-20 16:15:00	23	60	1	0	84	0	0	8	50	3	0	61	0	0	1	63	9	0	73	0	0	9	87	77	0	173	0	0	391
2019-11-20 16:30:00	29	42	2	0	73	0	0	10	61	3	0	74	0	0	3	88	9	0	100	0	0	7	81	59	0	147	0	0	394
2019-11-20 16:45:00	31	57	0	0	88	0	0	10	51	9	0	70	0	0	3	80	12	0	95	0	0	5	88	62	0	155	0	0	408
2019-11-20 17:00:00	40	55	3	0	98	0	0	23	76	7	0	106	0	0	2	100	19	0	121	0	0	12	115	78	0	205	0	0	530
2019-11-20 17:15:00	35	62	4	0	101	0	0	21	88	7	0	116	0	0	1	87	23	0	111	0	0	14	122	65	0	201	0	0	529
2019-11-20 17:30:00	36	50	4	0	90	0	0	14	66	10	0	90	0	0	4	86	15	0	105	0	0	11	96	72	0	179	0	0	464
2019-11-20 17:45:00	36	59	3	0	98	0	0	12	44	2	0	58	0	0	2	85	8	0	95	0	0	8	78	68	0	154	0	0	405

Leg	N Classen Boulevard							Driveway							Shopping Center DW							N Classen Boulevard							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	4	26	0	1	31	2	0	0	0	0	0	0	0	0	0	29	2	1	32	0	0	2	0	3	0	5	0	0	68
2019-11-20 07:15:00	4	49	0	0	53	2	2	0	0	0	0	0	0	0	0	65	4	2	71	0	0	5	0	3	0	8	0	0	132
2019-11-20 07:30:00	5	56	0	0	61	0	1	0	0	0	0	0	0	0	0	81	2	0	83	0	0	3	0	4	0	7	0	0	151
2019-11-20 07:45:00	8	77	0	5	90	0	1	0	0	0	0	0	0	0	0	118	4	1	123	0	0	5	0	6	0	11	0	0	224
2019-11-20 08:00:00	6	67	0	3	76	1	0	0	0	0	0	0	0	0	0	90	2	4	96	1	0	1	0	10	0	11	0	0	183
2019-11-20 08:15:00	6	62	1	0	69	0	1	0	0	0	0	0	0	0	0	80	5	1	86	0	0	3	0	4	0	7	0	0	162
2019-11-20 08:30:00	8	64	0	4	76	0	0	0	0	0	0	0	0	0	0	76	1	1	78	0	0	5	0	3	0	8	0	0	162
2019-11-20 08:45:00	6	49	0	1	56	0	3	0	0	0	0	0	0	0	1	64	2	3	70	0	0	4	0	5	0	9	0	0	135
2019-11-20 16:00:00	15	58	0	0	73	0	0	0	0	0	0	0	0	0	0	116	15	1	132	0	0	20	0	11	0	31	0	0	236
2019-11-20 16:15:00	20	66	0	2	87	0	0	0	0	0	0	0	0	0	0	146	11	1	158	0	0	17	0	15	0	32	0	0	277
2019-11-20 16:30:00	27	73	0	3	103	1	0	0	0	0	0	0	0	0	1	110	4	0	114	0	1	15	0	24	0	39	0	0	256
2019-11-20 16:45:00	21	78	0	1	100	0	0	0	0	0	0	0	0	0	0	155	15	3	173	0	0	16	0	7	0	23	0	0	296
2019-11-20 17:00:00	18	128	0	2	148	0	2	0	0	0	0	0	0	0	0	187	9	1	197	0	0	19	0	23	0	42	0	0	387
2019-11-20 17:15:00	29	125	0	0	154	0	0	0	0	0	0	0	0	0	0	183	13	2	198	0	1	19	0	17	0	36	0	0	388
2019-11-20 17:30:00	24	101	0	1	126	0	0	0	0	0	0	0	0	0	0	159	12	0	171	0	0	21	0	14	0	35	0	0	332
2019-11-20 17:45:00	16	72	0	0	88	0	3	0	0	0	0	0	0	0	0	140	13	0	153	0	0	12	0	13	0	25	0	0	266

Leg	N Classen Boulevard							NW 51st Street							N Classen Boulevard							NW 51st Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	30	3	0	33	0	0	0	0	0	0	0	0	0	0	41	3	0	44	1	0	10	2	2	0	14	0	0	91
2019-11-20 07:15:00	2	51	3	0	56	0	0	0	0	0	0	0	0	0	2	77	2	0	81	0	0	5	1	2	0	8	0	0	145
2019-11-20 07:30:00	1	67	5	0	73	0	0	0	0	0	0	0	0	0	1	89	6	0	96	0	0	8	1	4	0	13	0	0	182
2019-11-20 07:45:00	1	73	5	2	81	0	0	1	0	0	0	1	0	1	3	136	3	0	142	0	0	19	1	4	0	24	1	0	248
2019-11-20 08:00:00	2	59	0	0	61	0	0	0	0	0	0	0	0	0	2	104	1	0	107	0	0	10	1	7	0	18	1	0	186
2019-11-20 08:15:00	1	72	2	0	75	0	0	0	0	1	0	1	0	0	1	117	5	1	124	0	0	8	1	8	0	17	0	0	217
2019-11-20 08:30:00	4	69	1	0	74	0	0	0	0	0	0	0	1	0	1	81	9	0	91	0	0	7	0	8	0	15	0	0	180
2019-11-20 08:45:00	1	68	0	0	69	0	0	2	0	0	0	2	0	1	3	87	4	0	94	0	0	8	0	7	0	15	0	0	180
2019-11-20 16:00:00	2	109	1	0	112	0	0	2	0	0	0	2	0	0	0	172	5	2	179	0	0	3	0	3	0	6	0	0	299
2019-11-20 16:15:00	1	105	0	0	106	0	0	4	0	4	0	8	0	0	0	200	6	3	209	0	0	4	0	6	0	10	0	0	333
2019-11-20 16:30:00	5	105	0	0	110	0	0	2	0	6	0	8	0	0	0	169	3	3	175	0	0	11	0	4	0	15	2	0	308
2019-11-20 16:45:00	2	116	0	0	118	0	0	4	0	7	0	11	0	0	1	270	4	3	278	0	0	3	0	3	0	6	1	0	413
2019-11-20 17:00:00	1	153	0	0	154	0	0	9	1	5	0	15	0	0	2	220	8	2	232	0	0	4	0	3	0	7	0	0	408
2019-11-20 17:15:00	2	166	1	1	170	0	0	2	0	0	0	2	0	0	2	254	2	4	262	0	0	2	0	5	0	7	0	0	441
2019-11-20 17:30:00	6	151	2	0	159	0	0	4	0	2	0	6	0	0	2	228	3	3	236	0	0	0	1	5	0	6	0	0	407
2019-11-20 17:45:00	3	117	0	0	120	0	0	3	0	3	0	6	0	0	0	222	6	1	229	0	0	5	0	2	0	7	1	1	362

Leg	N Classen Boulevard							Driveway							N Classen Boulevard							Belle Isle Boulevard							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	3	25	0	1	29	0	0	0	0	0	0	0	0	0	0	29	16	0	45	0	0	9	0	3	0	12	0	0	86
2019-11-20 07:15:00	3	53	0	0	56	0	0	0	0	0	0	0	0	0	1	62	16	0	79	0	0	6	0	5	0	11	0	0	146
2019-11-20 07:30:00	1	57	1	1	60	0	0	0	1	0	0	1	0	0	2	70	15	0	87	0	0	12	1	10	0	23	0	0	171
2019-11-20 07:45:00	6	77	1	0	84	0	0	0	0	0	0	0	0	0	10	115	24	0	149	0	0	4	2	4	0	10	0	0	243
2019-11-20 08:00:00	13	55	1	0	69	0	0	2	0	0	0	2	0	0	3	81	27	0	111	0	0	6	0	10	0	16	0	0	198
2019-11-20 08:15:00	3	67	1	0	71	0	0	0	1	1	0	2	0	0	0	81	45	0	126	0	0	8	0	5	0	13	0	0	212
2019-11-20 08:30:00	8	61	0	0	69	0	0	2	0	3	0	5	0	0	0	69	21	0	90	0	0	10	0	9	0	19	0	0	183
2019-11-20 08:45:00	6	51	0	0	57	0	0	1	1	1	0	3	0	0	2	60	33	0	95	0	0	19	0	6	0	25	0	0	180
2019-11-20 16:00:00	8	68	0	0	76	0	0	1	0	1	0	2	0	0	1	124	52	0	177	0	0	48	0	13	0	61	0	0	316
2019-11-20 16:15:00	19	65	1	0	85	0	0	0	0	0	0	0	0	0	2	133	74	0	209	0	0	37	0	23	0	60	0	0	354
2019-11-20 16:30:00	18	70	0	0	88	0	0	1	1	1	0	3	0	0	3	99	76	1	179	0	0	38	0	16	0	54	0	0	324
2019-11-20 16:45:00	21	77	0	1	99	0	0	0	0	0	0	0	0	0	2	146	117	0	265	0	0	48	0	21	0	69	0	0	433
2019-11-20 17:00:00	26	112	0	0	138	0	0	2	1	4	0	7	0	0	0	170	75	0	245	0	0	45	0	28	0	73	0	0	463
2019-11-20 17:15:00	28	126	0	0	154	0	0	1	2	1	0	4	0	0	0	163	87	0	250	0	0	50	0	32	0	82	0	0	490
2019-11-20 17:30:00	15	105	0	0	120	0	0	0	0	1	0	1	0	0	1	162	84	0	247	0	0	38	0	21	0	59	0	0	427
2019-11-20 17:45:00	21	66	0	1	88	0	0	0	0	0	0	0	0	0	1	137	94	1	232	0	0	48	0	18	0	66	0	1	386

Leg	N Classen Circle						N Classen Boulevard						Northwest Express way						Int Total
Direction	Southbound						Westbound						Northbound						
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	0	4	0	4	0	0	0	8	0	8	0	0	1	35	0	36	0	0	48
2019-11-20 07:15:00	0	6	0	6	0	0	0	5	0	5	0	0	2	26	0	28	0	0	39
2019-11-20 07:30:00	0	9	0	9	0	0	0	9	0	9	0	0	0	45	0	45	0	0	63
2019-11-20 07:45:00	0	11	0	11	0	0	0	20	0	20	0	0	0	54	0	54	0	0	85
2019-11-20 08:00:00	1	16	0	17	0	0	0	15	0	15	0	0	2	44	0	46	0	0	78
2019-11-20 08:15:00	0	10	0	10	0	0	0	19	0	19	0	0	0	39	0	39	0	0	68
2019-11-20 08:30:00	0	8	0	8	0	0	0	6	0	6	0	0	2	45	0	47	0	0	61
2019-11-20 08:45:00	0	5	2	7	0	0	0	12	0	12	0	0	2	38	0	40	0	0	59
2019-11-20 16:00:00	1	2	0	3	0	0	1	37	0	38	0	0	3	79	0	82	0	0	123
2019-11-20 16:15:00	0	5	0	5	0	0	0	40	0	40	0	0	0	111	0	111	0	0	156
2019-11-20 16:30:00	0	12	0	12	0	0	1	63	0	64	0	0	1	107	0	108	0	0	184
2019-11-20 16:45:00	1	3	0	4	0	0	0	55	0	55	0	0	1	106	0	107	0	0	166
2019-11-20 17:00:00	0	8	0	8	0	0	0	54	0	54	0	0	1	79	0	80	0	0	142
2019-11-20 17:15:00	2	16	0	18	0	0	0	56	0	56	0	0	3	94	0	97	0	0	171
2019-11-20 17:30:00	0	12	0	12	0	0	0	48	0	48	0	0	2	86	0	88	0	0	148
2019-11-20 17:45:00	1	9	0	10	0	0	0	45	0	45	0	0	1	69	0	70	0	0	125

Leg	N MacArthur Boulevard							NW 16th Street							N MacArthur Boulevard							NW 16th Street						
Direction	Southbound							Westbound							Northbound							Eastbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Int Total	
2019-11-20 07:00:00	7	98	22	0	127	0	0	11	13	7	0	31	0	1	8	65	2	0	75	0	0	12	28	12	0	52	285	
2019-11-20 07:15:00	9	137	28	0	174	0	0	12	18	3	0	33	0	0	7	101	6	0	114	0	1	11	21	14	0	46	367	
2019-11-20 07:30:00	12	147	11	0	170	0	0	16	22	15	0	53	1	0	10	121	10	0	141	0	0	16	32	23	0	71	435	
2019-11-20 07:45:00	12	165	15	0	192	0	0	10	29	12	0	51	0	1	6	99	12	0	117	0	0	22	30	21	0	73	433	
2019-11-20 08:00:00	4	141	11	0	156	0	0	15	19	10	0	44	0	0	4	90	8	0	102	0	0	17	26	14	0	57	359	
2019-11-20 08:15:00	8	97	9	0	114	0	0	7	40	6	0	53	0	1	3	122	10	0	135	0	0	18	24	13	0	55	357	
2019-11-20 08:30:00	9	109	8	0	126	0	0	8	22	7	0	37	0	0	8	83	8	0	99	0	0	17	30	15	0	62	324	
2019-11-20 08:45:00	13	92	3	0	108	0	0	9	24	5	0	38	2	0	4	99	7	0	110	0	0	10	22	19	0	51	307	
2019-11-20 16:00:00	16	176	12	0	204	0	0	15	30	12	0	57	0	1	8	190	13	0	211	0	1	11	31	10	0	52	524	
2019-11-20 16:15:00	19	171	10	0	200	0	0	16	39	13	0	68	0	0	12	170	17	0	199	0	0	11	27	21	0	59	526	
2019-11-20 16:30:00	22	156	9	0	187	0	0	13	36	16	0	65	0	0	12	191	11	0	214	0	0	7	37	16	0	60	526	
2019-11-20 16:45:00	10	175	5	0	190	0	0	7	44	16	0	67	0	0	11	156	13	0	180	0	0	14	31	20	0	65	502	
2019-11-20 17:00:00	28	154	13	0	195	1	0	17	42	11	0	70	0	0	11	200	13	0	224	0	0	8	31	22	0	61	550	
2019-11-20 17:15:00	21	162	5	0	188	0	0	22	61	14	0	97	1	0	11	228	16	0	255	0	0	10	27	13	0	50	590	
2019-11-20 17:30:00	16	187	16	0	219	0	0	17	46	13	0	76	0	0	12	215	7	0	234	0	0	11	31	16	0	58	587	
2019-11-20 17:45:00	25	187	5	0	217	0	1	16	48	12	0	76	1	0	15	196	10	0	221	0	0	13	40	14	0	67	581	

Leg	N Lottie Avenue							NE 16th Street							N Lottie Avenue							NE 16th Street							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	0	71	6	0	77	0	0	16	3	11	0	30	0	0	4	19	2	0	25	0	0	1	4	0	0	5	0	0	137
2019-11-20 07:15:00	0	95	4	0	99	0	0	8	9	16	0	33	1	0	4	21	3	0	28	0	0	1	3	0	0	4	0	0	164
2019-11-20 07:30:00	1	94	7	1	103	0	0	14	10	18	0	42	0	0	6	34	0	0	40	0	0	1	2	1	0	4	0	0	189
2019-11-20 07:45:00	4	101	3	0	108	0	0	11	15	15	0	41	0	2	3	40	1	0	44	0	0	3	5	1	0	9	0	0	202
2019-11-20 08:00:00	2	69	8	0	79	0	0	10	11	14	0	35	0	0	5	33	2	0	40	1	0	3	2	0	0	5	2	1	159
2019-11-20 08:15:00	3	47	8	0	58	0	0	10	15	12	0	37	0	0	6	28	6	0	40	1	0	1	4	1	0	6	1	2	141
2019-11-20 08:30:00	2	48	5	0	55	0	0	11	8	11	0	30	0	1	6	20	3	0	29	0	0	1	3	1	0	5	2	0	119
2019-11-20 08:45:00	0	39	10	0	49	1	0	9	11	17	0	37	0	0	6	36	1	0	43	0	0	2	3	1	0	6	1	0	135
2019-11-20 16:00:00	1	52	21	0	74	1	0	24	3	7	0	34	1	1	20	100	1	0	121	1	0	6	14	0	0	20	1	4	249
2019-11-20 16:15:00	6	41	15	0	62	0	0	16	11	6	0	33	0	2	16	75	2	0	93	0	1	1	7	0	0	8	1	3	196
2019-11-20 16:30:00	2	42	17	0	61	0	0	18	5	10	0	33	0	0	23	89	1	0	113	0	1	5	15	0	0	20	1	1	227
2019-11-20 16:45:00	5	49	20	1	75	0	0	15	7	11	0	33	0	0	31	105	3	0	139	0	0	1	19	2	0	22	1	2	269
2019-11-20 17:00:00	8	52	14	0	74	0	0	14	5	9	0	28	0	1	27	89	0	0	116	0	0	1	13	0	0	14	3	3	232
2019-11-20 17:15:00	6	31	20	1	58	0	0	15	7	5	0	27	0	1	19	54	3	1	77	0	0	4	13	2	0	19	1	1	181
2019-11-20 17:30:00	2	29	14	0	45	0	1	9	9	8	0	26	0	4	9	44	1	1	55	0	0	2	8	2	0	12	1	2	138
2019-11-20 17:45:00	5	37	12	0	54	0	0	9	2	0	0	11	0	0	5	44	1	0	50	0	1	5	7	2	0	14	0	3	129

Leg	E Eastern Avenue							NE 16th Street							E Eastern Avenue							NE 16th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	12	49	0	0	61	0	0	6	7	3	0	16	1	0	0	76	5	0	81	0	0	11	4	3	0	18	0	0	176
2019-11-20:07:15:00	15	72	3	0	90	0	0	3	11	5	0	19	0	1	4	110	11	0	125	0	0	13	5	9	0	27	0	0	261
2019-11-20:07:30:00	19	83	4	0	106	0	1	5	10	2	0	17	0	0	0	103	14	0	117	0	0	13	5	15	0	33	0	0	273
2019-11-20:07:45:00	14	92	5	0	111	0	0	13	24	8	0	45	0	0	1	96	14	0	111	0	0	9	9	12	0	30	0	2	297
2019-11-20:08:00:00	12	66	4	0	82	0	0	8	11	3	0	22	0	0	2	86	9	0	97	0	0	11	6	8	0	25	0	2	226
2019-11-20:08:15:00	16	77	5	0	98	0	0	6	13	3	0	22	4	0	4	64	13	0	81	3	0	14	6	4	0	24	1	0	225
2019-11-20:08:30:00	8	88	1	0	97	0	1	6	8	3	0	17	0	0	4	75	5	0	84	0	0	18	6	7	0	31	1	2	229
2019-11-20:08:45:00	16	76	2	0	94	0	0	4	9	7	0	20	0	0	7	76	7	0	90	0	0	18	3	9	0	30	0	2	234
2019-11-20 16:00:00	15	133	11	0	159	0	0	7	7	10	0	24	0	6	10	122	16	0	148	0	0	26	20	22	0	68	3	0	399
2019-11-20 16:15:00	14	164	12	0	190	0	0	6	7	3	0	16	0	0	5	138	16	0	159	0	0	23	23	23	0	69	3	1	434
2019-11-20 16:30:00	14	150	10	0	174	0	0	6	9	3	0	18	0	0	2	123	19	0	144	1	0	19	22	29	0	70	0	1	406
2019-11-20 16:45:00	17	151	6	0	174	0	0	6	13	4	0	23	0	0	9	148	12	0	169	0	2	24	25	30	0	79	0	1	445
2019-11-20 17:00:00	17	182	13	0	212	0	0	12	15	1	0	28	0	0	4	189	12	0	205	0	0	25	29	30	0	84	0	0	529
2019-11-20 17:15:00	16	174	12	0	202	0	0	10	5	6	0	21	0	0	5	187	13	0	205	0	0	23	17	23	0	63	0	0	491
2019-11-20 17:30:00	24	144	14	0	182	0	0	7	4	2	0	13	0	0	11	160	9	0	180	0	0	18	15	18	0	51	0	0	426
2019-11-20 17:45:00	7	145	12	0	164	1	0	4	2	2	0	8	0	0	2	118	9	0	129	0	0	19	8	16	0	43	1	1	344

Leg	N Robinson Avenue							NW 18th Street							N Robinson Avenue							NW 18th Street							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	1	0	0	1	0	1	17
2019-11-20 07:15:00	0	13	2	0	15	0	0	0	2	0	0	2	0	0	0	5	0	0	5	0	1	1	3	2	0	6	0	0	28
2019-11-20 07:30:00	1	15	0	1	17	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	0	5	0	0	5	0	0	31
2019-11-20 07:45:00	1	29	2	0	32	0	0	0	0	0	0	0	0	0	2	9	0	0	11	0	0	0	3	3	0	6	0	0	49
2019-11-20 08:00:00	1	26	1	0	28	0	0	1	1	0	0	2	2	0	1	5	1	0	7	0	0	2	5	0	0	7	0	0	44
2019-11-20 08:15:00	0	22	1	0	23	0	0	0	0	1	0	1	0	0	3	3	0	0	6	0	0	2	3	0	0	5	0	0	35
2019-11-20 08:30:00	1	24	0	0	25	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	1	1	1	0	3	0	0	34
2019-11-20 08:45:00	1	18	0	0	19	0	0	0	0	0	0	0	0	0	1	4	0	0	5	0	0	1	0	2	0	3	1	0	27
2019-11-20 16:00:00	2	9	1	1	13	0	0	0	0	0	0	0	0	0	1	13	2	0	16	0	0	1	0	1	0	2	0	0	31
2019-11-20 16:15:00	2	12	2	0	16	0	0	0	1	0	0	1	1	0	0	13	1	0	14	0	0	0	0	3	0	3	0	0	34
2019-11-20 16:30:00	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	22	3	0	25	0	0	2	3	1	0	6	1	0	47
2019-11-20 16:45:00	1	14	0	0	15	0	0	1	0	1	0	2	0	0	0	19	2	0	21	0	0	0	1	1	0	2	0	0	40
2019-11-20 17:00:00	1	19	0	0	20	0	0	1	1	0	0	2	0	0	0	17	1	0	18	0	0	1	1	1	0	3	0	0	43
2019-11-20 17:15:00	1	23	0	0	24	0	0	0	1	0	0	1	0	0	0	14	1	0	15	0	0	1	0	0	0	1	0	1	41
2019-11-20 17:30:00	2	19	0	0	21	0	0	0	0	0	0	0	0	0	0	20	1	0	21	0	0	1	3	1	0	5	0	1	47
2019-11-20 17:45:00	0	16	3	1	20	0	0	0	0	0	0	0	1	0	1	12	0	0	13	0	0	0	2	1	0	3	0	0	36

Leg	NE Grand Boulevard SB							NE 16th Street							NE Grand Boulevard SB							NE 16th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	4	3	0	7	0	0	1	13	4	0	18	0	0	0	0	1	0	1	1	0	2	6	0	0	8	0	1	34
2019-11-20 07:15:00	0	3	1	0	4	0	0	2	16	9	0	27	0	0	0	0	1	0	1	0	0	3	9	2	0	14	0	0	46
2019-11-20 07:30:00	1	3	1	0	5	0	0	1	16	5	0	22	0	0	0	0	0	0	0	0	0	1	9	0	0	10	0	0	37
2019-11-20 07:45:00	3	3	3	0	9	0	0	3	31	1	0	35	0	0	2	2	1	0	5	0	0	5	15	0	0	20	0	0	69
2019-11-20 08:00:00	1	4	4	0	9	0	0	3	23	4	0	30	0	0	1	0	0	0	1	0	0	0	11	0	0	11	0	0	51
2019-11-20 08:15:00	0	4	5	0	9	0	1	2	20	0	0	22	0	0	0	1	1	0	2	0	0	4	14	1	0	19	1	0	52
2019-11-20 08:30:00	4	6	0	0	10	0	0	0	17	0	0	17	0	0	0	1	0	0	1	0	0	3	14	0	0	17	0	0	45
2019-11-20 08:45:00	4	5	4	0	13	0	0	1	14	1	0	16	0	0	0	0	3	0	3	0	0	0	18	1	0	19	0	0	51
2019-11-20 16:00:00	5	1	6	0	12	0	0	1	13	3	0	17	0	0	0	0	4	0	4	0	0	2	33	0	0	35	0	0	68
2019-11-20 16:15:00	3	6	2	0	11	1	0	5	19	1	0	25	0	0	1	0	2	0	3	0	1	2	40	3	0	45	0	0	84
2019-11-20 16:30:00	1	3	5	0	9	0	0	1	19	3	0	23	0	0	3	0	2	0	5	0	0	5	33	3	0	41	0	0	78
2019-11-20 16:45:00	4	3	7	0	14	1	0	3	25	0	0	28	0	0	1	1	4	0	6	0	0	7	46	2	0	55	0	0	103
2019-11-20 17:00:00	0	2	5	0	7	0	0	1	20	2	0	23	0	0	0	0	2	0	2	0	0	5	47	2	0	54	0	0	86
2019-11-20 17:15:00	4	1	1	0	6	0	0	4	21	0	0	25	0	1	2	2	3	0	7	0	0	10	48	1	0	59	0	0	97
2019-11-20 17:30:00	2	6	3	0	11	0	0	1	13	4	0	18	0	0	1	1	1	0	3	0	0	8	38	1	0	47	0	0	79
2019-11-20 17:45:00	0	7	4	0	11	0	0	3	22	1	0	26	0	0	2	2	1	0	5	0	0	3	26	0	0	29	0	0	71

Leg	NE Grand Boulevard							NE 16th Street							NE Grand Boulevard							NE 16th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	3	3	0	0	6	0	0	1	14	0	0	15	1	0	2	5	2	0	9	1	0	4	5	0	0	9	0	0	39
2019-11-20:07:15:00	7	1	1	0	9	0	0	0	11	2	0	13	0	0	3	2	8	0	13	0	0	0	6	3	0	9	0	0	44
2019-11-20:07:30:00	4	3	0	0	7	0	0	3	14	1	0	18	0	0	1	2	4	0	7	0	0	1	7	3	0	11	0	0	43
2019-11-20:07:45:00	1	4	1	0	6	0	0	2	28	3	0	33	0	0	0	8	7	0	15	1	1	3	11	7	0	21	0	0	75
2019-11-20:08:00:00	7	1	0	0	8	0	0	1	12	1	0	14	0	0	1	2	10	0	13	0	0	1	13	2	0	16	0	0	51
2019-11-20:08:15:00	1	0	0	0	1	0	1	0	16	2	0	18	0	1	2	6	6	0	14	1	0	2	16	1	0	19	0	0	52
2019-11-20:08:30:00	3	1	1	0	5	1	0	1	10	0	0	11	0	0	0	5	3	0	8	0	0	1	9	4	0	14	0	0	38
2019-11-20:08:45:00	2	1	1	0	4	0	0	1	10	0	0	11	0	0	4	7	4	0	15	0	0	2	15	5	0	22	0	1	52
2019-11-20:16:00:00	2	1	2	0	5	0	0	2	8	0	0	10	0	0	1	13	6	0	20	0	0	4	25	9	1	39	0	0	74
2019-11-20:16:15:00	3	1	0	0	4	1	0	0	13	0	0	13	0	0	3	26	10	0	39	0	1	1	34	8	0	43	0	0	99
2019-11-20:16:30:00	4	0	0	0	4	0	0	0	12	1	0	13	0	0	0	14	7	0	21	0	0	5	27	8	0	40	0	0	78
2019-11-20:16:45:00	2	2	0	0	4	1	0	1	14	0	0	15	0	0	1	35	12	0	48	0	0	3	37	13	0	53	0	0	120
2019-11-20:17:00:00	3	3	1	0	7	0	1	1	12	1	0	14	0	0	5	26	7	0	38	0	0	4	36	13	0	53	0	1	112
2019-11-20:17:15:00	3	1	2	0	6	0	0	0	13	0	0	13	0	0	2	28	10	0	40	0	0	1	37	13	0	51	0	0	110
2019-11-20:17:30:00	1	2	0	0	3	0	0	1	8	2	0	11	0	0	3	22	8	0	33	0	0	4	31	7	0	42	0	1	89
2019-11-20:17:45:00	0	5	1	0	6	0	0	1	11	1	0	13	0	0	3	34	15	0	52	0	0	3	17	12	0	32	0	0	103

Leg	N Shartel Avenue							NW 50th Street							N Shartel Avenue							NW 50th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	2	6	5	0	13	0	0	7	34	1	0	42	0	0	4	4	2	0	10	0	0	4	105	10	0	119	0	0	184
2019-11-20:07:15:00	1	4	5	0	10	1	0	8	54	4	0	66	1	0	6	7	4	0	17	0	0	6	151	9	0	166	0	0	259
2019-11-20:07:30:00	5	5	13	0	23	0	0	18	66	3	0	87	0	0	11	8	6	0	25	0	0	6	163	15	0	184	0	0	319
2019-11-20:07:45:00	8	7	13	0	28	0	0	22	81	8	0	111	0	0	11	11	12	0	34	0	0	11	180	11	0	202	0	0	375
2019-11-20:08:00:00	3	6	16	0	25	0	0	18	63	7	0	88	0	0	18	27	15	0	60	0	0	12	143	12	0	167	0	0	340
2019-11-20:08:15:00	7	6	24	0	37	0	0	22	87	6	0	115	0	0	13	25	20	0	58	0	0	3	127	22	0	152	1	0	362
2019-11-20:08:30:00	11	16	7	0	34	0	0	10	66	4	0	80	1	0	9	10	4	0	23	0	0	6	104	10	0	120	0	0	257
2019-11-20:08:45:00	8	5	10	0	23	0	0	12	54	3	0	69	0	0	9	7	6	0	22	0	0	5	92	9	0	106	0	0	220
2019-11-20 16:00:00	13	12	6	0	31	0	2	15	143	3	0	161	0	0	7	22	13	0	42	0	0	7	80	12	0	99	0	0	333
2019-11-20 16:15:00	14	10	15	0	39	0	0	18	126	2	0	146	0	0	6	22	8	0	36	0	0	5	84	14	0	103	0	0	324
2019-11-20 16:30:00	14	14	12	0	40	1	1	29	182	7	0	218	0	0	6	27	8	0	41	0	0	8	95	15	0	118	0	0	417
2019-11-20 16:45:00	9	7	14	0	30	0	1	42	162	7	0	211	0	0	6	28	12	0	46	0	0	11	108	18	0	137	0	0	424
2019-11-20 17:00:00	15	9	12	0	36	0	0	37	171	8	0	216	0	0	9	19	13	0	41	0	0	6	142	5	0	153	0	0	446
2019-11-20 17:15:00	4	8	7	0	19	1	0	46	155	9	0	210	0	0	6	40	10	0	56	0	0	11	136	8	0	155	0	0	440
2019-11-20 17:30:00	6	10	15	0	31	0	0	29	132	5	0	166	0	0	14	38	17	0	69	0	0	6	127	12	0	145	0	0	411
2019-11-20 17:45:00	8	3	13	0	24	2	2	19	148	7	0	174	0	0	3	18	15	0	36	0	0	6	91	8	0	105	0	0	339

Leg	N Western Avenue							NW 50th Avenue							N Western Avenue							NW 50th Avenue							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	1	42	72	0	115	1	0	17	9	8	0	34	0	0	11	50	0	0	61	0	0	1	38	3	0	42	0	0	252
2019-11-20 07:15:00	0	76	87	0	163	0	0	35	5	5	0	45	1	0	22	69	0	0	91	0	0	0	82	5	0	87	0	0	386
2019-11-20 07:30:00	1	104	92	0	197	0	0	52	8	8	0	68	0	0	26	113	0	0	139	0	0	5	73	1	0	79	0	0	483
2019-11-20 07:45:00	1	142	104	0	247	0	0	66	22	9	0	97	0	0	31	129	0	0	160	0	0	2	101	6	0	109	0	0	613
2019-11-20 08:00:00	2	133	111	0	246	0	0	65	13	5	0	83	0	0	18	131	0	0	149	0	0	9	83	6	0	98	0	0	576
2019-11-20 08:15:00	3	117	112	0	232	0	0	78	20	5	0	103	0	0	28	108	0	0	136	0	0	6	71	9	0	86	0	0	557
2019-11-20 08:30:00	4	81	73	0	158	0	0	60	9	19	0	88	0	0	10	90	0	0	100	0	0	3	43	2	0	48	0	0	394
2019-11-20 08:45:00	1	83	63	0	147	0	0	44	12	10	0	66	0	0	14	77	1	0	92	0	0	6	41	2	0	49	0	0	354
2019-11-20 16:00:00	0	100	42	0	142	0	1	124	22	21	0	167	0	0	12	153	4	0	169	1	1	8	44	4	0	56	1	1	534
2019-11-20 16:15:00	4	114	51	0	169	0	0	114	32	16	0	162	0	0	20	180	3	0	203	0	0	13	46	2	0	61	1	0	595
2019-11-20 16:30:00	2	119	71	0	192	1	0	124	45	19	0	188	1	0	12	157	2	0	171	0	0	7	40	1	0	48	0	0	599
2019-11-20 16:45:00	1	145	62	0	208	0	0	131	38	7	0	176	1	0	11	166	5	0	182	0	0	10	60	1	0	71	0	0	637
2019-11-20 17:00:00	6	146	68	0	220	0	0	116	40	10	0	166	0	0	13	156	9	1	179	0	0	10	75	9	0	94	0	0	659
2019-11-20 17:15:00	5	154	70	0	229	0	0	104	30	14	0	148	0	0	19	178	4	0	201	0	0	6	71	3	0	80	0	0	658
2019-11-20 17:30:00	4	148	86	0	238	0	0	106	34	16	0	156	2	0	14	168	3	0	185	0	0	9	57	4	0	70	0	0	649
2019-11-20 17:45:00	2	112	61	0	175	0	0	118	33	19	0	170	0	0	13	159	3	0	175	0	0	5	48	10	0	63	1	0	583

Leg	N Western Avenue						N Classen Boulevard						N Western Avenue						N Classen Boulevard						Int Total				
Direction	Southbound						Westbound						Northbound						Eastbound										
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20:07:00:00	16	86	8	0	110	0	0	2	6	4	0	12	0	0	27	89	0	0	116	0	0	4	16	13	0	33	1	0	271
2019-11-20:07:15:00	29	129	0	0	158	0	0	2	3	3	0	8	0	0	24	115	0	0	139	0	0	1	17	22	0	40	0	0	345
2019-11-20:07:30:00	38	163	5	0	206	0	0	4	4	2	0	10	0	0	31	145	2	0	178	0	0	2	25	29	0	56	0	0	450
2019-11-20:07:45:00	37	163	6	0	206	0	0	5	8	9	0	22	0	0	36	167	1	0	204	0	0	3	29	51	0	83	0	0	515
2019-11-20:08:00:00	40	202	7	0	249	0	0	3	7	5	0	15	1	0	32	184	2	0	218	0	0	5	27	28	0	60	0	0	542
2019-11-20:08:15:00	34	184	7	0	225	0	2	4	7	4	0	15	0	0	22	173	1	0	196	1	0	2	17	30	0	49	1	0	485
2019-11-20:08:30:00	29	104	14	0	147	0	1	2	8	8	0	18	0	0	26	118	3	0	147	0	0	5	19	21	0	45	0	0	357
2019-11-20:08:45:00	27	108	9	0	144	0	0	1	6	2	0	9	0	0	15	113	4	0	132	0	0	5	17	17	0	39	0	0	324
2019-11-20 16:00:00	28	123	2	0	153	0	0	12	12	18	0	42	0	0	8	190	11	0	209	0	0	4	16	48	0	68	0	0	472
2019-11-20 16:15:00	30	118	2	0	150	0	0	3	27	20	0	50	0	0	12	239	10	0	261	0	0	7	19	64	0	90	1	0	551
2019-11-20 16:30:00	41	132	0	0	173	0	2	10	26	35	0	71	0	0	12	216	8	0	236	0	0	9	22	48	0	79	0	0	559
2019-11-20 16:45:00	35	139	2	0	176	0	0	15	23	34	0	72	0	0	15	225	13	0	253	0	0	8	25	58	0	91	0	0	592
2019-11-20 17:00:00	35	179	2	0	216	0	0	16	67	55	0	138	0	0	10	208	10	0	228	0	0	9	41	79	0	129	1	1	711
2019-11-20 17:15:00	48	142	0	0	190	0	0	10	40	47	0	97	0	0	27	281	33	0	341	0	0	6	46	62	0	114	0	0	742
2019-11-20 17:30:00	43	125	1	0	169	0	0	8	29	23	0	60	0	0	16	242	21	0	279	0	0	6	30	61	0	97	0	0	605
2019-11-20 17:45:00	25	119	6	0	150	0	0	6	17	32	0	55	0	0	16	218	19	0	253	0	0	8	32	55	0	95	0	0	553

Leg	N Classen Boulevard							NW 63rd Street							N Classen Boulevard							NW 63rd Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	5	13	8	0	26	0	0	5	68	12	0	85	0	0	3	3	2	0	8	0	0	17	84	5	0	106	0	0	225
2019-11-20 07:15:00	11	9	10	0	30	0	0	9	104	10	0	123	0	0	5	1	0	1	7	0	0	9	145	8	0	162	0	0	322
2019-11-20 07:30:00	17	13	14	0	44	1	0	18	87	9	0	114	0	0	3	6	0	1	10	0	0	16	157	10	0	183	0	0	351
2019-11-20 07:45:00	16	30	19	0	65	0	0	12	106	5	0	123	0	0	7	12	2	2	23	0	0	15	151	15	0	181	0	0	392
2019-11-20 08:00:00	19	20	22	0	61	0	0	15	140	7	0	162	0	0	5	7	6	1	19	0	0	11	153	14	0	178	0	0	420
2019-11-20 08:15:00	14	9	8	0	31	0	0	14	128	6	0	148	0	0	3	5	2	0	10	0	0	5	135	14	0	154	0	0	343
2019-11-20 08:30:00	5	6	13	1	25	0	0	10	105	7	0	122	0	0	4	4	2	0	10	0	0	4	136	13	0	153	0	0	310
2019-11-20 08:45:00	9	6	9	0	24	0	0	8	108	4	0	120	0	0	0	5	3	0	8	0	0	4	104	8	0	116	0	0	268
2019-11-20 16:00:00	23	5	19	0	47	0	0	13	128	2	0	143	0	0	8	12	6	0	26	0	0	1	169	16	0	186	0	0	402
2019-11-20 16:15:00	25	7	16	0	48	0	0	7	148	3	0	158	0	0	18	14	9	0	41	0	0	3	161	20	0	184	0	0	431
2019-11-20 16:30:00	41	9	17	0	67	0	0	19	146	4	0	169	0	0	19	25	18	0	62	0	0	5	131	23	0	159	0	0	457
2019-11-20 16:45:00	26	10	13	0	49	0	0	14	168	2	0	184	0	0	19	21	12	1	53	0	0	3	159	22	0	184	0	0	470
2019-11-20 17:00:00	40	20	22	1	83	0	0	24	185	7	0	216	0	0	36	38	16	0	90	0	0	2	161	20	0	183	0	0	572
2019-11-20 17:15:00	35	14	9	0	58	0	0	16	154	3	0	173	0	0	25	44	11	0	80	0	0	3	140	29	0	172	0	0	483
2019-11-20 17:30:00	34	13	7	0	54	0	0	15	149	3	0	167	0	0	19	29	20	1	69	0	0	1	141	36	0	178	0	0	468
2019-11-20 17:45:00	27	4	9	0	40	0	0	17	128	5	0	150	0	0	15	23	13	2	53	0	0	3	131	20	0	154	0	0	397

Leg	Driveway						W Wilshire Boulevard						N Classen Boulevard						W Wilshire Boulevard										
Direction	Southbound						Westbound						Northbound						Eastbound										
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	0	1	0	1	0	0	1	46	19	0	66	0	0	5	0	1	0	6	0	0	11	91	0	0	102	0	0	175
2019-11-20 07:15:00	1	0	1	0	2	0	0	2	52	22	0	76	0	0	7	0	0	0	7	0	0	5	85	1	0	91	0	0	176
2019-11-20 07:30:00	0	1	0	0	1	2	0	1	89	30	0	120	0	0	11	0	2	0	13	0	0	16	140	0	0	156	0	0	290
2019-11-20 07:45:00	0	0	0	0	0	0	0	0	82	63	0	145	0	0	17	0	0	0	17	0	0	11	146	0	0	157	0	0	319
2019-11-20 08:00:00	1	0	1	0	2	0	0	3	93	38	0	134	0	0	16	0	0	0	16	0	0	18	146	0	0	164	0	0	316
2019-11-20 08:15:00	0	0	0	0	0	0	1	1	78	45	0	124	0	0	16	0	0	0	16	0	0	11	111	0	0	122	0	0	262
2019-11-20 08:30:00	0	0	1	0	1	2	0	0	84	30	0	114	0	0	25	0	2	0	27	0	0	9	93	0	0	102	0	0	244
2019-11-20 08:45:00	0	0	0	0	0	0	0	0	65	23	0	88	0	0	14	0	1	1	16	0	0	8	106	0	0	114	0	0	218
2019-11-20 16:00:00	0	0	0	0	0	0	0	0	104	16	0	120	0	0	34	0	11	0	45	0	0	9	91	0	0	100	0	0	265
2019-11-20 16:15:00	0	0	0	0	0	0	0	2	90	25	0	117	0	0	33	0	4	0	37	0	0	6	107	0	0	113	0	0	267
2019-11-20 16:30:00	0	0	0	0	0	0	0	1	97	23	0	121	0	0	51	0	14	0	65	0	0	1	90	0	0	91	0	0	277
2019-11-20 16:45:00	0	1	0	0	1	0	0	1	115	25	0	141	0	0	26	0	15	2	43	0	0	2	77	0	0	79	0	0	264
2019-11-20 17:00:00	0	0	0	0	0	0	1	1	132	22	0	155	0	0	94	0	16	0	110	0	0	3	138	0	0	141	0	0	406
2019-11-20 17:15:00	0	0	0	0	0	0	0	1	130	23	0	154	0	0	82	0	20	0	102	0	0	4	115	0	0	119	0	0	375
2019-11-20 17:30:00	0	0	1	0	1	0	0	1	94	27	0	122	0	0	47	1	18	0	66	0	0	5	90	0	0	95	0	0	284
2019-11-20 17:45:00	0	0	0	0	0	0	0	0	84	15	0	99	0	0	44	0	15	0	59	0	0	4	71	0	0	75	0	0	233

Leg	N Clasen Boulevard						W Wilshire Boulevard						W Wilshire Boulevard						
Direction	Southbound						Westbound						Eastbound						
Start Time	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	2	5	1	8	0	0	12	63	0	75	0	0	92	7	0	99	0	0	182
2019-11-20 07:15:00	4	14	0	18	0	0	11	72	0	83	0	0	90	5	0	95	0	0	196
2019-11-20 07:30:00	2	19	2	23	1	0	19	118	0	137	0	0	141	7	0	148	0	0	308
2019-11-20 07:45:00	11	12	1	24	0	0	16	139	0	155	0	0	148	15	0	163	0	0	342
2019-11-20 08:00:00	11	10	0	21	0	0	22	122	0	144	0	0	148	13	0	161	0	0	326
2019-11-20 08:15:00	10	12	0	22	0	1	15	109	0	124	0	0	128	9	0	137	0	0	283
2019-11-20 08:30:00	5	13	4	22	2	0	10	109	0	119	0	0	111	9	0	120	0	0	261
2019-11-20 08:45:00	1	10	0	11	0	0	6	89	0	95	0	0	110	11	0	121	0	0	227
2019-11-20 16:00:00	8	18	1	27	0	0	17	108	0	125	0	0	116	9	0	125	0	0	277
2019-11-20 16:15:00	2	15	0	17	0	0	11	114	0	125	0	0	123	14	0	137	0	0	279
2019-11-20 16:30:00	13	5	2	20	0	0	17	114	0	131	0	0	120	14	0	134	0	0	285
2019-11-20 16:45:00	9	9	0	18	0	0	16	141	0	157	0	0	95	7	0	102	0	0	277
2019-11-20 17:00:00	4	11	0	15	0	1	12	148	0	160	0	0	207	20	0	227	0	0	402
2019-11-20 17:15:00	12	10	0	22	0	0	10	139	0	149	0	0	174	20	0	194	0	0	365
2019-11-20 17:30:00	10	8	1	19	0	0	12	112	0	124	0	0	128	8	0	136	0	0	279
2019-11-20 17:45:00	10	8	2	20	0	0	8	94	0	102	0	0	105	12	0	117	0	0	239

Leg	N Classen Boulevard							W Britton Road							N Classen Boulevard							W Britton Road							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	2	0	0	0	2	0	0	0	64	4	0	68	0	0	6	0	0	0	6	0	0	0	166	4	0	170	0	0	246
2019-11-20:07:15:00	0	1	1	0	2	0	0	1	112	13	0	126	0	0	10	0	2	0	12	1	0	0	158	2	0	160	0	0	300
2019-11-20:07:30:00	0	1	0	0	1	0	0	0	138	7	0	145	0	0	13	0	1	0	14	0	0	3	185	6	0	194	0	0	354
2019-11-20:07:45:00	0	1	0	0	1	0	0	1	134	13	0	148	0	0	4	0	4	0	8	0	0	6	175	1	0	182	0	0	339
2019-11-20:08:00:00	0	0	0	0	0	0	0	0	106	18	0	124	0	0	6	2	3	0	11	0	2	1	135	4	0	140	0	0	275
2019-11-20:08:15:00	0	1	0	0	1	0	0	0	102	1	0	103	0	0	8	1	5	0	14	0	0	4	130	0	1	135	1	0	253
2019-11-20:08:30:00	3	1	1	0	5	0	0	3	99	6	0	108	0	0	6	2	3	0	11	2	0	3	115	2	0	120	0	0	244
2019-11-20:08:45:00	3	0	1	0	4	0	0	1	92	10	0	103	0	0	10	0	0	0	10	0	0	2	123	1	1	127	0	0	244
2019-11-20:16:00:00	1	0	1	0	2	0	0	2	134	8	0	144	0	0	10	0	4	0	14	0	0	1	114	4	0	119	0	2	279
2019-11-20:16:15:00	2	0	0	0	2	0	0	5	134	8	0	147	0	0	10	1	4	0	15	1	0	2	101	2	0	105	1	0	269
2019-11-20:16:30:00	1	0	1	0	2	0	0	2	146	7	0	155	0	0	14	3	3	0	20	0	0	1	113	4	0	118	0	1	295
2019-11-20:16:45:00	2	0	0	1	3	0	0	6	151	12	0	169	0	0	15	2	4	0	21	0	0	3	110	1	0	114	0	0	307
2019-11-20:17:00:00	2	0	2	0	4	0	0	5	190	7	0	202	0	0	13	0	6	0	19	0	0	3	138	4	0	145	0	0	370
2019-11-20:17:15:00	5	2	0	1	8	0	0	3	144	13	0	160	0	0	19	2	7	0	28	0	1	7	122	1	0	130	0	1	326
2019-11-20:17:30:00	0	0	2	0	2	0	0	1	137	14	0	152	0	0	13	0	4	0	17	0	0	4	101	3	0	108	0	0	279
2019-11-20:17:45:00	1	0	0	0	1	0	0	1	114	8	0	123	0	0	7	2	5	0	14	0	0	7	102	0	0	109	0	0	247

Leg	S Robinson Avenue							W Reno Avenue							S Robinson Avenue							W Reno Avenue							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	4	4	4	0	12	1	0	17	48	3	0	68	0	0	5	37	6	0	48	0	0	1	29	6	0	36	0	0	164
2019-11-20:07:15:00	2	3	3	0	8	2	5	20	64	2	0	86	0	0	3	46	14	0	63	1	0	1	26	11	0	38	2	0	195
2019-11-20:07:30:00	13	9	9	1	32	3	1	39	99	2	0	140	0	0	3	47	9	0	59	0	0	3	56	10	0	69	0	0	300
2019-11-20:07:45:00	3	4	20	0	27	1	0	38	79	2	0	119	0	0	10	68	8	0	86	0	2	2	47	10	1	60	0	0	292
2019-11-20:08:00:00	3	17	13	1	34	0	0	30	59	4	0	93	0	0	9	56	13	0	78	0	0	6	46	15	0	67	1	0	272
2019-11-20:08:15:00	2	10	12	0	24	0	0	24	44	6	0	74	0	0	4	41	10	0	55	0	0	0	46	14	0	60	1	2	213
2019-11-20:08:30:00	7	8	10	0	25	1	0	25	62	6	0	93	0	0	3	42	11	0	56	0	0	8	49	12	0	69	0	2	243
2019-11-20:08:45:00	3	5	7	1	16	0	0	16	38	4	0	58	0	0	6	42	10	0	58	2	1	6	38	19	0	63	0	1	195
2019-11-20:16:00:00	10	54	31	0	95	3	1	5	48	7	0	60	0	0	8	16	5	0	29	0	0	11	69	1	0	81	1	0	265
2019-11-20:16:15:00	9	43	27	0	79	0	0	5	55	6	0	66	0	0	8	13	2	0	23	0	0	4	76	6	0	86	0	4	254
2019-11-20:16:30:00	12	61	21	0	94	0	0	10	46	3	0	59	0	0	4	19	4	0	27	1	0	8	89	5	0	102	1	0	282
2019-11-20:16:45:00	19	76	26	0	121	3	2	11	61	10	0	82	0	0	10	16	8	0	34	0	1	12	94	4	0	110	2	1	347
2019-11-20:17:00:00	23	100	24	0	147	0	0	5	59	6	0	70	0	0	9	15	7	0	31	0	1	11	91	12	0	114	0	0	362
2019-11-20:17:15:00	11	56	15	0	82	2	0	6	57	8	0	71	0	0	7	15	7	0	29	0	1	18	87	3	0	108	2	0	290
2019-11-20:17:30:00	6	60	23	0	89	1	1	3	46	2	0	51	0	0	4	10	7	0	21	0	3	5	88	3	1	97	0	5	258
2019-11-20:17:45:00	15	44	22	0	81	1	0	5	31	3	0	39	0	1	7	14	3	0	24	5	2	7	69	3	0	79	1	3	223

Leg	S Robinson Avenue							W Reno Avenue							S Robinson Avenue							W Reno Avenue							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	1	3	4	0	8	0	1	14	108	7	0	129	0	0	5	29	19	0	53	0	3	13	13	3	0	29	0	3	219
2019-11-20 07:15:00	1	1	2	0	4	0	0	26	108	3	0	137	0	0	7	31	19	0	57	2	1	2	15	9	0	26	3	1	224
2019-11-20 07:30:00	2	4	10	0	16	0	0	31	114	4	0	149	0	0	5	30	21	0	56	1	1	5	29	3	0	37	1	1	258
2019-11-20 07:45:00	1	1	2	0	4	0	0	33	149	6	0	188	0	0	7	54	30	0	91	0	2	12	22	10	0	44	0	2	327
2019-11-20 08:00:00	3	8	8	0	19	0	0	26	97	8	0	131	0	0	15	45	28	0	88	0	0	8	25	4	0	37	1	0	275
2019-11-20 08:15:00	6	9	5	0	20	0	0	20	101	4	0	125	0	0	8	38	26	1	73	1	1	4	22	1	0	27	0	0	245
2019-11-20 08:30:00	1	13	6	0	20	0	0	22	81	5	0	108	0	0	8	32	27	0	67	1	2	8	17	4	0	29	1	3	224
2019-11-20 08:45:00	3	9	1	0	13	0	0	16	72	3	0	91	0	0	8	39	16	0	63	0	1	7	19	6	0	32	2	1	199
2019-11-20 16:00:00	4	27	35	1	67	0	0	5	31	1	0	37	0	0	17	16	9	0	42	0	0	13	89	2	0	104	0	0	250
2019-11-20 16:15:00	3	25	29	0	57	0	0	4	46	2	0	52	0	0	17	21	10	0	48	0	0	21	90	1	0	112	0	4	269
2019-11-20 16:30:00	1	30	45	0	76	1	0	6	39	3	0	48	0	0	18	18	17	0	53	3	0	24	121	1	0	146	3	0	323
2019-11-20 16:45:00	6	46	45	0	97	0	0	12	42	9	0	63	0	0	21	15	15	0	51	25	0	18	109	4	0	131	7	0	342
2019-11-20 17:00:00	6	56	57	0	119	0	1	6	35	1	0	42	0	0	19	17	10	0	46	3	0	31	150	6	0	187	1	0	394
2019-11-20 17:15:00	8	43	34	0	85	0	1	5	48	4	0	57	0	0	30	23	18	0	71	15	0	35	118	3	0	156	8	0	369
2019-11-20 17:30:00	4	32	40	0	76	0	1	6	36	3	0	45	0	0	19	13	17	0	49	8	0	18	94	0	0	112	6	0	282
2019-11-20 17:45:00	2	23	31	0	56	1	0	8	31	1	0	40	0	0	7	15	8	0	30	6	0	10	61	3	0	74	4	1	200

Leg	S Robinson Avenue						I-40 North Interchange						S Robinson Avenue						
Direction	Southbound						Westbound						Northbound						
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	9	0	0	9	0	0	27	14	0	41	0	0	0	32	0	32	0	0	82
2019-11-20 07:15:00	5	0	0	5	0	0	23	29	0	52	0	0	0	33	0	33	0	0	90
2019-11-20 07:30:00	20	0	0	20	0	0	42	20	0	62	0	0	0	61	0	61	0	0	143
2019-11-20 07:45:00	24	0	0	24	0	0	41	26	0	67	0	0	0	52	0	52	0	0	143
2019-11-20 08:00:00	12	0	0	12	0	0	30	22	0	52	0	0	0	30	0	30	0	0	94
2019-11-20 08:15:00	11	0	0	11	0	0	32	28	0	60	0	1	0	32	0	32	0	0	103
2019-11-20 08:30:00	16	0	0	16	0	0	38	21	0	59	0	0	0	17	0	17	0	0	92
2019-11-20 08:45:00	15	0	0	15	0	0	32	21	0	53	0	0	0	29	0	29	0	0	97
2019-11-20 16:00:00	35	0	0	35	0	0	15	34	0	49	0	0	0	25	0	25	0	0	109
2019-11-20 16:15:00	55	0	0	55	0	0	6	62	0	68	0	0	0	28	0	28	0	0	151
2019-11-20 16:30:00	61	0	0	61	0	0	8	40	0	48	0	0	0	19	0	19	0	0	128
2019-11-20 16:45:00	77	0	0	77	0	0	13	62	0	75	0	0	0	24	0	24	0	0	176
2019-11-20 17:00:00	95	0	0	95	0	0	11	67	0	78	0	0	0	26	0	26	0	0	199
2019-11-20 17:15:00	125	0	0	125	0	0	5	73	0	78	0	0	0	36	0	36	0	0	239
2019-11-20 17:30:00	84	0	0	84	0	0	3	59	0	62	0	0	0	17	0	17	0	0	163
2019-11-20 17:45:00	35	0	0	35	0	0	7	42	0	49	0	0	0	17	0	17	0	0	101

Leg	S Robinson Avenue							SW 25th Street							S Robinson Avenue							SW 25th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	6	18	1	0	25	0	2	3	15	2	0	20	0	0	0	29	6	0	35	0	0	3	19	4	0	26	0	2	106
2019-11-20 07:15:00	9	23	5	0	37	0	1	1	21	1	0	23	0	0	2	48	6	0	56	0	0	3	23	8	0	34	0	0	150
2019-11-20 07:30:00	8	21	1	0	30	0	1	5	23	1	0	29	0	0	3	79	3	0	85	0	0	2	21	13	0	36	0	0	180
2019-11-20 07:45:00	11	25	1	0	37	0	0	4	19	2	0	25	0	1	2	66	4	0	72	2	0	5	24	14	0	43	0	2	177
2019-11-20 08:00:00	6	30	1	0	37	0	0	0	24	2	0	26	0	0	4	31	5	0	40	0	0	1	21	6	0	28	1	1	131
2019-11-20 08:15:00	10	22	5	0	37	0	0	2	25	3	0	30	0	0	5	36	11	0	52	2	2	3	18	7	0	28	0	0	147
2019-11-20 08:30:00	6	27	1	0	34	0	0	2	19	2	0	23	0	0	12	32	16	0	60	3	0	7	23	13	0	43	2	0	160
2019-11-20 08:45:00	4	35	2	0	41	0	0	6	27	6	0	39	0	0	10	37	23	0	70	0	0	5	12	4	0	21	3	0	171
2019-11-20 16:00:00	15	67	7	0	89	0	0	5	41	6	0	52	0	0	3	31	11	0	45	0	0	14	37	12	0	63	2	0	249
2019-11-20 16:15:00	14	99	8	0	121	0	0	3	29	8	0	40	0	0	10	35	7	0	52	1	3	10	41	11	0	62	0	1	275
2019-11-20 16:30:00	12	92	7	0	111	0	0	2	37	8	0	47	0	0	10	31	4	0	45	0	1	10	33	7	0	50	0	0	253
2019-11-20 16:45:00	5	133	5	0	143	0	3	1	32	3	0	36	0	0	5	26	5	0	36	0	1	6	51	9	0	66	0	0	281
2019-11-20 17:00:00	21	151	4	0	176	0	0	7	25	3	0	35	0	0	5	43	3	0	51	0	0	9	45	10	0	64	1	0	326
2019-11-20 17:15:00	22	201	12	0	235	1	1	21	15	2	0	38	0	0	5	54	3	0	62	0	0	9	33	7	0	49	1	0	384
2019-11-20 17:30:00	21	170	4	1	196	0	0	4	37	6	0	47	0	0	4	34	6	0	44	0	2	10	29	9	0	48	0	0	335
2019-11-20 17:45:00	12	83	4	0	99	0	0	2	28	6	0	36	0	0	1	28	8	0	37	0	0	6	41	6	0	53	1	0	225

Leg	S Robinson Avenue							SW 29th Street							S Robinson Avenue							SW 29th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20-07:00:00	8	15	1	0	24	0	0	3	47	1	0	51	0	0	6	31	3	0	40	0	0	2	59	3	0	64	0	2	179
2019-11-20-07:15:00	6	25	2	0	33	0	0	11	60	3	0	74	1	0	6	40	4	0	50	1	0	4	76	3	0	83	1	0	240
2019-11-20-07:30:00	6	10	1	0	17	0	0	14	68	3	0	85	0	1	9	68	3	0	80	0	1	1	84	5	0	90	2	1	272
2019-11-20-07:45:00	11	22	4	0	37	0	0	10	61	4	0	75	0	1	11	58	7	0	76	0	0	6	91	6	0	103	0	0	291
2019-11-20-08:00:00	9	18	6	0	33	0	0	3	48	3	0	54	0	0	11	35	3	0	49	0	0	5	46	2	0	53	0	0	189
2019-11-20-08:15:00	10	22	11	0	43	0	1	6	45	2	0	53	1	0	5	33	4	0	42	1	0	2	63	5	0	70	0	0	208
2019-11-20-08:30:00	23	34	12	0	69	0	0	7	38	1	0	46	0	0	9	34	2	0	45	0	1	4	46	8	0	58	0	0	218
2019-11-20-08:45:00	45	34	12	0	91	0	0	11	53	3	0	67	0	0	3	37	6	0	46	0	0	8	43	5	0	56	1	1	260
2019-11-20-16:00:00	34	77	19	0	130	0	1	9	95	5	0	109	0	0	20	27	4	0	51	1	0	7	67	8	0	82	2	3	372
2019-11-20-16:15:00	25	90	21	0	136	0	1	11	77	16	0	104	0	1	6	29	9	0	44	0	0	10	78	9	0	97	0	3	381
2019-11-20-16:30:00	23	79	20	0	122	0	0	9	104	10	0	123	0	0	6	27	6	0	39	0	0	13	81	9	0	103	1	1	387
2019-11-20-16:45:00	25	95	22	0	142	0	1	6	78	10	0	94	0	0	11	25	8	0	44	0	0	5	94	2	0	101	0	0	381
2019-11-20-17:00:00	23	99	33	0	155	0	1	13	88	10	0	111	0	0	6	29	3	0	38	0	0	9	88	7	0	104	2	1	408
2019-11-20-17:15:00	27	121	56	0	204	0	0	17	25	5	0	47	0	0	10	33	5	0	48	0	0	11	79	10	0	100	0	0	399
2019-11-20-17:30:00	43	91	35	0	169	1	0	8	121	13	0	142	0	0	6	28	2	0	36	0	0	9	84	9	0	102	2	1	449
2019-11-20-17:45:00	22	68	14	0	104	0	0	3	105	10	0	118	0	1	8	25	6	0	39	0	0	7	79	13	0	99	1	0	360

Leg	S Robinson Avenue							SW 36th Street/Grand Boulevard							S Robinson Avenue							SW 36th Street/Grand Boulevard							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-12-04 07:00:00	5	17	0	0	22	0	0	3	38	0	0	41	0	0	0	38	7	0	45	0	0	0	0	0	0	0	0	0	108
2019-12-04 07:15:00	6	28	0	0	34	0	0	6	84	3	0	93	0	0	0	49	7	0	56	0	0	0	0	0	0	0	0	0	183
2019-12-04 07:30:00	4	24	0	0	28	0	0	8	52	2	0	62	0	0	0	61	5	0	66	0	0	0	0	0	0	0	1	1	156
2019-12-04 07:45:00	2	21	0	0	23	0	0	5	36	2	0	43	0	0	0	62	5	0	67	0	0	0	0	0	0	0	0	1	133
2019-12-04 08:00:00	1	26	0	0	27	2	0	5	44	1	0	50	0	0	0	49	6	0	55	0	0	0	0	0	0	0	0	0	132
2019-12-04 08:15:00	3	23	0	0	26	0	0	3	38	3	0	44	0	0	0	45	3	0	48	0	0	0	0	0	0	0	0	0	118
2019-12-04 08:30:00	2	31	0	0	33	0	2	5	21	1	0	27	0	0	0	26	1	0	27	0	0	0	0	0	0	0	0	0	87
2019-12-04 08:45:00	5	28	0	0	33	0	0	8	22	3	0	33	0	0	0	37	1	0	38	0	0	0	0	0	0	0	0	0	104
2019-12-04 16:00:00	11	76	0	0	87	0	0	2	50	3	0	55	0	0	0	43	8	0	51	0	1	0	0	0	0	0	1	1	193
2019-12-04 16:15:00	9	82	0	0	91	0	0	5	38	5	0	48	0	0	0	40	4	0	44	0	3	0	0	0	0	0	0	0	183
2019-12-04 16:30:00	14	75	0	0	89	0	0	2	49	7	0	58	0	0	0	33	8	0	41	0	1	0	0	0	0	0	0	0	188
2019-12-04 16:45:00	14	96	0	0	110	0	0	5	47	5	0	57	0	0	0	37	9	0	46	0	0	0	0	0	0	0	0	1	213
2019-12-04 17:00:00	10	128	0	0	138	0	0	4	60	9	0	73	0	0	0	40	3	0	43	0	0	0	0	0	0	0	0	1	254
2019-12-04 17:15:00	13	116	0	0	129	0	0	2	52	6	0	60	0	0	0	35	12	0	47	0	0	0	0	0	0	0	1	0	236
2019-12-04 17:30:00	15	94	0	0	109	0	0	4	52	4	0	60	0	0	0	47	11	0	58	0	0	0	0	0	0	0	1	0	227
2019-12-04 17:45:00	10	91	0	0	101	0	0	3	43	2	0	48	0	0	0	47	9	0	56	0	1	0	0	0	0	0	1	0	205

Leg	S Santa Fe Avenue							NW 34th Street							S Santa Fe Avenue							SW 98th Street								
Direction	Southbound							Westbound							Northbound							Eastbound								
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
2019-11-20 07:00:00	0	37	1	0	38	0	0	1	0	2	0	3	0	0	1	205	0	0	206	0	0	0	0	0	1	0	1	0	0	248
2019-11-20 07:15:00	0	44	0	0	44	0	0	1	0	2	0	3	0	0	1	268	0	0	269	0	0	2	0	1	0	3	0	0	319	
2019-11-20 07:30:00	0	58	3	0	61	0	0	1	0	1	0	2	0	0	0	282	1	0	283	0	0	0	0	0	0	0	0	0	346	
2019-11-20 07:45:00	0	49	1	0	50	0	0	0	0	2	0	2	0	0	2	212	1	0	215	0	0	2	0	2	0	4	0	0	271	
2019-11-20 08:00:00	0	48	3	0	51	0	0	0	0	4	0	4	0	0	0	170	0	0	170	0	0	1	0	1	0	2	0	0	227	
2019-11-20 08:15:00	0	57	1	0	58	0	0	0	0	2	0	2	0	0	3	155	1	0	159	0	0	0	0	1	0	1	0	0	220	
2019-11-20 08:30:00	1	60	3	0	64	0	0	0	0	1	0	1	0	0	6	137	0	0	143	0	0	0	0	2	0	2	1	0	210	
2019-11-20 08:45:00	3	67	4	0	74	0	0	0	0	4	0	4	0	0	2	113	1	0	116	0	0	0	0	0	0	0	0	0	194	
2019-11-20 16:00:00	2	137	2	0	141	0	0	5	0	2	0	7	0	0	3	132	1	0	136	0	0	0	0	1	0	1	0	0	285	
2019-11-20 16:15:00	3	150	2	0	155	0	0	2	0	1	0	3	0	0	0	102	0	0	102	0	0	1	0	1	0	2	0	0	262	
2019-11-20 16:30:00	2	177	1	0	180	0	0	2	0	0	0	2	0	0	0	79	1	0	80	0	0	0	0	1	0	1	0	0	263	
2019-11-20 16:45:00	3	186	3	0	192	0	0	1	0	4	0	5	0	0	3	97	1	0	101	0	0	1	0	2	0	3	0	0	301	
2019-11-20 17:00:00	1	232	1	0	234	0	0	0	0	3	0	3	0	0	3	105	1	0	109	0	0	1	0	1	0	2	0	0	348	
2019-11-20 17:15:00	3	210	2	0	215	0	0	0	1	1	0	2	0	0	2	91	1	0	94	0	0	0	0	1	0	1	0	0	312	
2019-11-20 17:30:00	1	228	0	0	229	0	0	1	1	1	0	3	0	0	3	107	0	0	110	0	0	0	0	0	0	0	0	0	342	
2019-11-20 17:45:00	1	207	3	0	211	0	0	1	1	3	0	5	0	0	4	113	0	0	117	0	0	1	1	0	0	2	0	0	335	

Leg	S Santa Fe Avenue							SW 44th Street							S Santa Fe Avenue							SW 44th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	11	8	0	19	1	0	2	117	4	0	123	0	0	23	18	33	0	74	0	0	20	142	1	0	163	0	0	379
2019-11-20 07:15:00	4	22	8	0	34	0	1	3	127	1	0	131	0	0	15	37	49	0	101	0	0	39	207	1	0	247	0	0	513
2019-11-20 07:30:00	4	14	5	0	23	1	0	3	142	3	0	148	0	0	17	51	40	0	108	0	0	25	201	1	0	227	0	0	506
2019-11-20 07:45:00	6	6	1	0	13	0	1	4	156	1	0	161	0	0	17	28	36	0	81	0	0	11	144	1	0	156	0	0	411
2019-11-20 08:00:00	4	12	3	0	19	0	2	6	123	6	0	135	0	0	11	13	26	0	50	0	0	14	103	2	0	119	0	0	323
2019-11-20 08:15:00	0	7	2	0	9	0	0	3	102	6	0	111	0	0	12	16	19	0	47	0	0	4	81	1	0	86	0	0	253
2019-11-20 08:30:00	2	5	4	0	11	1	0	5	100	5	0	110	0	0	13	14	22	0	49	0	0	18	94	1	0	113	0	0	283
2019-11-20 08:45:00	0	9	1	0	10	1	0	2	112	6	0	120	0	0	8	14	20	0	42	0	0	15	91	3	0	109	0	0	281
2019-11-20 16:00:00	7	18	3	0	28	4	0	8	161	7	0	176	0	0	21	23	28	0	72	0	0	41	143	1	0	185	0	0	461
2019-11-20 16:15:00	8	26	7	0	41	2	0	4	163	7	0	174	0	0	12	25	26	0	63	0	0	49	158	0	0	207	0	0	485
2019-11-20 16:30:00	4	34	0	0	38	0	0	5	162	10	0	177	0	1	16	15	25	0	56	0	0	48	175	5	0	228	0	0	499
2019-11-20 16:45:00	4	34	8	0	46	1	1	8	162	18	0	188	0	1	19	22	23	0	64	0	0	73	154	1	0	228	0	0	526
2019-11-20 17:00:00	6	63	1	0	70	0	0	4	136	9	0	149	0	0	11	25	30	0	66	0	0	64	167	2	0	233	0	0	518
2019-11-20 17:15:00	3	65	4	0	72	0	0	5	196	15	0	216	0	0	12	26	30	0	68	0	0	92	164	2	0	258	0	0	614
2019-11-20 17:30:00	4	66	8	0	78	1	0	8	160	13	0	181	0	0	19	22	17	0	58	0	0	56	151	0	0	207	0	1	524
2019-11-20 17:45:00	2	35	6	0	43	0	1	6	161	4	0	171	0	1	16	31	21	0	68	1	0	43	139	1	0	183	0	0	465

Leg	S Santa Fe Avenue							SE 59th Street							S Santa Fe Avenue							SW 59th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	12	21	7	0	40	0	0	1	63	6	0	70	0	0	52	46	12	0	110	0	0	7	115	12	0	134	0	0	354
2019-11-20 07:15:00	17	26	4	0	47	0	0	3	78	10	0	91	0	0	67	88	18	0	173	0	0	23	161	43	0	227	0	0	538
2019-11-20 07:30:00	19	44	10	0	73	0	0	5	123	18	0	146	0	0	93	74	33	0	200	0	0	34	185	22	0	241	0	0	660
2019-11-20 07:45:00	13	19	6	0	38	0	1	12	129	16	0	157	0	0	53	66	30	0	149	0	0	27	155	6	0	188	0	0	532
2019-11-20 08:00:00	14	21	2	0	37	0	0	6	113	15	0	134	2	0	47	37	29	0	113	0	0	13	86	4	0	103	0	0	387
2019-11-20 08:15:00	9	22	0	0	31	0	2	5	80	18	0	103	0	0	43	25	26	0	94	0	0	25	85	10	0	120	0	0	348
2019-11-20 08:30:00	6	33	4	0	43	0	0	6	72	18	0	96	0	0	28	37	34	0	99	0	0	42	63	12	0	117	0	0	355
2019-11-20 08:45:00	6	44	7	0	57	1	1	0	65	22	0	87	1	0	34	42	38	0	114	0	0	36	86	10	0	132	0	1	390
2019-11-20 16:00:00	22	48	5	0	75	0	0	12	122	31	0	165	0	2	57	77	43	0	177	1	0	47	112	17	0	176	0	0	593
2019-11-20 16:15:00	15	65	6	0	86	1	0	6	126	37	0	169	0	3	36	36	34	0	106	2	2	36	126	18	0	180	0	0	541
2019-11-20 16:30:00	20	81	11	0	112	1	0	7	142	39	0	188	0	0	31	39	34	0	104	0	0	38	119	14	0	171	0	0	575
2019-11-20 16:45:00	20	88	3	0	111	0	1	5	115	38	0	158	0	2	22	48	23	0	93	0	0	30	119	13	0	162	0	0	524
2019-11-20 17:00:00	28	106	8	0	142	0	0	9	161	37	0	207	0	0	23	43	30	0	96	0	0	47	136	14	0	197	0	0	642
2019-11-20 17:15:00	22	138	9	0	169	0	0	5	147	53	0	205	0	0	29	47	34	0	110	0	0	33	107	17	0	157	0	0	641
2019-11-20 17:30:00	29	132	10	0	171	0	0	6	136	39	0	181	0	0	18	29	13	0	60	0	0	42	127	14	0	183	0	0	595
2019-11-20 17:45:00	14	73	7	0	94	0	0	7	121	38	0	166	0	0	22	48	31	0	101	0	0	43	95	13	0	151	0	0	512

Leg	S Santa Fe Avenue							EB I-240 South Interchange							S Santa Fe Avenue							EB I-240 South Interchange						
Direction	Southbound							Westbound							Northbound							Eastbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	29	8	0	37	0	0	0	0	0	12	12	0	0	29	152	0	0	181	0	0	29	85	30	144	0	0	374
2019-11-20 07:15:00	0	34	23	0	57	0	0	0	0	0	10	10	0	0	37	198	0	0	235	0	0	23	115	59	197	0	0	499
2019-11-20 07:30:00	0	39	16	0	55	0	0	0	0	0	14	14	0	0	53	210	0	0	263	0	0	27	124	60	211	0	0	543
2019-11-20 07:45:00	0	41	19	0	60	0	0	0	0	0	14	14	0	0	30	169	0	0	199	0	0	22	104	39	165	0	3	438
2019-11-20 08:00:00	0	36	16	0	52	0	0	0	0	0	18	18	0	0	29	126	0	0	155	0	0	31	106	35	172	0	0	397
2019-11-20 08:15:00	0	46	15	0	61	0	0	0	0	0	17	17	0	1	30	102	0	0	132	1	0	30	92	30	152	0	0	362
2019-11-20 08:30:00	0	41	24	0	65	0	0	0	0	0	10	10	0	0	25	118	0	0	143	0	0	30	69	21	120	0	0	338
2019-11-20 08:45:00	0	41	21	0	62	0	0	0	0	0	18	18	0	0	22	105	0	0	127	0	0	40	95	28	163	0	2	370
2019-11-20 16:00:00	0	105	33	0	138	0	0	0	0	0	26	26	0	0	18	131	0	0	149	0	0	42	137	47	226	0	0	539
2019-11-20 16:15:00	0	118	24	0	142	0	0	0	0	0	26	26	0	0	32	138	0	0	170	0	0	48	132	31	211	2	0	549
2019-11-20 16:30:00	0	104	30	0	134	0	0	0	0	0	15	15	0	2	23	139	0	0	162	0	0	49	123	37	209	0	0	520
2019-11-20 16:45:00	0	157	31	0	188	0	0	0	0	0	21	21	0	0	25	115	0	0	140	0	0	50	108	31	189	0	0	538
2019-11-20 17:00:00	0	160	45	0	205	0	0	0	0	0	19	19	0	0	27	158	0	0	185	0	0	46	106	20	172	0	0	581
2019-11-20 17:15:00	0	173	40	0	213	0	0	0	0	0	26	26	0	0	19	140	0	0	159	0	0	56	139	51	246	0	0	644
2019-11-20 17:30:00	0	182	40	0	222	0	0	0	0	0	21	21	0	0	28	117	0	0	145	1	0	56	119	23	198	1	1	586
2019-11-20 17:45:00	0	154	31	0	185	0	0	0	0	0	32	32	0	0	31	137	0	0	168	0	1	50	105	26	181	0	1	566

Leg	S Santa Fe Avenue							WB I-240 North Interchange						S Santa Fe Avenue							WB I-240 North Interchange							
Direction	Southbound							Westbound						Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	24	26	0	0	50	0	0	5	92	14	111	0	0	0	97	85	0	182	0	0	0	0	0	13	13	0	0	356
2019-11-20 07:15:00	24	36	0	0	60	0	0	4	97	23	124	0	0	0	156	102	0	258	0	0	0	0	0	11	11	0	0	453
2019-11-20 07:30:00	35	36	0	0	71	0	1	11	112	14	137	0	1	0	168	99	0	267	0	0	0	0	0	16	16	0	0	491
2019-11-20 07:45:00	22	36	0	0	58	0	0	15	118	24	157	1	0	0	121	85	0	206	0	0	0	0	0	20	20	0	3	441
2019-11-20 08:00:00	28	32	0	0	60	0	2	16	113	19	148	0	2	0	96	62	0	158	0	0	0	0	0	25	25	0	0	391
2019-11-20 08:15:00	29	33	0	0	62	0	1	14	97	26	137	0	1	0	70	63	0	133	0	0	0	0	0	34	34	0	0	366
2019-11-20 08:30:00	33	48	0	0	81	2	0	18	112	18	148	0	1	0	67	77	0	144	0	0	0	0	0	9	9	0	0	382
2019-11-20 08:45:00	36	47	0	0	83	0	0	20	98	16	134	1	1	0	60	71	0	131	0	0	0	0	0	22	22	0	2	370
2019-11-20 16:00:00	85	86	0	0	171	0	0	15	119	52	186	1	0	0	89	91	0	180	0	0	0	0	0	30	30	0	0	567
2019-11-20 16:15:00	52	93	0	0	145	1	0	14	151	49	214	0	0	0	91	72	0	163	0	0	0	0	0	20	20	0	0	542
2019-11-20 16:30:00	57	97	0	0	154	1	0	13	143	39	195	0	3	0	90	93	0	183	0	0	0	0	0	17	17	3	1	549
2019-11-20 16:45:00	55	127	1	0	183	0	3	10	140	64	214	0	1	0	76	72	0	148	0	0	0	0	0	31	31	1	1	576
2019-11-20 17:00:00	61	136	0	0	197	0	0	19	160	71	250	0	0	0	88	72	0	160	0	0	0	0	0	23	23	0	0	630
2019-11-20 17:15:00	54	153	0	0	207	0	2	17	129	63	209	1	0	0	117	91	0	208	0	0	0	0	0	28	28	0	0	652
2019-11-20 17:30:00	73	169	0	0	242	1	2	15	123	55	193	0	0	0	60	82	0	142	0	0	0	0	0	27	27	1	0	604
2019-11-20 17:45:00	49	126	0	0	175	0	0	13	134	67	214	1	0	0	82	80	0	162	0	0	0	0	0	29	29	0	1	580

Leg	S Santa Fe Avenue							Walmart Driveway							S Santa Fe Avenue							Lowes Driveway							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	3	37	13	0	53	0	0	6	1	3	0	10	0	0	2	176	3	0	181	0	0	1	1	4	0	6	0	0	250
2019-11-20 07:15:00	6	45	6	0	57	0	0	12	0	6	0	18	0	0	5	230	3	0	238	0	1	1	0	3	0	4	0	1	317
2019-11-20 07:30:00	3	52	9	0	64	0	0	6	0	3	0	9	0	0	2	244	2	0	248	0	0	3	0	6	0	9	0	0	330
2019-11-20 07:45:00	3	52	8	0	63	1	0	4	0	3	0	7	0	0	6	174	8	0	188	0	0	5	0	6	0	11	0	1	269
2019-11-20 08:00:00	7	37	14	0	58	0	0	4	0	6	0	10	0	0	13	139	4	0	156	0	0	5	0	6	0	11	0	0	235
2019-11-20 08:15:00	1	56	12	0	69	0	0	11	1	4	0	16	0	0	11	101	4	0	116	0	0	3	2	9	0	14	0	0	215
2019-11-20 08:30:00	5	51	9	0	65	0	0	14	2	9	0	25	0	0	9	117	4	0	130	0	1	1	0	5	0	6	0	0	226
2019-11-20 08:45:00	4	51	16	0	71	0	0	15	2	5	0	22	0	0	7	88	5	0	100	0	1	5	0	9	0	14	0	0	207
2019-11-20 16:00:00	3	97	28	0	128	0	0	22	2	16	0	40	0	0	18	112	6	0	136	0	0	14	0	11	0	25	0	0	329
2019-11-20 16:15:00	6	125	37	0	168	0	0	31	2	16	0	49	0	0	21	85	10	0	116	0	0	15	3	14	0	32	0	0	365
2019-11-20 16:30:00	8	120	20	0	148	1	0	37	1	17	0	55	0	0	10	94	9	0	113	0	0	12	3	11	0	26	0	0	342
2019-11-20 16:45:00	3	161	34	0	198	0	0	24	3	22	0	49	0	0	17	76	8	0	101	0	0	9	5	7	0	21	0	0	369
2019-11-20 17:00:00	2	168	39	0	209	0	0	29	0	24	0	53	0	0	19	100	5	0	124	0	1	6	2	18	0	26	0	0	412
2019-11-20 17:15:00	3	216	33	0	252	0	0	26	0	17	0	43	0	0	13	84	6	0	103	0	0	7	0	11	0	18	0	0	416
2019-11-20 17:30:00	4	180	37	0	221	0	0	19	2	23	0	44	0	0	12	105	7	0	124	0	0	6	2	6	0	14	0	0	403
2019-11-20 17:45:00	7	179	44	0	230	0	0	36	1	18	0	55	0	0	16	77	7	0	100	0	0	7	3	11	0	21	0	0	406

Leg	S Santa Fe Avenue							Springfield Drive							S Santa Fe Avenue							SW 83rd Street							Int Total	
Direction	Southbound							Westbound							Northbound							Eastbound								
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW		
2019-11-20 07:00:00	0	39	0	0	39	0	0	3	0	0	0	3	0	0	2	186	0	0	188	0	0	0	0	0	0	0	0	1	0	230
2019-11-20 07:15:00	2	39	0	0	41	0	0	3	0	1	0	4	0	0	0	243	5	0	248	0	0	0	0	0	0	0	0	0	0	293
2019-11-20 07:30:00	0	51	0	0	51	0	0	3	0	1	0	4	0	0	2	260	0	0	262	0	0	2	1	0	0	3	0	0	320	
2019-11-20 07:45:00	2	57	0	0	59	0	0	3	0	1	0	4	0	0	1	193	0	0	194	0	0	0	0	1	0	1	0	0	258	
2019-11-20 08:00:00	1	38	0	0	39	0	0	3	2	1	0	6	0	0	1	152	1	0	154	0	0	0	0	0	0	0	0	0	199	
2019-11-20 08:15:00	1	54	1	0	56	0	0	3	0	0	0	3	0	0	1	115	1	0	117	0	0	0	0	0	0	0	0	0	176	
2019-11-20 08:30:00	0	48	1	0	49	0	0	1	0	0	0	1	0	0	0	120	1	0	121	0	0	0	0	0	0	0	0	0	171	
2019-11-20 08:45:00	0	56	0	0	56	0	0	1	0	0	0	1	0	0	3	105	0	0	108	0	0	0	0	2	0	2	0	0	167	
2019-11-20 16:00:00	0	134	1	0	135	0	0	4	0	0	0	4	1	0	1	117	1	0	119	0	0	2	0	0	0	2	0	0	260	
2019-11-20 16:15:00	2	153	1	0	156	0	0	3	0	2	0	5	0	0	0	99	0	0	99	0	0	4	0	0	0	4	0	0	264	
2019-11-20 16:30:00	1	162	0	0	163	0	0	2	0	0	0	2	0	0	2	97	3	0	102	0	0	3	1	0	0	4	0	0	271	
2019-11-20 16:45:00	2	202	2	0	206	0	0	2	0	0	0	2	1	0	5	75	1	0	81	0	0	0	0	3	0	3	0	0	292	
2019-11-20 17:00:00	5	203	1	0	209	0	0	3	0	3	0	6	0	0	0	99	3	0	102	0	0	5	0	2	0	7	0	0	324	
2019-11-20 17:15:00	4	256	1	0	261	0	0	1	0	2	0	3	0	0	2	98	2	0	102	0	0	3	1	1	0	5	0	0	371	
2019-11-20 17:30:00	4	219	6	0	229	0	0	2	0	1	0	3	0	0	2	103	0	0	105	0	0	1	0	0	0	1	0	0	338	
2019-11-20 17:45:00	3	195	9	0	207	0	0	5	0	1	0	6	0	0	2	86	5	0	93	0	0	5	0	2	0	7	0	0	313	

Leg	S Santa Fe Avenue							SE 89th Street							S Santa Fe Avenue							SW 89th Street							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	15	23	2	0	40	0	0	3	28	11	0	42	0	0	46	153	13	0	212	0	0	2	71	15	0	88	1	0	382
2019-11-20 07:15:00	17	35	5	0	57	0	0	17	38	4	0	59	0	0	58	222	21	0	301	0	0	5	81	14	0	100	0	0	517
2019-11-20 07:30:00	9	41	10	0	60	0	0	14	46	7	0	67	0	0	53	210	19	0	282	0	0	11	103	14	0	128	0	0	537
2019-11-20 07:45:00	15	39	6	0	60	0	1	8	44	7	0	59	0	0	48	165	15	0	228	0	0	5	104	8	0	117	0	0	464
2019-11-20 08:00:00	13	31	4	0	48	1	0	9	61	6	0	76	0	0	34	120	14	0	168	0	0	12	69	10	0	91	0	0	383
2019-11-20 08:15:00	11	43	2	0	56	0	0	8	53	6	0	67	0	0	24	103	29	0	156	0	0	6	72	10	0	88	0	0	367
2019-11-20 08:30:00	10	46	6	0	62	0	0	5	51	3	0	59	0	0	26	105	24	0	155	0	0	14	65	11	0	90	0	0	366
2019-11-20 08:45:00	15	45	4	0	64	0	0	10	71	11	0	92	0	0	20	80	17	0	117	0	0	14	72	14	0	100	0	0	373
2019-11-20 16:00:00	25	97	12	0	134	0	0	10	82	18	0	110	0	0	21	98	29	0	148	0	0	23	86	24	0	133	0	0	525
2019-11-20 16:15:00	29	117	16	0	162	0	0	12	94	14	0	120	0	0	13	71	16	0	100	0	0	32	75	22	0	129	0	0	511
2019-11-20 16:30:00	28	122	10	0	160	0	0	13	80	25	0	118	0	0	14	71	19	0	104	0	0	27	79	22	0	128	0	0	510
2019-11-20 16:45:00	38	152	14	0	204	0	0	6	99	24	0	129	0	0	16	64	26	0	106	0	0	27	80	16	0	123	0	0	562
2019-11-20 17:00:00	56	146	15	0	217	0	0	18	122	36	0	176	0	0	13	72	14	0	99	0	0	36	127	20	0	183	0	0	675
2019-11-20 17:15:00	34	187	11	0	232	0	0	16	111	27	0	154	0	0	15	72	16	0	103	0	0	33	124	28	0	185	0	0	674
2019-11-20 17:30:00	47	171	17	0	235	0	0	7	96	30	0	133	0	0	16	74	24	0	114	0	0	22	91	25	0	138	0	0	620
2019-11-20 17:45:00	33	157	11	0	201	0	0	8	86	19	0	113	0	0	9	82	15	0	106	0	0	29	74	22	0	125	0	0	545

Leg	S Walker Avenue							SW 44th Street							S Walker Avenue							SW 44th Street							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20:07:00:00	10	38	15	0	63	1	0	18	86	5	1	110	0	0	24	75	14	0	113	0	0	10	115	5	0	130	0	0	416
2019-11-20:07:15:00	18	60	29	0	107	1	0	34	115	15	0	164	0	0	42	90	13	0	145	0	0	16	181	13	0	210	0	0	626
2019-11-20:07:30:00	26	48	23	0	97	0	0	19	127	14	0	160	0	0	34	108	27	0	169	0	0	14	151	9	0	174	0	0	600
2019-11-20:07:45:00	13	43	12	0	68	0	0	7	139	31	0	177	0	0	29	108	18	0	155	0	0	20	121	19	0	160	0	0	560
2019-11-20:08:00:00	9	30	8	0	47	0	0	14	113	12	0	139	0	0	26	108	15	0	149	0	0	16	77	10	0	103	0	2	438
2019-11-20:08:15:00	4	47	6	0	57	0	0	8	98	14	0	120	1	0	17	83	18	0	118	0	0	14	78	9	0	101	0	0	396
2019-11-20:08:30:00	7	39	10	0	56	0	0	15	95	16	0	126	0	0	22	60	22	0	104	0	0	26	90	16	0	132	1	0	418
2019-11-20:08:45:00	13	49	4	0	66	0	0	10	101	13	0	124	0	0	16	68	23	0	107	0	0	17	76	10	0	103	0	0	400
2019-11-20:16:00:00	16	87	17	0	120	1	0	7	168	27	0	202	0	1	28	61	42	0	131	0	0	33	124	10	0	167	1	1	620
2019-11-20:16:15:00	24	106	18	0	148	0	1	15	159	38	0	212	0	0	23	96	39	0	158	0	0	29	125	14	0	168	0	0	686
2019-11-20:16:30:00	12	125	20	0	157	0	0	9	158	39	0	206	0	0	24	53	18	0	95	0	0	27	152	16	0	195	0	1	653
2019-11-20:16:45:00	21	134	15	0	170	0	0	8	171	50	0	229	0	0	28	53	22	0	103	0	0	30	132	14	0	176	0	0	678
2019-11-20:17:00:00	14	150	19	0	183	0	1	8	155	44	0	207	0	0	29	56	41	0	126	1	0	27	152	9	0	188	0	1	704
2019-11-20:17:15:00	20	160	16	0	196	0	1	11	184	47	0	242	0	2	23	52	15	0	90	0	2	33	144	13	0	190	0	0	718
2019-11-20:17:30:00	15	135	13	0	163	0	0	10	152	45	0	207	0	0	17	58	29	0	104	0	0	38	140	8	0	186	0	0	660
2019-11-20:17:45:00	23	131	12	0	166	0	1	10	172	40	0	222	0	0	20	51	17	0	88	0	0	28	132	10	0	170	0	0	646

Leg	S Walker Avenue							SE 59th Street							S Walker Avenue							SE 59th Street							Int Total
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	12	33	20	0	65	0	0	20	51	9	0	80	0	1	14	70	8	0	92	0	1	5	96	12	0	113	0	0	350
2019-11-20 07:15:00	17	40	37	0	94	0	0	25	101	8	0	134	0	0	26	82	11	0	119	0	0	8	180	15	0	203	0	0	550
2019-11-20 07:30:00	9	49	42	0	100	0	0	32	136	12	0	180	0	0	24	109	13	0	146	0	0	16	171	21	0	208	0	0	634
2019-11-20 07:45:00	18	56	31	0	105	0	0	34	117	24	0	175	0	0	16	104	20	0	140	0	0	20	123	19	0	162	0	0	582
2019-11-20 08:00:00	15	45	8	0	68	0	0	39	103	23	0	165	1	0	16	95	22	0	133	0	0	25	78	20	0	123	0	0	489
2019-11-20 08:15:00	13	62	20	0	95	0	0	20	77	14	0	111	0	0	21	67	18	0	106	0	0	27	99	14	0	140	0	0	452
2019-11-20 08:30:00	10	55	27	0	92	1	1	16	73	22	0	111	0	1	16	87	27	0	130	0	0	46	78	14	0	138	0	0	471
2019-11-20 08:45:00	19	72	19	0	110	0	2	17	84	12	0	113	0	1	28	72	34	0	134	0	0	39	103	17	0	159	0	0	516
2019-11-20 16:00:00	28	103	35	0	166	0	1	23	174	32	0	229	0	1	22	105	43	0	170	0	1	33	133	28	0	194	0	0	759
2019-11-20 16:15:00	41	101	42	0	184	0	0	29	142	21	0	192	0	0	35	109	45	0	189	2	0	26	130	25	0	181	0	0	746
2019-11-20 16:30:00	30	112	44	0	186	1	1	24	158	27	0	209	2	0	24	54	25	0	103	2	1	19	116	20	0	155	0	0	653
2019-11-20 16:45:00	29	132	39	0	200	0	0	22	142	26	0	190	0	0	24	58	20	0	102	0	2	30	108	30	0	168	0	0	660
2019-11-20 17:00:00	42	145	27	0	214	0	0	32	155	25	0	212	0	2	34	75	33	0	142	0	0	23	117	20	0	160	0	0	728
2019-11-20 17:15:00	31	168	50	0	249	0	2	23	139	23	0	185	0	2	20	70	25	0	115	1	0	22	95	21	0	138	0	0	687
2019-11-20 17:30:00	41	125	53	0	219	2	1	33	140	36	0	209	0	0	11	58	31	0	100	0	1	22	122	25	0	169	0	0	697
2019-11-20 17:45:00	30	151	40	0	221	0	0	22	128	25	0	175	0	0	13	50	18	0	81	1	0	19	126	29	0	174	0	0	651

Leg	S Walker Avenue							I-240 North Interchange							S Walker Avenue							I-240 North Interchange							Int Total	
Direction	Southbound							Westbound							Northbound							Eastbound								
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW		
2019-11-20:07:00:00	27	38	0	0	65	0	0	21	26	27	0	74	0	0	0	66	29	0	95	0	0	0	0	0	0	14	14	0	0	248
2019-11-20:07:15:00	31	45	0	0	76	0	1	32	21	31	0	84	0	0	0	88	28	0	116	0	0	0	0	0	13	13	0	0	289	
2019-11-20:07:30:00	50	54	0	0	104	0	0	31	39	41	0	111	1	0	0	109	40	0	149	1	0	0	0	0	23	23	0	0	387	
2019-11-20:07:45:00	51	64	0	0	115	0	0	47	52	35	0	134	0	0	0	130	31	0	161	0	0	0	0	0	20	20	0	0	430	
2019-11-20:08:00:00	44	60	0	0	104	0	0	51	49	26	0	126	0	2	0	101	23	0	124	0	0	0	0	0	29	29	0	0	383	
2019-11-20:08:15:00	26	49	0	0	75	0	0	32	34	38	0	104	0	2	0	82	28	0	110	0	0	0	0	0	22	22	0	0	311	
2019-11-20:08:30:00	56	42	0	0	98	0	0	40	47	32	0	119	0	0	0	109	29	0	138	0	0	0	0	0	29	29	0	0	384	
2019-11-20:08:45:00	56	67	0	0	123	0	0	36	39	39	0	114	0	2	0	99	27	0	126	0	0	0	0	0	30	30	0	0	393	
2019-11-20:16:00:00	85	93	0	0	178	0	0	52	95	69	0	216	0	0	0	102	39	0	141	0	0	0	0	0	32	32	0	0	567	
2019-11-20:16:15:00	73	101	0	0	174	0	0	42	78	56	0	176	0	1	0	75	44	0	119	0	0	0	0	0	21	21	0	0	490	
2019-11-20:16:30:00	76	123	0	0	199	0	0	51	87	41	0	179	1	1	0	83	48	0	131	0	0	0	0	0	30	30	0	0	539	
2019-11-20:16:45:00	73	115	0	0	188	0	1	44	93	66	0	203	0	2	0	85	44	0	129	0	0	0	0	0	21	21	0	0	541	
2019-11-20:17:00:00	67	152	0	0	219	0	0	56	92	55	0	203	0	0	0	81	54	0	135	0	0	0	0	0	39	39	0	0	596	
2019-11-20:17:15:00	76	154	0	0	230	0	0	47	101	53	0	201	1	0	0	81	42	0	123	0	0	0	0	0	22	22	0	0	576	
2019-11-20:17:30:00	66	134	0	0	200	0	0	50	85	56	0	191	0	1	0	56	36	0	92	0	0	0	0	0	29	29	0	0	512	
2019-11-20:17:45:00	68	103	0	0	171	0	0	44	72	50	0	166	1	1	0	73	38	0	111	0	0	0	0	0	15	15	0	1	463	

Leg	S Walker Avenue							I-240 South Interchange							S Walker Avenue							I-204 South Interchange							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	41	24	0	65	0	0	0	0	0	7	7	0	1	16	70	0	0	86	0	0	28	31	28	87	0	0	245	
2019-11-20 07:15:00	0	48	28	0	76	0	0	0	0	0	10	10	0	0	21	71	0	0	92	0	0	33	40	48	121	0	0	299	
2019-11-20 07:30:00	0	57	39	0	96	0	0	0	0	0	7	7	0	0	34	99	0	0	133	0	0	35	57	49	141	0	1	377	
2019-11-20 07:45:00	0	59	35	0	94	0	0	0	0	0	6	6	0	0	20	86	0	0	106	0	0	70	77	75	222	0	1	428	
2019-11-20 08:00:00	3	54	31	0	88	0	0	0	0	0	15	15	2	0	22	67	0	0	89	0	0	51	39	55	145	0	0	337	
2019-11-20 08:15:00	0	60	25	0	85	1	0	0	0	0	14	14	1	0	23	56	0	0	79	0	0	40	41	52	133	0	0	311	
2019-11-20 08:30:00	0	48	23	0	71	0	0	0	0	0	12	12	0	0	23	65	0	0	88	0	0	36	25	68	129	0	0	300	
2019-11-20 08:45:00	0	66	36	0	102	0	0	0	0	0	14	14	0	0	21	59	0	0	80	0	0	38	47	63	148	0	0	344	
2019-11-20 16:00:00	0	119	42	0	161	0	0	0	0	0	17	17	0	0	38	73	0	0	111	0	0	67	68	68	203	0	0	492	
2019-11-20 16:15:00	0	117	39	0	156	0	0	0	0	0	25	25	1	0	27	79	0	0	106	0	0	54	88	41	183	0	0	470	
2019-11-20 16:30:00	0	117	43	0	160	0	0	0	0	0	21	21	1	1	37	85	0	0	122	1	0	58	67	51	176	0	0	479	
2019-11-20 16:45:00	0	136	41	0	177	0	0	0	0	0	18	18	2	0	26	72	0	0	98	0	2	65	91	59	215	1	0	508	
2019-11-20 17:00:00	0	146	60	0	206	0	0	0	0	0	30	30	0	0	46	89	0	0	135	0	0	69	73	50	192	0	0	563	
2019-11-20 17:15:00	0	156	53	0	209	0	0	0	0	0	29	29	0	0	28	69	0	0	97	0	0	75	88	57	220	0	0	555	
2019-11-20 17:30:00	0	152	33	0	185	0	0	0	0	0	19	19	1	0	26	68	0	0	94	0	0	58	85	33	176	0	0	474	
2019-11-20 17:45:00	0	122	33	0	155	0	0	0	0	0	29	29	0	1	19	67	0	0	86	0	0	87	66	49	202	0	0	472	

Leg	S Walker Avenue							SE 89th Street							S Walker Avenue							SE 89th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	17	21	5	0	43	0	0	13	48	6	0	67	0	0	10	65	5	0	80	0	0	2	73	11	0	86	0	0	276
2019-11-20:07:15:00	14	18	3	0	35	0	0	20	53	7	0	80	0	0	14	73	7	0	94	0	0	3	79	35	0	117	0	0	326
2019-11-20:07:30:00	12	23	3	0	38	0	0	13	58	3	0	74	0	0	9	96	12	0	117	0	0	5	113	37	0	155	0	0	384
2019-11-20:07:45:00	17	47	12	0	76	0	0	13	58	10	0	81	0	0	11	95	7	0	113	0	0	13	94	41	0	148	0	0	418
2019-11-20:08:00:00	17	32	11	0	60	0	0	16	62	6	0	84	0	0	15	54	13	0	82	0	0	3	73	26	0	102	0	1	328
2019-11-20:08:15:00	14	29	8	0	51	0	0	17	74	3	0	94	0	0	8	63	6	0	77	0	0	4	68	17	0	89	0	0	311
2019-11-20:08:30:00	22	22	14	0	58	0	0	16	72	6	0	94	0	0	14	51	11	0	76	0	0	0	78	20	0	98	0	0	326
2019-11-20:08:45:00	22	26	3	0	51	0	0	18	77	9	0	104	0	0	19	59	14	0	92	0	0	8	87	30	0	125	0	0	372
2019-11-20 16:00:00	38	102	19	0	159	0	0	15	104	11	0	130	0	1	9	27	4	0	40	0	1	18	120	32	0	170	0	0	499
2019-11-20 16:15:00	35	108	22	0	165	0	0	7	127	13	0	147	0	0	7	25	13	0	45	0	0	16	113	25	0	154	0	0	511
2019-11-20 16:30:00	38	104	22	0	164	0	0	15	114	11	0	140	0	0	10	34	10	0	54	0	0	16	90	19	0	125	0	0	483
2019-11-20 16:45:00	37	115	20	0	172	0	0	15	116	13	0	144	0	0	12	27	16	0	55	3	0	13	95	17	0	125	0	0	496
2019-11-20 17:00:00	48	144	17	0	209	0	0	13	150	28	0	191	0	0	8	36	13	0	57	0	0	18	126	17	0	161	0	0	618
2019-11-20 17:15:00	46	123	27	0	196	0	0	16	133	21	0	170	0	0	14	36	22	0	72	0	0	13	140	21	0	174	0	0	612
2019-11-20 17:30:00	50	120	25	0	195	0	0	11	153	19	0	183	0	0	10	47	10	0	67	0	0	14	102	18	0	134	0	0	579
2019-11-20 17:45:00	33	104	20	0	157	0	0	10	108	18	0	136	0	0	10	46	9	0	65	0	0	20	109	28	0	157	0	0	515

Leg	S Walker Avenue							SW 104th Street							S Walker Avenue							SW 104th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	19	0	16	0	35	0	0	15	84	0	0	99	0	0	0	0	0	0	0	0	0	0	87	30	0	117	0	0	251
2019-11-20:07:15:00	14	2	20	0	36	0	0	30	110	1	0	141	0	0	0	0	0	0	0	0	0	1	122	28	0	151	0	0	328
2019-11-20:07:30:00	22	1	21	0	44	0	0	31	110	0	0	141	0	0	1	1	0	0	2	1	0	0	115	44	0	159	0	0	346
2019-11-20:07:45:00	26	0	41	0	67	0	0	35	125	0	0	160	0	0	0	2	1	0	3	0	0	0	123	46	0	169	0	0	399
2019-11-20:08:00:00	20	1	25	0	46	0	0	19	111	1	0	131	0	0	1	1	1	0	3	0	0	0	117	29	0	146	0	0	326
2019-11-20:08:15:00	24	0	23	0	47	0	0	28	105	0	0	133	0	0	0	0	0	0	0	0	0	0	116	27	0	143	0	0	323
2019-11-20:08:30:00	21	0	28	0	49	0	0	23	97	0	0	120	0	0	0	1	1	0	2	0	0	0	112	34	0	146	0	0	317
2019-11-20:08:45:00	15	0	29	0	44	0	0	27	122	1	0	150	0	0	1	0	1	0	2	0	0	0	124	25	0	149	0	0	345
2019-11-20 16:30:00	54	0	54	0	108	0	0	30	137	1	0	168	0	0	1	2	1	0	4	0	0	0	141	28	0	169	0	0	449
2019-11-20 16:45:00	71	0	55	0	126	0	0	27	194	0	0	221	0	0	0	1	0	0	1	0	0	0	124	17	0	141	0	0	489
2019-11-20 17:00:00	87	0	60	0	147	0	0	29	147	0	0	176	0	0	1	0	0	0	1	0	0	0	164	21	0	185	0	0	509
2019-11-20 17:15:00	68	0	52	0	120	0	0	43	164	1	0	208	0	0	4	0	1	0	5	0	0	1	130	18	0	149	0	0	482
2019-11-20 17:30:00	74	0	46	0	120	0	0	35	191	0	0	226	0	0	0	1	0	0	1	0	0	0	133	32	0	165	0	0	512
2019-11-20 17:45:00	71	0	39	0	110	0	0	26	140	0	0	166	0	0	1	0	0	0	1	0	0	0	132	27	0	159	0	0	436

Leg	N Council Road							NW 16th Street						N Council Road						NW 16th Street									
Direction	Southbound							Westbound						Northbound						Eastbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	0	186	7	0	193	0	0	10	5	8	0	23	0	0	3	121	1	0	125	0	0	4	8	3	0	15	0	0	356
2019-11-20:07:15:00	1	186	8	0	195	0	0	13	6	9	0	28	0	0	7	123	2	0	132	0	0	1	9	6	0	16	0	0	371
2019-11-20:07:30:00	1	210	9	0	220	0	0	14	3	17	0	34	0	0	5	142	2	0	149	0	0	8	15	8	0	31	0	0	434
2019-11-20:07:45:00	3	193	9	1	206	0	0	13	6	13	0	32	0	0	11	141	5	0	157	0	0	5	7	7	0	19	0	0	414
2019-11-20:08:00:00	2	160	6	0	168	0	0	13	5	8	0	26	0	0	14	131	2	0	147	0	0	1	8	8	0	17	0	0	358
2019-11-20:08:15:00	6	154	12	0	172	0	0	10	35	5	0	50	0	0	5	122	2	0	129	0	0	6	7	4	0	17	0	0	368
2019-11-20:08:30:00	4	149	12	0	165	0	0	11	49	6	0	66	2	0	6	135	9	0	150	0	0	4	17	5	0	26	0	0	407
2019-11-20:08:45:00	4	145	11	0	160	0	0	7	13	5	0	25	0	1	3	131	4	0	138	0	0	6	11	3	0	20	0	0	343
2019-11-20:16:00:00	8	151	8	0	167	0	0	8	5	9	0	22	0	0	9	201	3	0	213	0	0	2	13	4	0	19	0	0	421
2019-11-20:16:15:00	6	167	11	0	184	0	0	14	11	11	0	36	0	0	11	189	4	0	204	0	0	0	4	6	0	10	0	0	434
2019-11-20:16:30:00	5	138	10	0	153	0	0	10	13	13	0	36	0	0	11	180	6	0	197	0	0	3	11	6	0	20	0	0	406
2019-11-20:16:45:00	7	152	3	0	162	0	0	8	4	6	0	18	0	0	8	246	3	0	257	0	0	1	4	5	0	10	0	0	447
2019-11-20:17:00:00	6	167	12	0	185	0	0	10	11	9	0	30	0	0	19	273	7	0	299	0	0	1	9	4	0	14	0	0	528
2019-11-20:17:15:00	9	178	10	0	197	0	0	17	9	16	0	42	0	0	15	233	4	0	252	0	0	4	5	5	0	14	0	0	505
2019-11-20:17:30:00	12	201	18	0	231	0	0	14	12	12	0	38	0	0	14	237	9	0	260	0	0	3	12	6	0	21	0	0	550
2019-11-20:17:45:00	4	170	14	0	188	0	0	10	7	14	0	31	0	0	16	197	4	0	217	0	0	2	6	2	0	10	0	0	446

Leg	N MacArthur Boulevard							NW 19th Street						N MacArthur Boulevard						NW 19th Street						Int Total			
Direction	Southbound							Westbound						Northbound						Eastbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	0	111	7	0	118	0	0	6	1	2	0	9	0	1	5	79	2	0	86	0	0	10	1	0	0	11	0	0	224
2019-11-20 07:15:00	0	168	1	0	169	0	0	9	3	3	0	15	0	0	6	115	3	0	124	0	0	3	2	1	0	6	0	0	314
2019-11-20 07:30:00	7	155	4	0	166	0	0	4	3	3	0	10	0	0	6	152	5	0	163	0	0	9	2	4	0	15	0	0	354
2019-11-20 07:45:00	2	191	5	0	198	0	0	7	2	1	0	10	0	0	4	132	4	0	140	0	0	6	3	9	1	19	0	0	367
2019-11-20 08:00:00	3	150	3	0	156	0	0	3	3	3	0	9	0	2	2	110	5	0	117	0	1	6	2	2	0	10	0	0	292
2019-11-20 08:15:00	3	114	6	0	123	0	0	2	5	3	0	10	0	0	4	124	9	0	137	0	0	6	3	3	0	12	0	0	282
2019-11-20 08:30:00	0	108	3	0	111	0	0	8	0	6	0	14	0	0	1	106	1	0	108	0	0	6	2	1	0	9	0	0	242
2019-11-20 08:45:00	4	110	3	0	117	0	0	3	2	2	0	7	0	0	4	119	2	0	125	0	0	0	0	1	0	1	0	0	250
2019-11-20 16:00:00	3	196	7	0	206	0	0	5	2	5	0	12	0	0	5	197	6	0	208	0	0	4	2	5	0	11	2	0	437
2019-11-20 16:15:00	5	192	4	0	201	0	0	10	2	1	0	13	0	0	5	191	8	0	204	0	1	4	2	3	0	9	0	0	427
2019-11-20 16:30:00	3	178	4	0	185	0	0	6	3	2	0	11	0	0	2	223	4	0	229	0	0	4	2	2	0	8	0	0	433
2019-11-20 16:45:00	2	190	5	0	197	0	0	6	7	3	0	16	0	1	10	170	4	0	184	0	0	3	5	1	0	9	1	0	406
2019-11-20 17:00:00	5	190	3	0	198	0	0	6	5	2	0	13	1	0	4	228	8	0	240	0	0	6	2	0	0	8	0	0	459
2019-11-20 17:15:00	2	179	6	0	187	0	0	6	2	6	0	14	0	0	4	264	6	0	274	0	0	3	0	0	0	3	0	0	478
2019-11-20 17:30:00	1	208	4	0	213	0	0	5	2	2	0	9	1	0	7	229	3	0	239	0	0	3	1	3	0	7	0	0	468
2019-11-20 17:45:00	2	187	3	0	192	0	0	5	4	2	0	11	0	3	9	227	7	0	243	0	1	5	1	4	0	10	0	2	456

Leg	N Rockwell Road							NW 16th Street							N Rockwell Road							NW 16th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	9	126	9	0	144	0	0	17	8	7	0	32	0	1	7	83	4	0	94	0	0	19	16	13	0	48	0	0	318
2019-11-20 07:15:00	11	128	18	0	157	0	0	21	17	13	0	51	1	0	3	87	12	0	102	1	0	19	17	31	0	67	0	0	377
2019-11-20 07:30:00	20	190	22	0	232	0	0	15	14	13	0	42	0	1	6	88	5	0	99	1	1	19	29	17	0	65	0	0	438
2019-11-20 07:45:00	9	187	17	0	213	0	0	15	20	11	0	46	0	0	8	98	10	0	116	0	0	23	30	17	0	70	0	1	445
2019-11-20 08:00:00	16	120	17	0	153	0	0	17	13	14	0	44	0	0	17	100	3	0	120	0	2	24	19	20	0	63	0	0	380
2019-11-20 08:15:00	14	108	10	0	132	0	0	15	35	14	0	64	0	3	8	78	3	0	89	0	0	14	25	19	0	58	0	0	343
2019-11-20 08:30:00	16	100	12	0	128	0	0	13	33	17	0	63	0	0	6	102	14	0	122	3	3	7	29	9	0	45	1	0	358
2019-11-20 08:45:00	6	94	12	0	112	0	0	15	20	8	0	43	2	0	9	68	5	0	82	0	0	14	22	14	0	50	1	0	287
2019-11-20 16:00:00	17	142	15	0	174	0	0	21	16	22	0	59	0	0	11	163	16	0	190	0	1	8	17	14	0	39	2	0	462
2019-11-20 16:15:00	18	152	20	0	190	1	0	21	30	17	0	68	0	0	11	156	15	0	182	0	1	8	23	14	0	45	1	0	485
2019-11-20 16:30:00	19	130	15	0	164	0	0	24	26	15	0	65	0	0	17	187	19	0	223	0	0	8	23	19	0	50	0	0	502
2019-11-20 16:45:00	20	154	19	0	193	0	0	17	20	23	0	60	0	0	12	167	17	0	196	3	1	10	12	13	0	35	1	0	484
2019-11-20 17:00:00	20	166	22	0	208	0	0	16	24	23	0	63	1	0	16	207	16	0	239	1	0	7	26	8	0	41	3	0	551
2019-11-20 17:15:00	15	137	20	0	172	0	0	18	39	24	0	81	0	0	13	187	20	0	220	0	1	6	21	15	0	42	0	0	515
2019-11-20 17:30:00	14	139	19	0	172	0	0	24	20	9	0	53	0	0	13	189	10	0	212	1	1	13	21	22	0	56	0	0	493
2019-11-20 17:45:00	19	156	19	0	194	0	0	23	30	20	0	73	0	0	15	171	12	0	198	0	0	8	18	16	0	42	0	1	507

Leg	N Meridian Avenue						NW 19th Street						N Meridian Avenue						
Direction	Southbound						Northbound						Eastbound						
Start Time	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	2	112	0	114	0	0	70	4	0	74	0	0	5	11	0	16	1	0	204
2019-11-20 07:15:00	7	133	0	140	0	0	87	4	0	91	0	1	18	7	0	25	0	0	256
2019-11-20 07:30:00	5	177	0	182	0	0	133	6	0	139	0	0	18	8	0	26	0	0	347
2019-11-20 07:45:00	7	216	0	223	0	0	129	6	0	135	0	0	15	9	0	24	0	0	382
2019-11-20 08:00:00	7	123	0	130	0	0	121	6	0	127	0	0	11	5	0	16	0	0	273
2019-11-20 08:15:00	4	117	0	121	0	0	105	10	0	115	0	0	22	1	0	23	0	0	259
2019-11-20 08:30:00	1	116	0	117	0	0	110	8	0	118	0	0	10	5	0	15	1	0	250
2019-11-20 08:45:00	3	118	0	121	0	0	86	2	0	88	0	0	10	7	0	17	0	0	226
2019-11-20 16:00:00	17	183	0	200	0	0	194	9	0	203	0	0	7	6	0	13	0	0	416
2019-11-20 16:15:00	11	191	0	202	0	0	205	9	0	214	0	0	16	1	0	17	0	0	433
2019-11-20 16:30:00	13	186	0	199	0	0	216	14	0	230	0	0	9	2	0	11	1	0	440
2019-11-20 16:45:00	18	190	0	208	0	0	232	12	0	244	0	0	12	8	0	20	0	1	472
2019-11-20 17:00:00	12	217	0	229	0	0	225	12	0	237	0	0	22	4	0	26	0	1	492
2019-11-20 17:15:00	16	222	0	238	0	0	257	5	0	262	0	0	12	1	0	13	0	1	513
2019-11-20 17:30:00	8	191	0	199	0	0	241	15	0	256	1	0	14	4	0	18	0	0	473
2019-11-20 17:45:00	9	188	0	197	0	0	200	8	0	208	0	0	9	3	0	12	0	1	417

Leg	N Meridian Avenue							Nw 16th Street							N Meridian Avenue							NW 16th Street						
Direction	Southbound							Westbound							Northbound							Eastbound						
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Int Total	
2019-11-20 07:00:00	12	104	4	0	120	0	0	10	11	3	0	24	0	0	3	64	7	0	74	0	0	11	19	5	0	35	253	
2019-11-20 07:15:00	21	124	12	0	157	0	0	7	16	6	0	29	0	0	3	65	16	0	84	0	0	12	37	14	0	63	333	
2019-11-20 07:30:00	19	144	9	0	172	0	0	11	21	2	0	34	0	0	8	92	29	0	129	0	0	23	43	33	0	99	434	
2019-11-20 07:45:00	23	168	17	0	208	0	0	18	21	3	0	42	0	0	13	102	27	0	142	0	0	23	26	20	0	69	461	
2019-11-20 08:00:00	21	102	10	0	133	0	0	16	34	9	0	59	0	0	7	87	33	0	127	0	0	26	34	17	0	77	396	
2019-11-20 08:15:00	18	108	15	0	141	0	0	9	21	8	0	38	0	0	10	77	29	0	116	0	0	30	24	26	0	80	375	
2019-11-20 08:30:00	17	94	17	0	128	0	0	16	19	7	0	42	0	0	7	81	12	0	100	0	0	21	23	24	0	68	338	
2019-11-20 08:45:00	10	99	10	0	119	0	0	7	20	2	0	29	0	0	2	68	7	0	77	0	0	18	20	6	0	44	269	
2019-11-20 16:00:00	22	163	18	0	203	0	0	18	34	12	0	64	0	0	10	151	17	0	178	0	0	35	32	23	0	90	535	
2019-11-20 16:15:00	27	151	13	0	191	0	0	20	48	9	0	77	0	0	11	164	21	0	196	0	0	14	40	19	0	73	537	
2019-11-20 16:30:00	13	157	15	0	185	0	0	30	51	9	0	90	0	0	14	184	23	0	221	0	0	15	26	8	0	49	545	
2019-11-20 16:45:00	21	153	18	0	192	0	0	22	60	12	0	94	0	0	14	189	26	0	229	0	0	18	35	19	0	72	587	
2019-11-20 17:00:00	30	162	16	0	208	0	1	20	64	6	0	90	0	0	8	204	25	0	237	0	0	33	37	11	0	81	616	
2019-11-20 17:15:00	25	162	29	0	216	2	1	22	65	9	0	96	0	0	12	208	27	0	247	0	0	22	20	16	0	58	617	
2019-11-20 17:30:00	13	185	20	0	218	0	0	21	57	8	0	86	0	0	14	207	29	0	250	1	0	21	23	16	0	60	614	
2019-11-20 17:45:00	18	156	15	0	189	0	0	26	63	11	0	100	0	0	8	189	11	0	208	0	0	26	35	10	0	71	568	

Leg	N Meridian Avenue						NW 20th Street						N Meridian Avenue						Int Total
Direction	Southbound						Westbound						Northbound						
Start Time	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	U-Turn	App Total	Peds CW	Peds CCW	
2019-11-20 07:00:00	115	1	0	116	0	0	2	2	0	4	0	0	5	77	0	82	0	0	202
2019-11-20 07:15:00	146	1	0	147	0	0	2	3	0	5	0	0	4	97	0	101	0	0	253
2019-11-20 07:30:00	192	0	0	192	0	0	8	3	0	11	0	0	0	153	0	153	0	0	356
2019-11-20 07:45:00	219	1	0	220	0	0	10	4	0	14	0	0	2	142	0	144	0	0	378
2019-11-20 08:00:00	125	1	0	126	0	0	9	3	0	12	0	0	2	126	0	128	0	0	266
2019-11-20 08:15:00	120	2	0	122	0	0	3	4	0	7	0	0	1	105	0	106	0	0	235
2019-11-20 08:30:00	116	1	0	117	0	0	1	2	0	3	0	0	2	112	0	114	0	0	234
2019-11-20 08:45:00	117	2	0	119	0	0	6	4	0	10	0	0	2	92	0	94	0	0	223
2019-11-20 16:00:00	194	0	0	194	0	0	10	7	0	17	0	0	10	188	0	198	0	0	409
2019-11-20 16:15:00	191	6	0	197	0	0	8	8	0	16	0	0	2	197	0	199	0	0	412
2019-11-20 16:30:00	188	2	0	190	0	0	7	10	0	17	0	0	6	201	0	207	0	0	414
2019-11-20 16:45:00	204	3	0	207	0	0	4	4	0	8	0	0	6	234	0	240	0	0	455
2019-11-20 17:00:00	229	0	0	229	0	0	4	6	0	10	0	0	4	231	0	235	0	0	474
2019-11-20 17:15:00	233	3	0	236	0	0	6	6	0	12	0	0	2	259	0	261	0	0	509
2019-11-20 17:30:00	196	2	0	198	0	0	10	3	0	13	0	0	5	241	0	246	0	0	457
2019-11-20 17:45:00	192	4	0	196	0	0	7	6	0	13	0	1	3	221	0	224	0	0	433

Leg	NW Grand Boulevard SB							NW 19th Street							NW Grand Boulevard SB							NW 19th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	1	5	5	0	11	0	0	0	8	0	1	9	0	0	0	0	0	0	0	0	0	1	13	0	0	14	0	0	34
2019-11-20 07:15:00	3	6	2	0	11	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	22	0	0	22	0	1	43	
2019-11-20 07:30:00	0	9	4	0	13	0	0	0	12	0	1	13	0	0	0	0	0	0	0	0	0	1	23	0	0	24	0	0	50
2019-11-20 07:45:00	3	10	7	0	20	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	36	0	0	36	0	0	67
2019-11-20 08:00:00	1	11	6	0	18	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	31	0	0	31	0	0	58	
2019-11-20 08:15:00	2	13	1	0	16	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	13	0	0	13	0	0	39	
2019-11-20 08:30:00	2	7	2	0	11	0	1	0	14	2	1	17	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	37	
2019-11-20 08:45:00	0	7	7	0	14	0	0	0	16	2	0	18	0	0	0	0	0	0	1	0	0	10	0	0	10	0	0	42	
2019-11-20 16:00:00	10	16	7	0	33	1	0	0	34	7	0	41	0	0	0	0	0	0	0	0	0	28	0	0	28	0	0	102	
2019-11-20 16:15:00	5	31	12	0	48	0	0	0	29	2	1	32	0	0	0	0	0	0	0	0	0	14	0	0	14	1	1	94	
2019-11-20 16:30:00	9	45	6	0	60	0	0	0	21	1	0	22	0	0	0	0	0	0	0	0	1	13	0	0	14	0	0	96	
2019-11-20 16:45:00	7	37	7	0	51	0	0	0	17	2	0	19	0	0	0	0	0	0	0	0	0	13	0	0	13	0	0	83	
2019-11-20 17:00:00	12	29	14	0	55	0	0	0	14	2	0	16	0	0	0	0	0	0	0	0	1	9	0	0	10	0	0	81	
2019-11-20 17:15:00	7	38	13	0	58	0	0	0	25	2	0	27	0	0	0	0	0	0	0	0	0	10	0	0	10	1	0	95	
2019-11-20 17:30:00	11	33	14	0	58	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	17	0	0	17	0	0	87	
2019-11-20 17:45:00	11	26	4	0	41	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	2	20	0	0	22	0	0	77	

Leg	N Grand Boulevard							NW 19th Street						N Grand Boulevard						NW 19th Street									
Direction	Southbound							Westbound						Northbound						Eastbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	0	0	0	0	0	0	4	7	0	0	11	0	0	0	16	2	0	18	0	0	0	14	5	0	19	0	0	48
2019-11-20 07:15:00	0	0	0	0	0	0	0	5	8	0	0	13	0	0	0	32	2	0	34	0	0	0	10	14	0	24	0	0	71
2019-11-20 07:30:00	0	0	0	0	0	0	0	4	11	0	0	15	0	0	1	29	2	0	32	0	0	0	16	12	0	28	0	0	75
2019-11-20 07:45:00	0	0	0	0	0	0	0	6	10	0	0	16	0	0	2	17	1	0	20	0	0	0	33	9	0	42	0	0	78
2019-11-20 08:00:00	0	0	0	0	0	0	0	6	9	0	0	15	0	0	1	26	0	0	27	0	0	0	27	9	0	36	0	0	78
2019-11-20 08:15:00	0	0	0	0	0	0	0	6	8	0	0	14	0	0	2	27	2	0	31	0	0	0	11	3	0	14	0	0	59
2019-11-20 08:30:00	0	0	0	0	0	0	1	1	8	0	0	9	0	0	1	30	9	0	40	1	0	0	8	5	0	13	0	0	62
2019-11-20 08:45:00	0	0	0	0	0	0	0	3	10	0	0	13	0	0	0	19	6	0	25	1	0	0	14	2	1	17	0	0	55
2019-11-20 16:00:00	0	0	0	0	0	1	0	2	41	0	0	43	0	0	2	16	1	0	19	0	0	0	26	9	0	35	0	0	97
2019-11-20 16:15:00	0	0	0	0	0	0	0	2	28	0	1	31	0	0	1	14	4	0	19	0	0	0	25	1	0	26	0	0	76
2019-11-20 16:30:00	0	0	0	0	0	0	0	4	20	0	0	24	0	0	1	14	2	0	17	0	0	0	15	5	0	20	0	0	61
2019-11-20 16:45:00	0	0	0	0	0	0	0	2	15	0	0	17	0	0	1	13	3	0	17	0	0	0	13	6	0	19	0	0	53
2019-11-20 17:00:00	0	0	0	0	0	0	0	2	13	0	1	16	0	0	0	12	3	0	15	0	0	0	20	1	0	21	0	0	52
2019-11-20 17:15:00	0	0	0	0	0	0	0	2	25	0	0	27	0	0	2	22	3	0	27	0	0	0	22	3	0	25	0	0	79
2019-11-20 17:30:00	0	0	0	0	0	0	0	1	9	0	0	10	0	0	4	18	2	0	24	0	0	0	26	5	0	31	0	0	65
2019-11-20 17:45:00	0	0	0	0	0	0	0	5	13	0	0	18	0	0	1	13	1	0	15	0	0	0	15	9	0	24	0	0	57

Leg	N Drexel Boulevard							NW 19th Street							N Drexel Boulevard							NW 19th Street							
Direction	Southbound							Westbound							Northbound							Eastbound							
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20 07:00:00	0	9	2	0	11	0	0	1	3	1	0	5	0	0	1	8	0	0	9	0	0	2	3	2	0	7	0	0	32
2019-11-20 07:15:00	0	16	0	0	16	0	0	0	5	0	0	5	0	0	2	21	1	0	24	0	0	3	5	4	0	12	0	0	57
2019-11-20 07:30:00	1	17	2	0	20	0	0	1	5	0	1	7	0	0	4	22	1	0	27	0	0	6	10	4	0	20	0	0	74
2019-11-20 07:45:00	2	24	3	2	31	0	0	5	5	2	1	13	0	0	3	18	2	0	23	0	0	13	15	4	0	32	0	0	99
2019-11-20 08:00:00	1	25	7	1	34	0	0	0	7	0	2	9	0	0	1	29	1	1	32	0	0	6	16	7	0	29	0	0	104
2019-11-20 08:15:00	3	23	4	1	31	0	0	0	6	2	1	9	0	0	3	27	2	0	32	0	0	6	6	5	0	17	0	0	89
2019-11-20 08:30:00	0	14	0	0	14	0	0	1	2	1	1	5	0	0	0	32	3	0	35	1	0	3	4	3	0	10	0	0	64
2019-11-20 08:45:00	4	15	0	0	19	0	0	1	7	1	1	10	0	0	1	37	1	1	40	0	0	3	6	7	0	16	0	0	85
2019-11-20 16:00:00	6	30	1	1	38	1	0	1	11	3	0	15	0	0	4	30	9	2	45	0	0	5	5	8	0	18	0	0	116
2019-11-20 16:15:00	10	32	2	2	46	0	0	1	8	1	2	12	0	0	3	39	5	0	47	0	0	9	10	3	0	22	0	0	127
2019-11-20 16:30:00	1	18	3	0	22	0	0	1	10	0	1	12	0	4	1	30	11	1	43	0	0	6	5	6	0	17	0	0	94
2019-11-20 16:45:00	5	29	3	0	37	0	0	7	8	4	0	19	2	1	3	36	7	1	47	2	0	3	1	2	0	6	0	0	109
2019-11-20 17:00:00	4	21	6	0	31	0	0	6	7	1	0	14	0	0	6	41	8	3	58	0	0	5	8	2	0	15	0	3	118
2019-11-20 17:15:00	7	25	2	0	34	0	0	3	10	2	2	17	0	0	3	35	8	1	47	0	0	6	10	3	0	19	0	0	117
2019-11-20 17:30:00	3	25	0	0	28	0	0	2	11	0	0	13	0	0	0	40	0	0	40	0	0	4	8	3	0	15	0	0	96
2019-11-20 17:45:00	4	24	2	2	32	0	0	2	8	1	0	11	0	0	0	39	9	0	48	0	0	4	6	3	0	13	0	0	104

Leg	N May Avenue							NW 19th Street						N May Avenue						NW 19th Street									
Direction	Southbound							Westbound						Northbound						Eastbound									
Start Time	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Right	Thru	Left	U-Turn	App Total	Peds CW	Peds CCW	Int Total
2019-11-20:07:00:00	0	77	2	0	79	0	0	2	2	3	0	7	0	1	2	107	2	0	111	0	0	3	1	3	0	7	0	0	204
2019-11-20:07:15:00	1	126	1	0	128	0	0	4	2	2	0	8	2	0	0	175	4	0	179	0	0	5	2	6	0	13	0	0	328
2019-11-20:07:30:00	1	132	3	0	136	0	0	7	2	1	0	10	0	0	1	162	3	0	166	0	1	3	10	4	1	18	0	0	330
2019-11-20:07:45:00	2	136	0	0	138	0	0	4	4	3	0	11	0	1	6	181	3	0	190	0	0	2	12	3	0	17	2	0	356
2019-11-20:08:00:00	2	107	3	0	112	0	0	8	4	0	0	12	0	0	6	168	2	0	176	0	0	4	17	2	0	23	0	0	323
2019-11-20:08:15:00	4	126	0	0	130	0	0	4	3	4	1	12	1	0	3	152	1	0	156	0	0	5	4	3	0	12	0	2	310
2019-11-20:08:30:00	2	125	1	0	128	0	0	8	1	1	0	10	0	0	1	144	2	0	147	2	1	3	0	0	1	4	3	0	289
2019-11-20:08:45:00	3	107	2	0	112	0	0	5	2	1	0	8	0	0	1	116	0	0	117	0	0	0	5	3	0	8	0	2	245
2019-11-20:16:00:00	4	169	1	0	174	0	0	5	6	1	1	13	0	1	3	173	2	0	178	0	0	6	4	0	0	10	0	0	375
2019-11-20:16:15:00	5	197	5	0	207	0	0	3	8	7	1	19	0	0	9	162	2	0	173	0	0	7	9	1	0	17	1	0	416
2019-11-20:16:30:00	5	219	2	0	226	0	0	5	5	0	1	11	0	0	2	167	2	0	171	0	0	3	3	1	0	7	0	0	415
2019-11-20:16:45:00	3	192	4	0	199	0	0	3	4	1	0	8	0	0	6	181	8	0	195	0	0	2	1	1	0	4	0	1	406
2019-11-20:17:00:00	6	202	2	0	210	0	0	3	4	2	2	11	1	0	4	208	2	0	214	0	0	9	6	1	0	16	1	0	451
2019-11-20:17:15:00	7	197	4	0	208	0	0	0	5	1	1	7	0	0	6	241	6	0	253	0	0	7	5	2	0	14	1	0	482
2019-11-20:17:30:00	5	213	2	0	220	0	0	5	5	0	0	10	0	0	7	235	3	0	245	0	0	3	1	4	0	8	0	1	483
2019-11-20:17:45:00	2	169	3	0	174	0	0	1	3	0	0	4	0	0	2	231	4	0	237	1	0	2	5	2	0	9	1	0	424







Appendix C: Synchro 10™ Level of Service Analysis

HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

02/12/2020

Intersection

Intersection Delay, s/veh 7.9
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	54	12	5	91	8	2	4	3	12	17	8
Future Vol, veh/h	1	54	12	5	91	8	2	4	3	12	17	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	59	13	5	99	9	2	4	3	13	18	9
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.8	8.1	7.3	7.5
HCM LOS	A	A	A	A







Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	100%	0%	100%	0%	32%
Vol Thru, %	44%	0%	82%	0%	92%	46%
Vol Right, %	33%	0%	18%	0%	8%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	1	66	5	99	37
LT Vol	2	1	0	5	0	12
Through Vol	4	0	54	0	91	17
RT Vol	3	0	12	0	8	8
Lane Flow Rate	10	1	72	5	108	40
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.012	0.002	0.091	0.008	0.138	0.048
Departure Headway (Hd)	4.269	5.18	4.552	5.16	4.603	4.325
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	843	687	782	691	776	833
Service Time	2.27	2.937	2.309	2.907	2.349	2.326
HCM Lane V/C Ratio	0.012	0.001	0.092	0.007	0.139	0.048
HCM Control Delay	7.3	7.9	7.8	7.9	8.1	7.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	0.3	0	0.5	0.2

HCM 6th AWSC
1005: NE Grand Blvd NB & NE 16th St

02/12/2020

Intersection

Intersection Delay, s/veh 7.8
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	47	7	7	70	6	27	18	4	1	8	13
Future Vol, veh/h	13	47	7	7	70	6	27	18	4	1	8	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	51	8	8	76	7	29	20	4	1	9	14
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.9	8	7.7	7.2
HCM LOS	A	A	A	A





Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	55%	100%	0%	100%	0%	5%
Vol Thru, %	37%	0%	87%	0%	92%	36%
Vol Right, %	8%	0%	13%	0%	8%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	13	54	7	76	22
LT Vol	27	13	0	7	0	1
Through Vol	18	0	47	0	70	8
RT Vol	4	0	7	0	6	13
Lane Flow Rate	53	14	59	8	83	24
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.065	0.02	0.075	0.011	0.107	0.027
Departure Headway (Hd)	4.415	5.216	4.624	5.207	4.651	4.042
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	816	681	768	683	764	891
Service Time	2.416	2.987	2.395	2.974	2.417	2.044
HCM Lane V/C Ratio	0.065	0.021	0.077	0.012	0.109	0.027
HCM Control Delay	7.7	8.1	7.8	8	8	7.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.2	0	0.4	0.1

HCM 6th TWSC
1000: N Robinson Ave & NW 18th St

02/12/2020

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	12	5	1	1	1	1	23	6	4	101	3
Future Vol, veh/h	4	12	5	1	1	1	1	23	6	4	101	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	13	5	1	1	1	1	25	7	4	110	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	135	154	57	101	152	16	113	0	0	32	0	0
Stage 1	120	120	-	31	31	-	-	-	-	-	-	-
Stage 2	15	34	-	70	121	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	823	737	997	869	739	1059	1474	-	-	1579	-	-
Stage 1	872	796	-	981	869	-	-	-	-	-	-	-
Stage 2	1003	866	-	932	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	819	734	997	850	736	1059	1474	-	-	1579	-	-
Mov Cap-2 Maneuver	819	734	-	850	736	-	-	-	-	-	-	-
Stage 1	871	794	-	980	868	-	-	-	-	-	-	-
Stage 2	1000	865	-	909	793	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		9.2		0.2		0.3	
HCM LOS	A		A					







Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1474	-	-	800	862	1579	-
HCM Lane V/C Ratio	0.001	-	-	0.029	0.004	0.003	-
HCM Control Delay (s)	7.4	0	-	9.6	9.2	7.3	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-

HCM 6th TWSC
1001: N Robinson Ave & NW 16th St

02/12/2020

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	5	14	0	25	0	0	0	0	97	3
Future Vol, veh/h	5	1	5	14	0	25	0	0	0	0	97	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	-	-	-	-	-	40
Veh in Median Storage, #	-	0	-	-	16979	-	-	16979	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	5	15	0	27	0	0	0	0	105	3

Major/Minor	Minor2			Major2		
Conflicting Flow All	105	105	53	-	-	0
Stage 1	105	105	-	-	-	-
Stage 2	0	0	-	-	-	-
Critical Hdwy	6.84	6.54	6.94	-	-	-
Critical Hdwy Stg 1	5.84	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	-	-	-
Pot Cap-1 Maneuver	881	784	1003	0	-	-
Stage 1	908	807	-	0	-	-
Stage 2	-	-	-	0	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	881	0	1003	-	-	-
Mov Cap-2 Maneuver	881	0	-	-	-	-
Stage 1	908	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	8.9	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	881	1003	-	-
HCM Lane V/C Ratio	0.006	0.005	-	-
HCM Control Delay (s)	9.1	8.6	-	-
HCM Lane LOS	A	A	-	-
HCM 95th %tile Q(veh)	0	0	-	-

HCM 6th TWSC
1002: N Lincoln Blvd SB & NE 16th St

02/12/2020

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰					↰↱↱		
Traffic Vol, veh/h	0	10	3	1	1	0	0	0	0	0	764	6
Future Vol, veh/h	0	10	3	1	1	0	0	0	0	0	764	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	3	1	1	0	0	0	0	0	830	7
Major/Minor	Minor2		Minor1				Major2					
Conflicting Flow All	-	834	419	338	837	-	-	-	-	0	0	0
Stage 1	-	834	-	0	0	-	-	-	-	-	-	-
Stage 2	-	0	-	338	837	-	-	-	-	-	-	-
Critical Hdwy	-	6.54	7.14	6.44	6.54	-	-	-	-	5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-	-	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	302	498	613	301	0	-	-	-	-	-	-
Stage 1	0	381	-	-	-	0	-	-	-	-	-	-
Stage 2	0	-	-	596	380	0	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	302	498	592	301	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	302	-	592	301	-	-	-	-	-	-	-
Stage 1	-	381	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	575	380	-	-	-	-	-	-	-
Approach	EB		WB				SB					
HCM Control Delay, s	16.3		14.1				0					
HCM LOS	C		B									
Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR							
Capacity (veh/h)	332 399		-	-	-							
HCM Lane V/C Ratio	0.043 0.005		-	-	-							
HCM Control Delay (s)	16.3 14.1		0	-	-							
HCM Lane LOS	C B		A	-	-							
HCM 95th %tile Q(veh)	0.1 0		-	-	-							

HCM 6th TWSC
1003: N Lincoln Blvd NB & NE 16th St

02/12/2020

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	10	0	0	0	1	4	1	594	2	0	0	0
Future Vol, veh/h	10	0	0	0	1	4	1	594	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	0	0	1	4	1	646	2	0	0	0

Major/Minor	Minor2		Minor1		Major1				
Conflicting Flow All	261	650	-	-	649	324	0	0	0
Stage 1	0	0	-	-	649	-	-	-	-
Stage 2	261	650	-	-	0	-	-	-	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-
Pot Cap-1 Maneuver	676	387	0	0	387	573	-	-	-
Stage 1	-	-	0	0	464	-	-	-	-
Stage 2	662	463	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	669	387	-	-	387	573	-	-	-
Mov Cap-2 Maneuver	669	387	-	-	387	-	-	-	-
Stage 1	-	-	-	-	464	-	-	-	-
Stage 2	655	463	-	-	-	-	-	-	-


















Approach	EB		WB		NB		
HCM Control Delay, s	10.5		12				
HCM LOS	B		B				

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	
Capacity (veh/h)	-	-	-	669	523
HCM Lane V/C Ratio	-	-	-	0.016	0.01
HCM Control Delay (s)	-	-	-	10.5	12
HCM Lane LOS	-	-	-	B	B
HCM 95th %tile Q(veh)	-	-	-	0.1	0

Timings

282: N Lottie Ave & NE 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	12	8	63	45	43	6	128	18	23	359	7
Future Volume (vph)	2	12	8	63	45	43	6	128	18	23	359	7
Satd. Flow (prot)	0	1761	0	1770	1727	0	0	3469	0	0	3518	0
Flt Permitted		0.979		0.742				0.941			0.936	
Satd. Flow (perm)	0	1731	0	1382	1727	0	0	3270	0	0	3303	0
Satd. Flow (RTOR)		9			47			20			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	68	96	0	0	166	0	0	423	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0			5.0	
Act Effect Green (s)		16.0		16.0	16.0			47.4			47.4	
Actuated g/C Ratio		0.24		0.24	0.24			0.70			0.70	
v/c Ratio		0.06		0.21	0.22			0.07			0.18	
Control Delay		16.4		23.5	14.2			4.5			5.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		16.4		23.5	14.2			4.5			5.3	
LOS		B		C	B			A			A	
Approach Delay		16.4			18.0			4.5			5.3	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		5		23	16			11			35	
Queue Length 95th (ft)		22		55	51			21			53	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)				105								
Base Capacity (vph)		950		755	964			2290			2308	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.09	0.10			0.07			0.18	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 67.8

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.22

Intersection Signal Delay: 8.2

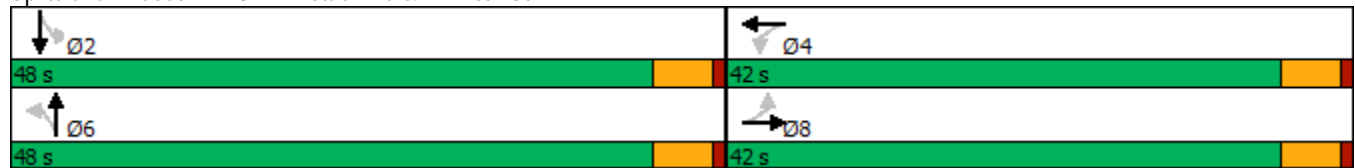
Intersection LOS: A

Intersection Capacity Utilization 49.1%

ICU Level of Service A

Analysis Period (min) 15






















Splits and Phases: 282: N Lottie Ave & NE 16th St



Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	25	46	18	56	29	48	395	7	16	313	60
Future Volume (vph)	44	25	46	18	56	29	48	395	7	16	313	60
Satd. Flow (prot)	1770	1863	1583	0	1776	0	1770	3529	0	1770	3454	0
Flt Permitted	0.411				0.933		0.495			0.498		
Satd. Flow (perm)	766	1863	1583	0	1672	0	922	3529	0	928	3454	0
Satd. Flow (RTOR)			145		21			2			24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	27	50	0	113	0	52	437	0	17	405	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	16.0	44.0	28.0	28.0	28.0		16.0	31.0		15.0	30.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.0	14.7	10.2		10.2		62.2	60.1		60.1	57.4	
Actuated g/C Ratio	0.17	0.16	0.11		0.11		0.69	0.67		0.67	0.64	
v/c Ratio	0.23	0.09	0.16		0.54		0.07	0.19		0.03	0.18	
Control Delay	29.8	26.9	1.1		39.5		7.6	10.0		7.9	10.9	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	29.8	26.9	1.1		39.5		7.6	10.0		7.9	10.9	
LOS	C	C	A		D		A	A		A	B	
Approach Delay		17.7			39.5			9.7			10.8	
Approach LOS		B			D			A			B	
Queue Length 50th (ft)	26	15	0		50		10	48		3	60	
Queue Length 95th (ft)	44	29	0		98		28	115		13	105	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	272	807	512		442		754	2358		736	2210	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.18	0.03	0.10		0.26		0.07	0.19		0.02	0.18	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 13.9

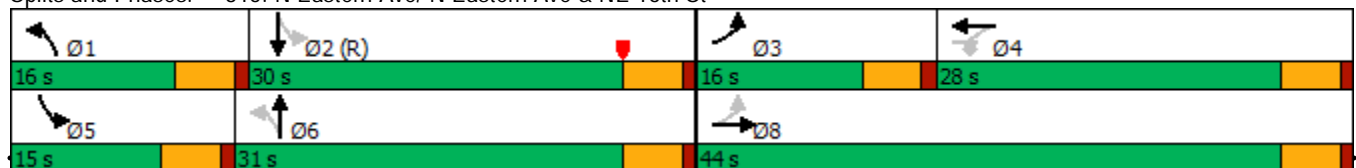
Intersection LOS: B

Intersection Capacity Utilization 39.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St



2020 AM Existing

Synchro 10 Report

HCM 6th TWSC
312: N Classen Cir & N Classen Blvd

02/12/2020

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

HCM 6th TWSC
2000: N Classen Blvd & N McKinley Ave/NW 51st St

02/12/2020

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↕↕		↵	↕↕	
Traffic Vol, veh/h	23	4	45	1	0	1	16	446	7	14	271	5
Future Vol, veh/h	23	4	45	1	0	1	16	446	7	14	271	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	290	-	-	80	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	4	49	1	0	1	17	485	8	15	295	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	605	855	150	703	853	247	300	0	0	493	0	0
Stage 1	328	328	-	523	523	-	-	-	-	-	-	-
Stage 2	277	527	-	180	330	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	382	294	870	324	295	753	1258	-	-	1067	-	-
Stage 1	659	646	-	505	529	-	-	-	-	-	-	-
Stage 2	706	527	-	804	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	374	286	870	296	287	753	1258	-	-	1067	-	-
Mov Cap-2 Maneuver	374	286	-	296	287	-	-	-	-	-	-	-
Stage 1	650	637	-	498	522	-	-	-	-	-	-	-
Stage 2	695	520	-	743	635	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.4		13.5		0.3		0.4					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1258	-	-	566	425	1067	-	-				
HCM Lane V/C Ratio	0.014	-	-	0.138	0.005	0.014	-	-				
HCM Control Delay (s)	7.9	-	-	12.4	13.5	8.4	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0	-	-				

Timings

64: N Classen Blvd & Belle Isle Blvd

02/12/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	28	117	346	260	30
Future Volume (vph)	28	28	117	346	260	30
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.520			
Satd. Flow (perm)	1770	1583	969	3539	3539	1583
Satd. Flow (RTOR)		30				33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	30	127	376	283	33
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	8		1	6	2	
Permitted Phases		8	6			2
Total Split (s)	40.0	40.0	23.0	60.0	37.0	37.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	6.9	6.9	58.1	60.3	45.1	45.1
Actuated g/C Ratio	0.10	0.10	0.83	0.86	0.64	0.64
v/c Ratio	0.17	0.17	0.14	0.12	0.12	0.03
Control Delay	32.0	14.2	2.3	1.9	6.2	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	14.2	2.3	1.9	6.2	2.8
LOS	C	B	A	A	A	A
Approach Delay	23.1			2.0	5.8	
Approach LOS	C			A	A	
Queue Length 50th (ft)	13	0	10	16	26	0
Queue Length 95th (ft)	36	23	23	28	45	10
Internal Link Dist (ft)	753			602	240	
Turn Bay Length (ft)	175		130			70
Base Capacity (vph)	885	806	1006	3029	2264	1025
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.04	0.13	0.12	0.13	0.03

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 70.4

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.17

Intersection Signal Delay: 4.8

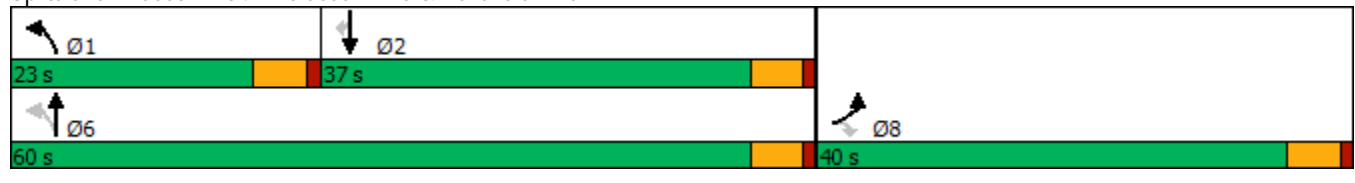
Intersection LOS: A

Intersection Capacity Utilization 31.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 64: N Classen Blvd & Belle Isle Blvd



2020 AM Existing

Synchro 10 Report

Timings

78: N Classen Blvd & Chesapeake Dr

02/12/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	6	44	66	120	22
Future Volume (vph)	6	6	44	66	120	22
Satd. Flow (prot)	1694	0	1770	3539	3458	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	3539	3458	0
Satd. Flow (RTOR)	7				24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	48	72	154	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		10.0	22.5	22.5	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.3		7.6	76.1	65.8	
Actuated g/C Ratio	0.08		0.10	0.96	0.83	
v/c Ratio	0.10		0.28	0.02	0.05	
Control Delay	26.8		37.0	0.8	3.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	26.8		37.0	0.8	3.0	
LOS	C		D	A	A	
Approach Delay	26.8			15.3	3.0	
Approach LOS	C			B	A	
Queue Length 50th (ft)	3		23	0	5	
Queue Length 95th (ft)	20		53	6	24	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	898		169	3386	2867	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.02		0.28	0.02	0.05	

Intersection Summary

Cycle Length: 79.5

Actuated Cycle Length: 79.5

Offset: 10 (13%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 9.3

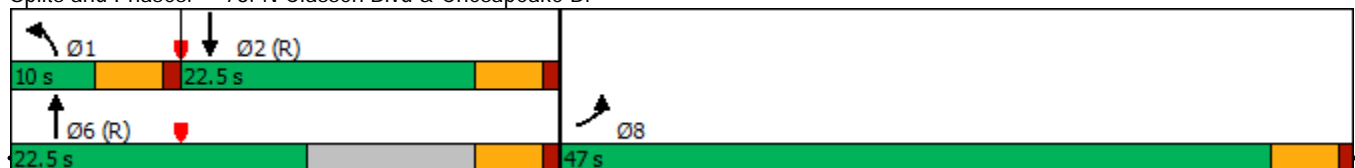
Intersection LOS: A

Intersection Capacity Utilization 28.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 78: N Classen Blvd & Chesapeake Dr























2020 AM Existing

Synchro 10 Report

Timings

79: N Classen Blvd & NW 63rd St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	596	47	27	461	59	14	30	18	63	72	66
Future Volume (vph)	53	596	47	27	461	59	14	30	18	63	72	66
Satd. Flow (prot)	1770	3500	0	1770	3479	0	1770	3337	0	1770	3284	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3500	0	1770	3479	0	1770	3337	0	1770	3284	0
Satd. Flow (RTOR)		9			15			20			72	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	699	0	29	565	0	15	53	0	68	150	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	18.0	42.0		16.0	40.0		16.0	24.0		18.0	26.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.7	27.9		7.2	24.2		6.4	42.2		9.2	49.3	
Actuated g/C Ratio	0.09	0.28		0.07	0.24		0.06	0.42		0.09	0.49	
v/c Ratio	0.38	0.71		0.23	0.66		0.13	0.04		0.42	0.09	
Control Delay	49.4	36.1		47.5	36.8		46.2	17.5		50.0	11.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.4	36.1		47.5	36.8		46.2	17.5		50.0	11.1	
LOS	D	D		D	D		D	B		D	B	
Approach Delay		37.1			37.4			23.8			23.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	36	213		18	166		9	6		42	12	
Queue Length 95th (ft)	73	253		45	206		30	24		82	42	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	230	1300		194	1227		194	1421		230	1656	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.54		0.15	0.46		0.08	0.04		0.30	0.09	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 34.8

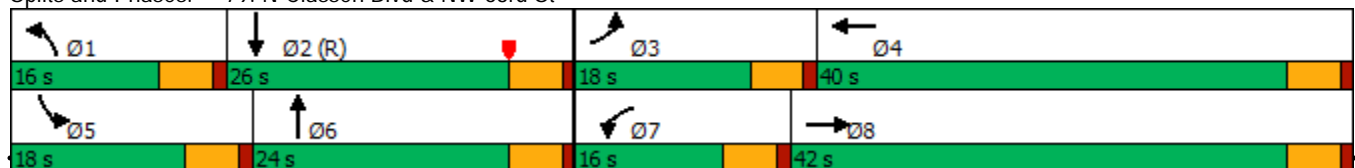
Intersection LOS: C

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St













2020 AM Existing

Synchro 10 Report

Timings

85: N Classne Cir

02/12/2020

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	0	182	2	46	1
Future Volume (vph)	63	0	182	2	46	1
Satd. Flow (prot)	1770	0	3532	0	1770	5085
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	0	3532	0	1770	5085
Satd. Flow (RTOR)			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	200	0	50	1
Turn Type	Prot		NA		Prot	NA
Protected Phases	7		6		5	
Permitted Phases						2
Total Split (s)	24.0		21.0		15.0	36.0
Total Lost Time (s)	5.0		5.0		4.5	4.5
Act Effect Green (s)	8.6		40.8		8.3	48.9
Actuated g/C Ratio	0.14		0.68		0.14	0.82
v/c Ratio	0.27		0.08		0.20	0.00
Control Delay	25.4		7.6		25.1	3.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	25.4		7.6		25.1	3.0
LOS	C		A		C	A
Approach Delay	25.4		7.6			24.6
Approach LOS	C		A			C
Queue Length 50th (ft)	23		18		16	0
Queue Length 95th (ft)	52		38		42	0
Internal Link Dist (ft)	132		221			371
Turn Bay Length (ft)						
Base Capacity (vph)	560		2402		309	4141
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.12		0.08		0.16	0.00

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 14.1

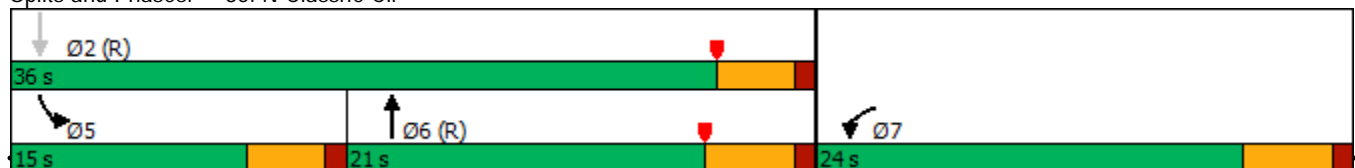
Intersection LOS: B

Intersection Capacity Utilization 36.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 85: N Classne Cir























2020 AM Existing

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	205	36	9	167	11	19	186	6	34	405	140
Future Volume (vph)	74	205	36	9	167	11	19	186	6	34	405	140
Satd. Flow (prot)	1770	3461	0	1770	3507	0	1770	3522	0	1770	3401	0
Flt Permitted	0.950			0.950			0.402			0.599		
Satd. Flow (perm)	1770	3461	0	1770	3507	0	749	3522	0	1116	3401	0
Satd. Flow (RTOR)		20			6			4			54	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	262	0	10	194	0	21	209	0	37	592	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	20.0	35.0		12.0	27.0		12.0	41.0		12.0	41.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	8.9	18.3		6.2	9.6		41.1	37.8		42.4	39.9	
Actuated g/C Ratio	0.12	0.25		0.08	0.13		0.56	0.52		0.58	0.54	
v/c Ratio	0.38	0.30		0.07	0.42		0.04	0.12		0.05	0.32	
Control Delay	38.0	22.6		37.2	33.7		8.3	12.4		8.2	11.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.0	22.6		37.2	33.7		8.3	12.4		8.2	11.2	
LOS	D	C		D	C		A	B		A	B	
Approach Delay		26.2			33.8			12.0			11.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	37	47		5	46		4	28		7	61	
Queue Length 95th (ft)	83	95		21	82		15	57		22	145	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	387	1501		187	1118		534	1817		716	1877	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.17		0.05	0.17		0.04	0.12		0.05	0.32	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 73.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 18.2

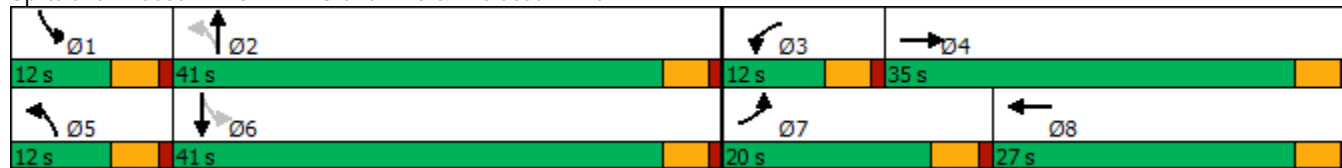
Intersection LOS: B

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 159: NW Grand Blvd & N Classen Blvd



Timings

314: NW Expy & N Classen Cir

02/12/2020

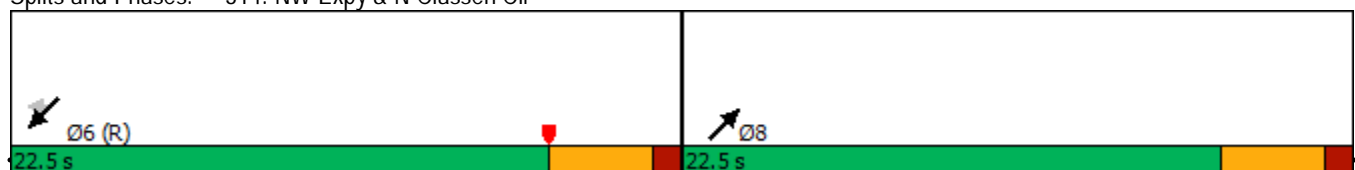


Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations				↑↑	↑↑↑	↑
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Satd. Flow (prot)	0	0	0	3539	5085	1863
Flt Permitted						
Satd. Flow (perm)	0	0	0	3539	5085	1863
Satd. Flow (RTOR)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type						Perm
Protected Phases				8	6	
Permitted Phases						6
Total Split (s)				22.5	22.5	22.5
Total Lost Time (s)				4.5	4.5	4.5
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)	206			224	221	
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Cycle Length: 45
Actuated Cycle Length: 45
Offset: 30.5 (68%), Referenced to phase 2: and 6:SWT, Start of Yellow
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.00
Intersection Signal Delay: 0.0
Intersection LOS: A
Intersection Capacity Utilization 0.0%
ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 314: NW Expy & N Classen Cir



















2020 AM Existing

Synchro 10 Report

Timings

585: N Shartel Ave & NW 50th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	613	32	24	297	80	53	71	53	66	24	23
Future Volume (vph)	60	613	32	24	297	80	53	71	53	66	24	23
Satd. Flow (prot)	0	3500	0	0	3423	0	0	1760	0	0	1762	0
Flt Permitted		0.874			0.886			0.892			0.773	
Satd. Flow (perm)	0	3072	0	0	3042	0	0	1593	0	0	1401	0
Satd. Flow (RTOR)		10			65			45			25	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	766	0	0	436	0	0	193	0	0	123	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.0	29.0		29.0	29.0		29.0	29.0		29.0	29.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effect Green (s)		20.5			20.5			27.5			27.5	
Actuated g/C Ratio		0.35			0.35			0.47			0.47	
v/c Ratio		0.70			0.39			0.25			0.18	
Control Delay		19.4			12.4			8.9			9.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.4			12.4			8.9			9.1	
LOS		B			B			A			A	
Approach Delay		19.4			12.4			8.9			9.1	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		114			47			28			18	
Queue Length 95th (ft)		153			72			69			49	
Internal Link Dist (ft)		1252			614			634			648	
Turn Bay Length (ft)												
Base Capacity (vph)		1277			1296			779			677	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.60			0.34			0.25			0.18	

Intersection Summary

Cycle Length: 58

Actuated Cycle Length: 58

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 15.2

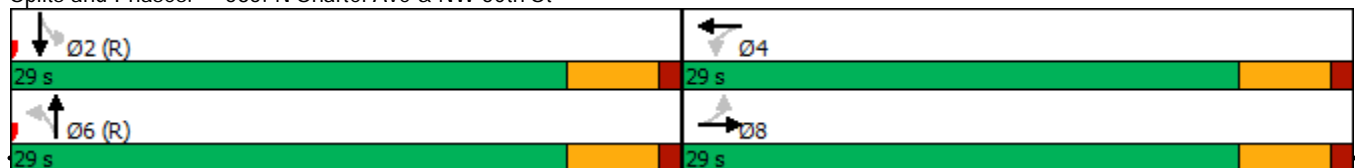
Intersection LOS: B

Intersection Capacity Utilization 58.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 585: N Shartel Ave & NW 50th St
























2020 AM Existing

Synchro 10 Report

Timings

688: N Western Ave & I-44 EB Ramp/NW Expwy

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	576	80	258	0	0	102	0	655	176	261	679	0
Future Volume (vph)	576	80	258	0	0	102	0	655	176	261	679	0
Satd. Flow (prot)	1681	1706	1583	0	0	1611	0	3426	0	1770	3539	0
Flt Permitted	0.950	0.964								0.158		
Satd. Flow (perm)	1681	1706	1583	0	0	1611	0	3426	0	294	3539	0
Satd. Flow (RTOR)			268			259		32				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	43%											
Lane Group Flow (vph)	357	356	280	0	0	111	0	903	0	284	738	0
Turn Type	Split	NA	Perm			Prot		NA		pm+pt	NA	
Protected Phases	4	4				3		2		1	6	
Permitted Phases			4							6		
Total Split (s)	38.0	38.0	38.0			10.0		50.0		22.0	72.0	
Total Lost Time (s)	4.5	4.5	4.5			4.5		4.5		4.5	4.5	
Act Effect Green (s)	33.5	33.5	33.5			5.5		47.6		67.5	67.5	
Actuated g/C Ratio	0.28	0.28	0.28			0.05		0.40		0.56	0.56	
v/c Ratio	0.76	0.75	0.44			0.35		0.66		0.80	0.37	
Control Delay	51.5	50.5	7.1			3.0		31.5		45.6	3.7	
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.1	
Total Delay	51.5	50.5	7.1			3.0		31.5		45.6	3.9	
LOS	D	D	A			A		C		D	A	
Approach Delay		38.6			3.0			31.5			15.5	
Approach LOS		D			A			C			B	
Queue Length 50th (ft)	267	265	7			0		291		79	22	
Queue Length 95th (ft)	#394	385	74			0		370		#168	26	
Internal Link Dist (ft)		347			315			1032			354	
Turn Bay Length (ft)	400									100		
Base Capacity (vph)	469	476	635			320		1378		380	1990	
Starvation Cap Reductn	0	0	0			0		0		0	426	
Spillback Cap Reductn	0	0	0			0		0		0	0	
Storage Cap Reductn	0	0	0			0		0		0	0	
Reduced v/c Ratio	0.76	0.75	0.44			0.35		0.66		0.75	0.47	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.4

Intersection LOS: C

Intersection Capacity Utilization 67.5%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

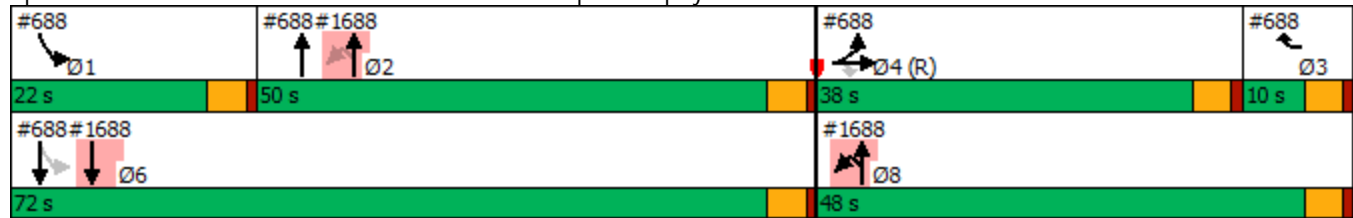
Queue shown is maximum after two cycles.

Timings

688: N Western Ave & I-44 EB Ramp/NW Expwy

02/12/2020

Splits and Phases: 688: N Western Ave & I-44 EB Ramp/NW Expwy























Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	48.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

700: N Western Ave

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	328	22	27	63	261	0	481	103	419	496	7
Future Volume (vph)	22	328	22	27	63	261	0	481	103	419	496	7
Satd. Flow (prot)	0	1857	1583	0	1835	1583	0	3447	0	1770	3532	0
Flt Permitted		0.978			0.622					0.286		
Satd. Flow (perm)	0	1822	1583	0	1159	1583	0	3447	0	533	3532	0
Satd. Flow (RTOR)			76			284		33			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	381	24	0	97	284	0	635	0	455	547	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8		8	4		4	6			2		
Total Split (s)	30.0	30.0	30.0	30.0	30.0	30.0	50.0	50.0		20.0	70.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0		5.0		5.0	5.0	
Act Effect Green (s)		26.5	26.5		26.5	26.5		40.0		63.5	63.5	
Actuated g/C Ratio		0.26	0.26		0.26	0.26		0.40		0.64	0.64	
v/c Ratio		0.79	0.05		0.32	0.45		0.45		0.80	0.24	
Control Delay		45.9	0.2		30.8	5.6		24.0		22.9	8.9	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		45.9	0.2		30.8	5.6		24.0		22.9	8.9	
LOS		D	A		C	A		C		C	A	
Approach Delay		43.2			12.0			24.0			15.3	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)		225	0		49	0		148		131	72	
Queue Length 95th (ft)		306	0		87	56		227		#290	117	
Internal Link Dist (ft)		589			1252			973			1032	
Turn Bay Length (ft)			85							130		
Base Capacity (vph)		509	497		324	647		1630		574	2348	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.75	0.05		0.30	0.44		0.39		0.79	0.23	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 81 (81%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 21.7

Intersection LOS: C

Intersection Capacity Utilization 79.4%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















Splits and Phases: 700: N Western Ave



Timings

701: N Western Ave & NW Grand Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	108	356	99	91	83	115	712	274	38	664	0
Future Volume (vph)	3	108	356	99	91	83	115	712	274	38	664	0
Satd. Flow (prot)	1770	3132	0	1770	3288	0	1770	3391	0	1770	3539	0
Flt Permitted	0.633			0.950			0.289			0.205		
Satd. Flow (perm)	1179	3132	0	1770	3288	0	538	3391	0	382	3539	0
Satd. Flow (RTOR)		387			90			62				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	504	0	108	189	0	125	1072	0	41	722	0
Turn Type	Perm	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8						6			2		
Total Split (s)	20.0	20.0		20.0	40.0		20.0	40.0		20.0	40.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.2	10.2		11.2	26.5		62.2	56.3		56.5	50.0	
Actuated g/C Ratio	0.10	0.10		0.11	0.26		0.62	0.56		0.56	0.50	
v/c Ratio	0.03	0.76		0.55	0.20		0.28	0.55		0.13	0.41	
Control Delay	37.7	18.2		51.7	13.8		10.4	16.9		10.2	18.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.7	18.2		51.7	13.8		10.4	16.9		10.2	18.3	
LOS	D	B		D	B		B	B		B	B	
Approach Delay		18.3			27.6			16.2			17.8	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	2	36		66	25		29	226		9	146	
Queue Length 95th (ft)	10	86		117	46		65	357		27	240	
Internal Link Dist (ft)		801			356			1574			182	
Turn Bay Length (ft)				175			115			100		
Base Capacity (vph)	176	798		265	1209		526	1936		449	1769	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.63		0.41	0.16		0.24	0.55		0.09	0.41	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 25 (25%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 18.3

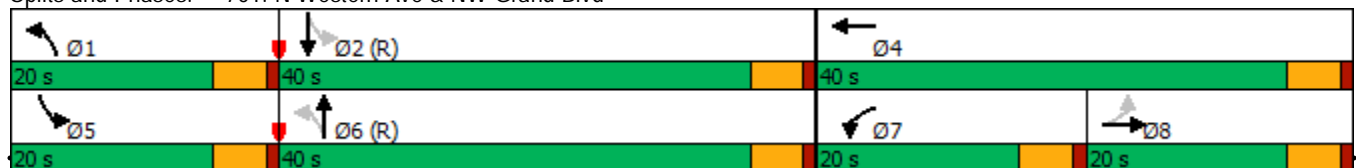
Intersection LOS: B

Intersection Capacity Utilization 68.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 701: N Western Ave & NW Grand Blvd






















2020 AM Existing

Synchro 10 Report

Timings

999: N Classen Blvd & NW Expy

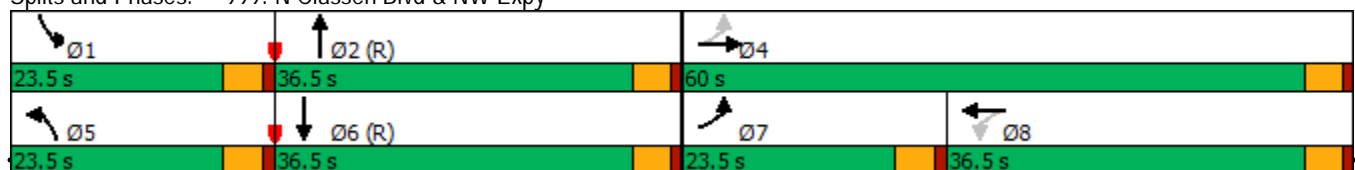
02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1863	3539	0	0	3539	0	3614	3539	0	1863	3539	0
Flt Permitted												
Satd. Flow (perm)	1863	3539	0	0	3539	0	3614	3539	0	1863	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt						Prot			Prot		
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Total Split (s)	23.5	60.0		36.5	36.5		23.5	36.5		23.5	36.5	
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		820			224			504			31	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 999: N Classen Blvd & NW Expy



2020 AM Existing

Synchro 10 Report

Timings

1688: I-44 WB Ramp & N Western Ave

02/12/2020



Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø1	Ø2	Ø3	Ø4
Lane Configurations										
Traffic Volume (vph)	228	1105	935	134	0	0				
Future Volume (vph)	228	1105	935	134	0	0				
Satd. Flow (prot)	1770	3539	3472	0	0	0				
Flt Permitted	0.230									
Satd. Flow (perm)	428	3539	3472	0	0	0				
Satd. Flow (RTOR)			21							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	248	1201	1162	0	0	0				
Turn Type	custom	NA	NA							
Protected Phases	8	8 2	6				1	2	3	4
Permitted Phases	2									
Total Split (s)	48.0		72.0				22.0	50.0	10.0	38.0
Total Lost Time (s)	4.5		4.5							
Act Effect Green (s)	91.1	95.6	67.5							
Actuated g/C Ratio	0.76	0.80	0.56							
v/c Ratio	0.31	0.43	0.59							
Control Delay	2.4	0.6	18.4							
Queue Delay	0.0	0.2	0.0							
Total Delay	2.4	0.8	18.4							
LOS	A	A	B							
Approach Delay		1.1	18.4							
Approach LOS		A	B							
Queue Length 50th (ft)	7	8	291							
Queue Length 95th (ft)	m24	9	356							
Internal Link Dist (ft)		354	1574		485					
Turn Bay Length (ft)	300									
Base Capacity (vph)	811	2819	1962							
Starvation Cap Reductn	0	732	0							
Spillback Cap Reductn	0	0	0							
Storage Cap Reductn	0	0	0							
Reduced v/c Ratio	0.31	0.58	0.59							

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 8.8

Intersection LOS: A

Intersection Capacity Utilization 50.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 1688: I-44 WB Ramp & N Western Ave

#688 Ø1	#688 #1688 Ø2	#688 Ø4 (R)	#688 Ø3
22 s	50 s	38 s	10 s
#688 #1688 Ø6	#1688 Ø8		
72 s	48 s		

Timings

2001: N Western Ave & N Classen Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	98	12	20	26	16	6	669	121	25	712	149
Future Volume (vph)	138	98	12	20	26	16	6	669	121	25	712	149
Satd. Flow (prot)	1770	3483	0	1770	3337	0	1770	3458	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3483	0	1770	3337	0	1770	3458	0	1770	3539	1583
Satd. Flow (RTOR)		13			17			24				164
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	120	0	22	45	0	7	859	0	27	774	162
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	22.0	33.0		12.0	23.0		12.0	43.0		12.0	43.0	43.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	11.8	14.0		6.5	6.3		6.1	42.6		6.7	44.8	44.8
Actuated g/C Ratio	0.16	0.19		0.09	0.09		0.08	0.58		0.09	0.61	0.61
v/c Ratio	0.53	0.18		0.14	0.15		0.05	0.43		0.17	0.36	0.16
Control Delay	36.9	24.1		37.8	26.5		37.3	12.5		37.9	10.4	2.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.9	24.1		37.8	26.5		37.3	12.5		37.9	10.4	2.6
LOS	D	C		D	C		D	B		D	B	A
Approach Delay		31.2			30.2			12.7			9.9	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)	59	16		9	5		3	103		11	93	0
Queue Length 95th (ft)	132	50		35	24		17	237		40	210	33
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	430	1385		184	869		184	2002		184	2144	1024
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.35	0.09		0.12	0.05		0.04	0.43		0.15	0.36	0.16

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 74

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 14.3









Intersection LOS: B

Intersection Capacity Utilization 44.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2001: N Western Ave & N Classen Blvd

			
12 s	43 s	12 s	33 s
			
12 s	43 s	22 s	23 s

2020 AM Existing

Synchro 10 Report

Timings

2002: N Classen Blvd & W Wilshire Blvd

02/12/2020

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖	↗
Traffic Volume (vph)	543	56	176	342	2	60
Future Volume (vph)	543	56	176	342	2	60
Satd. Flow (prot)	3490	0	0	3479	1770	1583
Flt Permitted				0.616	0.950	
Satd. Flow (perm)	3490	0	0	2180	1770	1583
Satd. Flow (RTOR)	29					65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	651	0	0	563	2	65
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Total Split (s)	22.5		22.5	22.5	22.5	22.5
Total Lost Time (s)	4.5			4.5	4.5	4.5
Act Effect Green (s)	15.7			15.7	20.3	20.3
Actuated g/C Ratio	0.35			0.35	0.45	0.45
v/c Ratio	0.53			0.86dl	0.00	0.09
Control Delay	12.4			11.4	8.0	3.4
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	12.4			11.4	8.0	3.4
LOS	B			B	A	A
Approach Delay	12.4			11.4	3.5	
Approach LOS	B			B	A	
Queue Length 50th (ft)	61			13	0	0
Queue Length 95th (ft)	92			30	3	16
Internal Link Dist (ft)	888			212	4970	
Turn Bay Length (ft)						
Base Capacity (vph)	1413			872	797	749
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.46			0.65	0.00	0.09

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 30.5 (68%), Referenced to phase 2:NBL and 6:, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 11.5

Intersection LOS: B

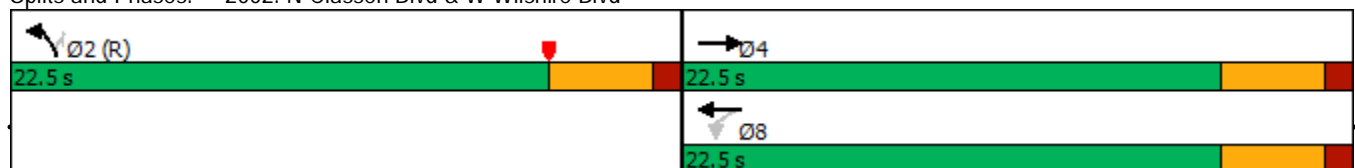
Intersection Capacity Utilization 46.8%

ICU Level of Service A

Analysis Period (min) 15

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

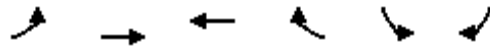
Splits and Phases: 2002: N Classen Blvd & W Wilshire Blvd



Timings

2003: W Wilshire Blvd & N Classen Blvd

02/12/2020



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↔	↔↔		↔	↔
Traffic Volume (vph)	44	565	488	72	56	34
Future Volume (vph)	44	565	488	72	56	34
Satd. Flow (prot)	0	3525	3472	0	1770	1583
Flt Permitted		0.876			0.950	
Satd. Flow (perm)	0	3100	3472	0	1770	1583
Satd. Flow (RTOR)			43			37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	662	608	0	61	37
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Total Split (s)	22.5	22.5	22.5		22.5	22.5
Total Lost Time (s)		4.5	4.5		4.5	4.5
Act Effect Green (s)		15.1	15.1		20.9	20.9
Actuated g/C Ratio		0.34	0.34		0.46	0.46
v/c Ratio		0.64	0.51		0.07	0.05
Control Delay		7.5	12.2		13.5	9.2
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		7.5	12.2		13.5	9.2
LOS		A	B		B	A
Approach Delay		7.5	12.2		11.9	
Approach LOS		A	B		B	
Queue Length 50th (ft)		23	58		15	1
Queue Length 95th (ft)		29	84		m34	m15
Internal Link Dist (ft)		212	639		5231	
Turn Bay Length (ft)						
Base Capacity (vph)		1240	1414		823	756
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.53	0.43		0.07	0.05

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 30.5 (68%), Referenced to phase 2: and 6:SBL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 9.9

Intersection LOS: A

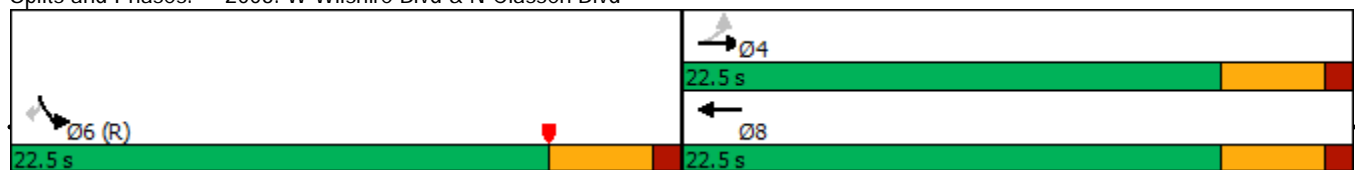
Intersection Capacity Utilization 48.1%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

















Splits and Phases: 2003: W Wilshire Blvd & N Classen Blvd



Timings

2004: N Classen Blvd & W Britton Rd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	653	10	51	490	2	10	2	33	1	3	0
Future Volume (vph)	13	653	10	51	490	2	10	2	33	1	3	0
Satd. Flow (prot)	0	3529	0	0	3518	0	0	3115	0	0	3497	0
Flt Permitted		0.940			0.837			0.926			0.932	
Satd. Flow (perm)	0	3320	0	0	2959	0	0	2917	0	0	3299	0
Satd. Flow (RTOR)		4			1			36				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	735	0	0	590	0	0	49	0	0	4	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)		15.8			15.8			20.2			20.2	
Actuated g/C Ratio		0.35			0.35			0.45			0.45	
v/c Ratio		0.63			0.57			0.04			0.00	
Control Delay		14.4			13.8			5.6			8.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.4			13.8			5.6			8.0	
LOS		B			B			A			A	
Approach Delay		14.4			13.8			5.6			8.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		74			58			4			0	
Queue Length 95th (ft)		112			92			m8			2	
Internal Link Dist (ft)		875			804			5231			513	
Turn Bay Length (ft)												
Base Capacity (vph)		1330			1184			1330			1482	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.55			0.50			0.04			0.00	

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 30.5 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 13.8

Intersection LOS: B

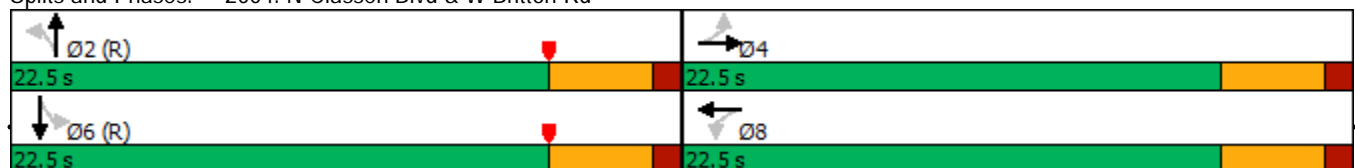
Intersection Capacity Utilization 52.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



















Splits and Phases: 2004: N Classen Blvd & W Britton Rd



Timings

2005: N Classen Blvd & Mall Dr/Driveway

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	14	0	0	0	19	364	0	13	270	28
Future Volume (vph)	23	0	14	0	0	0	19	364	0	13	270	28
Satd. Flow (prot)	0	1770	1583	0	0	0	1770	3539	0	0	3532	1583
Flt Permitted		0.950					0.565				0.935	
Satd. Flow (perm)	0	1770	1583	0	0	0	1052	3539	0	0	3309	1583
Satd. Flow (RTOR)			16									30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	15	0	0	0	21	396	0	0	307	30
Turn Type	Perm	NA	Perm				Perm	NA		Perm	NA	Perm
Protected Phases		4						2			6	
Permitted Phases	4		4				2			6		6
Total Split (s)	33.0	33.0	33.0				67.0	67.0		67.0	67.0	67.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Act Effect Green (s)		6.8	6.8				78.7	78.7			78.7	78.7
Actuated g/C Ratio		0.08	0.08				0.89	0.89			0.89	0.89
v/c Ratio		0.18	0.11				0.02	0.13			0.10	0.02
Control Delay		42.1	19.2				1.6	1.3			1.3	0.7
Queue Delay		0.0	0.0				0.0	0.0			0.0	0.0
Total Delay		42.1	19.2				1.6	1.3			1.3	0.7
LOS		D	B				A	A			A	A
Approach Delay		33.5						1.4			1.3	
Approach LOS		C						A			A	
Queue Length 50th (ft)		14	0				1	15			12	0
Queue Length 95th (ft)		38	18				5	26			21	4
Internal Link Dist (ft)		263			113			240			3248	
Turn Bay Length (ft)							60					58
Base Capacity (vph)		574	524				938	3156			2951	1415
Starvation Cap Reductn		0	0				0	0			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.04	0.03				0.02	0.13			0.10	0.02

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 88.2

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.18

Intersection Signal Delay: 2.9




Intersection LOS: A

Intersection Capacity Utilization 28.7%

ICU Level of Service A

Analysis Period (min) 15

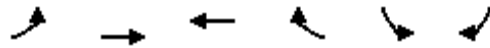
Splits and Phases: 2005: N Classen Blvd & Mall Dr/Driveway

	
67 s	33 s
	
67 s	

Timings

2688: NW Expwy/NW 54th St & I-44 EB Ramp

02/12/2020

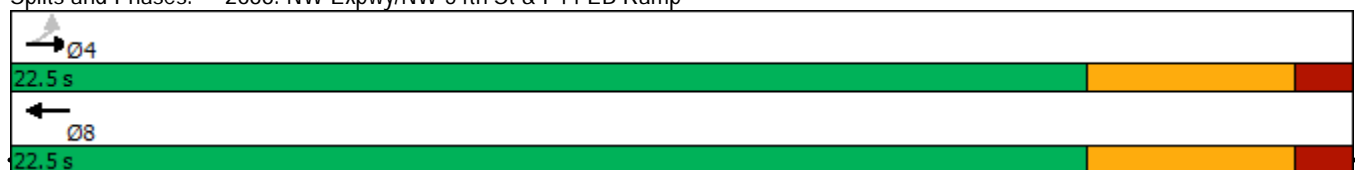


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰			
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	1863	0	0	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	0	0
Satd. Flow (RTOR)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type						
Protected Phases		4	8			
Permitted Phases	4					
Total Split (s)	22.5	22.5	22.5			
Total Lost Time (s)		4.5	4.5			
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)		99	420		262	
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						

Intersection Summary

Cycle Length: 22.5	
Actuated Cycle Length: 22.5	
Offset: 0 (0%), Referenced to phase 2: and 6:, Start of Green	
Control Type: Pretimed	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2688: NW Expwy/NW 54th St & I-44 EB Ramp



2020 AM Existing




















Synchro 10 Report

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	4	7	0	3	2	967	4	5	188	0
Future Vol, veh/h	4	0	4	7	0	3	2	967	4	5	188	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	4	8	0	3	2	1051	4	5	204	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	744	1273	102	1169	1271	528	204	0	0	1055	0	0
Stage 1	214	214	-	1057	1057	-	-	-	-	-	-	-
Stage 2	530	1059	-	112	214	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	303	166	933	148	167	495	1365	-	-	656	-	-
Stage 1	768	724	-	240	300	-	-	-	-	-	-	-
Stage 2	500	299	-	881	724	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	298	164	933	146	165	495	1365	-	-	656	-	-
Mov Cap-2 Maneuver	298	164	-	146	165	-	-	-	-	-	-	-
Stage 1	765	717	-	239	299	-	-	-	-	-	-	-
Stage 2	495	298	-	869	717	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.1		25.7		0		0.3					
HCM LOS	B		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1365	-	-	452	185	656	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.019	0.059	0.008	-	-				
HCM Control Delay (s)	7.6	0	-	13.1	25.7	10.5	0	-				
HCM Lane LOS	A	A	-	B	D	B	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

Timings

527: S Robinson Ave & W Reno Ave

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	195	11	14	281	131	40	212	26	56	40	21
Future Volume (vph)	50	195	11	14	281	131	40	212	26	56	40	21
Satd. Flow (prot)	1770	3511	0	1770	3369	0	0	3465	0	1770	3355	0
Flt Permitted	0.493			0.484				0.898		0.403		
Satd. Flow (perm)	918	3511	0	902	3369	0	0	3134	0	751	3355	0
Satd. Flow (RTOR)		4			60			11			23	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	224	0	15	447	0	0	301	0	61	66	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	21.0	32.0		22.0	33.0		54.0	54.0		12.0	66.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.0		4.0	5.0	
Act Effect Green (s)	20.9	13.2		36.9	30.0			11.6		21.4	20.4	
Actuated g/C Ratio	0.31	0.20		0.55	0.45			0.17		0.32	0.31	
v/c Ratio	0.15	0.32		0.02	0.29			0.54		0.17	0.06	
Control Delay	10.9	24.5		8.3	13.1			29.5		17.2	12.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	10.9	24.5		8.3	13.1			29.5		17.2	12.0	
LOS	B	C		A	B			C		B	B	
Approach Delay		21.9			13.0			29.5			14.5	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	10	42		3	60			63		18	6	
Queue Length 95th (ft)	28	75		11	105			103		43	19	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			115						65		
Base Capacity (vph)	662	1469		742	1548			2366		367	2988	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.08	0.15		0.02	0.29			0.13		0.17	0.02	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 66.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 19.5







Intersection LOS: B

Intersection Capacity Utilization 45.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 527: S Robinson Ave & W Reno Ave

 Ø2	 Ø3	 Ø4
66 s	21 s	33 s
 Ø5	 Ø6	 Ø7
12 s	54 s	22 s
		32 s

















2020 AM Existing

Synchro 10 Report

Timings

535: S Robinson Ave & SW 25th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	89	11	6	87	10	18	224	11	8	99	34
Future Volume (vph)	41	89	11	6	87	10	18	224	11	8	99	34
Satd. Flow (prot)	0	1816	0	0	1833	0	0	3500	0	0	3402	0
Flt Permitted		0.885			0.978			0.928			0.930	
Satd. Flow (perm)	0	1630	0	0	1798	0	0	3261	0	0	3173	0
Satd. Flow (RTOR)		10			11			10			37	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	154	0	0	113	0	0	275	0	0	154	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	26.0	26.0		26.0	26.0		24.0	24.0		24.0	24.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		18.0			18.0			18.0			18.0	
Actuated g/C Ratio		0.48			0.48			0.48			0.48	
v/c Ratio		0.19			0.13			0.17			0.10	
Control Delay		9.3			8.5			8.5			7.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.3			8.5			8.5			7.0	
LOS		A			A			A			A	
Approach Delay		9.3			8.5			8.5			7.0	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		22			15			21			8	
Queue Length 95th (ft)		51			38			39			21	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		982			1083			1836			1799	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.10			0.15			0.09	

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 37.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.19

Intersection Signal Delay: 8.3

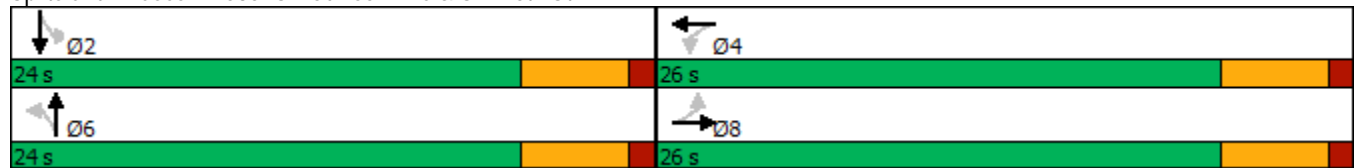
Intersection LOS: A

Intersection Capacity Utilization 42.9%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	297	16	13	237	38	17	201	37	13	75	32
Future Volume (vph)	16	297	16	13	237	38	17	201	37	13	75	32
Satd. Flow (prot)	1770	3511	0	1770	3465	0	1770	1820	0	1770	1779	0
Flt Permitted	0.950			0.950			0.678			0.429		
Satd. Flow (perm)	1770	3511	0	1770	3465	0	1263	1820	0	799	1779	0
Satd. Flow (RTOR)		6			21			9			22	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	340	0	14	299	0	18	258	0	14	117	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	20.0	45.0		20.0	45.0		35.0	35.0		35.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	6.6	57.4		6.4	55.0		30.0	30.0		30.0	30.0	
Actuated g/C Ratio	0.07	0.57		0.06	0.55		0.30	0.30		0.30	0.30	
v/c Ratio	0.15	0.17		0.12	0.16		0.05	0.47		0.06	0.21	
Control Delay	46.4	10.9		46.1	11.6		18.7	21.1		26.0	22.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.4	10.9		46.1	11.6		18.7	21.1		26.0	22.4	
LOS	D	B		D	B		B	C		C	C	
Approach Delay		12.6			13.1			20.9			22.7	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	10	45		9	37		5	69		6	45	
Queue Length 95th (ft)	32	91		28	78		15	104		22	89	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50			75		
Base Capacity (vph)	265	2019		265	1913		378	552		239	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.06	0.17		0.05	0.16		0.05	0.47		0.06	0.21	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 48 (48%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 16.1

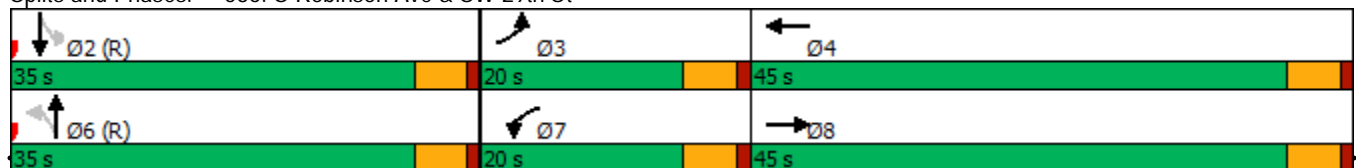
Intersection LOS: B

Intersection Capacity Utilization 41.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 536: S Robinson Ave & SW 29th St





















2020 AM Existing

Synchro 10 Report

Timings

537: SW Grand Blvd & S Robinson Ave

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	8	216	24	23	221	0	0	99	13
Future Volume (vph)	0	0	0	8	216	24	23	221	0	0	99	13
Satd. Flow (prot)	0	0	0	0	5004	0	1770	1863	0	0	1835	0
Flt Permitted					0.998		0.950					
Satd. Flow (perm)	0	0	0	0	5004	0	1770	1863	0	0	1835	0
Satd. Flow (RTOR)					20						7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	270	0	25	240	0	0	122	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				41.0	41.0		20.0	59.0			39.0	
Total Lost Time (s)					5.0		5.0	5.0			5.0	
Act Effct Green (s)					36.0		7.0	54.0			48.7	
Actuated g/C Ratio					0.36		0.07	0.54			0.49	
v/c Ratio					0.15		0.20	0.24			0.14	
Control Delay					20.3		51.7	7.0			8.5	
Queue Delay					0.0		0.1	1.4			0.0	
Total Delay					20.3		51.9	8.4			8.5	
LOS					C		D	A			A	
Approach Delay					20.3			12.5			8.5	
Approach LOS					C			B			A	
Queue Length 50th (ft)					38		13	33			10	
Queue Length 95th (ft)					58		34	48			96	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1814		265	1006			897	
Starvation Cap Reductn					0		56	573			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.15		0.12	0.55			0.14	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 15.0

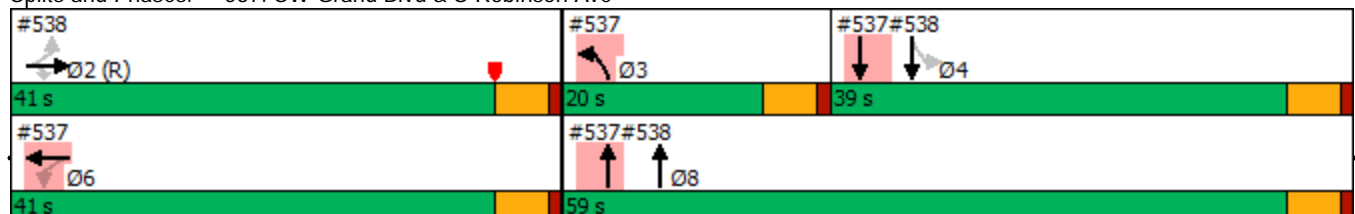
Intersection LOS: B

Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave



Timings

537: SW Grand Blvd & S Robinson Ave


















02/12/2020

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	150	20	0	0	0	0	191	15	10	97	0
Future Volume (vph)	30	150	20	0	0	0	0	191	15	10	97	0
Satd. Flow (prot)	0	3511	1583	0	0	0	0	1844	0	1770	1863	0
Flt Permitted		0.992								0.619		
Satd. Flow (perm)	0	3511	1583	0	0	0	0	1844	0	1153	1863	0
Satd. Flow (RTOR)			76					6				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	196	22	0	0	0	0	224	0	11	105	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	41.0	41.0	41.0					59.0		39.0	39.0	
Total Lost Time (s)		5.0	5.0					5.0		5.0	5.0	
Act Effect Green (s)		36.0	36.0					54.0		48.7	48.7	
Actuated g/C Ratio		0.36	0.36					0.54		0.49	0.49	
v/c Ratio		0.16	0.04					0.22		0.02	0.12	
Control Delay		6.1	0.1					12.4		5.1	4.8	
Queue Delay		0.0	0.0					0.0		0.9	1.7	
Total Delay		6.1	0.1					12.4		6.0	6.5	
LOS		A	A					B		A	A	
Approach Delay		5.5						12.4			6.4	
Approach LOS		A						B			A	
Queue Length 50th (ft)		9	0					69		1	7	
Queue Length 95th (ft)		14	m0					112		3	16	
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1263	618					998		561	907	
Starvation Cap Reductn		0	0					0		475	667	
Spillback Cap Reductn		0	0					2		0	0	
Storage Cap Reductn		0	0					0		0	0	
Reduced v/c Ratio		0.16	0.04					0.22		0.13	0.44	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 8.5

Intersection LOS: A

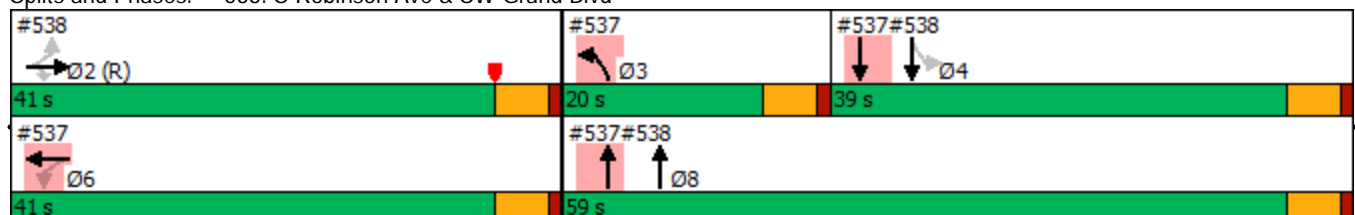
Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd



Timings

538: S Robinson Ave & SW Grand Blvd


















02/12/2020

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	20.0	41.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	449	103	0	0	0	0	703	149	74	150	0
Future Volume (vph)	193	449	103	0	0	0	0	703	149	74	150	0
Satd. Flow (prot)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Flt Permitted	0.950	0.998								0.950		
Satd. Flow (perm)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Satd. Flow (RTOR)		19						33				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	189	621	0	0	0	0	0	926	0	80	163	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								35.0		55.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	35.0	35.0						33.9		45.1	84.0	
Actuated g/C Ratio	0.27	0.27						0.26		0.35	0.65	
v/c Ratio	0.44	0.69						0.70		0.13	0.07	
Control Delay	43.2	46.0						44.9		11.0	1.0	
Queue Delay	0.0	0.0						0.3		0.8	0.0	
Total Delay	43.2	46.0						45.2		11.8	1.0	
LOS	D	D						D		B	A	
Approach Delay		45.3						45.2			4.5	
Approach LOS		D						D			A	
Queue Length 50th (ft)	145	251						269		10	2	
Queue Length 95th (ft)	227	322						334		m17	m2	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	426	885						1316		667	2262	
Starvation Cap Reductn	0	0						0		407	0	
Spillback Cap Reductn	0	0						73		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.44	0.70						0.74		0.31	0.07	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: Err

Intersection Signal Delay: 40.3

Intersection LOS: D









Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd

#559  Ø2 (R) 18 s	#559  Ø4 45 s	#559  Ø12 8 s	#559  Ø1 59 s
#558  Ø16 8 s	#558  Ø5 55 s	#558  Ø6 35 s	#558  Ø8 32 s

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd



















02/12/2020

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	59.0	18.0	45.0	32.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	0	0	649	440	46	348	541	0	0	140	109
Future Volume (vph)	72	0	0	649	440	46	348	541	0	0	140	109
Satd. Flow (prot)	0	0	0	1610	3299	0	1770	3539	0	0	4750	0
Flt Permitted		0.950		0.950	0.982		0.950					
Satd. Flow (perm)	0	0	0	1610	3299	0	1770	3539	0	0	4750	0
Satd. Flow (RTOR)					5						118	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				42%								
Lane Group Flow (vph)	0	78	0	409	824	0	378	588	0	0	270	0
Turn Type	D.Pm			Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases	4											
Total Split (s)	45.0						59.0				18.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)		0.0		46.9	46.9		52.3	72.1			14.8	
Actuated g/C Ratio		0.00		0.36	0.36		0.40	0.55			0.11	
v/c Ratio		no cap		0.71	0.69		0.53	0.30			0.42	
Control Delay				43.1	38.6		9.5	3.3			32.5	
Queue Delay				0.0	0.0		6.5	1.6			0.0	
Total Delay		Error		43.1	38.6		16.0	4.9			32.5	
LOS		F		D	D		B	A			C	
Approach Delay		Err			40.1			9.2			32.5	
Approach LOS		F			D			A			C	
Queue Length 50th (ft)		0		318	316		139	15			44	
Queue Length 95th (ft)		0		452	393		16	3			75	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)		1		571	1175		721	1916			646	
Starvation Cap Reductn		0		0	0		286	1102			0	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		78.00		0.72	0.70		0.87	0.72			0.42	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: Err

Intersection Signal Delay: Err










Intersection LOS: F

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd

#559  Ø2 (R) 	#559  Ø4	#559  Ø12	#559  Ø1
18 s	45 s	8 s	59 s
#558  Ø16	#558  Ø5	#558  Ø6	#558  Ø8
8 s	55 s	35 s	32 s

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

















02/12/2020

Lane Group	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Satd. Flow (RTOR)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	5	6	8	12	16
Permitted Phases					
Total Split (s)	55.0	35.0	32.0	8.0	8.0
Total Lost Time (s)					
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	2	3	0	12	5	882	5	0	186	4
Future Volume (vph)	1	1	2	3	0	12	5	882	5	0	186	4
Satd. Flow (prot)	0	1715	0	0	1643	0	0	3536	0	0	3529	0
Flt Permitted								0.954				
Satd. Flow (perm)	0	1736	0	0	1658	0	0	3373	0	0	3529	0
Satd. Flow (RTOR)		2			25			1			4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	16	0	0	969	0	0	206	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.5	29.5		29.5	29.5		35.5	35.5		35.5	35.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)		6.1			6.1			61.9			61.9	
Actuated g/C Ratio		0.09			0.09			0.95			0.95	
v/c Ratio		0.02			0.09			0.30			0.06	
Control Delay		22.8			10.4			1.0			0.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.8			10.4			1.0			0.4	
LOS		C			B			A			A	
Approach Delay		22.8			10.4			1.0			0.4	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		1			0			0			0	
Queue Length 95th (ft)		8			13			66			11	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)												
Base Capacity (vph)		668			653			3211			3360	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.01			0.02			0.30			0.06	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 1.1

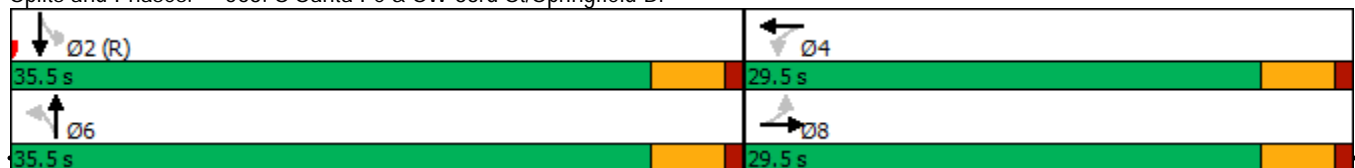
Intersection LOS: A

Intersection Capacity Utilization 40.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr























2020 AM Existing

Synchro 10 Report

Timings

569: S Santa Fe & SE 89th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	357	33	24	189	48	69	717	193	25	146	54
Future Volume (vph)	46	357	33	24	189	48	69	717	193	25	146	54
Satd. Flow (prot)	1770	3493	0	1770	3433	0	1770	3426	0	1770	3394	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3493	0	1770	3433	0	1770	3426	0	1770	3394	0
Satd. Flow (RTOR)		10			33			36			57	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	424	0	26	257	0	75	989	0	27	218	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												
Total Split (s)	12.5	37.0		12.5	37.0		12.5	38.0		12.5	38.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	8.0	22.9		8.0	17.9		10.0	54.3		8.2	50.1	
Actuated g/C Ratio	0.08	0.23		0.08	0.18		0.10	0.54		0.08	0.50	
v/c Ratio	0.35	0.52		0.18	0.40		0.43	0.53		0.19	0.13	
Control Delay	48.3	52.8		46.3	32.9		49.3	17.8		45.8	12.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.3	52.8		46.3	32.9		49.3	17.8		45.8	12.6	
LOS	D	D		D	C		D	B		D	B	
Approach Delay		52.3			34.1			20.0			16.3	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)	34	148		16	68		46	219		16	28	
Queue Length 95th (ft)	71	201		42	98		88	330		43	61	
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135			225		
Base Capacity (vph)	141	1124		141	1121		176	1878		145	1728	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	0.38		0.18	0.23		0.43	0.53		0.19	0.13	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 28.9
















Intersection LOS: C

Intersection Capacity Utilization 68.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 569: S Santa Fe & SE 89th St

														
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8				
12.5 s	38 s		12.5 s	37 s		12.5 s	38 s		12.5 s	37 s				

















2020 AM Existing

Synchro 10 Report

Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	694	95	9	542	12	158	134	72	22	53	14
Future Volume (vph)	4	694	95	9	542	12	158	134	72	22	53	14
Satd. Flow (prot)	0	3476	0	0	3525	0	0	1774	0	0	1802	0
Flt Permitted		0.952			0.938			0.814			0.873	
Satd. Flow (perm)	0	3309	0	0	3310	0	0	1475	0	0	1592	0
Satd. Flow (RTOR)		32			5			23			15	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	861	0	0	612	0	0	396	0	0	97	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effect Green (s)		21.8			21.8			27.2			27.2	
Actuated g/C Ratio		0.36			0.36			0.45			0.45	
v/c Ratio		0.70			0.51			0.58			0.13	
Control Delay		18.6			15.7			17.8			10.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.6			15.7			17.8			10.6	
LOS		B			B			B			B	
Approach Delay		18.6			15.7			17.8			10.6	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		130			87			94			16	
Queue Length 95th (ft)		160			109			#234			47	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1506			1492			680			728	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.57			0.41			0.58			0.13	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 17.1

Intersection LOS: B

Intersection Capacity Utilization 61.1%

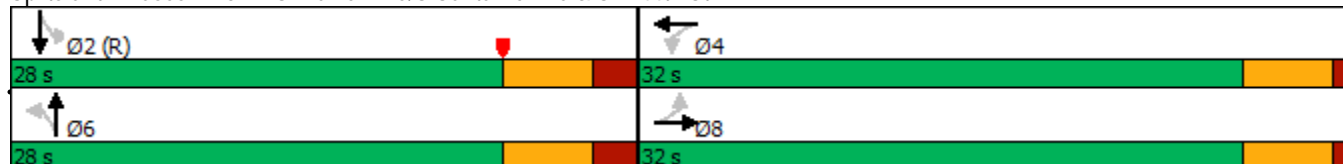
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1	10	15	1	28	16	824	15	36	186	15
Future Volume (vph)	19	1	10	15	1	28	16	824	15	36	186	15
Satd. Flow (prot)	1770	1606	0	1770	1593	0	1770	3529	0	1770	3500	0
Flt Permitted	0.678			0.930			0.615			0.283		
Satd. Flow (perm)	1263	1606	0	1732	1593	0	1146	3529	0	527	3500	0
Satd. Flow (RTOR)		11			30			2			9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	12	0	16	31	0	17	912	0	39	218	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	13.0	37.0		13.0	37.0		13.0	67.0		13.0	67.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	10.5	6.9		11.2	6.7		106.9	102.8		109.3	108.1	
Actuated g/C Ratio	0.08	0.05		0.09	0.05		0.82	0.79		0.84	0.83	
v/c Ratio	0.16	0.13		0.11	0.28		0.02	0.33		0.08	0.07	
Control Delay	52.6	31.8		49.1	26.5		2.7	6.1		1.0	0.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.6	31.8		49.1	26.5		2.7	6.1		1.0	0.9	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		45.0			34.2			6.0			0.9	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	17	1		12	1		3	143		1	2	
Queue Length 95th (ft)	40	22		33	34		6	204		m2	6	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	149	403		176	414		1002	2790		527	2912	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.03		0.09	0.07		0.02	0.33		0.07	0.07	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 7.0

Intersection LOS: A













Intersection Capacity Utilization 46.0%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr

					
Ø1	Ø2 (R)		Ø3	Ø4	
13 s	67 s		13 s	37 s	
					
Ø5	Ø6 (R)		Ø7	Ø8	
13 s	67 s		13 s	37 s	

Timings

597: S Santa Fe Ave & SW 59th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	587	97	59	443	26	110	265	260	22	110	63
Future Volume (vph)	75	587	97	59	443	26	110	265	260	22	110	63
Satd. Flow (prot)	1770	3465	0	1770	3511	0	1770	3277	0	1770	3348	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3465	0	1770	3511	0	1770	3277	0	1770	3348	0
Satd. Flow (RTOR)		19			6			271			68	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	743	0	64	510	0	120	571	0	24	188	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	14.0	34.0		14.0	34.0		17.0	39.0		13.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.7	26.2		8.6	26.1		10.8	47.6		8.0	37.0	
Actuated g/C Ratio	0.09	0.26		0.09	0.26		0.11	0.48		0.08	0.37	
v/c Ratio	0.54	0.81		0.42	0.55		0.63	0.34		0.17	0.15	
Control Delay	63.0	24.9		52.2	33.6		57.4	10.9		46.0	15.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.0	24.9		52.2	33.6		57.4	10.9		46.0	15.9	
LOS	E	C		D	C		E	B		D	B	
Approach Delay		28.7			35.7			19.0			19.3	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	52	89		39	143		73	55		15	28	
Queue Length 95th (ft)	m74	181		82	191		132	120		40	55	
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300			120		
Base Capacity (vph)	159	1018		159	1022		212	1702		141	1281	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.73		0.40	0.50		0.57	0.34		0.17	0.15	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 26.7

Intersection LOS: C

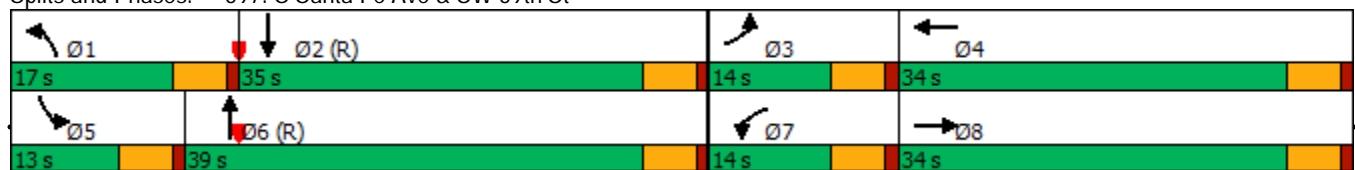
Intersection Capacity Utilization 65.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	140	174	161	122	422	0	0	227	171
Future Volume (vph)	0	0	0	140	174	161	122	422	0	0	227	171
Satd. Flow (prot)	0	0	0	1610	3360	1583	1770	3539	0	0	5085	1583
Flt Permitted				0.950	0.991		0.950					
Satd. Flow (perm)	0	0	0	1610	3360	1583	1770	3539	0	0	5085	1583
Satd. Flow (RTOR)						196						207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				27%								
Lane Group Flow (vph)	0	0	0	111	230	175	133	459	0	0	247	186
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							42.0				20.0	20.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				23.5	23.5	23.5	35.1	65.5			25.3	25.3
Actuated g/C Ratio				0.24	0.24	0.24	0.35	0.66			0.25	0.25
v/c Ratio				0.29	0.29	0.34	0.21	0.20			0.19	0.34
Control Delay				32.3	31.5	4.8	9.9	4.4			29.2	8.8
Queue Delay				0.0	0.0	0.0	1.5	1.0			0.0	0.0
Total Delay				32.3	31.5	4.8	11.4	5.4			29.2	8.8
LOS				C	C	A	B	A			C	A
Approach Delay					22.6			6.7			20.4	
Approach LOS					C			A			C	
Queue Length 50th (ft)				65	67	0	50	82			35	4
Queue Length 95th (ft)				107	92	37	93	117			m72	m47
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				421	880	559	637	2135			1288	555
Starvation Cap Reductn				0	0	0	355	1368			0	0
Spillback Cap Reductn				0	0	0	0	0			0	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.26	0.26	0.31	0.47	0.60			0.19	0.34

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 15.9

Intersection LOS: B

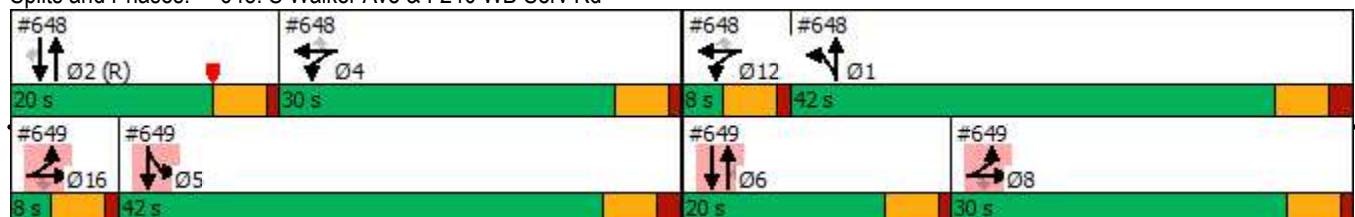
Intersection Capacity Utilization 36.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd



Timings

648: S Walker Ave & I-240 WB Serv Rd
























07/13/2021

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	30.0	42.0	20.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			 	
Traffic Volume (vph)	231	214	196	0	0	0	0	308	99	130	230	3
Future Volume (vph)	231	214	196	0	0	0	0	308	99	130	230	3
Satd. Flow (prot)	1610	3343	1583	0	0	0	0	5085	1583	1770	3532	0
Flt Permitted	0.950	0.986								0.950		
Satd. Flow (perm)	1610	3343	1583	0	0	0	0	5085	1583	1770	3532	0
Satd. Flow (RTOR)			213						207		2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	37%											
Lane Group Flow (vph)	158	326	213	0	0	0	0	335	108	141	253	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								20.0	20.0	42.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	33.0	33.0	33.0					27.9	27.9	23.1	56.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.28	0.28	0.23	0.56	
v/c Ratio	0.30	0.30	0.32					0.24	0.18	0.34	0.13	
Control Delay	26.8	25.8	4.8					30.1	3.7	12.7	6.0	
Queue Delay	0.0	0.0	0.0					0.0	0.0	0.4	0.8	
Total Delay	26.8	25.8	4.8					30.1	3.7	13.0	6.7	
LOS	C	C	A					C	A	B	A	
Approach Delay		19.6						23.7			9.0	
Approach LOS		B						C			A	
Queue Length 50th (ft)	81	84	0					69	4	42	33	
Queue Length 95th (ft)	140	122	49					102	25	93	67	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	527	1096	662					1417	590	637	1978	
Starvation Cap Reductn	0	0	0					0	0	208	1422	
Spillback Cap Reductn	0	0	0					0	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.30	0.30	0.32					0.24	0.18	0.33	0.46	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 18.1

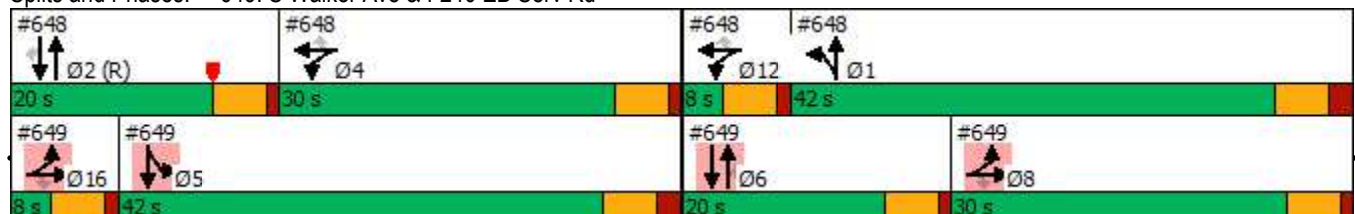
Intersection LOS: B

Intersection Capacity Utilization 35.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd





















07/13/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	42.0	20.0	30.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	530	66	72	494	74	73	414	131	72	181	66
Future Volume (vph)	51	530	66	72	494	74	73	414	131	72	181	66
Satd. Flow (prot)	1770	3479	0	1770	3472	0	1770	3412	0	1770	3398	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3472	0	1770	3412	0	1770	3398	0
Satd. Flow (RTOR)		13			16			40			49	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	648	0	78	617	0	79	592	0	78	269	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	20.0	30.0		20.0	30.0		20.0	30.0		20.0	30.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.5	23.5		9.7	24.6		9.8	41.4		9.7	41.4	
Actuated g/C Ratio	0.08	0.24		0.10	0.25		0.10	0.41		0.10	0.41	
v/c Ratio	0.37	0.78		0.45	0.71		0.46	0.41		0.45	0.19	
Control Delay	49.3	42.2		50.2	38.1		30.9	26.9		54.1	31.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	42.2		50.2	38.1		30.9	26.9		54.1	31.4	
LOS	D	D		D	D		C	C		D	C	
Approach Delay		42.8			39.4			27.4			36.5	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	34	199		48	183		45	176		50	61	
Queue Length 95th (ft)	70	255		91	234		m78	231		96	97	
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130			150		
Base Capacity (vph)	265	903		265	929		265	1437		265	1435	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.72		0.29	0.66		0.30	0.41		0.29	0.19	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 73 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 36.6

Intersection LOS: D

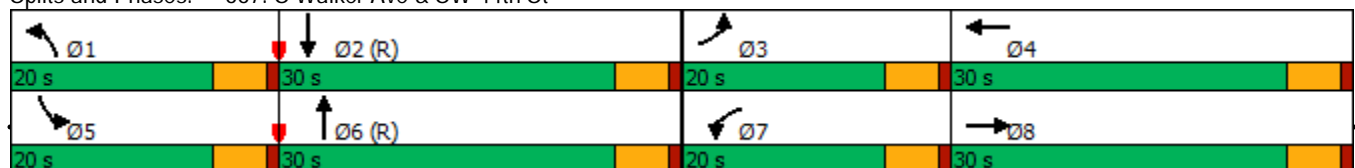
Intersection Capacity Utilization 57.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	552	69	67	457	130	66	390	82	118	190	59
Future Volume (vph)	75	552	69	67	457	130	66	390	82	118	190	59
Satd. Flow (prot)	1770	3479	0	1770	3422	0	1770	3447	0	1770	3415	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3422	0	1770	3447	0	1770	3415	0
Satd. Flow (RTOR)		13			35			25			39	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	675	0	73	638	0	72	513	0	128	271	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	20.0	30.0		20.0	30.0		20.0	35.0		15.0	30.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.0	24.1		9.5	23.6		9.4	38.6		10.0	41.4	
Actuated g/C Ratio	0.10	0.24		0.10	0.24		0.09	0.39		0.10	0.41	
v/c Ratio	0.47	0.80		0.44	0.76		0.43	0.38		0.72	0.19	
Control Delay	50.3	42.4		34.9	27.0		51.6	40.3		68.4	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.3	42.4		34.9	27.0		51.6	40.3		68.4	20.5	
LOS	D	D		C	C		D	D		E	C	
Approach Delay		43.2			27.8			41.7			35.9	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	50	207		26	180		48	166		81	66	
Queue Length 95th (ft)	94	266		m52	251		89	224		m#161	m113	
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100			115		
Base Capacity (vph)	265	910		265	902		265	1346		177	1436	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.74		0.28	0.71		0.27	0.38		0.72	0.19	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 37.2

Intersection LOS: D

Intersection Capacity Utilization 57.8%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

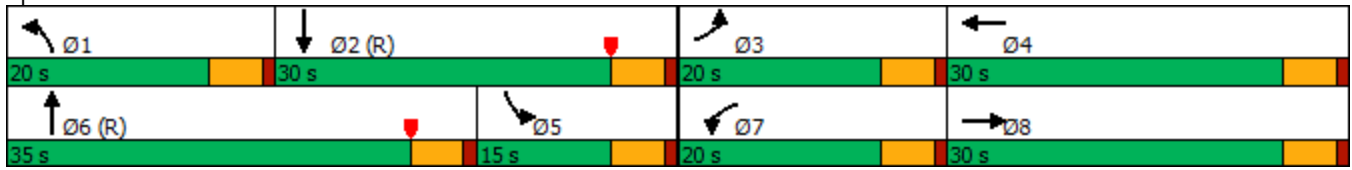
m Volume for 95th percentile queue is metered by upstream signal.

Timings

668: S Walker Ave & SW 59th St

02/12/2020





















Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	359	24	26	231	62	39	318	49	29	120	60
Future Volume (vph)	139	359	24	26	231	62	39	318	49	29	120	60
Satd. Flow (prot)	1770	3507	0	1770	3426	0	1770	3468	0	1770	3362	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3507	0	1770	3426	0	1770	3468	0	1770	3362	0
Satd. Flow (RTOR)		7			32			16			65	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	416	0	28	318	0	42	399	0	32	195	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	39.0		15.0	29.0		15.0	31.0		15.0	31.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	13.8	27.1		8.2	16.3		8.7	46.7		8.4	46.4	
Actuated g/C Ratio	0.14	0.27		0.08	0.16		0.09	0.47		0.08	0.46	
v/c Ratio	0.62	0.44		0.19	0.54		0.27	0.24		0.22	0.12	
Control Delay	51.2	31.8		34.5	45.0		47.1	18.2		38.9	20.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.2	31.8		34.5	45.0		47.1	18.2		38.9	20.7	
LOS	D	C		C	D		D	B		D	C	
Approach Delay		37.0			44.1			20.9			23.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	92	122		18	102		26	81		21	43	
Queue Length 95th (ft)	148	157		m45	148		58	135		52	67	
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145			135		
Base Capacity (vph)	354	1197		177	846		179	1629		177	1595	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.43	0.35		0.16	0.38		0.23	0.24		0.18	0.12	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 32.1

Intersection LOS: C

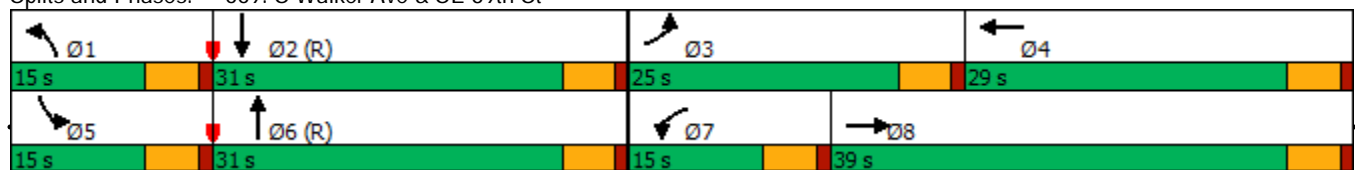
Intersection Capacity Utilization 57.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	477	1	2	456	115	2	4	2	107	4	82
Future Volume (vph)	147	477	1	2	456	115	2	4	2	107	4	82
Satd. Flow (prot)	1770	3539	0	1770	3433	0	1770	1770	0	0	1777	1583
Flt Permitted	0.950			0.950			0.680				0.743	
Satd. Flow (perm)	1770	3539	0	1770	3433	0	1267	1770	0	0	1384	1583
Satd. Flow (RTOR)					40			2				95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	519	0	2	621	0	2	6	0	0	120	89
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		2
Total Split (s)	17.0	33.0		13.0	29.0		34.0	34.0		34.0	34.0	34.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)	10.8	32.8		5.7	19.2		34.9	34.9			34.9	34.9
Actuated g/C Ratio	0.14	0.41		0.07	0.24		0.44	0.44			0.44	0.44
v/c Ratio	0.67	0.36		0.02	0.73		0.00	0.01			0.20	0.12
Control Delay	46.9	17.0		34.5	31.0		15.5	13.8			17.0	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	46.9	17.0		34.5	31.0		15.5	13.8			17.0	4.1
LOS	D	B		C	C		B	B			B	A
Approach Delay		24.0			31.0			14.3			11.5	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	76	83		1	140		1	1			37	0
Queue Length 95th (ft)	#140	138		8	182		5	9			80	26
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	265	1465		177	1057		553	773			604	745
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.60	0.35		0.01	0.59		0.00	0.01			0.20	0.12

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 49.7%

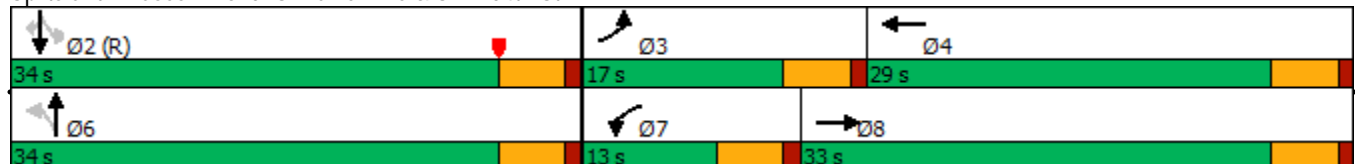
ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 670: S Walker Ave & SW 104th St



Timings

751: Robinson & I-40 WB Off Ramp

02/12/2020



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↱↱			↱↱
Traffic Volume (vph)	96	145	175	0	0	67
Future Volume (vph)	96	145	175	0	0	67
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Satd. Flow (RTOR)		158				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	158	190	0	0	73
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	31.0	31.0	29.0			29.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effect Green (s)	6.8	6.8	6.7			6.6
Actuated g/C Ratio	0.30	0.30	0.29			0.29
v/c Ratio	0.20	0.27	0.18			0.07
Control Delay	7.4	3.0	7.0			6.6
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	7.4	3.0	7.0			6.6
LOS	A	A	A			A
Approach Delay	4.7		7.0			6.6
Approach LOS	A		A			A
Queue Length 50th (ft)	8	0	7			3
Queue Length 95th (ft)	22	15	18			8
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1769	1582	3473			3473
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.06	0.10	0.05			0.02

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 22.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 5.8

Intersection LOS: A

Intersection Capacity Utilization 22.1%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 751: Robinson & I-40 WB Off Ramp

 02 29 s	 04 31 s
 06 29 s	

Timings

3000: Robinson & OKC Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	98	29	22	461	110	106	167	35	25	22	12
Future Volume (vph)	18	98	29	22	461	110	106	167	35	25	22	12
Satd. Flow (prot)	1770	3415	0	1770	3437	0	1770	3447	0	1770	3352	0
Flt Permitted	0.280			0.615			0.639			0.614		
Satd. Flow (perm)	522	3415	0	1146	3437	0	1190	3447	0	1144	3352	0
Satd. Flow (RTOR)		32			41			31			13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	139	0	24	621	0	115	220	0	27	37	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	14.0	24.0		14.0	24.0		14.0	18.0		14.0	18.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	17.8	15.2		19.0	17.6		38.8	35.3		34.8	29.8	
Actuated g/C Ratio	0.25	0.22		0.27	0.25		0.55	0.50		0.50	0.43	
v/c Ratio	0.08	0.18		0.07	0.70		0.16	0.13		0.04	0.03	
Control Delay	15.2	17.3		15.0	26.2		10.0	12.1		10.3	13.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.2	17.3		15.0	26.2		10.0	12.1		10.3	13.9	
LOS	B	B		B	C		A	B		B	B	
Approach Delay		17.1			25.8			11.3			12.4	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	6	18		8	118		19	15		4	3	
Queue Length 95th (ft)	15	36		17	160		64	64		21	16	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	300	969		397	996		736	1755		685	1434	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.07	0.14		0.06	0.62		0.16	0.13		0.04	0.03	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 19.9









Intersection LOS: B

Intersection Capacity Utilization 40.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
14 s	18 s	14 s	24 s
 Ø5	 Ø6	 Ø7	 Ø8
14 s	18 s	14 s	24 s






















2020 AM Existing

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						  			  	
Traffic Volume (vph)	111	220	93	0	0	0	0	535	21	12	282	0
Future Volume (vph)	111	220	93	0	0	0	0	535	21	12	282	0
Satd. Flow (prot)	0	4854	0	0	0	0	0	3518	0	0	3532	0
Flt Permitted		0.987									0.928	
Satd. Flow (perm)	0	4854	0	0	0	0	0	3518	0	0	3284	0
Satd. Flow (RTOR)		66						9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	461	0	0	0	0	0	605	0	0	320	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	28.0	28.0						72.0		62.0	62.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		23.0						67.0			67.0	
Actuated g/C Ratio		0.23						0.67			0.67	
v/c Ratio		0.40						0.26			0.15	
Control Delay		28.9						14.5			5.1	
Queue Delay		0.2						0.0			0.9	
Total Delay		29.1						14.5			5.9	
LOS		C						B			A	
Approach Delay		29.1						14.5			5.9	
Approach LOS		C						B			A	
Queue Length 50th (ft)		77						131			25	
Queue Length 95th (ft)		110						228			35	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1167						2360			2200	
Starvation Cap Reductn		0						0			1578	
Spillback Cap Reductn		212						289			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.48						0.29			0.51	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 28 (28%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 17.4

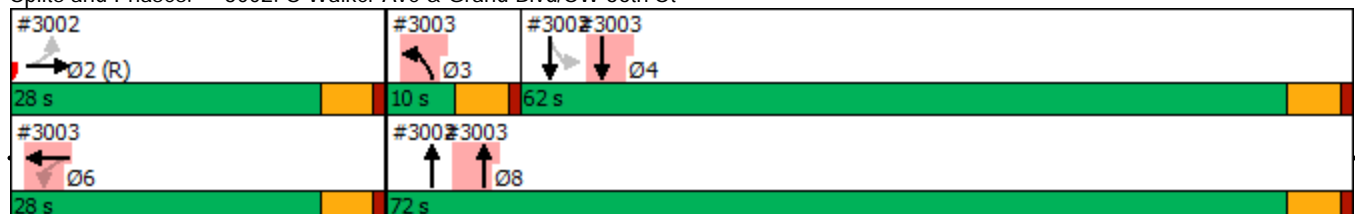
Intersection LOS: B

Intersection Capacity Utilization 33.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St



Timings

3002: S Walker Ave & Grand Blvd/SW 36th St


02/12/2020

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	10.0	28.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

02/12/2020

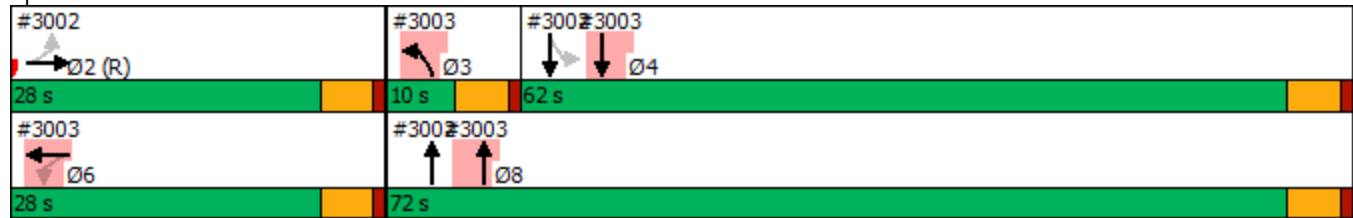
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔↔			↔↔			↔↔	
Traffic Volume (vph)	0	0	0	52	221	53	74	573	0	0	232	34
Future Volume (vph)	0	0	0	52	221	53	74	573	0	0	232	34
Satd. Flow (prot)	0	0	0	0	4918	0	0	3518	0	0	3472	0
Flt Permitted					0.992			0.867				
Satd. Flow (perm)	0	0	0	0	4918	0	0	3068	0	0	3472	0
Satd. Flow (RTOR)					38						27	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	355	0	0	703	0	0	289	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				28.0	28.0		10.0	72.0			62.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					23.0			67.0			67.0	
Actuated g/C Ratio					0.23			0.67			0.67	
v/c Ratio					0.31			0.83			0.12	
Control Delay					23.4			29.9			5.5	
Queue Delay					0.0			0.0			0.0	
Total Delay					23.4			29.9			5.5	
LOS					C			C			A	
Approach Delay					23.4			29.9			5.5	
Approach LOS					C			C			A	
Queue Length 50th (ft)					64			252			27	
Queue Length 95th (ft)					97			#324			42	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1160			849			2335	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.31			0.83			0.12	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 28 (28%), Referenced to phase 2:EBTL, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.83												
Intersection Signal Delay: 22.9												
Intersection LOS: C												
Intersection Capacity Utilization 44.7%												
ICU Level of Service A												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

02/12/2020

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave



Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	28.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 6th AWSC
4003: NW Grand Blvd & NW 19th St

02/12/2020

Intersection

Intersection Delay, s/veh 8.3
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕						↕	
Traffic Vol, veh/h	0	112	1	1	42	0	0	0	0	19	36	7
Future Vol, veh/h	0	112	1	1	42	0	0	0	0	19	36	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	122	1	1	46	0	0	0	0	21	39	8
Number of Lanes	0	1	0	0	2	0	0	0	0	0	2	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	8.7	7.7	8
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	7%	0%	51%	0%
Vol Thru, %	99%	93%	100%	49%	72%
Vol Right, %	1%	0%	0%	0%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	15	28	37	25
LT Vol	0	1	0	19	0
Through Vol	112	14	28	18	18
RT Vol	1	0	0	0	7
Lane Flow Rate	123	16	30	40	27
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.16	0.021	0.04	0.058	0.036
Departure Headway (Hd)	4.68	4.747	4.714	5.212	4.758
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	758	743	749	691	757
Service Time	2.762	2.546	2.512	2.912	2.458
HCM Lane V/C Ratio	0.162	0.022	0.04	0.058	0.036
HCM Control Delay	8.7	7.6	7.7	8.2	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.1	0.2	0.1

Intersection

Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕				
Traffic Vol, veh/h	44	86	0	0	38	21	5	104	4	0	0	0
Future Vol, veh/h	44	86	0	0	38	21	5	104	4	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	93	0	0	41	23	5	113	4	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	8.4	7.7	8.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	9%	0%	61%	0%	0%	0%
Vol Thru, %	91%	93%	39%	100%	100%	38%
Vol Right, %	0%	7%	0%	0%	0%	62%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	56	73	57	25	34
LT Vol	5	0	44	0	0	0
Through Vol	52	52	29	57	25	13
RT Vol	0	4	0	0	0	21
Lane Flow Rate	62	61	79	62	28	37
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.087	0.084	0.114	0.085	0.038	0.046
Departure Headway (Hd)	5.084	4.99	5.212	4.908	4.984	4.545
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	708	721	690	733	721	791
Service Time	2.795	2.701	2.921	2.617	2.695	2.256
HCM Lane V/C Ratio	0.088	0.085	0.114	0.085	0.039	0.047
HCM Control Delay	8.3	8.2	8.6	8.1	7.9	7.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.4	0.3	0.1	0.1

Intersection

Intersection Delay, s/veh	8.1
Intersection LOS	A





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	47	31	9	23	6	7	96	11	20	89	7
Future Vol, veh/h	20	47	31	9	23	6	7	96	11	20	89	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	51	34	10	25	7	8	104	12	22	97	8
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.1	7.9	8.1	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	13%	0%	20%	24%	31%	0%
Vol Thru, %	87%	81%	48%	61%	69%	86%
Vol Right, %	0%	19%	32%	16%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	59	98	38	65	52
LT Vol	7	0	20	9	20	0
Through Vol	48	48	47	23	45	45
RT Vol	0	11	31	6	0	7
Lane Flow Rate	60	64	107	41	70	56
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.084	0.087	0.131	0.053	0.1	0.076
Departure Headway (Hd)	5.057	4.862	4.438	4.615	5.145	4.893
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	710	738	810	777	698	733
Service Time	2.778	2.583	2.456	2.637	2.866	2.615
HCM Lane V/C Ratio	0.085	0.087	0.132	0.053	0.1	0.076
HCM Control Delay	8.2	8	8.1	7.9	8.4	8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.4	0.2	0.3	0.2

HCM 6th TWSC
4000: N MacArthur Blvd & NW 19th St

02/12/2020




Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	9	24	10	11	23	17	509	18	13	664	12
Future Vol, veh/h	17	9	24	10	11	23	17	509	18	13	664	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	10	26	11	12	25	18	553	20	14	722	13
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1076	1366	368	993	1362	287	735	0	0	573	0	0
Stage 1	757	757	-	599	599	-	-	-	-	-	-	-
Stage 2	319	609	-	394	763	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	174	146	629	200	147	710	866	-	-	996	-	-
Stage 1	366	414	-	455	489	-	-	-	-	-	-	-
Stage 2	667	484	-	602	411	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	150	138	629	174	139	710	866	-	-	996	-	-
Mov Cap-2 Maneuver	150	138	-	174	139	-	-	-	-	-	-	-
Stage 1	355	404	-	441	474	-	-	-	-	-	-	-
Stage 2	608	469	-	550	401	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	25.3		21.9			0.4			0.3			
HCM LOS	D		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	866	-	-	231	260	996	-	-				
HCM Lane V/C Ratio	0.021	-	-	0.235	0.184	0.014	-	-				
HCM Control Delay (s)	9.2	0.1	-	25.3	21.9	8.7	0.1	-				
HCM Lane LOS	A	A	-	D	C	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0.7	0	-	-				

HCM 6th TWSC
4001: N Meridian Ave & NW 19th St

02/12/2020

Intersection




Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	66	28	488	633	23
Future Vol, veh/h	23	66	28	488	633	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	72	30	530	688	25

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1026	357	713
Stage 1	701	-	-
Stage 2	325	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	231	639	883
Stage 1	453	-	-
Stage 2	705	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	220	639	883
Mov Cap-2 Maneuver	220	-	-
Stage 1	431	-	-
Stage 2	705	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	883	-	428	-	-
HCM Lane V/C Ratio	0.034	-	0.226	-	-
HCM Control Delay (s)	9.2	0.2	15.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	29	518	8	3	682
Future Vol, veh/h	13	29	518	8	3	682
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	32	563	9	3	741

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	945	286	0	0	572	0
Stage 1	568	-	-	-	-	-
Stage 2	377	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	260	711	-	-	997	-
Stage 1	530	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	711	-	-	997	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	462	997
HCM Lane V/C Ratio	-	-	0.099	0.003
HCM Control Delay (s)	-	-	13.6	8.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

HCM 6th TWSC
4006: N May Ave & NW 19th St




















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Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	41	14	6	12	23	12	686	13	7	501	6
Future Vol, veh/h	16	41	14	6	12	23	12	686	13	7	501	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	45	15	7	13	25	13	746	14	8	545	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	971	1351	276	1090	1347	380	552	0	0	760	0	0
Stage 1	565	565	-	779	779	-	-	-	-	-	-	-
Stage 2	406	786	-	311	568	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	207	149	721	170	150	618	1014	-	-	848	-	-
Stage 1	477	506	-	355	404	-	-	-	-	-	-	-
Stage 2	593	401	-	674	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	180	144	721	123	145	618	1014	-	-	848	-	-
Mov Cap-2 Maneuver	180	144	-	123	145	-	-	-	-	-	-	-
Stage 1	467	499	-	347	395	-	-	-	-	-	-	-
Stage 2	538	392	-	592	498	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	38.9		23.1		0.2		0.2					
HCM LOS	E		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1014	-	-	181	243	848	-	-				
HCM Lane V/C Ratio	0.013	-	-	0.426	0.183	0.009	-	-				
HCM Control Delay (s)	8.6	0.1	-	38.9	23.1	9.3	0.1	-				
HCM Lane LOS	A	A	-	E	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.9	0.7	0	-	-				

Timings

97: N Council Rd & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	39	15	47	20	53	11	537	37	33	749	7
Future Volume (vph)	29	39	15	47	20	53	11	537	37	33	749	7
Satd. Flow (prot)	0	1787	0	1770	1660	0	1770	3504	0	1770	3536	0
Flt Permitted		0.850					0.342			0.415		
Satd. Flow (perm)	0	1545	0	1863	1660	0	637	3504	0	773	3536	0
Satd. Flow (RTOR)		12			58			14			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	51	80	0	12	624	0	36	822	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	31.0	31.0		31.0	31.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		7.9		7.8	7.8		19.1	19.1		19.1	19.1	
Actuated g/C Ratio		0.29		0.28	0.28		0.69	0.69		0.69	0.69	
v/c Ratio		0.20		0.10	0.16		0.03	0.26		0.07	0.34	
Control Delay		11.2		11.4	6.7		5.2	4.6		5.4	5.1	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		11.2		11.4	6.7		5.2	4.6		5.4	5.1	
LOS		B		B	A		A	A		A	A	
Approach Delay		11.2			8.5			4.6			5.1	
Approach LOS		B			A			A			A	
Queue Length 50th (ft)		10		7	3		1	30		3	43	
Queue Length 95th (ft)		40		28	26		6	60		13	83	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)				80			160			180		
Base Capacity (vph)		1360		1639	1467		637	3504		773	3536	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.07		0.03	0.05		0.02	0.18		0.05	0.23	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 27.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 5.5

Intersection LOS: A

Intersection Capacity Utilization 47.0%

ICU Level of Service A

Analysis Period (min) 15






















Splits and Phases: 97: N Council Rd & NW 16th St



Timings

295: N MacArthur Blvd & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	109	66	40	88	53	36	411	27	65	590	37
Future Volume (vph)	72	109	66	40	88	53	36	411	27	65	590	37
Satd. Flow (prot)	1770	1757	0	1770	1758	0	1770	3507	0	1770	3507	0
Flt Permitted	0.659			0.576			0.950			0.950		
Satd. Flow (perm)	1228	1757	0	1073	1758	0	1770	3507	0	1770	3507	0
Satd. Flow (RTOR)		41			40			8			8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	190	0	43	154	0	39	476	0	71	681	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	41.0	41.0		41.0	41.0		14.0	33.0		16.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	11.0	11.0		11.0	11.0		6.9	30.5		7.9	33.6	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.12	0.51		0.13	0.57	
v/c Ratio	0.34	0.53		0.22	0.43		0.19	0.26		0.30	0.34	
Control Delay	26.9	23.6		24.9	21.0		28.5	10.7		28.7	9.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.9	23.6		24.9	21.0		28.5	10.7		28.7	9.4	
LOS	C	C		C	C		C	B		C	A	
Approach Delay		24.6			21.8			12.0			11.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	26	51		14	38		14	54		25	44	
Queue Length 95th (ft)	63	110		40	89		41	103		62	144	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)	270			160			105			130		
Base Capacity (vph)	758	1100		662	1100		273	1805		333	1984	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.17		0.06	0.14		0.14	0.26		0.21	0.34	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 59.4

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 14.7

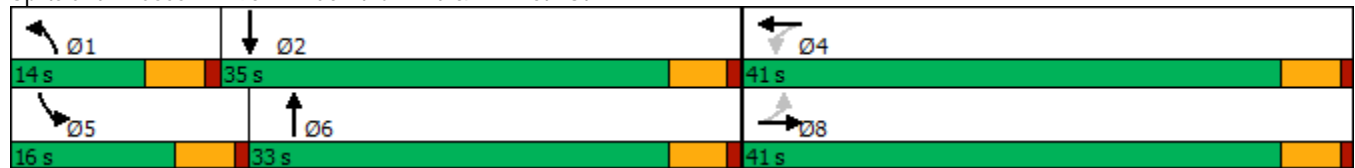
Intersection LOS: B

Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 295: N MacArthur Blvd & NW 16th St



Timings

377: N Meridian Ave & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	127	102	22	97	54	118	358	38	51	522	81
Future Volume (vph)	96	127	102	22	97	54	118	358	38	51	522	81
Satd. Flow (prot)	0	1824	1583	0	1774	0	1770	3490	0	1770	3468	0
Flt Permitted		0.734			0.936		0.391			0.502		
Satd. Flow (perm)	0	1367	1583	0	1670	0	728	3490	0	935	3468	0
Satd. Flow (RTOR)			111		30			17			27	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	111	0	188	0	128	430	0	55	655	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	41.0	41.0	41.0	41.0	41.0		49.0	49.0		49.0	49.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		16.6	16.6		16.6		44.2	44.2		44.2	44.2	
Actuated g/C Ratio		0.23	0.23		0.23		0.62	0.62		0.62	0.62	
v/c Ratio		0.76	0.24		0.45		0.28	0.20		0.09	0.30	
Control Delay		40.5	6.0		22.5		9.6	6.5		7.3	7.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		40.5	6.0		22.5		9.6	6.5		7.3	7.1	
LOS		D	A		C		A	A		A	A	
Approach Delay		29.7			22.5			7.2			7.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		98	0		58		22	34		8	56	
Queue Length 95th (ft)		172	33		111		67	73		28	113	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		697	861		866		453	2182		583	2172	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.35	0.13		0.22		0.28	0.20		0.09	0.30	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 70.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 13.1

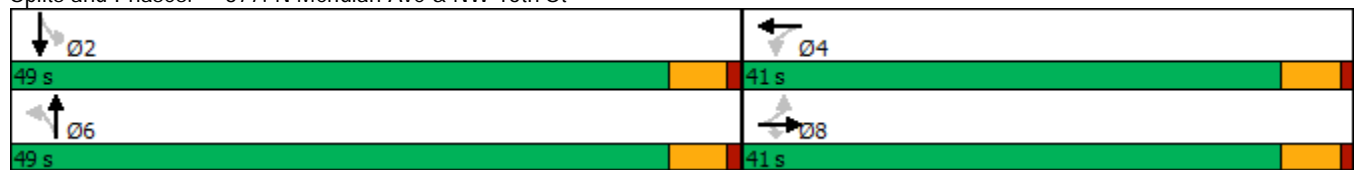
Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 377: N Meridian Ave & NW 16th St
























2020 AM Existing

Synchro 10 Report

Timings

544: N Rockwell Ave & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	85	51	64	68	30	373	34	74	625	56
Future Volume (vph)	85	95	85	51	64	68	30	373	34	74	625	56
Satd. Flow (prot)	1770	1730	0	1770	1719	0	1770	3493	0	1770	3497	0
Flt Permitted	0.665			0.635			0.950			0.950		
Satd. Flow (perm)	1239	1730	0	1183	1719	0	1770	3493	0	1770	3497	0
Satd. Flow (RTOR)		50			59			12			13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	195	0	55	144	0	33	442	0	80	740	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	31.0	31.0		31.0	31.0		15.0	40.0		19.0	44.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.9	10.9		10.9	10.9		7.1	14.3		8.3	17.5	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.16	0.33		0.19	0.40	
v/c Ratio	0.30	0.41		0.19	0.30		0.11	0.38		0.24	0.52	
Control Delay	20.1	16.2		18.9	13.3		22.7	13.5		21.4	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.1	16.2		18.9	13.3		22.7	13.5		21.4	12.2	
LOS	C	B		B	B		C	B		C	B	
Approach Delay		17.5			14.8			14.1			13.1	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	19	30		11	17		7	47		17	46	
Queue Length 95th (ft)	66	100		44	68		34	97		62	158	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)	115			80			155			200		
Base Capacity (vph)	828	1172		790	1168		454	2801		637	2965	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.17		0.07	0.12		0.07	0.16		0.13	0.25	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 43.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 14.3

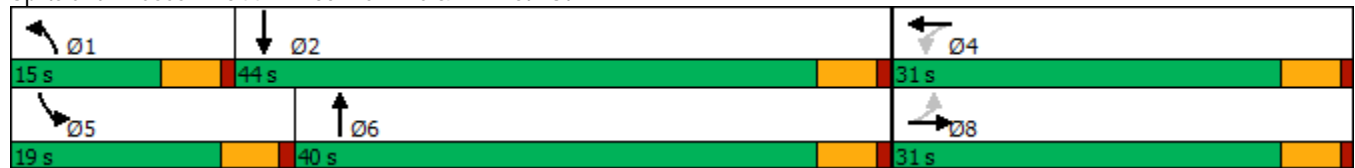
Intersection LOS: B

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 544: N Rockwell Ave & NW 16th St



















2020 AM Existing

Synchro 10 Report

Timings

999: NW 19th St





02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	48.0	48.0		48.0	48.0		42.0	42.0		42.0	42.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 57	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.00	
Intersection Signal Delay: 0.0	Intersection LOS: A
Intersection Capacity Utilization 0.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 999: NW 19th St







 02	 04
42 s	48 s
 06	 08
42 s	48 s

HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

02/12/2020

Intersection

Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	179	30	6	79	9	10	4	4	16	12	10
Future Vol, veh/h	6	179	30	6	79	9	10	4	4	16	12	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	195	33	7	86	10	11	4	4	17	13	11
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.3	8.2	7.9	8
HCM LOS	A	A	A	A







Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	56%	100%	0%	100%	0%	42%
Vol Thru, %	22%	0%	86%	0%	90%	32%
Vol Right, %	22%	0%	14%	0%	10%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	6	209	6	88	38
LT Vol	10	6	0	6	0	16
Through Vol	4	0	179	0	79	12
RT Vol	4	0	30	0	9	10
Lane Flow Rate	20	7	227	7	96	41
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.026	0.009	0.29	0.01	0.127	0.054
Departure Headway (Hd)	4.764	5.193	4.592	5.369	4.796	4.683
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	755	683	775	671	752	768
Service Time	2.771	2.974	2.372	3.069	2.496	2.689
HCM Lane V/C Ratio	0.026	0.01	0.293	0.01	0.128	0.053
HCM Control Delay	7.9	8	9.3	8.1	8.2	8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0	1.2	0	0.4	0.2

HCM 6th AWSC
1005: NE Grand Blvd NB & NE 16th St

02/12/2020

Intersection

Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	141	12	3	47	3	37	111	11	3	8	9
Future Vol, veh/h	46	141	12	3	47	3	37	111	11	3	8	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	153	13	3	51	3	40	121	12	3	9	10
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.1	8.4	9	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	23%	100%	0%	100%	0%	15%
Vol Thru, %	70%	0%	92%	0%	94%	40%
Vol Right, %	7%	0%	8%	0%	6%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	46	153	3	50	20
LT Vol	37	46	0	3	0	3
Through Vol	111	0	141	0	47	8
RT Vol	11	0	12	0	3	9
Lane Flow Rate	173	50	166	3	54	22
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.223	0.077	0.231	0.005	0.078	0.028
Departure Headway (Hd)	4.643	5.56	5.002	5.719	5.173	4.586
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	774	645	718	625	692	780
Service Time	2.666	3.29	2.732	3.456	2.91	2.62
HCM Lane V/C Ratio	0.224	0.078	0.231	0.005	0.078	0.028
HCM Control Delay	9	8.8	9.2	8.5	8.4	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.9	0	0.3	0.1

HCM 6th TWSC
1000: N Robinson Ave & NW 18th St

02/12/2020

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	5	4	1	2	2	7	72	0	0	72	3
Future Vol, veh/h	3	5	4	1	2	2	7	72	0	0	72	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	5	4	1	2	2	8	78	0	0	78	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	136	174	41	136	175	39	81	0	0	78	0	0
Stage 1	80	80	-	94	94	-	-	-	-	-	-	-
Stage 2	56	94	-	42	81	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	822	718	1021	822	717	1024	1515	-	-	1518	-	-
Stage 1	919	828	-	902	816	-	-	-	-	-	-	-
Stage 2	949	816	-	967	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	815	714	1021	810	713	1024	1515	-	-	1518	-	-
Mov Cap-2 Maneuver	815	714	-	810	713	-	-	-	-	-	-	-
Stage 1	913	828	-	897	811	-	-	-	-	-	-	-
Stage 2	939	811	-	957	827	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.5		9.3		0.7		0	
HCM LOS	A		A					







Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	822	834	1518	-
HCM Lane V/C Ratio	0.005	-	-	0.016	0.007	-	-
HCM Control Delay (s)	7.4	0	-	9.5	9.3	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

HCM 6th TWSC
1001: N Robinson Ave & NW 16th St

02/12/2020

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	7	15	1	96	0	0	0	2	59	8
Future Vol, veh/h	4	0	7	15	1	96	0	0	0	2	59	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	0	0	-	0	-	-	-	-	-	40
Veh in Median Storage, #	-	0	-	-	16979	-	-	16979	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	8	16	1	104	0	0	0	2	64	9

Major/Minor	Minor2						Major2					
Conflicting Flow All	68	-	32				0	0	0			
Stage 1	68	-	-				-	-	-			
Stage 2	0	-	-				-	-	-			
Critical Hdwy	6.84	-	6.94				4.14	-	-			
Critical Hdwy Stg 1	5.84	-	-				-	-	-			
Critical Hdwy Stg 2	-	-	-				-	-	-			
Follow-up Hdwy	3.52	-	3.32				2.22	-	-			
Pot Cap-1 Maneuver	929	0	1035				-	-	-			
Stage 1	947	0	-				-	-	-			
Stage 2	-	0	-				-	-	-			
Platoon blocked, %								-	-			
Mov Cap-1 Maneuver	929	0	1035				-	-	-			
Mov Cap-2 Maneuver	929	0	-				-	-	-			
Stage 1	947	0	-				-	-	-			
Stage 2	-	0	-				-	-	-			

Approach	EB	SB
HCM Control Delay, s	8.6	
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	929	1035	-	-	-
HCM Lane V/C Ratio	0.005	0.007	-	-	-
HCM Control Delay (s)	8.9	8.5	-	-	-
HCM Lane LOS	A	A	-	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

HCM 6th TWSC
1002: N Lincoln Blvd SB & NE 16th St

02/12/2020

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱↱		
Traffic Vol, veh/h	0	14	4	4	3	0	0	0	0	0	984	9
Future Vol, veh/h	0	14	4	4	3	0	0	0	0	0	984	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	4	4	3	0	0	0	0	0	1070	10

Major/Minor	Minor2		Minor1				Major2		
Conflicting Flow All	-	1075	540	436	1080	-	0	0	0
Stage 1	-	1075	-	0	0	-	-	-	-
Stage 2	-	0	-	436	1080	-	-	-	-
Critical Hdwy	-	6.54	7.14	6.44	6.54	-	5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-	3.12	-	-
Pot Cap-1 Maneuver	0	218	416	540	217	0	-	-	-
Stage 1	0	294	-	-	-	0	-	-	-
Stage 2	0	-	-	520	293	0	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	218	416	506	217	-	-	-	-
Mov Cap-2 Maneuver	-	218	-	506	217	-	-	-	-
Stage 1	-	294	-	-	-	-	-	-	-
Stage 2	-	-	-	488	293	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	21		16.5		0	
HCM LOS	C		C			

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	244	322	-	-	-
HCM Lane V/C Ratio	0.08	0.024	-	-	-
HCM Control Delay (s)	21	16.5	0	-	-
HCM Lane LOS	C	C	A	-	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	-


















HCM 6th TWSC
1003: N Lincoln Blvd NB & NE 16th St

02/12/2020

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕↕				
Traffic Vol, veh/h	14	2	0	0	5	1	1	1270	2	0	0	0
Future Vol, veh/h	14	2	0	0	5	1	1	1270	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	2	0	0	5	1	1	1380	2	0	0	0
Major/Minor	Minor2		Minor1		Major1							
Conflicting Flow All	557	1384	-	-	1383	691	0	0	0			
Stage 1	0	0	-	-	1383	-	-	-	-			
Stage 2	557	1384	-	-	0	-	-	-	-			
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-			
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-			
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-			
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-			
Pot Cap-1 Maneuver	461	142	0	0	143	332	-	-	-			
Stage 1	-	-	0	0	209	-	-	-	-			
Stage 2	440	209	0	0	-	-	-	-	-			
Platoon blocked, %								-	-			
Mov Cap-1 Maneuver	446	142	-	-	143	332	-	-	-			
Mov Cap-2 Maneuver	446	142	-	-	143	-	-	-	-			
Stage 1	-	-	-	-	209	-	-	-	-			
Stage 2	427	209	-	-	-	-	-	-	-			
Approach	EB		WB		NB							
HCM Control Delay, s	15.8		28.8									
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1							
Capacity (veh/h)	-	-	-	352	158							
HCM Lane V/C Ratio	-	-	-	0.049	0.041							
HCM Control Delay (s)	-	-	-	15.8	28.8							
HCM Lane LOS	-	-	-	C	D							
HCM 95th %tile Q(veh)	-	-	-	0.2	0.1							

Lanes, Volumes, Timings
282: N Lottie Ave & NE 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	55	13	34	26	73	7	369	90	74	184	14
Future Volume (vph)	2	55	13	34	26	73	7	369	90	74	184	14
Satd. Flow (prot)	0	1814	0	1770	1656	0	0	3433	0	0	3465	0
Flt Permitted		0.993		0.839				0.951			0.755	
Satd. Flow (perm)	0	1803	0	1563	1656	0	0	3268	0	0	2651	0
Satd. Flow (RTOR)		14			79			46			9	
Adj. Flow (vph)	2	60	14	37	28	79	8	401	98	80	200	15
Lane Group Flow (vph)	0	76	0	37	107	0	0	507	0	0	295	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	40.0	40.0		40.0	40.0		50.0	50.0		50.0	50.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0			5.0	
Act Effect Green (s)		16.0		16.0	16.0			49.4			49.4	
Actuated g/C Ratio		0.23		0.23	0.23			0.71			0.71	
v/c Ratio		0.18		0.10	0.24			0.22			0.16	
Control Delay		20.2		22.8	10.6			4.8			5.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		20.2		22.8	10.6			4.8			5.0	
LOS		C		C	B			A			A	
Approach Delay		20.2			13.7			4.8			5.0	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		22		13	10			39			23	
Queue Length 95th (ft)		54		35	46			58			38	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)				105								
Base Capacity (vph)		911		784	870			2324			1877	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.08		0.05	0.12			0.22			0.16	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 69.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 7.3

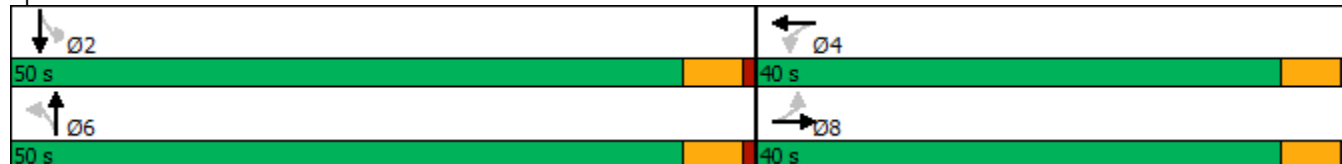
Intersection LOS: A

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15






















Splits and Phases: 282: N Lottie Ave & NE 16th St



Lanes, Volumes, Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	86	90	13	37	35	46	684	29	45	651	74
Future Volume (vph)	101	86	90	13	37	35	46	684	29	45	651	74
Satd. Flow (prot)	1770	1863	1583	0	1744	0	1770	3518	0	1770	3486	0
Flt Permitted	0.587				0.945		0.238			0.246		
Satd. Flow (perm)	1093	1863	1583	0	1662	0	443	3518	0	458	3486	0
Satd. Flow (RTOR)			145		38			4			12	
Adj. Flow (vph)	110	93	98	14	40	38	50	743	32	49	708	80
Lane Group Flow (vph)	110	93	98	0	92	0	50	775	0	49	788	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	22.0	52.0	30.0	30.0	30.0		14.0	24.0		14.0	24.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)	20.7	26.4	19.2		19.2		26.8	25.3		26.9	25.4	
Actuated g/C Ratio	0.35	0.44	0.32		0.32		0.45	0.42		0.45	0.42	
v/c Ratio	0.22	0.11	0.16		0.16		0.12	0.52		0.12	0.53	
Control Delay	15.6	13.8	2.6		16.1		12.9	23.6		12.8	23.6	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	15.6	13.8	2.6		16.1		12.9	23.6		12.8	23.6	
LOS	B	B	A		B		B	C		B	C	
Approach Delay		10.8			16.1			22.9			22.9	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	29	25	0		19		12	166		12	169	
Queue Length 95th (ft)	59	51	17		57		31	#272		31	#276	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	724	1399	854		839		441	1490		445	1482	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.15	0.07	0.11		0.11		0.11	0.52		0.11	0.53	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 59.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 59.5%

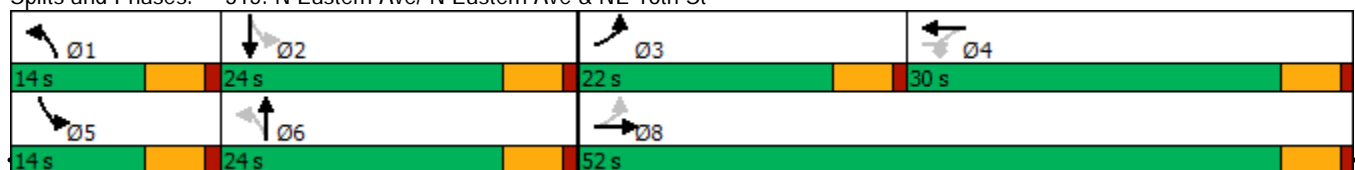
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St



2020 PM Existing

Synchro 10 Report



Intersection

Intersection Delay, s/veh

0

Intersection LOS

-

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	1	1	0	0	0

Approach	EB	WB
Opposing Approach	WB	EB
Opposing Lanes	1	1
Conflicting Approach Left		
Conflicting Lanes Left	0	0
Conflicting Approach Right		
Conflicting Lanes Right	0	0
HCM Control Delay	0	0
HCM LOS	-	-




Lane	EBLn1	WBLn1
Vol Left, %	0%	0%
Vol Thru, %	100%	100%
Vol Right, %	0%	0%
Sign Control	Stop	Stop
Traffic Vol by Lane	0	0
LT Vol	0	0
Through Vol	0	0
RT Vol	0	0
Lane Flow Rate	0	0
Geometry Grp	0	0
Degree of Util (X)	0	0
Departure Headway (Hd)	0	0
Convergence, Y/N	Yes	Yes
Cap	0	0
Service Time	0	0
HCM Lane V/C Ratio	0	0
HCM Control Delay	5	5
HCM Lane LOS	N	N
HCM 95th-tile Q	0	0

HCM 6th TWSC
312: N Classen Cir & N Classen Blvd

02/12/2020

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	110	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

HCM 6th TWSC

2000: N Classen Blvd & N McKinley Ave/NW 51st St

02/12/2020

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	16	1	9	14	1	19	29	972	7	4	586	11
Future Vol, veh/h	16	1	9	14	1	19	29	972	7	4	586	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	290	-	-	80	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	1	10	15	1	21	32	1057	8	4	637	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1244	1780	325	1452	1782	533	649	0	0	1065	0	0
Stage 1	651	651	-	1125	1125	-	-	-	-	-	-	-
Stage 2	593	1129	-	327	657	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	131	81	671	92	81	491	933	-	-	650	-	-
Stage 1	424	463	-	218	278	-	-	-	-	-	-	-
Stage 2	459	277	-	660	460	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	120	78	671	87	78	491	933	-	-	650	-	-
Mov Cap-2 Maneuver	120	78	-	87	78	-	-	-	-	-	-	-
Stage 1	410	460	-	211	269	-	-	-	-	-	-	-
Stage 2	423	268	-	645	457	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.7		34.1		0.3		0.1	
HCM LOS	D		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	933	-	-	163	160	650	-
HCM Lane V/C Ratio	0.034	-	-	0.173	0.231	0.007	-
HCM Control Delay (s)	9	-	-	31.7	34.1	10.6	-
HCM Lane LOS	A	-	-	D	D	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.9	0	-

HCM 6th TWSC
2002: N Classen Blvd & W Wilshire Blvd

02/12/2020

Intersection

Int Delay, s/veh 4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	420	14	97	471	71	249
Future Vol, veh/h	420	14	97	471	71	249
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	457	15	105	512	77	271

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	472
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	1086
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1086
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	15.8
HCM LOS			C





Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	230	766	-	-	1086	-
HCM Lane V/C Ratio	0.336	0.353	-	-	0.097	-
HCM Control Delay (s)	28.4	12.2	-	-	8.7	0.4
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	1.4	1.6	-	-	0.3	-

HCM 6th TWSC
2003: W Wilshire Blvd & N Classen Blvd

02/12/2020

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	61	596	542	55	37	38
Future Vol, veh/h	61	596	542	55	37	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	648	589	60	40	41

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	649	0	1075
Stage 1	-	-	619
Stage 2	-	-	456
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	933	-	214
Stage 1	-	-	499
Stage 2	-	-	605
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	933	-	190
Mov Cap-2 Maneuver	-	-	190
Stage 1	-	-	444
Stage 2	-	-	605

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	933	-	-	-	190	671
HCM Lane V/C Ratio	0.071	-	-	-	0.212	0.062
HCM Control Delay (s)	9.2	0.4	-	-	29	10.7
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8	0.2

HCM 6th TWSC
2004: N Classen Blvd & W Britton Rd

02/12/2020

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Vol, veh/h	10	483	14	39	631	16	20	7	61	5	2	10
Future Vol, veh/h	10	483	14	39	631	16	20	7	61	5	2	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	525	15	42	686	17	22	8	66	5	2	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	703	0	0	540	0	0	983	1342	270	1068	1341	352
Stage 1	-	-	-	-	-	-	555	555	-	779	779	-
Stage 2	-	-	-	-	-	-	428	787	-	289	562	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	890	-	-	1025	-	-	203	151	728	176	151	644
Stage 1	-	-	-	-	-	-	484	511	-	355	404	-
Stage 2	-	-	-	-	-	-	575	401	-	694	508	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	890	-	-	1025	-	-	185	138	728	143	138	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	138	-	143	138	-
Stage 1	-	-	-	-	-	-	475	502	-	349	377	-
Stage 2	-	-	-	-	-	-	524	374	-	610	499	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.8			16.4			19.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	176	591	890	-	-	1025	-	-	142	483
HCM Lane V/C Ratio	0.145	0.119	0.012	-	-	0.041	-	-	0.046	0.025
HCM Control Delay (s)	28.9	11.9	9.1	0.1	-	8.7	0.3	-	31.6	12.6
HCM Lane LOS	D	B	A	A	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.5	0.4	0	-	-	0.1	-	-	0.1	0.1

Timings

64: N Classen Blvd & Belle Isle Blvd

02/12/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	102	181	363	641	420	90
Future Volume (vph)	102	181	363	641	420	90
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.426			
Satd. Flow (perm)	1770	1583	794	3539	3539	1583
Satd. Flow (RTOR)		197				78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	197	395	697	457	98
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	8		1	6	2	
Permitted Phases		8	6			2
Total Split (s)	40.0	40.0	26.0	60.0	34.0	34.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	10.0	10.0	55.1	55.1	38.5	38.5
Actuated g/C Ratio	0.13	0.13	0.73	0.73	0.51	0.51
v/c Ratio	0.47	0.52	0.54	0.27	0.25	0.12
Control Delay	36.8	10.1	6.7	3.9	11.7	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	36.8	10.1	6.7	3.9	12.0	4.8
LOS	D	B	A	A	B	A
Approach Delay	19.7			4.9	10.7	
Approach LOS	B			A	B	
Queue Length 50th (ft)	49	0	50	44	57	4
Queue Length 95th (ft)	95	54	99	76	107	32
Internal Link Dist (ft)	753			602	240	
Turn Bay Length (ft)	175		130			70
Base Capacity (vph)	826	843	855	2595	1816	850
Starvation Cap Reductn	0	0	0	0	753	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.23	0.46	0.27	0.43	0.12

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 75.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.9

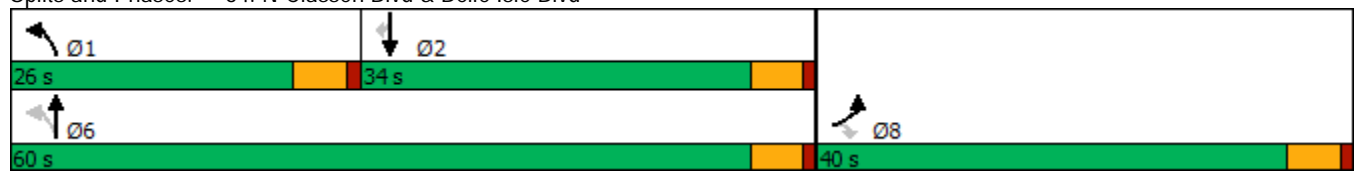
Intersection LOS: A

Intersection Capacity Utilization 49.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 64: N Classen Blvd & Belle Isle Blvd



Timings

78: N Classen Blvd & Chesapeake Dr

02/12/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	
Traffic Volume (vph)	12	15	29	254	117	11
Future Volume (vph)	12	15	29	254	117	11
Satd. Flow (prot)	1687	0	1770	3539	3493	0
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1687	0	1770	3539	3493	0
Satd. Flow (RTOR)	16				8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	32	276	139	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		34.0	83.0	49.0	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.7		7.2	83.9	76.2	
Actuated g/C Ratio	0.07		0.08	0.89	0.81	
v/c Ratio	0.22		0.24	0.09	0.05	
Control Delay	29.6		45.0	1.3	3.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	29.6		45.0	1.3	3.9	
LOS	C		D	A	A	
Approach Delay	29.6			5.9	3.9	
Approach LOS	C			A	A	
Queue Length 50th (ft)	8		18	11	11	
Queue Length 95th (ft)	35		47	20	23	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	762		545	3156	2830	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.04		0.06	0.09	0.05	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 94.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.24

Intersection Signal Delay: 6.7

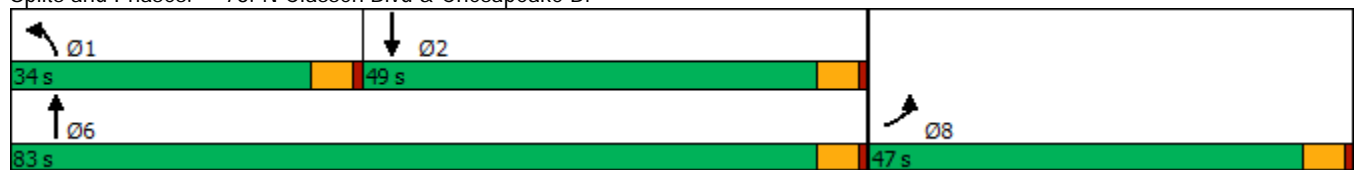
Intersection LOS: A

Intersection Capacity Utilization 28.3%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 78: N Classen Blvd & Chesapeake Dr



Timings

79: N Classen Blvd & NW 63rd St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	601	9	15	656	69	61	132	99	52	57	135
Future Volume (vph)	107	601	9	15	656	69	61	132	99	52	57	135
Satd. Flow (prot)	1770	3532	0	1770	3490	0	1770	3309	0	1770	3164	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3532	0	1770	3490	0	1770	3309	0	1770	3164	0
Satd. Flow (RTOR)		1			9			108			147	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	663	0	16	788	0	66	251	0	57	209	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	50.0		20.0	50.0		20.0	35.0		20.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	29.1	64.7		8.1	35.9		10.5	30.0		15.0	37.1	
Actuated g/C Ratio	0.22	0.50		0.06	0.28		0.08	0.23		0.12	0.29	
v/c Ratio	0.29	0.38		0.15	0.81		0.46	0.30		0.28	0.21	
Control Delay	46.4	21.9		60.8	50.3		66.9	24.1		56.6	13.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.4	21.9		60.8	50.3		66.9	24.1		56.6	13.0	
LOS	D	C		E	D		E	C		E	B	
Approach Delay		25.6			50.5			33.0			22.4	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	82	161		13	322		54	51		45	20	
Queue Length 95th (ft)	149	253		38	369		100	90		89	55	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	395	1758		204	1213		204	846		204	1007	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.29	0.38		0.08	0.65		0.32	0.30		0.28	0.21	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 114 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 35.5

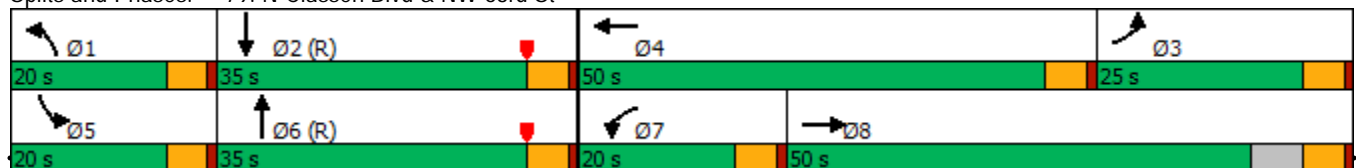
Intersection LOS: D

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St



2020 PM Existing

Synchro 10 Report

Timings

85: N Classne Cir

02/12/2020

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	228	1	386	6	39	3
Future Volume (vph)	228	1	386	6	39	3
Satd. Flow (prot)	1773	0	3532	0	1770	5085
Flt Permitted	0.953				0.950	
Satd. Flow (perm)	1773	0	3532	0	1770	5085
Satd. Flow (RTOR)			2			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	249	0	427	0	42	3
Turn Type	Prot		NA		Prot	NA
Protected Phases	7		6		5	
Permitted Phases						2
Total Split (s)	29.0		28.0		23.0	51.0
Total Lost Time (s)	5.0		5.0		4.5	4.5
Act Effect Green (s)	16.4		45.7		8.4	54.1
Actuated g/C Ratio	0.20		0.57		0.10	0.68
v/c Ratio	0.69		0.21		0.23	0.00
Control Delay	38.7		10.9		35.8	5.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	38.7		10.9		35.8	5.7
LOS	D		B		D	A
Approach Delay	38.7		10.9			33.8
Approach LOS	D		B			C
Queue Length 50th (ft)	116		58		20	0
Queue Length 95th (ft)	174		104		49	1
Internal Link Dist (ft)	132		221			371
Turn Bay Length (ft)						
Base Capacity (vph)	531		2017		409	3437
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.47		0.21		0.10	0.00

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 44.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 85: N Classne Cir























2020 PM Existing

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	421	42	33	281	68	69	353	10	11	224	142
Future Volume (vph)	277	421	42	33	281	68	69	353	10	11	224	142
Satd. Flow (prot)	1770	3490	0	1770	3437	0	1770	3525	0	1770	3334	0
Flt Permitted	0.950			0.950			0.404			0.519		
Satd. Flow (perm)	1770	3490	0	1770	3437	0	753	3525	0	967	3334	0
Satd. Flow (RTOR)		11			21			2			100	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	301	504	0	36	379	0	75	395	0	12	397	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	49.0	66.0		14.0	31.0		16.0	36.0		14.0	34.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	21.2	34.1		7.4	15.3		41.2	39.3		35.5	30.9	
Actuated g/C Ratio	0.23	0.37		0.08	0.17		0.45	0.43		0.39	0.34	
v/c Ratio	0.74	0.39		0.25	0.64		0.17	0.26		0.03	0.33	
Control Delay	45.0	22.9		48.9	40.3		18.4	20.1		18.5	20.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	45.0	22.9		48.9	40.3		18.4	20.1		18.5	20.6	
LOS	D	C		D	D		B	C		B	C	
Approach Delay		31.2			41.1			19.8			20.5	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)	164	120		20	104		24	71		4	67	
Queue Length 95th (ft)	284	175		59	174		65	162		18	140	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	885	2416		189	1038		470	1515		488	1191	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.34	0.21		0.19	0.37		0.16	0.26		0.02	0.33	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 91.6

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 28.5









Intersection LOS: C

Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15


Splits and Phases: 159: NW Grand Blvd & N Classen Blvd

			
Ø1	Ø2	Ø3	Ø4
14 s	36 s	14 s	66 s
			
Ø5	Ø6	Ø7	Ø8
16 s	34 s	49 s	31 s

Timings

585: N Shartel Ave & NW 50th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Volume (vph)	46	481	36	31	670	154	43	114	27	45	38	42
Future Volume (vph)	46	481	36	31	670	154	43	114	27	45	38	42
Satd. Flow (prot)	0	3490	0	0	3437	0	0	1804	0	0	1745	0
Flt Permitted		0.724			0.912			0.913			0.855	
Satd. Flow (perm)	0	2537	0	0	3141	0	0	1667	0	0	1519	0
Satd. Flow (RTOR)		10			37			7			21	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	612	0	0	929	0	0	200	0	0	136	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	84.0	84.0		84.0	84.0		46.0	46.0		46.0	46.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effect Green (s)		30.1			30.1			41.2			41.2	
Actuated g/C Ratio		0.37			0.37			0.51			0.51	
v/c Ratio		0.65			0.78			0.24			0.17	
Control Delay		24.2			26.9			13.0			11.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.2			26.9			13.0			11.2	
LOS		C			C			B			B	
Approach Delay		24.2			26.9			13.0			11.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		130			207			52			30	
Queue Length 95th (ft)		183			275			112			73	
Internal Link Dist (ft)		1252			614			634			648	
Turn Bay Length (ft)												
Base Capacity (vph)		2430			3010			848			780	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.31			0.24			0.17	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 81.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 23.4

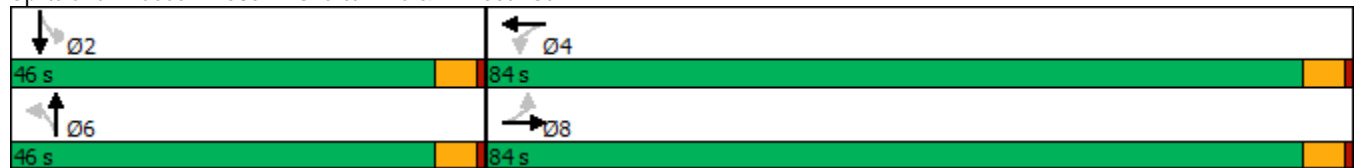
Intersection LOS: C

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15






















Splits and Phases: 585: N Shartel Ave & NW 50th St



Timings

688: N Western Ave & I-44 EB Ramp/NW Expwy

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	21	160	0	0	178	0	958	131	295	611	0
Future Volume (vph)	226	21	160	0	0	178	0	958	131	295	611	0
Satd. Flow (prot)	1681	1699	1583	0	0	1611	0	3476	0	1770	3539	0
Flt Permitted	0.950	0.960								0.099		
Satd. Flow (perm)	1681	1699	1583	0	0	1611	0	3476	0	184	3539	0
Satd. Flow (RTOR)			174			337		15				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	46%											
Lane Group Flow (vph)	133	136	174	0	0	193	0	1183	0	321	664	0
Turn Type	Split	NA	Perm			Prot		NA		pm+pt	NA	
Protected Phases	4	4				3		2		1	6	
Permitted Phases			4							6		
Total Split (s)	25.0	25.0	25.0			12.0		54.0		29.0	83.0	
Total Lost Time (s)	4.5	4.5	4.5			4.5		4.5		4.5	4.5	
Act Effect Green (s)	20.5	20.5	20.5			5.9		54.6		80.1	80.1	
Actuated g/C Ratio	0.17	0.17	0.17			0.05		0.46		0.67	0.67	
v/c Ratio	0.46	0.47	0.42			0.48		0.74		0.80	0.28	
Control Delay	50.8	50.9	9.7			4.2		31.1		44.0	2.8	
Queue Delay	0.0	0.0	0.0			0.0		0.0		0.0	0.1	
Total Delay	50.8	50.9	9.7			4.2		31.1		44.0	2.9	
LOS	D	D	A			A		C		D	A	
Approach Delay		34.7			4.2			31.1			16.3	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	98	101	0			0		391		104	21	
Queue Length 95th (ft)	166	170	62			0		510		193	25	
Internal Link Dist (ft)		351			474			1031			356	
Turn Bay Length (ft)	400									100		
Base Capacity (vph)	287	290	414			416		1590		451	2363	
Starvation Cap Reductn	0	0	0			0		0		0	747	
Spillback Cap Reductn	0	0	0			0		0		0	0	
Storage Cap Reductn	0	0	0			0		0		0	0	
Reduced v/c Ratio	0.46	0.47	0.42			0.46		0.74		0.71	0.41	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.6


Intersection LOS: C

Intersection Capacity Utilization 65.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 688: N Western Ave & I-44 EB Ramp/NW Expwy

#688  Ø1	#688 #1688  Ø2	#688  Ø4 (R)	#688  Ø3
29 s	54 s	25 s	12 s
#688 #1688  Ø6		#1688  Ø8	
83 s		37 s	

Timings





















688: N Western Ave & I-44 EB Ramp/NW Expwy

02/12/2020

Lane Group	Ø8
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	8
Permitted Phases	
Total Split (s)	37.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings
700: N Western Ave

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	263	35	47	142	457	21	668	57	286	593	16
Future Volume (vph)	17	263	35	47	142	457	21	668	57	286	593	16
Satd. Flow (prot)	0	1857	1583	0	1840	1583	0	3497	0	1770	3525	0
Flt Permitted		0.973			0.452			0.921		0.266		
Satd. Flow (perm)	0	1812	1583	0	842	1583	0	3224	0	495	3525	0
Satd. Flow (RTOR)			59			405		8			4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	38	0	205	497	0	811	0	311	662	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8		8	4		4	6			2		
Total Split (s)	47.0	47.0	47.0	47.0	47.0	47.0	55.0	55.0		28.0	83.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0		5.0		5.0	5.0	
Act Effect Green (s)		27.6	27.6		27.6	27.6		72.5		92.4	92.4	
Actuated g/C Ratio		0.21	0.21		0.21	0.21		0.56		0.71	0.71	
v/c Ratio		0.79	0.10		1.15	0.76		0.45		0.63	0.26	
Control Delay		62.7	4.2		157.7	17.0		20.0		13.5	7.7	
Queue Delay		0.0	0.0		0.0	0.0		0.0		0.0	0.0	
Total Delay		62.7	4.2		157.7	17.0		20.0		13.5	7.7	
LOS		E	A		F	B		B		B	A	
Approach Delay		56.2			58.0			20.0			9.5	
Approach LOS		E			E			B			A	
Queue Length 50th (ft)		245	0		~204	66		194		82	92	
Queue Length 95th (ft)		320	14		#308	187		344		156	153	
Internal Link Dist (ft)		589			1252			973			1031	
Turn Bay Length (ft)			85							130		
Base Capacity (vph)		585	551		272	785		1802		579	2505	
Starvation Cap Reductn		0	0		0	0		0		0	0	
Spillback Cap Reductn		0	0		0	0		0		0	0	
Storage Cap Reductn		0	0		0	0		0		0	0	
Reduced v/c Ratio		0.52	0.07		0.75	0.63		0.45		0.54	0.26	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 30.2

Intersection LOS: C

Intersection Capacity Utilization 82.6%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Timings

700: N Western Ave

02/12/2020





















Splits and Phases: 700: N Western Ave



Timings

701: N Western Ave & NW Grand Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	39	263	174	202	83	250	991	86	19	712	0
Future Volume (vph)	2	39	263	174	202	83	250	991	86	19	712	0
Satd. Flow (prot)	1770	3076	0	1770	3383	0	1770	3497	0	1770	3539	0
Flt Permitted	0.563			0.950			0.254			0.214		
Satd. Flow (perm)	1049	3076	0	1770	3383	0	473	3497	0	399	3539	0
Satd. Flow (RTOR)		286			49			9				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	328	0	189	310	0	272	1170	0	21	774	0
Turn Type	Perm	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		8		7	4		1	6		5	2	
Permitted Phases	8						6			2		
Total Split (s)	25.0	25.0		20.0	45.0		35.0	60.0		25.0	50.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.2	8.2		20.2	33.4		86.6	79.8		68.8	62.7	
Actuated g/C Ratio	0.06	0.06		0.16	0.26		0.67	0.61		0.53	0.48	
v/c Ratio	0.03	0.71		0.69	0.34		0.54	0.54		0.08	0.45	
Control Delay	55.5	19.3		65.3	33.2		13.5	17.3		11.1	24.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.5	19.3		65.3	33.2		13.5	17.3		11.1	24.9	
LOS	E	B		E	C		B	B		B	C	
Approach Delay		19.5			45.3			16.6			24.6	
Approach LOS		B			D			B			C	
Queue Length 50th (ft)	2	18		151	93		85	312		6	226	
Queue Length 95th (ft)	10	64		#248	130		138	413		17	320	
Internal Link Dist (ft)		801			356			1573			182	
Turn Bay Length (ft)				175			115			100		
Base Capacity (vph)	161	715		274	1074		614	2149		463	1707	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.46		0.69	0.29		0.44	0.54		0.05	0.45	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 80 (62%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 69.4%

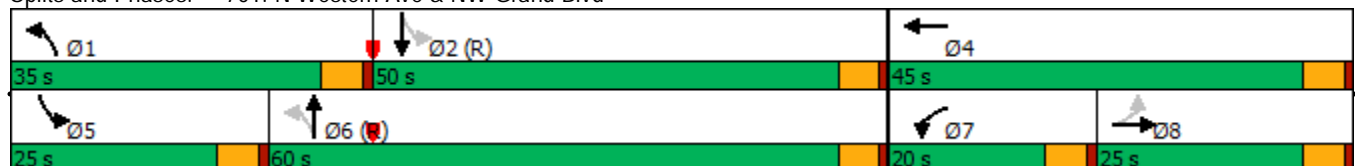
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.




















Splits and Phases: 701: N Western Ave & NW Grand Blvd



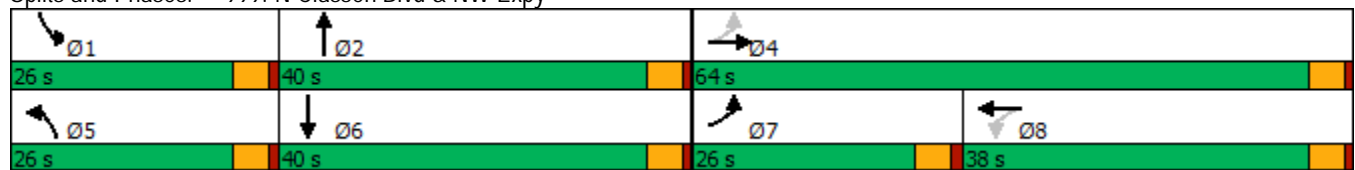
Timings

999: N Classen Blvd & NW Expy

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1863	3539	0	0	3539	0	3614	3539	0	1863	3539	0
Flt Permitted												
Satd. Flow (perm)	1863	3539	0	0	3539	0	3614	3539	0	1863	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt						Prot			Prot		
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8								
Total Split (s)	26.0	64.0		38.0	38.0		26.0	40.0		26.0	40.0	
Total Lost Time (s)	4.5	4.5			4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		820			224			504			31	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												
Intersection Summary												
Cycle Length: 130												
Actuated Cycle Length: 55												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 0.00												
Intersection Signal Delay: 0.0						Intersection LOS: A						
Intersection Capacity Utilization 0.0%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 999: N Classen Blvd & NW Expy



Timings

1688: I-44 WB Ramp & N Western Ave

02/12/2020



Lane Group	NBL	NBT	SBT	SBR	NEL	NER	Ø1	Ø2	Ø3	Ø4
Lane Configurations										
Traffic Volume (vph)	268	1081	916	271	0	0				
Future Volume (vph)	268	1081	916	271	0	0				
Satd. Flow (prot)	1770	3539	3419	0	0	0				
Flt Permitted	0.214									
Satd. Flow (perm)	399	3539	3419	0	0	0				
Satd. Flow (RTOR)			67							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	291	1175	1291	0	0	0				
Turn Type	custom	NA	NA							
Protected Phases	8	8 2	6				1	2	3	4
Permitted Phases	2									
Total Split (s)	37.0		83.0				29.0	54.0	12.0	25.0
Total Lost Time (s)	4.5		4.5							
Act Effect Green (s)	85.5	90.0	80.1							
Actuated g/C Ratio	0.71	0.75	0.67							
v/c Ratio	0.46	0.44	0.56							
Control Delay	10.0	1.0	11.1							
Queue Delay	0.1	0.2	0.0							
Total Delay	10.1	1.2	11.1							
LOS	B	A	B							
Approach Delay		3.0	11.1							
Approach LOS		A	B							
Queue Length 50th (ft)	54	15	238							
Queue Length 95th (ft)	m131	19	308							
Internal Link Dist (ft)		356	1573		341					
Turn Bay Length (ft)	300									
Base Capacity (vph)	660	2702	2305							
Starvation Cap Reductn	39	640	0							
Spillback Cap Reductn	0	0	0							
Storage Cap Reductn	0	0	0							
Reduced v/c Ratio	0.47	0.57	0.56							

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 4:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 6.8

Intersection LOS: A

Intersection Capacity Utilization 56.3%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 1688: I-44 WB Ramp & N Western Ave

#688 Ø1	#688 #1688 Ø2	#688 Ø4 (R)	#688 Ø3
29 s	54 s	25 s	12 s
#688 #1688 Ø6		#1688 Ø8	
83 s		37 s	

Timings

2001: N Western Ave & N Classen Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	142	29	159	159	49	77	956	68	5	585	161
Future Volume (vph)	260	142	29	159	159	49	77	956	68	5	585	161
Satd. Flow (prot)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Satd. Flow (RTOR)		18			26			6				175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	283	186	0	173	226	0	84	1113	0	5	636	175
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	38.0	36.0		25.0	23.0		19.0	54.0		15.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	22.7	19.1		15.4	11.9		10.4	57.7		6.0	47.4	47.4
Actuated g/C Ratio	0.21	0.18		0.14	0.11		0.10	0.53		0.06	0.44	0.44
v/c Ratio	0.76	0.30		0.68	0.56		0.49	0.59		0.05	0.41	0.22
Control Delay	54.9	36.8		60.3	47.7		59.5	21.0		55.8	24.7	4.7
Queue Delay	0.1	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	55.0	36.8		60.3	47.7		59.5	21.0		55.8	24.7	4.7
LOS	D	D		E	D		E	C		E	C	A
Approach Delay		47.8			53.2			23.7			20.6	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	187	54		115	70		56	248		3	161	0
Queue Length 95th (ft)	305	94		214	124		121	495		19	275	48
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	559	1037		342	617		242	1875		175	1553	793
Starvation Cap Reductn	10	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.52	0.18		0.51	0.37		0.35	0.59		0.03	0.41	0.22

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 107.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 30.8

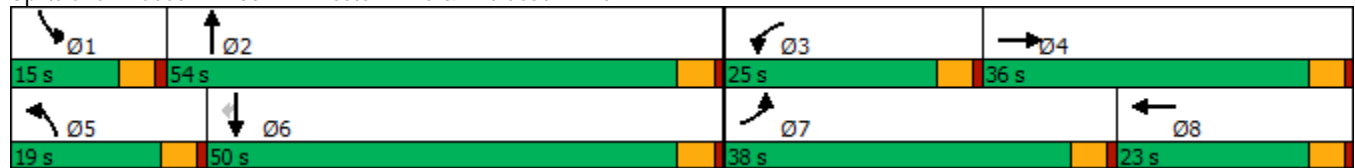
Intersection LOS: C

Intersection Capacity Utilization 68.1%

ICU Level of Service C

Analysis Period (min) 15



















Splits and Phases: 2001: N Western Ave & N Classen Blvd



Timings

2005: N Classen Blvd & Mall Dr/Driveway

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	0	75	0	0	0	55	684	0	4	432	92
Future Volume (vph)	61	0	75	0	0	0	55	684	0	4	432	92
Satd. Flow (prot)	0	1770	1583	0	0	0	1770	3539	0	0	3539	1583
Flt Permitted		0.950					0.481				0.951	
Satd. Flow (perm)	0	1770	1583	0	0	0	896	3539	0	0	3366	1583
Satd. Flow (RTOR)			82									100
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	82	0	0	0	60	743	0	0	474	100
Turn Type	Perm	NA	Perm				Perm	NA		Perm	NA	Perm
Protected Phases		4						2			6	
Permitted Phases	4		4				2			6		6
Total Split (s)	33.0	33.0	33.0				67.0	67.0		67.0	67.0	67.0
Total Lost Time (s)		4.5	4.5				4.5	4.5			4.5	4.5
Act Effect Green (s)		8.5	8.5				69.9	69.9			69.9	69.9
Actuated g/C Ratio		0.10	0.10				0.83	0.83			0.83	0.83
v/c Ratio		0.37	0.35				0.08	0.25			0.17	0.08
Control Delay		40.4	12.7				2.6	2.5			2.3	0.7
Queue Delay		0.0	0.0				0.0	0.4			0.0	0.0
Total Delay		40.4	12.7				2.6	2.9			2.3	0.7
LOS		D	B				A	A			A	A
Approach Delay		25.1						2.8			2.0	
Approach LOS		C						A			A	
Queue Length 50th (ft)		33	0				5	39			23	0
Queue Length 95th (ft)		69	38				15	66			41	9
Internal Link Dist (ft)		263			113			240			3248	
Turn Bay Length (ft)							60					58
Base Capacity (vph)		598	589				742	2930			2787	1328
Starvation Cap Reductn		0	0				0	1525			0	0
Spillback Cap Reductn		0	0				0	0			0	0
Storage Cap Reductn		0	0				0	0			0	0
Reduced v/c Ratio		0.11	0.14				0.08	0.53			0.17	0.08

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 84.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 4.7



Intersection LOS: A

Intersection Capacity Utilization 46.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2005: N Classen Blvd & Mall Dr/Driveway

 02	 04
67 s	33 s
 06	
67 s	

HCM 6th TWSC

3001: S Santa Fe & SW 98th St/NW 34th St

02/12/2020

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	1	2	8	3	2	2	416	12	6	877	6
Future Vol, veh/h	2	1	2	8	3	2	2	416	12	6	877	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	2	9	3	2	2	452	13	7	953	7

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1203	1440	480	954	1437	233	960	0	0	465	0	0
Stage 1	971	971	-	463	463	-	-	-	-	-	-	-
Stage 2	232	469	-	491	974	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	140	132	532	213	132	769	712	-	-	1093	-	-
Stage 1	271	329	-	548	562	-	-	-	-	-	-	-
Stage 2	750	559	-	528	328	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	135	130	532	208	130	769	712	-	-	1093	-	-
Mov Cap-2 Maneuver	135	130	-	208	130	-	-	-	-	-	-	-
Stage 1	270	324	-	546	560	-	-	-	-	-	-	-
Stage 2	741	557	-	517	323	-	-	-	-	-	-	-




















Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.5		24.1		0		0.2	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	190	203	1093	-
HCM Lane V/C Ratio	0.003	-	-	0.029	0.07	0.006	-
HCM Control Delay (s)	10.1	0	-	24.5	24.1	8.3	0.1
HCM Lane LOS	B	A	-	C	C	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-

Timings

527: Robinson & Reno

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	361	49	27	223	32	26	65	30	86	293	65
Future Volume (vph)	24	361	49	27	223	32	26	65	30	86	293	65
Satd. Flow (prot)	1770	3476	0	1770	3472	0	0	3371	0	1770	3444	0
Flt Permitted	0.468			0.259				0.840		0.668		
Satd. Flow (perm)	872	3476	0	482	3472	0	0	2860	0	1244	3444	0
Satd. Flow (RTOR)		13			12			33			33	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	445	0	29	277	0	0	132	0	93	389	0
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		D.P+P	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	4			8			6			6		
Total Split (s)	25.0	41.0		11.0	27.0		59.0	59.0		9.0	68.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effect Green (s)	24.3	20.7		24.3	19.7			69.7		77.7	82.7	
Actuated g/C Ratio	0.20	0.17		0.20	0.16			0.58		0.65	0.69	
v/c Ratio	0.11	0.73		0.18	0.48			0.08		0.11	0.16	
Control Delay	33.0	52.6		34.6	45.7			10.2		8.3	7.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	33.0	52.6		34.6	45.7			10.2		8.3	7.2	
LOS	C	D		C	D			B		A	A	
Approach Delay		51.5			44.7			10.2			7.4	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	15	168		17	98			15		24	51	
Queue Length 95th (ft)	36	214		39	137			30		51	83	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			100						75		
Base Capacity (vph)	357	1051		162	656			1674		840	2383	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.07	0.42		0.18	0.42			0.08		0.11	0.16	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 105 (88%), Referenced to phase 2:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 30.8

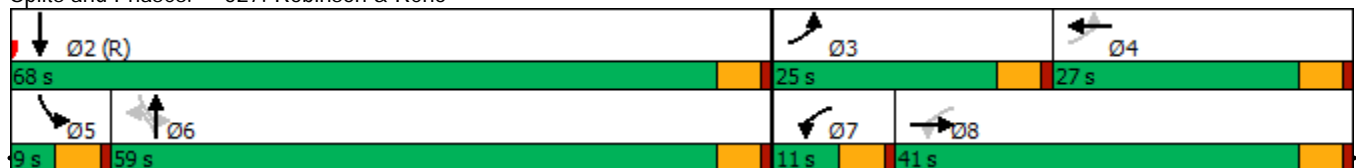
Intersection LOS: C

Intersection Capacity Utilization 45.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 527: Robinson & Reno



















2020 PM Existing

Synchro 10 Report

Timings

535: S Robinson Ave & SW 25th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	158	34	14	109	33	17	157	19	26	655	69
Future Volume (vph)	35	158	34	14	109	33	17	157	19	26	655	69
Satd. Flow (prot)	0	1811	0	0	1801	0	0	3472	0	0	3483	0
Flt Permitted		0.935			0.963			0.877			0.940	
Satd. Flow (perm)	0	1707	0	0	1742	0	0	3057	0	0	3280	0
Satd. Flow (RTOR)		16			25			21			21	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	0	0	169	0	0	210	0	0	815	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	31.0	31.0		31.0	31.0		34.0	34.0		34.0	34.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		16.4			16.4			18.9			18.9	
Actuated g/C Ratio		0.36			0.36			0.42			0.42	
v/c Ratio		0.39			0.26			0.16			0.59	
Control Delay		13.3			11.0			7.6			11.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.3			11.0			7.6			11.9	
LOS		B			B			A			B	
Approach Delay		13.3			11.0			7.6			11.9	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		40			24			14			76	
Queue Length 95th (ft)		106			69			30			124	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		993			1017			1978			2122	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.17			0.11			0.38	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 45.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 11.4

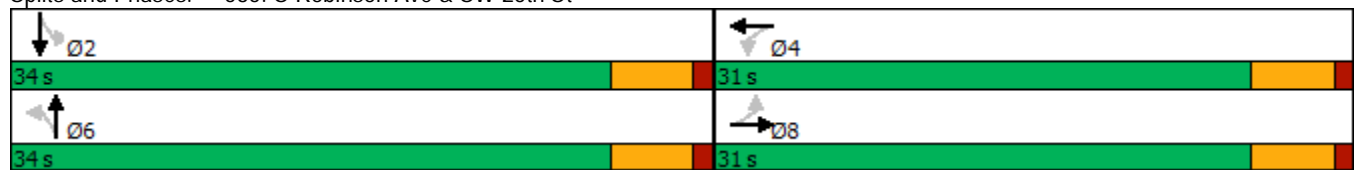
Intersection LOS: B

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15





















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	345	34	38	312	44	18	115	33	146	406	118
Future Volume (vph)	28	345	34	38	312	44	18	115	33	146	406	118
Satd. Flow (prot)	1770	3493	0	1770	3472	0	1770	1799	0	1770	1799	0
Flt Permitted	0.950			0.950			0.319			0.650		
Satd. Flow (perm)	1770	3493	0	1770	3472	0	594	1799	0	1211	1799	0
Satd. Flow (RTOR)		7			11			19			19	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	412	0	41	387	0	20	161	0	159	569	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	14.0	35.0		15.0	36.0		80.0	80.0		80.0	80.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	7.5	34.0		8.1	36.9		75.0	75.0		75.0	75.0	
Actuated g/C Ratio	0.06	0.26		0.06	0.28		0.58	0.58		0.58	0.58	
v/c Ratio	0.30	0.45		0.37	0.39		0.06	0.15		0.23	0.54	
Control Delay	65.8	42.4		67.4	39.1		12.7	11.6		14.5	18.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.8	42.4		67.4	39.1		12.7	11.6		14.5	18.7	
LOS	E	D		E	D		B	B		B	B	
Approach Delay		44.0			41.8			11.8			17.8	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	25	154		34	141		7	52		62	273	
Queue Length 95th (ft)	57	211		72	194		20	88		102	376	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50			75		
Base Capacity (vph)	122	917		136	994		342	1045		698	1045	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.25	0.45		0.30	0.39		0.06	0.15		0.23	0.54	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 29.5

Intersection LOS: C

Intersection Capacity Utilization 81.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 536: S Robinson Ave & SW 29th St





















2020 PM Existing

Synchro 10 Report

Timings

537: SW Grand Blvd & S Robinson Ave

02/12/2020

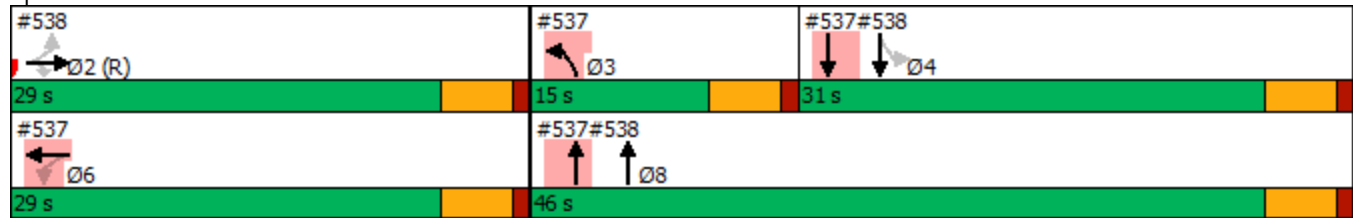
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  							
Traffic Volume (vph)	0	0	0	24	211	15	35	159	0	0	434	52
Future Volume (vph)	0	0	0	24	211	15	35	159	0	0	434	52
Satd. Flow (prot)	0	0	0	0	5014	0	1770	1863	0	0	1835	0
Flt Permitted					0.995		0.950					
Satd. Flow (perm)	0	0	0	0	5014	0	1770	1863	0	0	1835	0
Satd. Flow (RTOR)					14						9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	271	0	38	173	0	0	529	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				29.0	29.0		15.0	46.0			31.0	
Total Lost Time (s)					5.0		5.0	5.0			5.0	
Act Effct Green (s)					24.0		7.1	41.0			33.2	
Actuated g/C Ratio					0.32		0.09	0.55			0.44	
v/c Ratio					0.17		0.23	0.17			0.65	
Control Delay					17.7		28.5	6.8			23.2	
Queue Delay					0.0		0.7	1.8			0.0	
Total Delay					17.7		29.1	8.6			23.2	
LOS					B		C	A			C	
Approach Delay					17.7			12.3			23.2	
Approach LOS					B			B			C	
Queue Length 50th (ft)					31		13	24			203	
Queue Length 95th (ft)					49		31	41			#375	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1614		236	1018			817	
Starvation Cap Reductn					0		80	697			0	
Spillback Cap Reductn					144		0	0			3	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.18		0.24	0.54			0.65	
Intersection Summary												
Cycle Length: 75												
Actuated Cycle Length: 75												
Offset: 39 (52%), Referenced to phase 2:EBTL, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.65												
Intersection Signal Delay: 19.5						Intersection LOS: B						
Intersection Capacity Utilization 58.5%						ICU Level of Service B						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings

537: SW Grand Blvd & S Robinson Ave

02/12/2020

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave




















Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	29.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	130	30	0	0	0	0	129	15	30	428	0
Future Volume (vph)	30	130	30	0	0	0	0	129	15	30	428	0
Satd. Flow (prot)	0	3507	1583	0	0	0	0	1837	0	1770	1863	0
Flt Permitted		0.991								0.658		
Satd. Flow (perm)	0	3507	1583	0	0	0	0	1837	0	1226	1863	0
Satd. Flow (RTOR)			102					12				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	33	0	0	0	0	156	0	33	465	0
Turn Type	Perm	NA	Perm					NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	29.0	29.0	29.0					46.0		31.0	31.0	
Total Lost Time (s)		5.0	5.0					5.0		5.0	5.0	
Act Effect Green (s)		24.0	24.0					41.0		33.2	33.2	
Actuated g/C Ratio		0.32	0.32					0.55		0.44	0.44	
v/c Ratio		0.16	0.06					0.15		0.06	0.56	
Control Delay		11.6	1.3					8.2		5.4	6.7	
Queue Delay		0.0	0.0					0.0		0.4	0.5	
Total Delay		11.6	1.3					8.2		5.7	7.3	
LOS		B	A					A		A	A	
Approach Delay		10.0						8.2			7.2	
Approach LOS		A						A			A	
Queue Length 50th (ft)		12	0					30		2	24	
Queue Length 95th (ft)		18	m0					58		m5	55	
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1122	575					1009		542	824	
Starvation Cap Reductn		0	0					0		324	105	
Spillback Cap Reductn		0	0					0		0	0	
Storage Cap Reductn		0	0					0		0	0	
Reduced v/c Ratio		0.16	0.06					0.15		0.15	0.65	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 39 (52%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 8.0

Intersection LOS: A






Intersection Capacity Utilization 58.5%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd

#538 	#537 	#537#538 
Ø2 (R)	Ø3	Ø4
29 s	15 s	31 s
#537 	#537#538 	
Ø6	Ø8	
29 s	46 s	

Timings

538: S Robinson Ave & SW Grand Blvd


















02/12/2020

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	15.0	29.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	469	208	0	0	0	0	552	105	156	669	0
Future Volume (vph)	120	469	208	0	0	0	0	552	105	156	669	0
Satd. Flow (prot)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Satd. Flow (RTOR)		44						26				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	117	749	0	0	0	0	0	714	0	170	727	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								29.0		65.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	31.0	31.0						24.0		59.0	88.0	
Actuated g/C Ratio	0.24	0.24						0.18		0.45	0.68	
v/c Ratio	0.31	0.93						0.76		0.21	0.30	
Control Delay	62.8	83.8						61.4		11.1	0.5	
Queue Delay	0.0	0.0						1.4		3.2	3.0	
Total Delay	62.8	83.8						62.8		14.3	3.5	
LOS	E	F						E		B	A	
Approach Delay		80.9						62.8			5.6	
Approach LOS		F						E			A	
Queue Length 50th (ft)	104	336						220		30	2	
Queue Length 95th (ft)	173	#453						267		m29	m2	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	383	804						937		803	2395	
Starvation Cap Reductn	0	0						0		534	1527	
Spillback Cap Reductn	0	0						89		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.31	0.93						0.84		0.63	0.84	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: Err

Intersection Signal Delay: 48.4

Intersection LOS: D

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

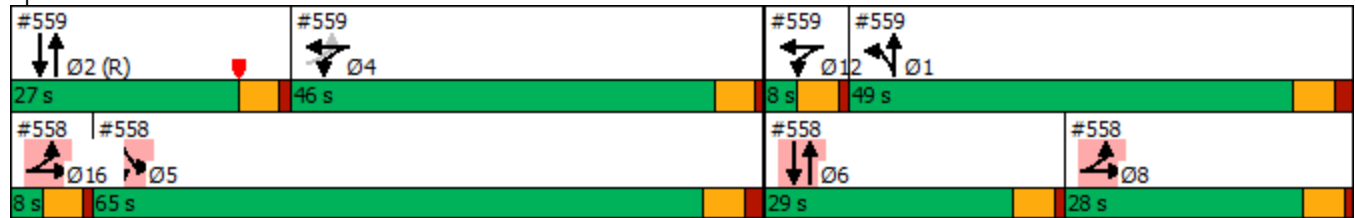
m Volume for 95th percentile queue is metered by upstream signal.

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

02/12/2020

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd

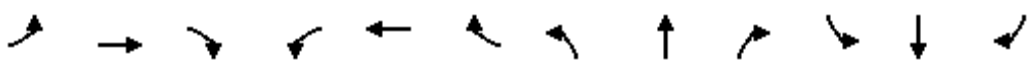


Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	49.0	27.0	46.0	28.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	0	0	1126	546	64	325	347	0	0	584	237
Future Volume (vph)	107	0	0	1126	546	64	325	347	0	0	584	237
Satd. Flow (prot)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Flt Permitted		0.950		0.950	0.977		0.950					
Satd. Flow (perm)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Satd. Flow (RTOR)					5						68	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	116	0	624	1263	0	353	377	0	0	893	0
Turn Type	D.Pm			Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases	4											
Total Split (s)	46.0						49.0				27.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)		0.0		49.0	49.0		43.0	70.0			22.0	
Actuated g/C Ratio		0.00		0.38	0.38		0.33	0.54			0.17	
v/c Ratio		no cap		1.03	1.02		0.60	0.20			1.01	
Control Delay				84.3	70.0		10.8	1.8			77.1	
Queue Delay				0.0	0.0		40.9	1.6			0.0	
Total Delay		Error		84.3	70.0		51.7	3.4			77.1	
LOS		F		F	E		D	A			E	
Approach Delay		Err			74.8			26.8			77.1	
Approach LOS		F			E			C			E	
Queue Length 50th (ft)		0		~616	~616		262	2			~250	
Queue Length 95th (ft)		0		#870	#764		m348	m2			#374	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)		1		606	1241		585	1905			880	
Starvation Cap Reductn		0		0	0		250	1323			0	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		116.00		1.03	1.02		1.05	0.65			1.01	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: Err

Intersection Signal Delay: Err

Intersection LOS: F

Intersection Capacity Utilization 89.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

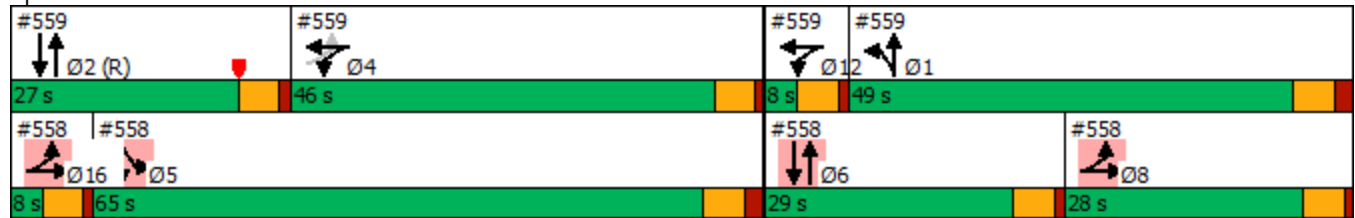
m Volume for 95th percentile queue is metered by upstream signal.

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

02/12/2020

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd



















Lane Group	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Satd. Flow (RTOR)					
Peak Hour Factor					
Shared Lane Traffic (%)					
Lane Group Flow (vph)					
Turn Type					
Protected Phases	5	6	8	12	16
Permitted Phases					
Total Split (s)	65.0	29.0	28.0	8.0	8.0
Total Lost Time (s)					
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					
Reduced v/c Ratio					
Intersection Summary					

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	14	7	0	11	10	386	6	17	873	16
Future Volume (vph)	5	1	14	7	0	11	10	386	6	17	873	16
Satd. Flow (prot)	0	1664	0	0	1678	0	0	3529	0	0	3525	0
Flt Permitted								0.933			0.946	
Satd. Flow (perm)	0	1684	0	0	1712	0	0	3295	0	0	3338	0
Satd. Flow (RTOR)		15			25			3			4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	20	0	0	438	0	0	984	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.5	29.5		29.5	29.5		35.5	35.5		35.5	35.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)		6.4			6.3			61.7			61.7	
Actuated g/C Ratio		0.10			0.10			0.95			0.95	
v/c Ratio		0.12			0.11			0.14			0.31	
Control Delay		17.9			11.8			0.8			0.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			11.8			0.8			0.8	
LOS		B			B			A			A	
Approach Delay		17.9			11.8			0.8			0.8	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		2			0			0			5	
Queue Length 95th (ft)		20			16			29			51	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)												
Base Capacity (vph)		656			673			3129			3170	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.03			0.03			0.14			0.31	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 1.2

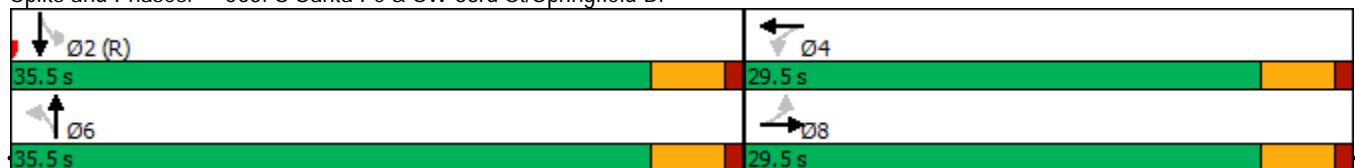
Intersection LOS: A

Intersection Capacity Utilization 49.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr























2020 PM Existing

Synchro 10 Report

Timings

569: S Santa Fe & SE 89th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	422	118	117	428	47	80	282	60	57	656	175
Future Volume (vph)	89	422	118	117	428	47	80	282	60	57	656	175
Satd. Flow (prot)	1770	3422	0	1770	3486	0	1770	3447	0	1770	3426	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3422	0	1770	3486	0	1770	3447	0	1770	3426	0
Satd. Flow (RTOR)		37			12			27			36	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	587	0	127	516	0	87	372	0	62	903	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												
Total Split (s)	12.5	37.0		12.5	37.0		12.5	38.0		12.5	38.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	8.0	22.2		8.0	22.2		10.2	44.0		9.3	43.1	
Actuated g/C Ratio	0.08	0.22		0.08	0.22		0.10	0.44		0.09	0.43	
v/c Ratio	0.69	0.75		0.90	0.66		0.48	0.24		0.38	0.60	
Control Delay	56.6	52.8		100.6	38.4		51.4	18.8		48.9	25.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.6	52.8		100.6	38.4		51.4	18.8		48.9	25.2	
LOS	E	D		F	D		D	B		D	C	
Approach Delay		53.3			50.7			25.0			26.7	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	65	201		82	154		53	73		38	231	
Queue Length 95th (ft)	m#119	256		#191	193		101	124		78	338	
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135			225		
Base Capacity (vph)	141	1120		141	1123		180	1532		164	1498	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.69	0.52		0.90	0.46		0.48	0.24		0.38	0.60	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 38.6

Intersection LOS: D

Intersection Capacity Utilization 68.3%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

Timings

569: S Santa Fe & SE 89th St

02/12/2020

















Splits and Phases: 569: S Santa Fe & SE 89th St

 Ø1 12.5 s		 Ø2 (R) 38 s	 Ø3 12.5 s	 Ø4 37 s
 Ø5 12.5 s		 Ø6 (R) 38 s	 Ø7 12.5 s	 Ø8 37 s

Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	636	285	55	654	25	100	95	61	21	228	17
Future Volume (vph)	5	636	285	55	654	25	100	95	61	21	228	17
Satd. Flow (prot)	0	3376	0	0	3507	0	0	1769	0	0	1840	0
Flt Permitted		0.951			0.631			0.754			0.961	
Satd. Flow (perm)	0	3211	0	0	2222	0	0	1360	0	0	1776	0
Satd. Flow (RTOR)		80			4			15			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1006	0	0	798	0	0	278	0	0	289	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	71.0	71.0		71.0	71.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effct Green (s)		50.9			50.9			68.1			68.1	
Actuated g/C Ratio		0.39			0.39			0.52			0.52	
v/c Ratio		0.77			0.91			0.39			0.31	
Control Delay		15.6			52.4			26.4			20.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.6			52.4			26.4			20.1	
LOS		B			D			C			C	
Approach Delay		15.6			52.4			26.4			20.1	
Approach LOS		B			D			C			C	
Queue Length 50th (ft)		125			328			104			134	
Queue Length 95th (ft)		m104			372			306			229	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1669			1130			719			931	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.60			0.71			0.39			0.31	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 29.8

Intersection LOS: C

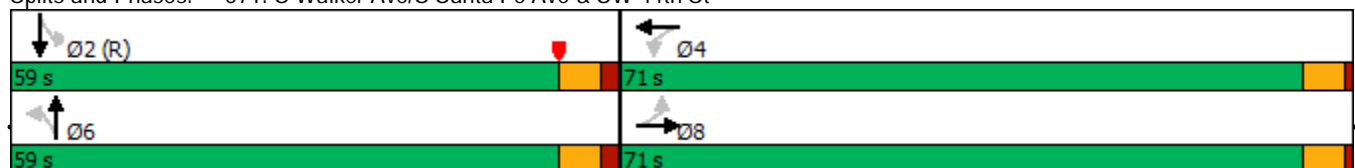
Intersection Capacity Utilization 94.1%

ICU Level of Service F

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	7	26	82	3	110	25	366	60	153	743	16
Future Volume (vph)	46	7	26	82	3	110	25	366	60	153	743	16
Satd. Flow (prot)	1770	1645	0	1770	1591	0	1770	3465	0	1770	3529	0
Flt Permitted	0.833			0.430			0.331			0.452		
Satd. Flow (perm)	1552	1645	0	801	1591	0	617	3465	0	842	3529	0
Satd. Flow (RTOR)		28			120			16			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	36	0	89	123	0	27	463	0	166	825	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	12.0	41.0		14.0	43.0		12.0	52.0		23.0	63.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	12.2	7.2		17.1	8.5		95.3	88.8		101.7	95.4	
Actuated g/C Ratio	0.09	0.06		0.13	0.07		0.73	0.68		0.78	0.73	
v/c Ratio	0.32	0.31		0.48	0.57		0.05	0.20		0.23	0.32	
Control Delay	53.2	32.1		57.1	21.1		4.2	8.1		6.3	10.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.2	32.1		57.1	21.1		4.2	8.1		6.3	10.0	
LOS	D	C		E	C		A	A		A	A	
Approach Delay		44.3			36.2			7.9			9.4	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	37	7		67	2		5	70		42	157	
Queue Length 95th (ft)	73	42		116	63		10	109		m75	m183	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	162	475		192	549		526	2373		795	2591	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.08		0.46	0.22		0.05	0.20		0.21	0.32	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 13.8

Intersection LOS: B

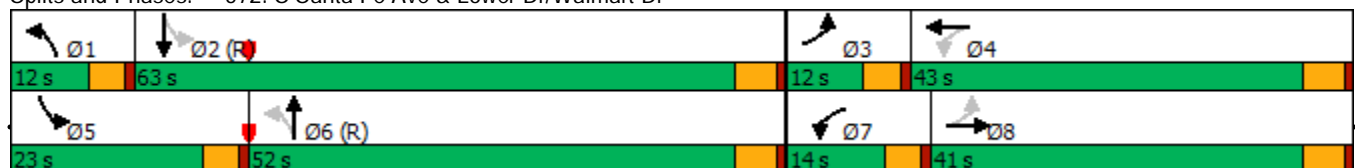
Intersection Capacity Utilization 48.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr



Timings

597: S Santa Fe Ave & SW 59th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	489	152	167	559	25	100	167	92	30	464	99
Future Volume (vph)	58	489	152	167	559	25	100	167	92	30	464	99
Satd. Flow (prot)	1770	3412	0	1770	3518	0	1770	3352	0	1770	3447	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3412	0	1770	3518	0	1770	3352	0	1770	3447	0
Satd. Flow (RTOR)		31			4			86			19	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	697	0	182	635	0	109	282	0	33	612	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	15.0	41.0		28.0	54.0		20.0	48.0		13.0	41.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.3	31.1		18.1	42.6		12.6	57.8		8.2	48.1	
Actuated g/C Ratio	0.07	0.24		0.14	0.33		0.10	0.44		0.06	0.37	
v/c Ratio	0.50	0.83		0.74	0.55		0.63	0.18		0.30	0.48	
Control Delay	52.6	65.1		70.9	37.3		73.8	39.1		77.1	29.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.6	65.1		70.9	37.3		73.8	39.1		77.1	29.4	
LOS	D	E		E	D		E	D		E	C	
Approach Delay		64.1			44.8			48.7			31.8	
Approach LOS		E			D			D			C	
Queue Length 50th (ft)	53	302		148	235		96	84		0	176	
Queue Length 95th (ft)	m82	376		222	268		m116	m87		m51	287	
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300			120		
Base Capacity (vph)	136	967		313	1328		205	1537		111	1287	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.46	0.72		0.58	0.48		0.53	0.18		0.30	0.48	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 47.8

Intersection LOS: D

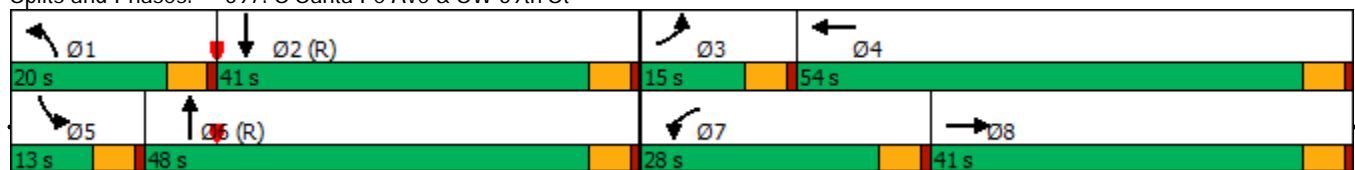
Intersection Capacity Utilization 66.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	215	373	198	188	330	0	0	544	292
Future Volume (vph)	0	0	0	215	373	198	188	330	0	0	544	292
Satd. Flow (prot)	0	0	0	1610	3380	1583	1770	3539	0	0	5085	1583
Flt Permitted				0.950	0.997		0.950					
Satd. Flow (perm)	0	0	0	1610	3380	1583	1770	3539	0	0	5085	1583
Satd. Flow (RTOR)						215						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				12%								
Lane Group Flow (vph)	0	0	0	206	433	215	204	359	0	0	591	317
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							57.0				27.0	27.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				34.6	34.6	34.6	44.6	84.4			34.8	34.8
Actuated g/C Ratio				0.27	0.27	0.27	0.34	0.65			0.27	0.27
v/c Ratio				0.48	0.48	0.37	0.34	0.16			0.43	0.50
Control Delay				47.5	46.6	11.1	12.0	4.2			36.9	8.9
Queue Delay				0.0	0.0	0.0	1.2	0.6			0.5	0.0
Total Delay				47.5	46.6	11.1	13.2	4.7			37.5	8.9
LOS				D	D	B	B	A			D	A
Approach Delay					37.9			7.8			27.5	
Approach LOS					D			A			C	
Queue Length 50th (ft)				162	171	27	107	82			165	80
Queue Length 95th (ft)				m180	m181	m34	159	86			219	160
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				443	932	592	694	2282			1361	631
Starvation Cap Reductn				0	0	0	304	1508			0	0
Spillback Cap Reductn				0	0	0	0	0			388	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.47	0.46	0.36	0.52	0.46			0.61	0.50

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 26.5

Intersection LOS: C

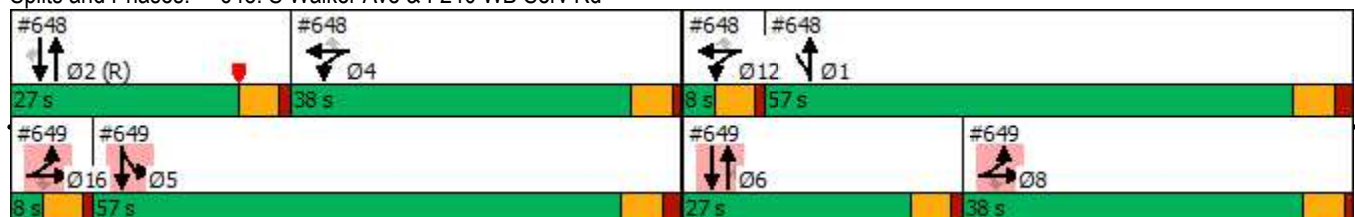
Intersection Capacity Utilization 52.9%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd



Timings

648: S Walker Ave & I-240 WB Serv Rd

























07/13/2021

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	38.0	57.0	27.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			 	
Traffic Volume (vph)	217	319	267	0	0	0	0	315	137	197	555	0
Future Volume (vph)	217	319	267	0	0	0	0	315	137	197	555	0
Satd. Flow (prot)	1610	3370	1583	0	0	0	0	5085	1583	1770	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1610	3370	1583	0	0	0	0	5085	1583	1770	3539	0
Satd. Flow (RTOR)			290						159			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	20%											
Lane Group Flow (vph)	189	394	290	0	0	0	0	342	149	214	603	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								27.0	27.0	57.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	41.0	41.0	41.0					32.7	32.7	40.3	78.0	
Actuated g/C Ratio	0.32	0.32	0.32					0.25	0.25	0.31	0.60	
v/c Ratio	0.37	0.37	0.42					0.27	0.29	0.39	0.28	
Control Delay	37.2	35.8	5.5					40.9	7.0	14.3	10.9	
Queue Delay	0.0	0.0	0.0					0.0	0.0	1.3	2.2	
Total Delay	37.2	35.8	5.5					40.9	7.0	15.6	13.0	
LOS	D	D	A					D	A	B	B	
Approach Delay		26.0						30.6			13.7	
Approach LOS		C						C			B	
Queue Length 50th (ft)	135	141	0					84	0	135	194	
Queue Length 95th (ft)	212	190	64					124	51	164	245	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	504	1055	694					1279	517	694	2106	
Starvation Cap Reductn	0	0	0					0	0	302	1323	
Spillback Cap Reductn	0	0	0					39	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.38	0.37	0.42					0.28	0.29	0.55	0.77	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 22.4

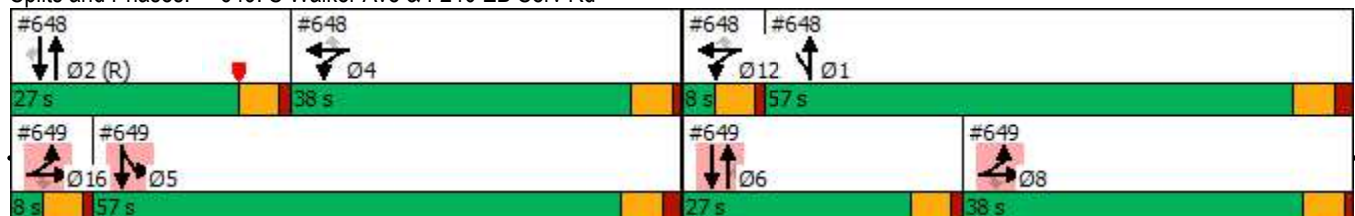
Intersection LOS: C

Intersection Capacity Utilization 52.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd





















07/13/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	57.0	27.0	38.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	568	128	186	662	37	107	219	97	63	579	70
Future Volume (vph)	44	568	128	186	662	37	107	219	97	63	579	70
Satd. Flow (prot)	1770	3440	0	1770	3511	0	1770	3376	0	1770	3483	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3511	0	1770	3376	0	1770	3483	0
Satd. Flow (RTOR)		19			4			55			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	756	0	202	760	0	116	343	0	68	705	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	35.0		25.0	35.0		25.0	45.0		25.0	45.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.9	30.2		18.3	41.7		13.8	46.5		17.3	47.7	
Actuated g/C Ratio	0.07	0.23		0.14	0.32		0.11	0.36		0.13	0.37	
v/c Ratio	0.40	0.93		0.81	0.67		0.62	0.28		0.29	0.55	
Control Delay	66.7	66.1		55.6	34.9		54.5	23.5		52.5	35.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	66.7	66.1		55.6	34.9		54.5	23.5		52.5	35.2	
LOS	E	E		E	C		D	C		D	D	
Approach Delay		66.1			39.3			31.3			36.7	
Approach LOS		E			D			C			D	
Queue Length 50th (ft)	39	324		155	327		84	93		51	247	
Queue Length 95th (ft)	80	#446		m#260	401		m131	m134		97	332	
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130			150		
Base Capacity (vph)	272	820		272	1128		272	1243		272	1285	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.92		0.74	0.67		0.43	0.28		0.25	0.55	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 52 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 44.6

Intersection LOS: D

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

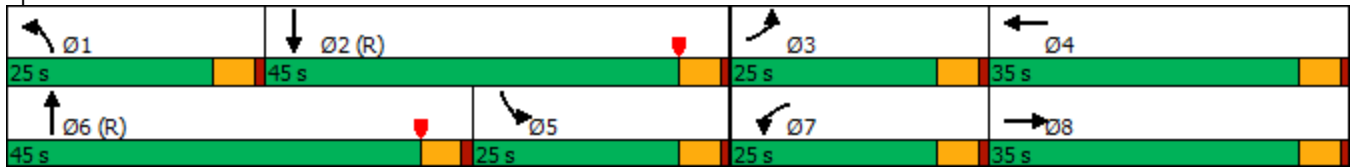
m Volume for 95th percentile queue is metered by upstream signal.

Timings

667: S Walker Ave & SW 44th St

02/12/2020





















Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	487	108	106	616	98	133	326	105	160	448	128
Future Volume (vph)	103	487	108	106	616	98	133	326	105	160	448	128
Satd. Flow (prot)	1770	3444	0	1770	3465	0	1770	3408	0	1770	3422	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3444	0	1770	3465	0	1770	3408	0	1770	3422	0
Satd. Flow (RTOR)		19			13			33			29	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	646	0	115	777	0	145	468	0	174	626	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	35.0		25.0	35.0		25.0	40.0		30.0	45.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	13.5	33.2		13.7	33.5		15.6	45.0		18.0	47.5	
Actuated g/C Ratio	0.10	0.26		0.11	0.26		0.12	0.35		0.14	0.37	
v/c Ratio	0.61	0.72		0.62	0.86		0.69	0.39		0.71	0.49	
Control Delay	69.2	48.2		76.7	60.8		83.3	31.6		71.0	23.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	69.2	48.2		76.7	60.8		83.3	31.6		71.0	23.2	
LOS	E	D		E	E		F	C		E	C	
Approach Delay		51.3			62.9			43.8			33.6	
Approach LOS		D			E			D			C	
Queue Length 50th (ft)	92	246		102	250		127	110		108	224	
Queue Length 95th (ft)	150	333		162	#424		195	153		m160	m297	
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100			115		
Base Capacity (vph)	272	894		272	901		272	1202		340	1268	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.41	0.72		0.42	0.86		0.53	0.39		0.51	0.49	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 51 (39%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 48.6

Intersection LOS: D

Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

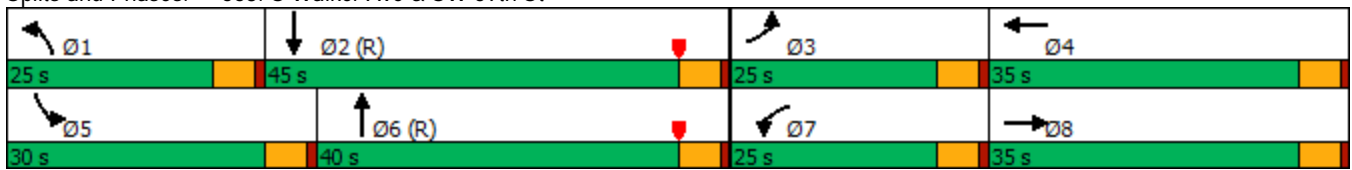
m Volume for 95th percentile queue is metered by upstream signal.

Timings

668: S Walker Ave & SW 59th St

02/12/2020





















Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	477	65	86	544	50	54	165	42	89	491	177
Future Volume (vph)	84	477	65	86	544	50	54	165	42	89	491	177
Satd. Flow (prot)	1770	3476	0	1770	3493	0	1770	3429	0	1770	3398	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	3493	0	1770	3429	0	1770	3398	0
Satd. Flow (RTOR)		14			9			33			55	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	589	0	93	645	0	59	225	0	97	726	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	16.0	31.0		16.0	31.0		14.0	36.0		17.0	39.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.8	23.1		9.9	23.2		8.5	41.8		10.4	43.6	
Actuated g/C Ratio	0.10	0.23		0.10	0.23		0.08	0.42		0.10	0.44	
v/c Ratio	0.52	0.72		0.53	0.79		0.39	0.15		0.53	0.48	
Control Delay	53.8	39.9		48.9	47.8		45.8	27.2		52.9	22.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.8	39.9		48.9	47.8		45.8	27.2		52.9	22.7	
LOS	D	D		D	D		D	C		D	C	
Approach Delay		41.8			47.9			31.1			26.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	56	176		59	225		41	44		59	176	
Queue Length 95th (ft)	106	231		m113	268		m71	m86		111	247	
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145			135		
Base Capacity (vph)	194	914		194	914		159	1452		212	1513	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.64		0.48	0.71		0.37	0.15		0.46	0.48	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 37.3

Intersection LOS: D

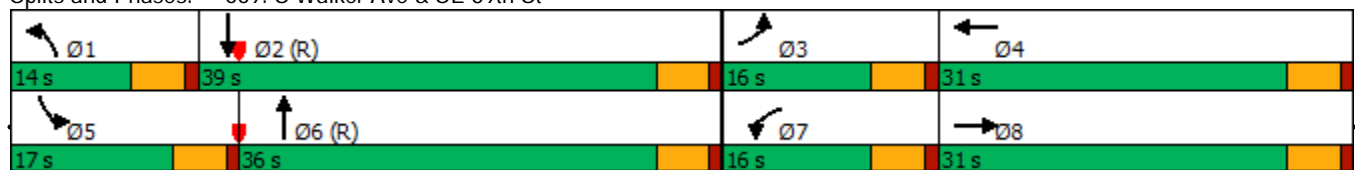
Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	551	1	1	696	134	1	2	5	213	0	300
Future Volume (vph)	88	551	1	1	696	134	1	2	5	213	0	300
Satd. Flow (prot)	1770	3539	0	1770	3454	0	1770	1663	0	0	1770	1583
Flt Permitted	0.950			0.950			0.558				0.753	
Satd. Flow (perm)	1770	3539	0	1770	3454	0	1039	1663	0	0	1403	1583
Satd. Flow (RTOR)					26			5				253
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	600	0	1	903	0	1	7	0	0	232	326
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		2
Total Split (s)	17.0	47.0		13.0	43.0		40.0	40.0		40.0	40.0	40.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)	10.3	42.4		8.0	32.3		45.0	45.0			45.0	45.0
Actuated g/C Ratio	0.10	0.42		0.08	0.32		0.45	0.45			0.45	0.45
v/c Ratio	0.52	0.40		0.01	0.80		0.00	0.01			0.37	0.38
Control Delay	52.8	20.4		43.0	35.5		21.0	14.3			15.6	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	52.8	20.4		43.0	35.5		21.0	14.3			15.6	6.7
LOS	D	C		D	D		C	B			B	A
Approach Delay		24.9			35.5			15.2			10.4	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	59	121		1	266		0	1			116	107
Queue Length 95th (ft)	110	183		6	313		4	10			201	187
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	212	1618		141	1328		467	751			631	851
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.45	0.37		0.01	0.68		0.00	0.01			0.37	0.38

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 25.5

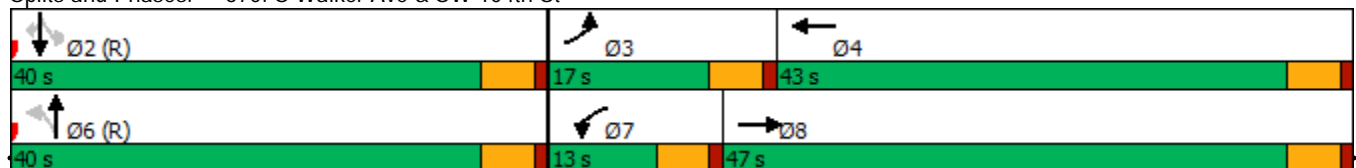
Intersection LOS: C

Intersection Capacity Utilization 67.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 670: S Walker Ave & SW 104th St



2020 PM Existing

Synchro 10 Report

Timings

751: Robinson & I-40 WB Off Ramp

02/12/2020



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	261	32	103	0	0	381
Future Volume (vph)	261	32	103	0	0	381
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Satd. Flow (RTOR)		35				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	284	35	112	0	0	414
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	30.0	30.0	30.0			30.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effect Green (s)	10.6	10.6	9.8			9.8
Actuated g/C Ratio	0.38	0.38	0.35			0.35
v/c Ratio	0.42	0.06	0.09			0.33
Control Delay	10.0	3.6	8.0			8.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	10.0	3.6	8.0			8.8
LOS	A	A	A			A
Approach Delay	9.3		8.0			8.8
Approach LOS	A		A			A
Queue Length 50th (ft)	30	0	5			23
Queue Length 95th (ft)	80	10	18			55
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1507	1353	3014			3014
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.19	0.03	0.04			0.14

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 27.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 8.8

Intersection LOS: A

Intersection Capacity Utilization 33.3%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 751: Robinson & I-40 WB Off Ramp

30 s	30 s
30 s	

Timings

3000: Robinson & OKC Blvd

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	498	108	17	164	29	60	73	88	181	175	21
Future Volume (vph)	14	498	108	17	164	29	60	73	88	181	175	21
Satd. Flow (prot)	1770	3444	0	1770	3458	0	1770	3249	0	1770	3483	0
Flt Permitted	0.599			0.178			0.618			0.641		
Satd. Flow (perm)	1116	3444	0	332	3458	0	1151	3249	0	1194	3483	0
Satd. Flow (RTOR)		27			20			96			9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	658	0	18	210	0	65	175	0	197	213	0
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			2			6		
Total Split (s)	14.0	57.0		9.0	52.0		28.0	30.0		24.0	26.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	31.3	29.7		31.3	28.5		72.7	60.3		71.7	66.5	
Actuated g/C Ratio	0.26	0.25		0.26	0.24		0.61	0.50		0.60	0.55	
v/c Ratio	0.05	0.75		0.13	0.25		0.09	0.10		0.26	0.11	
Control Delay	26.9	45.4		29.0	33.4		11.0	9.9		9.3	11.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.9	45.4		29.0	33.4		11.0	9.9		9.3	11.6	
LOS	C	D		C	C		B	A		A	B	
Approach Delay		45.0			33.1			10.2			10.5	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	9	238		11	61		16	14		41	26	
Queue Length 95th (ft)	22	282		24	92		46	46		87	56	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	347	1507		134	1366		854	1680		849	1934	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.04	0.44		0.13	0.15		0.08	0.10		0.23	0.11	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 28.8

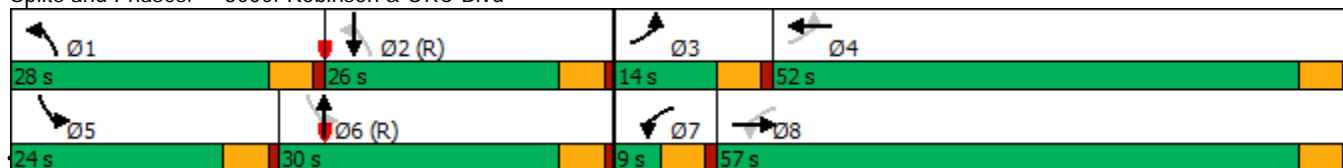
Intersection LOS: C

Intersection Capacity Utilization 44.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd





















2020 PM Existing

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	222	52	0	0	0	0	337	19	36	785	0
Future Volume (vph)	42	222	52	0	0	0	0	337	19	36	785	0
Satd. Flow (prot)	0	4923	0	0	0	0	0	3511	0	0	3532	0
Flt Permitted		0.993									0.923	
Satd. Flow (perm)	0	4923	0	0	0	0	0	3511	0	0	3267	0
Satd. Flow (RTOR)		56						13				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	344	0	0	0	0	0	387	0	0	892	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	27.0	27.0						48.0		24.0	24.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		22.0						43.0			43.0	
Actuated g/C Ratio		0.29						0.57			0.57	
v/c Ratio		0.23						0.19			0.48	
Control Delay		17.2						7.7			3.2	
Queue Delay		0.0						0.0			0.1	
Total Delay		17.2						7.7			3.3	
LOS		B						A			A	
Approach Delay		17.2						7.7			3.3	
Approach LOS		B						A			A	
Queue Length 50th (ft)		36						40			23	
Queue Length 95th (ft)		58						60			28	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1483						2018			1873	
Starvation Cap Reductn		0						0			170	
Spillback Cap Reductn		1						332			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.23						0.23			0.52	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 7.3

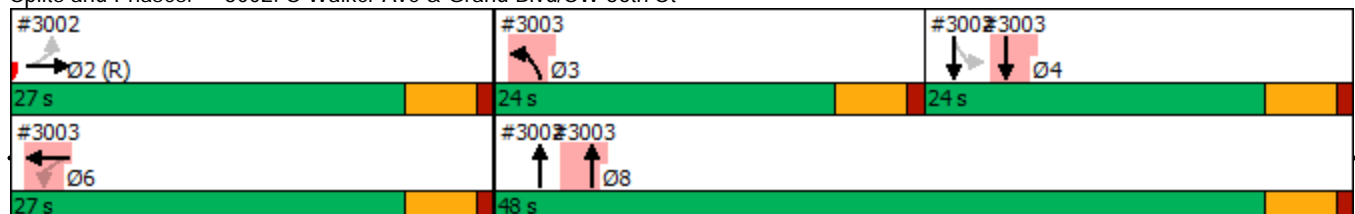
Intersection LOS: A

Intersection Capacity Utilization 51.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St



Timings

3002: S Walker Ave & Grand Blvd/SW 36th St
















02/12/2020

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	24.0	27.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	41	236	28	38	329	0	0	774	69
Future Volume (vph)	0	0	0	41	236	28	38	329	0	0	774	69
Satd. Flow (prot)	0	0	0	0	4979	0	0	3522	0	0	3497	0
Flt Permitted					0.993			0.819				
Satd. Flow (perm)	0	0	0	0	4979	0	0	2899	0	0	3497	0
Satd. Flow (RTOR)					22						12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	332	0	0	399	0	0	916	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				27.0	27.0		24.0	48.0			24.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					22.0			43.0			43.0	
Actuated g/C Ratio					0.29			0.57			0.57	
v/c Ratio					0.22			0.63			0.46	
Control Delay					11.2			11.8			10.0	
Queue Delay					0.0			0.0			0.0	
Total Delay					11.2			11.8			10.0	
LOS					B			B			B	
Approach Delay					11.2			11.8			10.0	
Approach LOS					B			B			B	
Queue Length 50th (ft)					17			66			116	
Queue Length 95th (ft)					27			118			157	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1476			630			2010	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.22			0.63			0.46	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.7

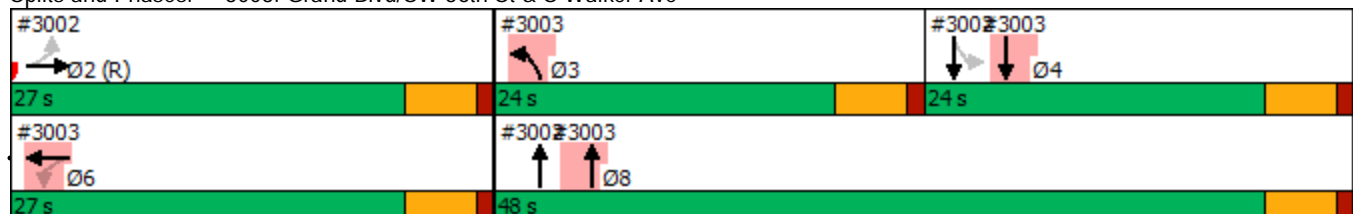
Intersection LOS: B

Intersection Capacity Utilization 53.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave



Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

02/12/2020

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	27.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕						↕	
Traffic Vol, veh/h	0	68	1	13	101	0	0	0	0	32	129	31
Future Vol, veh/h	0	68	1	13	101	0	0	0	0	32	129	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	74	1	14	110	0	0	0	0	35	140	34
Number of Lanes	0	1	0	0	2	0	0	0	0	0	2	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	8.8	8.5	8.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	28%	0%	33%	0%
Vol Thru, %	99%	72%	100%	67%	68%
Vol Right, %	1%	0%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	47	67	97	96
LT Vol	0	13	0	32	0
Through Vol	68	34	67	65	65
RT Vol	1	0	0	0	31
Lane Flow Rate	75	51	73	105	104
Geometry Grp	6	7	7	7	7
Degree of Util (X)	0.108	0.074	0.104	0.152	0.139
Departure Headway (Hd)	5.196	5.276	5.136	5.213	4.819
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	691	680	699	689	745
Service Time	3.219	2.997	2.857	2.933	2.538
HCM Lane V/C Ratio	0.109	0.075	0.104	0.152	0.14
HCM Control Delay	8.8	8.4	8.5	8.9	8.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.3	0.5	0.5

Intersection

Intersection Delay, s/veh

8

Intersection LOS

A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↑			↑↔			↔↑				
Traffic Vol, veh/h	21	79	0	1	104	10	10	57	5	0	0	0
Future Vol, veh/h	21	79	0	1	104	10	10	57	5	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	86	0	1	113	11	11	62	5	0	0	0
Number of Lanes	0	2	0	0	2	0	0	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	8.1	7.9	8.2
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	26%	0%	44%	0%	2%	0%
Vol Thru, %	74%	85%	56%	100%	98%	84%
Vol Right, %	0%	15%	0%	0%	0%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	34	47	53	53	62
LT Vol	10	0	21	0	1	0
Through Vol	29	29	26	53	52	52
RT Vol	0	5	0	0	0	10
Lane Flow Rate	42	36	51	57	58	67
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.061	0.05	0.072	0.077	0.077	0.088
Departure Headway (Hd)	5.224	4.989	5.067	4.844	4.843	4.721
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	688	721	710	743	743	762
Service Time	2.935	2.7	2.775	2.552	2.551	2.429
HCM Lane V/C Ratio	0.061	0.05	0.072	0.077	0.078	0.088
HCM Control Delay	8.3	8	8.2	8	8	7.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.2	0.2	0.3

Intersection

Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	24	23	9	33	15	36	146	13	16	100	20
Future Vol, veh/h	13	24	23	9	33	15	36	146	13	16	100	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	26	25	10	36	16	39	159	14	17	109	22
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.1	8.2	8.6	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	0%	22%	16%	24%	0%
Vol Thru, %	67%	85%	40%	58%	76%	71%
Vol Right, %	0%	15%	38%	26%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	86	60	57	66	70
LT Vol	36	0	13	9	16	0
Through Vol	73	73	24	33	50	50
RT Vol	0	13	23	15	0	20
Lane Flow Rate	118	93	65	62	72	76
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.169	0.126	0.085	0.081	0.103	0.102
Departure Headway (Hd)	5.135	4.863	4.671	4.735	5.152	4.83
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	699	738	767	756	696	742
Service Time	2.862	2.59	2.698	2.763	2.881	2.558
HCM Lane V/C Ratio	0.169	0.126	0.085	0.082	0.103	0.102
HCM Control Delay	8.9	8.3	8.1	8.2	8.5	8.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.3	0.3	0.3	0.3

HCM 6th TWSC
4000: N MacArthur Blvd & NW 19th St

02/12/2020

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	4	17	12	13	22	24	948	24	16	764	10
Future Vol, veh/h	7	4	17	12	13	22	24	948	24	16	764	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	4	18	13	14	24	26	1030	26	17	830	11

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1444	1978	421	1546	1970	528	841	0	0	1056	0	0
Stage 1	870	870	-	1095	1095	-	-	-	-	-	-	-
Stage 2	574	1108	-	451	875	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	93	61	581	78	62	495	790	-	-	655	-	-
Stage 1	313	367	-	228	288	-	-	-	-	-	-	-
Stage 2	471	284	-	557	365	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	64	53	581	64	54	495	790	-	-	655	-	-
Mov Cap-2 Maneuver	64	53	-	64	54	-	-	-	-	-	-	-
Stage 1	288	349	-	210	265	-	-	-	-	-	-	-
Stage 2	390	261	-	506	347	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	40.6		75		0.6		0.5	
HCM LOS	E		F					




Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	790	-	-	131	99	655	-
HCM Lane V/C Ratio	0.033	-	-	0.232	0.516	0.027	-
HCM Control Delay (s)	9.7	0.4	-	40.6	75	10.6	0.3
HCM Lane LOS	A	A	-	E	F	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0.8	2.3	0.1	-

HCM 6th TWSC
4001: N Meridian Ave & NW 19th St

02/12/2020

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	60	44	955	820	54
Future Vol, veh/h	17	60	44	955	820	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	65	48	1038	891	59

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1536	475	950
Stage 1	921	-	-
Stage 2	615	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	107	536	719
Stage 1	348	-	-
Stage 2	502	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	90	536	719
Mov Cap-2 Maneuver	90	-	-
Stage 1	293	-	-
Stage 2	502	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.7	1.1	0
HCM LOS	D		




Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	719	-	256	-	-
HCM Lane V/C Ratio	0.067	-	0.327	-	-
HCM Control Delay (s)	10.4	0.7	25.7	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-	-

HCM 6th TWSC
4002: N Meridian Ave & NW 20th St

02/12/2020

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	24	965	17	8	862
Future Vol, veh/h	19	24	965	17	8	862
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	26	1049	18	9	937

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1545	534	0
Stage 1	1058	-	-
Stage 2	487	-	-
Critical Hdwy	6.84	6.94	-
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	-
Pot Cap-1 Maneuver	105	491	-
Stage 1	295	-	-
Stage 2	583	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	102	491	-
Mov Cap-2 Maneuver	102	-	-
Stage 1	295	-	-
Stage 2	566	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.3	0	0.3
HCM LOS	D		




















Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	183	649
HCM Lane V/C Ratio	-	-	0.255	0.013
HCM Control Delay (s)	-	-	31.3	10.6
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	1	0

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	17	21	6	17	9	15	915	19	11	781	20
Future Vol, veh/h	9	17	21	6	17	9	15	915	19	11	781	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	18	23	7	18	10	16	995	21	12	849	22
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1423	1932	436	1496	1933	508	871	0	0	1016	0	0
Stage 1	884	884	-	1038	1038	-	-	-	-	-	-	-
Stage 2	539	1048	-	458	895	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	65	568	85	65	510	770	-	-	678	-	-
Stage 1	307	362	-	247	306	-	-	-	-	-	-	-
Stage 2	494	303	-	552	357	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	68	60	568	58	60	510	770	-	-	678	-	-
Mov Cap-2 Maneuver	68	60	-	58	60	-	-	-	-	-	-	-
Stage 1	292	350	-	235	291	-	-	-	-	-	-	-
Stage 2	432	288	-	485	345	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	69.2		82.4		0.3		0.3					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	770	-	-	104	79	678	-	-				
HCM Lane V/C Ratio	0.021	-	-	0.491	0.44	0.018	-	-				
HCM Control Delay (s)	9.8	0.2	-	69.2	82.4	10.4	0.2	-				
HCM Lane LOS	A	A	-	F	F	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	2.2	1.8	0.1	-	-				

Timings

97: N Council Rd & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	30	9	43	36	49	23	989	56	43	698	34
Future Volume (vph)	20	30	9	43	36	49	23	989	56	43	698	34
Satd. Flow (prot)	0	1793	0	1770	1703	0	1770	3511	0	1770	3514	0
Flt Permitted		0.851		0.769			0.351			0.219		
Satd. Flow (perm)	0	1552	0	1432	1703	0	654	3511	0	408	3514	0
Satd. Flow (RTOR)		10			53			13			11	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	47	92	0	25	1136	0	47	796	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	27.0	27.0		27.0	27.0		63.0	63.0		63.0	63.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		7.8		7.8	7.8		22.6	22.6		22.6	22.6	
Actuated g/C Ratio		0.22		0.22	0.22		0.65	0.65		0.65	0.65	
v/c Ratio		0.19		0.15	0.22		0.06	0.50		0.18	0.35	
Control Delay		14.8		16.2	10.1		4.5	6.0		6.5	4.9	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		14.8		16.2	10.1		4.5	6.0		6.5	4.9	
LOS		B		B	B		A	A		A	A	
Approach Delay		14.8			12.2			5.9			5.0	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		10		8	7		2	65		4	40	
Queue Length 95th (ft)		38		33	38		9	119		18	74	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)				80			160			180		
Base Capacity (vph)		1011		929	1124		654	3511		408	3514	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.06		0.05	0.08		0.04	0.32		0.12	0.23	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 35

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 6.2

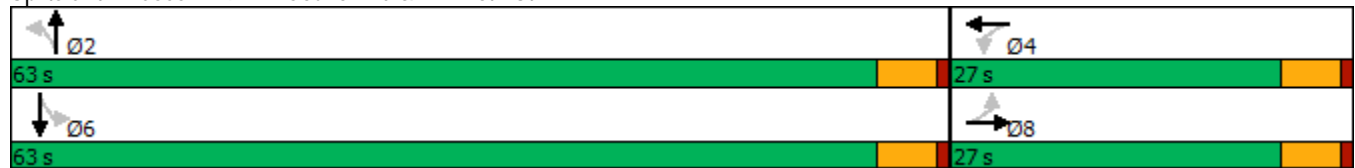
Intersection LOS: A

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15


Splits and Phases: 97: N Council Rd & NW 16th St



Timings

295: N MacArthur Blvd & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	129	42	50	197	72	46	839	49	39	690	90
Future Volume (vph)	65	129	42	50	197	72	46	839	49	39	690	90
Satd. Flow (prot)	1770	1794	0	1770	1788	0	1770	3511	0	1770	3479	0
Flt Permitted	0.392			0.601			0.950			0.950		
Satd. Flow (perm)	730	1794	0	1120	1788	0	1770	3511	0	1770	3479	0
Satd. Flow (RTOR)		22			24			7			17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	186	0	54	292	0	50	965	0	42	848	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	40.0	40.0		40.0	40.0		14.0	36.0		14.0	36.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.2	15.2		15.2	15.2		7.3	32.1		7.1	32.0	
Actuated g/C Ratio	0.24	0.24		0.24	0.24		0.11	0.50		0.11	0.50	
v/c Ratio	0.42	0.42		0.21	0.67		0.25	0.55		0.22	0.49	
Control Delay	30.2	22.2		23.0	29.1		33.2	15.3		32.8	14.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.2	22.2		23.0	29.1		33.2	15.3		32.8	14.4	
LOS	C	C		C	C		C	B		C	B	
Approach Delay		24.4			28.2			16.2			15.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	26	59		19	104		20	152		17	127	
Queue Length 95th (ft)	64	115		47	183		55	269		48	226	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)	270			160			105			130		
Base Capacity (vph)	409	1015		628	1013		255	1752		255	1736	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.18		0.09	0.29		0.20	0.55		0.16	0.49	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 64.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 18.3

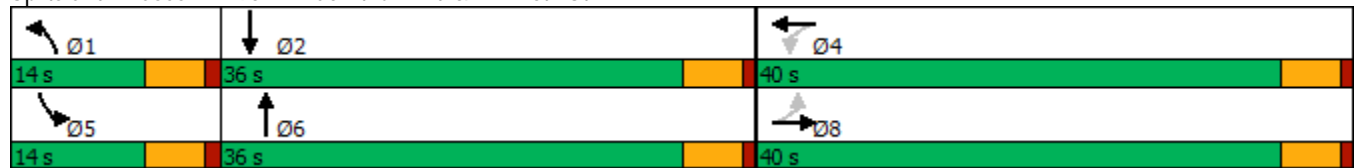
Intersection LOS: B

Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15






















Splits and Phases: 295: N MacArthur Blvd & NW 16th St



Timings

377: N Meridian Ave & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	115	94	35	246	85	107	808	48	83	662	89
Future Volume (vph)	62	115	94	35	246	85	107	808	48	83	662	89
Satd. Flow (prot)	0	1831	1583	0	1796	0	1770	3511	0	1770	3476	0
Flt Permitted		0.613			0.953		0.305			0.261		
Satd. Flow (perm)	0	1142	1583	0	1720	0	568	3511	0	486	3476	0
Satd. Flow (RTOR)			102		19			10			24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	192	102	0	397	0	116	930	0	90	817	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	39.0	39.0	39.0	39.0	39.0		51.0	51.0		51.0	51.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		25.4	25.4		25.4		54.6	54.6		54.6	54.6	
Actuated g/C Ratio		0.28	0.28		0.28		0.61	0.61		0.61	0.61	
v/c Ratio		0.60	0.20		0.80		0.34	0.44		0.31	0.39	
Control Delay		34.7	5.2		40.1		14.3	11.1		14.4	10.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		34.7	5.2		40.1		14.3	11.1		14.4	10.4	
LOS		C	A		D		B	B		B	B	
Approach Delay		24.5			40.1			11.5			10.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)		94	0		199		30	134		23	111	
Queue Length 95th (ft)		143	31		266		84	225		69	189	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		431	661		661		344	2134		295	2119	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.45	0.15		0.60		0.34	0.44		0.31	0.39	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 17.0

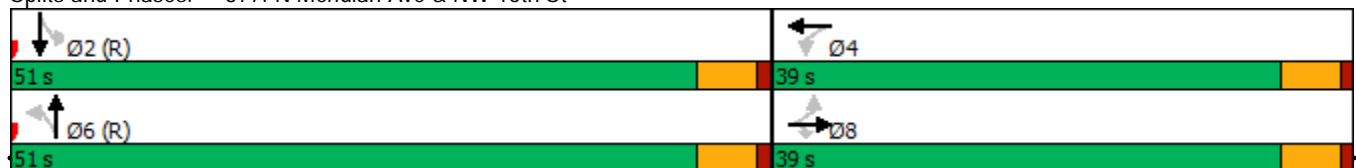
Intersection LOS: B

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 377: N Meridian Ave & NW 16th St
























2020 PM Existing

Synchro 10 Report

Timings

544: N Rockwell Ave & NW 16th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	86	34	76	113	81	58	754	57	80	598	68
Future Volume (vph)	61	86	34	76	113	81	58	754	57	80	598	68
Satd. Flow (prot)	1770	1783	0	1770	1745	0	1770	3500	0	1770	3486	0
Flt Permitted	0.582			0.674			0.950			0.950		
Satd. Flow (perm)	1084	1783	0	1255	1745	0	1770	3500	0	1770	3486	0
Satd. Flow (RTOR)		21			38			11			18	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	130	0	83	211	0	63	882	0	87	724	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	28.0	28.0		28.0	28.0		16.0	44.0		18.0	46.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	12.5	12.5		12.5	12.5		8.2	21.4		8.9	24.7	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.15	0.39		0.16	0.45	
v/c Ratio	0.27	0.31		0.30	0.50		0.24	0.65		0.31	0.46	
Control Delay	25.3	21.2		25.2	23.1		28.9	17.4		28.6	13.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.3	21.2		25.2	23.1		28.9	17.4		28.6	13.0	
LOS	C	C		C	C		C	B		C	B	
Approach Delay		22.6			23.7			18.1			14.7	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	19	31		24	51		19	121		26	90	
Queue Length 95th (ft)	61	90		73	137		64	231		80	173	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)	115			80			155			200		
Base Capacity (vph)	503	839		582	830		393	2517		464	2601	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.15		0.14	0.25		0.16	0.35		0.19	0.28	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 55.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 18.0

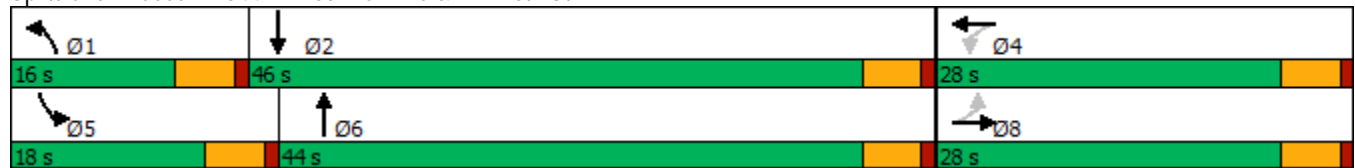
Intersection LOS: B

Intersection Capacity Utilization 61.3%

ICU Level of Service B

Analysis Period (min) 15

















Splits and Phases: 544: N Rockwell Ave & NW 16th St



Timings

999: NW 19th St

02/12/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 37.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.00

Intersection Signal Delay: 0.0

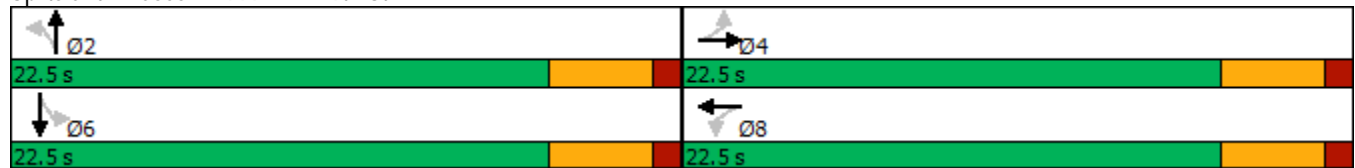
Intersection LOS: A

Intersection Capacity Utilization 0.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 999: NW 19th St









HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

07/13/2021

Intersection







Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	67	15	6	112	0	2	5	4	15	21	10
Future Vol, veh/h	1	67	15	6	112	0	2	5	4	15	21	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	73	16	7	122	0	2	5	4	16	23	11
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	7.9	8.3	7.4	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	100%	0%	100%	0%	33%
Vol Thru, %	45%	0%	82%	0%	100%	46%
Vol Right, %	36%	0%	18%	0%	0%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	1	82	6	112	46
LT Vol	2	1	0	6	0	15
Through Vol	5	0	67	0	112	21
RT Vol	4	0	15	0	0	10
Lane Flow Rate	12	1	89	7	122	50
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.014	0.002	0.113	0.009	0.159	0.061
Departure Headway (Hd)	4.335	5.208	4.579	5.189	4.688	4.408
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	830	682	775	686	760	818
Service Time	2.337	2.982	2.352	2.95	2.449	2.408
HCM Lane V/C Ratio	0.014	0.001	0.115	0.01	0.161	0.061
HCM Control Delay	7.4	8	7.9	8	8.3	7.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	0.4	0	0.6	0.2

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	58	9	9	86	7	33	22	5	1	10	16
Future Vol, veh/h	16	58	9	9	86	7	33	22	5	1	10	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	63	10	10	93	8	36	24	5	1	11	17
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	8	8.2	7.9	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	55%	100%	0%	100%	0%	4%
Vol Thru, %	37%	0%	87%	0%	92%	37%
Vol Right, %	8%	0%	13%	0%	8%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	16	67	9	93	27
LT Vol	33	16	0	9	0	1
Through Vol	22	0	58	0	86	10
RT Vol	5	0	9	0	7	16
Lane Flow Rate	65	17	73	10	101	29
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.082	0.025	0.094	0.014	0.132	0.034
Departure Headway (Hd)	4.513	5.259	4.664	5.248	4.694	4.149
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	798	673	757	675	754	868
Service Time	2.515	3.054	2.458	3.038	2.483	2.152
HCM Lane V/C Ratio	0.081	0.025	0.096	0.015	0.134	0.033
HCM Control Delay	7.9	8.2	8	8.1	8.2	7.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.3	0	0.5	0.1

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱↱		
Traffic Vol, veh/h	0	12	4	1	1	0	0	0	0	0	943	7
Future Vol, veh/h	0	12	4	1	1	0	0	0	0	0	943	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	4	1	1	0	0	0	0	0	1025	8
Major/Minor	Minor2		Minor1				Major2					
Conflicting Flow All	-	1029	517	417	1033	-				0	0	0
Stage 1	-	1029	-	0	0	-				-	-	-
Stage 2	-	0	-	417	1033	-				-	-	-
Critical Hdwy	-	6.54	7.14	6.44	6.54	-				5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-				-	-	-
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-				-	-	-
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-				3.12	-	-
Pot Cap-1 Maneuver	0	232	431	553	231	0				-	-	-
Stage 1	0	309	-	-	-	0				-	-	-
Stage 2	0	-	-	534	308	0				-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	-	232	431	524	231	-				-	-	-
Mov Cap-2 Maneuver	-	232	-	524	231	-				-	-	-
Stage 1	-	309	-	-	-	-				-	-	-
Stage 2	-	-	-	506	308	-				-	-	-
Approach	EB		WB				SB					
HCM Control Delay, s	19.7		16.3				0					
HCM LOS	C		C									
Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR							
Capacity (veh/h)	262 321		-	-	-							
HCM Lane V/C Ratio	0.066 0.007		-	-	-							
HCM Control Delay (s)	19.7 16.3		0	-	-							
HCM Lane LOS	C C		A	-	-							
HCM 95th %tile Q(veh)	0.2 0		-	-	-							

HCM 6th TWSC
1003: N Lincoln Blvd NB & NE 16th St

07/13/2021

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	12	0	0	0	1	5	1	733	2	0	0	0
Future Vol, veh/h	12	0	0	0	1	5	1	733	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	0	0	1	5	1	797	2	0	0	0

Major/Minor	Minor2		Minor1		Major1						
Conflicting Flow All	321	801	-	-	800	400	0	0	0		
Stage 1	0	0	-	-	800	-	-	-	-		
Stage 2	321	801	-	-	0	-	-	-	-		
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-		
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-		
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-		
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-		
Pot Cap-1 Maneuver	626	316	0	0	317	512	-	-	-		
Stage 1	-	-	0	0	395	-	-	-	-		
Stage 2	610	395	0	0	-	-	-	-	-		
Platoon blocked, %								-	-		
Mov Cap-1 Maneuver	618	316	-	-	317	512	-	-	-		
Mov Cap-2 Maneuver	618	316	-	-	317	-	-	-	-		
Stage 1	-	-	-	-	395	-	-	-	-		
Stage 2	602	395	-	-	-	-	-	-	-		

Approach	EB	WB	NB
HCM Control Delay, s	11	12.9	
HCM LOS	B	B	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1
Capacity (veh/h)	-	-	-	618 464
HCM Lane V/C Ratio	-	-	-	0.021 0.014
HCM Control Delay (s)	-	-	-	11 12.9
HCM Lane LOS	-	-	-	B B
HCM 95th %tile Q(veh)	-	-	-	0.1 0

Timings

282: N Lottie Ave & NE 16th St

07/13/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Volume (vph)	2	15	10	78	56	53	7	158	22	28	443	9
Future Volume (vph)	2	15	10	78	56	53	7	158	22	28	443	9
Satd. Flow (prot)	0	1762	0	1770	1727	0	0	3469	0	0	3518	0
Flt Permitted		0.981		0.738				0.939			0.932	
Satd. Flow (perm)	0	1734	0	1375	1727	0	0	3264	0	0	3289	0
Satd. Flow (RTOR)		11			58			22			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	85	119	0	0	204	0	0	522	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0			5.0	
Act Effect Green (s)		16.0		16.0	16.0			47.4			47.4	
Actuated g/C Ratio		0.24		0.24	0.24			0.70			0.70	
v/c Ratio		0.07		0.26	0.26			0.09			0.23	
Control Delay		16.0		24.3	14.2			4.6			5.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		16.0		24.3	14.2			4.6			5.5	
LOS		B		C	B			A			A	
Approach Delay		16.0			18.4			4.6			5.5	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		6		30	21			14			45	
Queue Length 95th (ft)		25		66	60			25			66	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)				105								
Base Capacity (vph)		952		751	969			2286			2298	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.11	0.12			0.09			0.23	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 67.8

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 8.4

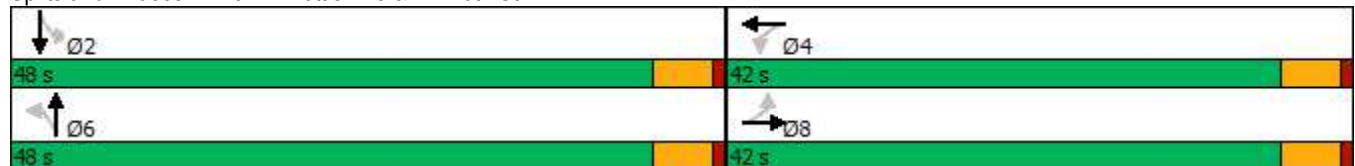
Intersection LOS: A

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 282: N Lottie Ave & NE 16th St
























2040 AM Existing

Synchro 10 Report

Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	31	57	22	69	36	59	487	9	20	386	74
Future Volume (vph)	54	31	57	22	69	36	59	487	9	20	386	74
Satd. Flow (prot)	1770	1863	1583	0	1776	0	1770	3529	0	1770	3454	0
Flt Permitted	0.491				0.931		0.393			0.451		
Satd. Flow (perm)	915	1863	1583	0	1668	0	732	3529	0	840	3454	0
Satd. Flow (RTOR)			145		21			2			25	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	34	62	0	138	0	64	539	0	22	500	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	16.0	43.0	27.0	27.0	27.0		16.0	33.0		14.0	31.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	12.1	11.7	11.9		11.9		21.4	24.0		19.1	20.0	
Actuated g/C Ratio	0.26	0.25	0.26		0.26		0.46	0.52		0.41	0.43	
v/c Ratio	0.14	0.07	0.12		0.31		0.12	0.30		0.04	0.33	
Control Delay	19.5	19.2	0.5		21.3		10.3	12.7		10.3	16.7	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	19.5	19.2	0.5		21.3		10.3	12.7		10.3	16.7	
LOS	B	B	A		C		B	B		B	B	
Approach Delay		11.8			21.3			12.4			16.4	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	18	11	0		36		12	60		4	75	
Queue Length 95th (ft)	38	25	0		93		34	147		16	136	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	675	1421	952		945		753	2335		658	2175	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.09	0.02	0.07		0.15		0.08	0.23		0.03	0.23	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 46.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 14.7

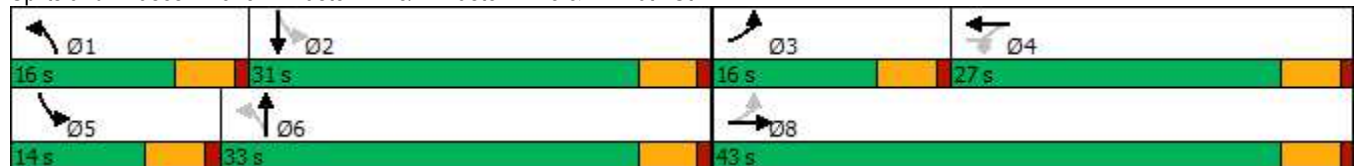
Intersection LOS: B

Intersection Capacity Utilization 43.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St



2040 AM Existing

Synchro 10 Report

HCM 6th TWSC
2002: N Classen Blvd & W Wilshire Blvd

07/13/2021

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	670	69	217	422	2	74
Future Vol, veh/h	670	69	217	422	2	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	728	75	236	459	2	80
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	803	0	1468	402
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	702	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	817	-	118	598
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	453	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	817	-	72	598
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	277	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		4.5		13.2	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	72	598	-	-	817	-
HCM Lane V/C Ratio	0.03	0.135	-	-	0.289	-
HCM Control Delay (s)	56.6	12	-	-	11.2	1.1
HCM Lane LOS	F	B	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.5	-	-	1.2	-

HCM 6th TWSC
2003: W Wilshire Blvd & N Classen Blvd

07/13/2021

Intersection						
Int Delay, s/veh	2.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	↕
Traffic Vol, veh/h	54	697	602	89	69	42
Future Vol, veh/h	54	697	602	89	69	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	758	654	97	75	46
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	751	0	-	0	1200	376
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	497	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	854	-	-	-	178	622
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	854	-	-	-	157	622
Mov Cap-2 Maneuver	-	-	-	-	157	-
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	577	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		33.6		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	854	-	-	-	157	622
HCM Lane V/C Ratio	0.069	-	-	-	0.478	0.073
HCM Control Delay (s)	9.5	0.5	-	-	47.3	11.2
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2	0.2

Timings

78: N Classen Blvd & Chesapeake Dr

07/13/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	7	54	81	148	27
Future Volume (vph)	7	7	54	81	148	27
Satd. Flow (prot)	1694	0	1770	3539	3458	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	3539	3458	0
Satd. Flow (RTOR)	8				24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	59	88	190	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		10.0	22.5	22.5	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.4		8.2	76.0	62.0	
Actuated g/C Ratio	0.08		0.10	0.96	0.78	
v/c Ratio	0.11		0.32	0.03	0.07	
Control Delay	26.4		37.2	0.8	3.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	26.4		37.2	0.8	3.5	
LOS	C		D	A	A	
Approach Delay	26.4			15.4	3.5	
Approach LOS	C			B	A	
Queue Length 50th (ft)	4		28	0	7	
Queue Length 95th (ft)	22		61	7	31	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	898		182	3384	2700	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.02		0.32	0.03	0.07	

Intersection Summary

Cycle Length: 79.5

Actuated Cycle Length: 79.5

Offset: 10 (13%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 9.5

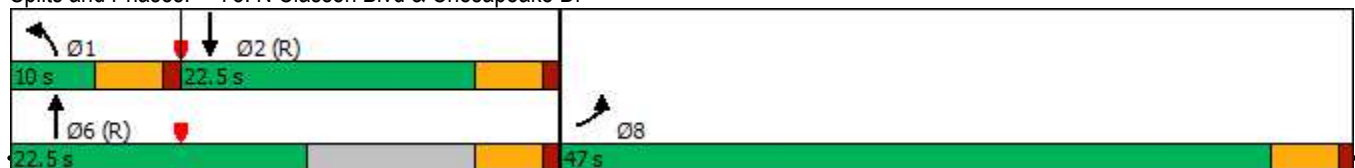
Intersection LOS: A

Intersection Capacity Utilization 28.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 78: N Classen Blvd & Chesapeake Dr























2040 AM Existing

Synchro 10 Report

Timings

79: N Classen Blvd & NW 63rd St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	58	33	569	73	17	37	22	78	89	81
Future Volume (vph)	65	735	58	33	569	73	17	37	22	78	89	81
Satd. Flow (prot)	1770	3500	0	1770	3479	0	1770	3341	0	1770	3288	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3500	0	1770	3479	0	1770	3341	0	1770	3288	0
Satd. Flow (RTOR)		9			16			24			88	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	862	0	36	697	0	18	64	0	85	185	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	17.0	43.0		16.0	42.0		14.0	23.0		18.0	27.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.2	33.0		7.5	29.2		6.6	36.0		10.1	43.8	
Actuated g/C Ratio	0.09	0.33		0.08	0.29		0.07	0.36		0.10	0.44	
v/c Ratio	0.44	0.74		0.27	0.68		0.16	0.05		0.48	0.12	
Control Delay	50.8	33.5		48.1	33.7		46.5	20.8		50.6	13.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.8	33.5		48.1	33.7		46.5	20.8		50.6	13.1	
LOS	D	C		D	C		D	C		D	B	
Approach Delay		34.8			34.4			26.4			24.9	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	44	258		22	200		11	9		52	17	
Queue Length 95th (ft)	86	297		53	237		33	30		97	54	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	212	1336		194	1297		159	1218		233	1488	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.33	0.65		0.19	0.54		0.11	0.05		0.36	0.12	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 33.0

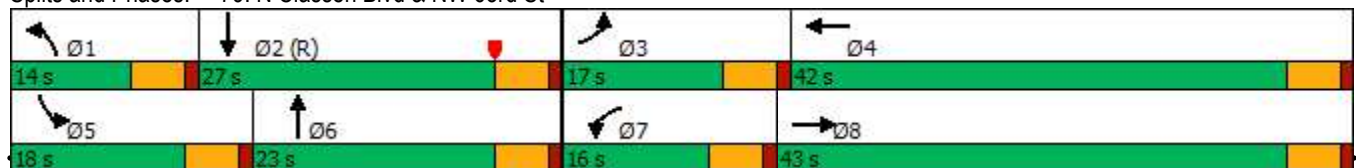
Intersection LOS: C

Intersection Capacity Utilization 51.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St























2040 AM Existing

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	253	44	11	206	14	23	230	7	42	500	173
Future Volume (vph)	91	253	44	11	206	14	23	230	7	42	500	173
Satd. Flow (prot)	1770	3461	0	1770	3507	0	1770	3522	0	1770	3401	0
Flt Permitted	0.950			0.950			0.321			0.572		
Satd. Flow (perm)	1770	3461	0	1770	3507	0	598	3522	0	1065	3401	0
Satd. Flow (RTOR)		20			6			4			54	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	323	0	12	239	0	25	258	0	46	731	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	20.0	35.0		12.0	27.0		12.0	41.0		12.0	41.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	9.8	20.2		6.3	10.8		41.3	37.9		42.6	40.1	
Actuated g/C Ratio	0.13	0.27		0.08	0.14		0.55	0.50		0.56	0.53	
v/c Ratio	0.43	0.34		0.08	0.47		0.06	0.15		0.07	0.40	
Control Delay	39.6	22.8		38.8	34.6		9.3	13.6		9.2	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.6	22.8		38.8	34.6		9.3	13.6		9.2	13.2	
LOS	D	C		D	C		A	B		A	B	
Approach Delay		26.7			34.8			13.2			13.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	48	61		6	58		5	38		9	87	
Queue Length 95th (ft)	99	116		24	100		18	74		28	201	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	377	1462		182	1088		452	1768		674	1830	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.22		0.07	0.22		0.06	0.15		0.07	0.40	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 75.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 19.5

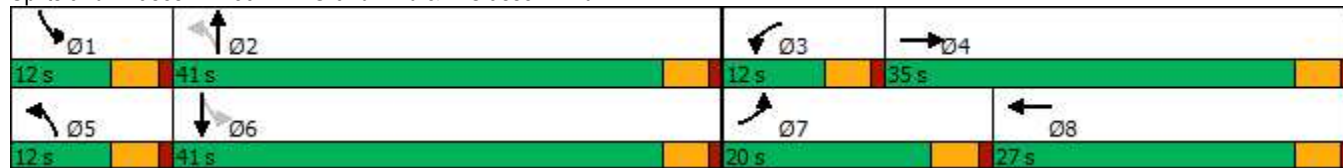
Intersection LOS: B

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 159: NW Grand Blvd & N Classen Blvd
























2040 AM Existing

Synchro 10 Report

Timings

2001: N Western Ave & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	121	15	25	32	20	7	826	149	31	879	184
Future Volume (vph)	170	121	15	25	32	20	7	826	149	31	879	184
Satd. Flow (prot)	1770	3483	0	1770	3334	0	1770	3458	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3483	0	1770	3334	0	1770	3458	0	1770	3539	1583
Satd. Flow (RTOR)		13			22			24				200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	148	0	27	57	0	8	1060	0	34	955	200
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	22.0	33.0		12.0	23.0		12.0	43.0		12.0	43.0	43.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	13.1	15.1		6.7	6.6		6.1	41.3		6.8	45.6	45.6
Actuated g/C Ratio	0.17	0.20		0.09	0.09		0.08	0.54		0.09	0.60	0.60
v/c Ratio	0.61	0.21		0.17	0.19		0.06	0.56		0.22	0.45	0.19
Control Delay	39.9	25.4		39.7	27.1		38.9	16.2		40.3	11.7	2.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.9	25.4		39.7	27.1		38.9	16.2		40.3	11.7	2.7
LOS	D	C		D	C		D	B		D	B	A
Approach Delay		33.4			31.1			16.3			11.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	92	27		14	9		4	213		17	132	0
Queue Length 95th (ft)	161	60		40	28		18	318		48	275	38
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	421	1358		180	855		180	1888		180	2121	1029
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.44	0.11		0.15	0.07		0.04	0.56		0.19	0.45	0.19

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 76

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 16.6

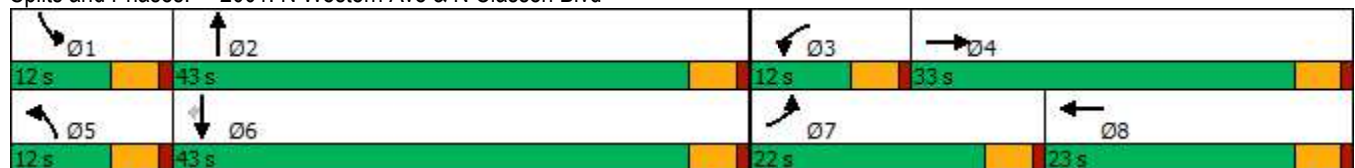
Intersection LOS: B

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2001: N Western Ave & N Classen Blvd




2040 AM Existing

Synchro 10 Report

Timings

2004: N Classen Blvd & W Britton Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Traffic Volume (vph)	16	806	12	63	605	2	12	2	41	1	4	0
Future Volume (vph)	16	806	12	63	605	2	12	2	41	1	4	0
Satd. Flow (prot)	0	3529	0	0	3522	0	0	3105	0	0	3504	0
Flt Permitted		0.936			0.758			0.924			0.934	
Satd. Flow (perm)	0	3306	0	0	2683	0	0	2901	0	0	3306	0
Satd. Flow (RTOR)		4			1			45				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	906	0	0	728	0	0	60	0	0	5	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)		17.0			17.0			19.0			19.0	
Actuated g/C Ratio		0.38			0.38			0.42			0.42	
v/c Ratio		0.72			0.72			0.05			0.00	
Control Delay		15.6			16.4			4.4			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.6			16.4			4.4			8.2	
LOS		B			B			A			A	
Approach Delay		15.6			16.4			4.4			8.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		95			76			1			0	
Queue Length 95th (ft)		147			124			8			2	
Internal Link Dist (ft)		875			804			5231			513	
Turn Bay Length (ft)												
Base Capacity (vph)		1324			1073			1249			1394	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.68			0.68			0.05			0.00	

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 30.5 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 60.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2004: N Classen Blvd & W Britton Rd



2040 AM Existing

Synchro 10 Report

HCM 6th TWSC
3001: S Santa Fe & SW 98th St/NW 34th St




















07/13/2021

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕			↕↕	
Traffic Vol, veh/h	5	0	5	9	0	4	2	1193	5	6	232	0
Future Vol, veh/h	5	0	5	9	0	4	2	1193	5	6	232	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	10	0	4	2	1297	5	7	252	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	919	1572	126	1444	1570	651	252	0	0	1302	0	0
Stage 1	266	266	-	1304	1304	-	-	-	-	-	-	-
Stage 2	653	1306	-	140	266	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	226	109	901	93	110	411	1310	-	-	528	-	-
Stage 1	716	687	-	169	229	-	-	-	-	-	-	-
Stage 2	423	228	-	849	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	220	107	901	91	108	411	1310	-	-	528	-	-
Mov Cap-2 Maneuver	220	107	-	91	108	-	-	-	-	-	-	-
Stage 1	712	677	-	168	228	-	-	-	-	-	-	-
Stage 2	416	227	-	831	677	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	15.5		39		0		0.4					
HCM LOS	C		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1310	-	-	354	120	528	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.031	0.118	0.012	-	-				
HCM Control Delay (s)	7.8	0	-	15.5	39	11.9	0.1	-				
HCM Lane LOS	A	A	-	C	E	B	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-				

Timings

527: S Robinson Ave & W Reno Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	241	14	17	347	162	49	262	32	69	49	26
Future Volume (vph)	62	241	14	17	347	162	49	262	32	69	49	26
Satd. Flow (prot)	1770	3511	0	1770	3369	0	0	3465	0	1770	3355	0
Flt Permitted	0.445			0.467				0.894		0.345		
Satd. Flow (perm)	829	3511	0	870	3369	0	0	3120	0	643	3355	0
Satd. Flow (RTOR)		4			60			11			28	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	277	0	18	553	0	0	373	0	75	81	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	21.0	32.0		22.0	33.0		54.0	54.0		12.0	66.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.0		4.0	5.0	
Act Effect Green (s)	23.1	15.1		38.9	29.5			13.7		23.5	22.5	
Actuated g/C Ratio	0.33	0.21		0.55	0.42			0.19		0.33	0.32	
v/c Ratio	0.18	0.37		0.03	0.38			0.61		0.23	0.07	
Control Delay	12.0	25.9		9.4	16.2			31.0		17.8	11.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	25.9		9.4	16.2			31.0		17.8	11.8	
LOS	B	C		A	B			C		B	B	
Approach Delay		23.2			16.0			31.0			14.7	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	14	56		4	85			82		23	8	
Queue Length 95th (ft)	36	96		14	146			127		50	22	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			115						65		
Base Capacity (vph)	629	1388		715	1442			2237		345	2831	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.20		0.03	0.38			0.17		0.22	0.03	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 70.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 21.4

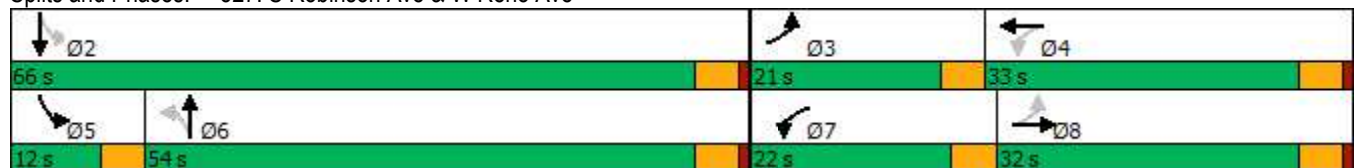
Intersection LOS: C

Intersection Capacity Utilization 50.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 527: S Robinson Ave & W Reno Ave



















2040 AM Existing

Synchro 10 Report

Timings

535: S Robinson Ave & SW 25th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	110	14	7	107	12	22	276	14	10	122	42
Future Volume (vph)	51	110	14	7	107	12	22	276	14	10	122	42
Satd. Flow (prot)	0	1816	0	0	1833	0	0	3500	0	0	3402	0
Flt Permitted		0.872			0.977			0.924			0.925	
Satd. Flow (perm)	0	1606	0	0	1796	0	0	3247	0	0	3156	0
Satd. Flow (RTOR)		11			13			11			46	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	137	0	0	339	0	0	190	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	26.0	26.0		26.0	26.0		24.0	24.0		24.0	24.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		18.1			18.1			18.1			18.1	
Actuated g/C Ratio		0.50			0.50			0.50			0.50	
v/c Ratio		0.23			0.15			0.21			0.12	
Control Delay		9.6			8.7			8.6			6.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.6			8.7			8.6			6.9	
LOS		A			A			A			A	
Approach Delay		9.6			8.7			8.6			6.9	
Approach LOS		A			A			A			A	
Queue Length 50th (ft)		28			19			26			11	
Queue Length 95th (ft)		62			44			47			25	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		968			1082			1829			1793	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.13			0.19			0.11	

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 35.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.23

Intersection Signal Delay: 8.5

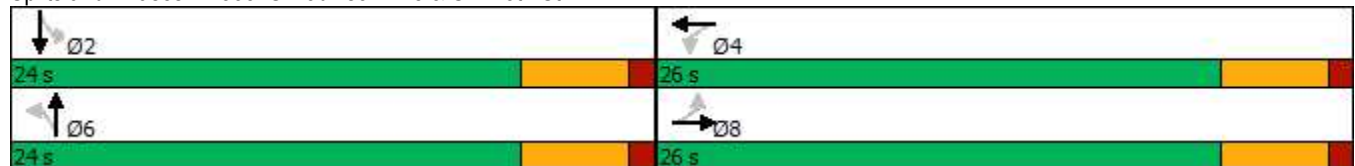
Intersection LOS: A

Intersection Capacity Utilization 49.4%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	367	20	16	292	47	21	248	46	16	93	39
Future Volume (vph)	20	367	20	16	292	47	21	248	46	16	93	39
Satd. Flow (prot)	1770	3511	0	1770	3465	0	1770	1820	0	1770	1781	0
Flt Permitted	0.950			0.950			0.634			0.340		
Satd. Flow (perm)	1770	3511	0	1770	3465	0	1181	1820	0	633	1781	0
Satd. Flow (RTOR)		7			21			10			21	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	421	0	17	368	0	23	320	0	17	143	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	20.0	45.0		20.0	45.0		35.0	35.0		35.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	6.8	55.0		6.6	54.8		30.0	30.0		30.0	30.0	
Actuated g/C Ratio	0.07	0.55		0.07	0.55		0.30	0.30		0.30	0.30	
v/c Ratio	0.18	0.22		0.15	0.19		0.06	0.58		0.09	0.26	
Control Delay	46.9	12.7		46.4	12.1		19.8	23.6		26.9	24.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.9	12.7		46.4	12.1		19.8	23.6		26.9	24.1	
LOS	D	B		D	B		B	C		C	C	
Approach Delay		14.4			13.7			23.4			24.4	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	14	58		10	47		7	87		8	58	
Queue Length 95th (ft)	38	113		32	96		19	135		25	109	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50			75		
Base Capacity (vph)	265	1932		265	1907		354	553		189	549	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.22		0.06	0.19		0.06	0.58		0.09	0.26	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 48 (48%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 17.7







Intersection LOS: B

Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 536: S Robinson Ave & SW 29th St

 Ø2 (R)	 Ø3	 Ø4
35 s	20 s	45 s
 Ø6 (R)	 Ø7	 Ø8
35 s	20 s	45 s

















2040 AM Existing

Synchro 10 Report

Timings

537: SW Grand Blvd & S Robinson Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	267	30	28	273	0	0	122	16
Future Volume (vph)	0	0	0	10	267	30	28	273	0	0	122	16
Satd. Flow (prot)	0	0	0	0	4999	0	1770	1863	0	0	1835	0
Flt Permitted					0.998		0.950					
Satd. Flow (perm)	0	0	0	0	4999	0	1770	1863	0	0	1835	0
Satd. Flow (RTOR)					21						7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	334	0	30	297	0	0	150	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				41.0	41.0		20.0	59.0			39.0	
Total Lost Time (s)					5.0		5.0	5.0			5.0	
Act Effect Green (s)					36.0		7.2	54.0			46.1	
Actuated g/C Ratio					0.36		0.07	0.54			0.46	
v/c Ratio					0.18		0.23	0.30			0.18	
Control Delay					20.8		55.5	7.4			10.7	
Queue Delay					0.0		0.2	1.2			0.0	
Total Delay					20.8		55.7	8.6			10.7	
LOS					C		E	A			B	
Approach Delay					20.8			12.9			10.7	
Approach LOS					C			B			B	
Queue Length 50th (ft)					49		17	40			61	
Queue Length 95th (ft)					71		40	56			119	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1813		265	1006			849	
Starvation Cap Reductn					0		62	487			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.18		0.15	0.57			0.18	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 15.7

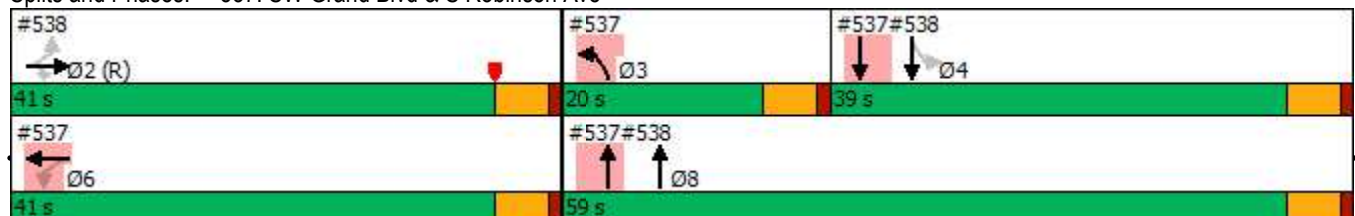
Intersection LOS: B

Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave



Timings

537: SW Grand Blvd & S Robinson Ave


















07/13/2021

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	41.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	185	25	0	0	0	0	236	19	0	0	0
Future Volume (vph)	37	185	25	0	0	0	0	236	19	0	0	0
Satd. Flow (prot)	0	3511	1583	0	0	0	0	1844	0	1863	1863	0
Flt Permitted		0.992										
Satd. Flow (perm)	0	3511	1583	0	0	0	0	1844	0	1863	1863	0
Satd. Flow (RTOR)			76					6				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	241	27	0	0	0	0	278	0	0	0	0
Turn Type	Perm	NA	Perm					NA		Perm		
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	41.0	41.0	41.0					59.0		39.0	39.0	
Total Lost Time (s)		5.0	5.0					5.0		5.0	5.0	
Act Effect Green (s)		36.0	36.0					54.0				
Actuated g/C Ratio		0.36	0.36					0.54				
v/c Ratio		0.19	0.04					0.28				
Control Delay		43.9	15.3					13.1				
Queue Delay		0.0	0.0					0.0				
Total Delay		43.9	15.3					13.1				
LOS		D	B					B				
Approach Delay		41.0						13.1				
Approach LOS		D						B				
Queue Length 50th (ft)		77	2					89				
Queue Length 95th (ft)		116	m15					139				
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1263	618					998				
Starvation Cap Reductn		0	0					0				
Spillback Cap Reductn		105	0					2				
Storage Cap Reductn		0	0					0				
Reduced v/c Ratio		0.21	0.04					0.28				

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 26.8

Intersection LOS: C

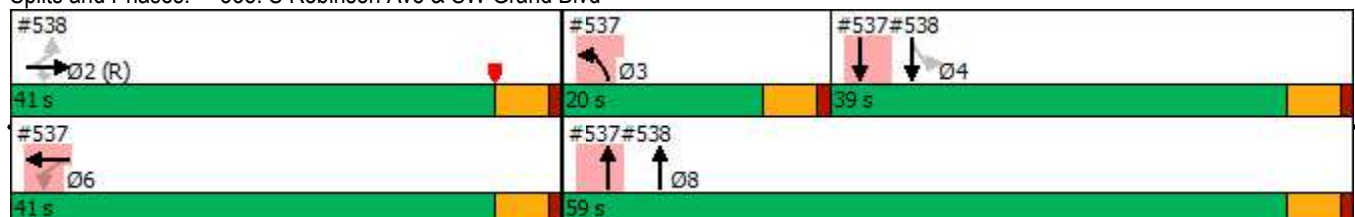
Intersection Capacity Utilization 45.8%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd



Timings

538: S Robinson Ave & SW Grand Blvd


















07/13/2021

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	20.0	41.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	573	131	0	0	0	0	897	190	94	191	0
Future Volume (vph)	246	573	131	0	0	0	0	897	190	94	191	0
Satd. Flow (prot)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Flt Permitted	0.950	0.998								0.950		
Satd. Flow (perm)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Satd. Flow (RTOR)		18						33				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	240	792	0	0	0	0	0	1182	0	102	208	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								36.0		55.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	34.0	34.0						31.0		49.0	85.0	
Actuated g/C Ratio	0.26	0.26						0.24		0.38	0.65	
v/c Ratio	0.57	0.91						0.98		0.15	0.09	
Control Delay	47.9	60.4						66.6		15.3	0.7	
Queue Delay	0.0	0.0						18.0		1.4	0.6	
Total Delay	47.9	60.4						84.5		16.7	1.3	
LOS	D	E						F		B	A	
Approach Delay		57.5						84.5			6.4	
Approach LOS		E						F			A	
Queue Length 50th (ft)	193	349						373		16	2	
Queue Length 95th (ft)	292	#470						#468		m29	m1	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	421	874						1206		667	2313	
Starvation Cap Reductn	0	0						0		423	1771	
Spillback Cap Reductn	0	0						75		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.57	0.91						1.05		0.42	0.38	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 63.9

Intersection LOS: E

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

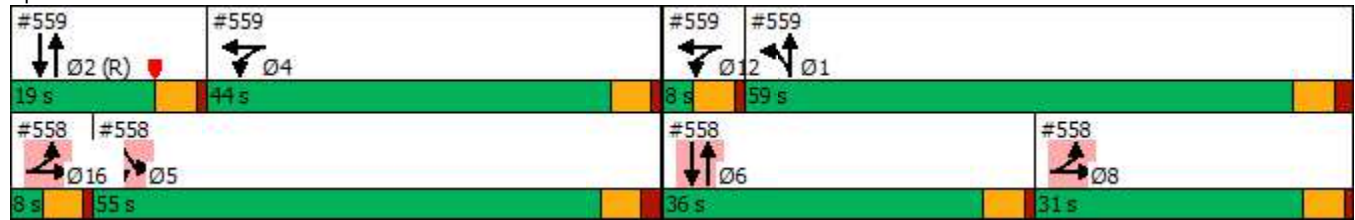
m Volume for 95th percentile queue is metered by upstream signal.

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd




Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	59.0	19.0	44.0	31.0	8.0	8.0
Total Lost Time (s)						
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	828	562	59	444	691	0	0	179	139
Future Volume (vph)	0	0	0	828	562	59	444	691	0	0	179	139
Satd. Flow (prot)	0	0	0	1610	3299	0	1770	3539	0	0	4755	0
Flt Permitted				0.950	0.982		0.950					
Satd. Flow (perm)	0	0	0	1610	3299	0	1770	3539	0	0	4755	0
Satd. Flow (RTOR)					5						120	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				42%								
Lane Group Flow (vph)	0	0	0	522	1053	0	483	751	0	0	346	0
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases												
Total Split (s)							59.0				19.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)				47.0	47.0		53.0	72.0			14.0	
Actuated g/C Ratio				0.36	0.36		0.41	0.55			0.11	
v/c Ratio				0.90	0.88		0.67	0.38			0.56	
Control Delay				59.0	48.6		9.4	1.8			39.4	
Queue Delay				0.0	0.0		39.1	3.4			0.0	
Total Delay				59.0	48.6		48.5	5.2			39.4	
LOS				E	D		D	A			D	
Approach Delay					52.0			22.1			39.4	
Approach LOS					D			C			D	
Queue Length 50th (ft)				453	452		16	3			66	
Queue Length 95th (ft)				#686	#556		m226	m3			101	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)				582	1195		721	1960			619	
Starvation Cap Reductn				0	0		265	1085			0	
Spillback Cap Reductn				0	0		0	0			0	
Storage Cap Reductn				0	0		0	0			0	
Reduced v/c Ratio				0.90	0.88		1.06	0.86			0.56	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 38.9

Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

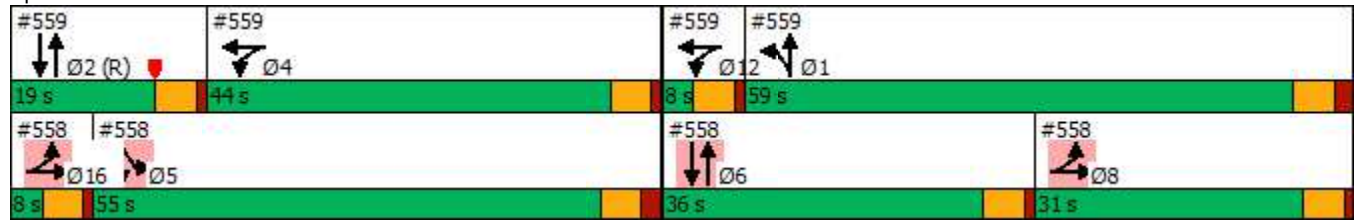
m Volume for 95th percentile queue is metered by upstream signal.

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd



















Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	44.0	55.0	36.0	31.0	8.0	8.0
Total Lost Time (s)						
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	3	4	0	15	6	1126	6	0	237	5
Future Volume (vph)	1	1	3	4	0	15	6	1126	6	0	237	5
Satd. Flow (prot)	0	1695	0	0	1645	0	0	3536	0	0	3529	0
Flt Permitted								0.954				
Satd. Flow (perm)	0	1712	0	0	1662	0	0	3373	0	0	3529	0
Satd. Flow (RTOR)		3			25			1			4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	20	0	0	1238	0	0	263	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.5	29.5		29.5	29.5		35.5	35.5		35.5	35.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)		6.2			6.2			61.8			61.8	
Actuated g/C Ratio		0.10			0.10			0.95			0.95	
v/c Ratio		0.03			0.11			0.39			0.08	
Control Delay		21.6			12.1			1.3			0.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.6			12.1			1.3			0.6	
LOS		C			B			A			A	
Approach Delay		21.6			12.1			1.3			0.6	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		1			0			0			0	
Queue Length 95th (ft)		10			16			98			15	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)												
Base Capacity (vph)		660			654			3208			3356	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.01			0.03			0.39			0.08	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.39

Intersection Signal Delay: 1.4

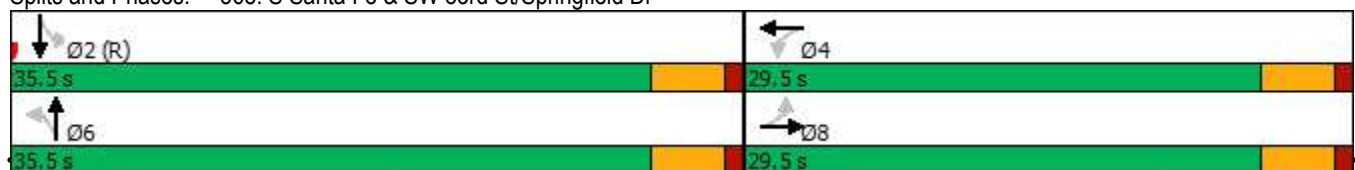
Intersection LOS: A

Intersection Capacity Utilization 48.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr























2040 AM Existing

Synchro 10 Report

Timings

569: S Santa Fe & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	456	42	31	241	61	88	915	246	32	186	69
Future Volume (vph)	59	456	42	31	241	61	88	915	246	32	186	69
Satd. Flow (prot)	1770	3493	0	1770	3433	0	1770	3426	0	1770	3394	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3493	0	1770	3433	0	1770	3426	0	1770	3394	0
Satd. Flow (RTOR)		10			33			36			57	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	542	0	34	328	0	96	1262	0	35	277	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												
Total Split (s)	12.5	37.0		12.5	37.0		12.5	38.0		12.5	38.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	8.0	23.3		8.0	20.8		10.8	51.2		8.5	43.8	
Actuated g/C Ratio	0.08	0.23		0.08	0.21		0.11	0.51		0.08	0.44	
v/c Ratio	0.45	0.66		0.24	0.44		0.50	0.71		0.23	0.18	
Control Delay	51.3	56.3		47.7	32.0		51.0	24.9		46.5	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.3	56.3		47.7	32.0		51.0	24.9		46.5	16.1	
LOS	D	E		D	C		D	C		D	B	
Approach Delay		55.7			33.5			26.8			19.5	
Approach LOS		E			C			C			B	
Queue Length 50th (ft)	42	192		21	85		58	357		21	46	
Queue Length 95th (ft)	88	249		52	118		109	#574		52	84	
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135			225		
Base Capacity (vph)	141	1124		141	1121		191	1771		149	1520	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.48		0.24	0.29		0.50	0.71		0.23	0.18	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 76.3%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

















Splits and Phases: 569: S Santa Fe & SE 89th St



Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	856	117	11	669	15	195	165	89	27	65	17
Future Volume (vph)	5	856	117	11	669	15	195	165	89	27	65	17
Satd. Flow (prot)	0	3476	0	0	3525	0	0	1774	0	0	1802	0
Flt Permitted		0.952			0.933			0.805			0.843	
Satd. Flow (perm)	0	3309	0	0	3292	0	0	1459	0	0	1537	0
Satd. Flow (RTOR)		32			5			24			17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1062	0	0	755	0	0	488	0	0	118	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effct Green (s)		24.8			24.8			24.2			24.2	
Actuated g/C Ratio		0.41			0.41			0.40			0.40	
v/c Ratio		0.77			0.55			0.81			0.19	
Control Delay		18.6			14.7			30.3			12.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.6			14.7			30.3			12.0	
LOS		B			B			C			B	
Approach Delay		18.6			14.7			30.3			12.0	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)		152			98			150			24	
Queue Length 95th (ft)		213			140			#322			55	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1506			1484			602			630	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.71			0.51			0.81			0.19	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 19.4

Intersection LOS: B

Intersection Capacity Utilization 71.7%

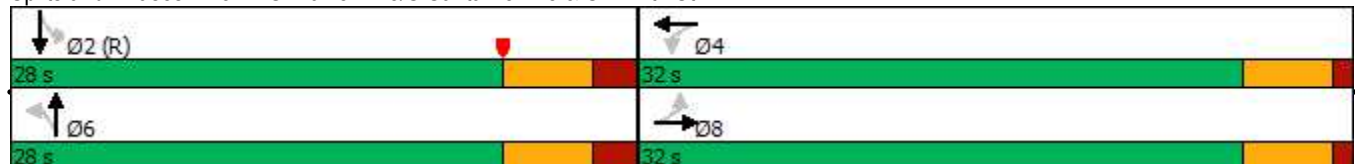
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1	13	19	1	36	20	1052	19	46	237	19
Future Volume (vph)	24	1	13	19	1	36	20	1052	19	46	237	19
Satd. Flow (prot)	1770	1602	0	1770	1591	0	1770	3529	0	1770	3500	0
Flt Permitted	0.569			0.748			0.580			0.207		
Satd. Flow (perm)	1060	1602	0	1393	1591	0	1080	3529	0	386	3500	0
Satd. Flow (RTOR)		14			39			2			9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	15	0	21	40	0	22	1164	0	50	279	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	13.0	37.0		13.0	37.0		13.0	67.0		13.0	67.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	10.6	6.9		11.7	6.8		104.4	100.2		106.1	102.6	
Actuated g/C Ratio	0.08	0.05		0.09	0.05		0.80	0.77		0.82	0.79	
v/c Ratio	0.21	0.15		0.14	0.33		0.02	0.43		0.13	0.10	
Control Delay	53.8	30.1		49.8	25.4		2.8	7.5		1.7	1.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.8	30.1		49.8	25.4		2.8	7.5		1.7	1.4	
LOS	D	C		D	C		A	A		A	A	
Approach Delay		45.1			33.8			7.4			1.5	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	21	1		16	1		3	206		1	2	
Queue Length 95th (ft)	46	24		40	39		6	289		m4	m11	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	144	404		166	421		929	2720		408	2764	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.04		0.13	0.10		0.02	0.43		0.12	0.10	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 8.2

Intersection LOS: A

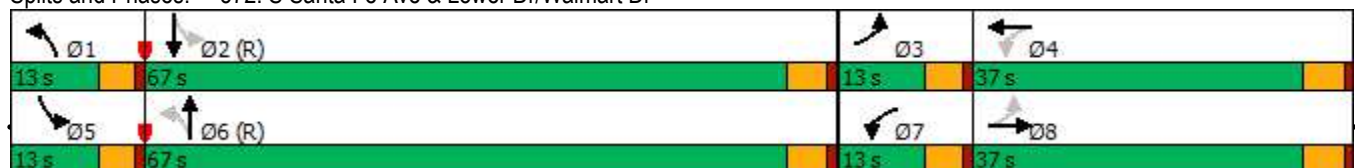
Intersection Capacity Utilization 53.9%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr



Timings

597: S Santa Fe Ave & SW 59th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	749	124	75	565	33	140	338	332	28	140	80
Future Volume (vph)	96	749	124	75	565	33	140	338	332	28	140	80
Satd. Flow (prot)	1770	3465	0	1770	3511	0	1770	3277	0	1770	3345	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3465	0	1770	3511	0	1770	3277	0	1770	3345	0
Satd. Flow (RTOR)		19			6			270			87	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	949	0	82	650	0	152	728	0	30	239	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	14.0	35.0		13.0	34.0		17.0	39.0		13.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.8	30.2		8.0	26.8		11.4	41.6		8.0	33.0	
Actuated g/C Ratio	0.09	0.30		0.08	0.27		0.11	0.42		0.08	0.33	
v/c Ratio	0.67	0.90		0.58	0.69		0.75	0.48		0.21	0.21	
Control Delay	51.4	51.7		61.7	36.3		66.4	15.7		47.0	16.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.4	51.7		61.7	36.3		66.4	15.7		47.0	16.7	
LOS	D	D		E	D		E	B		D	B	
Approach Delay		51.7			39.2			24.4			20.1	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	69	339		51	187		95	121		18	37	
Queue Length 95th (ft)	m84	m#406		#111	248		#188	180		47	67	
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300			120		
Base Capacity (vph)	159	1060		141	1022		212	1520		141	1160	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.65	0.90		0.58	0.64		0.72	0.48		0.21	0.21	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 37.5

Intersection LOS: D

Intersection Capacity Utilization 74.7%

ICU Level of Service D

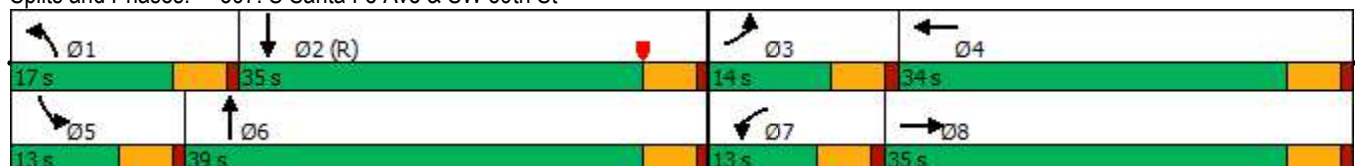
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

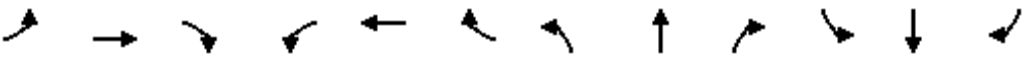
Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	179	222	206	156	539	0	0	290	218
Future Volume (vph)	0	0	0	179	222	206	156	539	0	0	290	218
Satd. Flow (prot)	0	0	0	1610	3360	1583	1770	3539	0	0	5085	1583
Flt Permitted				0.950	0.991		0.950					
Satd. Flow (perm)	0	0	0	1610	3360	1583	1770	3539	0	0	5085	1583
Satd. Flow (RTOR)						224						237
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				27%								
Lane Group Flow (vph)	0	0	0	142	294	224	170	586	0	0	315	237
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							42.0				20.0	20.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				26.2	26.2	26.2	35.5	62.8			22.4	22.4
Actuated g/C Ratio				0.26	0.26	0.26	0.36	0.63			0.22	0.22
v/c Ratio				0.34	0.33	0.39	0.27	0.26			0.28	0.44
Control Delay				31.0	30.1	5.5	9.8	4.9			37.8	14.0
Queue Delay				0.0	0.0	0.0	2.1	0.8			0.0	0.0
Total Delay				31.0	30.1	5.5	11.8	5.8			37.8	14.0
LOS				C	C	A	B	A			D	B
Approach Delay					21.9			7.1			27.6	
Approach LOS					C			A			C	
Queue Length 50th (ft)				81	84	0	70	110			51	0
Queue Length 95th (ft)				127	110	51	112	150			m96	m81
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				445	929	599	637	2115			1137	538
Starvation Cap Reductn				0	0	0	340	1167			0	0
Spillback Cap Reductn				0	0	0	0	0			8	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.32	0.32	0.37	0.57	0.62			0.28	0.44

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 17.8

Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd

#648 Ø2 (R) 20 s	#648 Ø4 30 s	#648 Ø12 8 s	#648 Ø1 42 s
#649 Ø16 8 s	#649 Ø5 42 s	#649 Ø6 20 s	#649 Ø8 30 s

Timings

648: S Walker Ave & I-240 WB Serv Rd
























07/13/2021

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	30.0	42.0	20.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			 	
Traffic Volume (vph)	295	273	250	0	0	0	0	393	126	166	294	0
Future Volume (vph)	295	273	250	0	0	0	0	393	126	166	294	0
Satd. Flow (prot)	1610	3343	1583	0	0	0	0	5085	1583	1770	3539	0
Flt Permitted	0.950	0.986								0.950		
Satd. Flow (perm)	1610	3343	1583	0	0	0	0	5085	1583	1770	3539	0
Satd. Flow (RTOR)			272						207			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	37%											
Lane Group Flow (vph)	202	416	272	0	0	0	0	427	137	180	320	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								20.0	20.0	42.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	33.0	33.0	33.0					25.8	25.8	25.2	56.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.26	0.26	0.25	0.56	
v/c Ratio	0.38	0.38	0.39					0.33	0.24	0.40	0.16	
Control Delay	28.3	26.9	4.8					30.3	3.9	11.9	4.8	
Queue Delay	0.0	0.0	0.0					0.1	0.0	0.7	0.9	
Total Delay	28.3	26.9	4.8					30.4	3.9	12.7	5.7	
LOS	C	C	A					C	A	B	A	
Approach Delay		20.5						23.9			8.2	
Approach LOS		C						C			A	
Queue Length 50th (ft)	107	110	0					91	13	60	47	
Queue Length 95th (ft)	176	154	55					100	13	122	0	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	529	1099	702					1310	561	637	1975	
Starvation Cap Reductn	0	0	0					0	0	233	1369	
Spillback Cap Reductn	0	0	0					113	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.38	0.38	0.39					0.36	0.24	0.45	0.53	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 18.3

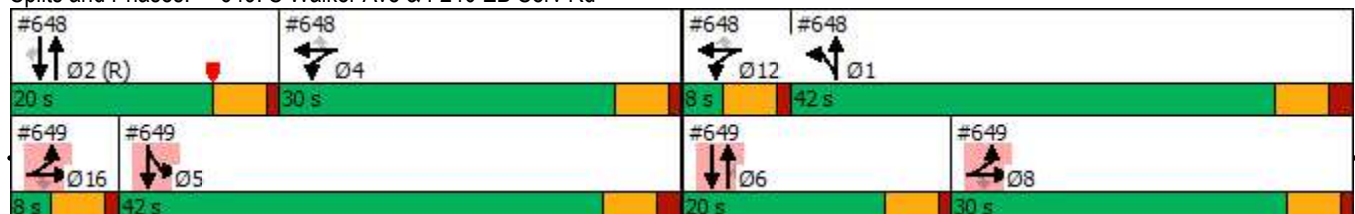
Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd





















07/13/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	42.0	20.0	30.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	677	84	92	631	94	93	528	167	92	231	84
Future Volume (vph)	65	677	84	92	631	94	93	528	167	92	231	84
Satd. Flow (prot)	1770	3479	0	1770	3472	0	1770	3412	0	1770	3398	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3472	0	1770	3412	0	1770	3398	0
Satd. Flow (RTOR)		13			16			40			49	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	827	0	100	788	0	101	756	0	100	342	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	20.0	30.0		20.0	30.0		20.0	30.0		20.0	30.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.4	27.1		10.9	28.5		11.0	35.7		10.9	35.7	
Actuated g/C Ratio	0.09	0.27		0.11	0.28		0.11	0.36		0.11	0.36	
v/c Ratio	0.43	0.87		0.52	0.79		0.52	0.61		0.52	0.27	
Control Delay	50.0	45.5		51.0	39.0		30.0	30.7		40.4	22.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.0	45.5		51.0	39.0		30.0	30.7		40.4	22.4	
LOS	D	D		D	D		C	C		D	C	
Approach Delay		45.8			40.3			30.6			26.5	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	44	253		61	231		53	230		47	89	
Queue Length 95th (ft)	85	#391		109	#321		m85	m#322		101	137	
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130			150		
Base Capacity (vph)	265	953		265	1001		265	1245		265	1244	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.87		0.38	0.79		0.38	0.61		0.38	0.27	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 73 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 37.3

Intersection LOS: D

Intersection Capacity Utilization 68.2%

ICU Level of Service C

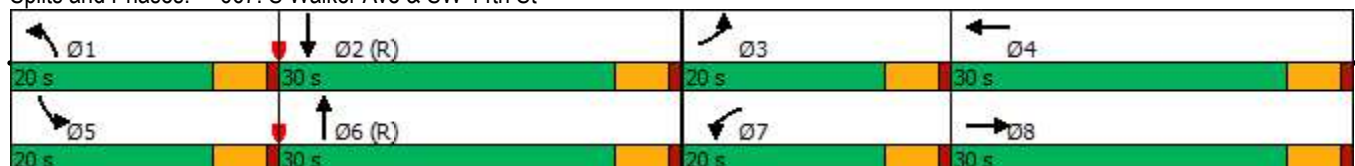
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	705	88	86	583	166	84	498	105	151	243	75
Future Volume (vph)	96	705	88	86	583	166	84	498	105	151	243	75
Satd. Flow (prot)	1770	3479	0	1770	3422	0	1770	3447	0	1770	3412	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3422	0	1770	3447	0	1770	3412	0
Satd. Flow (RTOR)		13			35			25			39	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	862	0	93	814	0	91	655	0	164	346	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	20.0	30.0		20.0	30.0		20.0	35.0		15.0	30.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	11.1	28.4		10.6	27.9		10.4	33.4		10.0	35.2	
Actuated g/C Ratio	0.11	0.28		0.11	0.28		0.10	0.33		0.10	0.35	
v/c Ratio	0.53	0.87		0.50	0.83		0.49	0.56		0.93	0.28	
Control Delay	51.3	44.5		36.8	49.5		52.8	45.4		94.8	23.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.3	44.5		36.8	49.5		52.8	45.4		94.8	23.1	
LOS	D	D		D	D		D	D		F	C	
Approach Delay		45.3			48.2			46.3			46.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	64	266		54	283		61	221		106	95	
Queue Length 95th (ft)	113	#413		m89	#388		106	281		m#215	m135	
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100			115		
Base Capacity (vph)	265	995		265	980		265	1167		177	1227	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.87		0.35	0.83		0.34	0.56		0.93	0.28	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 46.5

Intersection LOS: D

Intersection Capacity Utilization 69.2%

ICU Level of Service C

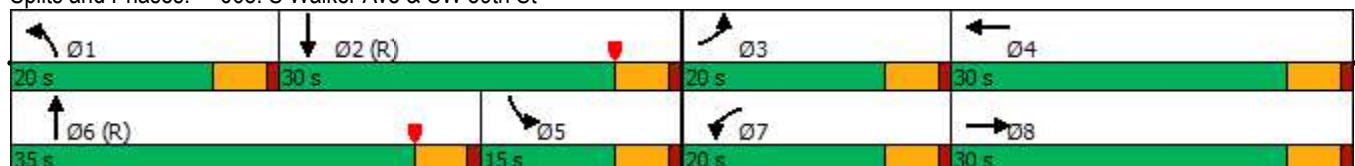
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	458	31	33	295	79	50	406	63	37	153	77
Future Volume (vph)	177	458	31	33	295	79	50	406	63	37	153	77
Satd. Flow (prot)	1770	3504	0	1770	3426	0	1770	3468	0	1770	3362	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3504	0	1770	3426	0	1770	3468	0	1770	3362	0
Satd. Flow (RTOR)		8			32			17			84	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	192	532	0	36	407	0	54	509	0	40	250	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	39.0		15.0	29.0		15.0	31.0		15.0	31.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.6	29.9		8.5	17.6		9.1	43.4		8.6	40.3	
Actuated g/C Ratio	0.16	0.30		0.08	0.18		0.09	0.43		0.09	0.40	
v/c Ratio	0.70	0.51		0.24	0.65		0.34	0.34		0.26	0.18	
Control Delay	52.9	30.7		36.2	47.8		48.0	21.7		41.5	24.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.9	30.7		36.2	47.8		48.0	21.7		41.5	24.0	
LOS	D	C		D	D		D	C		D	C	
Approach Delay		36.6			46.9			24.2			26.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	117	157		23	134		33	114		25	56	
Queue Length 95th (ft)	183	191		m47	184		70	190		60	82	
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145			135		
Base Capacity (vph)	354	1200		177	846		182	1515		178	1404	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.54	0.44		0.20	0.48		0.30	0.34		0.22	0.18	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 33.9

Intersection LOS: C

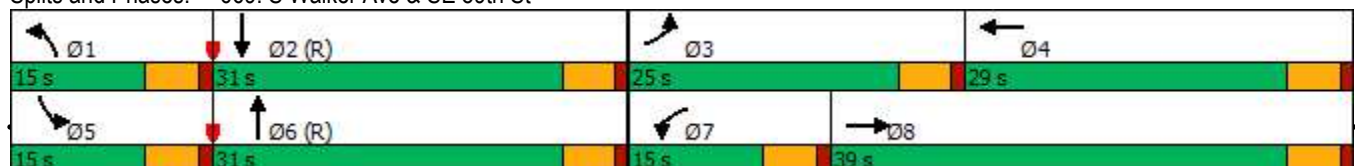
Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	609	1	3	582	147	3	5	3	137	5	105
Future Volume (vph)	188	609	1	3	582	147	3	5	3	137	5	105
Satd. Flow (prot)	1770	3539	0	1770	3433	0	1770	1758	0	0	1777	1583
Flt Permitted	0.950			0.950			0.659				0.728	
Satd. Flow (perm)	1770	3539	0	1770	3433	0	1228	1758	0	0	1356	1583
Satd. Flow (RTOR)					40			3				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	663	0	3	793	0	3	8	0	0	154	114
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		2
Total Split (s)	17.0	33.0		13.0	29.0		34.0	34.0		34.0	34.0	34.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)	11.6	36.4		5.7	22.1		31.3	31.3			31.3	31.3
Actuated g/C Ratio	0.14	0.46		0.07	0.28		0.39	0.39			0.39	0.39
v/c Ratio	0.80	0.41		0.02	0.81		0.01	0.01			0.29	0.17
Control Delay	57.2	15.9		34.7	32.8		16.3	13.9			19.7	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	57.2	15.9		34.7	32.8		16.3	13.9			19.7	4.4
LOS	E	B		C	C		B	B			B	A
Approach Delay		25.6			32.8			14.5			13.2	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	99	98		1	177		1	2			54	0
Queue Length 95th (ft)	#204	181		10	244		6	10			102	32
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	265	1612		177	1057		480	690			530	689
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.77	0.41		0.02	0.75		0.01	0.01			0.29	0.17

Intersection Summary

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 58.2%

ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 670: S Walker Ave & SW 104th St



Timings

751: Robinson & I-40 WB Off Ramp

07/13/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↱↱			↱↱
Traffic Volume (vph)	118	179	216	0	0	83
Future Volume (vph)	118	179	216	0	0	83
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Satd. Flow (RTOR)		195				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	195	235	0	0	90
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	31.0	31.0	29.0			29.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effect Green (s)	7.2	7.2	7.1			7.0
Actuated g/C Ratio	0.31	0.31	0.30			0.30
v/c Ratio	0.24	0.31	0.22			0.09
Control Delay	7.8	3.0	7.2			6.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	7.8	3.0	7.2			6.8
LOS	A	A	A			A
Approach Delay	4.9		7.2			6.8
Approach LOS	A		A			A
Queue Length 50th (ft)	10	0	10			3
Queue Length 95th (ft)	28	17	23			11
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1752	1569	3415			3415
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.07	0.12	0.07			0.03

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 23.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 6.0

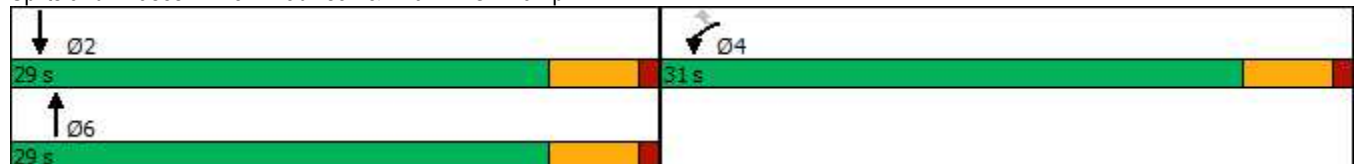
Intersection LOS: A

Intersection Capacity Utilization 25.4%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 751: Robinson & I-40 WB Off Ramp



Timings

3000: Robinson & OKC Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	121	36	27	569	136	131	206	43	31	27	15
Future Volume (vph)	22	121	36	27	569	136	131	206	43	31	27	15
Satd. Flow (prot)	1770	3419	0	1770	3437	0	1770	3447	0	1770	3352	0
Flt Permitted	0.201			0.644			0.614			0.585		
Satd. Flow (perm)	374	3419	0	1200	3437	0	1144	3447	0	1090	3352	0
Satd. Flow (RTOR)		39			41			31			16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	171	0	29	766	0	142	271	0	34	45	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	14.0	24.0		14.0	24.0		14.0	18.0		14.0	18.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	22.5	19.9		22.7	19.9		34.1	30.5		30.0	24.7	
Actuated g/C Ratio	0.32	0.28		0.32	0.28		0.49	0.44		0.43	0.35	
v/c Ratio	0.10	0.17		0.07	0.76		0.23	0.18		0.06	0.04	
Control Delay	12.6	14.4		12.2	26.9		12.9	15.3		12.7	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.6	14.4		12.2	26.9		12.9	15.3		12.7	16.2	
LOS	B	B		B	C		B	B		B	B	
Approach Delay		14.2			26.4			14.4			14.7	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	7	21		9	144		27	23		6	4	
Queue Length 95th (ft)	17	43		19	206		77	79		25	18	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	304	1027		476	1037		637	1518		584	1193	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.17		0.06	0.74		0.22	0.18		0.06	0.04	

Intersection Summary

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 20.8

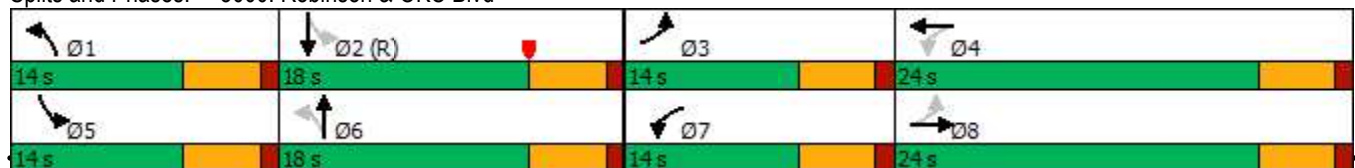
Intersection LOS: C

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd
























2040 AM Existing

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Traffic Volume (vph)	137	271	115	0	0	0	0	660	26	15	348	0
Future Volume (vph)	137	271	115	0	0	0	0	660	26	15	348	0
Satd. Flow (prot)	0	4854	0	0	0	0	0	3518	0	0	3532	0
Flt Permitted		0.987									0.917	
Satd. Flow (perm)	0	4854	0	0	0	0	0	3518	0	0	3245	0
Satd. Flow (RTOR)		69						8				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	569	0	0	0	0	0	745	0	0	394	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	31.0	31.0						69.0		45.0	45.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		26.0						64.0			64.0	
Actuated g/C Ratio		0.26						0.64			0.64	
v/c Ratio		0.43						0.33			0.19	
Control Delay		28.1						4.0			5.3	
Queue Delay		0.6						0.2			0.8	
Total Delay		28.7						4.2			6.1	
LOS		C						A			A	
Approach Delay		28.7						4.2			6.1	
Approach LOS		C						A			A	
Queue Length 50th (ft)		96						38			27	
Queue Length 95th (ft)		131						42			40	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1313						2254			2076	
Starvation Cap Reductn		0						0			1347	
Spillback Cap Reductn		378						692			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.61						0.48			0.54	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 12.8

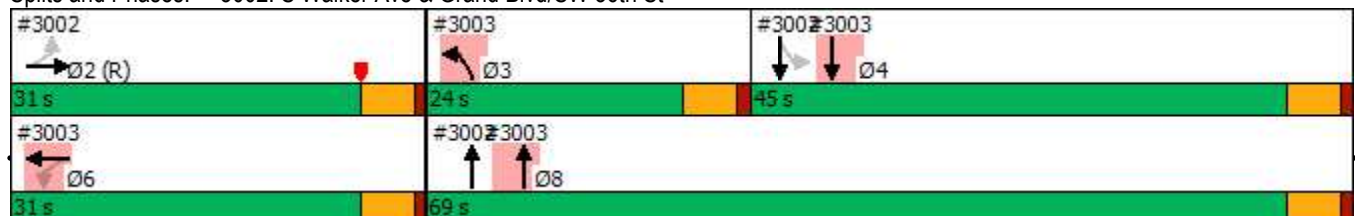
Intersection LOS: B

Intersection Capacity Utilization 39.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St



Timings

3002: S Walker Ave & Grand Blvd/SW 36th St





















07/13/2021

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	24.0	31.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/13/2021

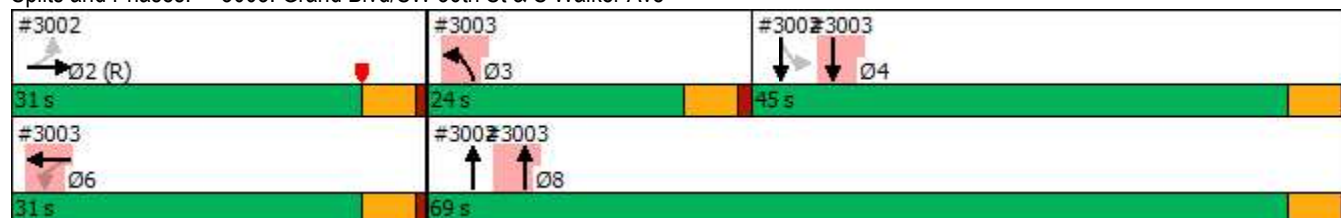
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  			 			  	
Traffic Volume (vph)	0	0	0	64	273	65	91	707	0	0	286	42
Future Volume (vph)	0	0	0	64	273	65	91	707	0	0	286	42
Satd. Flow (prot)	0	0	0	0	4924	0	0	3518	0	0	3472	0
Flt Permitted					0.992			0.846				
Satd. Flow (perm)	0	0	0	0	4924	0	0	2994	0	0	3472	0
Satd. Flow (RTOR)					39						19	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	438	0	0	867	0	0	357	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				31.0	31.0		24.0	69.0			45.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					26.0			64.0			64.0	
Actuated g/C Ratio					0.26			0.64			0.64	
v/c Ratio					0.33			1.13			0.16	
Control Delay					43.1			96.6			7.0	
Queue Delay					0.0			0.0			0.0	
Total Delay					43.1			96.6			7.0	
LOS					D			F			A	
Approach Delay					43.1			96.6			7.0	
Approach LOS					D			F			A	
Queue Length 50th (ft)					81			~332			41	
Queue Length 95th (ft)					118			#466			59	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1309			764			2228	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			4	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.33			1.13			0.16	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.13												
Intersection Signal Delay: 63.2						Intersection LOS: E						
Intersection Capacity Utilization 52.0%						ICU Level of Service A						
Analysis Period (min) 15												
~ Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/13/2021

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave







Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	31.0
Total Lost Time (s)	
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	25	58	38	11	28	7	9	118	14	25	110	9
Future Vol, veh/h	25	58	38	11	28	7	9	118	14	25	110	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	63	41	12	30	8	10	128	15	27	120	10
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.6	8.2	8.4	8.6
HCM LOS	A	A	A	A




















Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	13%	0%	21%	24%	31%	0%
Vol Thru, %	87%	81%	48%	61%	69%	86%
Vol Right, %	0%	19%	31%	15%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	73	121	46	80	64
LT Vol	9	0	25	11	25	0
Through Vol	59	59	58	28	55	55
RT Vol	0	14	38	7	0	9
Lane Flow Rate	74	79	132	50	87	70
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.106	0.11	0.168	0.067	0.127	0.097
Departure Headway (Hd)	5.186	4.984	4.599	4.804	5.271	5.015
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	718	780	745	680	714
Service Time	2.92	2.719	2.626	2.838	3.005	2.749
HCM Lane V/C Ratio	0.107	0.11	0.169	0.067	0.128	0.098
HCM Control Delay	8.5	8.3	8.6	8.2	8.8	8.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.6	0.2	0.4	0.3

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	51	17	7	15	28	15	847	16	9	618	7
Future Vol, veh/h	20	51	17	7	15	28	15	847	16	9	618	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	55	18	8	16	30	16	921	17	10	672	8
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1197	1666	340	1346	1662	469	680	0	0	938	0	0
Stage 1	696	696	-	962	962	-	-	-	-	-	-	-
Stage 2	501	970	-	384	700	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	141	96	656	110	96	541	908	-	-	726	-	-
Stage 1	398	441	-	275	332	-	-	-	-	-	-	-
Stage 2	521	330	-	611	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	90	656	52	90	541	908	-	-	726	-	-
Mov Cap-2 Maneuver	110	90	-	52	90	-	-	-	-	-	-	-
Stage 1	383	431	-	265	320	-	-	-	-	-	-	-
Stage 2	449	318	-	506	430	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	115.4		45.3			0.3			0.2			
HCM LOS	F		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	908	-	-	114	142	726	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.839	0.383	0.013	-	-				
HCM Control Delay (s)	9	0.2	-	115.4	45.3	10	0.1	-				
HCM Lane LOS	A	A	-	F	E	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	5	1.6	0	-	-				

Timings

97: N Council Rd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	48	19	58	25	65	14	663	46	41	924	9
Future Volume (vph)	36	48	19	58	25	65	14	663	46	41	924	9
Satd. Flow (prot)	0	1785	0	1770	1660	0	1770	3504	0	1770	3536	0
Flt Permitted		0.845		0.685			0.255			0.359		
Satd. Flow (perm)	0	1535	0	1276	1660	0	475	3504	0	669	3536	0
Satd. Flow (RTOR)		13			71			14			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	63	98	0	15	771	0	45	1014	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	31.0	31.0		31.0	31.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		8.8		8.7	8.7		21.3	21.3		21.3	21.3	
Actuated g/C Ratio		0.25		0.25	0.25		0.61	0.61		0.61	0.61	
v/c Ratio		0.28		0.20	0.21		0.05	0.36		0.11	0.47	
Control Delay		14.7		15.4	7.8		5.4	5.8		5.9	6.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		14.7		15.4	7.8		5.4	5.8		5.9	6.6	
LOS		B		B	A		A	A		A	A	
Approach Delay		14.7			10.8			5.8			6.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		16		10	4		1	42		4	61	
Queue Length 95th (ft)		57		39	34		8	83		17	120	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)				80			160			180		
Base Capacity (vph)		1134		940	1242		475	3504		669	3536	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.10		0.07	0.08		0.03	0.22		0.07	0.29	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 34.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 7.0

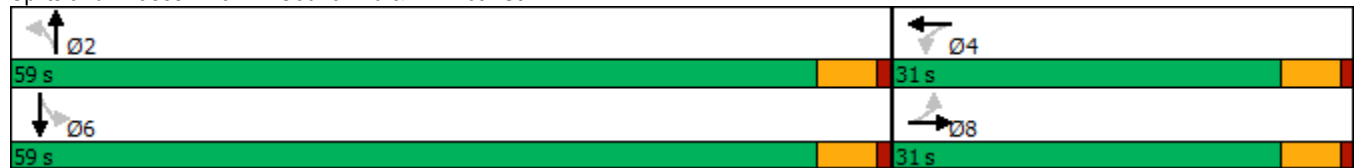
Intersection LOS: A

Intersection Capacity Utilization 54.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 97: N Council Rd & NW 16th St
























2040 AM Existing

Synchro 10 Report

Timings

295: N MacArthur Blvd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	135	81	49	109	65	44	507	33	80	728	46
Future Volume (vph)	89	135	81	49	109	65	44	507	33	80	728	46
Satd. Flow (prot)	1770	1758	0	1770	1758	0	1770	3507	0	1770	3507	0
Flt Permitted	0.582			0.477			0.950			0.950		
Satd. Flow (perm)	1084	1758	0	889	1758	0	1770	3507	0	1770	3507	0
Satd. Flow (RTOR)		40			40			8			8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	97	235	0	53	189	0	48	587	0	87	841	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	41.0	41.0		41.0	41.0		14.0	33.0		16.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	12.8	12.8		12.8	12.8		7.2	29.3		8.4	32.8	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.11	0.47		0.13	0.52	
v/c Ratio	0.44	0.61		0.29	0.49		0.24	0.36		0.37	0.46	
Control Delay	29.8	26.5		26.8	22.6		31.0	13.5		31.7	12.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.8	26.5		26.8	22.6		31.0	13.5		31.7	12.7	
LOS	C	C		C	C		C	B		C	B	
Approach Delay		27.5			23.5			14.8			14.5	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	34	70		18	52		18	76		32	114	
Queue Length 95th (ft)	77	138		48	108		50	142		76	204	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)	270			160			105			130		
Base Capacity (vph)	633	1043		519	1043		258	1636		315	1830	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.15	0.23		0.10	0.18		0.19	0.36		0.28	0.46	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 62.9

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 17.6

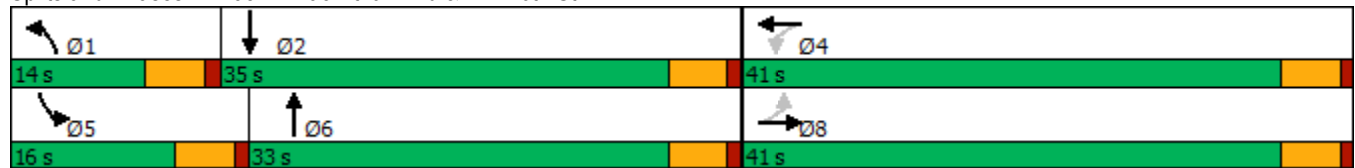
Intersection LOS: B

Intersection Capacity Utilization 60.3%

ICU Level of Service B

Analysis Period (min) 15





















Splits and Phases: 295: N MacArthur Blvd & NW 16th St



Timings

377: N Meridian Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	157	126	27	120	67	146	442	47	63	644	100
Future Volume (vph)	118	157	126	27	120	67	146	442	47	63	644	100
Satd. Flow (prot)	0	1824	1583	0	1774	0	1770	3490	0	1770	3468	0
Flt Permitted		0.694			0.931		0.309			0.446		
Satd. Flow (perm)	0	1293	1583	0	1661	0	576	3490	0	831	3468	0
Satd. Flow (RTOR)			137		31			18			27	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	299	137	0	232	0	159	531	0	68	809	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	41.0	41.0	41.0	41.0	41.0		49.0	49.0		49.0	49.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		21.5	21.5		21.5		44.4	44.4		44.4	44.4	
Actuated g/C Ratio		0.28	0.28		0.28		0.58	0.58		0.58	0.58	
v/c Ratio		0.82	0.25		0.47		0.47	0.26		0.14	0.40	
Control Delay		43.1	4.8		21.9		17.6	9.0		10.4	10.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		43.1	4.8		21.9		17.6	9.0		10.4	10.1	
LOS		D	A		C		B	A		B	B	
Approach Delay		31.1			21.9			11.0			10.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		130	0		76		38	54		13	92	
Queue Length 95th (ft)		218	35		135		126	115		44	185	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		617	827		809		336	2044		485	2035	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.48	0.17		0.29		0.47	0.26		0.14	0.40	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 76

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 15.7

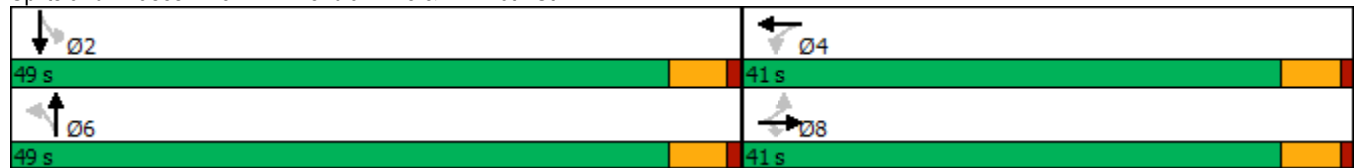
Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 377: N Meridian Ave & NW 16th St
























2040 AM Existing

Synchro 10 Report

Timings

544: N Rockwell Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	117	105	63	79	84	37	460	42	91	771	69
Future Volume (vph)	105	117	105	63	79	84	37	460	42	91	771	69
Satd. Flow (prot)	1770	1730	0	1770	1719	0	1770	3493	0	1770	3497	0
Flt Permitted	0.646			0.540			0.950			0.950		
Satd. Flow (perm)	1203	1730	0	1006	1719	0	1770	3493	0	1770	3497	0
Satd. Flow (RTOR)		50			60			12			13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	241	0	68	177	0	40	546	0	99	913	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	31.0	31.0		31.0	31.0		15.0	40.0		19.0	44.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	13.1	13.1		13.1	13.1		7.5	17.5		9.3	24.4	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.14	0.33		0.18	0.46	
v/c Ratio	0.38	0.52		0.27	0.38		0.16	0.47		0.32	0.56	
Control Delay	24.7	20.7		23.4	16.6		28.4	16.4		27.1	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.7	20.7		23.4	16.6		28.4	16.4		27.1	13.2	
LOS	C	C		C	B		C	B		C	B	
Approach Delay		22.0			18.5			17.2			14.6	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	27	46		16	27		10	68		25	71	
Queue Length 95th (ft)	93	148		62	100		47	143		89	237	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)	115			80			155			200		
Base Capacity (vph)	666	981		557	979		377	2470		528	2675	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.25		0.12	0.18		0.11	0.22		0.19	0.34	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 52.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 16.9

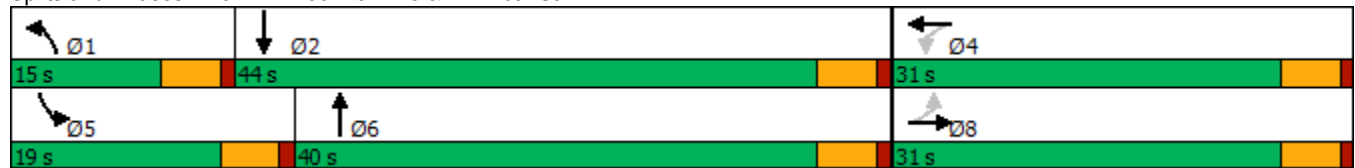
Intersection LOS: B

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 544: N Rockwell Ave & NW 16th St



















2040 AM Existing

Synchro 10 Report





Timings

999: NW 19th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	48.0	48.0		48.0	48.0		42.0	42.0		42.0	42.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 57												
Control Type: Semi Act-Uncoord												
Maximum v/c Ratio: 0.00												
Intersection Signal Delay: 0.0						Intersection LOS: A						
Intersection Capacity Utilization 0.0%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 999: NW 19th St

	
42 s	48 s
	
42 s	48 s







2040 AM Existing

Synchro 10 Report

HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

07/13/2021

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	221	37	7	97	0	12	5	5	20	15	12
Future Vol, veh/h	7	221	37	7	97	0	12	5	5	20	15	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	240	40	8	105	0	13	5	5	22	16	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.1	8.5	8.1	8.2
HCM LOS	B	A	A	A







Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	55%	100%	0%	100%	0%	43%
Vol Thru, %	23%	0%	86%	0%	100%	32%
Vol Right, %	23%	0%	14%	0%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	7	258	7	97	47
LT Vol	12	7	0	7	0	20
Through Vol	5	0	221	0	97	15
RT Vol	5	0	37	0	0	12
Lane Flow Rate	24	8	280	8	105	51
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.033	0.011	0.368	0.012	0.145	0.069
Departure Headway (Hd)	4.935	5.332	4.729	5.448	4.946	4.856
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	726	675	766	659	726	738
Service Time	2.962	3.032	2.429	3.167	2.664	2.881
HCM Lane V/C Ratio	0.033	0.012	0.366	0.012	0.145	0.069
HCM Control Delay	8.1	8.1	10.2	8.2	8.5	8.2
HCM Lane LOS	A	A	B	A	A	A
HCM 95th-tile Q	0.1	0	1.7	0	0.5	0.2

HCM 6th AWSC
1005: NE Grand Blvd NB & NE 16th St

07/13/2021

Intersection

Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	174	15	4	58	4	46	137	14	4	10	11
Future Vol, veh/h	57	174	15	4	58	4	46	137	14	4	10	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	189	16	4	63	4	50	149	15	4	11	12
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.8	8.7	9.8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	23%	100%	0%	100%	0%	16%
Vol Thru, %	70%	0%	92%	0%	94%	40%
Vol Right, %	7%	0%	8%	0%	6%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	57	189	4	62	25
LT Vol	46	57	0	4	0	4
Through Vol	137	0	174	0	58	10
RT Vol	14	0	15	0	4	11
Lane Flow Rate	214	62	205	4	67	27
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.286	0.098	0.294	0.007	0.1	0.036
Departure Headway (Hd)	4.815	5.706	5.147	5.918	5.368	4.83
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	745	627	696	602	664	737
Service Time	2.851	3.452	2.893	3.676	3.126	2.885
HCM Lane V/C Ratio	0.287	0.099	0.295	0.007	0.101	0.037
HCM Control Delay	9.8	9.1	10	8.7	8.7	8.1
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	1.2	0.3	1.2	0	0.3	0.1

HCM 6th TWSC
1002: N Lincoln Blvd SB & NE 16th St

07/13/2021

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱↱		
Traffic Vol, veh/h	0	17	5	5	4	0	0	0	0	0	1214	11
Future Vol, veh/h	0	17	5	5	4	0	0	0	0	0	1214	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	5	5	4	0	0	0	0	0	1320	12
Major/Minor	Minor2		Minor1				Major2					
Conflicting Flow All	-	1326	666	537	1332	-	0		0	0		
Stage 1	-	1326	-	0	0	-	-		-	-		
Stage 2	-	0	-	537	1332	-	-		-	-		
Critical Hdwy	-	6.54	7.14	6.44	6.54	-	5.34		-	-		
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-		-	-		
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-	-		-	-		
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-	3.12		-	-		
Pot Cap-1 Maneuver	0	154	345	473	153	0	-		-	-		
Stage 1	0	223	-	-	-	0	-		-	-		
Stage 2	0	-	-	452	222	0	-		-	-		
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	-	154	345	423	153	-	-		-	-		
Mov Cap-2 Maneuver	-	154	-	423	153	-	-		-	-		
Stage 1	-	223	-	-	-	-	-		-	-		
Stage 2	-	-	-	408	222	-	-		-	-		
Approach	EB		WB				SB					
HCM Control Delay, s	28.6		20.8				0					
HCM LOS	D		C									
Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR							
Capacity (veh/h)	176 237		-	-	-							
HCM Lane V/C Ratio	0.136 0.041		-	-	-							
HCM Control Delay (s)	28.6 20.8		0	-	-							
HCM Lane LOS	D C		A	-	-							
HCM 95th %tile Q(veh)	0.5 0.1		-	-	-							

HCM 6th TWSC
1003: N Lincoln Blvd NB & NE 16th St

07/13/2021

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	17	2	0	0	6	1	1	1567	2	0	0	0
Future Vol, veh/h	17	2	0	0	6	1	1	1567	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	2	0	0	7	1	1	1703	2	0	0	0

Major/Minor	Minor2		Minor1		Major1						
Conflicting Flow All	687	1707	-	-	1706	853	0	0	0		
Stage 1	0	0	-	-	1706	-	-	-	-		
Stage 2	687	1707	-	-	0	-	-	-	-		
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-		
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-		
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-		
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-		
Pot Cap-1 Maneuver	388	90	0	0	90	260	-	-	-		
Stage 1	-	-	0	0	145	-	-	-	-		
Stage 2	367	145	0	0	-	-	-	-	-		
Platoon blocked, %								-	-		
Mov Cap-1 Maneuver	365	90	-	-	90	260	-	-	-		
Mov Cap-2 Maneuver	365	90	-	-	90	-	-	-	-		
Stage 1	-	-	-	-	145	-	-	-	-		
Stage 2	349	145	-	-	-	-	-	-	-		

Approach	EB		WB		NB		
HCM Control Delay, s	19.1		44.4				
HCM LOS	C		E				

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	
Capacity (veh/h)	-	-	-	276	99
HCM Lane V/C Ratio	-	-	-	0.075	0.077
HCM Control Delay (s)	-	-	-	19.1	44.4
HCM Lane LOS	-	-	-	C	E
HCM 95th %tile Q(veh)	-	-	-	0.2	0.2

Timings

282: N Lottie Ave & NE 16th St

07/13/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↕		↕	↕			↕			↕	
Traffic Volume (vph)	2	68	16	42	32	90	9	455	111	91	227	17
Future Volume (vph)	2	68	16	42	32	90	9	455	111	91	227	17
Satd. Flow (prot)	0	1814	0	1770	1656	0	0	3433	0	0	3469	0
Flt Permitted		0.994		0.779				0.949			0.711	
Satd. Flow (perm)	0	1805	0	1451	1656	0	0	3261	0	0	2499	0
Satd. Flow (RTOR)		15			98			47			8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	46	133	0	0	626	0	0	364	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	40.0	40.0		40.0	40.0		50.0	50.0		50.0	50.0	
Total Lost Time (s)		5.0		5.0	5.0			5.0			5.0	
Act Effect Green (s)		16.0		16.0	16.0			49.4			49.4	
Actuated g/C Ratio		0.23		0.23	0.23			0.71			0.71	
v/c Ratio		0.22		0.14	0.29			0.27			0.21	
Control Delay		21.0		23.4	10.4			5.2			5.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		21.0		23.4	10.4			5.2			5.3	
LOS		C		C	B			A			A	
Approach Delay		21.0			13.7			5.2			5.3	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		28		16	12			51			30	
Queue Length 95th (ft)		64		42	53			75			47	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)				105								
Base Capacity (vph)		913		728	880			2319			1769	
Starvation Cap Reductn		0		0	0			0			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.10		0.06	0.15			0.27			0.21	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 69.8

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 7.6

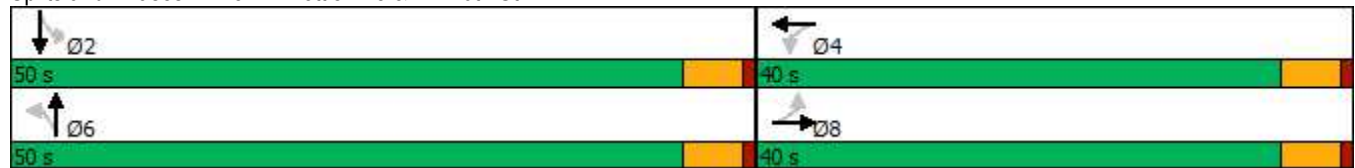
Intersection LOS: A

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 282: N Lottie Ave & NE 16th St
























2040 PM Existing

Synchro 10 Report

Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	106	111	16	46	43	57	844	36	56	803	91
Future Volume (vph)	125	106	111	16	46	43	57	844	36	56	803	91
Satd. Flow (prot)	1770	1863	1583	0	1746	0	1770	3518	0	1770	3486	0
Flt Permitted	0.586				0.951		0.203			0.203		
Satd. Flow (perm)	1092	1863	1583	0	1672	0	378	3518	0	378	3486	0
Satd. Flow (RTOR)			145		39			4			12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	115	121	0	114	0	62	956	0	61	972	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	22.0	52.0	30.0	30.0	30.0		14.0	24.0		14.0	24.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	25.3	27.6	16.6		16.6		24.1	19.7		24.1	19.7	
Actuated g/C Ratio	0.39	0.43	0.26		0.26		0.37	0.30		0.37	0.30	
v/c Ratio	0.26	0.14	0.24		0.25		0.19	0.89		0.19	0.91	
Control Delay	14.0	13.0	4.9		18.4		14.1	37.6		14.1	39.4	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	14.0	13.0	4.9		18.4		14.1	37.6		14.1	39.4	
LOS	B	B	A		B		B	D		B	D	
Approach Delay		10.7			18.4			36.2			37.9	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	37	31	0		27		15	~232		15	~250	
Queue Length 95th (ft)	71	61	30		72		38	#386		37	#395	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	655	1389	722		694		344	1076		344	1071	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.21	0.08	0.17		0.16		0.18	0.89		0.18	0.91	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 64.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15








~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St

			
Ø1	Ø2	Ø3	Ø4
14 s	24 s	22 s	30 s
			
Ø5	Ø6	Ø8	
14 s	24 s	52 s	

HCM 6th TWSC
2002: N Classen Blvd & W Wilshire Blvd

07/13/2021

Intersection

Int Delay, s/veh 7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	↑
Traffic Vol, veh/h	518	17	120	581	88	307
Future Vol, veh/h	518	17	120	581	88	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	563	18	130	632	96	334







Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	581
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	989
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	989
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	25
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	153	706	-	-	989	-
HCM Lane V/C Ratio	0.625	0.473	-	-	0.132	-
HCM Control Delay (s)	61.4	14.6	-	-	9.2	0.7
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	3.4	2.5	-	-	0.5	-

HCM 6th TWSC
2003: W Wilshire Blvd & N Classen Blvd

07/13/2021

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Vol, veh/h	75	735	669	68	46	47
Future Vol, veh/h	75	735	669	68	46	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	799	727	74	50	51
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	801	0	-	0	1328	401
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	564	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	818	-	-	-	146	599
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	533	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	818	-	-	-	120	599
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	533	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.6	0		33		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	818	-	-	-	120	599
HCM Lane V/C Ratio	0.1	-	-	-	0.417	0.085
HCM Control Delay (s)	9.9	0.7	-	-	54.9	11.6
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.8	0.3

Timings

78: N Classen Blvd & Chesapeake Dr

07/13/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	
Traffic Volume (vph)	15	19	36	313	144	14
Future Volume (vph)	15	19	36	313	144	14
Satd. Flow (prot)	1683	0	1770	3539	3493	0
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1683	0	1770	3539	3493	0
Satd. Flow (RTOR)	21				8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	39	340	172	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		34.0	83.0	49.0	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.9		7.5	83.3	75.3	
Actuated g/C Ratio	0.07		0.08	0.89	0.81	
v/c Ratio	0.26		0.27	0.11	0.06	
Control Delay	29.1		45.3	1.4	4.1	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	29.1		45.3	1.4	4.1	
LOS	C		D	A	A	
Approach Delay	29.1			5.9	4.1	
Approach LOS	C			A	A	
Queue Length 50th (ft)	9		22	14	14	
Queue Length 95th (ft)	40		55	25	28	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	770		551	3151	2815	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.05		0.07	0.11	0.06	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 93.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 6.8

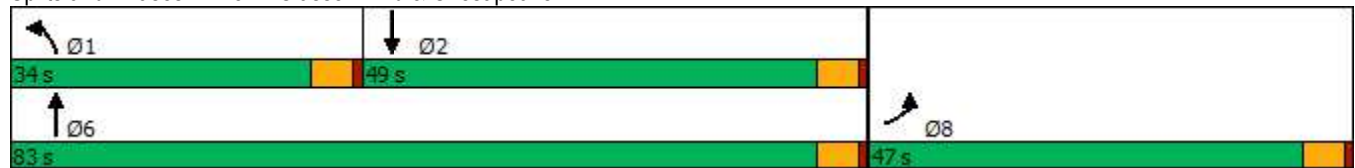
Intersection LOS: A

Intersection Capacity Utilization 28.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 78: N Classen Blvd & Chesapeake Dr























2040 PM Existing

Synchro 10 Report

Timings

79: N Classen Blvd & NW 63rd St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	742	11	19	810	85	75	163	122	64	70	167
Future Volume (vph)	132	742	11	19	810	85	75	163	122	64	70	167
Satd. Flow (prot)	1770	3532	0	1770	3490	0	1770	3313	0	1770	3164	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3532	0	1770	3490	0	1770	3313	0	1770	3164	0
Satd. Flow (RTOR)		1			9			133			182	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	819	0	21	972	0	82	310	0	70	258	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	50.0		20.0	50.0		20.0	35.0		20.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	23.3	62.0		8.2	41.7		11.4	30.0		15.0	33.6	
Actuated g/C Ratio	0.18	0.48		0.06	0.32		0.09	0.23		0.12	0.26	
v/c Ratio	0.45	0.49		0.19	0.86		0.53	0.36		0.34	0.27	
Control Delay	54.3	25.4		61.7	49.7		68.7	24.7		58.2	13.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.3	25.4		61.7	49.7		68.7	24.7		58.2	13.1	
LOS	D	C		E	D		E	C		E	B	
Approach Delay		29.7			50.0			33.9			22.8	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	110	261		17	394		67	64		55	25	
Queue Length 95th (ft)	183	328		45	471		119	107		104	63	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	316	1684		204	1213		204	866		204	953	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.49		0.10	0.80		0.40	0.36		0.34	0.27	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 114 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 37.0

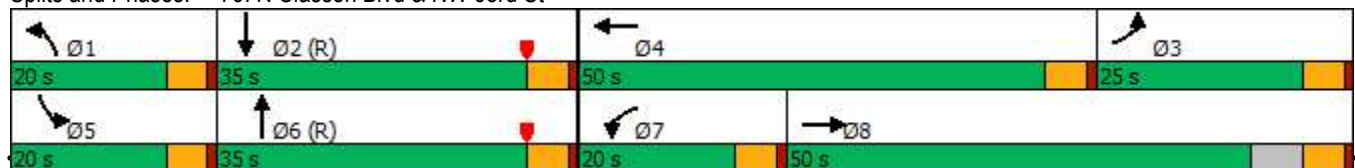
Intersection LOS: D

Intersection Capacity Utilization 69.1%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St























2040 PM Existing

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	520	52	41	347	84	85	436	12	14	276	175
Future Volume (vph)	342	520	52	41	347	84	85	436	12	14	276	175
Satd. Flow (prot)	1770	3490	0	1770	3437	0	1770	3525	0	1770	3334	0
Flt Permitted	0.950			0.950			0.316			0.447		
Satd. Flow (perm)	1770	3490	0	1770	3437	0	589	3525	0	833	3334	0
Satd. Flow (RTOR)		11			20			2			100	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	372	622	0	45	468	0	92	487	0	15	490	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	49.0	66.0		14.0	31.0		16.0	36.0		14.0	34.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	27.4	43.9		7.9	19.2		41.8	38.0		35.8	31.0	
Actuated g/C Ratio	0.27	0.43		0.08	0.19		0.41	0.37		0.35	0.30	
v/c Ratio	0.79	0.41		0.33	0.71		0.27	0.37		0.04	0.45	
Control Delay	48.5	22.0		57.1	45.1		24.3	28.1		23.4	27.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.5	22.0		57.1	45.1		24.3	28.1		23.4	27.5	
LOS	D	C		E	D		C	C		C	C	
Approach Delay		31.9			46.1			27.5			27.4	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	229	160		29	147		36	110		6	110	
Queue Length 95th (ft)	372	217		76	235		90	233		23	206	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	794	2168		169	933		377	1308		400	1079	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.29		0.27	0.50		0.24	0.37		0.04	0.45	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 102.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 32.9

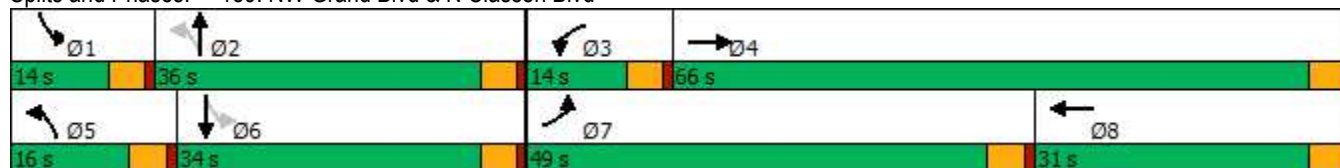
Intersection LOS: C

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 159: NW Grand Blvd & N Classen Blvd



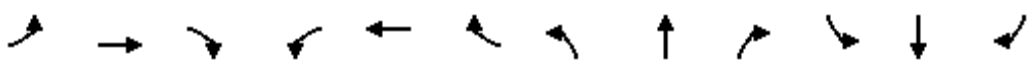
2040 PM Existing

Synchro 10 Report

Timings

2001: N Western Ave & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	175	36	196	196	60	95	1180	84	6	722	199
Future Volume (vph)	321	175	36	196	196	60	95	1180	84	6	722	199
Satd. Flow (prot)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Satd. Flow (RTOR)		17			26			6				216
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	349	229	0	213	278	0	103	1374	0	7	785	216
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	38.0	36.0		25.0	23.0		19.0	54.0		15.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	27.2	23.3		17.9	14.0		11.6	60.0		6.1	46.0	46.0
Actuated g/C Ratio	0.23	0.20		0.15	0.12		0.10	0.51		0.05	0.39	0.39
v/c Ratio	0.85	0.33		0.79	0.65		0.59	0.76		0.08	0.56	0.29
Control Delay	62.9	38.5		69.8	52.8		66.4	28.3		59.5	31.5	4.8
Queue Delay	0.2	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.1	38.5		69.8	52.8		66.4	28.3		59.5	31.5	4.8
LOS	E	D		E	D		E	C		E	C	A
Approach Delay		53.4			60.2			31.0			25.9	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	254	74		156	98		76	415		5	247	0
Queue Length 95th (ft)	#395	114		#290	153		145	#748		22	359	54
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	512	950		313	568		221	1801		160	1391	753
Starvation Cap Reductn	10	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.70	0.24		0.68	0.49		0.47	0.76		0.04	0.56	0.29

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 116.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 37.2

Intersection LOS: D

Intersection Capacity Utilization 79.6%

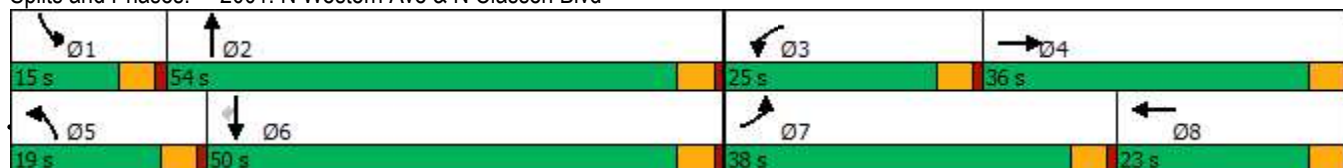
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2001: N Western Ave & N Classen Blvd



HCM 6th TWSC
3001: S Santa Fe & SW 98th St/NW 34th St




















07/13/2021

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↔			↕↔	
Traffic Vol, veh/h	2	1	2	10	4	2	2	513	15	7	1082	7
Future Vol, veh/h	2	1	2	10	4	2	2	513	15	7	1082	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	2	11	4	2	2	558	16	8	1176	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1481	1774	592	1175	1770	287	1184	0	0	574	0	0
Stage 1	1196	1196	-	570	570	-	-	-	-	-	-	-
Stage 2	285	578	-	605	1200	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	87	82	449	147	82	710	586	-	-	995	-	-
Stage 1	198	258	-	474	504	-	-	-	-	-	-	-
Stage 2	698	499	-	451	256	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	80	449	142	80	710	586	-	-	995	-	-
Mov Cap-2 Maneuver	81	80	-	142	80	-	-	-	-	-	-	-
Stage 1	197	252	-	472	501	-	-	-	-	-	-	-
Stage 2	686	497	-	436	250	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	36.4		36.9		0		0.2					
HCM LOS	E		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	586	-	-	120	130	995	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.045	0.134	0.008	-	-				
HCM Control Delay (s)	11.2	0	-	36.4	36.9	8.6	0.1	-				
HCM Lane LOS	B	A	-	E	E	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-				

Timings

527: Robinson & Reno

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	445	60	33	275	39	32	80	37	106	362	80
Future Volume (vph)	30	445	60	33	275	39	32	80	37	106	362	80
Satd. Flow (prot)	1770	3476	0	1770	3476	0	0	3371	0	1770	3444	0
Flt Permitted	0.420			0.209				0.809		0.649		
Satd. Flow (perm)	782	3476	0	389	3476	0	0	2757	0	1209	3444	0
Satd. Flow (RTOR)		12			11			40			33	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	549	0	36	341	0	0	162	0	115	480	0
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		D.P+P	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	4			8			6			6		
Total Split (s)	25.0	40.0		12.0	27.0		56.0	56.0		12.0	68.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effect Green (s)	28.9	24.7		28.9	24.2			64.5		73.1	78.1	
Actuated g/C Ratio	0.24	0.21		0.24	0.20			0.54		0.61	0.65	
v/c Ratio	0.13	0.76		0.21	0.48			0.11		0.15	0.21	
Control Delay	29.7	50.5		31.6	42.7			17.4		10.5	9.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	29.7	50.5		31.6	42.7			17.4		10.5	9.5	
LOS	C	D		C	D			B		B	A	
Approach Delay		49.3			41.6			17.4			9.7	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	18	207		20	119			28		35	76	
Queue Length 95th (ft)	40	253		42	158			44		70	119	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			100						75		
Base Capacity (vph)	375	1022		174	730			1500		778	2251	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.09	0.54		0.21	0.47			0.11		0.15	0.21	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 105 (88%), Referenced to phase 2:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 30.9

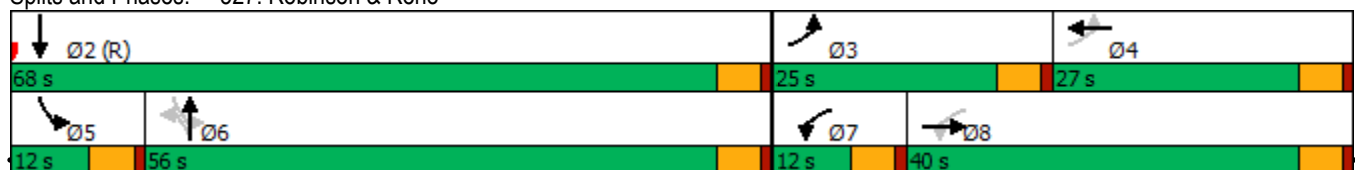
Intersection LOS: C

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 527: Robinson & Reno



















2040 PM Existing

Synchro 10 Report

Timings

535: S Robinson Ave & SW 25th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	195	42	17	135	41	21	194	23	32	808	85
Future Volume (vph)	43	195	42	17	135	41	21	194	23	32	808	85
Satd. Flow (prot)	0	1811	0	0	1801	0	0	3476	0	0	3483	0
Flt Permitted		0.924			0.958			0.853			0.937	
Satd. Flow (perm)	0	1687	0	0	1733	0	0	2977	0	0	3270	0
Satd. Flow (RTOR)		16			25			23			21	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	305	0	0	210	0	0	259	0	0	1005	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	31.0	31.0		31.0	31.0		34.0	34.0		34.0	34.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		17.4			17.4			22.4			22.4	
Actuated g/C Ratio		0.35			0.35			0.45			0.45	
v/c Ratio		0.51			0.34			0.19			0.68	
Control Delay		16.9			13.5			7.9			13.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.9			13.5			7.9			13.4	
LOS		B			B			A			B	
Approach Delay		16.9			13.5			7.9			13.4	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		65			39			18			103	
Queue Length 95th (ft)		145			94			43			192	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		900			929			1766			1938	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.23			0.15			0.52	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 13.2

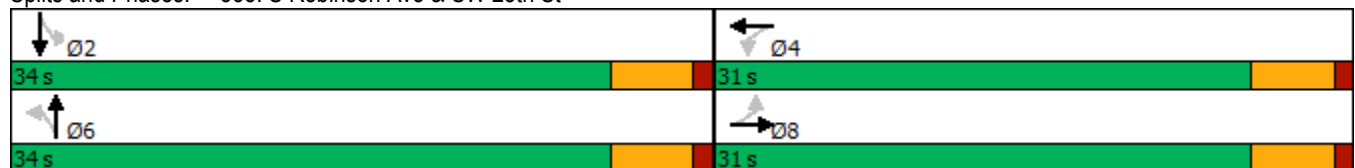
Intersection LOS: B

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15





















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	426	42	47	385	54	22	142	41	180	501	146
Future Volume (vph)	35	426	42	47	385	54	22	142	41	180	501	146
Satd. Flow (prot)	1770	3490	0	1770	3472	0	1770	1799	0	1770	1799	0
Flt Permitted	0.950			0.950			0.231			0.616		
Satd. Flow (perm)	1770	3490	0	1770	3472	0	430	1799	0	1147	1799	0
Satd. Flow (RTOR)		7			11			19			19	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	509	0	51	477	0	24	199	0	196	704	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	14.0	35.0		15.0	36.0		80.0	80.0		80.0	80.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	7.7	33.6		8.5	34.4		75.0	75.0		75.0	75.0	
Actuated g/C Ratio	0.06	0.26		0.07	0.26		0.58	0.58		0.58	0.58	
v/c Ratio	0.36	0.56		0.44	0.52		0.10	0.19		0.30	0.67	
Control Delay	68.0	45.0		70.1	43.1		13.7	12.3		15.6	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.0	45.0		70.1	43.1		13.7	12.3		15.6	22.5	
LOS	E	D		E	D		B	B		B	C	
Approach Delay		46.6			45.7			12.4			21.0	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)	31	200		42	181		9	68		81	382	
Queue Length 95th (ft)	69	263		86	241		23	109		129	524	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50			75		
Base Capacity (vph)	122	908		136	925		248	1045		661	1045	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.31	0.56		0.38	0.52		0.10	0.19		0.30	0.67	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 536: S Robinson Ave & SW 29th St



















2040 PM Existing

Synchro 10 Report

Timings

537: SW Grand Blvd & S Robinson Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	30	260	19	43	196	0	0	536	64
Future Volume (vph)	0	0	0	30	260	19	43	196	0	0	536	64
Satd. Flow (prot)	0	0	0	0	5014	0	1770	1863	0	0	1837	0
Flt Permitted					0.995		0.950					
Satd. Flow (perm)	0	0	0	0	5014	0	1770	1863	0	0	1837	0
Satd. Flow (RTOR)					14						7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	337	0	47	213	0	0	653	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8				4
Permitted Phases				6								
Total Split (s)				27.0	27.0		26.0	48.0			22.0	
Total Lost Time (s)					5.0		5.0	5.0			5.0	
Act Effect Green (s)					22.0		8.5	43.0			34.7	
Actuated g/C Ratio					0.29		0.11	0.57			0.46	
v/c Ratio					0.23		0.24	0.20			0.76	
Control Delay					19.7		27.9	6.3			27.0	
Queue Delay					0.0		0.1	1.7			0.0	
Total Delay					19.7		27.9	8.0			27.0	
LOS					B		C	A			C	
Approach Delay					19.7			11.6			27.0	
Approach LOS					B			B			C	
Queue Length 50th (ft)					41		16	29			271	
Queue Length 95th (ft)					63		37	47			#499	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1480		495	1068			854	
Starvation Cap Reductn					0		98	692			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.23		0.12	0.57			0.76	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.9

Intersection LOS: C

Intersection Capacity Utilization 66.4%

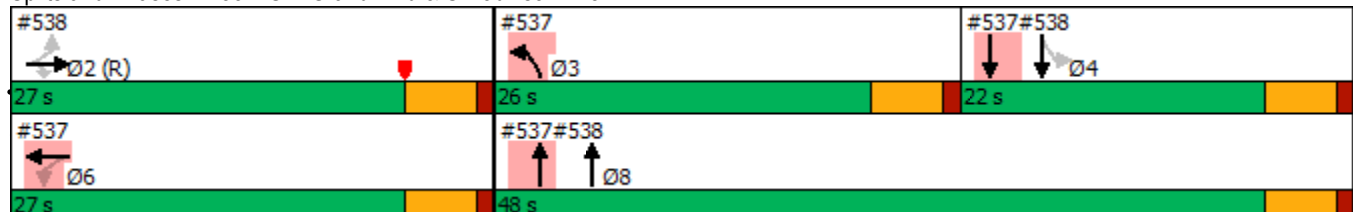
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave



Timings

537: SW Grand Blvd & S Robinson Ave


















07/13/2021

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	27.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	160	37	0	0	0	0	159	19	0	0	0
Future Volume (vph)	37	160	37	0	0	0	0	159	19	0	0	0
Satd. Flow (prot)	0	3507	1583	0	0	0	0	1835	0	1863	1863	0
Flt Permitted		0.991										
Satd. Flow (perm)	0	3507	1583	0	0	0	0	1835	0	1863	1863	0
Satd. Flow (RTOR)			102					14				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	40	0	0	0	0	194	0	0	0	0
Turn Type	Perm	NA	Perm					NA		Perm		
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	27.0	27.0	27.0					48.0		22.0	22.0	
Total Lost Time (s)		5.0	5.0					5.0		5.0	5.0	
Act Effect Green (s)		22.0	22.0					43.0				
Actuated g/C Ratio		0.29	0.29					0.57				
v/c Ratio		0.21	0.07					0.18				
Control Delay		17.6	6.4					7.6				
Queue Delay		0.0	0.0					0.0				
Total Delay		17.6	6.4					7.6				
LOS		B	A					A				
Approach Delay		15.8						7.6				
Approach LOS		B						A				
Queue Length 50th (ft)		47	0					36				
Queue Length 95th (ft)		80	m4					66				
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1028	536					1058				
Starvation Cap Reductn		0	0					0				
Spillback Cap Reductn		0	0					3				
Storage Cap Reductn		0	0					0				
Reduced v/c Ratio		0.21	0.07					0.18				

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 12.3

Intersection LOS: B

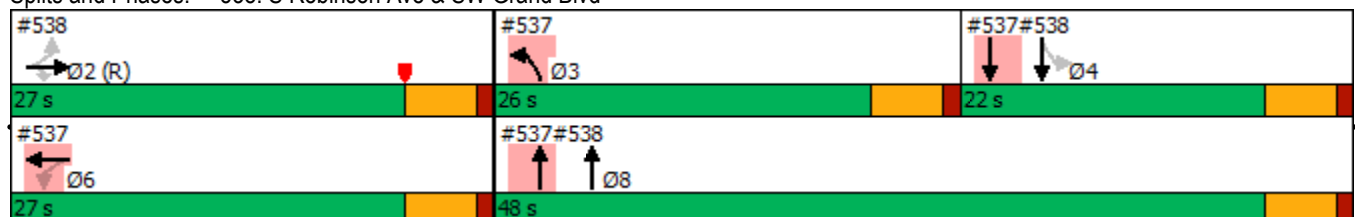
Intersection Capacity Utilization 66.4%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd



Timings

538: S Robinson Ave & SW Grand Blvd


















07/13/2021

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	26.0	27.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	599	266	0	0	0	0	705	134	199	854	0
Future Volume (vph)	153	599	266	0	0	0	0	705	134	199	854	0
Satd. Flow (prot)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Satd. Flow (RTOR)		43						25				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	149	957	0	0	0	0	0	912	0	216	928	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								24.0		72.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	29.0	29.0						19.0		66.0	90.0	
Actuated g/C Ratio	0.22	0.22						0.15		0.51	0.69	
v/c Ratio	0.42	1.27						1.22		0.24	0.38	
Control Delay	55.0	176.0						157.2		10.2	0.4	
Queue Delay	0.0	0.0						1.1		5.4	13.2	
Total Delay	55.0	176.0						158.4		15.5	13.7	
LOS	E	F						F		B	B	
Approach Delay		159.7						158.4			14.0	
Approach LOS		F						F			B	
Queue Length 50th (ft)	135	~553						~346		37	3	
Queue Length 95th (ft)	207	#684						#438		m30	m2	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	359	754						746		898	2450	
Starvation Cap Reductn	0	0						0		612	1510	
Spillback Cap Reductn	0	0						120		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.42	1.27						1.46		0.76	0.99	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 106.6

Intersection LOS: F

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

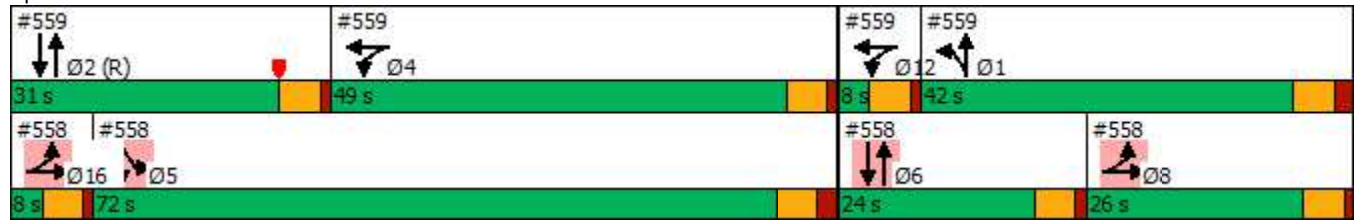
m Volume for 95th percentile queue is metered by upstream signal.

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd










Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	42.0	31.0	49.0	26.0	8.0	8.0
Total Lost Time (s)						
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1437	697	82	415	443	0	0	745	303
Future Volume (vph)	0	0	0	1437	697	82	415	443	0	0	745	303
Satd. Flow (prot)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Flt Permitted				0.950	0.977		0.950					
Satd. Flow (perm)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Satd. Flow (RTOR)					5						70	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	797	1612	0	451	482	0	0	1139	0
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases												
Total Split (s)							42.0				31.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)				52.0	52.0		36.0	67.0			26.0	
Actuated g/C Ratio				0.40	0.40		0.28	0.52			0.20	
v/c Ratio				1.24	1.22		0.92	0.26			1.11	
Control Delay				154.6	142.7		16.8	2.8			93.1	
Queue Delay				0.0	0.0		50.8	8.7			0.0	
Total Delay				154.6	142.7		67.6	11.4			93.1	
LOS				F	F		E	B			F	
Approach Delay					146.6			38.6			93.1	
Approach LOS					F			D			F	
Queue Length 50th (ft)				~914	~919		363	3			~376	
Queue Length 95th (ft)				#1183	#1068		m305	m2			m#473	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)				644	1317		490	1823			1029	
Starvation Cap Reductn				0	0		210	1295			0	
Spillback Cap Reductn				0	0		0	0			0	
Storage Cap Reductn				0	0		0	0			0	
Reduced v/c Ratio				1.24	1.22		1.61	0.91			1.11	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.27

Intersection Signal Delay: 110.5

Intersection LOS: F

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

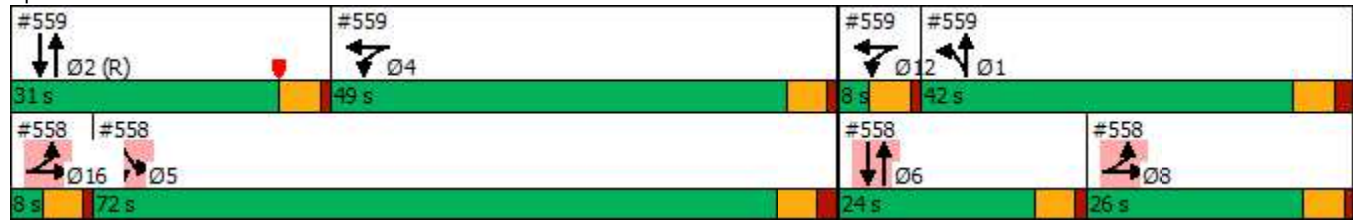
m Volume for 95th percentile queue is metered by upstream signal.

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd



















Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	49.0	72.0	24.0	26.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1	18	9	0	14	13	493	8	22	1114	20
Future Volume (vph)	6	1	18	9	0	14	13	493	8	22	1114	20
Satd. Flow (prot)	0	1664	0	0	1678	0	0	3529	0	0	3525	0
Flt Permitted		0.907			0.966			0.921			0.941	
Satd. Flow (perm)	0	1527	0	0	1654	0	0	3253	0	0	3320	0
Satd. Flow (RTOR)		20			25			3			4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	25	0	0	559	0	0	1257	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.5	29.5		29.5	29.5		35.5	35.5		35.5	35.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)		6.5			6.5			58.5			58.5	
Actuated g/C Ratio		0.10			0.10			0.90			0.90	
v/c Ratio		0.16			0.13			0.19			0.42	
Control Delay		17.6			13.5			1.5			2.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.6			13.5			1.5			2.1	
LOS		B			B			A			A	
Approach Delay		17.6			13.5			1.5			2.1	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		3			0			0			6	
Queue Length 95th (ft)		24			19			38			135	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)												
Base Capacity (vph)		599			651			2930			2990	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.05			0.04			0.19			0.42	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 2.3

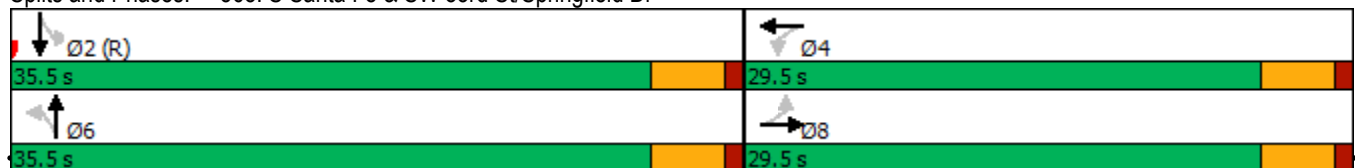
Intersection LOS: A

Intersection Capacity Utilization 59.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr























2040 PM Existing

Synchro 10 Report

Timings

569: S Santa Fe & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	539	151	149	546	60	102	360	77	73	837	223
Future Volume (vph)	114	539	151	149	546	60	102	360	77	73	837	223
Satd. Flow (prot)	1770	3422	0	1770	3486	0	1770	3444	0	1770	3426	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3422	0	1770	3486	0	1770	3444	0	1770	3426	0
Satd. Flow (RTOR)		38			12			27			36	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	750	0	162	658	0	111	475	0	79	1152	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												
Total Split (s)	12.5	37.0		12.5	37.0		12.5	38.0		12.5	38.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	8.0	27.1		8.0	27.1		9.8	39.6		8.8	36.1	
Actuated g/C Ratio	0.08	0.27		0.08	0.27		0.10	0.40		0.09	0.36	
v/c Ratio	0.88	0.79		1.15	0.69		0.64	0.34		0.51	0.91	
Control Delay	74.0	49.9		164.2	35.7		62.0	22.5		55.6	42.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	74.0	49.9		164.2	35.7		62.0	22.5		55.6	42.9	
LOS	E	D		F	D		E	C		E	D	
Approach Delay		53.3			61.1			30.0			43.7	
Approach LOS		D			E			C			D	
Queue Length 50th (ft)	85	257		~122	192		67	110		48	373	
Queue Length 95th (ft)	m#132	m320		#251	239		#164	161		#106	#527	
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135			225		
Base Capacity (vph)	141	1120		141	1123		173	1379		156	1260	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.88	0.67		1.15	0.59		0.64	0.34		0.51	0.91	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 47.9

Intersection LOS: D

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

Timings

569: S Santa Fe & SE 89th St

07/13/2021


Splits and Phases: 569: S Santa Fe & SE 89th St

 Ø1	  Ø2 (R)	 Ø3	 Ø4
12.5 s	38 s	12.5 s	37 s
 Ø5	  Ø6 (R)	 Ø7	 Ø8
12.5 s	38 s	12.5 s	37 s

Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	6	785	352	68	807	31	123	117	75	26	281	21
Future Volume (vph)	6	785	352	68	807	31	123	117	75	26	281	21
Satd. Flow (prot)	0	3376	0	0	3507	0	0	1769	0	0	1839	0
Flt Permitted		0.949			0.599			0.636			0.951	
Satd. Flow (perm)	0	3204	0	0	2109	0	0	1147	0	0	1756	0
Satd. Flow (RTOR)		79			4			15			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1243	0	0	985	0	0	343	0	0	356	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	71.0	71.0		71.0	71.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effct Green (s)		64.1			64.1			54.9			54.9	
Actuated g/C Ratio		0.49			0.49			0.42			0.42	
v/c Ratio		0.77			0.95			0.70			0.48	
Control Delay		9.8			49.0			40.5			30.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.8			49.0			40.5			30.2	
LOS		A			D			D			C	
Approach Delay		9.8			49.0			40.5			30.2	
Approach LOS		A			D			D			C	
Queue Length 50th (ft)		86			390			249			218	
Queue Length 95th (ft)		m94			#547			357			312	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1665			1072			493			743	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.75			0.92			0.70			0.48	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 77 (59%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 29.1

Intersection LOS: C

Intersection Capacity Utilization 111.8%

ICU Level of Service H

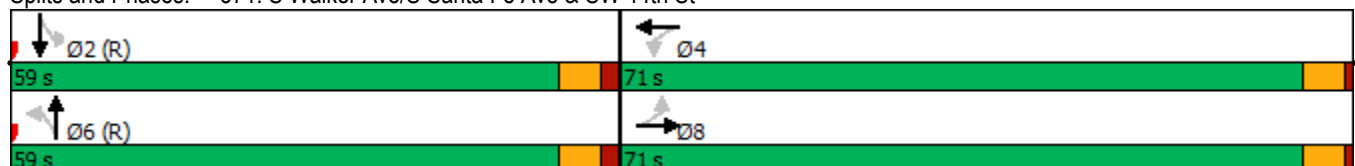
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	9	33	105	4	140	32	467	77	195	948	20
Future Volume (vph)	59	9	33	105	4	140	32	467	77	195	948	20
Satd. Flow (prot)	1770	1645	0	1770	1591	0	1770	3465	0	1770	3529	0
Flt Permitted	0.645			0.474			0.252			0.387		
Satd. Flow (perm)	1201	1645	0	883	1591	0	469	3465	0	721	3529	0
Satd. Flow (RTOR)		36			152			16			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	46	0	114	156	0	35	592	0	212	1052	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	12.0	41.0		14.0	43.0		12.0	52.0		23.0	63.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	13.9	7.4		17.5	9.4		93.5	86.8		101.2	94.4	
Actuated g/C Ratio	0.11	0.06		0.13	0.07		0.72	0.67		0.78	0.73	
v/c Ratio	0.40	0.36		0.63	0.61		0.09	0.26		0.33	0.41	
Control Delay	54.2	31.4		64.2	19.8		4.8	9.1		6.0	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.2	31.4		64.2	19.8		4.8	9.1		6.0	8.2	
LOS	D	C		E	B		A	A		A	A	
Approach Delay		44.7			38.6			8.9			7.9	
Approach LOS		D			D			A			A	
Queue Length 50th (ft)	48	8		87	3		6	96		45	136	
Queue Length 95th (ft)	88	48		141	70		12	152		m59	m187	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	163	481		185	572		417	2319		712	2562	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.10		0.62	0.27		0.08	0.26		0.30	0.41	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 13.6

Intersection LOS: B

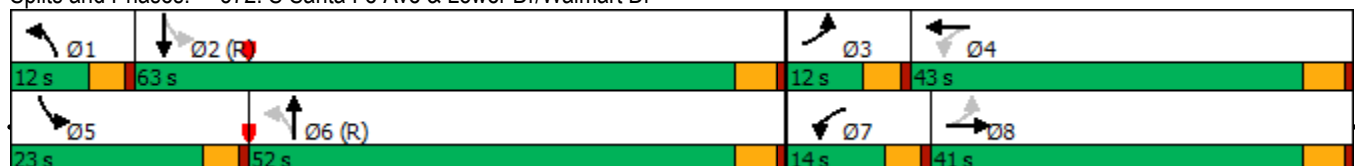
Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr



Timings

597: S Santa Fe Ave & SW 59th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	624	194	213	714	32	128	213	117	38	592	126
Future Volume (vph)	74	624	194	213	714	32	128	213	117	38	592	126
Satd. Flow (prot)	1770	3412	0	1770	3518	0	1770	3352	0	1770	3447	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3412	0	1770	3518	0	1770	3352	0	1770	3447	0
Satd. Flow (RTOR)		31			4			85			19	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	889	0	232	811	0	139	359	0	41	780	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	15.0	41.0		28.0	54.0		20.0	48.0		13.0	41.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.5	35.8		20.6	46.9		13.7	48.2		8.0	39.9	
Actuated g/C Ratio	0.07	0.28		0.16	0.36		0.11	0.37		0.06	0.31	
v/c Ratio	0.62	0.93		0.83	0.64		0.75	0.28		0.38	0.73	
Control Delay	83.3	43.0		76.3	36.7		91.0	38.8		73.8	41.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	83.3	43.0		76.3	36.7		91.0	38.8		73.8	41.3	
LOS	F	D		E	D		F	D		E	D	
Approach Delay		46.4			45.5			53.4			42.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	72	156		188	287		120	88		33	304	
Queue Length 95th (ft)	m96	#243		#300	356		m138	m93		m57	m377	
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300			120		
Base Capacity (vph)	136	978		313	1328		204	1295		108	1071	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.91		0.74	0.61		0.68	0.28		0.38	0.73	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 46.3

Intersection LOS: D

Intersection Capacity Utilization 79.4%

ICU Level of Service D

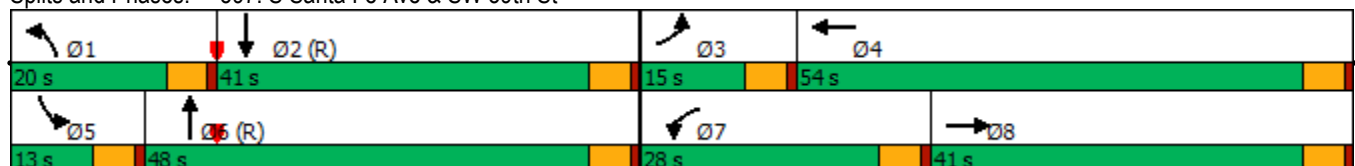
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

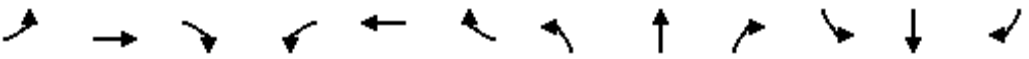
Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	476	253	240	421	0	0	694	373
Future Volume (vph)	0	0	0	274	476	253	240	421	0	0	694	373
Satd. Flow (prot)	0	0	0	1610	3380	1583	1770	3539	0	0	5085	1583
Flt Permitted				0.950	0.997		0.950					
Satd. Flow (perm)	0	0	0	1610	3380	1583	1770	3539	0	0	5085	1583
Satd. Flow (RTOR)						234						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				12%								
Lane Group Flow (vph)	0	0	0	262	553	275	261	458	0	0	754	405
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							57.0				27.0	27.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				38.6	38.6	38.6	45.6	80.4			29.8	29.8
Actuated g/C Ratio				0.30	0.30	0.30	0.35	0.62			0.23	0.23
v/c Ratio				0.55	0.55	0.43	0.42	0.21			0.65	0.70
Control Delay				42.3	42.2	9.8	11.0	3.7			48.6	30.4
Queue Delay				0.0	0.0	0.0	1.6	0.7			2.1	0.0
Total Delay				42.3	42.2	9.8	12.6	4.4			50.7	30.4
LOS				D	D	A	B	A			D	C
Approach Delay					34.0			7.4			43.6	
Approach LOS					C			A			D	
Queue Length 50th (ft)				198	210	34	142	113			224	176
Queue Length 95th (ft)				m178	m189	m18	194	0			#300	m#302
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				472	993	630	694	2174			1164	581
Starvation Cap Reductn				0	0	0	273	1318			0	0
Spillback Cap Reductn				0	0	0	0	0			264	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.56	0.56	0.44	0.62	0.54			0.84	0.70

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 31.3

Intersection LOS: C

Intersection Capacity Utilization 80.9%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

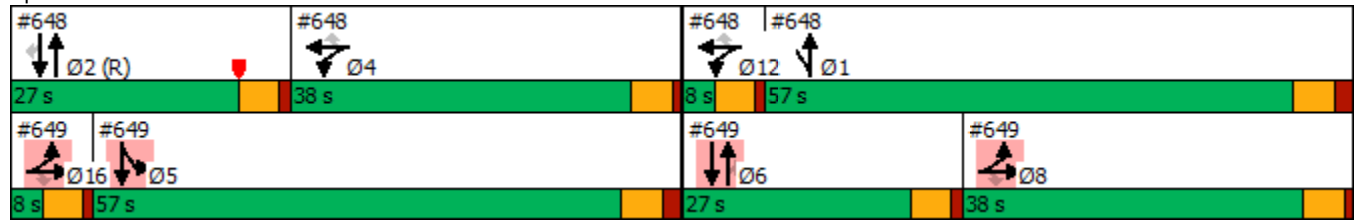
m Volume for 95th percentile queue is metered by upstream signal.

Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd


























Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	38.0	57.0	27.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			 	
Traffic Volume (vph)	277	407	341	0	0	0	0	402	175	251	708	0
Future Volume (vph)	277	407	341	0	0	0	0	402	175	251	708	0
Satd. Flow (prot)	1610	3370	1583	0	0	0	0	5085	1583	1770	3539	0
Flt Permitted	0.950	0.994								0.950		
Satd. Flow (perm)	1610	3370	1583	0	0	0	0	5085	1583	1770	3539	0
Satd. Flow (RTOR)			203						159			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	20%											
Lane Group Flow (vph)	241	502	371	0	0	0	0	437	190	273	770	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								27.0	27.0	57.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	41.0	41.0	41.0					28.0	28.0	45.0	78.0	
Actuated g/C Ratio	0.32	0.32	0.32					0.22	0.22	0.35	0.60	
v/c Ratio	0.48	0.47	0.58					0.40	0.41	0.45	0.36	
Control Delay	39.6	37.6	20.2					46.2	13.7	11.1	8.6	
Queue Delay	0.0	0.0	0.0					0.1	0.0	3.8	4.3	
Total Delay	39.6	37.6	20.2					46.3	13.7	14.9	12.8	
LOS	D	D	C					D	B	B	B	
Approach Delay		32.3						36.4			13.4	
Approach LOS		C						D			B	
Queue Length 50th (ft)	179	186	116					116	21	181	258	
Queue Length 95th (ft)	271	243	221					161	94	12	308	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	503	1054	635					1094	465	694	2099	
Starvation Cap Reductn	0	0	0					0	0	330	1229	
Spillback Cap Reductn	0	0	0					126	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.48	0.48	0.58					0.45	0.41	0.75	0.89	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 26.1

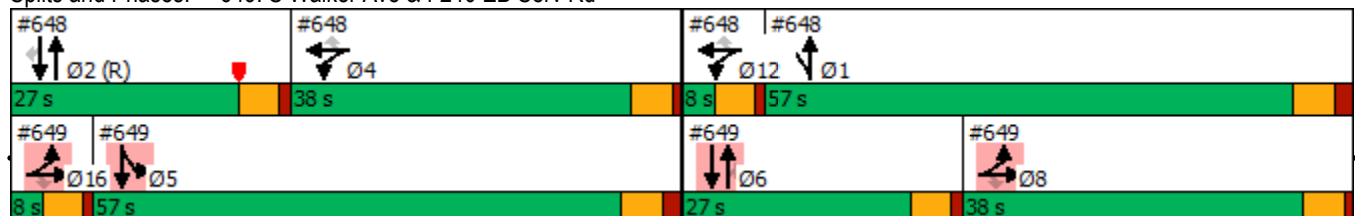
Intersection LOS: C

Intersection Capacity Utilization 80.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd





















07/13/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	57.0	27.0	38.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	725	163	237	845	47	137	280	124	80	739	89
Future Volume (vph)	56	725	163	237	845	47	137	280	124	80	739	89
Satd. Flow (prot)	1770	3440	0	1770	3511	0	1770	3376	0	1770	3483	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3511	0	1770	3376	0	1770	3483	0
Satd. Flow (RTOR)		19			4			56			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	965	0	258	969	0	149	439	0	87	900	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	35.0		25.0	35.0		25.0	45.0		25.0	45.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.8	30.0		20.0	42.4		15.8	40.0		20.0	44.2	
Actuated g/C Ratio	0.08	0.23		0.15	0.33		0.12	0.31		0.15	0.34	
v/c Ratio	0.46	1.19		0.95	0.85		0.70	0.41		0.32	0.76	
Control Delay	67.6	141.8		75.6	40.7		73.6	53.8		52.6	43.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	67.6	141.8		75.6	40.7		73.6	53.8		52.6	43.2	
LOS	E	F		E	D		E	D		D	D	
Approach Delay		137.4			48.1			58.8			44.0	
Approach LOS		F			D			E			D	
Queue Length 50th (ft)	50	~512		205	431		130	187		66	351	
Queue Length 95th (ft)	95	#648		m#289	m#544		m192	m238		119	453	
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130			150		
Base Capacity (vph)	272	808		272	1146		272	1077		272	1191	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.22	1.19		0.95	0.85		0.55	0.41		0.32	0.76	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 52 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 72.6

Intersection LOS: E

Intersection Capacity Utilization 85.9%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

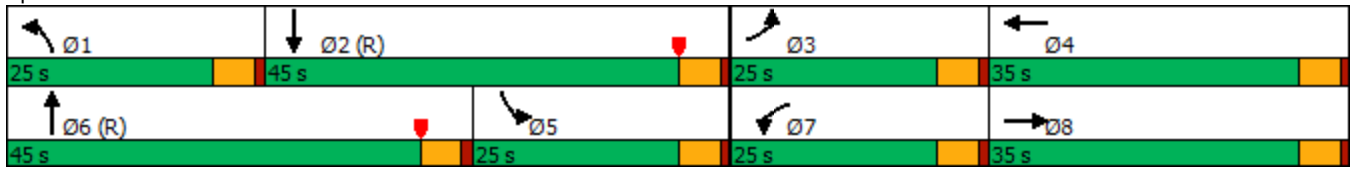
m Volume for 95th percentile queue is metered by upstream signal.

Timings

667: S Walker Ave & SW 44th St

07/13/2021





















Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	622	138	135	786	125	170	416	134	204	572	163
Future Volume (vph)	131	622	138	135	786	125	170	416	134	204	572	163
Satd. Flow (prot)	1770	3444	0	1770	3465	0	1770	3408	0	1770	3422	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3444	0	1770	3465	0	1770	3408	0	1770	3422	0
Satd. Flow (RTOR)		21			14			32			27	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	826	0	147	990	0	185	598	0	222	799	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	21.0	43.2		22.8	45.0		24.0	37.0		27.0	40.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	14.2	39.0		15.1	39.8		17.2	36.1		19.9	38.8	
Actuated g/C Ratio	0.11	0.30		0.12	0.31		0.13	0.28		0.15	0.30	
v/c Ratio	0.74	0.79		0.72	0.93		0.79	0.62		0.82	0.77	
Control Delay	77.9	47.1		59.6	57.7		68.0	51.9		65.6	62.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.9	47.1		59.6	57.7		68.0	51.9		65.6	62.6	
LOS	E	D		E	E		E	D		E	E	
Approach Delay		51.7			57.9			55.7			63.2	
Approach LOS		D			E			E			E	
Queue Length 50th (ft)	116	324		124	440		158	245		189	323	
Queue Length 95th (ft)	#193	412		m195	#556		#256	297		m231	m391	
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100			115		
Base Capacity (vph)	217	1053		242	1086		258	969		299	1039	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.65	0.78		0.61	0.91		0.72	0.62		0.74	0.77	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 57.3

Intersection LOS: E

Intersection Capacity Utilization 80.1%

ICU Level of Service D

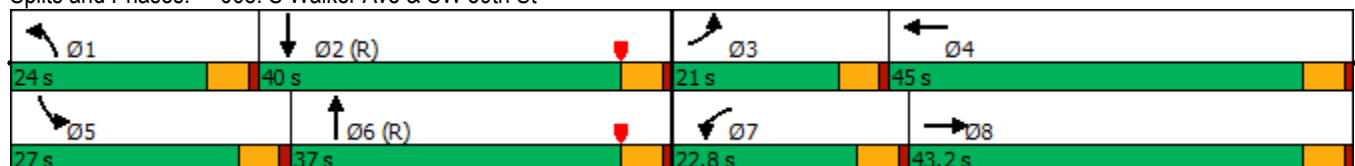
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	609	83	110	694	64	69	211	54	114	627	226
Future Volume (vph)	107	609	83	110	694	64	69	211	54	114	627	226
Satd. Flow (prot)	1770	3476	0	1770	3493	0	1770	3429	0	1770	3398	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	3493	0	1770	3429	0	1770	3398	0
Satd. Flow (RTOR)		14			9			33			55	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	752	0	120	824	0	75	288	0	124	928	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	16.0	31.0		16.0	31.0		14.0	36.0		17.0	39.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	10.2	25.8		10.3	25.8		8.6	33.1		10.9	37.9	
Actuated g/C Ratio	0.10	0.26		0.10	0.26		0.09	0.33		0.11	0.38	
v/c Ratio	0.64	0.83		0.66	0.91		0.49	0.25		0.65	0.70	
Control Delay	59.9	43.5		53.5	52.5		47.3	31.1		58.5	29.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.9	43.5		53.5	52.5		47.3	31.1		58.5	29.4	
LOS	E	D		D	D		D	C		E	C	
Approach Delay		45.7			52.6			34.5			32.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	72	233		81	275		51	66		76	262	
Queue Length 95th (ft)	#137	#310		m126	m#364		m76	m101		137	340	
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145			135		
Base Capacity (vph)	194	919		194	921		159	1156		212	1323	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.60	0.82		0.62	0.89		0.47	0.25		0.58	0.70	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 42.3

Intersection LOS: D

Intersection Capacity Utilization 75.8%

ICU Level of Service D

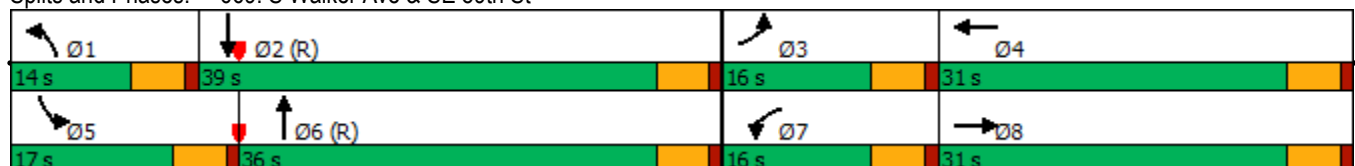
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	703	1	1	888	171	1	3	6	272	0	383
Future Volume (vph)	112	703	1	1	888	171	1	3	6	272	0	383
Satd. Flow (prot)	1770	3539	0	1770	3454	0	1770	1667	0	0	1770	1583
Flt Permitted	0.950			0.950			0.439				0.751	
Satd. Flow (perm)	1770	3539	0	1770	3454	0	818	1667	0	0	1399	1583
Satd. Flow (RTOR)					26			7				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	765	0	1	1151	0	1	10	0	0	296	416
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		2
Total Split (s)	17.0	47.0		13.0	43.0		40.0	40.0		40.0	40.0	40.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)	10.8	50.0		8.0	36.8		37.4	37.4			37.4	37.4
Actuated g/C Ratio	0.11	0.50		0.08	0.37		0.37	0.37			0.37	0.37
v/c Ratio	0.64	0.43		0.01	0.90		0.00	0.02			0.57	0.57
Control Delay	57.9	17.3		43.0	39.2		21.0	14.4			19.6	9.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	57.9	17.3		43.0	39.2		21.0	14.4			19.6	9.7
LOS	E	B		D	D		C	B			B	A
Approach Delay		22.9			39.3			15.0			13.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	75	139		1	344		0	1			167	170
Queue Length 95th (ft)	134	241		6	#442		4	13			m247	m258
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	212	1770		141	1328		305	627			522	728
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.58	0.43		0.01	0.87		0.00	0.02			0.57	0.57

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 27.3

Intersection LOS: C

Intersection Capacity Utilization 79.5%

ICU Level of Service D

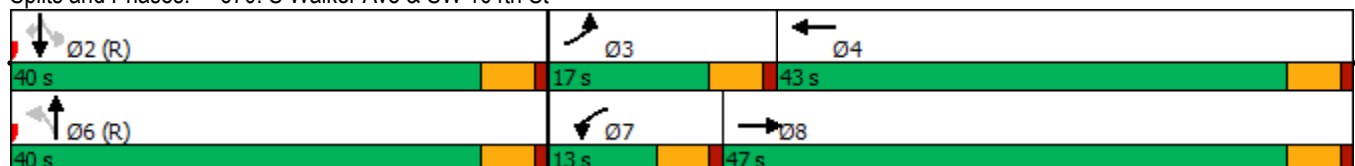
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 670: S Walker Ave & SW 104th St



Timings

751: Robinson & I-40 WB Off Ramp

07/13/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↕	↗	↰	↗
Traffic Volume (vph)	322	39	127	0	0	470
Future Volume (vph)	322	39	127	0	0	470
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Satd. Flow (RTOR)		42				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	42	138	0	0	511
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	30.0	30.0	30.0			30.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effct Green (s)	12.0	12.0	11.1			11.1
Actuated g/C Ratio	0.36	0.36	0.33			0.33
v/c Ratio	0.55	0.07	0.12			0.44
Control Delay	12.7	3.7	8.7			10.5
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	12.7	3.7	8.7			10.5
LOS	B	A	A			B
Approach Delay	11.8		8.7			10.5
Approach LOS	B		A			B
Queue Length 50th (ft)	45	0	8			34
Queue Length 95th (ft)	117	12	24			79
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1375	1239	2749			2749
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.25	0.03	0.05			0.19

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 33.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 10.7

Intersection LOS: B

Intersection Capacity Utilization 39.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 751: Robinson & I-40 WB Off Ramp

 30 s	 30 s
 30 s	





















2040 PM Existing

Synchro 10 Report

Timings

3000: Robinson & OKC Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	615	133	21	202	36	74	90	109	223	216	26
Future Volume (vph)	17	615	133	21	202	36	74	90	109	223	216	26
Satd. Flow (prot)	1770	3444	0	1770	3458	0	1770	3249	0	1770	3483	0
Flt Permitted	0.565			0.146			0.582			0.616		
Satd. Flow (perm)	1052	3444	0	272	3458	0	1084	3249	0	1147	3483	0
Satd. Flow (RTOR)		25			20			118			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	813	0	23	259	0	80	216	0	242	263	0
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			2			6		
Total Split (s)	12.0	51.0		12.0	51.0		24.0	34.0		23.0	33.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	40.6	35.5		39.6	37.9		63.4	48.0		62.4	56.3	
Actuated g/C Ratio	0.34	0.30		0.33	0.32		0.53	0.40		0.52	0.47	
v/c Ratio	0.05	0.78		0.14	0.23		0.13	0.16		0.36	0.16	
Control Delay	20.5	42.8		22.2	27.4		16.0	14.1		13.7	15.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.5	42.8		22.2	27.4		16.0	14.1		13.7	15.9	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		42.4			27.0			14.6			14.8	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	8	294		11	62		30	26		68	47	
Queue Length 95th (ft)	21	335		25	98		65	64		116	71	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	398	1335		177	1344		716	1371		719	1638	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.61		0.13	0.19		0.11	0.16		0.34	0.16	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 28.5

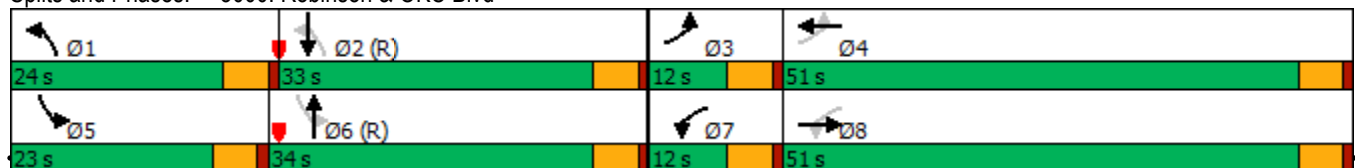
Intersection LOS: C

Intersection Capacity Utilization 52.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd
























2040 PM Existing

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						  			  	
Traffic Volume (vph)	52	274	64	0	0	0	0	416	23	44	969	0
Future Volume (vph)	52	274	64	0	0	0	0	416	23	44	969	0
Satd. Flow (prot)	0	4923	0	0	0	0	0	3511	0	0	3532	0
Flt Permitted		0.993									0.912	
Satd. Flow (perm)	0	4923	0	0	0	0	0	3511	0	0	3228	0
Satd. Flow (RTOR)		55						12				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	425	0	0	0	0	0	477	0	0	1101	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	27.0	27.0						48.0		24.0	24.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		22.0						43.0			43.0	
Actuated g/C Ratio		0.29						0.57			0.57	
v/c Ratio		0.29						0.24			0.60	
Control Delay		18.3						8.1			3.4	
Queue Delay		0.0						0.1			0.0	
Total Delay		18.3						8.1			3.4	
LOS		B						A			A	
Approach Delay		18.3						8.1			3.4	
Approach LOS		B						A			A	
Queue Length 50th (ft)		47						51			28	
Queue Length 95th (ft)		72						74			34	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1482						2018			1850	
Starvation Cap Reductn		0						0			2	
Spillback Cap Reductn		2						455			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.29						0.31			0.60	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 7.7

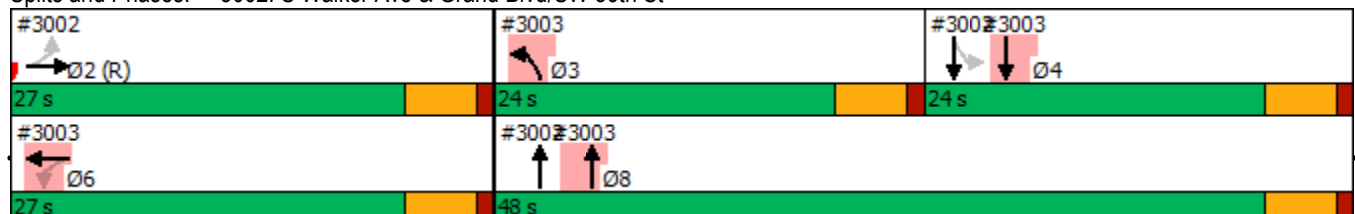
Intersection LOS: A

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St



Timings

3002: S Walker Ave & Grand Blvd/SW 36th St





















07/13/2021

Lane Group	Ø3	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Satd. Flow (RTOR)		
Peak Hour Factor		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Turn Type		
Protected Phases	3	6
Permitted Phases		
Total Split (s)	24.0	27.0
Total Lost Time (s)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/13/2021

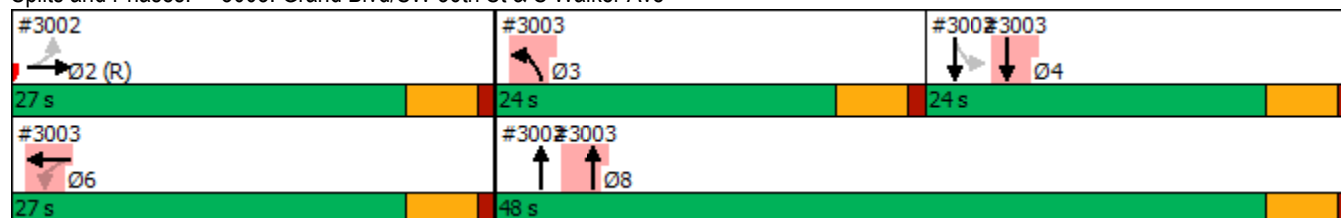
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  			 			  	
Traffic Volume (vph)	0	0	0	51	291	35	47	406	0	0	955	85
Future Volume (vph)	0	0	0	51	291	35	47	406	0	0	955	85
Satd. Flow (prot)	0	0	0	0	4979	0	0	3522	0	0	3497	0
Flt Permitted					0.993			0.773				
Satd. Flow (perm)	0	0	0	0	4979	0	0	2736	0	0	3497	0
Satd. Flow (RTOR)					23						12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	409	0	0	492	0	0	1130	0
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Total Split (s)				27.0	27.0		24.0	48.0			24.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					22.0			43.0			43.0	
Actuated g/C Ratio					0.29			0.57			0.57	
v/c Ratio					0.28			0.92			0.56	
Control Delay					11.7			36.2			11.3	
Queue Delay					0.0			0.0			0.0	
Total Delay					11.7			36.2			11.3	
LOS					B			D			B	
Approach Delay					11.7			36.2			11.3	
Approach LOS					B			D			B	
Queue Length 50th (ft)					23			105			156	
Queue Length 95th (ft)					m36			#212			210	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1476			536			2010	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.28			0.92			0.56	
Intersection Summary												
Cycle Length: 75												
Actuated Cycle Length: 75												
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.92												
Intersection Signal Delay: 17.4						Intersection LOS: B						
Intersection Capacity Utilization 61.6%						ICU Level of Service B						
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												
m Volume for 95th percentile queue is metered by upstream signal.												

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave





07/13/2021

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave



Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	27.0
Total Lost Time (s)	
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	28	11	41	19	44	180	16	20	123	25
Future Vol, veh/h	16	30	28	11	41	19	44	180	16	20	123	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	33	30	12	45	21	48	196	17	22	134	27
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.5	8.6	9.1	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	0%	22%	15%	25%	0%
Vol Thru, %	67%	85%	41%	58%	75%	71%
Vol Right, %	0%	15%	38%	27%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	106	74	71	82	87
LT Vol	44	0	16	11	20	0
Through Vol	90	90	30	41	62	62
RT Vol	0	16	28	19	0	25
Lane Flow Rate	146	115	80	77	89	94
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.213	0.16	0.109	0.106	0.13	0.13
Departure Headway (Hd)	5.261	4.989	4.888	4.947	5.299	4.972
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	682	718	730	722	675	719
Service Time	3.002	2.731	2.936	2.994	3.043	2.716
HCM Lane V/C Ratio	0.214	0.16	0.11	0.107	0.132	0.131
HCM Control Delay	9.4	8.7	8.5	8.6	8.8	8.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.4	0.4	0.4	0.4

Intersection												
Int Delay, s/veh	24											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕			↕↕	
Traffic Vol, veh/h	11	21	26	7	21	11	19	1129	23	14	964	25
Future Vol, veh/h	11	21	26	7	21	11	19	1129	23	14	964	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	23	28	8	23	12	21	1227	25	15	1048	27
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1759	2386	538	1848	2387	626	1075	0	0	1252	0	0
Stage 1	1092	1092	-	1282	1282	-	-	-	-	-	-	-
Stage 2	667	1294	-	566	1105	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	54	34	488	46	34	427	644	-	-	552	-	-
Stage 1	229	289	-	175	234	-	-	-	-	-	-	-
Stage 2	414	231	-	476	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	15	28	488	12	28	427	644	-	-	552	-	-
Mov Cap-2 Maneuver	15	28	-	12	28	-	-	-	-	-	-	-
Stage 1	204	269	-	156	209	-	-	-	-	-	-	-
Stage 2	320	206	-	382	266	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s\$	552.5		\$ 537.1			0.8			0.5			
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	644	-	-	38	29	552	-	-				
HCM Lane V/C Ratio	0.032	-	-	1.659	1.462	0.028	-	-				
HCM Control Delay (s)	10.8	0.6	-	\$ 552.5	\$ 537.1	11.7	0.4	-				
HCM Lane LOS	B	A	-	F	F	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	6.7	4.9	0.1	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon				

Timings

97: N Council Rd & NW 16th St

07/13/2021

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↕		↖	↕	
Traffic Volume (vph)	25	37	11	53	44	60	28	1220	69	53	861	42
Future Volume (vph)	25	37	11	53	44	60	28	1220	69	53	861	42
Satd. Flow (prot)	0	1793	0	1770	1703	0	1770	3511	0	1770	3514	0
Flt Permitted		0.842		0.706			0.276			0.149		
Satd. Flow (perm)	0	1535	0	1315	1703	0	514	3511	0	278	3514	0
Satd. Flow (RTOR)		9			65			13			11	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	58	113	0	30	1401	0	58	982	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	27.0	27.0		27.0	27.0		63.0	63.0		63.0	63.0	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		8.7		8.7	8.7		30.2	30.2		30.2	30.2	
Actuated g/C Ratio		0.20		0.20	0.20		0.69	0.69		0.69	0.69	
v/c Ratio		0.25		0.22	0.29		0.08	0.57		0.30	0.40	
Control Delay		20.1		22.0	12.9		4.5	6.4		9.7	4.9	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		20.1		22.0	12.9		4.5	6.4		9.7	4.9	
LOS		C		C	B		A	A		A	A	
Approach Delay		20.1			16.0			6.3			5.2	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		16		13	11		3	98		6	57	
Queue Length 95th (ft)		57		49	55		12	181		29	107	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)				80			160			180		
Base Capacity (vph)		870		742	989		505	3452		273	3455	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.09		0.08	0.11		0.06	0.41		0.21	0.28	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 43.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 6.9

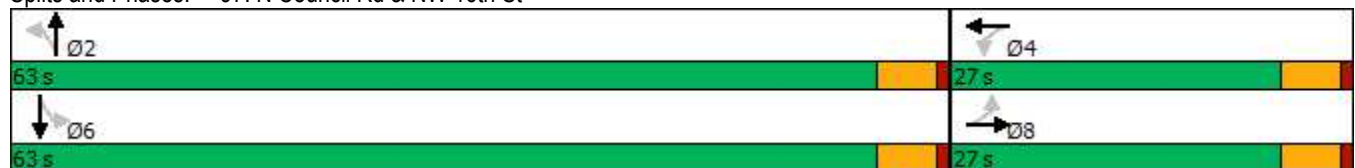
Intersection LOS: A

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 97: N Council Rd & NW 16th St
























2040 PM Existing

Synchro 10 Report

Timings

295: N MacArthur Blvd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	159	52	62	243	89	57	1035	60	48	851	111
Future Volume (vph)	80	159	52	62	243	89	57	1035	60	48	851	111
Satd. Flow (prot)	1770	1794	0	1770	1788	0	1770	3511	0	1770	3479	0
Flt Permitted	0.316			0.532			0.950			0.950		
Satd. Flow (perm)	589	1794	0	991	1788	0	1770	3511	0	1770	3479	0
Satd. Flow (RTOR)		22			24			7			17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	230	0	67	361	0	62	1190	0	52	1046	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	40.0	40.0		40.0	40.0		14.0	36.0		14.0	36.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	18.9	18.9		18.9	18.9		7.7	32.2		7.5	32.1	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.11	0.47		0.11	0.47	
v/c Ratio	0.54	0.45		0.25	0.71		0.31	0.72		0.27	0.64	
Control Delay	35.6	22.0		22.7	29.6		36.5	21.2		35.9	18.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.6	22.0		22.7	29.6		36.5	21.2		35.9	18.9	
LOS	D	C		C	C		D	C		D	B	
Approach Delay		25.8			28.6			21.9			19.7	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	34	78		24	139		26	232		22	192	
Queue Length 95th (ft)	81	140		55	230		68	#438		60	330	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)	270			160			105			130		
Base Capacity (vph)	311	958		523	956		240	1654		240	1637	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.28	0.24		0.13	0.38		0.26	0.72		0.22	0.64	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 68.6

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 22.5

Intersection LOS: C

Intersection Capacity Utilization 75.4%

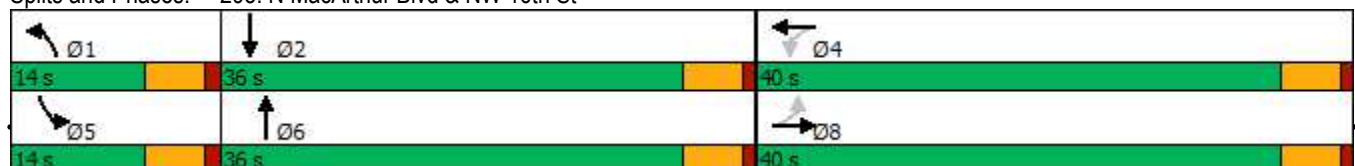
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





















Splits and Phases: 295: N MacArthur Blvd & NW 16th St



Timings

377: N Meridian Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	142	116	43	304	105	132	997	59	102	817	110
Future Volume (vph)	77	142	116	43	304	105	132	997	59	102	817	110
Satd. Flow (prot)	0	1831	1583	0	1796	0	1770	3511	0	1770	3476	0
Flt Permitted		0.568			0.946		0.220			0.174		
Satd. Flow (perm)	0	1058	1583	0	1708	0	410	3511	0	324	3476	0
Satd. Flow (RTOR)			109		19			10			24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	238	126	0	491	0	143	1148	0	111	1008	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	39.0	39.0	39.0	39.0	39.0		51.0	51.0		51.0	51.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		29.4	29.4		29.4		50.6	50.6		50.6	50.6	
Actuated g/C Ratio		0.33	0.33		0.33		0.56	0.56		0.56	0.56	
v/c Ratio		0.69	0.21		0.86		0.62	0.58		0.61	0.51	
Control Delay		36.6	6.1		42.5		30.8	15.1		33.9	13.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		36.6	6.1		42.5		30.8	15.1		33.9	13.8	
LOS		D	A		D		C	B		C	B	
Approach Delay		26.1			42.5			16.8			15.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)		113	6		242		54	216		41	177	
Queue Length 95th (ft)		189	41		352		#162	302		#139	250	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		399	665		657		230	1977		182	1964	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.60	0.19		0.75		0.62	0.58		0.61	0.51	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.4

Intersection LOS: C

Intersection Capacity Utilization 89.3%

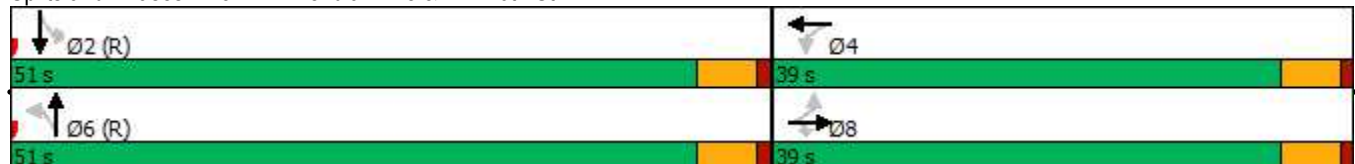
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 377: N Meridian Ave & NW 16th St



Timings

544: N Rockwell Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	106	42	94	139	100	72	930	70	99	738	84
Future Volume (vph)	75	106	42	94	139	100	72	930	70	99	738	84
Satd. Flow (prot)	1770	1783	0	1770	1745	0	1770	3504	0	1770	3486	0
Flt Permitted	0.457			0.655			0.950			0.950		
Satd. Flow (perm)	851	1783	0	1220	1745	0	1770	3504	0	1770	3486	0
Satd. Flow (RTOR)		21			39			11			18	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	161	0	102	260	0	78	1087	0	108	893	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	28.0	28.0		28.0	28.0		16.0	44.0		18.0	46.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	15.1	15.1		15.1	15.1		8.9	28.2		10.0	29.2	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.14	0.43		0.15	0.44	
v/c Ratio	0.42	0.38		0.37	0.61		0.33	0.72		0.40	0.58	
Control Delay	33.6	25.2		29.9	28.9		36.2	20.0		35.9	16.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.6	25.2		29.9	28.9		36.2	20.0		35.9	16.1	
LOS	C	C		C	C		D	C		D	B	
Approach Delay		28.1			29.2			21.1			18.3	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	30	50		37	85		31	190		42	137	
Queue Length 95th (ft)	82	120		93	186		85	331		107	242	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)	115			80			155			200		
Base Capacity (vph)	338	722		485	718		337	2216		398	2284	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.24	0.22		0.21	0.36		0.23	0.49		0.27	0.39	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 65.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 21.7

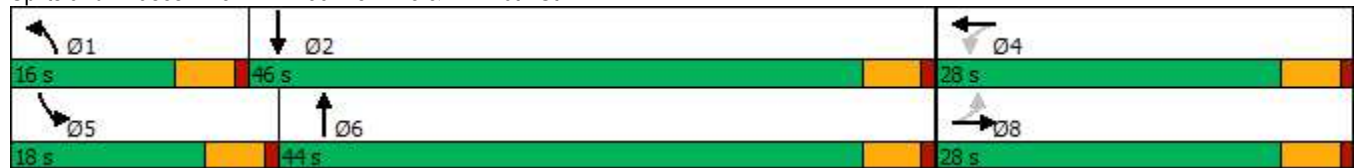
Intersection LOS: C

Intersection Capacity Utilization 70.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 544: N Rockwell Ave & NW 16th St



















2040 PM Existing

Synchro 10 Report

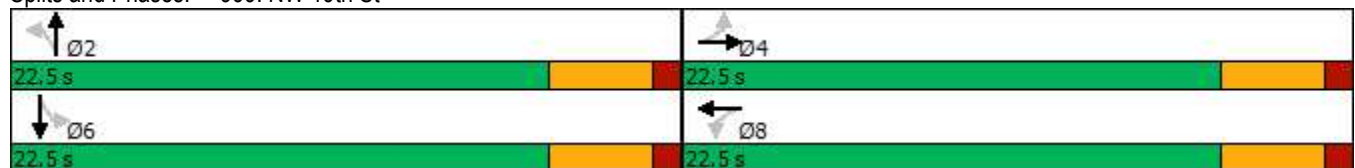
Timings

999: NW 19th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												
Intersection Summary												
Cycle Length: 45												
Actuated Cycle Length: 37.5												
Control Type: Semi Act-Uncoord												
Maximum v/c Ratio: 0.00												
Intersection Signal Delay: 0.0												
Intersection LOS: A												
Intersection Capacity Utilization 0.0%												
ICU Level of Service A												
Analysis Period (min) 15												

Splits and Phases: 999: NW 19th St



2040 PM Existing





Synchro 10 Report

HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

07/13/2021

Intersection





Intersection Delay, s/veh 7.7
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	67	15	6	112	0	2	5	4	15	21	10
Future Vol, veh/h	1	67	15	6	112	0	2	5	4	15	21	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	73	16	7	122	0	2	5	4	16	23	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.9	7.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	1%	5%	33%
Vol Thru, %	45%	81%	95%	46%
Vol Right, %	36%	18%	0%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	83	118	46
LT Vol	2	1	6	15
Through Vol	5	67	112	21
RT Vol	4	15	0	10
Lane Flow Rate	12	90	128	50
Geometry Grp	1	1	1	1
Degree of Util (X)	0.014	0.101	0.147	0.061
Departure Headway (Hd)	4.284	4.033	4.12	4.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	840	880	863	827
Service Time	2.286	2.101	2.178	2.358
HCM Lane V/C Ratio	0.014	0.102	0.148	0.06
HCM Control Delay	7.3	7.6	7.9	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0.3	0.5	0.2

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	58	9	9	86	7	33	22	5	1	10	16
Future Vol, veh/h	16	58	9	9	86	7	33	22	5	1	10	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	63	10	10	93	8	36	24	5	1	11	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.8	7.9	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	55%	19%	9%	4%
Vol Thru, %	37%	70%	84%	37%
Vol Right, %	8%	11%	7%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	83	102	27
LT Vol	33	16	9	1
Through Vol	22	58	86	10
RT Vol	5	9	7	16
Lane Flow Rate	65	90	111	29
Geometry Grp	1	1	1	1
Degree of Util (X)	0.081	0.104	0.128	0.033
Departure Headway (Hd)	4.47	4.157	4.144	4.105
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	850	854	877
Service Time	2.471	2.242	2.224	2.107
HCM Lane V/C Ratio	0.081	0.106	0.13	0.033
HCM Control Delay	7.9	7.7	7.8	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.4	0.1

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱↱		
Traffic Vol, veh/h	0	12	4	1	1	0	0	0	0	0	943	7
Future Vol, veh/h	0	12	4	1	1	0	0	0	0	0	943	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	4	1	1	0	0	0	0	0	1025	8
Major/Minor	Minor2		Minor1			Major2						
Conflicting Flow All	-	1029	517	417	1033	-	-	-	0	0	0	-
Stage 1	-	1029	-	0	0	-	-	-	-	-	-	-
Stage 2	-	0	-	417	1033	-	-	-	-	-	-	-
Critical Hdwy	-	6.54	7.14	6.44	6.54	-	-	-	5.34	-	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-	-	-	3.12	-	-	-
Pot Cap-1 Maneuver	0	232	431	553	231	0	-	-	-	-	-	-
Stage 1	0	309	-	-	-	0	-	-	-	-	-	-
Stage 2	0	-	-	534	308	0	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	232	431	524	231	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	232	-	524	231	-	-	-	-	-	-	-
Stage 1	-	309	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	506	308	-	-	-	-	-	-	-
Approach	EB		WB			SB						
HCM Control Delay, s	19.7		16.3			0						
HCM LOS	C		C									
Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR							
Capacity (veh/h)	262 321		-	-	-							
HCM Lane V/C Ratio	0.066 0.007		-	-	-							
HCM Control Delay (s)	19.7 16.3		0	-	-							
HCM Lane LOS	C C		A	-	-							
HCM 95th %tile Q(veh)	0.2 0		-	-	-							

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	12	0	0	0	1	5	1	733	2	0	0	0
Future Vol, veh/h	12	0	0	0	1	5	1	733	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	0	0	0	1	5	1	797	2	0	0	0

Major/Minor	Minor2		Minor1		Major1				
Conflicting Flow All	321	801	-	-	800	400	0	0	0
Stage 1	0	0	-	-	800	-	-	-	-
Stage 2	321	801	-	-	0	-	-	-	-
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-
Pot Cap-1 Maneuver	626	316	0	0	317	512	-	-	-
Stage 1	-	-	0	0	395	-	-	-	-
Stage 2	610	395	0	0	-	-	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	618	316	-	-	317	512	-	-	-
Mov Cap-2 Maneuver	618	316	-	-	317	-	-	-	-
Stage 1	-	-	-	-	395	-	-	-	-
Stage 2	602	395	-	-	-	-	-	-	-

Approach	EB		WB		NB		
HCM Control Delay, s	11		12.9				
HCM LOS	B		B				

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	
Capacity (veh/h)	-	-	-	618	464
HCM Lane V/C Ratio	-	-	-	0.021	0.014
HCM Control Delay (s)	-	-	-	11	12.9
HCM Lane LOS	-	-	-	B	B
HCM 95th %tile Q(veh)	-	-	-	0.1	0

Timings

282: N Lottie Ave & NE 16th St

07/13/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	2	15	10	78	56	53	7	158	22	28	443	9
Future Volume (vph)	2	15	10	78	56	53	7	158	22	28	443	9
Satd. Flow (prot)	0	1762	0	0	1756	0	0	3469	0	0	3518	0
Flt Permitted		0.981			0.852			0.938			0.932	
Satd. Flow (perm)	0	1734	0	0	1527	0	0	3260	0	0	3289	0
Satd. Flow (RTOR)		11			27			22			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	0	0	204	0	0	204	0	0	522	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	42.0	42.0		42.0	42.0		48.0	48.0		48.0	48.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		16.5			16.5			43.9			43.9	
Actuated g/C Ratio		0.23			0.23			0.62			0.62	
v/c Ratio		0.07			0.54			0.10			0.25	
Control Delay		15.6			26.0			5.0			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.6			26.0			5.0			6.4	
LOS		B			C			A			A	
Approach Delay		15.6			26.0			5.0			6.4	
Approach LOS		B			C			A			A	
Queue Length 50th (ft)		6			65			14			45	
Queue Length 95th (ft)		25			127			28			74	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)												
Base Capacity (vph)		916			815			2039			2050	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.03			0.25			0.10			0.25	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 70.4

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 10.6

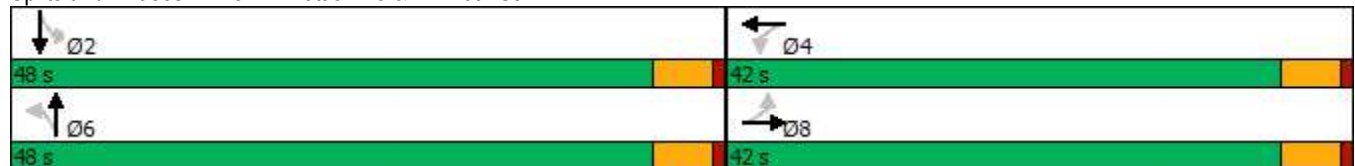
Intersection LOS: B

Intersection Capacity Utilization 56.3%

ICU Level of Service B

Analysis Period (min) 15






















Splits and Phases: 282: N Lottie Ave & NE 16th St



Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	31	57	22	69	36	59	487	9	20	386	74
Future Volume (vph)	54	31	57	22	69	36	59	487	9	20	386	74
Satd. Flow (prot)	1770	1863	1583	0	1776	0	1770	3529	0	1770	3454	0
Flt Permitted	0.517				0.944		0.389			0.451		
Satd. Flow (perm)	963	1863	1583	0	1692	0	725	3529	0	840	3454	0
Satd. Flow (RTOR)			145		22			2			22	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	34	62	0	138	0	64	539	0	22	500	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	22.0	53.0	31.0	31.0	31.0		13.0	24.0		13.0	24.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	16.6	26.7	22.5		22.5		25.9	27.2		24.3	23.1	
Actuated g/C Ratio	0.31	0.49	0.41		0.41		0.48	0.50		0.45	0.42	
v/c Ratio	0.13	0.04	0.08		0.19		0.12	0.31		0.04	0.34	
Control Delay	16.4	13.8	0.2		19.4		12.1	15.0		11.8	19.0	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	16.4	13.8	0.2		19.4		12.1	15.0		11.8	19.0	
LOS	B	B	A		B		B	B		B	B	
Approach Delay		9.4			19.4			14.7			18.7	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	23	11	0		40		15	76		5	93	
Queue Length 95th (ft)	36	24	0		90		36	155		17	140	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	757	1515	932		936		535	1750		545	1514	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.08	0.02	0.07		0.15		0.12	0.31		0.04	0.33	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 54.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 16.0

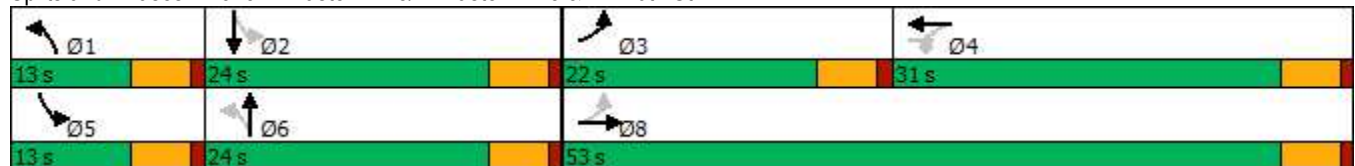
Intersection LOS: B

Intersection Capacity Utilization 52.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St



HCM 6th TWSC
2002: N Classen Blvd & W Wilshire Blvd

07/13/2021

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	
Traffic Vol, veh/h	670	69	217	422	2	74
Future Vol, veh/h	670	69	217	422	2	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	728	75	236	459	2	80




Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	803
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.22
Pot Cap-1 Maneuver	-	-	817
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	817
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	502	-	-	817	-
HCM Lane V/C Ratio	0.165	-	-	0.289	-
HCM Control Delay (s)	13.6	-	-	11.2	1.1
HCM Lane LOS	B	-	-	B	A
HCM 95th %tile Q(veh)	0.6	-	-	1.2	-

HCM 6th TWSC
2003: W Wilshire Blvd & N Classen Blvd

07/13/2021

Intersection						
Int Delay, s/veh	3.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	697	602	89	69	42
Future Vol, veh/h	54	697	602	89	69	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	758	654	97	75	46
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	751	0	-	0	1200	376
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	497	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	854	-	-	-	178	622
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	854	-	-	-	157	622
Mov Cap-2 Maneuver	-	-	-	-	157	-
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	577	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		39.9		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	854	-	-	-	219	
HCM Lane V/C Ratio	0.069	-	-	-	0.551	
HCM Control Delay (s)	9.5	0.5	-	-	39.9	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.2	-	-	-	3	

Timings

78: N Classen Blvd & Chesapeake Dr

07/13/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	7	54	81	148	27
Future Volume (vph)	7	7	54	81	148	27
Satd. Flow (prot)	1694	0	1770	1863	1824	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1770	1863	1824	0
Satd. Flow (RTOR)	8				10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	59	88	190	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		10.0	22.5	22.5	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.4		8.2	76.0	62.0	
Actuated g/C Ratio	0.08		0.10	0.96	0.78	
v/c Ratio	0.11		0.32	0.05	0.13	
Control Delay	26.4		37.2	0.9	4.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	26.4		37.2	0.9	4.2	
LOS	C		D	A	A	
Approach Delay	26.4			15.4	4.2	
Approach LOS	C			B	A	
Queue Length 50th (ft)	4		28	0	17	
Queue Length 95th (ft)	22		61	15	68	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	898		182	1781	1423	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.02		0.32	0.05	0.13	

Intersection Summary

Cycle Length: 79.5

Actuated Cycle Length: 79.5

Offset: 10 (13%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 9.9

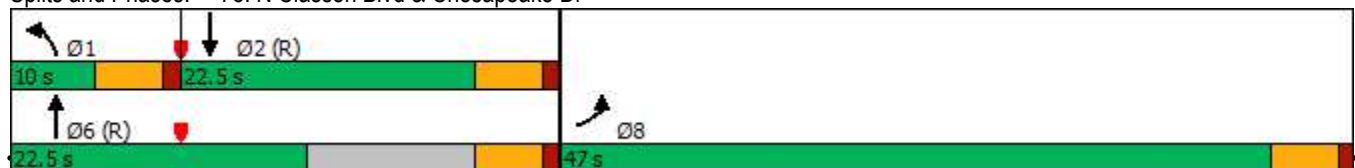
Intersection LOS: A

Intersection Capacity Utilization 31.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 78: N Classen Blvd & Chesapeake Dr























2040 AM Proposed

Synchro 10 Report

Timings

79: N Classen Blvd & NW 63rd St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	735	58	33	569	73	17	37	22	78	89	81
Future Volume (vph)	65	735	58	33	569	73	17	37	22	78	89	81
Satd. Flow (prot)	1770	3500	0	1770	3479	0	1770	1758	0	1770	1730	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3500	0	1770	3479	0	1770	1758	0	1770	1730	0
Satd. Flow (RTOR)		8			14			24			44	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	862	0	36	697	0	18	64	0	85	185	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	20.0	35.0		20.0	35.0		15.0	30.0		15.0	30.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	9.8	32.0		8.5	28.1		8.0	37.6		9.7	44.4	
Actuated g/C Ratio	0.10	0.32		0.08	0.28		0.08	0.38		0.10	0.44	
v/c Ratio	0.41	0.77		0.24	0.71		0.13	0.09		0.50	0.23	
Control Delay	49.0	35.2		46.6	35.5		44.9	19.4		53.1	18.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.0	35.2		46.6	35.5		44.9	19.4		53.1	18.4	
LOS	D	D		D	D		D	B		D	B	
Approach Delay		36.3			36.1			25.0			29.3	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	44	262		22	201		11	18		52	51	
Queue Length 95th (ft)	85	315		53	254		33	54		101	134	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	265	1166		265	1077		177	676		183	793	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.27	0.74		0.14	0.65		0.10	0.09		0.46	0.23	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 10 (10%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 34.8

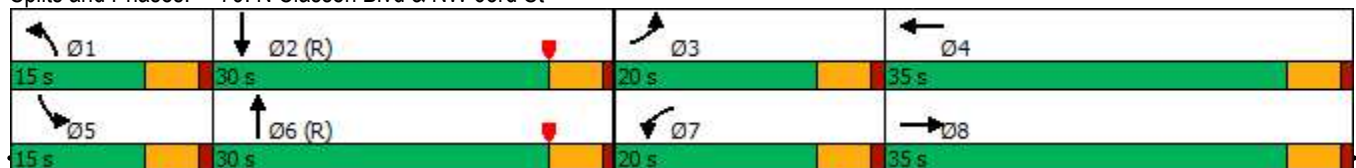
Intersection LOS: C

Intersection Capacity Utilization 55.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St




2040 AM Proposed

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	253	44	11	206	14	23	230	7	42	500	173
Future Volume (vph)	91	253	44	11	206	14	23	230	7	42	500	173
Satd. Flow (prot)	1770	3461	0	1770	3507	0	1770	3522	0	1770	3401	0
Flt Permitted	0.950			0.950			0.321			0.572		
Satd. Flow (perm)	1770	3461	0	1770	3507	0	598	3522	0	1065	3401	0
Satd. Flow (RTOR)		20			6			4			54	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	323	0	12	239	0	25	258	0	46	731	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	20.0	35.0		12.0	27.0		12.0	41.0		12.0	41.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	9.8	20.2		6.3	10.8		41.3	37.9		42.6	40.1	
Actuated g/C Ratio	0.13	0.27		0.08	0.14		0.55	0.50		0.56	0.53	
v/c Ratio	0.43	0.34		0.08	0.47		0.06	0.15		0.07	0.40	
Control Delay	39.6	22.8		38.8	34.6		9.3	13.6		9.2	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.6	22.8		38.8	34.6		9.3	13.6		9.2	13.2	
LOS	D	C		D	C		A	B		A	B	
Approach Delay		26.7			34.8			13.2			13.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	48	61		6	58		5	38		9	87	
Queue Length 95th (ft)	99	116		24	100		18	74		28	201	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	377	1462		182	1088		452	1768		674	1830	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.26	0.22		0.07	0.22		0.06	0.15		0.07	0.40	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 75.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 19.5

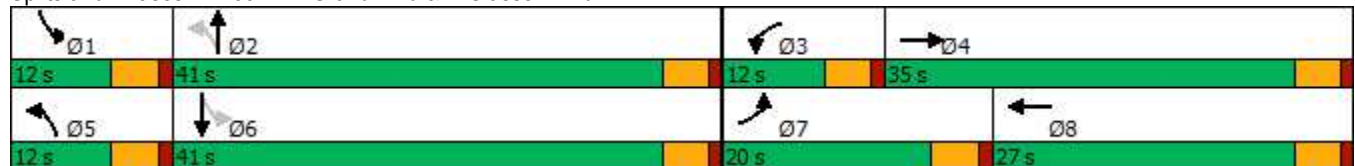
Intersection LOS: B

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 159: NW Grand Blvd & N Classen Blvd




2040 AM Proposed

Synchro 10 Report

Timings

2001: N Western Ave & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	121	15	25	32	20	7	826	149	31	879	184
Future Volume (vph)	170	121	15	25	32	20	7	826	149	31	879	184
Satd. Flow (prot)	1770	3483	0	1770	3334	0	1770	3458	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3483	0	1770	3334	0	1770	3458	0	1770	3539	1583
Satd. Flow (RTOR)		13			22			24				200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	148	0	27	57	0	8	1060	0	34	955	200
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	22.0	33.0		12.0	23.0		12.0	43.0		12.0	43.0	43.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	13.1	15.1		6.7	6.6		6.1	41.3		6.8	45.6	45.6
Actuated g/C Ratio	0.17	0.20		0.09	0.09		0.08	0.54		0.09	0.60	0.60
v/c Ratio	0.61	0.21		0.17	0.19		0.06	0.56		0.22	0.45	0.19
Control Delay	39.9	25.4		39.7	27.1		38.9	16.2		40.3	11.7	2.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.9	25.4		39.7	27.1		38.9	16.2		40.3	11.7	2.7
LOS	D	C		D	C		D	B		D	B	A
Approach Delay		33.4			31.1			16.3			11.0	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	92	27		14	9		4	213		17	132	0
Queue Length 95th (ft)	161	60		40	28		18	318		48	275	38
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	421	1358		180	855		180	1888		180	2121	1029
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.44	0.11		0.15	0.07		0.04	0.56		0.19	0.45	0.19

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 76

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 16.6

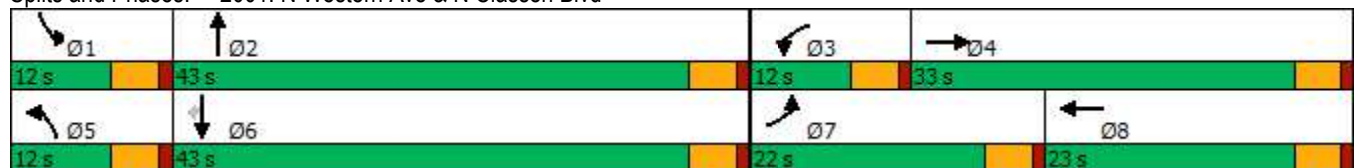
Intersection LOS: B

Intersection Capacity Utilization 52.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2001: N Western Ave & N Classen Blvd




2040 AM Proposed

Synchro 10 Report

Timings

2004: N Classen Blvd & W Britton Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔↔	
Traffic Volume (vph)	16	806	12	63	605	2	12	2	41	1	4	0
Future Volume (vph)	16	806	12	63	605	2	12	2	41	1	4	0
Satd. Flow (prot)	0	3529	0	0	3522	0	0	1656	0	0	3504	0
Flt Permitted		0.936			0.758			0.963			0.935	
Satd. Flow (perm)	0	3306	0	0	2683	0	0	1613	0	0	3309	0
Satd. Flow (RTOR)		4			1			45				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	906	0	0	728	0	0	60	0	0	5	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)		17.0			17.0			19.0			19.0	
Actuated g/C Ratio		0.38			0.38			0.42			0.42	
v/c Ratio		0.72			0.72			0.08			0.00	
Control Delay		15.6			16.4			4.7			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.6			16.4			4.7			8.2	
LOS		B			B			A			A	
Approach Delay		15.6			16.4			4.7			8.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		95			76			2			0	
Queue Length 95th (ft)		147			124			18			2	
Internal Link Dist (ft)		875			804			5231			513	
Turn Bay Length (ft)												
Base Capacity (vph)		1324			1073			706			1395	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.68			0.68			0.08			0.00	

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 30.5 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 15.5

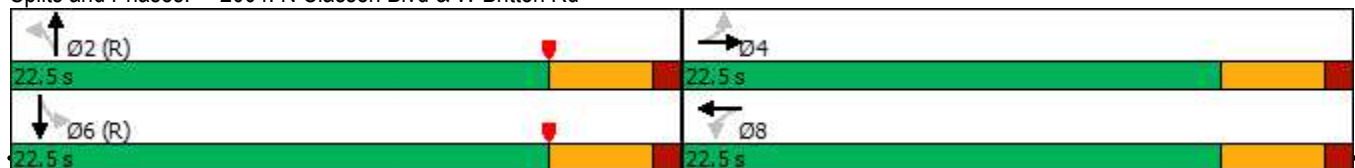
Intersection LOS: B

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2004: N Classen Blvd & W Britton Rd



2040 AM Proposed

Synchro 10 Report

HCM 6th TWSC
3001: S Santa Fe & SW 98th St/NW 34th St




















07/13/2021

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↵	↵		↵	↵	
Traffic Vol, veh/h	5	0	5	9	0	4	2	1193	5	6	232	0
Future Vol, veh/h	5	0	5	9	0	4	2	1193	5	6	232	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	10	0	4	2	1297	5	7	252	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1572	1572	252	1573	1570	1300	252	0	0	1302	0	0
Stage 1	266	266	-	1304	1304	-	-	-	-	-	-	-
Stage 2	1306	1306	-	269	266	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	89	110	787	89	111	197	1313	-	-	532	-	-
Stage 1	739	689	-	197	230	-	-	-	-	-	-	-
Stage 2	197	230	-	737	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	86	108	787	87	109	197	1313	-	-	532	-	-
Mov Cap-2 Maneuver	86	108	-	87	109	-	-	-	-	-	-	-
Stage 1	738	680	-	197	230	-	-	-	-	-	-	-
Stage 2	192	230	-	722	680	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	30		44.5		0		0.3					
HCM LOS	D		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1313	-	-	155	105	532	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.07	0.135	0.012	-	-				
HCM Control Delay (s)	7.7	-	-	30	44.5	11.9	-	-				
HCM Lane LOS	A	-	-	D	E	B	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.4	0	-	-				

Timings

527: S Robinson Ave & W Reno Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	241	14	17	347	162	49	262	32	69	49	26
Future Volume (vph)	62	241	14	17	347	162	49	262	32	69	49	26
Satd. Flow (prot)	1770	3511	0	1770	3369	0	0	3465	0	1770	3355	0
Flt Permitted	0.445			0.467				0.894		0.345		
Satd. Flow (perm)	829	3511	0	870	3369	0	0	3120	0	643	3355	0
Satd. Flow (RTOR)		4			60			11			28	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	277	0	18	553	0	0	373	0	75	81	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	21.0	32.0		22.0	33.0		54.0	54.0		12.0	66.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0			5.0		4.0	5.0	
Act Effect Green (s)	23.1	15.1		38.9	29.5			13.7		23.5	22.5	
Actuated g/C Ratio	0.33	0.21		0.55	0.42			0.19		0.33	0.32	
v/c Ratio	0.18	0.37		0.03	0.38			0.61		0.23	0.07	
Control Delay	12.0	25.9		9.4	16.2			31.0		17.8	11.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.0	25.9		9.4	16.2			31.0		17.8	11.8	
LOS	B	C		A	B			C		B	B	
Approach Delay		23.2			16.0			31.0			14.7	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	14	56		4	85			82		23	8	
Queue Length 95th (ft)	36	96		14	146			127		50	22	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			115						65		
Base Capacity (vph)	629	1388		715	1442			2237		345	2831	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.11	0.20		0.03	0.38			0.17		0.22	0.03	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 70.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 21.4

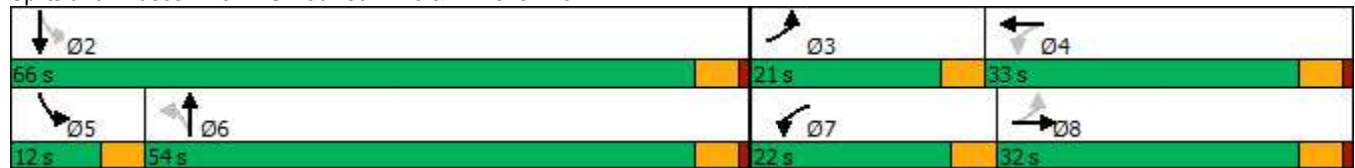
Intersection LOS: C

Intersection Capacity Utilization 50.4%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 527: S Robinson Ave & W Reno Ave



Timings

535: S Robinson Ave & SW 25th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	110	14	7	107	12	22	276	14	10	122	42
Future Volume (vph)	51	110	14	7	107	12	22	276	14	10	122	42
Satd. Flow (prot)	0	1816	0	0	1833	0	0	1844	0	0	1796	0
Flt Permitted		0.871			0.977			0.967			0.967	
Satd. Flow (perm)	0	1605	0	0	1796	0	0	1790	0	0	1742	0
Satd. Flow (RTOR)		11			13			5			37	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	137	0	0	339	0	0	190	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	26.0	26.0		26.0	26.0		24.0	24.0		24.0	24.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		18.2			18.2			18.6			18.6	
Actuated g/C Ratio		0.50			0.50			0.51			0.51	
v/c Ratio		0.23			0.15			0.37			0.21	
Control Delay		10.1			9.2			10.6			8.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.1			9.2			10.6			8.0	
LOS		B			A			B			A	
Approach Delay		10.1			9.2			10.6			8.0	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)		28			19			57			23	
Queue Length 95th (ft)		68			49			109			54	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		958			1072			999			986	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.13			0.34			0.19	

Intersection Summary

Cycle Length: 50

Actuated Cycle Length: 36.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.37

Intersection Signal Delay: 9.7

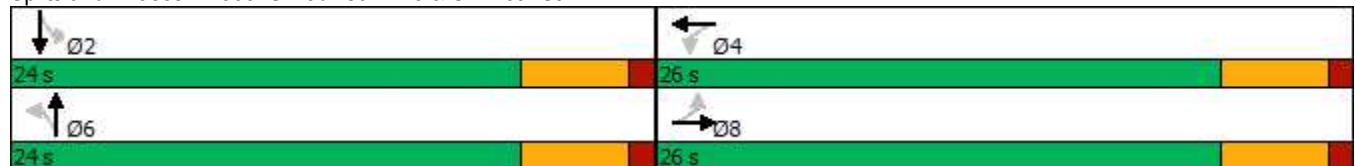
Intersection LOS: A

Intersection Capacity Utilization 46.9%

ICU Level of Service A

Analysis Period (min) 15




















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	367	20	16	292	47	21	248	46	16	93	39
Future Volume (vph)	20	367	20	16	292	47	21	248	46	16	93	39
Satd. Flow (prot)	1770	3511	0	1770	3465	0	1770	1820	0	0	1789	0
Flt Permitted	0.950			0.950			0.592				0.947	
Satd. Flow (perm)	1770	3511	0	1770	3465	0	1103	1820	0	0	1702	0
Satd. Flow (RTOR)		7			21			10			18	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	421	0	17	368	0	23	320	0	0	160	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	20.0	45.0		20.0	45.0		35.0	35.0		35.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Act Effect Green (s)	6.8	55.0		6.6	54.8		30.0	30.0			30.0	
Actuated g/C Ratio	0.07	0.55		0.07	0.55		0.30	0.30			0.30	
v/c Ratio	0.18	0.22		0.15	0.19		0.07	0.58			0.31	
Control Delay	46.9	12.7		46.4	12.1		21.3	24.8			25.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	46.9	12.7		46.4	12.1		21.3	24.8			25.8	
LOS	D	B		D	B		C	C			C	
Approach Delay		14.4			13.7			24.6			25.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	14	58		10	47		7	91			69	
Queue Length 95th (ft)	38	113		32	96		21	151			124	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50					
Base Capacity (vph)	265	1932		265	1907		330	553			523	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.08	0.22		0.06	0.19		0.07	0.58			0.31	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 48 (48%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 18.2

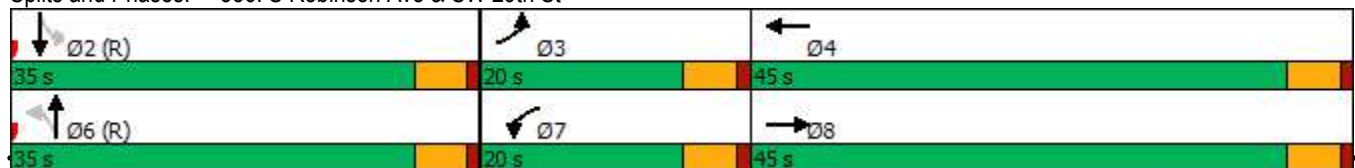
Intersection LOS: B

Intersection Capacity Utilization 46.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 536: S Robinson Ave & SW 29th St


















2040 AM Proposed

Synchro 10 Report

Timings

537: SW Grand Blvd & S Robinson Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	267	30	28	273	0	0	122	16
Future Volume (vph)	0	0	0	10	267	30	28	273	0	0	122	16
Satd. Flow (prot)	0	0	0	0	4999	0	0	1853	0	0	1835	0
Flt Permitted					0.998			0.967				
Satd. Flow (perm)	0	0	0	0	4999	0	0	1801	0	0	1835	0
Satd. Flow (RTOR)					20						10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	334	0	0	327	0	0	150	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					6			8				4
Permitted Phases				6			8					
Total Split (s)				39.0	39.0		61.0	61.0			61.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effect Green (s)					34.0			56.0			56.0	
Actuated g/C Ratio					0.34			0.56			0.56	
v/c Ratio					0.20			0.32			0.15	
Control Delay					22.2			7.4			3.1	
Queue Delay					0.0			1.1			0.0	
Total Delay					22.2			8.5			3.1	
LOS					C			A			A	
Approach Delay					22.2			8.5			3.1	
Approach LOS					C			A			A	
Queue Length 50th (ft)					51			44			9	
Queue Length 95th (ft)					74			61			20	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1712			1008			1032	
Starvation Cap Reductn					0			446			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.20			0.58			0.15	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 13.2

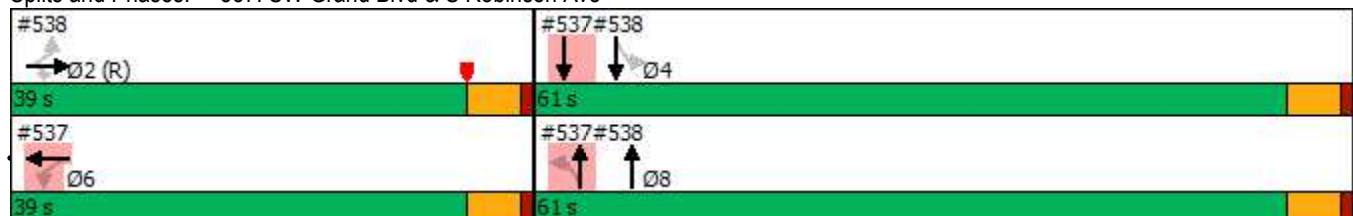
Intersection LOS: B

Intersection Capacity Utilization 42.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave



Timings

537: SW Grand Blvd & S Robinson Ave

















07/13/2021

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	39.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	185	25	0	0	0	0	236	19	0	0	0
Future Volume (vph)	37	185	25	0	0	0	0	236	19	0	0	0
Satd. Flow (prot)	0	3511	1583	0	0	0	0	1844	0	0	1863	0
Flt Permitted		0.992										
Satd. Flow (perm)	0	3511	1583	0	0	0	0	1844	0	0	1863	0
Satd. Flow (RTOR)			27					7				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	241	27	0	0	0	0	278	0	0	0	0
Turn Type	Perm	NA	Perm					NA				
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	39.0	39.0	39.0					61.0		61.0	61.0	
Total Lost Time (s)		5.0	5.0					5.0			5.0	
Act Effect Green (s)		34.0	34.0					56.0				
Actuated g/C Ratio		0.34	0.34					0.56				
v/c Ratio		0.20	0.05					0.27				
Control Delay		44.6	30.0					11.9				
Queue Delay		0.0	0.0					0.0				
Total Delay		44.6	30.0					11.9				
LOS		D	C					B				
Approach Delay		43.2						11.9				
Approach LOS		D						B				
Queue Length 50th (ft)		78	4					84				
Queue Length 95th (ft)		118	m27					132				
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1193	556					1035				
Starvation Cap Reductn		0	0					0				
Spillback Cap Reductn		144	0					12				
Storage Cap Reductn		0	0					0				
Reduced v/c Ratio		0.23	0.05					0.27				

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 27.3

Intersection LOS: C

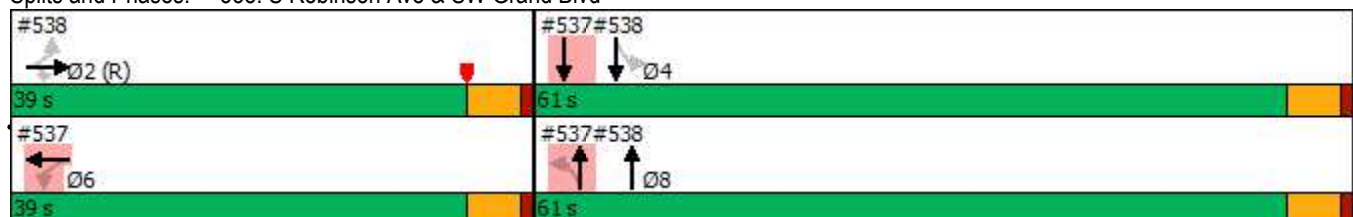
Intersection Capacity Utilization 28.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd



Timings

538: S Robinson Ave & SW Grand Blvd


















07/13/2021

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	6
Permitted Phases	
Total Split (s)	39.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	246	573	131	0	0	0	0	897	190	94	191	0
Future Volume (vph)	246	573	131	0	0	0	0	897	190	94	191	0
Satd. Flow (prot)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Flt Permitted	0.950	0.998								0.950		
Satd. Flow (perm)	1610	3292	0	0	0	0	0	4953	0	1770	3539	0
Satd. Flow (RTOR)		18						33				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	240	792	0	0	0	0	0	1182	0	102	208	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								36.0		55.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	34.0	34.0						31.0		49.0	85.0	
Actuated g/C Ratio	0.26	0.26						0.24		0.38	0.65	
v/c Ratio	0.57	0.91						0.98		0.15	0.09	
Control Delay	47.9	60.4						56.8		15.3	0.7	
Queue Delay	0.0	0.0						18.0		1.4	0.6	
Total Delay	47.9	60.4						74.8		16.7	1.3	
LOS	D	E						E		B	A	
Approach Delay		57.5						74.8			6.4	
Approach LOS		E						E			A	
Queue Length 50th (ft)	193	349						373		16	2	
Queue Length 95th (ft)	292	#470						#469		m29	m1	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	421	874						1206		667	2313	
Starvation Cap Reductn	0	0						0		423	1771	
Spillback Cap Reductn	0	0						75		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.57	0.91						1.05		0.42	0.38	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 59.3

Intersection LOS: E

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

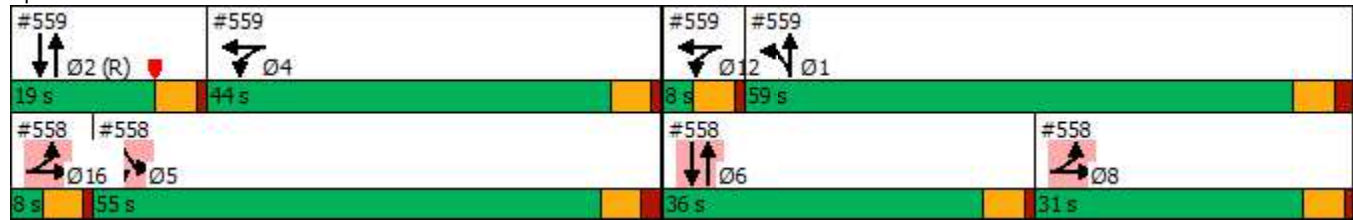
m Volume for 95th percentile queue is metered by upstream signal.

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd




Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	59.0	19.0	44.0	31.0	8.0	8.0
Total Lost Time (s)						
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	828	562	59	444	691	0	0	179	139
Future Volume (vph)	0	0	0	828	562	59	444	691	0	0	179	139
Satd. Flow (prot)	0	0	0	1610	3299	0	1770	3539	0	0	4755	0
Flt Permitted				0.950	0.982		0.950					
Satd. Flow (perm)	0	0	0	1610	3299	0	1770	3539	0	0	4755	0
Satd. Flow (RTOR)					5						120	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				42%								
Lane Group Flow (vph)	0	0	0	522	1053	0	483	751	0	0	346	0
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases												
Total Split (s)							59.0				19.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)				47.0	47.0		53.0	72.0			14.0	
Actuated g/C Ratio				0.36	0.36		0.41	0.55			0.11	
v/c Ratio				0.90	0.88		0.67	0.38			0.56	
Control Delay				59.0	48.6		9.4	1.8			39.4	
Queue Delay				0.0	0.0		39.1	3.4			0.0	
Total Delay				59.0	48.6		48.5	5.2			39.4	
LOS				E	D		D	A			D	
Approach Delay					52.0			22.1			39.4	
Approach LOS					D			C			D	
Queue Length 50th (ft)				453	452		16	3			66	
Queue Length 95th (ft)				#686	#556		m226	m3			101	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)				582	1195		721	1960			619	
Starvation Cap Reductn				0	0		265	1085			0	
Spillback Cap Reductn				0	0		0	0			0	
Storage Cap Reductn				0	0		0	0			0	
Reduced v/c Ratio				0.90	0.88		1.06	0.86			0.56	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 38.9

Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

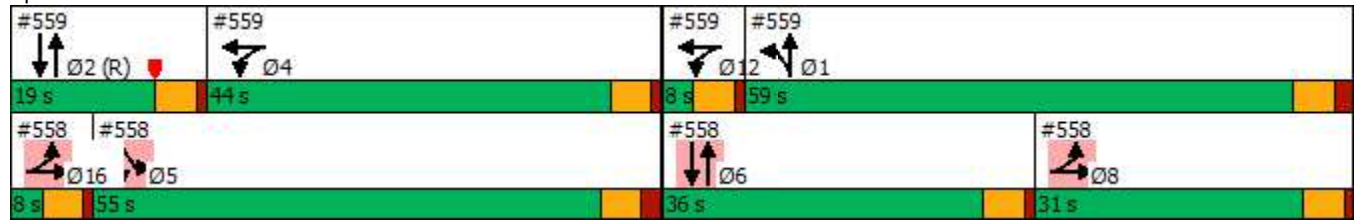
m Volume for 95th percentile queue is metered by upstream signal.

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd



Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	44.0	55.0	36.0	31.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

07/13/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	
Traffic Volume (vph)	1	1	3	4	0	15	6	1126	6	0	237	5
Future Volume (vph)	1	1	3	4	0	15	6	1126	6	0	237	5
Satd. Flow (prot)	0	1695	0	0	1645	0	1770	1861	0	1863	1857	0
Flt Permitted							0.597					
Satd. Flow (perm)	0	1712	0	0	1662	0	1112	1861	0	1863	1857	0
Satd. Flow (RTOR)		3			25			1			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	5	0	0	20	0	7	1231	0	0	263	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	30.0	30.0		30.0	30.0		35.0	35.0		35.0	35.0	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Act Effct Green (s)		6.2			6.2		61.8	61.8			61.8	
Actuated g/C Ratio		0.10			0.10		0.95	0.95			0.95	
v/c Ratio		0.03			0.11		0.01	0.70			0.15	
Control Delay		21.6			12.1		1.2	5.7			0.9	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		21.6			12.1		1.2	5.7			0.9	
LOS		C			B		A	A			A	
Approach Delay		21.6			12.1			5.6			0.9	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		1			0		0	0			0	
Queue Length 95th (ft)		10			16		3	#674			39	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)							200					
Base Capacity (vph)		673			667		1057	1770			1766	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.01			0.03		0.01	0.70			0.15	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 5.0

Intersection LOS: A

Intersection Capacity Utilization 72.1%

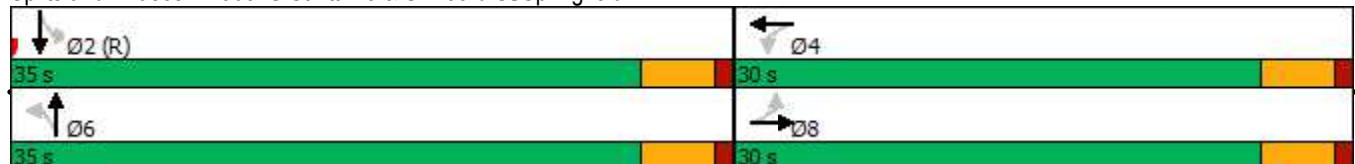
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.























Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr



Timings

569: S Santa Fe & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	456	42	31	241	61	88	915	246	32	186	69
Future Volume (vph)	59	456	42	31	241	61	88	915	246	32	186	69
Satd. Flow (prot)	1770	3493	0	1770	3433	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3493	0	1770	3433	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		10			32				120			120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	542	0	34	328	0	96	995	267	35	202	75
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									2			6
Total Split (s)	13.0	36.0		13.0	36.0		13.0	38.0	38.0	13.0	38.0	38.0
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0	5.0	4.5	5.0	5.0
Act Effect Green (s)	8.3	23.3		8.2	20.7		10.7	51.1	51.1	8.5	46.4	46.4
Actuated g/C Ratio	0.08	0.23		0.08	0.21		0.11	0.51	0.51	0.08	0.46	0.46
v/c Ratio	0.44	0.66		0.24	0.45		0.51	1.05	0.31	0.23	0.23	0.09
Control Delay	50.5	60.2		47.3	32.3		51.5	70.6	11.7	46.5	21.2	1.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	60.2		47.3	32.3		51.5	70.6	11.7	46.5	21.2	1.6
LOS	D	E		D	C		D	E	B	D	C	A
Approach Delay		59.2			33.7			57.7			19.3	
Approach LOS		E			C			E			B	
Queue Length 50th (ft)	45	193		21	86		59	~786	57	21	84	0
Queue Length 95th (ft)	89	247		52	118		109	#1126	136	52	156	10
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135		150	225		200
Base Capacity (vph)	150	1089		150	1086		190	951	867	155	863	797
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.50		0.23	0.30		0.51	1.05	0.31	0.23	0.23	0.09

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 50.2

Intersection LOS: D

Intersection Capacity Utilization 91.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

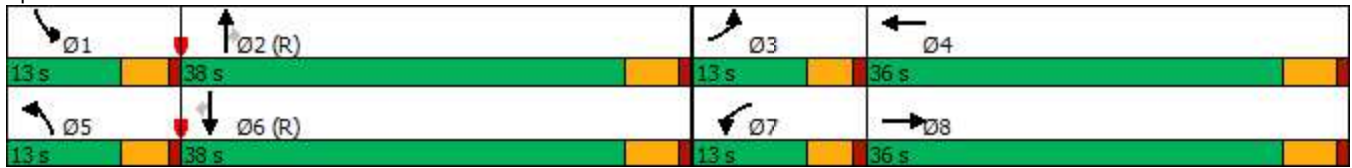
Queue shown is maximum after two cycles.

Timings

569: S Santa Fe & SE 89th St

07/13/2021

Splits and Phases: 569: S Santa Fe & SE 89th St



Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

07/13/2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	5	856	117	11	669	15	195	165	89	27	65	17
Future Volume (vph)	5	856	117	11	669	15	195	165	89	27	65	17
Satd. Flow (prot)	0	3476	0	0	3525	0	0	1774	0	0	1802	0
Flt Permitted		0.952			0.911			0.805			0.846	
Satd. Flow (perm)	0	3309	0	0	3215	0	0	1459	0	0	1543	0
Satd. Flow (RTOR)		19			3			17			12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1062	0	0	755	0	0	488	0	0	118	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	48.0	48.0		48.0	48.0		52.0	52.0		52.0	52.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effct Green (s)		38.7			38.7			50.3			50.3	
Actuated g/C Ratio		0.39			0.39			0.50			0.50	
v/c Ratio		0.82			0.61			0.66			0.15	
Control Delay		15.9			26.3			37.4			13.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.9			26.3			37.4			13.8	
LOS		B			C			D			B	
Approach Delay		15.9			26.3			37.4			13.8	
Approach LOS		B			C			D			B	
Queue Length 50th (ft)		98			194			320			35	
Queue Length 95th (ft)		m116			240			429			73	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1433			1384			742			782	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.74			0.55			0.66			0.15	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 23.4

Intersection LOS: C

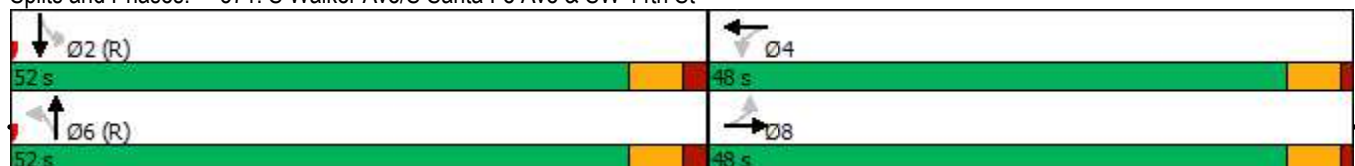
Intersection Capacity Utilization 71.7%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1	13	19	1	36	20	1052	19	46	237	19
Future Volume (vph)	24	1	13	19	1	36	20	1052	19	46	237	19
Satd. Flow (prot)	1770	1602	0	1770	1591	0	1770	1857	0	1770	3500	0
Flt Permitted	0.569			0.748			0.580			0.099		
Satd. Flow (perm)	1060	1602	0	1393	1591	0	1080	1857	0	184	3500	0
Satd. Flow (RTOR)		14			39			1			9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	15	0	21	40	0	22	1164	0	50	279	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	13.0	37.0		13.0	37.0		13.0	67.0		13.0	67.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	10.6	6.9		11.7	6.8		104.4	100.2		106.1	102.6	
Actuated g/C Ratio	0.08	0.05		0.09	0.05		0.80	0.77		0.82	0.79	
v/c Ratio	0.21	0.15		0.14	0.33		0.02	0.81		0.22	0.10	
Control Delay	53.8	30.1		49.8	25.4		2.7	17.3		3.4	1.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	53.8	30.1		49.8	25.4		2.7	17.3		3.4	1.4	
LOS	D	C		D	C		A	B		A	A	
Approach Delay		45.1			33.8			17.0			1.7	
Approach LOS		D			C			B			A	
Queue Length 50th (ft)	21	1		16	1		3	705		1	2	
Queue Length 95th (ft)	46	24		40	39		m3	#1213		m4	m11	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	144	404		166	421		929	1431		255	2764	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.04		0.13	0.10		0.02	0.81		0.20	0.10	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 15.2

Intersection LOS: B

Intersection Capacity Utilization 72.8%

ICU Level of Service C

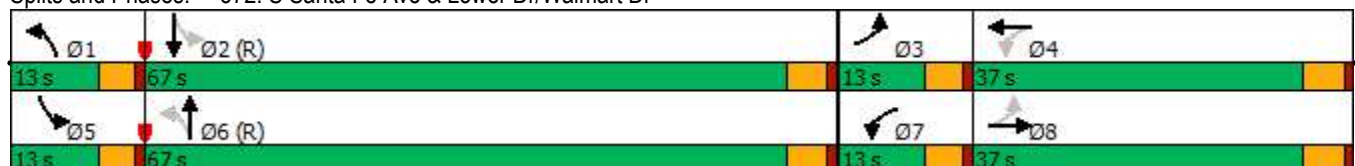
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr



Timings

597: S Santa Fe Ave & SW 59th St

07/13/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	749	124	75	565	33	140	338	332	28	140	80
Future Volume (vph)	96	749	124	75	565	33	140	338	332	28	140	80
Satd. Flow (prot)	1770	3465	0	1770	3511	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3465	0	1770	3511	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		19			6				332			131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	949	0	82	650	0	152	367	361	30	152	87
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Total Split (s)	14.0	35.0		13.0	34.0		17.0	39.0	39.0	13.0	35.0	35.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	8.8	30.2		8.0	26.8		11.4	41.6	41.6	8.0	33.0	33.0
Actuated g/C Ratio	0.09	0.30		0.08	0.27		0.11	0.42	0.42	0.08	0.33	0.33
v/c Ratio	0.67	0.90		0.58	0.69		0.75	0.47	0.42	0.21	0.25	0.14
Control Delay	54.8	53.5		61.7	36.3		66.4	26.4	5.5	56.7	21.7	2.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	53.5		61.7	36.3		66.4	26.4	5.5	56.7	21.7	2.1
LOS	D	D		E	D		E	C	A	E	C	A
Approach Delay		53.6			39.2			24.8			19.2	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)	72	334		51	187		95	191	12	18	62	1
Queue Length 95th (ft)	m87	m#406		#111	248		#188	285	78	m36	m93	m4
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300		150	120		240
Base Capacity (vph)	159	1060		141	1022		212	774	852	141	613	609
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.90		0.58	0.64		0.72	0.47	0.42	0.21	0.25	0.14

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 38.2

Intersection LOS: D

Intersection Capacity Utilization 72.4%

ICU Level of Service C

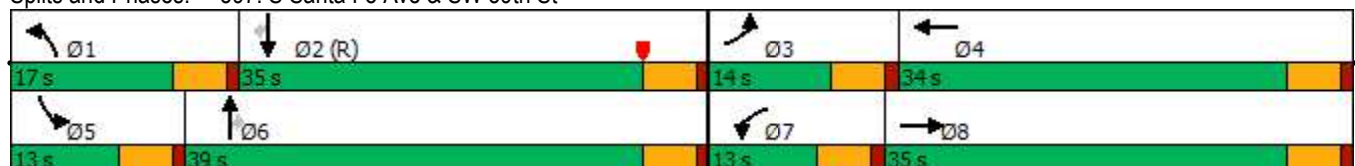
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	179	222	206	156	539	0	0	290	218
Future Volume (vph)	0	0	0	179	222	206	156	539	0	0	290	218
Satd. Flow (prot)	0	0	0	1770	3539	1583	1770	1863	0	0	3539	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1770	3539	1583	1770	1863	0	0	3539	1583
Satd. Flow (RTOR)					224							237
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	195	241	224	170	586	0	0	315	237
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							42.0				20.0	20.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				27.2	27.2	27.2	37.5	61.8			19.3	19.3
Actuated g/C Ratio				0.27	0.27	0.27	0.38	0.62			0.19	0.19
v/c Ratio				0.40	0.25	0.38	0.26	0.51			0.46	0.48
Control Delay				31.3	28.1	5.4	8.4	8.0			46.9	17.5
Queue Delay				0.0	0.0	0.0	2.4	2.0			0.2	0.0
Total Delay				31.3	28.1	5.4	10.8	9.9			47.1	17.5
LOS				C	C	A	B	A			D	B
Approach Delay					21.3			10.1			34.4	
Approach LOS					C			B			C	
Queue Length 50th (ft)				101	62	0	38	230			86	1
Queue Length 95th (ft)				153	87	51	52	319			m144	m94
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				495	990	604	663	1150			681	496
Starvation Cap Reductn				0	0	0	376	396			0	0
Spillback Cap Reductn				0	0	0	0	0			50	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.39	0.24	0.37	0.59	0.78			0.50	0.48

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 20.7

Intersection LOS: C

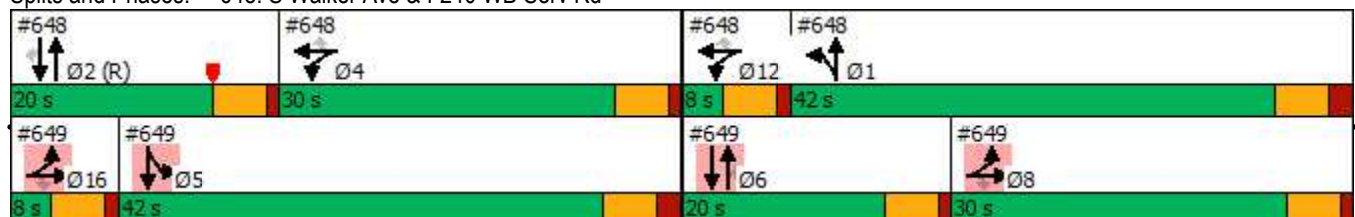
Intersection Capacity Utilization 50.3%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd



Timings

648: S Walker Ave & I-240 WB Serv Rd




















07/13/2021

Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	30.0	42.0	20.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effect Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	273	250	0	0	0	0	393	126	166	294	4
Future Volume (vph)	295	273	250	0	0	0	0	393	126	166	294	4
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	3539	1583	1770	1859	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	3539	1583	1770	1859	0
Satd. Flow (RTOR)			272						207		1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	321	297	272	0	0	0	0	427	137	180	324	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								20.0	20.0	42.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	33.0	33.0	33.0					24.3	24.3	26.7	56.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.24	0.24	0.27	0.56	
v/c Ratio	0.55	0.25	0.39					0.50	0.25	0.38	0.31	
Control Delay	31.7	25.2	4.8					33.6	3.3	9.4	5.0	
Queue Delay	0.0	0.0	0.0					0.8	0.0	1.0	3.4	
Total Delay	31.7	25.2	4.8					34.4	3.3	10.4	8.4	
LOS	C	C	A					C	A	B	A	
Approach Delay		21.3						26.9			9.1	
Approach LOS		C						C			A	
Queue Length 50th (ft)	166	72	0					141	10	53	107	
Queue Length 95th (ft)	254	106	55					154	12	12	182	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	576	1151	698					859	541	637	1029	
Starvation Cap Reductn	0	0	0					0	0	261	597	
Spillback Cap Reductn	0	0	0					191	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.56	0.26	0.39					0.64	0.25	0.48	0.75	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 62 (62%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.55

Intersection Signal Delay: 19.8

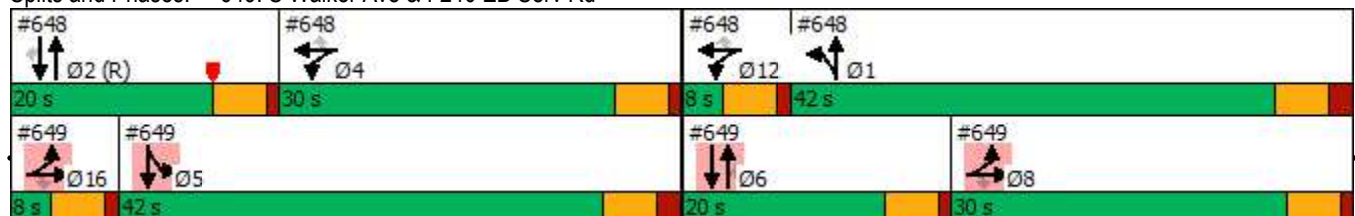
Intersection LOS: B

Intersection Capacity Utilization 49.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd























07/13/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	42.0	20.0	30.0	30.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	677	84	92	631	94	93	528	167	92	231	84
Future Volume (vph)	65	677	84	92	631	94	93	528	167	92	231	84
Satd. Flow (prot)	1770	3479	0	1770	3472	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3472	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		13			16				131			131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	827	0	100	788	0	101	574	182	100	251	91
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Total Split (s)	20.0	30.0		20.0	30.0		20.0	30.0	30.0	20.0	30.0	30.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	9.4	27.1		10.9	28.5		11.0	35.7	35.7	10.9	35.7	35.7
Actuated g/C Ratio	0.09	0.27		0.11	0.28		0.11	0.36	0.36	0.11	0.36	0.36
v/c Ratio	0.43	0.87		0.52	0.79		0.52	0.86	0.28	0.52	0.38	0.14
Control Delay	50.0	45.5		37.1	30.8		32.9	42.7	11.0	39.2	28.5	5.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	45.5		37.1	30.8		32.9	42.7	11.0	39.2	28.5	5.2
LOS	D	D		D	C		C	D	B	D	C	A
Approach Delay		45.8			31.5			34.8			26.1	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	44	253		38	258		50	~403	52	43	147	9
Queue Length 95th (ft)	85	#391		m75	#341		m58	m#596	m79	82	233	31
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130		150	150		250
Base Capacity (vph)	265	953		265	1001		265	665	650	265	665	649
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.87		0.38	0.79		0.38	0.86	0.28	0.38	0.38	0.14

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 73 (73%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 35.8

Intersection LOS: D

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

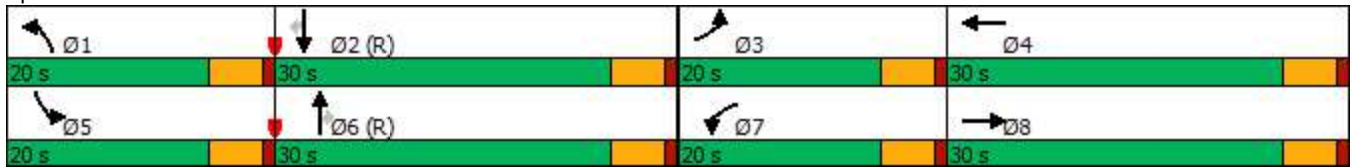
m Volume for 95th percentile queue is metered by upstream signal.

Timings

667: S Walker Ave & SW 44th St

07/13/2021























Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	705	88	86	583	166	84	498	105	151	243	75
Future Volume (vph)	96	705	88	86	583	166	84	498	105	151	243	75
Satd. Flow (prot)	1770	3479	0	1770	3422	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3479	0	1770	3422	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		13			35				131			131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	862	0	93	814	0	91	541	114	164	264	82
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Total Split (s)	20.0	30.0		20.0	30.0		20.0	35.0	35.0	15.0	30.0	30.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	11.1	28.4		10.6	27.9		10.4	33.4	33.4	10.0	35.2	35.2
Actuated g/C Ratio	0.11	0.28		0.11	0.28		0.10	0.33	0.33	0.10	0.35	0.35
v/c Ratio	0.53	0.87		0.50	0.83		0.49	0.87	0.19	0.93	0.40	0.13
Control Delay	51.3	44.5		35.2	50.2		48.7	60.8	15.2	92.1	27.1	1.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	44.5		35.2	50.2		48.7	60.8	15.2	92.1	27.1	1.7
LOS	D	D		D	D		D	E	B	F	C	A
Approach Delay		45.3			48.6			52.4			44.0	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	64	266		54	284		61	368	20	106	157	0
Queue Length 95th (ft)	113	#413		m88	#388		106	#571	69	m#216	m229	m1
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100		250	115		250
Base Capacity (vph)	265	995		265	980		265	621	615	177	656	642
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.87		0.35	0.83		0.34	0.87	0.19	0.93	0.40	0.13

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 47.7

Intersection LOS: D

Intersection Capacity Utilization 78.3%

ICU Level of Service D

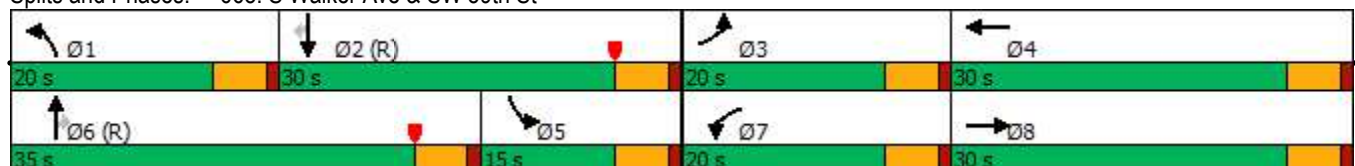
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.


Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	458	31	33	295	79	50	406	63	37	153	77
Future Volume (vph)	177	458	31	33	295	79	50	406	63	37	153	77
Satd. Flow (prot)	1770	3504	0	1770	3426	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3504	0	1770	3426	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		8			32				185			185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	192	532	0	36	407	0	54	441	68	40	166	84
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Total Split (s)	25.0	39.0		15.0	29.0		15.0	31.0	31.0	15.0	31.0	31.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	15.6	29.9		8.5	17.6		9.1	43.4	43.4	8.6	40.3	40.3
Actuated g/C Ratio	0.16	0.30		0.08	0.18		0.09	0.43	0.43	0.09	0.40	0.40
v/c Ratio	0.70	0.51		0.24	0.65		0.34	0.55	0.09	0.26	0.22	0.11
Control Delay	52.9	30.7		32.0	50.1		42.8	45.3	2.8	40.4	32.0	5.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	30.7		32.0	50.1		42.8	45.3	2.8	40.4	32.0	5.1
LOS	D	C		C	D		D	D	A	D	C	A
Approach Delay		36.6			48.6			39.9			25.4	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)	117	157		24	135		36	279	2	25	95	4
Queue Length 95th (ft)	183	191		m45	184		m62	#439	m8	60	151	18
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145		150	135		150
Base Capacity (vph)	354	1200		177	846		182	809	792	178	750	748
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.44		0.20	0.48		0.30	0.55	0.09	0.22	0.22	0.11

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 38.6

Intersection LOS: D

Intersection Capacity Utilization 67.8%

ICU Level of Service C

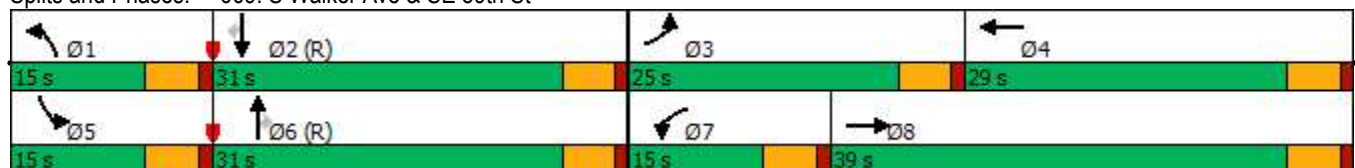
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	188	609	1	3	582	147	3	5	3	137	5	105
Future Volume (vph)	188	609	1	3	582	147	3	5	3	137	5	105
Satd. Flow (prot)	1770	3539	0	1770	3433	0	1770	1758	0	0	1777	1583
Flt Permitted	0.950			0.950			0.644				0.728	
Satd. Flow (perm)	1770	3539	0	1770	3433	0	1200	1758	0	0	1356	1583
Satd. Flow (RTOR)					32			3				131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	663	0	3	793	0	3	8	0	0	154	114
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		2
Total Split (s)	25.0	47.0		13.0	35.0		40.0	40.0		40.0	40.0	40.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Act Effect Green (s)	16.1	46.0		8.0	27.5		41.4	41.4			41.4	41.4
Actuated g/C Ratio	0.16	0.46		0.08	0.28		0.41	0.41			0.41	0.41
v/c Ratio	0.72	0.41		0.02	0.82		0.01	0.01			0.27	0.16
Control Delay	53.6	18.7		43.0	40.1		21.0	17.7			20.4	7.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	53.6	18.7		43.0	40.1		21.0	17.7			20.4	7.3
LOS	D	B		D	D		C	B			C	A
Approach Delay		26.9			40.1			18.6			14.9	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	124	130		2	235		1	2			79	13
Queue Length 95th (ft)	194	204		11	302		8	12			139	70
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	354	1659		141	1058		496	729			561	731
Starvation Cap Reductn	0	0		0	0		0	0			0	0
Spillback Cap Reductn	0	0		0	0		0	0			0	0
Storage Cap Reductn	0	0		0	0		0	0			0	0
Reduced v/c Ratio	0.58	0.40		0.02	0.75		0.01	0.01			0.27	0.16

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 30.6

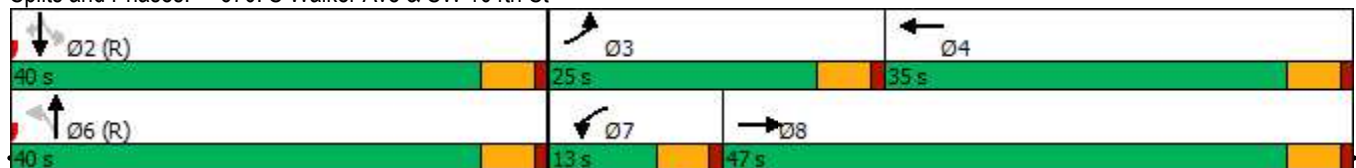
Intersection LOS: C

Intersection Capacity Utilization 59.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 670: S Walker Ave & SW 104th St



2040 AM Proposed

Synchro 10 Report

Timings

751: Robinson & I-40 WB Off Ramp

07/13/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	↑	→	←	↑
Traffic Volume (vph)	118	179	216	0	0	83
Future Volume (vph)	118	179	216	0	0	83
Satd. Flow (prot)	1770	1583	1863	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1863	0	0	1863
Satd. Flow (RTOR)		195				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	195	235	0	0	90
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	31.0	31.0	29.0			29.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effect Green (s)	7.5	7.5	8.8			8.5
Actuated g/C Ratio	0.30	0.30	0.35			0.34
v/c Ratio	0.24	0.32	0.36			0.14
Control Delay	9.0	3.4	8.7			7.0
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	9.0	3.4	8.7			7.0
LOS	A	A	A			A
Approach Delay	5.6		8.7			7.0
Approach LOS	A		A			A
Queue Length 50th (ft)	12	0	21			7
Queue Length 95th (ft)	35	22	53			23
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1685	1516	1697			1697
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.08	0.13	0.14			0.05

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 25.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 6.9

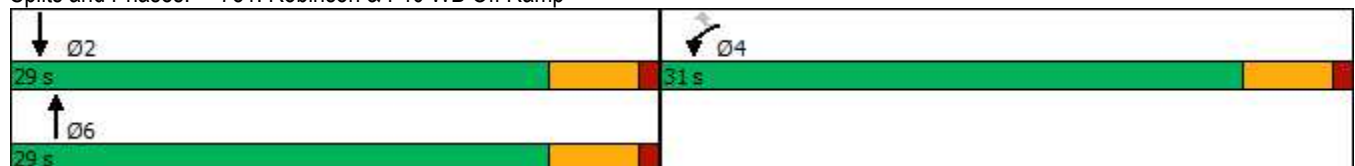
Intersection LOS: A

Intersection Capacity Utilization 30.8%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 751: Robinson & I-40 WB Off Ramp



Timings

3000: Robinson & OKC Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	121	36	27	569	136	131	206	43	31	27	15
Future Volume (vph)	22	121	36	27	569	136	131	206	43	31	27	15
Satd. Flow (prot)	1770	3419	0	1770	3437	0	1770	3447	0	1770	3352	0
Flt Permitted	0.141			0.644			0.663			0.585		
Satd. Flow (perm)	263	3419	0	1200	3437	0	1235	3447	0	1090	3352	0
Satd. Flow (RTOR)		38			26			21			16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	171	0	29	766	0	142	271	0	34	45	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	19.0	52.0		12.0	45.0		23.0	40.0		16.0	33.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	37.5	33.2		37.2	33.1		69.3	62.3		61.0	54.3	
Actuated g/C Ratio	0.31	0.28		0.31	0.28		0.58	0.52		0.51	0.45	
v/c Ratio	0.15	0.18		0.07	0.79		0.19	0.15		0.06	0.03	
Control Delay	24.0	24.6		22.8	45.0		14.7	17.7		15.2	18.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.0	24.6		22.8	45.0		14.7	17.7		15.2	18.0	
LOS	C	C		C	D		B	B		B	B	
Approach Delay		24.5			44.2			16.7			16.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)	12	41		14	281		52	58		12	6	
Queue Length 95th (ft)	27	63		31	325		102	102		32	22	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	264	1362		406	1165		796	1798		655	1526	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.13		0.07	0.66		0.18	0.15		0.05	0.03	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 32.5

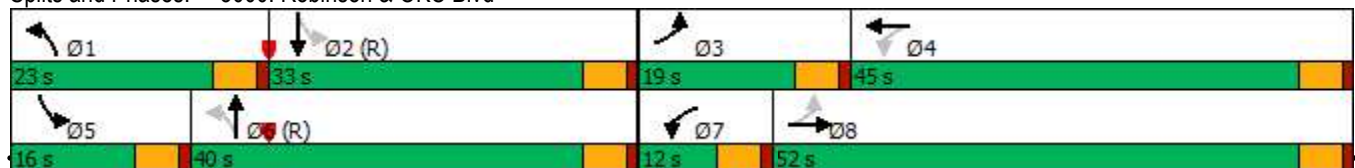
Intersection LOS: C

Intersection Capacity Utilization 45.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd






















2040 AM Proposed

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							 			 	
Traffic Volume (vph)	137	271	115	0	0	0	0	660	26	15	348	0
Future Volume (vph)	137	271	115	0	0	0	0	660	26	15	348	0
Satd. Flow (prot)	0	4854	0	0	0	0	0	1853	0	0	1859	0
Flt Permitted		0.987									0.965	
Satd. Flow (perm)	0	4854	0	0	0	0	0	1853	0	0	1798	0
Satd. Flow (RTOR)		67						4				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	569	0	0	0	0	0	745	0	0	394	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	29.0	29.0						71.0		71.0	71.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		24.0						66.0			66.0	
Actuated g/C Ratio		0.24						0.66			0.66	
v/c Ratio		0.47						0.61			0.33	
Control Delay		30.0						8.5			7.4	
Queue Delay		0.7						0.0			1.0	
Total Delay		30.7						8.6			8.4	
LOS		C						A			A	
Approach Delay		30.7						8.6			8.4	
Approach LOS		C						A			A	
Queue Length 50th (ft)		100						68			62	
Queue Length 95th (ft)		136						m157			196	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1215						1224			1186	
Starvation Cap Reductn		0						0			524	
Spillback Cap Reductn		332						24			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.64						0.62			0.60	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 15.9

Intersection LOS: B

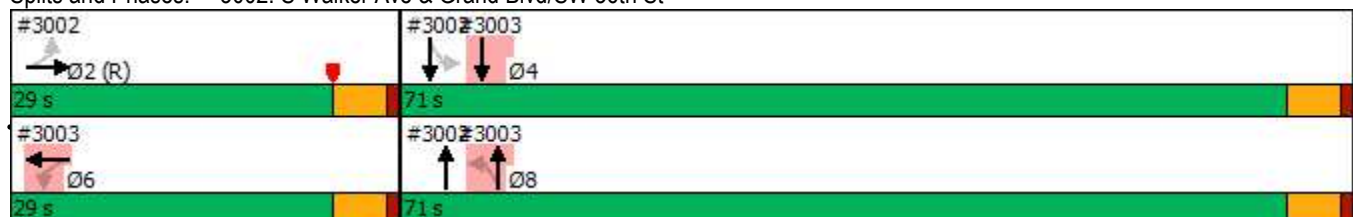
Intersection Capacity Utilization 55.2%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St



Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

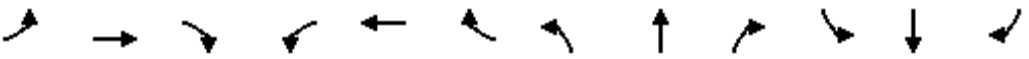
07/13/2021

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	6
Permitted Phases	
Total Split (s)	29.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					←↑↑			↑			↑↑	
Traffic Volume (vph)	0	0	0	64	273	65	91	707	0	0	286	42
Future Volume (vph)	0	0	0	64	273	65	91	707	0	0	286	42
Satd. Flow (prot)	0	0	0	0	4924	0	0	1852	0	0	3472	0
Flt Permitted					0.992			0.907				
Satd. Flow (perm)	0	0	0	0	4924	0	0	1690	0	0	3472	0
Satd. Flow (RTOR)					38						34	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	438	0	0	867	0	0	357	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					6			8			4	
Permitted Phases				6			8					
Total Split (s)				29.0	29.0		71.0	71.0			71.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effect Green (s)					24.0			66.0			66.0	
Actuated g/C Ratio					0.24			0.66			0.66	
v/c Ratio					0.36			0.78			0.16	
Control Delay					54.3			11.6			6.0	
Queue Delay					0.3			0.0			0.0	
Total Delay					54.6			11.6			6.0	
LOS					D			B			A	
Approach Delay					54.6			11.6			6.0	
Approach LOS					D			B			A	
Queue Length 50th (ft)					95			99			36	
Queue Length 95th (ft)					131			296			53	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1210			1115			2303	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					281			0			35	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.47			0.78			0.16	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 21.7

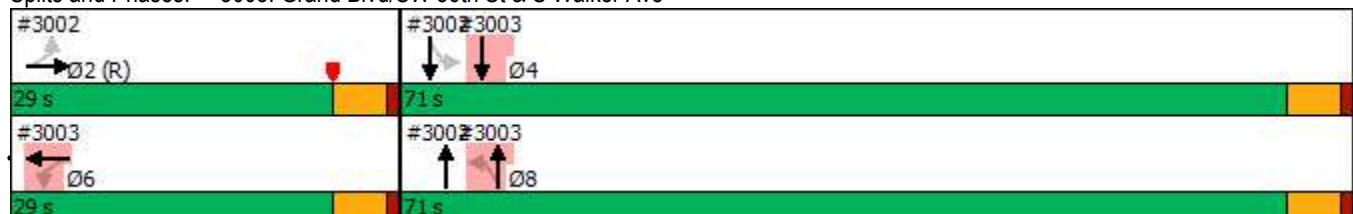
Intersection LOS: C

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave



Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/13/2021

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	29.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	25	58	38	11	28	7	9	118	14	25	110	9
Future Vol, veh/h	25	58	38	11	28	7	9	118	14	25	110	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	63	41	12	30	8	10	128	15	27	120	10
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.6	8.2	8.4	8.6
HCM LOS	A	A	A	A



















Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	13%	0%	21%	24%	31%	0%
Vol Thru, %	87%	81%	48%	61%	69%	86%
Vol Right, %	0%	19%	31%	15%	0%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	73	121	46	80	64
LT Vol	9	0	25	11	25	0
Through Vol	59	59	58	28	55	55
RT Vol	0	14	38	7	0	9
Lane Flow Rate	74	79	132	50	87	70
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.106	0.11	0.168	0.067	0.127	0.097
Departure Headway (Hd)	5.186	4.984	4.599	4.804	5.271	5.015
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	691	718	780	745	680	714
Service Time	2.92	2.719	2.626	2.838	3.005	2.749
HCM Lane V/C Ratio	0.107	0.11	0.169	0.067	0.128	0.098
HCM Control Delay	8.5	8.3	8.6	8.2	8.8	8.3
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0.6	0.2	0.4	0.3

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	51	17	7	15	28	15	847	16	9	618	7
Future Vol, veh/h	20	51	17	7	15	28	15	847	16	9	618	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	55	18	8	16	30	16	921	17	10	672	8
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1197	1666	340	1346	1662	469	680	0	0	938	0	0
Stage 1	696	696	-	962	962	-	-	-	-	-	-	-
Stage 2	501	970	-	384	700	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	141	96	656	110	96	541	908	-	-	726	-	-
Stage 1	398	441	-	275	332	-	-	-	-	-	-	-
Stage 2	521	330	-	611	440	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	90	656	52	90	541	908	-	-	726	-	-
Mov Cap-2 Maneuver	110	90	-	52	90	-	-	-	-	-	-	-
Stage 1	383	431	-	265	320	-	-	-	-	-	-	-
Stage 2	449	318	-	506	430	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	115.4		45.3			0.3			0.2			
HCM LOS	F		E									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	908	-	-	114	142	726	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.839	0.383	0.013	-	-				
HCM Control Delay (s)	9	0.2	-	115.4	45.3	10	0.1	-				
HCM Lane LOS	A	A	-	F	E	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	5	1.6	0	-	-				

Timings

97: N Council Rd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	48	19	58	25	65	14	663	46	41	924	9
Future Volume (vph)	36	48	19	58	25	65	14	663	46	41	924	9
Satd. Flow (prot)	0	1785	0	0	1718	0	1770	3504	0	1770	3536	0
Flt Permitted		0.868			0.823		0.252			0.359		
Satd. Flow (perm)	0	1576	0	0	1441	0	469	3504	0	669	3536	0
Satd. Flow (RTOR)		13			44			14			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	161	0	15	771	0	45	1014	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	31.0	31.0		31.0	31.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		9.5			9.5		22.6	22.6		22.6	22.6	
Actuated g/C Ratio		0.26			0.26		0.61	0.61		0.61	0.61	
v/c Ratio		0.27			0.40		0.05	0.36		0.11	0.47	
Control Delay		14.6			14.4		6.0	6.2		6.4	7.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		14.6			14.4		6.0	6.2		6.4	7.1	
LOS		B			B		A	A		A	A	
Approach Delay		14.6			14.4			6.2			7.1	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		17			20		1	45		4	66	
Queue Length 95th (ft)		58			72		9	94		19	134	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)							160			180		
Base Capacity (vph)		1126			1039		469	3504		669	3536	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.15		0.03	0.22		0.07	0.29	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 37

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 7.7

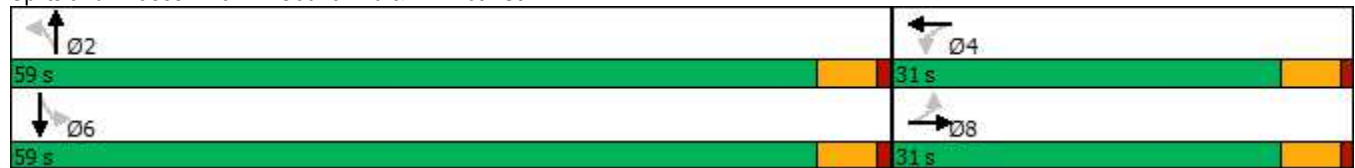
Intersection LOS: A

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 97: N Council Rd & NW 16th St




2040 AM Proposed

Synchro 10 Report

Timings

295: N MacArthur Blvd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (vph)	89	135	81	49	109	65	44	507	33	80	728	46
Future Volume (vph)	89	135	81	49	109	65	44	507	33	80	728	46
Satd. Flow (prot)	0	1771	0	0	1769	0	1770	3507	0	1770	3507	0
Flt Permitted		0.779			0.834		0.950			0.950		
Satd. Flow (perm)	0	1399	0	0	1491	0	1770	3507	0	1770	3507	0
Satd. Flow (RTOR)		24			28			8			8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	0	242	0	48	587	0	87	841	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	41.0	41.0		41.0	41.0		14.0	33.0		16.0	35.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		19.8			19.8		7.3	29.5		8.6	33.2	
Actuated g/C Ratio		0.28			0.28		0.10	0.42		0.12	0.47	
v/c Ratio		0.81			0.55		0.26	0.40		0.40	0.51	
Control Delay		38.3			24.3		36.4	17.9		37.4	17.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		38.3			24.3		36.4	17.9		37.4	17.3	
LOS		D			C		D	B		D	B	
Approach Delay		38.3			24.3			19.3			19.2	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)		129			81		20	96		36	145	
Queue Length 95th (ft)		226			149		57	178		87	260	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)							105			130		
Base Capacity (vph)		749			799		233	1475		285	1655	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.44			0.30		0.21	0.40		0.31	0.51	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 70.4

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 22.8

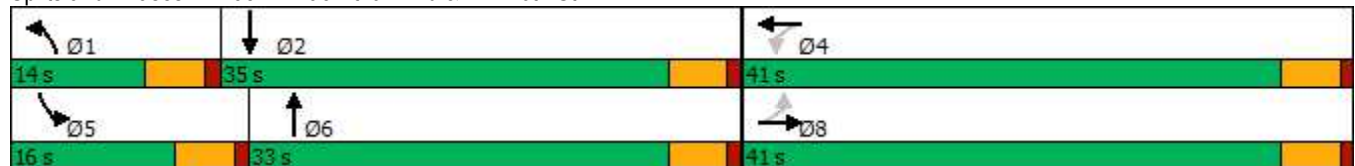
Intersection LOS: C

Intersection Capacity Utilization 62.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 295: N MacArthur Blvd & NW 16th St
























2040 AM Proposed

Synchro 10 Report

Timings

377: N Meridian Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	157	126	27	120	67	146	442	47	63	644	100
Future Volume (vph)	118	157	126	27	120	67	146	442	47	63	644	100
Satd. Flow (prot)	0	1824	1583	0	1774	0	1770	3490	0	1770	3468	0
Flt Permitted		0.694			0.931		0.309			0.446		
Satd. Flow (perm)	0	1293	1583	0	1661	0	576	3490	0	831	3468	0
Satd. Flow (RTOR)			137		31			18			27	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	299	137	0	232	0	159	531	0	68	809	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	41.0	41.0	41.0	41.0	41.0		49.0	49.0		49.0	49.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		21.5	21.5		21.5		44.4	44.4		44.4	44.4	
Actuated g/C Ratio		0.28	0.28		0.28		0.58	0.58		0.58	0.58	
v/c Ratio		0.82	0.25		0.47		0.47	0.26		0.14	0.40	
Control Delay		43.1	4.8		21.9		17.6	9.0		10.4	10.1	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		43.1	4.8		21.9		17.6	9.0		10.4	10.1	
LOS		D	A		C		B	A		B	B	
Approach Delay		31.1			21.9			11.0			10.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		130	0		76		38	54		13	92	
Queue Length 95th (ft)		218	35		135		126	115		44	185	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		617	827		809		336	2044		485	2035	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.48	0.17		0.29		0.47	0.26		0.14	0.40	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 76

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 15.7

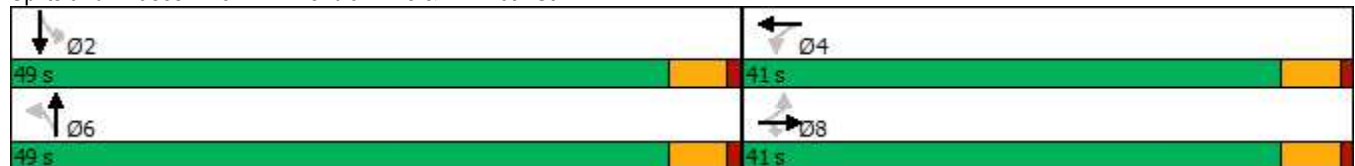
Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 377: N Meridian Ave & NW 16th St




2040 AM Proposed

Synchro 10 Report

Timings

544: N Rockwell Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Volume (vph)	105	117	105	63	79	84	37	460	42	91	771	69
Future Volume (vph)	105	117	105	63	79	84	37	460	42	91	771	69
Satd. Flow (prot)	0	1754	0	0	1745	0	1770	3493	0	1770	3497	0
Flt Permitted		0.798			0.813		0.950			0.950		
Satd. Flow (perm)	0	1423	0	0	1439	0	1770	3493	0	1770	3497	0
Satd. Flow (RTOR)		27			33			12			13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	355	0	0	245	0	40	546	0	99	913	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	31.0	31.0		31.0	31.0		15.0	40.0		19.0	44.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		22.4			22.4		7.6	21.8		9.7	26.4	
Actuated g/C Ratio		0.34			0.34		0.11	0.33		0.15	0.40	
v/c Ratio		0.71			0.48		0.20	0.47		0.39	0.65	
Control Delay		30.7			21.9		35.5	20.3		35.2	20.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		30.7			21.9		35.5	20.3		35.2	20.1	
LOS		C			C		D	C		D	C	
Approach Delay		30.7			21.9			21.3			21.5	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		127			73		17	102		43	187	
Queue Length 95th (ft)		#312			172		51	157		96	262	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)							155			200		
Base Capacity (vph)		627			638		293	2028		410	2226	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.57			0.38		0.14	0.27		0.24	0.41	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 66.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.0

Intersection LOS: C

Intersection Capacity Utilization 65.1%

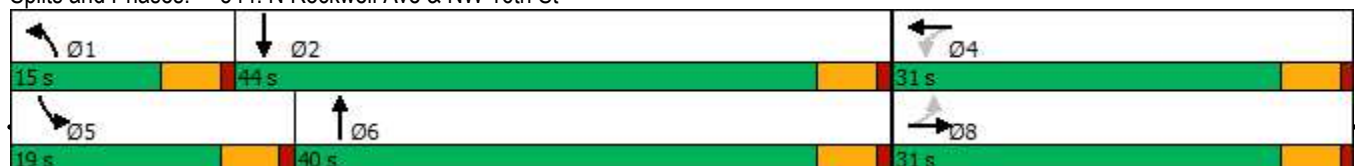
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

















Splits and Phases: 544: N Rockwell Ave & NW 16th St



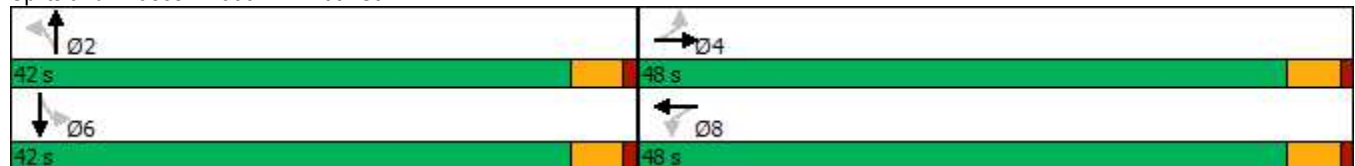
Timings

999: NW 19th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	48.0	48.0		48.0	48.0		42.0	42.0		42.0	42.0	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 57												
Control Type: Semi Act-Uncoord												
Maximum v/c Ratio: 0.00												
Intersection Signal Delay: 0.0						Intersection LOS: A						
Intersection Capacity Utilization 0.0%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 999: NW 19th St







HCM 6th AWSC
1004: NE Grand Blvd SB & NE 16th St

07/13/2021

Intersection

Intersection Delay, s/veh 8.8
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	221	37	7	97	0	12	5	5	20	15	12
Future Vol, veh/h	7	221	37	7	97	0	12	5	5	20	15	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	240	40	8	105	0	13	5	5	22	16	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	8.1	8	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	55%	3%	7%	43%
Vol Thru, %	23%	83%	93%	32%
Vol Right, %	23%	14%	0%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	265	104	47
LT Vol	12	7	7	20
Through Vol	5	221	97	15
RT Vol	5	37	0	12
Lane Flow Rate	24	288	113	51
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.334	0.139	0.068
Departure Headway (Hd)	4.85	4.172	4.42	4.772
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	867	814	751
Service Time	2.875	2.172	2.435	2.795
HCM Lane V/C Ratio	0.032	0.332	0.139	0.068
HCM Control Delay	8	9.2	8.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.5	0.5	0.2

HCM 6th AWSC
1005: NE Grand Blvd NB & NE 16th St

07/13/2021

Intersection

Intersection Delay, s/veh 9.6
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	57	174	15	4	58	4	46	137	14	4	10	11
Future Vol, veh/h	57	174	15	4	58	4	46	137	14	4	10	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	189	16	4	63	4	50	149	15	4	11	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	8.4	9.7	8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	23%	6%	16%
Vol Thru, %	70%	71%	88%	40%
Vol Right, %	7%	6%	6%	44%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	246	66	25
LT Vol	46	57	4	4
Through Vol	137	174	58	10
RT Vol	14	15	4	11
Lane Flow Rate	214	267	72	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.284	0.343	0.096	0.036
Departure Headway (Hd)	4.774	4.622	4.819	4.783
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	778	741	745
Service Time	2.814	2.658	2.867	2.837
HCM Lane V/C Ratio	0.285	0.343	0.097	0.036
HCM Control Delay	9.7	10.1	8.4	8
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	1.2	1.5	0.3	0.1

HCM 6th TWSC
1002: N Lincoln Blvd SB & NE 16th St

07/13/2021

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱					↱↱↱		
Traffic Vol, veh/h	0	17	5	5	4	0	0	0	0	0	1214	11
Future Vol, veh/h	0	17	5	5	4	0	0	0	0	0	1214	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	18	5	5	4	0	0	0	0	0	1320	12

Major/Minor	Minor2		Minor1				Major2		
Conflicting Flow All	-	1326	666	537	1332	-	0	0	0
Stage 1	-	1326	-	0	0	-	-	-	-
Stage 2	-	0	-	537	1332	-	-	-	-
Critical Hdwy	-	6.54	7.14	6.44	6.54	-	5.34	-	-
Critical Hdwy Stg 1	-	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.74	5.54	-	-	-	-
Follow-up Hdwy	-	4.02	3.92	3.82	4.02	-	3.12	-	-
Pot Cap-1 Maneuver	0	154	345	473	153	0	-	-	-
Stage 1	0	223	-	-	-	0	-	-	-
Stage 2	0	-	-	452	222	0	-	-	-
Platoon blocked, %								-	-
Mov Cap-1 Maneuver	-	154	345	423	153	-	-	-	-
Mov Cap-2 Maneuver	-	154	-	423	153	-	-	-	-
Stage 1	-	223	-	-	-	-	-	-	-
Stage 2	-	-	-	408	222	-	-	-	-

Approach	EB		WB		SB	
HCM Control Delay, s	28.6		20.8		0	
HCM LOS	D		C			

Minor Lane/Major Mvmt	EBLn1WBLn1		SBL	SBT	SBR
Capacity (veh/h)	176	237	-	-	-
HCM Lane V/C Ratio	0.136	0.041	-	-	-
HCM Control Delay (s)	28.6	20.8	0	-	-
HCM Lane LOS	D	C	A	-	-
HCM 95th %tile Q(veh)	0.5	0.1	-	-	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱			↰↱				
Traffic Vol, veh/h	17	2	0	0	6	1	1	1567	2	0	0	0
Future Vol, veh/h	17	2	0	0	6	1	1	1567	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	2	0	0	7	1	1	1703	2	0	0	0

Major/Minor	Minor2		Minor1		Major1						
Conflicting Flow All	687	1707	-	-	1706	853	0	0	0		
Stage 1	0	0	-	-	1706	-	-	-	-		
Stage 2	687	1707	-	-	0	-	-	-	-		
Critical Hdwy	6.44	6.54	-	-	6.54	7.14	5.34	-	-		
Critical Hdwy Stg 1	-	-	-	-	5.54	-	-	-	-		
Critical Hdwy Stg 2	6.74	5.54	-	-	-	-	-	-	-		
Follow-up Hdwy	3.82	4.02	-	-	4.02	3.92	3.12	-	-		
Pot Cap-1 Maneuver	388	90	0	0	90	260	-	-	-		
Stage 1	-	-	0	0	145	-	-	-	-		
Stage 2	367	145	0	0	-	-	-	-	-		
Platoon blocked, %								-	-		
Mov Cap-1 Maneuver	365	90	-	-	90	260	-	-	-		
Mov Cap-2 Maneuver	365	90	-	-	90	-	-	-	-		
Stage 1	-	-	-	-	145	-	-	-	-		
Stage 2	349	145	-	-	-	-	-	-	-		

Approach	EB	WB	NB
HCM Control Delay, s	19.1	44.4	
HCM LOS	C	E	

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1
Capacity (veh/h)	-	-	-	276 99
HCM Lane V/C Ratio	-	-	-	0.075 0.077
HCM Control Delay (s)	-	-	-	19.1 44.4
HCM Lane LOS	-	-	-	C E
HCM 95th %tile Q(veh)	-	-	-	0.2 0.2

Timings

282: N Lottie Ave & NE 16th St

07/13/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	68	16	42	32	90	9	455	111	91	227	17
Future Volume (vph)	2	68	16	42	32	90	9	455	111	91	227	17
Satd. Flow (prot)	0	1814	0	0	1702	0	0	3433	0	0	3469	0
Flt Permitted		0.994			0.898			0.949			0.709	
Satd. Flow (perm)	0	1805	0	0	1549	0	0	3261	0	0	2492	0
Satd. Flow (RTOR)		15			79			47			8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	179	0	0	626	0	0	364	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	40.0	40.0		40.0	40.0		50.0	50.0		50.0	50.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		16.0			16.0			46.0			46.0	
Actuated g/C Ratio		0.22			0.22			0.64			0.64	
v/c Ratio		0.23			0.44			0.30			0.23	
Control Delay		20.8			17.4			5.8			5.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.8			17.4			5.8			5.8	
LOS		C			B			A			A	
Approach Delay		20.8			17.4			5.8			5.8	
Approach LOS		C			B			A			A	
Queue Length 50th (ft)		28			36			51			30	
Queue Length 95th (ft)		64			90			75			47	
Internal Link Dist (ft)		1385			3729			1339			1240	
Turn Bay Length (ft)												
Base Capacity (vph)		885			793			2100			1594	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.11			0.23			0.30			0.23	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 72

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 8.6

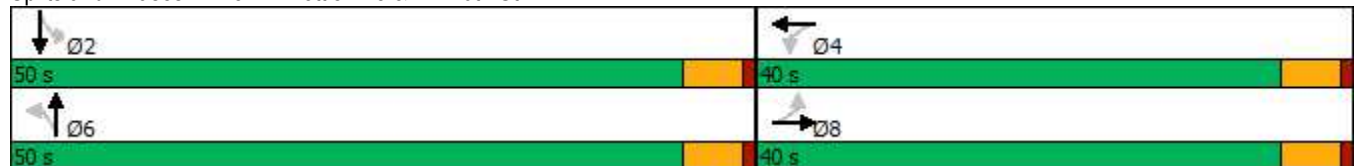
Intersection LOS: A

Intersection Capacity Utilization 58.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 282: N Lottie Ave & NE 16th St
























2040 PM Proposed

Synchro 10 Report

Timings

315: N Eastern Ave/ N Eastern Ave & NE 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	106	111	16	46	43	57	844	36	56	803	91
Future Volume (vph)	125	106	111	16	46	43	57	844	36	56	803	91
Satd. Flow (prot)	1770	1863	1583	0	1746	0	1770	3518	0	1770	3486	0
Flt Permitted	0.586				0.951		0.203			0.203		
Satd. Flow (perm)	1092	1863	1583	0	1672	0	378	3518	0	378	3486	0
Satd. Flow (RTOR)			145		39			4			12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	115	121	0	114	0	62	956	0	61	972	0
Turn Type	pm+pt	NA	custom	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		4	4			6			2		
Total Split (s)	22.0	52.0	30.0	30.0	30.0		14.0	24.0		14.0	24.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	25.3	27.6	16.6		16.6		24.1	19.7		24.1	19.7	
Actuated g/C Ratio	0.39	0.43	0.26		0.26		0.37	0.30		0.37	0.30	
v/c Ratio	0.26	0.14	0.24		0.25		0.19	0.89		0.19	0.91	
Control Delay	14.0	13.0	4.9		18.4		14.1	37.6		14.1	39.4	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	14.0	13.0	4.9		18.4		14.1	37.6		14.1	39.4	
LOS	B	B	A		B		B	D		B	D	
Approach Delay		10.7			18.4			36.2			37.9	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	37	31	0		27		15	~232		15	~250	
Queue Length 95th (ft)	71	61	30		72		38	#386		37	#395	
Internal Link Dist (ft)		3729			3261			1166			1242	
Turn Bay Length (ft)	145		145				70			95		
Base Capacity (vph)	655	1389	722		694		344	1076		344	1071	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.21	0.08	0.17		0.16		0.18	0.89		0.18	0.91	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 64.7

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 32.4

Intersection LOS: C

Intersection Capacity Utilization 64.3%

ICU Level of Service C

Analysis Period (min) 15








~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 315: N Eastern Ave/ N Eastern Ave & NE 16th St

			
Ø1	Ø2	Ø3	Ø4
14 s	24 s	22 s	30 s
			
Ø5	Ø6	Ø8	
14 s	24 s	52 s	




HCM 6th TWSC
2002: N Classen Blvd & W Wilshire Blvd

07/13/2021

Intersection						
Int Delay, s/veh	26.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑	
Traffic Vol, veh/h	518	17	120	581	88	307
Future Vol, veh/h	518	17	120	581	88	307
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	563	18	130	632	96	334
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	581	0	1148	291
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	576	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	989	-	192	706
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	525	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	989	-	153	706
Mov Cap-2 Maneuver	-	-	-	-	153	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	419	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	2.2		107.2		
HCM LOS				F		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	391	-	-	989	-	
HCM Lane V/C Ratio	1.098	-	-	0.132	-	
HCM Control Delay (s)	107.2	-	-	9.2	0.7	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	15.3	-	-	0.5	-	

HCM 6th TWSC
2003: W Wilshire Blvd & N Classen Blvd

07/13/2021

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	75	735	669	68	46	47
Future Vol, veh/h	75	735	669	68	46	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	799	727	74	50	51
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	801	0	-	0	1328	401
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	564	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	818	-	-	-	146	599
Stage 1	-	-	-	-	420	-
Stage 2	-	-	-	-	533	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	818	-	-	-	120	599
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	533	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.6	0		39.8		
HCM LOS				E		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	818	-	-	-	201	
HCM Lane V/C Ratio	0.1	-	-	-	0.503	
HCM Control Delay (s)	9.9	0.7	-	-	39.8	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.3	-	-	-	2.5	

Timings

78: N Classen Blvd & Chesapeake Dr

07/13/2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	W	W	W
Traffic Volume (vph)	15	19	36	313	144	14
Future Volume (vph)	15	19	36	313	144	14
Satd. Flow (prot)	1683	0	1770	1863	1840	0
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1683	0	1770	1863	1840	0
Satd. Flow (RTOR)	21				4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	39	340	172	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Total Split (s)	47.0		34.0	83.0	49.0	
Total Lost Time (s)	5.0		5.0	5.0	5.0	
Act Effect Green (s)	6.9		7.5	83.3	75.3	
Actuated g/C Ratio	0.07		0.08	0.89	0.81	
v/c Ratio	0.26		0.27	0.21	0.12	
Control Delay	29.1		45.3	1.8	4.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	29.1		45.3	1.8	4.6	
LOS	C		D	A	A	
Approach Delay	29.1			6.3	4.6	
Approach LOS	C			A	A	
Queue Length 50th (ft)	9		22	30	29	
Queue Length 95th (ft)	40		55	56	60	
Internal Link Dist (ft)	267			662	684	
Turn Bay Length (ft)			115			
Base Capacity (vph)	770		551	1658	1482	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.05		0.07	0.21	0.12	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 93.5

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.27

Intersection Signal Delay: 7.2

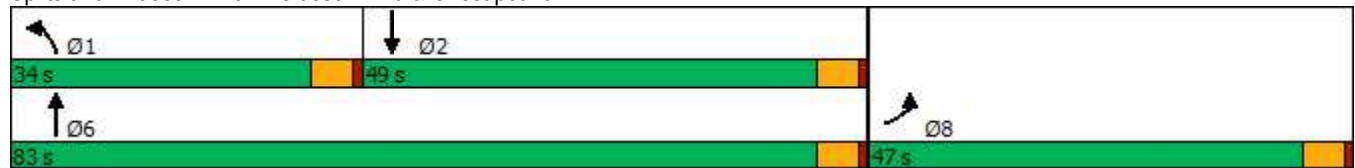
Intersection LOS: A

Intersection Capacity Utilization 30.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 78: N Classen Blvd & Chesapeake Dr























2040 PM Proposed

Synchro 10 Report

Timings

79: N Classen Blvd & NW 63rd St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	742	11	19	810	85	75	163	122	64	70	167
Future Volume (vph)	132	742	11	19	810	85	75	163	122	64	70	167
Satd. Flow (prot)	1770	3532	0	1770	3490	0	1770	1744	0	1770	1665	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3532	0	1770	3490	0	1770	1744	0	1770	1665	0
Satd. Flow (RTOR)		1			9			27			86	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	819	0	21	972	0	82	310	0	70	258	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	25.0	50.0		20.0	50.0		20.0	35.0		20.0	35.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	23.3	62.0		8.2	41.7		11.4	30.0		15.0	33.6	
Actuated g/C Ratio	0.18	0.48		0.06	0.32		0.09	0.23		0.12	0.26	
v/c Ratio	0.45	0.49		0.19	0.86		0.53	0.73		0.34	0.52	
Control Delay	54.3	25.4		61.7	49.7		68.7	53.5		58.2	32.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.3	25.4		61.7	49.7		68.7	53.5		58.2	32.0	
LOS	D	C		E	D		E	D		E	C	
Approach Delay		29.7			50.0			56.7			37.6	
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	110	261		17	394		67	223		55	123	
Queue Length 95th (ft)	183	328		45	471		119	332		104	221	
Internal Link Dist (ft)		805			839			684			4970	
Turn Bay Length (ft)	90			120			150			160		
Base Capacity (vph)	316	1684		204	1213		204	423		204	494	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.45	0.49		0.10	0.80		0.40	0.73		0.34	0.52	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 114 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 42.2

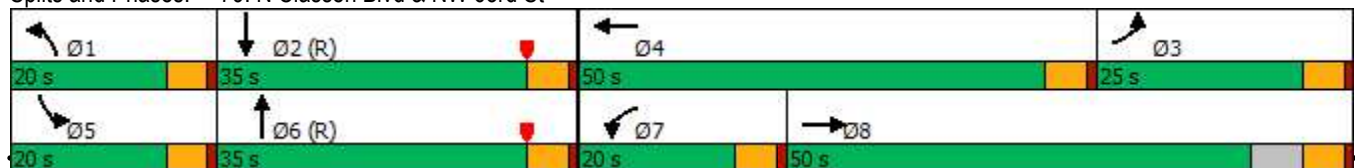
Intersection LOS: D

Intersection Capacity Utilization 71.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 79: N Classen Blvd & NW 63rd St























2040 PM Proposed

Synchro 10 Report

Timings

159: NW Grand Blvd & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	342	520	52	41	347	84	85	436	12	14	276	175
Future Volume (vph)	342	520	52	41	347	84	85	436	12	14	276	175
Satd. Flow (prot)	1770	3490	0	1770	3437	0	1770	3525	0	1770	3334	0
Flt Permitted	0.950			0.950			0.316			0.447		
Satd. Flow (perm)	1770	3490	0	1770	3437	0	589	3525	0	833	3334	0
Satd. Flow (RTOR)		11			20			2			100	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	372	622	0	45	468	0	92	487	0	15	490	0
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases							2			6		
Total Split (s)	49.0	66.0		14.0	31.0		16.0	36.0		14.0	34.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)	27.4	43.9		7.9	19.2		41.8	38.0		35.8	31.0	
Actuated g/C Ratio	0.27	0.43		0.08	0.19		0.41	0.37		0.35	0.30	
v/c Ratio	0.79	0.41		0.33	0.71		0.27	0.37		0.04	0.45	
Control Delay	48.5	22.0		57.1	45.1		24.3	28.1		23.4	27.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	48.5	22.0		57.1	45.1		24.3	28.1		23.4	27.5	
LOS	D	C		E	D		C	C		C	C	
Approach Delay		31.9			46.1			27.5			27.4	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)	229	160		29	147		36	110		6	110	
Queue Length 95th (ft)	372	217		76	235		90	233		23	206	
Internal Link Dist (ft)		3248			390			801			872	
Turn Bay Length (ft)	90			150			115			170		
Base Capacity (vph)	794	2168		169	933		377	1308		400	1079	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.47	0.29		0.27	0.50		0.24	0.37		0.04	0.45	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 102.4

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 32.9

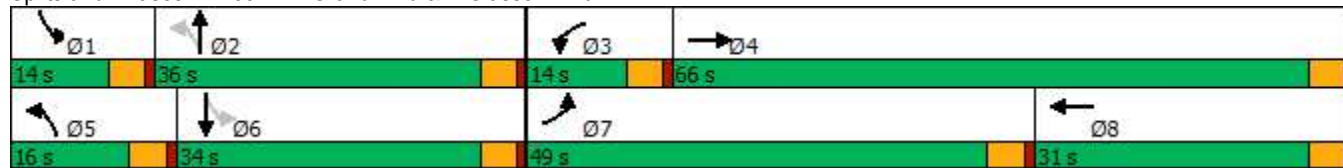
Intersection LOS: C

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 159: NW Grand Blvd & N Classen Blvd
























2040 PM Proposed

Synchro 10 Report

Timings

2001: N Western Ave & N Classen Blvd

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	175	36	196	196	60	95	1180	84	6	722	199
Future Volume (vph)	321	175	36	196	196	60	95	1180	84	6	722	199
Satd. Flow (prot)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3447	0	1770	3415	0	1770	3504	0	1770	3539	1583
Satd. Flow (RTOR)		17			26			6				216
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	349	229	0	213	278	0	103	1374	0	7	785	216
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												6
Total Split (s)	38.0	36.0		25.0	23.0		19.0	54.0		15.0	50.0	50.0
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Act Effect Green (s)	27.2	23.3		17.9	14.0		11.6	60.0		6.1	46.0	46.0
Actuated g/C Ratio	0.23	0.20		0.15	0.12		0.10	0.51		0.05	0.39	0.39
v/c Ratio	0.85	0.33		0.79	0.65		0.59	0.76		0.08	0.56	0.29
Control Delay	62.9	38.5		69.8	52.8		66.4	28.3		59.5	31.5	4.8
Queue Delay	0.2	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	63.1	38.5		69.8	52.8		66.4	28.3		59.5	31.5	4.8
LOS	E	D		E	D		E	C		E	C	A
Approach Delay		53.4			60.2			31.0			25.9	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	254	74		156	98		76	415		5	247	0
Queue Length 95th (ft)	#395	114		#290	153		145	#748		22	359	54
Internal Link Dist (ft)		390			511			406			644	
Turn Bay Length (ft)	160			115			130			100		280
Base Capacity (vph)	512	950		313	568		221	1801		160	1391	753
Starvation Cap Reductn	10	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.70	0.24		0.68	0.49		0.47	0.76		0.04	0.56	0.29

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 116.9

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 37.2

Intersection LOS: D

Intersection Capacity Utilization 79.6%

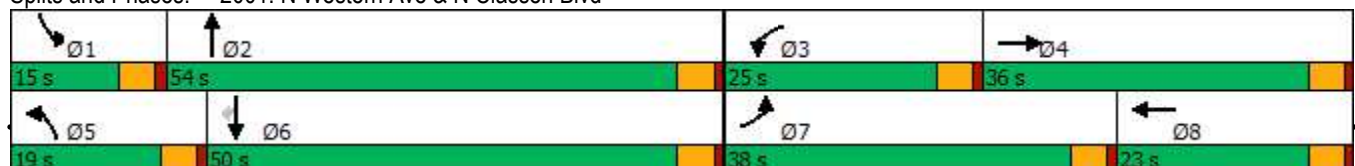
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2001: N Western Ave & N Classen Blvd



HCM 6th TWSC
3001: S Santa Fe & SW 98th St/NW 34th St




















07/13/2021

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↵	↵		↵	↵	
Traffic Vol, veh/h	2	1	2	10	4	2	2	513	15	7	1082	7
Future Vol, veh/h	2	1	2	10	4	2	2	513	15	7	1082	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	250	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	2	11	4	2	2	558	16	8	1176	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1769	1774	1180	1768	1770	566	1184	0	0	574	0	0
Stage 1	1196	1196	-	570	570	-	-	-	-	-	-	-
Stage 2	573	578	-	1198	1200	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	65	83	232	65	83	524	590	-	-	999	-	-
Stage 1	227	259	-	506	505	-	-	-	-	-	-	-
Stage 2	505	501	-	227	258	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	82	232	63	82	524	590	-	-	999	-	-
Mov Cap-2 Maneuver	62	82	-	63	82	-	-	-	-	-	-	-
Stage 1	226	257	-	504	503	-	-	-	-	-	-	-
Stage 2	497	499	-	222	256	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	45.6		65.9		0		0.1					
HCM LOS	E		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	590	-	-	94	76	999	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.058	0.229	0.008	-	-				
HCM Control Delay (s)	11.1	-	-	45.6	65.9	8.6	-	-				
HCM Lane LOS	B	-	-	E	F	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0	-	-				

Timings

527: S Robinson Ave & W Reno Ave

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	445	60	33	275	39	32	80	37	106	362	80
Future Volume (vph)	30	445	60	33	275	39	32	80	37	106	362	80
Satd. Flow (prot)	1770	3476	0	1770	3476	0	0	3371	0	1770	3444	0
Flt Permitted	0.420			0.209				0.809		0.649		
Satd. Flow (perm)	782	3476	0	389	3476	0	0	2757	0	1209	3444	0
Satd. Flow (RTOR)		12			11			40			33	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	549	0	36	341	0	0	162	0	115	480	0
Turn Type	D.P+P	NA		D.P+P	NA		Perm	NA		D.P+P	NA	
Protected Phases	3	8		7	4			6		5	2	
Permitted Phases	4			8			6			6		
Total Split (s)	25.0	40.0		12.0	27.0		56.0	56.0		12.0	68.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Act Effect Green (s)	28.9	24.7		28.9	24.2			64.5		73.1	78.1	
Actuated g/C Ratio	0.24	0.21		0.24	0.20			0.54		0.61	0.65	
v/c Ratio	0.13	0.76		0.21	0.48			0.11		0.15	0.21	
Control Delay	29.7	50.5		31.6	42.7			16.3		10.5	9.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	29.7	50.5		31.6	42.7			16.3		10.5	9.5	
LOS	C	D		C	D			B		B	A	
Approach Delay		49.3			41.6			16.3			9.7	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	18	207		20	119			28		35	76	
Queue Length 95th (ft)	40	253		42	158			44		70	119	
Internal Link Dist (ft)		2777			2964			670			1354	
Turn Bay Length (ft)	75			115						65		
Base Capacity (vph)	375	1022		174	730			1500		778	2251	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.09	0.54		0.21	0.47			0.11		0.15	0.21	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 105 (88%), Referenced to phase 2:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 30.8

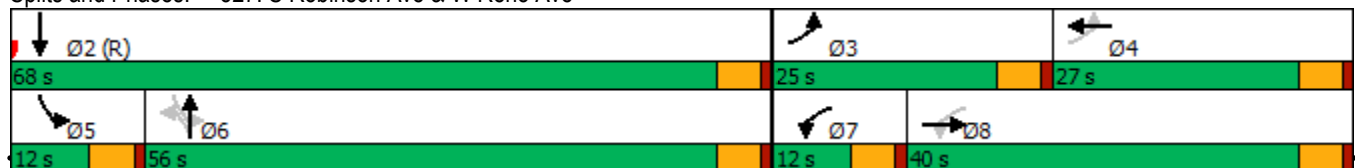
Intersection LOS: C

Intersection Capacity Utilization 51.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 527: S Robinson Ave & W Reno Ave



















2040 PM Proposed

Synchro 10 Report

Timings

535: S Robinson Ave & SW 25th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	195	42	17	135	41	21	194	23	32	808	85
Future Volume (vph)	43	195	42	17	135	41	21	194	23	32	808	85
Satd. Flow (prot)	0	1811	0	0	1801	0	0	1831	0	0	1837	0
Flt Permitted		0.921			0.957			0.897			0.983	
Satd. Flow (perm)	0	1681	0	0	1731	0	0	1649	0	0	1809	0
Satd. Flow (RTOR)		16			25			11			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	305	0	0	210	0	0	259	0	0	1005	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	31.0	31.0		31.0	31.0		34.0	34.0		34.0	34.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Act Effct Green (s)		17.3			17.3			29.0			29.0	
Actuated g/C Ratio		0.31			0.31			0.52			0.52	
v/c Ratio		0.58			0.38			0.30			1.07	
Control Delay		20.5			15.6			9.1			68.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.5			15.6			9.1			68.9	
LOS		C			B			A			E	
Approach Delay		20.5			15.6			9.1			68.9	
Approach LOS		C			B			A			E	
Queue Length 50th (ft)		80			48			41			~372	
Queue Length 95th (ft)		145			94			97			#668	
Internal Link Dist (ft)		2782			3030			1452			6184	
Turn Bay Length (ft)												
Base Capacity (vph)		785			813			855			937	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.39			0.26			0.30			1.07	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 56.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 45.6

Intersection LOS: D

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

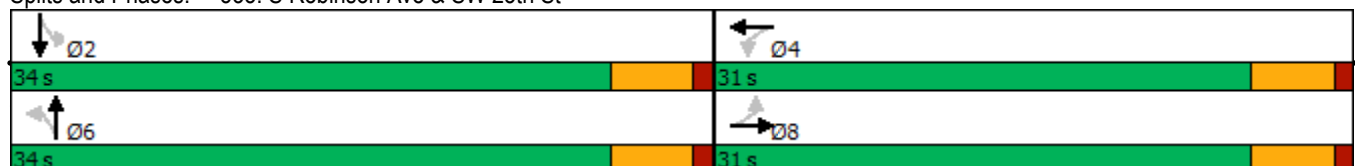
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.




















Splits and Phases: 535: S Robinson Ave & SW 25th St



Timings

536: S Robinson Ave & SW 29th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	426	42	47	385	54	22	142	41	180	501	146
Future Volume (vph)	35	426	42	47	385	54	22	142	41	180	501	146
Satd. Flow (prot)	1770	3490	0	1770	3472	0	1770	1799	0	0	1798	0
Flt Permitted	0.950			0.950			0.299				0.845	
Satd. Flow (perm)	1770	3490	0	1770	3472	0	557	1799	0	0	1536	0
Satd. Flow (RTOR)		7			11			19			14	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	509	0	51	477	0	24	199	0	0	900	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	14.0	35.0		15.0	36.0		80.0	80.0		80.0	80.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Act Effect Green (s)	7.7	33.6		8.5	34.4		75.0	75.0			75.0	
Actuated g/C Ratio	0.06	0.26		0.07	0.26		0.58	0.58			0.58	
v/c Ratio	0.36	0.56		0.44	0.52		0.07	0.19			1.01	
Control Delay	68.0	45.0		70.1	43.1		13.0	12.3			59.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	68.0	45.0		70.1	43.1		13.0	12.3			59.9	
LOS	E	D		E	D		B	B			E	
Approach Delay		46.6			45.7			12.4			59.9	
Approach LOS		D			D			B			E	
Queue Length 50th (ft)	31	200		42	181		9	68			~745	
Queue Length 95th (ft)	69	263		86	241		22	109			#1046	
Internal Link Dist (ft)		2801			2902			2494			1452	
Turn Bay Length (ft)	115			115			50					
Base Capacity (vph)	122	908		136	925		321	1045			892	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.31	0.56		0.38	0.52		0.07	0.19			1.01	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 48.4

Intersection LOS: D

Intersection Capacity Utilization 98.5%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Timings

536: S Robinson Ave & SW 29th St

07/16/2021
















Splits and Phases: 536: S Robinson Ave & SW 29th St



Timings

537: SW Grand Blvd & S Robinson Ave

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	30	260	19	43	196	0	0	536	64
Future Volume (vph)	0	0	0	30	260	19	43	196	0	0	536	64
Satd. Flow (prot)	0	0	0	0	5014	0	0	1846	0	0	1837	0
Flt Permitted					0.995			0.805				
Satd. Flow (perm)	0	0	0	0	5014	0	0	1500	0	0	1837	0
Satd. Flow (RTOR)					15						13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	337	0	0	260	0	0	653	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					6			8				4
Permitted Phases				6			8					
Total Split (s)				29.0	29.0		46.0	46.0			46.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					24.0			41.0			41.0	
Actuated g/C Ratio					0.32			0.55			0.55	
v/c Ratio					0.21			0.32			0.65	
Control Delay					18.1			8.1			15.4	
Queue Delay					0.0			1.7			0.0	
Total Delay					18.1			9.9			15.4	
LOS					B			A			B	
Approach Delay					18.1			9.9			15.4	
Approach LOS					B			A			B	
Queue Length 50th (ft)					39			37			192	
Queue Length 95th (ft)					60			57			302	
Internal Link Dist (ft)		1446			542			56			2494	
Turn Bay Length (ft)												
Base Capacity (vph)					1614			820			1010	
Starvation Cap Reductn					0			399			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.21			0.62			0.65	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 15.0

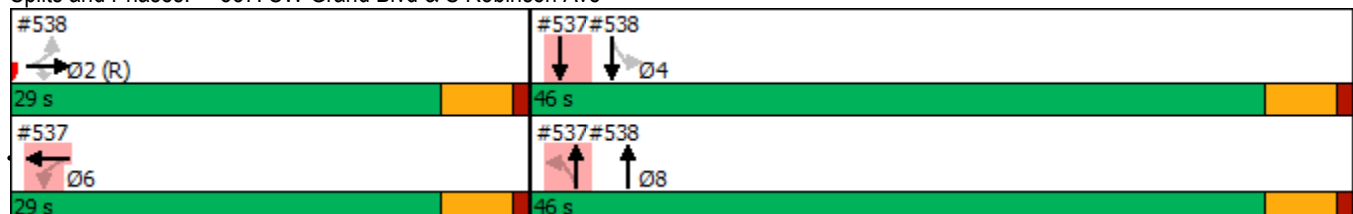
Intersection LOS: B

Intersection Capacity Utilization 62.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 537: SW Grand Blvd & S Robinson Ave



Timings

537: SW Grand Blvd & S Robinson Ave

















07/16/2021

Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	29.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

538: S Robinson Ave & SW Grand Blvd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	160	37	0	0	0	0	159	19	0	0	0
Future Volume (vph)	37	160	37	0	0	0	0	159	19	0	0	0
Satd. Flow (prot)	0	3507	1583	0	0	0	0	1835	0	0	1863	0
Flt Permitted		0.991										
Satd. Flow (perm)	0	3507	1583	0	0	0	0	1835	0	0	1863	0
Satd. Flow (RTOR)			40					13				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	40	0	0	0	0	194	0	0	0	0
Turn Type	Perm	NA	Perm					NA				
Protected Phases		2						8			4	
Permitted Phases	2		2							4		
Total Split (s)	29.0	29.0	29.0					46.0		46.0	46.0	
Total Lost Time (s)		5.0	5.0					5.0			5.0	
Act Effect Green (s)		24.0	24.0					41.0				
Actuated g/C Ratio		0.32	0.32					0.55				
v/c Ratio		0.19	0.08					0.19				
Control Delay		9.1	0.5					8.6				
Queue Delay		0.0	0.0					0.0				
Total Delay		9.1	0.5					8.6				
LOS		A	A					A				
Approach Delay		7.7						8.6				
Approach LOS		A						A				
Queue Length 50th (ft)		15	0					39				
Queue Length 95th (ft)		m21	m1					71				
Internal Link Dist (ft)		1446			519			691			56	
Turn Bay Length (ft)												
Base Capacity (vph)		1122	533					1009				
Starvation Cap Reductn		0	0					0				
Spillback Cap Reductn		61	0					27				
Storage Cap Reductn		0	0					0				
Reduced v/c Ratio		0.20	0.08					0.20				

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 8.1

Intersection LOS: A





Intersection Capacity Utilization 24.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 538: S Robinson Ave & SW Grand Blvd

#538 	#537#538 
29 s	46 s
#537 	#537#538 
29 s	46 s

Timings

538: S Robinson Ave & SW Grand Blvd


















07/16/2021

Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	6
Permitted Phases	
Total Split (s)	29.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	599	266	0	0	0	0	705	134	199	854	0
Future Volume (vph)	153	599	266	0	0	0	0	705	134	199	854	0
Satd. Flow (prot)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Flt Permitted	0.950	0.999								0.950		
Satd. Flow (perm)	1610	3234	0	0	0	0	0	4963	0	1770	3539	0
Satd. Flow (RTOR)		44						25				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)	10%											
Lane Group Flow (vph)	149	957	0	0	0	0	0	912	0	216	928	0
Turn Type	Split	NA						NA		Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases												
Total Split (s)								23.0		71.0		
Total Lost Time (s)								5.0		6.0		
Act Effct Green (s)	31.0	31.0						18.0		65.0	88.0	
Actuated g/C Ratio	0.24	0.24						0.14		0.50	0.68	
v/c Ratio	0.39	1.19						1.29		0.24	0.39	
Control Delay	55.4	145.0						186.3		9.6	0.6	
Queue Delay	0.0	0.6						1.4		5.6	17.1	
Total Delay	55.4	145.5						187.6		15.2	17.7	
LOS	E	F						F		B	B	
Approach Delay		133.4						187.6			17.3	
Approach LOS		F						F			B	
Queue Length 50th (ft)	119	~483						~359		35	3	
Queue Length 95th (ft)	196	#634						#454		m28	m3	
Internal Link Dist (ft)		2567			1752			640			150	
Turn Bay Length (ft)												
Base Capacity (vph)	383	804						708		885	2395	
Starvation Cap Reductn	0	0						0		602	1471	
Spillback Cap Reductn	0	73						128		0	0	
Storage Cap Reductn	0	0						0		0	0	
Reduced v/c Ratio	0.39	1.31						1.57		0.76	1.00	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 20 (15%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 107.0

Intersection LOS: F

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

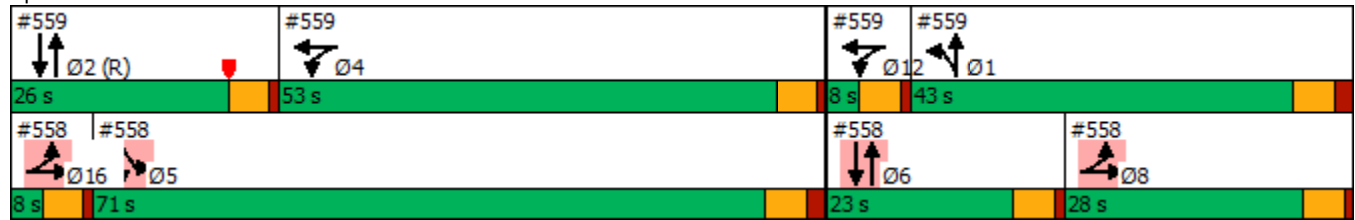
m Volume for 95th percentile queue is metered by upstream signal.

Timings

558: S Santa Fe Ave & I-240 EB Serv Rd

07/16/2021

Splits and Phases: 558: S Santa Fe Ave & I-240 EB Serv Rd










Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	43.0	26.0	53.0	28.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1437	697	82	415	443	0	0	745	303
Future Volume (vph)	0	0	0	1437	697	82	415	443	0	0	745	303
Satd. Flow (prot)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Flt Permitted				0.950	0.977		0.950					
Satd. Flow (perm)	0	0	0	1610	3286	0	1770	3539	0	0	4867	0
Satd. Flow (RTOR)					5						67	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	0	0	0	797	1612	0	451	482	0	0	1139	0
Turn Type				Split	NA		Prot	NA			NA	
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases												
Total Split (s)							43.0				26.0	
Total Lost Time (s)							6.0				5.0	
Act Effect Green (s)				56.0	56.0		37.0	63.0			21.0	
Actuated g/C Ratio				0.43	0.43		0.28	0.48			0.16	
v/c Ratio				1.15	1.14		0.90	0.28			1.35	
Control Delay				118.4	105.6		17.5	3.2			194.4	
Queue Delay				0.0	0.0		53.2	11.4			0.0	
Total Delay				118.4	105.6		70.7	14.6			194.4	
LOS				F	F		E	B			F	
Approach Delay					109.8			41.7			194.4	
Approach LOS					F			D			F	
Queue Length 50th (ft)				~865	~869		385	3			~454	
Queue Length 95th (ft)				#1135	#1018		m295	m2			m#424	
Internal Link Dist (ft)		2558			1731			150			5011	
Turn Bay Length (ft)												
Base Capacity (vph)				693	1418		503	1715			842	
Starvation Cap Reductn				0	0		232	1202			0	
Spillback Cap Reductn				0	0		0	0			0	
Storage Cap Reductn				0	0		0	0			0	
Reduced v/c Ratio				1.15	1.14		1.66	0.94			1.35	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 20 (15%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.35

Intersection Signal Delay: 117.1

Intersection LOS: F

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

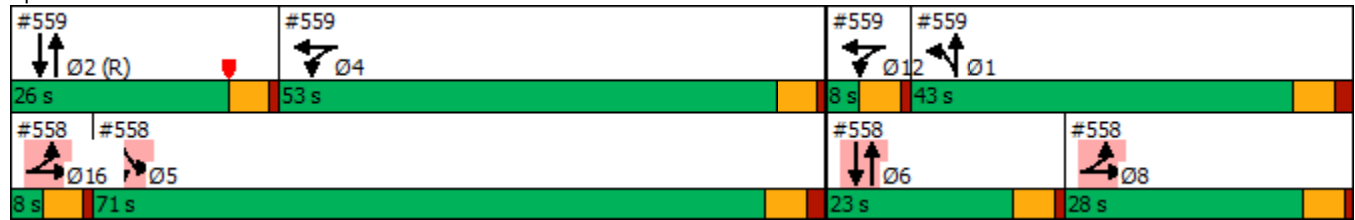
m Volume for 95th percentile queue is metered by upstream signal.

Timings

559: S Santa Fe Ave & I-240 WB Serv Rd

07/16/2021

Splits and Phases: 559: S Santa Fe Ave & I-240 WB Serv Rd





















Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	53.0	71.0	23.0	28.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

568: S Santa Fe & SW 83rd St/Springfield Dr

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1	18	9	0	14	13	493	8	22	1114	20
Future Volume (vph)	6	1	18	9	0	14	13	493	8	22	1114	20
Satd. Flow (prot)	0	1664	0	0	1678	0	1770	1859	0	1770	1857	0
Flt Permitted		0.907			0.966		0.144			0.455		
Satd. Flow (perm)	0	1527	0	0	1654	0	268	1859	0	848	1857	0
Satd. Flow (RTOR)		20			25			2			2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	25	0	14	545	0	24	1233	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	29.5	29.5		29.5	29.5		35.5	35.5		35.5	35.5	
Total Lost Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Act Effect Green (s)		6.5			6.5		58.5	58.5		58.5	58.5	
Actuated g/C Ratio		0.10			0.10		0.90	0.90		0.90	0.90	
v/c Ratio		0.16			0.13		0.06	0.33		0.03	0.74	
Control Delay		17.6			13.5		2.5	2.2		1.6	8.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		17.6			13.5		2.5	2.2		1.6	8.0	
LOS		B			B		A	A		A	A	
Approach Delay		17.6			13.5			2.2			7.9	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		3			0		0	0		0	9	
Queue Length 95th (ft)		24			19		5	93		m4	#805	
Internal Link Dist (ft)		733			645			2003			2370	
Turn Bay Length (ft)							200			200		
Base Capacity (vph)		599			651		241	1674		764	1672	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.05			0.04		0.06	0.33		0.03	0.74	

Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 6.4

Intersection LOS: A

Intersection Capacity Utilization 72.3%

ICU Level of Service C







Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 568: S Santa Fe & SW 83rd St/Springfield Dr

		
Ø2 (R)		Ø4
35.5 s		29.5 s
		
Ø6		Ø8
35.5 s		29.5 s

Timings

569: S Santa Fe & SE 89th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	539	151	149	546	60	102	360	77	73	837	223
Future Volume (vph)	114	539	151	149	546	60	102	360	77	73	837	223
Satd. Flow (prot)	1770	3422	0	1770	3486	0	1770	1812	0	1770	1803	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3422	0	1770	3486	0	1770	1812	0	1770	1803	0
Satd. Flow (RTOR)		38			12			12			14	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	750	0	162	658	0	111	475	0	79	1152	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases												
Total Split (s)	13.0	37.0		13.0	37.0		12.0	38.0		12.0	38.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	8.5	27.1		8.5	27.1		9.7	39.2		8.7	35.7	
Actuated g/C Ratio	0.08	0.27		0.08	0.27		0.10	0.39		0.09	0.36	
v/c Ratio	0.83	0.79		1.08	0.69		0.65	0.66		0.52	1.76	
Control Delay	63.6	51.7		141.3	35.7		63.1	32.1		56.6	374.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.6	51.7		141.3	35.7		63.1	32.1		56.6	374.9	
LOS	E	D		F	D		E	C		E	F	
Approach Delay		53.4			56.6			38.0			354.5	
Approach LOS		D			E			D			F	
Queue Length 50th (ft)	86	256		~116	192		68	258		48	~1142	
Queue Length 95th (ft)	m#127	m318		#245	239		#170	#419		#112	#1395	
Internal Link Dist (ft)		2553			2026			2800			2003	
Turn Bay Length (ft)	200			170			135			225		
Base Capacity (vph)	150	1120		150	1123		171	718		153	653	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.83	0.67		1.08	0.59		0.65	0.66		0.52	1.76	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.76

Intersection Signal Delay: 157.1

Intersection LOS: F

Intersection Capacity Utilization 108.1%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.











m Volume for 95th percentile queue is metered by upstream signal.

Timings

569: S Santa Fe & SE 89th St

07/16/2021

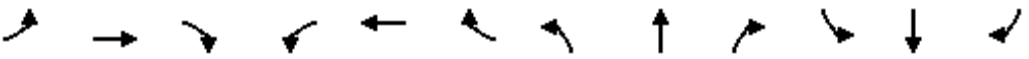
Splits and Phases: 569: S Santa Fe & SE 89th St

 Ø1		 Ø2 (R)	 Ø3	 Ø4
12 s		38 s	13 s	37 s
 Ø5		 Ø6 (R)	 Ø7	 Ø8
12 s		38 s	13 s	37 s

Timings

571: S Walker Ave/S Santa Fe Ave & SW 44th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Volume (vph)	6	785	352	68	807	31	123	117	75	26	281	21
Future Volume (vph)	6	785	352	68	807	31	123	117	75	26	281	21
Satd. Flow (prot)	0	3376	0	0	3507	0	0	1769	0	0	1839	0
Flt Permitted		0.949			0.599			0.636			0.951	
Satd. Flow (perm)	0	3204	0	0	2109	0	0	1147	0	0	1756	0
Satd. Flow (RTOR)		79			4			15			3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1243	0	0	985	0	0	343	0	0	356	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Total Split (s)	71.0	71.0		71.0	71.0		59.0	59.0		59.0	59.0	
Total Lost Time (s)		5.0			5.0			6.0			6.0	
Act Effct Green (s)		64.1			64.1			54.9			54.9	
Actuated g/C Ratio		0.49			0.49			0.42			0.42	
v/c Ratio		0.77			0.95			0.70			0.48	
Control Delay		42.1			49.0			42.3			30.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		42.1			49.0			42.3			30.2	
LOS		D			D			D			C	
Approach Delay		42.1			49.0			42.3			30.2	
Approach LOS		D			D			D			C	
Queue Length 50th (ft)		503			390			276			218	
Queue Length 95th (ft)		m467			#547			m388			312	
Internal Link Dist (ft)		2551			1839			5226			2622	
Turn Bay Length (ft)												
Base Capacity (vph)		1665			1072			493			743	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.75			0.92			0.70			0.48	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 43.0

Intersection LOS: D

Intersection Capacity Utilization 111.8%

ICU Level of Service H

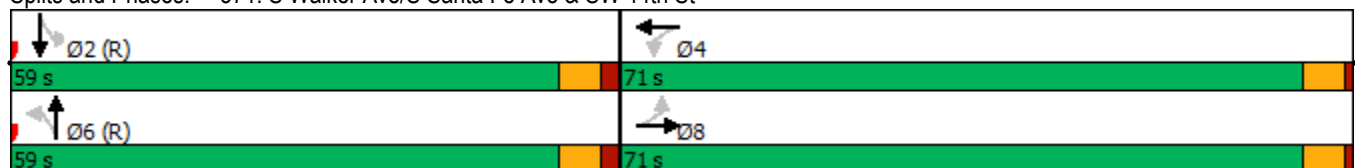
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 571: S Walker Ave/S Santa Fe Ave & SW 44th St



Timings

572: S Santa Fe Ave & Lower Dr/Walmart Dr

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	9	33	105	4	140	32	467	77	195	948	20
Future Volume (vph)	59	9	33	105	4	140	32	467	77	195	948	20
Satd. Flow (prot)	1770	1645	0	1770	1591	0	1770	1824	0	1770	1857	0
Flt Permitted	0.645			0.474			0.146			0.329		
Satd. Flow (perm)	1201	1645	0	883	1591	0	272	1824	0	613	1857	0
Satd. Flow (RTOR)		36			152			7			1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	46	0	114	156	0	35	592	0	212	1052	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Total Split (s)	12.0	41.0		14.0	43.0		12.0	52.0		23.0	63.0	
Total Lost Time (s)	4.5	5.0		4.5	5.0		4.5	5.0		4.5	5.0	
Act Effect Green (s)	13.9	7.4		17.5	9.4		91.0	84.3		101.5	94.4	
Actuated g/C Ratio	0.11	0.06		0.13	0.07		0.70	0.65		0.78	0.73	
v/c Ratio	0.40	0.36		0.63	0.61		0.13	0.50		0.36	0.78	
Control Delay	54.2	31.4		64.2	19.8		6.7	14.7		6.7	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.9	
Total Delay	54.2	31.4		64.2	19.8		6.7	14.7		6.7	20.5	
LOS	D	C		E	B		A	B		A	C	
Approach Delay		44.7			38.6			14.2			18.2	
Approach LOS		D			D			B			B	
Queue Length 50th (ft)	48	8		87	3		6	241		49	476	
Queue Length 95th (ft)	88	48		141	70		12	428		m81	m668	
Internal Link Dist (ft)		282			705			2370			640	
Turn Bay Length (ft)							155			155		
Base Capacity (vph)	163	481		185	572		279	1185		644	1348	
Starvation Cap Reductn	0	0		0	0		0	0		0	106	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.39	0.10		0.62	0.27		0.13	0.50		0.33	0.85	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 20.8

Intersection LOS: C

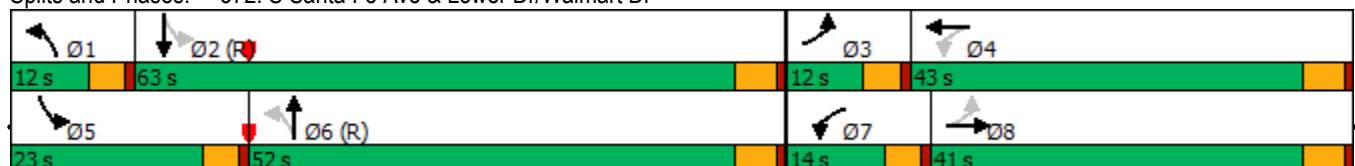
Intersection Capacity Utilization 84.1%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





















Splits and Phases: 572: S Santa Fe Ave & Lower Dr/Walmart Dr



Timings

597: S Santa Fe Ave & SW 59th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	624	194	213	714	32	128	213	117	38	592	126
Future Volume (vph)	74	624	194	213	714	32	128	213	117	38	592	126
Satd. Flow (prot)	1770	3412	0	1770	3518	0	1770	1764	0	1770	1814	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3412	0	1770	3518	0	1770	1764	0	1770	1814	0
Satd. Flow (RTOR)		30			4			26			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	889	0	232	811	0	139	359	0	41	780	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	14.0	36.0		22.0	44.0		15.0	59.0		13.0	57.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	8.8	31.0		17.0	39.2		10.0	56.6		8.0	52.0	
Actuated g/C Ratio	0.07	0.24		0.13	0.30		0.08	0.44		0.06	0.40	
v/c Ratio	0.67	1.06		1.00	0.76		1.02	0.46		0.38	1.07	
Control Delay	93.9	72.2		116.4	46.6		133.1	55.6		64.6	92.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	93.9	72.2		116.4	46.6		133.1	55.6		64.6	92.3	
LOS	F	E		F	D		F	E		E	F	
Approach Delay		74.0			62.1			77.2			90.9	
Approach LOS		E			E			E			F	
Queue Length 50th (ft)	72	~435		~199	325		~128	268		30	~712	
Queue Length 95th (ft)	m77	m#490		#372	403		m#242	m339		m55	m#954	
Internal Link Dist (ft)		2546			1840			5011			5226	
Turn Bay Length (ft)	175			175			300			120		
Base Capacity (vph)	122	836		231	1063		136	782		108	731	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.66	1.06		1.00	0.76		1.02	0.46		0.38	1.07	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 123 (95%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 74.9

Intersection LOS: E

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

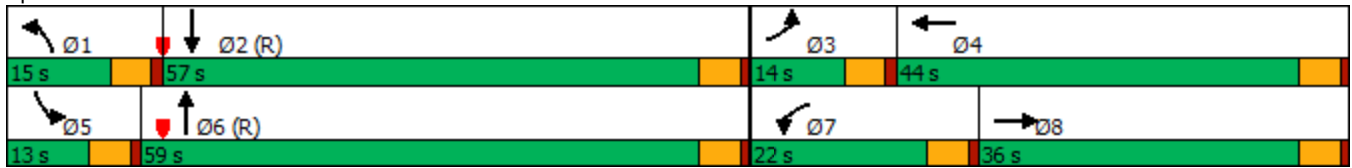
m Volume for 95th percentile queue is metered by upstream signal.

Timings

597: S Santa Fe Ave & SW 59th St

07/16/2021


Splits and Phases: 597: S Santa Fe Ave & SW 59th St



Timings

648: S Walker Ave & I-240 WB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	274	476	253	240	421	0	0	694	373
Future Volume (vph)	0	0	0	274	476	253	240	421	0	0	694	373
Satd. Flow (prot)	0	0	0	1770	3539	1583	1770	1863	0	0	3539	1583
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1770	3539	1583	1770	1863	0	0	3539	1583
Satd. Flow (RTOR)						262						197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	298	517	275	261	458	0	0	754	405
Turn Type				Split	NA	Perm	Prot	NA			NA	Perm
Protected Phases				4 12	4 12		1	1 2			2	
Permitted Phases						4 12						2
Total Split (s)							57.0				27.0	27.0
Total Lost Time (s)							6.0				5.0	5.0
Act Effect Green (s)				38.2	38.2	38.2	47.4	80.8			28.4	28.4
Actuated g/C Ratio				0.29	0.29	0.29	0.36	0.62			0.22	0.22
v/c Ratio				0.57	0.50	0.42	0.40	0.40			0.98	0.81
Control Delay				41.5	40.1	7.3	8.8	5.6			70.9	39.8
Queue Delay				0.0	0.0	0.0	2.5	2.1			40.1	0.0
Total Delay				41.5	40.1	7.3	11.3	7.7			111.0	39.8
LOS				D	D	A	B	A			F	D
Approach Delay					32.2			9.0			86.1	
Approach LOS					C			A			F	
Queue Length 50th (ft)				215	196	21	140	234			~360	218
Queue Length 95th (ft)				m196	m174	m11	13	310			m#441	m240
Internal Link Dist (ft)		1214			2558			149			5207	
Turn Bay Length (ft)						135						120
Base Capacity (vph)				517	1034	648	694	1137			772	499
Starvation Cap Reductn				0	0	0	312	520			0	0
Spillback Cap Reductn				0	0	0	0	0			153	0
Storage Cap Reductn				0	0	0	0	0			0	0
Reduced v/c Ratio				0.58	0.50	0.42	0.68	0.74			1.22	0.81

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 47.6

Intersection LOS: D

Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

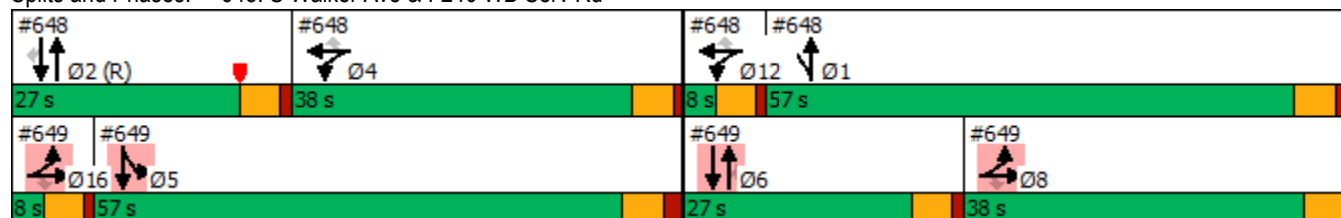
m Volume for 95th percentile queue is metered by upstream signal.

Timings

648: S Walker Ave & I-240 WB Serv Rd

07/16/2021

Splits and Phases: 648: S Walker Ave & I-240 WB Serv Rd






















Lane Group	Ø4	Ø5	Ø6	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	4	5	6	8	12	16
Permitted Phases						
Total Split (s)	38.0	57.0	27.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

649: S Walker Ave & I-240 EB Serv Rd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	277	407	341	0	0	0	0	402	175	251	708	0
Future Volume (vph)	277	407	341	0	0	0	0	402	175	251	708	0
Satd. Flow (prot)	1770	3539	1583	0	0	0	0	3539	1583	1770	1863	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	3539	1583	0	0	0	0	3539	1583	1770	1863	0
Satd. Flow (RTOR)			203						159			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	301	442	371	0	0	0	0	437	190	273	770	0
Turn Type	Split	NA	Perm					NA	Perm	Prot	NA	
Protected Phases	8 16	8 16						6		5	5 6	
Permitted Phases			8 16						6			
Total Split (s)								27.0	27.0	57.0		
Total Lost Time (s)								5.0	5.0	6.0		
Act Effect Green (s)	41.0	41.0	41.0					28.1	28.1	44.9	78.0	
Actuated g/C Ratio	0.32	0.32	0.32					0.22	0.22	0.35	0.60	
v/c Ratio	0.54	0.40	0.58					0.57	0.41	0.45	0.69	
Control Delay	41.1	36.1	20.2					50.3	13.8	7.9	17.7	
Queue Delay	0.0	0.0	0.0					0.9	0.0	6.4	51.8	
Total Delay	41.1	36.1	20.2					51.2	13.8	14.3	69.5	
LOS	D	D	C					D	B	B	E	
Approach Delay		32.2						39.8			55.1	
Approach LOS		C						D			E	
Queue Length 50th (ft)	209	153	116					175	21	69	667	
Queue Length 95th (ft)	304	202	221					245	94	m7	m719	
Internal Link Dist (ft)		1256			2567			4986			149	
Turn Bay Length (ft)			150						55			
Base Capacity (vph)	546	1093	629					764	466	694	1101	
Starvation Cap Reductn	0	0	0					0	0	362	466	
Spillback Cap Reductn	0	0	0					124	0	0	0	
Storage Cap Reductn	0	0	0					0	0	0	0	
Reduced v/c Ratio	0.55	0.40	0.59					0.68	0.41	0.82	1.21	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 17 (13%), Referenced to phase 2:NBSB, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 42.5

Intersection LOS: D

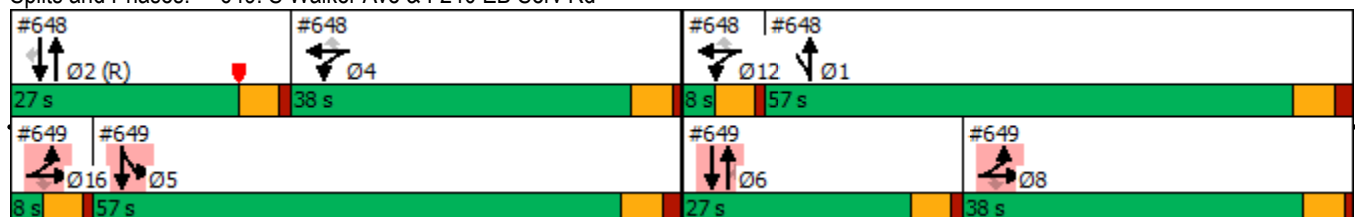
Intersection Capacity Utilization 81.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 649: S Walker Ave & I-240 EB Serv Rd



Timings

649: S Walker Ave & I-240 EB Serv Rd





















07/16/2021

Lane Group	Ø1	Ø2	Ø4	Ø8	Ø12	Ø16
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Satd. Flow (RTOR)						
Peak Hour Factor						
Shared Lane Traffic (%)						
Lane Group Flow (vph)						
Turn Type						
Protected Phases	1	2	4	8	12	16
Permitted Phases						
Total Split (s)	57.0	27.0	38.0	38.0	8.0	8.0
Total Lost Time (s)						
Act Effct Green (s)						
Actuated g/C Ratio						
v/c Ratio						
Control Delay						
Queue Delay						
Total Delay						
LOS						
Approach Delay						
Approach LOS						
Queue Length 50th (ft)						
Queue Length 95th (ft)						
Internal Link Dist (ft)						
Turn Bay Length (ft)						
Base Capacity (vph)						
Starvation Cap Reductn						
Spillback Cap Reductn						
Storage Cap Reductn						
Reduced v/c Ratio						
Intersection Summary						

Timings

667: S Walker Ave & SW 44th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	725	163	237	845	47	137	280	124	80	739	89
Future Volume (vph)	56	725	163	237	845	47	137	280	124	80	739	89
Satd. Flow (prot)	1770	3440	0	1770	3511	0	1770	1777	0	1770	1833	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3440	0	1770	3511	0	1770	1777	0	1770	1833	0
Satd. Flow (RTOR)		19			4			20			6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	965	0	258	969	0	149	439	0	87	900	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	12.0	35.0		21.0	44.0		14.0	56.0		18.0	60.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	6.9	30.0		16.0	41.4		9.0	51.0		13.0	55.0	
Actuated g/C Ratio	0.05	0.23		0.12	0.32		0.07	0.39		0.10	0.42	
v/c Ratio	0.66	1.19		1.19	0.86		1.22	0.62		0.49	1.16	
Control Delay	91.1	141.8		167.2	54.6		169.1	48.7		65.5	119.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	91.1	141.8		167.2	54.6		169.1	48.7		65.5	119.6	
LOS	F	F		F	D		F	D		E	F	
Approach Delay		138.8			78.3			79.2			114.8	
Approach LOS		F			E			E			F	
Queue Length 50th (ft)	51	~512		~268	355		~155	336		71	~894	
Queue Length 95th (ft)	#120	#648		m#348	m#462		m#175	m367		127	#1150	
Internal Link Dist (ft)		1289			2551			5224			2493	
Turn Bay Length (ft)	140			95			130			150		
Base Capacity (vph)	95	808		217	1121		122	709		177	778	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.64	1.19		1.19	0.86		1.22	0.62		0.49	1.16	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 52 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.22

Intersection Signal Delay: 104.1

Intersection LOS: F

Intersection Capacity Utilization 106.9%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

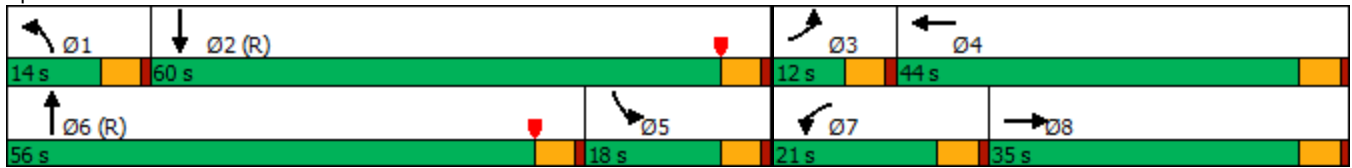
m Volume for 95th percentile queue is metered by upstream signal.

Timings

667: S Walker Ave & SW 44th St

07/16/2021





















Splits and Phases: 667: S Walker Ave & SW 44th St



Timings

668: S Walker Ave & SW 59th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	622	138	135	786	125	170	416	134	204	572	163
Future Volume (vph)	131	622	138	135	786	125	170	416	134	204	572	163
Satd. Flow (prot)	1770	3444	0	1770	3465	0	1770	1794	0	1770	1801	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3444	0	1770	3465	0	1770	1794	0	1770	1801	0
Satd. Flow (RTOR)		19			13			14			13	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	826	0	147	990	0	185	598	0	222	799	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Total Split (s)	17.0	37.0		18.0	38.0		18.0	52.0		23.0	57.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	11.9	32.3		12.7	33.1		13.0	47.2		17.8	52.0	
Actuated g/C Ratio	0.09	0.25		0.10	0.25		0.10	0.36		0.14	0.40	
v/c Ratio	0.88	0.95		0.85	1.11		1.05	0.91		0.92	1.10	
Control Delay	102.1	67.6		66.2	99.8		120.2	65.6		59.4	87.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	102.1	67.6		66.2	99.8		120.2	65.6		59.4	87.8	
LOS	F	E		E	F		F	E		E	F	
Approach Delay		72.6			95.4			78.5			81.6	
Approach LOS		E			F			E			F	
Queue Length 50th (ft)	120	356		126	~508		~171	528		193	~747	
Queue Length 95th (ft)	#244	#489		m#168	m#605		#323	#713		m164	m453	
Internal Link Dist (ft)		1270			2546			5207			5224	
Turn Bay Length (ft)	175			175			100			115		
Base Capacity (vph)	163	870		177	891		177	660		245	728	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.87	0.95		0.83	1.11		1.05	0.91		0.91	1.10	

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 82.8

Intersection LOS: F

Intersection Capacity Utilization 99.1%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

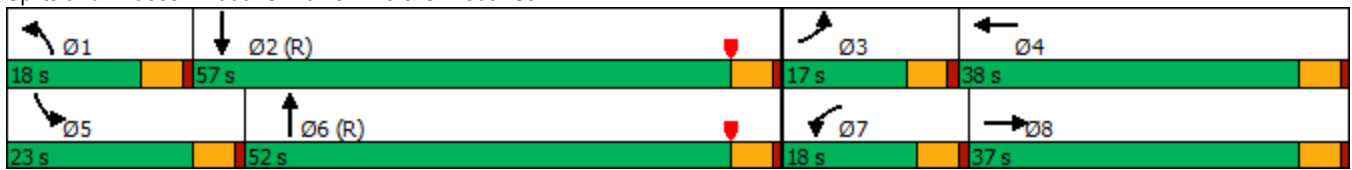
m Volume for 95th percentile queue is metered by upstream signal.

Timings

668: S Walker Ave & SW 59th St

07/16/2021























Splits and Phases: 668: S Walker Ave & SW 59th St



Timings

669: S Walker Ave & SE 89th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	609	83	110	694	64	69	211	54	114	627	226
Future Volume (vph)	107	609	83	110	694	64	69	211	54	114	627	226
Satd. Flow (prot)	1770	3476	0	1770	3493	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3476	0	1770	3493	0	1770	1863	1583	1770	1863	1583
Satd. Flow (RTOR)		14			9				131			138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	752	0	120	824	0	75	229	59	124	682	246
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases									6			2
Total Split (s)	16.0	31.0		16.0	31.0		14.0	36.0	36.0	17.0	39.0	39.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Act Effect Green (s)	10.2	25.8		10.3	25.8		8.6	33.1	33.1	10.9	37.9	37.9
Actuated g/C Ratio	0.10	0.26		0.10	0.26		0.09	0.33	0.33	0.11	0.38	0.38
v/c Ratio	0.64	0.83		0.66	0.91		0.49	0.37	0.10	0.65	0.97	0.36
Control Delay	59.9	43.5		48.3	47.8		47.3	36.7	4.1	58.5	59.9	12.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.9	43.5		48.3	47.8		47.3	36.7	4.1	58.5	59.9	12.5
LOS	E	D		D	D		D	D	A	E	E	B
Approach Delay		45.7			47.8			33.6			48.7	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)	72	233		82	274		51	114	0	76	~487	48
Queue Length 95th (ft)	#137	#310		m112	m290		m76	m172	m1	137	#706	113
Internal Link Dist (ft)		1389			2553			4969			4986	
Turn Bay Length (ft)	140			160			145		150	135		150
Base Capacity (vph)	194	919		194	921		159	616	611	212	706	686
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.82		0.62	0.89		0.47	0.37	0.10	0.58	0.97	0.36

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 45.9

Intersection LOS: D

Intersection Capacity Utilization 84.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

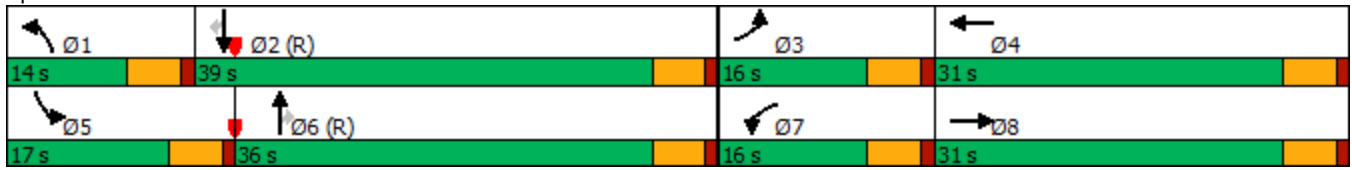
m Volume for 95th percentile queue is metered by upstream signal.

Timings

669: S Walker Ave & SE 89th St

07/16/2021




















Splits and Phases: 669: S Walker Ave & SE 89th St



Timings

670: S Walker Ave & SW 104th St

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	703	1	1	888	171	1	3	6	272	0	383
Future Volume (vph)	112	703	1	1	888	171	1	3	6	272	0	383
Satd. Flow (prot)	1770	3539	0	1770	3454	0	1770	1667	0	0	1681	0
Flt Permitted	0.950			0.950			0.411				0.861	
Satd. Flow (perm)	1770	3539	0	1770	3454	0	766	1667	0	0	1477	0
Satd. Flow (RTOR)					26			7			78	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	765	0	1	1151	0	1	10	0	0	712	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	3	8		7	4			6			2	
Permitted Phases							6			2		
Total Split (s)	17.0	47.0		13.0	43.0		40.0	40.0		40.0	40.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Act Effect Green (s)	10.8	50.0		8.0	36.8		37.4	37.4			37.4	
Actuated g/C Ratio	0.11	0.50		0.08	0.37		0.37	0.37			0.37	
v/c Ratio	0.64	0.43		0.01	0.90		0.00	0.02			1.19	
Control Delay	57.9	17.3		43.0	39.2		21.0	14.4			112.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	57.9	17.3		43.0	39.2		21.0	14.4			112.0	
LOS	E	B		D	D		C	B			F	
Approach Delay		22.9			39.3			15.0			112.0	
Approach LOS		C			D			B			F	
Queue Length 50th (ft)	75	139		1	344		0	1			~559	
Queue Length 95th (ft)	134	241		6	#442		4	13			m#627	
Internal Link Dist (ft)		1299			2014			774			4969	
Turn Bay Length (ft)	215			95								
Base Capacity (vph)	212	1770		141	1328		286	627			600	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.58	0.43		0.01	0.87		0.00	0.02			1.19	

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 52.6

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

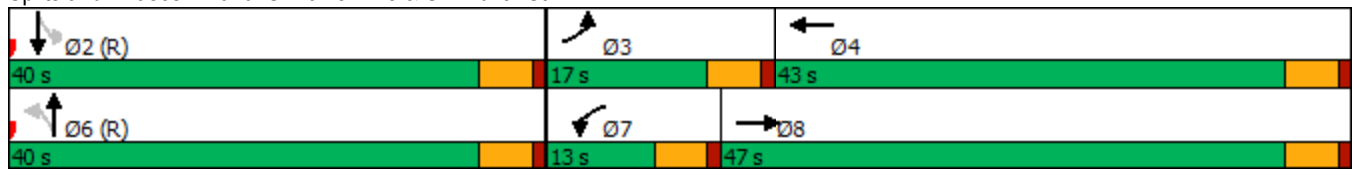
m Volume for 95th percentile queue is metered by upstream signal.

Timings

670: S Walker Ave & SW 104th St

07/16/2021





Splits and Phases: 670: S Walker Ave & SW 104th St



Timings

751: Robinson & I-40 WB Off Ramp

07/16/2021

	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	322	39	127	0	0	470
Future Volume (vph)	322	39	127	0	0	470
Satd. Flow (prot)	1770	1583	1863	0	0	1863
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	1863	0	0	1863
Satd. Flow (RTOR)		42				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	42	138	0	0	511
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		6			2
Permitted Phases		4				
Total Split (s)	30.0	30.0	30.0			30.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Act Effct Green (s)	13.9	13.9	16.5			16.5
Actuated g/C Ratio	0.34	0.34	0.40			0.40
v/c Ratio	0.59	0.07	0.18			0.68
Control Delay	16.6	4.8	9.3			16.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	16.6	4.8	9.3			16.1
LOS	B	A	A			B
Approach Delay	15.3		9.3			16.1
Approach LOS	B		A			B
Queue Length 50th (ft)	63	0	18			86
Queue Length 95th (ft)	155	15	55			213
Internal Link Dist (ft)	1040		6184			1972
Turn Bay Length (ft)						
Base Capacity (vph)	1149	1042	1209			1209
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.30	0.04	0.11			0.42

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 41.1

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 14.9




Intersection LOS: B

Intersection Capacity Utilization 50.9%

ICU Level of Service A

Analysis Period (min) 15





















Splits and Phases: 751: Robinson & I-40 WB Off Ramp

 Ø2	 Ø4
30 s	30 s
 Ø6	
30 s	

Timings

3000: Robinson & OKC Blvd

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	615	133	21	202	36	74	90	109	223	216	26
Future Volume (vph)	17	615	133	21	202	36	74	90	109	223	216	26
Satd. Flow (prot)	1770	3444	0	1770	3458	0	1770	3249	0	1770	3483	0
Flt Permitted	0.565			0.146			0.582			0.616		
Satd. Flow (perm)	1052	3444	0	272	3458	0	1084	3249	0	1147	3483	0
Satd. Flow (RTOR)		25			20			118			10	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	813	0	23	259	0	80	216	0	242	263	0
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	4			8			2			6		
Total Split (s)	12.0	51.0		12.0	51.0		24.0	34.0		23.0	33.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)	40.6	35.5		39.6	37.9		63.4	48.0		62.4	56.3	
Actuated g/C Ratio	0.34	0.30		0.33	0.32		0.53	0.40		0.52	0.47	
v/c Ratio	0.05	0.78		0.14	0.23		0.13	0.16		0.36	0.16	
Control Delay	20.5	42.8		22.2	27.4		16.0	14.1		13.7	15.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.5	42.8		22.2	27.4		16.0	14.1		13.7	15.9	
LOS	C	D		C	C		B	B		B	B	
Approach Delay		42.4			27.0			14.6			14.8	
Approach LOS		D			C			B			B	
Queue Length 50th (ft)	8	294		11	62		30	26		68	47	
Queue Length 95th (ft)	21	335		25	98		65	64		116	71	
Internal Link Dist (ft)		854			936			1972			670	
Turn Bay Length (ft)	180			150			150			190		
Base Capacity (vph)	398	1335		177	1344		716	1371		719	1638	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.05	0.61		0.13	0.19		0.11	0.16		0.34	0.16	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 28.5

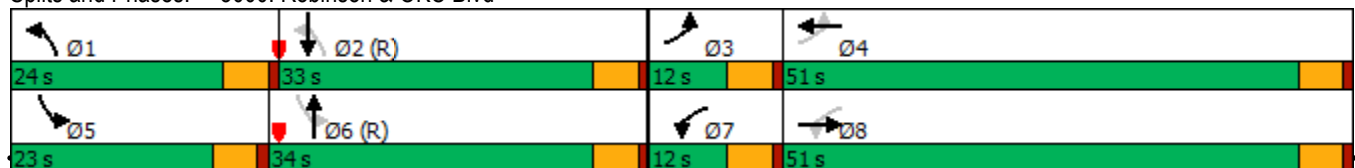
Intersection LOS: C

Intersection Capacity Utilization 52.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3000: Robinson & OKC Blvd




















2040 PM Proposed

Synchro 10 Report

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

07/16/2021

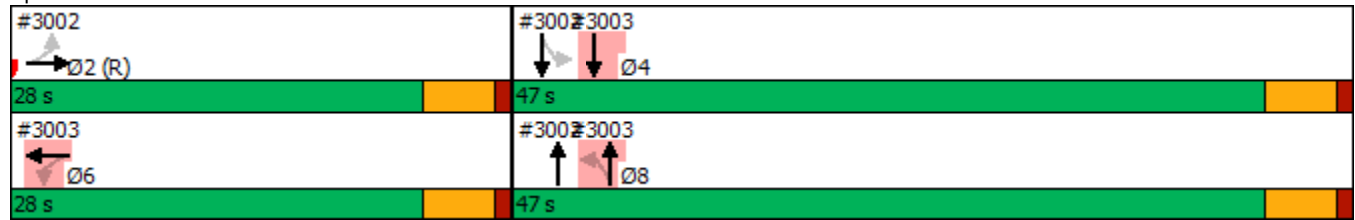
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  										
Traffic Volume (vph)	52	274	64	0	0	0	0	416	23	44	969	0
Future Volume (vph)	52	274	64	0	0	0	0	416	23	44	969	0
Satd. Flow (prot)	0	4923	0	0	0	0	0	1850	0	0	1859	0
Flt Permitted		0.993									0.964	
Satd. Flow (perm)	0	4923	0	0	0	0	0	1850	0	0	1796	0
Satd. Flow (RTOR)		56						6				
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	425	0	0	0	0	0	477	0	0	1101	0
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		2						8			4	
Permitted Phases	2									4		
Total Split (s)	28.0	28.0						47.0		47.0	47.0	
Total Lost Time (s)		5.0						5.0			5.0	
Act Effct Green (s)		23.0						42.0			42.0	
Actuated g/C Ratio		0.31						0.56			0.56	
v/c Ratio		0.27						0.46			1.10	
Control Delay		17.5						11.4			68.8	
Queue Delay		0.0						0.0			0.0	
Total Delay		17.5						11.5			68.8	
LOS		B						B			E	
Approach Delay		17.5						11.5			68.8	
Approach LOS		B						B			E	
Queue Length 50th (ft)		46						119			~595	
Queue Length 95th (ft)		70						188			#830	
Internal Link Dist (ft)		1245			1446			2493			62	
Turn Bay Length (ft)												
Base Capacity (vph)		1548						1038			1005	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		34						22			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.28						0.47			1.10	
Intersection Summary												
Cycle Length: 75												
Actuated Cycle Length: 75												
Offset: 39 (52%), Referenced to phase 2:EBTL, Start of Green												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.10												
Intersection Signal Delay: 44.3						Intersection LOS: D						
Intersection Capacity Utilization 97.0%						ICU Level of Service F						
Analysis Period (min) 15												
~ Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Timings

3002: S Walker Ave & Grand Blvd/SW 36th St

07/16/2021

Splits and Phases: 3002: S Walker Ave & Grand Blvd/SW 36th St






















Lane Group	Ø6
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	6
Permitted Phases	
Total Split (s)	28.0
Total Lost Time (s)	
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/16/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					  						  	
Traffic Volume (vph)	0	0	0	51	291	35	47	406	0	0	955	85
Future Volume (vph)	0	0	0	51	291	35	47	406	0	0	955	85
Satd. Flow (prot)	0	0	0	0	4979	0	0	1853	0	0	3497	0
Flt Permitted					0.993			0.812				
Satd. Flow (perm)	0	0	0	0	4979	0	0	1513	0	0	3497	0
Satd. Flow (RTOR)					23						20	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	409	0	0	492	0	0	1130	0
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					6			8			4	
Permitted Phases				6			8					
Total Split (s)				28.0	28.0		47.0	47.0			47.0	
Total Lost Time (s)					5.0			5.0			5.0	
Act Effct Green (s)					23.0			42.0			42.0	
Actuated g/C Ratio					0.31			0.56			0.56	
v/c Ratio					0.27			0.58			0.57	
Control Delay					13.8			7.2			11.9	
Queue Delay					0.1			0.0			0.0	
Total Delay					13.9			7.2			12.0	
LOS					B			A			B	
Approach Delay					13.9			7.2			12.0	
Approach LOS					B			A			B	
Queue Length 50th (ft)					28			37			161	
Queue Length 95th (ft)					72			51			216	
Internal Link Dist (ft)		1241			1446			62			692	
Turn Bay Length (ft)												
Base Capacity (vph)					1542			847			1967	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					361			0			42	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.35			0.58			0.59	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 39 (52%), Referenced to phase 2:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 11.2





Intersection LOS: B

Intersection Capacity Utilization 73.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3003: Grand Blvd/SW 36th St & S Walker Ave

#3002  Ø2 (R)	#3002#3003  Ø4
28 s	47 s
#3003  Ø6	#3002#3003  Ø8
28 s	47 s





Timings

3003: Grand Blvd/SW 36th St & S Walker Ave

07/16/2021





Lane Group	Ø2
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	2
Permitted Phases	
Total Split (s)	28.0
Total Lost Time (s)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	28	11	41	19	44	180	16	20	123	25
Future Vol, veh/h	16	30	28	11	41	19	44	180	16	20	123	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	33	30	12	45	21	48	196	17	22	134	27
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.5	8.6	9.1	8.6
HCM LOS	A	A	A	A



















Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	33%	0%	22%	15%	25%	0%
Vol Thru, %	67%	85%	41%	58%	75%	71%
Vol Right, %	0%	15%	38%	27%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	106	74	71	82	87
LT Vol	44	0	16	11	20	0
Through Vol	90	90	30	41	62	62
RT Vol	0	16	28	19	0	25
Lane Flow Rate	146	115	80	77	89	94
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.213	0.16	0.109	0.106	0.13	0.13
Departure Headway (Hd)	5.261	4.989	4.888	4.947	5.299	4.972
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	682	718	730	722	675	719
Service Time	3.002	2.731	2.936	2.994	3.043	2.716
HCM Lane V/C Ratio	0.214	0.16	0.11	0.107	0.132	0.131
HCM Control Delay	9.4	8.7	8.5	8.6	8.8	8.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.4	0.4	0.4	0.4

Intersection												
Int Delay, s/veh	24											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	21	26	7	21	11	19	1129	23	14	964	25
Future Vol, veh/h	11	21	26	7	21	11	19	1129	23	14	964	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	23	28	8	23	12	21	1227	25	15	1048	27
Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1759	2386	538	1848	2387	626	1075	0	0	1252	0	0
Stage 1	1092	1092	-	1282	1282	-	-	-	-	-	-	-
Stage 2	667	1294	-	566	1105	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	54	34	488	46	34	427	644	-	-	552	-	-
Stage 1	229	289	-	175	234	-	-	-	-	-	-	-
Stage 2	414	231	-	476	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	15	28	488	12	28	427	644	-	-	552	-	-
Mov Cap-2 Maneuver	15	28	-	12	28	-	-	-	-	-	-	-
Stage 1	204	269	-	156	209	-	-	-	-	-	-	-
Stage 2	320	206	-	382	266	-	-	-	-	-	-	-
Approach	EB		WB		NB			SB				
HCM Control Delay, s\$	552.5		\$ 537.1		0.8			0.5				
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	644	-	-	38	29	552	-	-				
HCM Lane V/C Ratio	0.032	-	-	1.659	1.462	0.028	-	-				
HCM Control Delay (s)	10.8	0.6	-	\$ 552.5	\$ 537.1	11.7	0.4	-				
HCM Lane LOS	B	A	-	F	F	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	6.7	4.9	0.1	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Timings

97: N Council Rd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	37	11	53	44	60	28	1220	69	53	861	42
Future Volume (vph)	25	37	11	53	44	60	28	1220	69	53	861	42
Satd. Flow (prot)	0	1793	0	0	1738	0	1770	3511	0	1770	3514	0
Flt Permitted		0.860			0.856		0.269			0.145		
Satd. Flow (perm)	0	1568	0	0	1513	0	501	3511	0	270	3514	0
Satd. Flow (RTOR)		9			32			13			11	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	171	0	30	1401	0	58	982	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Total Split (s)	27.0	27.0		27.0	27.0		63.0	63.0		63.0	63.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		11.0			11.3		34.3	34.3		34.3	34.3	
Actuated g/C Ratio		0.22			0.22		0.68	0.68		0.68	0.68	
v/c Ratio		0.23			0.47		0.09	0.58		0.32	0.41	
Control Delay		20.2			22.2		5.8	7.8		11.8	6.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		20.2			22.2		5.8	7.8		11.8	6.1	
LOS		C			C		A	A		B	A	
Approach Delay		20.2			22.2			7.7			6.4	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		17			36		3	121		7	71	
Queue Length 95th (ft)		61			112		15	242		38	143	
Internal Link Dist (ft)		2581			5171			1942			1730	
Turn Bay Length (ft)							160			180		
Base Capacity (vph)		807			790		475	3331		256	3333	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.22		0.06	0.42		0.23	0.29	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 50.3

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.58

Intersection Signal Delay: 8.5

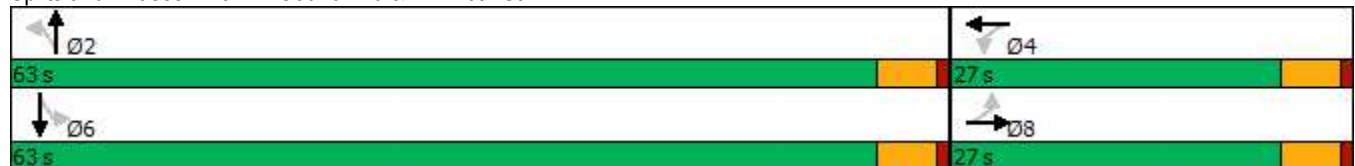
Intersection LOS: A

Intersection Capacity Utilization 64.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 97: N Council Rd & NW 16th St





















2040 PM Proposed

Synchro 10 Report

Timings

295: N MacArthur Blvd & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	159	52	62	243	89	57	1035	60	48	851	111
Future Volume (vph)	80	159	52	62	243	89	57	1035	60	48	851	111
Satd. Flow (prot)	0	1793	0	0	1791	0	1770	3511	0	1770	3479	0
Flt Permitted		0.691			0.884		0.950			0.950		
Satd. Flow (perm)	0	1256	0	0	1596	0	1770	3511	0	1770	3479	0
Satd. Flow (RTOR)		14			19			7			17	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	0	0	428	0	62	1190	0	52	1046	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	40.0	40.0		40.0	40.0		14.0	36.0		14.0	36.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		24.1			24.1		7.7	32.3		7.6	32.2	
Actuated g/C Ratio		0.33			0.33		0.10	0.44		0.10	0.44	
v/c Ratio		0.76			0.80		0.34	0.77		0.29	0.69	
Control Delay		34.4			34.6		40.4	25.9		39.4	23.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		34.4			34.6		40.4	25.9		39.4	23.0	
LOS		C			C		D	C		D	C	
Approach Delay		34.4			34.6			26.6			23.7	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)		135			186		29	273		24	226	
Queue Length 95th (ft)		232			298		73	#496		63	#398	
Internal Link Dist (ft)		5156			5223			1925			1249	
Turn Bay Length (ft)							105			130		
Base Capacity (vph)		625			795		224	1537		224	1525	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.51			0.54		0.28	0.77		0.23	0.69	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 73.9

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.5

Intersection LOS: C

Intersection Capacity Utilization 73.2%

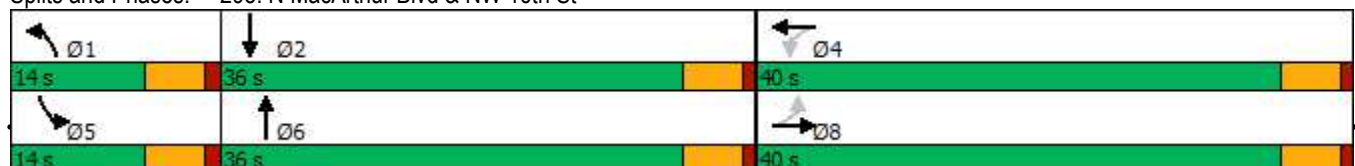
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















Splits and Phases: 295: N MacArthur Blvd & NW 16th St



Timings

377: N Meridian Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	142	116	43	304	105	132	997	59	102	817	110
Future Volume (vph)	77	142	116	43	304	105	132	997	59	102	817	110
Satd. Flow (prot)	0	1831	1583	0	1796	0	1770	3511	0	1770	3476	0
Flt Permitted		0.568			0.946		0.220			0.174		
Satd. Flow (perm)	0	1058	1583	0	1708	0	410	3511	0	324	3476	0
Satd. Flow (RTOR)			109		19			10			24	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	238	126	0	491	0	143	1148	0	111	1008	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8		8	4			6			2		
Total Split (s)	39.0	39.0	39.0	39.0	39.0		51.0	51.0		51.0	51.0	
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	
Act Effect Green (s)		29.4	29.4		29.4		50.6	50.6		50.6	50.6	
Actuated g/C Ratio		0.33	0.33		0.33		0.56	0.56		0.56	0.56	
v/c Ratio		0.69	0.21		0.86		0.62	0.58		0.61	0.51	
Control Delay		36.6	6.1		42.5		30.8	15.1		33.9	13.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		36.6	6.1		42.5		30.8	15.1		33.9	13.8	
LOS		D	A		D		C	B		C	B	
Approach Delay		26.1			42.5			16.8			15.8	
Approach LOS		C			D			B			B	
Queue Length 50th (ft)		113	6		242		54	216		41	177	
Queue Length 95th (ft)		189	41		352		#162	302		#139	250	
Internal Link Dist (ft)		5223			795			1256			1241	
Turn Bay Length (ft)							100			115		
Base Capacity (vph)		399	665		657		230	1977		182	1964	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.60	0.19		0.75		0.62	0.58		0.61	0.51	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 21.4

Intersection LOS: C

Intersection Capacity Utilization 89.3%

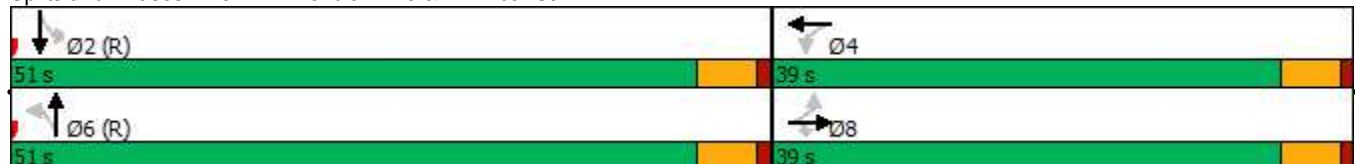
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















Splits and Phases: 377: N Meridian Ave & NW 16th St



Timings

544: N Rockwell Ave & NW 16th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	106	42	94	139	100	72	930	70	99	738	84
Future Volume (vph)	75	106	42	94	139	100	72	930	70	99	738	84
Satd. Flow (prot)	0	1783	0	0	1761	0	1770	3504	0	1770	3486	0
Flt Permitted		0.721			0.811		0.950			0.950		
Satd. Flow (perm)	0	1308	0	0	1449	0	1770	3504	0	1770	3486	0
Satd. Flow (RTOR)		13			23			11			18	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	243	0	0	362	0	78	1087	0	108	893	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Total Split (s)	28.0	28.0		28.0	28.0		16.0	44.0		18.0	46.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Act Effct Green (s)		23.5			23.5		8.7	30.5		9.9	31.6	
Actuated g/C Ratio		0.31			0.31		0.11	0.40		0.13	0.41	
v/c Ratio		0.59			0.78		0.39	0.77		0.47	0.61	
Control Delay		32.7			41.1		41.1	24.3		41.4	19.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		32.7			41.1		41.1	24.3		41.4	19.4	
LOS		C			D		D	C		D	B	
Approach Delay		32.7			41.1			25.4			21.8	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		100			160		37	240		51	175	
Queue Length 95th (ft)		#225			#363		85	331		107	242	
Internal Link Dist (ft)		5171			5156			1892			1796	
Turn Bay Length (ft)							155			200		
Base Capacity (vph)		423			474		268	1887		316	1976	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.57			0.76		0.29	0.58		0.34	0.45	

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 76.2

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 26.8

Intersection LOS: C

Intersection Capacity Utilization 69.0%

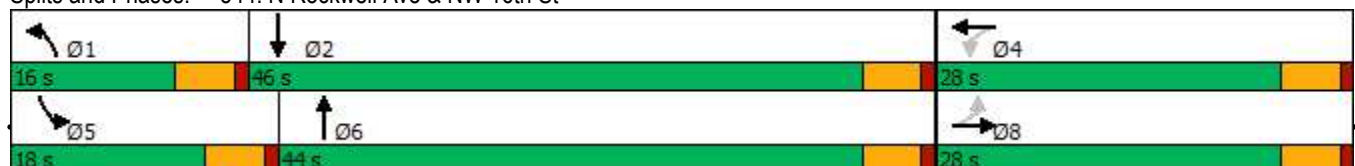
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

















Splits and Phases: 544: N Rockwell Ave & NW 16th St



Timings

999: NW 19th St

07/13/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	1863	0	0	3539	0	0	3539	0
Satd. Flow (RTOR)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Lost Time (s)		4.5			4.5			4.5			4.5	
Act Effect Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		2573			829			532			469	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												

Intersection Summary

Cycle Length: 45

Actuated Cycle Length: 37.5

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.00

Intersection Signal Delay: 0.0

Intersection LOS: A

Intersection Capacity Utilization 0.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 999: NW 19th St



2040 PM Proposed

Synchro 10 Report

Appendix D: Opinion of Probable Construction Cost

Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	South Bike Corridor - C4	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$20,000.00	\$20,000
2	MOBILIZATION (5%)	1	LS	\$24,800.00	\$24,800
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$5,000.00	\$5,000
5	SAW CUT - ALLOCATION	188	LF	\$18.00	\$3,375
6	PAVEMENT REMOVAL - ALLOCATION	250	SY	\$12.00	\$3,000
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$56,628.00	\$56,628
8	REMOVE CURB AND GUTTER - ALLOCATION	250	LF	\$12.00	\$3,000
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$4,500.00	\$4,500
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	65	EA	\$300.00	\$19,500
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	250	SY	\$110.00	\$27,500
2	8" STABILIZED SUBGRADE - ALLOCATION	250	SY	\$12.00	\$3,000
3	CURB AND GUTTER (2'-6") - ALLOCATION	188	LF	\$36.00	\$6,750
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	24,784	LF	\$3.00	\$74,352
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	34,811	LF	\$5.75	\$200,163
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	3,334	LF	\$16.80	\$56,011
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	68	EA	\$210.00	\$14,280
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	9,978	EA	\$17.25	\$172,121
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	199	EA	\$300.00	\$59,700
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	16	EA	\$300.00	\$4,800
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	640	SF	\$18.00	\$11,520
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	1,165	EA	\$137.50	\$160,188
PROPOSED SIGNAGE					
1	R3-17 "BIKE LANE"	31	EA	\$360.00	\$11,160
2	R3-17bP "ENDS"	1	EA	\$180.00	\$180
3	R4-11 "BICYCLES MAY USE FULL LANE"	4	EA	\$360.00	\$1,440
4	M4-14 "BEGIN"	1	EA	\$180.00	\$180
TRAFFIC SIGNAL MODIFICATIONS					
1	NEW TRAFFIC SIGNAL POLES	2	EA	\$42,000.00	\$84,000
2	WAVETRONICS RADAR DETECTION	2	EA	\$102,000.00	\$204,000
Basis for Cost Projection:				Subtotal:	\$ 1,236,000
<input type="checkbox"/>	No Design Completed			Years	Percent
<input checked="" type="checkbox"/>	Preliminary Design			5	3%
<input type="checkbox"/>	Final Design				
				Total	\$ 1,433,000

This total does not reflect engineering services, technical services, or property acquisition cost.

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	South Bike Corridor - C12	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$31,666.67	\$31,667
2	MOBILIZATION (5%)	1	LS	\$39,666.67	\$39,667
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$8,000.00	\$8,000
5	SAW CUT - ALLOCATION	281	LF	\$18.00	\$5,063
6	PAVEMENT REMOVAL - ALLOCATION	375	SY	\$12.00	\$4,500
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$81,853.20	\$81,853
8	REMOVE CURB AND GUTTER - ALLOCATION	375	LF	\$12.00	\$4,500
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$6,750.00	\$6,750
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	98	EA	\$275.00	\$26,813
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	375	SY	\$120.00	\$45,000
2	8" STABILIZED SUBGRADE - ALLOCATION	375	SY	\$12.00	\$4,500
3	CURB AND GUTTER (2'-6") - ALLOCATION	281	LF	\$36.00	\$10,125
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	50,032	LF	\$3.00	\$150,096
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	60,982	LF	\$6.00	\$365,892
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	2,864	LF	\$16.80	\$48,115
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	128	EA	\$210.00	\$26,880
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	14,538	EA	\$16.50	\$239,877
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	299	EA	\$300.00	\$89,700
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	98	EA	\$300.00	\$29,400
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	3,920	SF	\$16.50	\$64,680
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	1,748	EA	\$137.50	\$240,281
PROPOSED SIGNAGE					
1	R3-17 "BIKE LANE"	45	EA	\$360.00	\$16,200
2	R3-17bP "ENDS"	2	EA	\$180.00	\$360
3	R4-11 "BICYCLES MAY USE FULL LANE"	5	EA	\$360.00	\$1,800
4	M4-14 "BEGIN"	2	EA	\$180.00	\$360
5	W9-2L "LANE ENDS MERGE LEFT"	2	EA	\$360.00	\$720
TRAFFIC SIGNAL MODIFICATIONS					
1	NEW TRAFFIC SIGNAL POLES	3	EA	\$42,000.00	\$126,000
2	WAVETRONICS RADAR DETECTION	3	EA	\$102,000.00	\$306,000
Basis for Cost Projection:				Subtotal:	\$ 1,981,000
<input type="checkbox"/>	No Design Completed			Years	Percent
<input checked="" type="checkbox"/>	Preliminary Design			5	3%
<input type="checkbox"/>	Final Design			Total	\$ 2,297,000

This total does not reflect engineering services, technical services, or property acquisition cost.

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Client:	City of Oklahoma City	Date:	4/13/2023
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	South Bike Corridor - C13	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$10,000.00	\$10,000
2	MOBILIZATION (5%)	1	LS	\$12,000.00	\$12,000
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$2,000.00	\$2,000
5	SAW CUT - ALLOCATION	281	LF	\$18.00	\$5,058
6	PAVEMENT REMOVAL - ALLOCATION	375	SY	\$12.00	\$4,500
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$24,502.50	\$24,503
8	REMOVE CURB AND GUTTER - ALLOCATION	375	LF	\$12.00	\$4,500
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$6,018.75	\$6,019
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	98	EA	\$300.00	\$29,400
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	375	SY	\$120.00	\$45,000
2	8" STABILIZED SUBGRADE - ALLOCATION	375	SY	\$12.00	\$4,500
3	CURB AND GUTTER (2'-6") - ALLOCATION	281	LF	\$36.00	\$10,116
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	4,092	LF	\$3.00	\$12,277
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	2,262	LF	\$6.00	\$13,572
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	4,394	LF	\$16.10	\$70,743
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	206	EA	\$210.00	\$43,260
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	225	EA	\$18.00	\$4,050
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	3	EA	\$300.00	\$900
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	354	EA	\$287.50	\$101,660
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	14,144	SF	\$17.25	\$243,984
PROPOSED SIGNAGE					
1	R3-7bP "EXCEPT BICYCLES"	6	EA	\$360.00	\$2,160
2	R3-17 "BIKE LANE"	11	EA	\$360.00	\$3,960
3	R3-17bP "ENDS"	6	EA	\$180.00	\$1,080
4	R4-11 "BICYCLES MAY USE FULL LANE"	99	EA	\$360.00	\$35,640
TRAFFIC SIGNAL MODIFICATIONS					
1	WAVETRONICS RADAR DETECTION	2	EA	\$102,000.00	\$204,000
Basis for Cost Projection:		Subtotal:			\$ 902,000
<input type="checkbox"/> No Design Completed		Years		Percent	
<input checked="" type="checkbox"/> Preliminary Design		5		3%	\$ 144,000
<input type="checkbox"/> Final Design		Total			\$ 1,046,000

This total does not reflect engineering services, technical services, or property acquisition cost.

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	East Bike Corridor - C7	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$10,000.00	\$10,000
2	MOBILIZATION (5%)	1	LS	\$12,000.00	\$12,000
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$2,000.00	\$2,000
5	SAW CUT - ALLOCATION	167	LF	\$18.00	\$3,000
6	PAVEMENT REMOVAL - ALLOCATION	167	SY	\$12.00	\$2,000
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$21,780.00	\$21,780
8	REMOVE CURB AND GUTTER - ALLOCATION	167	LF	\$12.00	\$2,000
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$5,350.00	\$5,350
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	25	EA	\$300.00	\$7,500
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	167	SY	\$120.00	\$20,000
2	8" STABILIZED SUBGRADE - ALLOCATION	167	SY	\$12.00	\$2,000
3	CURB AND GUTTER (2'-6") - ALLOCATION	167	LF	\$36.00	\$6,000
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	787	LF	\$3.00	\$2,361
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	435	LF	\$6.00	\$2,610
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	845	LF	\$16.10	\$13,605
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	0	EA	\$210.00	\$0
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	225	EA	\$18.00	\$4,050
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	3	EA	\$300.00	\$900
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	68	EA	\$287.50	\$19,550
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	2,720	SF	\$17.25	\$46,920
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	30	EA	\$150.00	\$4,500
PROPOSED SIGNAGE					
1	R3-7bP "EXCEPT BICYCLES"	1	EA	\$360.00	\$360
2	R3-17 "BIKE LANE"	2	EA	\$360.00	\$720
3	R3-17bP "ENDS"	1	EA	\$180.00	\$180
4	R4-11 "BICYCLES MAY USE FULL LANE"	19	EA	\$360.00	\$6,840
5	R10-6a "STOP HERE ON RED"	1	EA	\$360.00	\$360
6	R10-11a "NO TURN ON RED"	1	EA	\$360.00	\$360
7	M4-14 "BEGIN"	1	EA	\$180.00	\$180

Basis for Cost Projection:

- ☐ No Design Completed
☒ Preliminary Design
☐ Final Design

Subtotal:			\$	204,000
	Years	Percent		
Inflation	5	3%	\$	33,000
Total			\$	237,000

This total does not reflect engineering services, technical services, or property acquisition cost.

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Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	East Bike Corridor - C10	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$24,000.00	\$24,000
2	MOBILIZATION (5%)	1	LS	\$30,000.00	\$30,000
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$6,000.00	\$6,000
5	SAW CUT - ALLOCATION	333	LF	\$18.00	\$6,000
6	PAVEMENT REMOVAL - ALLOCATION	333	SY	\$12.00	\$4,000
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$43,560.00	\$43,560
8	REMOVE CURB AND GUTTER - ALLOCATION	333	LF	\$12.00	\$4,000
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$10,254.17	\$10,254
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	50	EA	\$300.00	\$15,000
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	333	SY	\$120.00	\$40,000
2	8" STABILIZED SUBGRADE - ALLOCATION	333	SY	\$12.00	\$4,000
3	CURB AND GUTTER (2'-6") - ALLOCATION	333	LF	\$36.00	\$12,000
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	17,649	LF	\$2.88	\$50,741
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	4,933	LF	\$6.00	\$29,598
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	1,380	LF	\$16.80	\$23,184
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	21	EA	\$210.00	\$4,410
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	2,775	EA	\$16.50	\$45,788
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	45	EA	\$300.00	\$13,500
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	63	EA	\$300.00	\$18,900
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	2,520	SF	\$17.25	\$43,470
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	360	EA	\$143.75	\$51,750
PROPOSED SIGNAGE					
1	R3-17 "BIKE LANE"	12	EA	\$360.00	\$4,320
2	R3-17bP "ENDS"	1	EA	\$180.00	\$180
3	R4-11 "BICYCLES MAY USE FULL LANE"	18	EA	\$360.00	\$6,480
4	M4-14 "BEGIN"	1	EA	\$180.00	\$180
Basis for Cost Projection: <input type="checkbox"/> No Design Completed <input checked="" type="checkbox"/> Preliminary Design <input type="checkbox"/> Final Design		Subtotal:			\$ 497,000
		Years		Percent	
		5		3%	\$ 80,000
		Total			\$ 577,000

This total does not reflect engineering services, technical services, or property acquisition cost.

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Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	West Bike Corridor - C9	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$29,000.00	\$29,000
2	MOBILIZATION (5%)	1	LS	\$36,000.00	\$36,000
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$14,000.00	\$14,000
5	SAW CUT - ALLOCATION	500	LF	\$18.00	\$9,000
6	PAVEMENT REMOVAL - ALLOCATION	250	SY	\$12.00	\$3,000
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$60,984.00	\$60,984
8	REMOVE CURB AND GUTTER - ALLOCATION	250	LF	\$12.00	\$3,000
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$14,700.00	\$14,700
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	70	EA	\$300.00	\$21,000
PROPOSED IMPROVEMENTS					
1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	500	SY	\$120.00	\$60,000
2	8" STABILIZED SUBGRADE - ALLOCATION	500	SY	\$12.00	\$6,000
3	CURB AND GUTTER (2'-6") - ALLOCATION	500	LF	\$36.00	\$18,000
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	30,539	LF	\$3.00	\$91,617
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	37,018	LF	\$5.50	\$203,599
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	1,900	LF	\$16.80	\$31,920
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	16	EA	\$210.00	\$3,360
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	11,112	EA	\$16.50	\$183,348
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	218	EA	\$300.00	\$65,400
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	178	EA	\$300.00	\$53,400
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	7,120	SF	\$18.00	\$128,160
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	125	EA	\$150.00	\$18,750
PROPOSED SIGNAGE					
1	R3-17 "BIKE LANE"	38	EA	\$360.00	\$13,680
2	R3-17bP "ENDS"	5	EA	\$180.00	\$900
3	R4-11 "BICYCLES MAY USE FULL LANE"	50	EA	\$360.00	\$18,000
4	R7-9 "NO PARKING BIKE LANE"	12	EA	\$360.00	\$4,320
5	M4-14 "BEGIN"	5	EA	\$180.00	\$900
TRAFFIC SIGNAL MODIFICATIONS					
1	WAVETRONICS RADAR DETECTION	1	EA	\$102,000.00	\$102,000
Basis for Cost Projection:				Subtotal:	\$ 1,200,000
<input type="checkbox"/>	No Design Completed			Years	Percent
<input checked="" type="checkbox"/>	Preliminary Design			Inflation	5 3%
<input type="checkbox"/>	Final Design			Total	\$ 1,391,000

This total does not reflect engineering services, technical services, or property acquisition cost.

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Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement	Prepared By:	DCM
	West Bike Corridor - C6A	Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
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DEMOLITION AND MOBILIZATION

1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$15,000.00	\$15,000
2	MOBILIZATION (5%)	1	LS	\$18,500.00	\$18,500
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,800.00	\$1,800
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$7,000.00	\$7,000
5	SAW CUT - ALLOCATION	500	LF	\$18.00	\$9,000
6	PAVEMENT REMOVAL - ALLOCATION	250	SY	\$12.00	\$3,000
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$60,984.00	\$60,984
8	REMOVE CURB AND GUTTER - ALLOCATION	250	LF	\$12.00	\$3,000
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$14,700.00	\$14,700
9	SWPPP	1	LS	\$3,600.00	\$3,600
10	INLET BARRIERS	70	EA	\$300.00	\$21,000

PROPOSED IMPROVEMENTS

1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	500	SY	\$120.00	\$60,000
2	8" STABILIZED SUBGRADE - ALLOCATION	500	SY	\$12.00	\$6,000
3	CURB AND GUTTER (2'-6") - ALLOCATION	500	LF	\$36.00	\$18,000
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	405	LF	\$3.00	\$1,215
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	29,625	LF	\$5.65	\$167,381
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	445	LF	\$16.80	\$7,476
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	1	EA	\$210.00	\$210
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	5,619	EA	\$16.95	\$95,242
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	76	EA	\$300.00	\$22,800
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	38	EA	\$300.00	\$11,400
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	1,520	SF	\$18.00	\$27,360
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	125	EA	\$150.00	\$18,750

PROPOSED SIGNAGE

1	R3-17 "BIKE LANE"	27	EA	\$360.00	\$9,720
2	R3-17bP "ENDS"	1	EA	\$180.00	\$180
3	R4-4 "BEGIN RIGHT TURN LANE YIELD TO BIKES"	1	EA	\$360.00	\$360
4	R4-11 "BICYCLES MAY USE FULL LANE"	14	EA	\$360.00	\$5,040
5	R7-9 "NO PARKING BIKE LANE"	24	EA	\$360.00	\$8,640
6	M4-14 "BEGIN"	1	EA	\$180.00	\$180

Basis for Cost Projection:

- ☐ No Design Completed
☒ Preliminary Design
☐ Final Design

Subtotal:			\$	619,000
	Years	Percent		
Inflation	5	3%	\$	98,000
Total			\$	717,000

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Client:	City of Oklahoma City	Date:	6/6/2022
Project:	PC-0616 - Street Enhancement NW 4th Street Bike Corridor	Prepared By:	DCM
		Checked By:	LAS

Item No.	Item Description	Quantity	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION					
1	CLEARING AND GRUBBING (4%) (PAVEMENT PREPARATION)	1	LS	\$11,000.00	\$11,000
2	MOBILIZATION (5%)	1	LS	\$14,000.00	\$14,000
3	COLOR AUDIO/VIDEO RECORDING PRE & POST CONSTRUCTION DVD	1	LS	\$1,650.00	\$1,650
4	CONSTRUCTION STAKING SURVEY (1%) (MARKING PLACEMENT)	1	LS	\$3,000.00	\$3,000
5	SAW CUT - ALLOCATION	100	LF	\$18.00	\$1,800
6	PAVEMENT REMOVAL - ALLOCATION	50	SY	\$11.00	\$550
7	PAVEMENT MARKING REMOVAL ALLOCATION	1	LS	\$4,800.00	\$4,800
8	REMOVE CURB AND GUTTER - ALLOCATION	50	LF	\$12.00	\$600
9	TEMPORARY TRAFFIC CONTROL	1	LS	\$3,925.00	\$3,925
9	SWPPP	1	LS	\$3,300.00	\$3,300
10	INLET BARRIERS	8	EA	\$275.00	\$2,200

PROPOSED IMPROVEMENTS

1	PORTLAND CEMENT CONCRETE (8") - ALLOCATION	100	SY	\$110.00	\$11,000
2	8" STABILIZED SUBGRADE - ALLOCATION	100	SY	\$11.00	\$1,100
3	CURB AND GUTTER (2'-6") - ALLOCATION	100	LF	\$33.00	\$3,300
4	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (4-INCH)	2,526	LF	\$2.75	\$6,947
5	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (8-INCH)	7,058	LF	\$5.50	\$38,819
6	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (24-INCH)	704	LF	\$15.40	\$10,842
7	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (ARROWS)	1	EA	\$192.50	\$193
8	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (GREEN PAINT WITH CRUSHED GRANITE)	2,358	EA	\$16.50	\$38,907
9	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (BIKE LANE SYMBOL)	75	EA	\$275.00	\$20,625
10	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW SYMBOL)	38	EA	\$275.00	\$10,450
11	TRAFFIC STRIPE (MULTI-POLYMER - EPOPLEX LS65) (SHARROW BLACK CONTRAST MARKING)	1,520	EA	\$16.50	\$25,080
12	DELINEATOR PROVIDE AND INSTALL (BIKE LANE BUFFER)	130	EA	\$137.50	\$17,875

PROPOSED SIGNAGE

1	R3-17 "BIKE LANE"	27	EA	\$330.00	\$8,910
2	R3-17bP "ENDS"	1	EA	\$165.00	\$165
3	R4-4 "BEGIN RIGHT TURN LANE YIELD TO BIKES"	1	EA	\$330.00	\$330
4	R4-11 "BICYCLES MAY USE FULL LANE"	14	EA	\$330.00	\$4,620
5	R7-9 "NO PARKING BIKE LANE"	24	EA	\$330.00	\$7,920
6	M4-14 "BEGIN"	1	EA	\$165.00	\$165

Basis for Cost Projection:

- ☐ No Design Completed
☒ Preliminary Design
☐ Final Design

Subtotal:			\$	256,000
	Years	Percent		
Inflation	5	3%	\$	41,000
Total			\$	297,000

This total does not reflect engineering services, technical services, or property acquisition cost.

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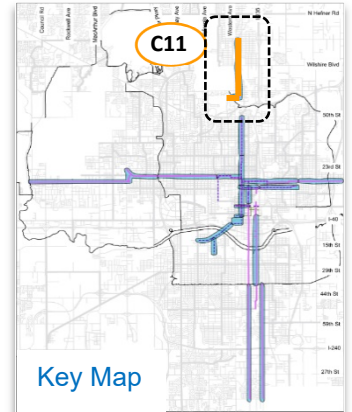
Appendix E: Priority Area Fact Sheets



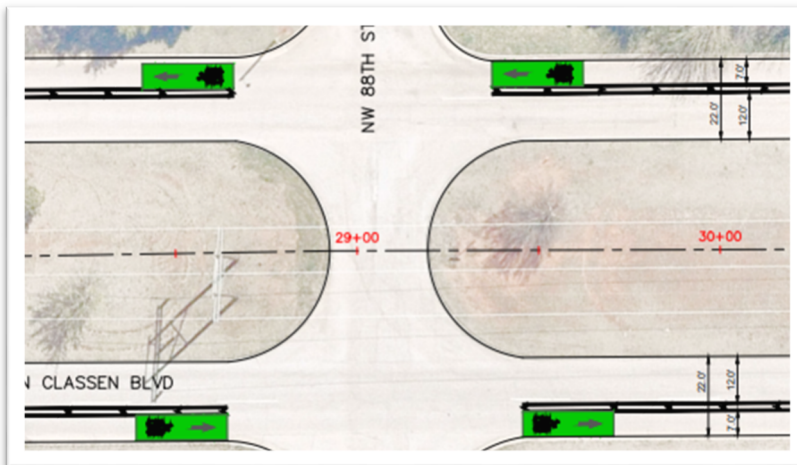
North Corridor - Priority Area C11

N Classen Blvd - NW Grand Blvd to W Britton Rd

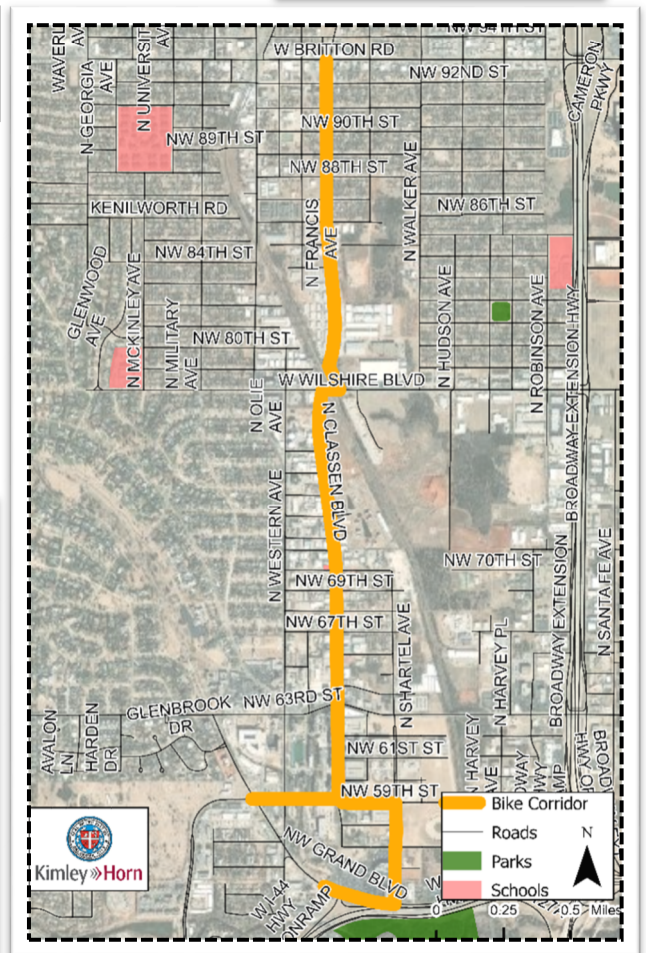
Priority Corridor C11 is located along N Classen Blvd from NW Grand Blvd to W Britton Rd. The corridor is 3.2 miles long and is recommended to implement a Tier 1 bicycle facility per bikewalkokc. This proposed facility will provide a 12' travel lane, 3' buffer with delineators, and a 7' buffered bike lane by restriping the existing four lane divided roadway, per the Oklahoma City Bicycle Standards.



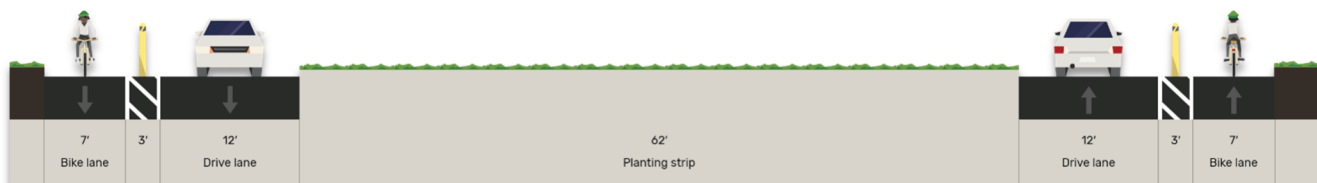
PROJECT AT A GLANCE			
Proposed Priority Area C11 – N Classen Blvd from NW Grand Blvd to W Britton Rd			
Corridor Length		3.2 Miles	
Tiered Facility from bikewalkokc		Tier 1	
Average Daily Traffic (ADT)		3,700 vehicles per day	
Bike Lane Design	Bike Lane	7'	
	Buffer Width	3'	
	Vehicle Travel Lane	12'	
Estimated Construction Cost (2021)		\$1,256,000	



C11 North Corridor - Plan View Excerpt



C11 North Corridor – Map Overview



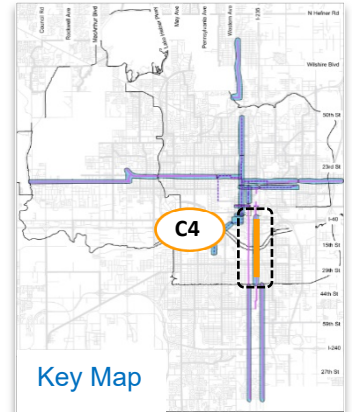
C11 North Corridor Cross Section



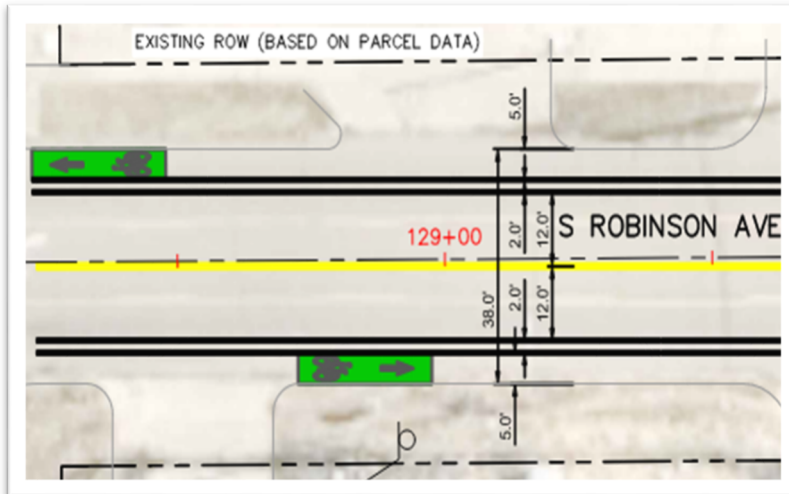
South Corridor - Priority Area C4

S Robinson Ave – W Sheridan Ave to SW 36th St

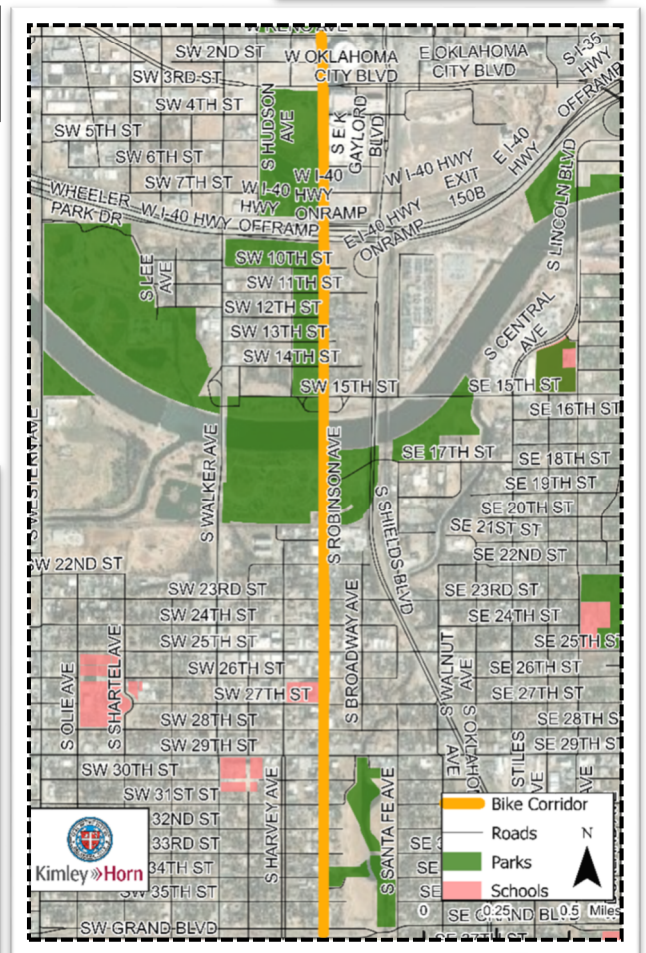
Priority Corridor C4 is located along S Robinson Ave from W Sheridan Ave to SW 36th St. The corridor is 2.6 miles long and is recommended to implement a Tier 1 bicycle facility per bikewalkokc. This proposed facility will provide a 11' travel lane, 2' buffer with delineators, and a 5' buffered bike lane by restriping the existing four lane roadway, per the Oklahoma City Bicycle Standards.



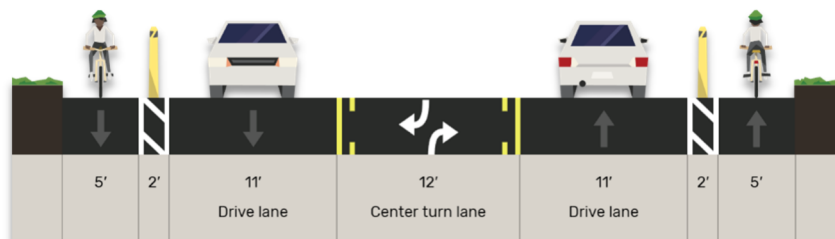
PROJECT AT A GLANCE			
Proposed Priority Area C4 – S Robinson Ave from W Sheridan Ave to SW 36 th St			
Corridor Length		2.6 Miles	
Tiered Facility from bikewalkokc		Tier 1	
Average Daily Traffic (ADT)		7,000 vehicles per day	
Bike Lane Design	Bike Lane	5'	
	Buffer Width	2'	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$1,433,000	



C4 South Corridor - Plan View Excerpt



C4 South Corridor – Map Overview



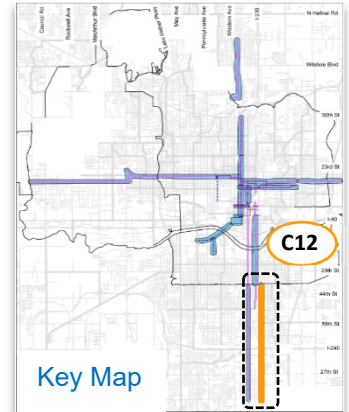
C4 South Corridor Cross Section



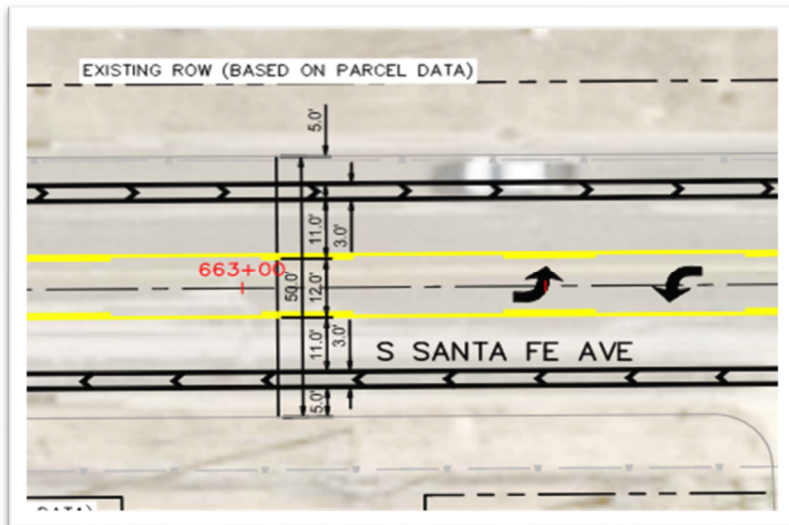
South Corridor – Priority Area C12

S Santa Fe Ave – SW 36th St to SW 104th St

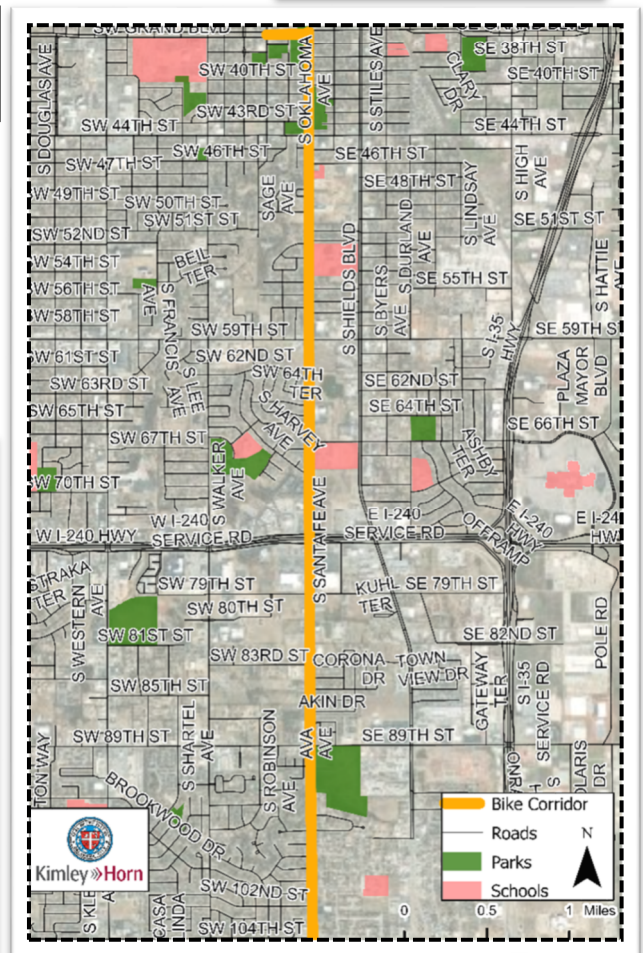
Priority Corridor C12 is located along S Santa Fe Ave from SW 36th St to SW 104th St. The corridor is 4.7 miles long and is recommended to implement a Tier 1 bicycle facility per bikewalkokc. This proposed facility will provide a 11' travel lane, 3' buffer with delineators, and a 5' buffered bike lane by restriping the existing four lane roadway, per the Oklahoma City Bicycle Standards.



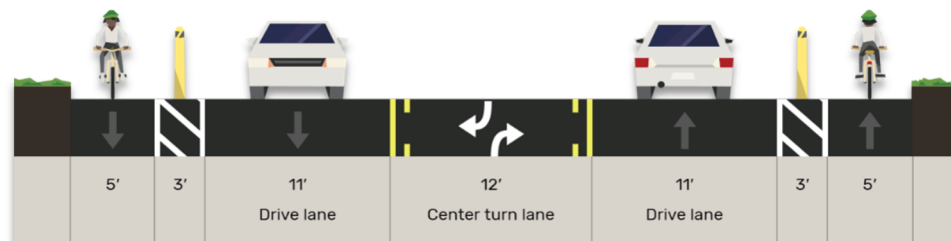
PROJECT AT A GLANCE			
Proposed Priority Area C12 – S Santa Fe Ave from SW 36 th St to SW 104 th St			
Corridor Length		4.7 Miles	
Tiered Facility from bikewalkokc		Tier 1	
Average Daily Traffic (ADT)		12,000 vehicles per day	
Bike Lane Design	Bike Lane	5'	
	Buffer Width	3'	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$2,297,000	



C12 South Corridor - Plan View Excerpt



C12 South Corridor – Map Overview



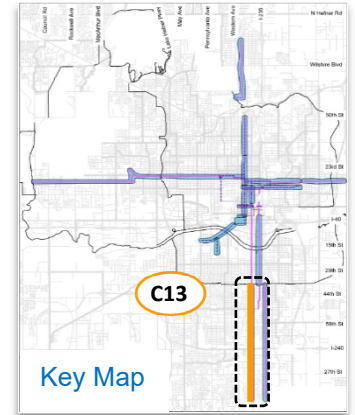
C12 South Corridor Cross Section



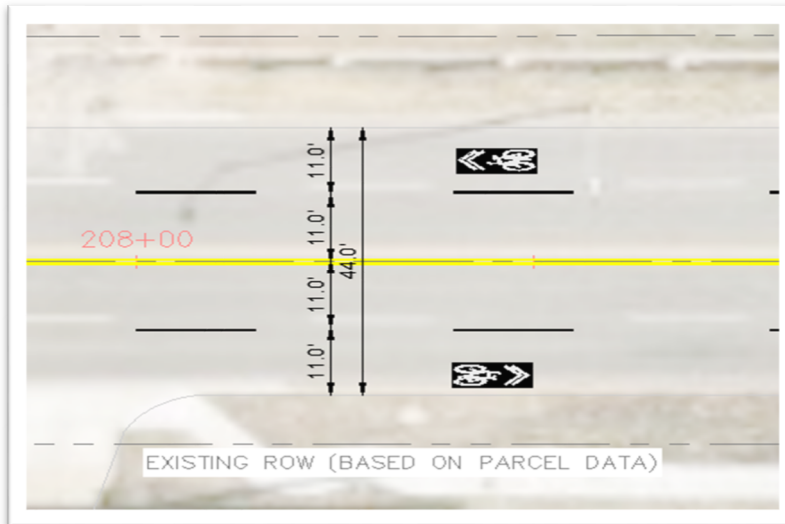
South Corridor - Priority Area C13

S Walker Ave – SW 36th St to SW 104th St

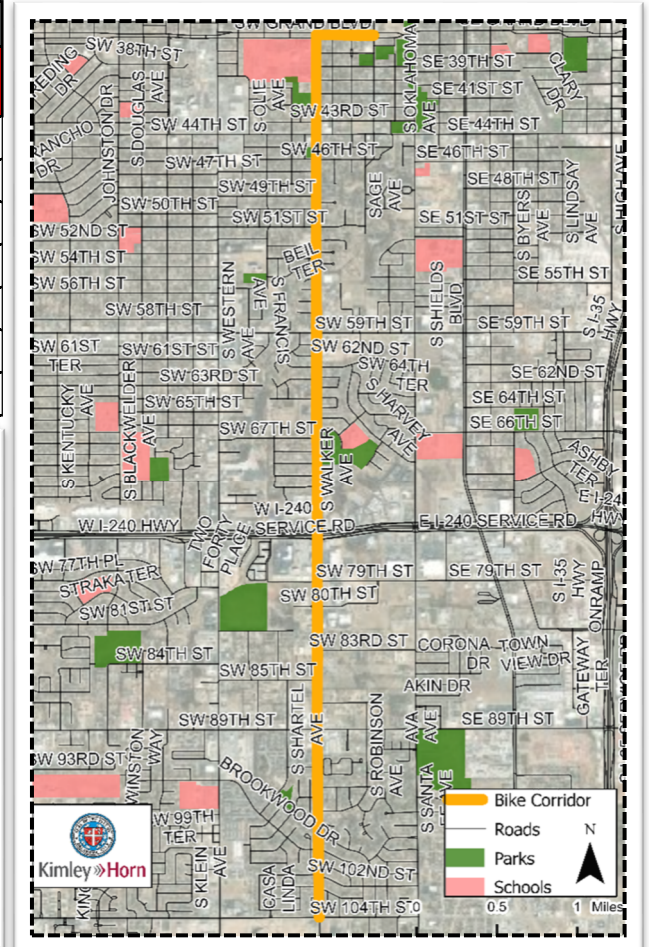
Priority Corridor C13 is located along S Walker Ave from SW 36th St to SW 104th St. The corridor is 4.7 miles long and is recommended to implement a Tier 3 bicycle facility per bikewalkokc. This proposed facility will provide a two 12' travel lane in both directions and shared bike lane pavement markings by restriping the existing roadway with shared per the Oklahoma City Bicycle Standards.



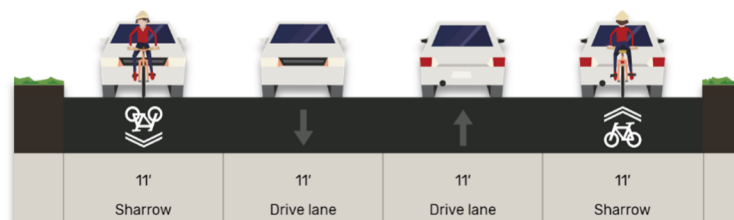
PROJECT AT A GLANCE			
Proposed Priority Area C13 – S Walker Ave from SW 36 th St to SW 104 th St			
Corridor Length		4.7 Miles	
Tiered Facility from bikewalkokc		Tier 3	
Average Daily Traffic (ADT)		10,300 vehicles per day	
Bike Lane Design	Bike Lane	None	
	Buffer Width	None	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$1,046,000	



C13 South Corridor - Plan View Excerpt



C13 South Corridor – Map Overview



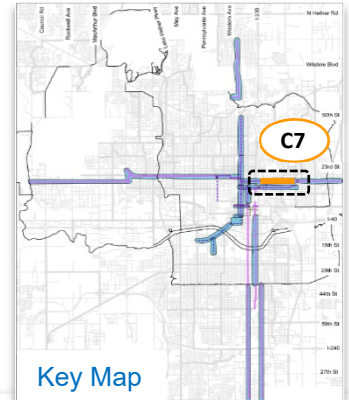
C13 South Corridor Cross Section



East Corridor - Priority Area C7

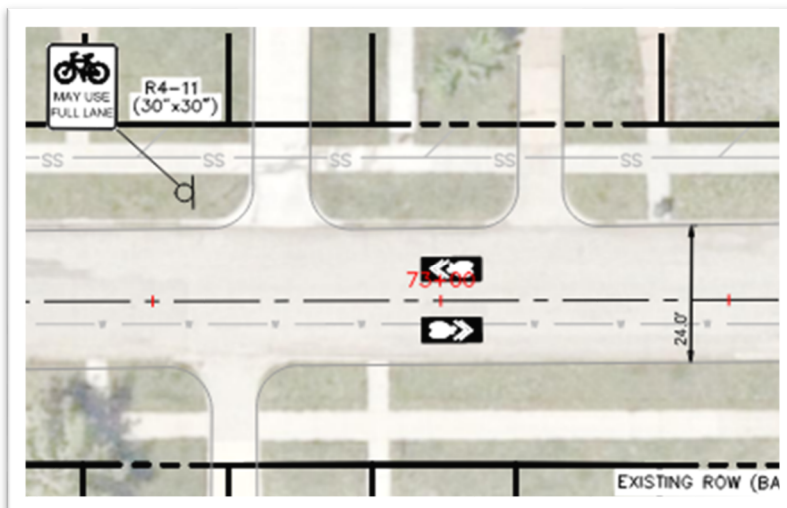
NE 16th St – N Walnut Ave to N Kelley Ave

Priority Corridor C7 is located along NE 16th St from N Walnut Ave to N Kelley Ave. The corridor is 0.9 miles long and is recommended to implement a Tier 3 bicycle facility per bikewalkokc. This proposed facility will provide a 12' travel lane and shared bike lane pavement markings by restriping the existing roadway, per the Oklahoma City Bicycle Standards.

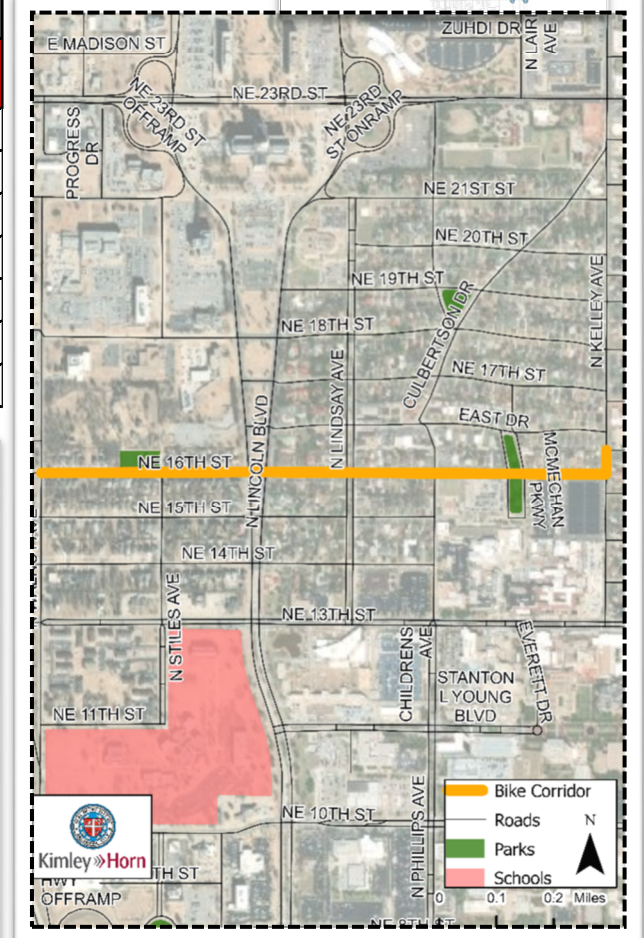


Key Map

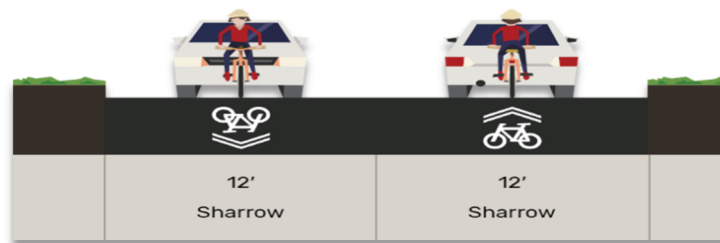
PROJECT AT A GLANCE			
Proposed Priority Area C7 – NE 16 th St from N Walnut Ave to N Kelley Ave			
Corridor Length		0.9 Miles	
Tiered Facility from bikewalkokc		Tier 3	
Average Daily Traffic (ADT)		1,300 vehicles per day	
Bike Lane Design	Bike Lane	None	
	Buffer Width	None	
	Vehicle Travel Lane	12'	
Estimated Construction Cost (2021)		\$237,000	



C7 East Corridor - Plan View Excerpt



C7 East Corridor – Map Overview



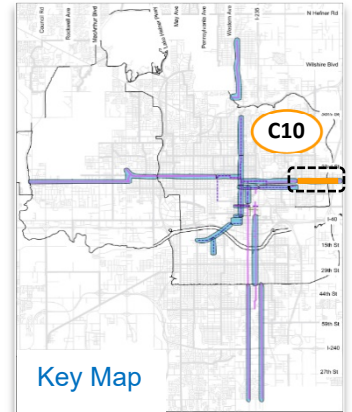
C7 East Corridor Cross Section



East Corridor - Priority Area C10

NE 16th St – N Kelley Ave to N Bryant Dr

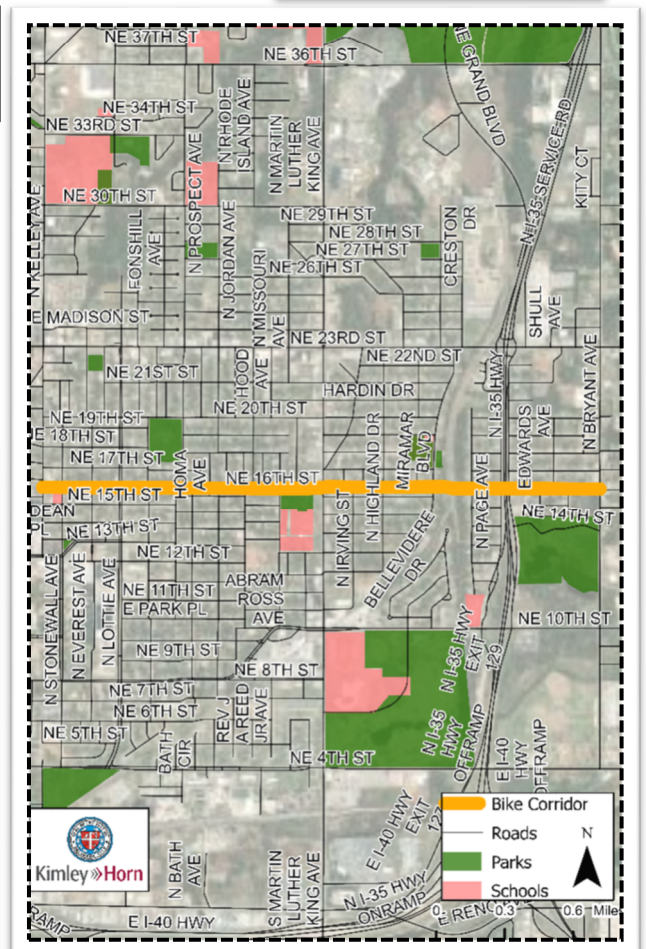
Priority Corridor C10 is located along NE 16th St from N Kelley Ave to N Bryant Ave. The corridor is 1.8 miles long and is recommended to implement a Tier 2 bicycle facility per bikewalkokc. This proposed facility will provide a 11' travel lane and a 5' bike lane by restriping the existing four lane roadway, per the Oklahoma City Bicycle Standards.



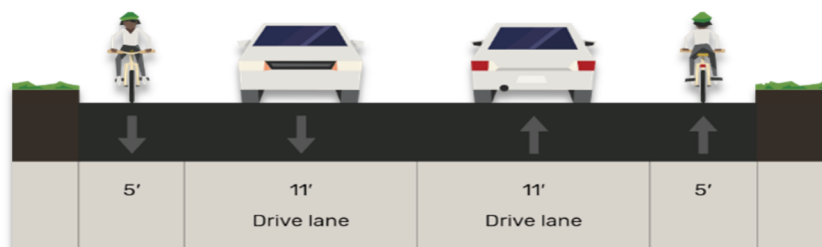
PROJECT AT A GLANCE			
Proposed Priority Area C10 – NE 16 th St from N Kelley Ave to Redbud Dr			
Corridor Length		1.8 Miles	
Tiered Facility from bikewalkokc		Tier 2	
Average Daily Traffic (ADT)		4,300 vehicles per day	
Bike Lane Design	Bike Lane	5'	
	Buffer Width	None	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$577,000	



C10 East Corridor - Plan View Excerpt



C10 East Corridor – Map Overview



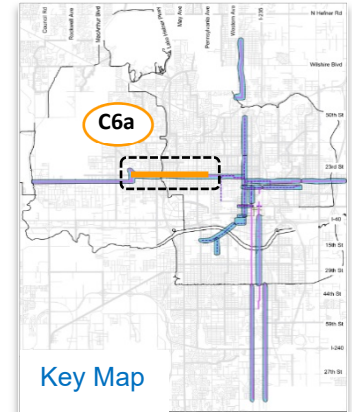
C10 East Corridor Cross Section



West Corridor - Priority Area C6a

NW 19th St – N Meridian Ave to N Indiana Ave

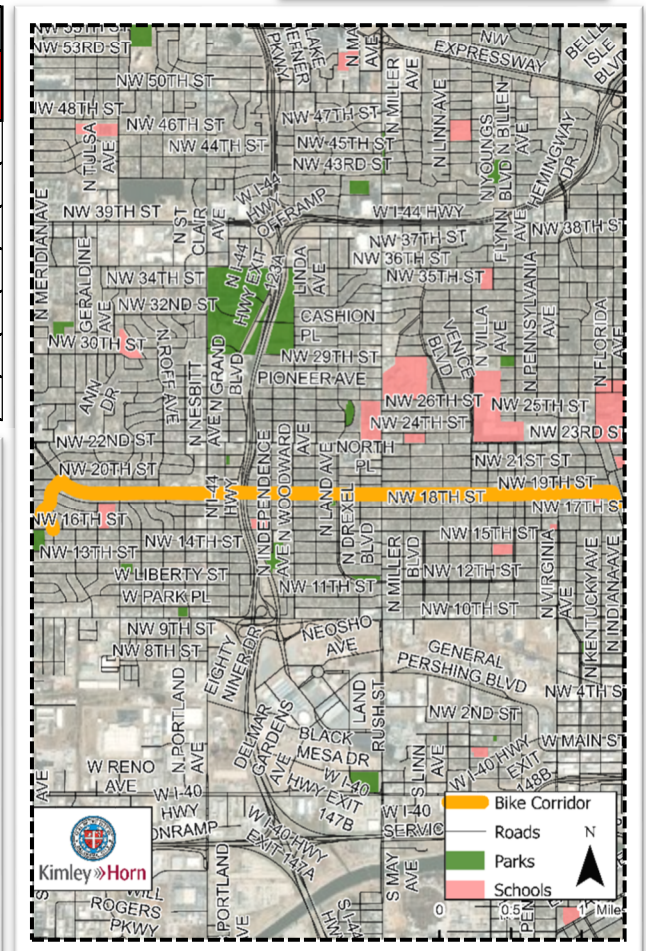
Priority Corridor C6a is located along NW 19th St from N Meridian Ave to N Indiana Ave. The corridor is 3.6 miles long and is recommended to implement a Tier 1 bicycle facility per bikewalkokc. This proposed facility will provide a 12' travel lane, 2' buffer with delineators, and a 6' buffered bike lane by restriping the existing four lane divided roadway, per the Oklahoma City Bicycle Standards.



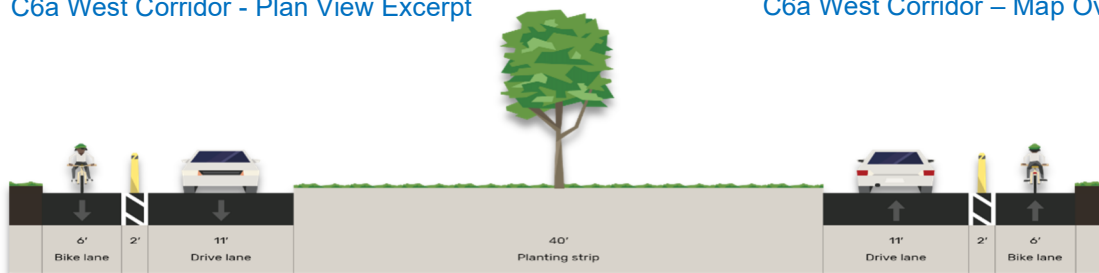
PROJECT AT A GLANCE			
Proposed Priority Area C6a – NW 19 th St from N Meridian Ave to N Indiana Ave			
Corridor Length		3.6 Miles	
Tiered Facility from bikewalkokc		Tier 1	
Average Daily Traffic (ADT)		Not Available	
Bike Lane Design	Bike Lane	6'	
	Buffer Width	2'	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$717,000	



C6a West Corridor - Plan View Excerpt



C6a West Corridor – Map Overview



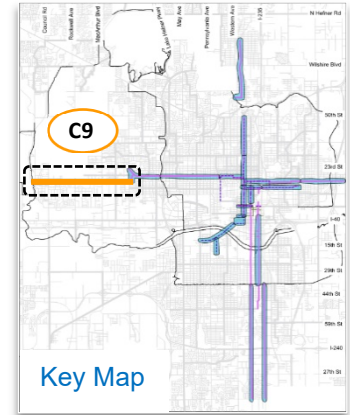
C6a West Corridor Cross Section



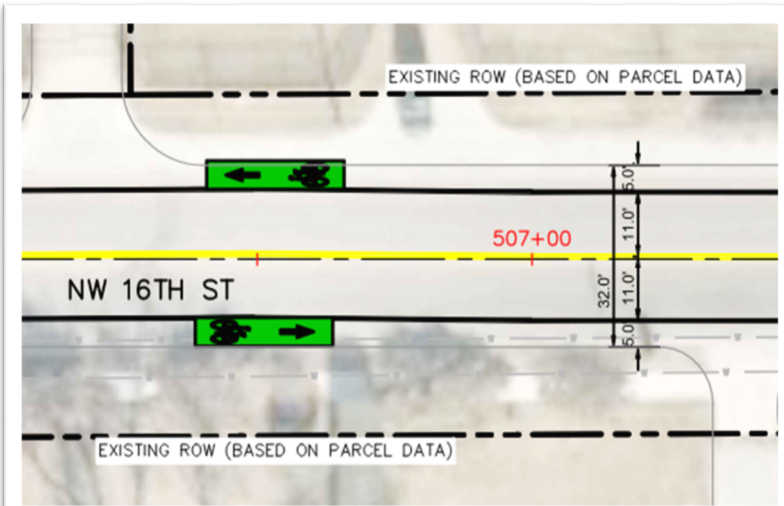
West Corridor - Priority Area C9

NW 16th St – Lake Overholser to N Meridian Ave

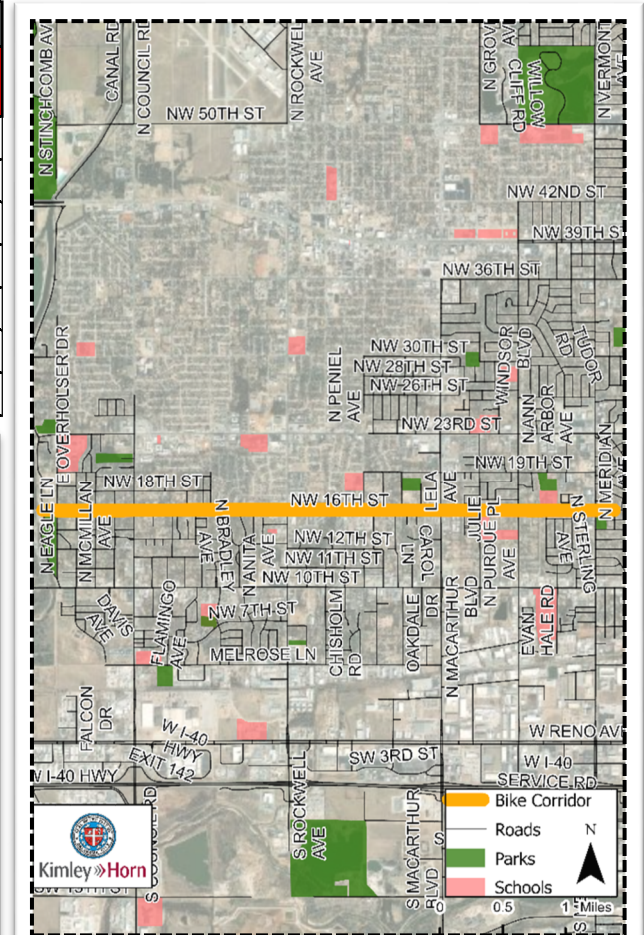
Priority Corridor C9 is located along NW 16th St from Lake Overholser to N Meridian Ave. The corridor is 3.7 miles long and is recommended to implement a Tier 2 bicycle facility where possible and Tier 3 everywhere else per bikewalkokc. This proposed Tier 2 facility will provide an 11' travel lane and 5' bike land with no buffer lane by restriping the existing four lane divided roadway, per the Oklahoma City Bicycle Standards. The proposed Tier 3 facility will provide a 12' travel lane with shared bike lane pavement markings.



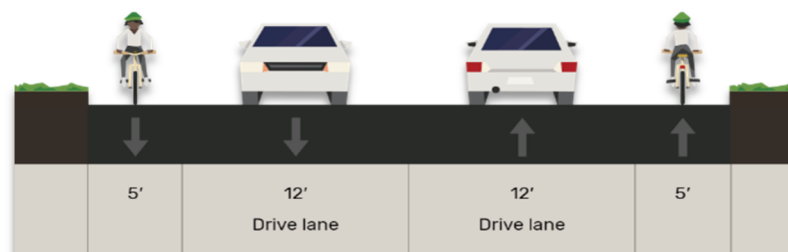
PROJECT AT A GLANCE			
Proposed Priority Area C9 – NW 16 th St from Lake Overholser to N Meridian Ave			
Corridor Length		3.7 Miles	
Tiered Facility from bikewalkokc		Tier 2	
Average Daily Traffic (ADT)		7,000 vehicles per day	
Bike Lane Design	Bike Lane	5'	
	Buffer Width	None	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$1,391,000	



C9 West Corridor - Plan View Excerpt



C9 West Corridor – Map Overview



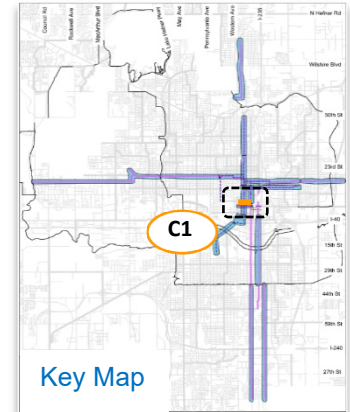
C9 West Corridor Cross Section



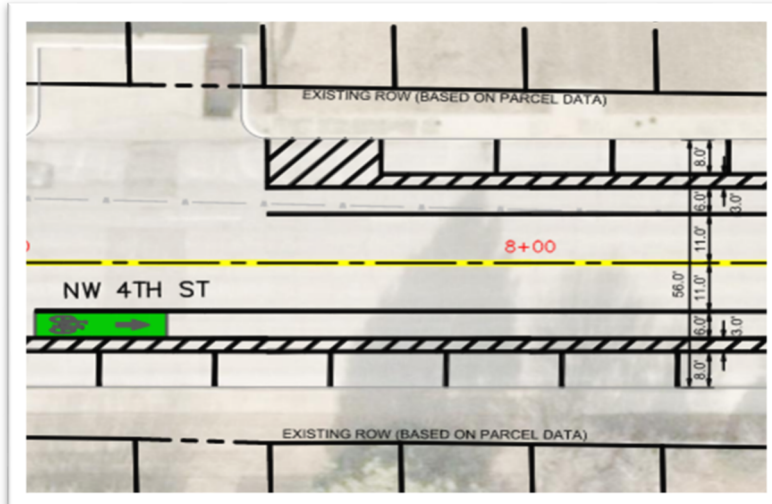
NW 4th St Connection - Priority Area C1

NW 4th St – N Western Ave to N Shartel Ave

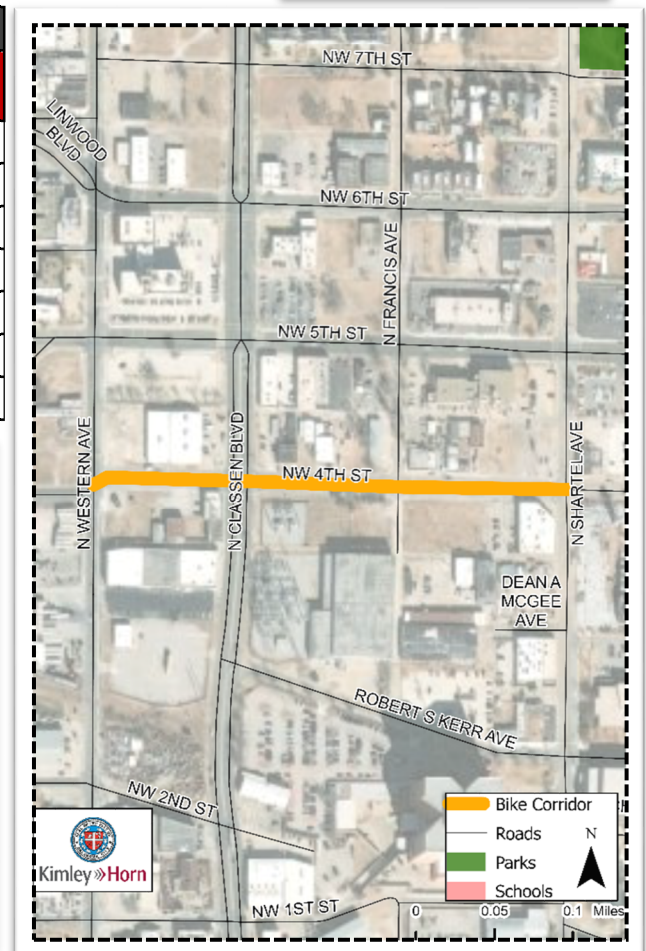
Priority Corridor C1 is located along NW 4th St from N Western Ave to N Shartel Ave. The corridor is 0.25 miles long and is recommended to implement a Tier 1 bicycle facility per bikewalkokc. This proposed facility will provide a 11' travel lane, 8' parking lane, 3' buffer with between parking spaces, and a 7' buffered bike lane by restriping the existing four lane roadway, per the Oklahoma City Bicycle Standards.



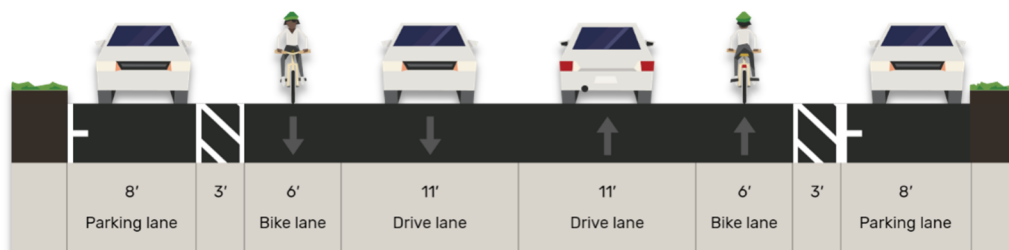
PROJECT AT A GLANCE			
Proposed Priority Area C1 – NW 4 th St from N Western Ave to N Shartel Ave			
Corridor Length		0.25 Miles	
Tiered Facility from bikewalkokc		Tier 1	
Average Daily Traffic (ADT)		3,000 vehicles per day	
Bike Lane Design	Bike Lane	6'	
	Buffer Width	3'	
	Vehicle Travel Lane	11'	
Estimated Construction Cost (2021)		\$297,000	



C1 NW 4th St - Plan View Excerpt



C1 NW 4th St Corridor – Map Overview



C1 NW 4th St Corridor Cross Section