

Traffic and Parking Impact Study Proposed Arlington 425 Residential Development

Arlington Heights, Illinois



Prepared For:

CCH LLC



February 25, 2021

1. Introduction

This report summarizes the methodologies, results and findings of a traffic and parking impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed Arlington 425 residential development to be located in Arlington Heights, Illinois. The site is located on the south side of Campbell Street and is bounded by Highland Avenue on the east and Chestnut Avenue on the west.

The concept plans call for three separate buildings to be developed as follows:

- 225 West Campbell Street. Located at the north end of the site, is proposed to include approximately 234 residential apartment units, and 7,962 square feet of retail/restaurant space on the first floor.
- 44 South Highland Avenue. Located on the east side of the site, is a proposed parking garage. The parking will serve the residents of the 225 West Campbell Street building and some of the residents of the 33 South Chestnut building, and will be an extension of the existing parking garage located on the east side of Highland Avenue. Access to the garage will be from two access drives off Highland Avenue and an access drive off Campbell Street. A pedestrian tunnel will connect the two buildings.
- 33 South Chestnut Avenue. Located on the west side of the site, is proposed to include approximately 85 residential apartment units and an integrated parking garage on a lower level containing 44 parking spaces. Access to and from the garage will be from one access drive off Chestnut Avenue.

The purpose of this study was to examine background traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any roadway or access improvements are necessary to accommodate traffic generated by the proposed development. Additionally, the adequacy of the proposed parking supply of the proposed development was also evaluated.

Figure 1 shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site area.

The sections of this report present the following.

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and evening peak hours
- Recommendations with respect to adequacy of the site access and adjacent roadway system
- Recommendations regarding the adequacy of the parking supply.

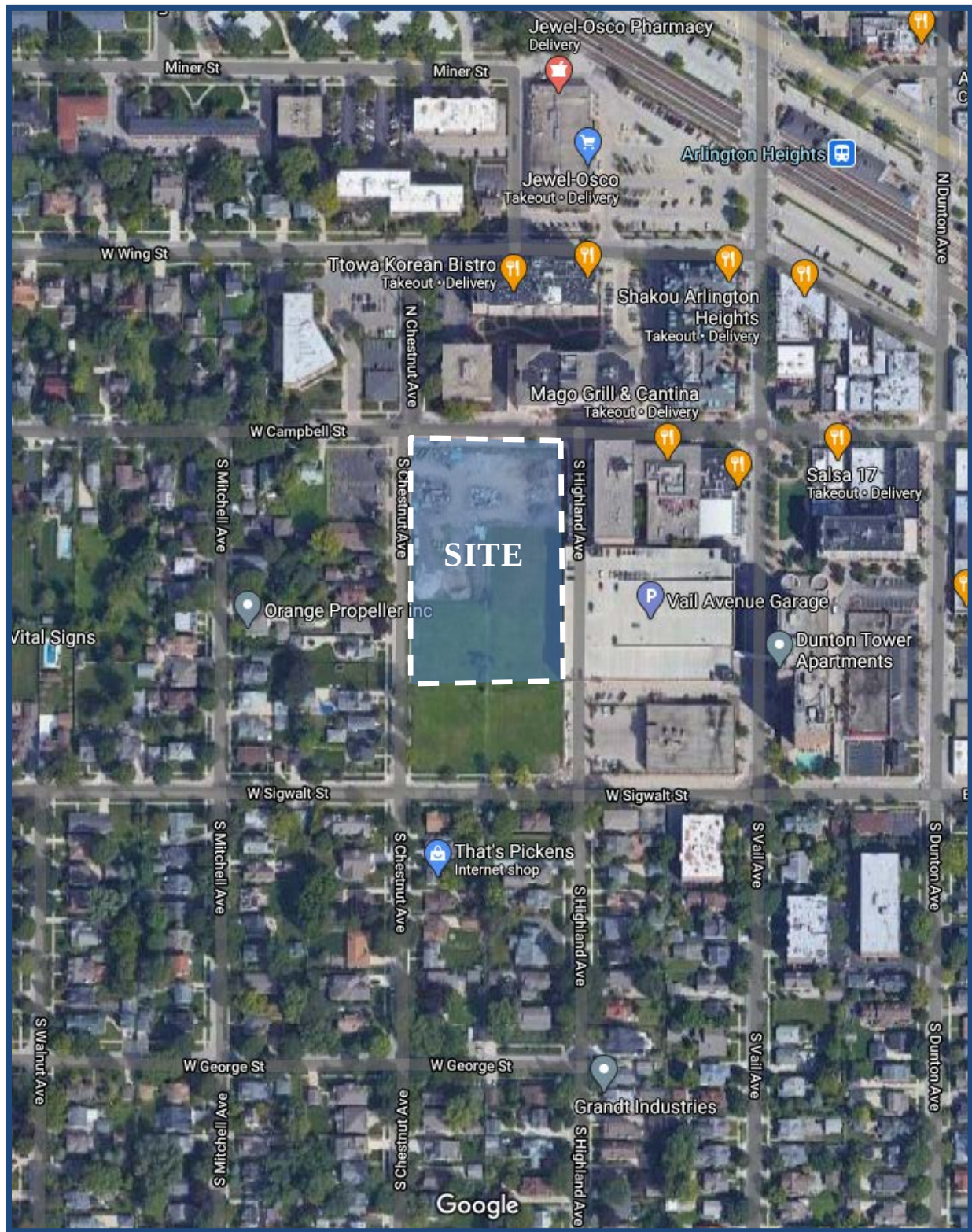
Traffic capacity analyses were conducted for the weekday morning and evening peak hours for the following conditions:

1. Existing (Year 2018/2019) Conditions - Analyzes the capacity of the existing roadway system using existing peak hour traffic volumes in the surrounding area.
2. Future (Year 2026) Conditions - The future projected traffic volumes include the existing traffic volumes, ambient area growth not attributable to any particular development, and the traffic estimated to be generated by the proposed subject development.



Site Location

Figure 1



Aerial View of Site Location

Figure 2

2. Existing Conditions

Existing transportation conditions in the vicinity of the site were documented based on field visits conducted by KLOA, Inc. in order to obtain a database for projecting future conditions. The following provides a description of the geographical location of the site, physical characteristics of the area roadway system including lane usage and traffic control devices and existing peak hour traffic volumes.

Site Location

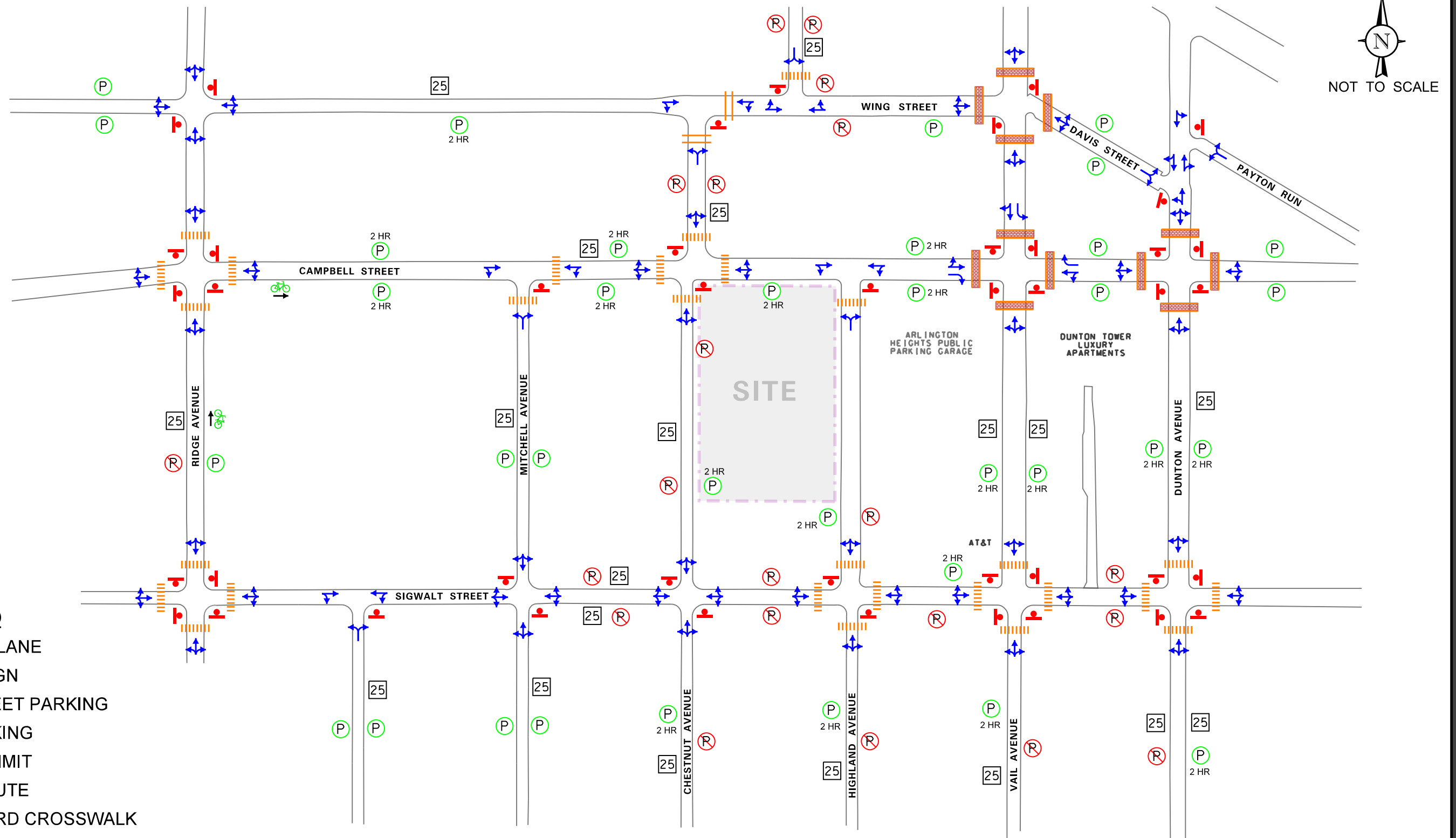
The site is located to the west of downtown Arlington Heights and referred to in the Downtown Master Plan as a portion of “Block 425”. It is bounded by Campbell Street to the north, undeveloped land/Sigwalt Street to the south, Chestnut Avenue to the west, and Highland Avenue to the east. The site is currently undeveloped and is within walking distance to the Arlington Heights Metra Station for the Union Pacific – Northwest (UP-NW) Metra Rail Line. Land uses in the vicinity of the site are residential to the north, west, and south and include the Arlington Heights Vail Street public parking garage and the AT&T and Dunton Tower Luxury Apartments to the east.

Existing Roadway System Characteristics

The characteristics of the existing roadways near the development are described below. **Figure 3** illustrates the existing roadway characteristics. All roadways have a posted speed limit of 25 mph and are under the jurisdiction of the Village of Arlington Heights, unless otherwise noted.

Campbell Street is an east west local roadway that provides one lane in each direction and extends from Rohlwing Road to Evergreen Avenue. At its unsignalized intersection with Chestnut Avenue and Highland Avenue, Campbell Street provides a shared left/through/right-turn lane in both directions. High visibility crosswalks are provided on both legs at its intersection with Chestnut Avenue. Parking is generally provided on both sides of the roadway and is restricted to two-hours. Campbell Street is a designated bicycle route (signage only).

Chestnut Avenue is a north-south local roadway that provides one lane in each direction and extends from Wing Street south to South Street. At its intersection with Campbell Street both the northbound and southbound approaches provide a single lane allowing left-through-, and right-turning movements. At its unsignalized intersection with Sigwalt Street, Chestnut Avenue provides a shared left/through/right-turn lane under stop-sign control on both legs. North of Sigwalt Street, parking is prohibited on the west side of the roadway and is restricted to two-hours on the east side of the roadway. South of Sigwalt Street, parking is prohibited on the east side of the roadway and is restricted to two hours on the west side of the roadway. At its stop sign controlled intersection with Wing Street, a single lane approach is provided. A standard crosswalk is provided on the south leg at Wing Street, high visibility crosswalks are provided on both the north and south legs at Campbell Street, and no crosswalks are provided at its intersection with Sigwalt Street.



LEGEND

- TRAVEL LANE
- STOP SIGN
- ON-STREET PARKING
- NO PARKING
- SPEED LIMIT
- BIKE ROUTE
- STANDARD CROSSWALK
- HIGH VISIBILITY CROSSWALK
- PAVED CROSSWALK

ARLINGTON 425 DEVELOPMENT
ARLINGTON HEIGHTS, ILLINOIS

EXISTING ROADWAY CHARACTERISTICS



Job No: 18-127

Figure: 3

Highland Avenue is a north-south local roadway that provides one lane in each direction and extends from Campbell Street south to Central Road. At its unsignalized intersection with Sigwalt Street, Highland Avenue provides a shared left/through/right-turn lane under stop-sign control and a high visibility crosswalk on both legs. At its unsignalized intersection with Campbell Street, Highland Avenue provides a shared left/through/right-turn lane under stop-sign control and a high visibility crosswalk on the south leg. It should be noted that between Campbell Street and Sigwalt Street, Highland Avenue traverses through the Arlington Heights Public Parking Garage, which provides parking on the west side of Highland Avenue and has two ramp access drives off Highland Avenue. Parking is prohibited on the east side of the roadway and is restricted to two-hours on the west side of the roadway.

Sigwalt Street is an east-west local roadway that in the vicinity of the site provides one lane in each direction. At its all-way stop-sign controlled intersection with Vail Avenue, Sigwalt Street provides a shared left/through/right-turn lane and high visibility crosswalks on both legs. At its unsignalized intersection with Highland Avenue, Sigwalt Street provides a shared left/through/right-turn lane and a high visibility crosswalk on both legs. At its unsignalized intersection with Chestnut Avenue, Sigwalt Street provides a shared left/through/right-turn lane on both legs. Parking is prohibited on both sides of the roadway except along the north side of Sigwalt Street between Highland Avenue and Vail Avenue which is restricted to two hours.

Vail Avenue is a north-south local roadway is that provides one lane in each direction and extends from Euclid Avenue south to Central Road. At its all-way stop sign-controlled intersection with Campbell Street, Vail Avenue provides a shared through/left-turn lane and a right-turn lane on the southbound approach, and a shared left/through/right turn lane on the northbound approach. Paver brick crosswalks are provided on all four legs of the intersection. On-street parking is restricted to two hours on both sides of the roadway. At its all-way stop sign-controlled intersection with Sigwalt Street, single lane approaches are provided on both the northbound and southbound approaches.

Dunton Avenue is a north-south local roadway that provides one lane in each direction. At its all-way stop sign controlled intersection with Campbell Street, a shared left/through/right-turn lane and a paver brick crosswalk is provided on all four approaches. On-street parking is restricted to two hours on both sides of the roadway.

Wing Street is an east-west local roadway that provides one lane in each direction. A standard crosswalk is provided on the east leg at its intersection with Chestnut Avenue. Parking is restricted to two hours on the south side of the roadway, west of Chestnut Avenue, and is restricted on both sides of the roadway east of Chestnut Avenue.

Mitchell Avenue is a north-south local roadway that provides one lane in each direction. At its stop sign controlled intersection with Campbell Street, a shared left/right-turn lane and a high-visibility crosswalk is provided on the northbound approach.

Ridge Avenue is a north-south local roadway that provides one lane in each direction. At its all-way stop sign controlled intersection with Campbell Street, a shared left/through/right-turn lane and a high-visibility crosswalk are provided on all four approaches. Ridge Avenue is designated as a bicycle route (signage only).

Existing Traffic Volumes

In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted manual peak period vehicle, pedestrian, and bicycle traffic counts using Miovision Scout Collection Units during the weekday morning (7:00 A.M. to 9:00 A.M.) and weekday evening (4:00 P.M. to 6:00 P.M.) peak periods at the following twelve (12) intersections:

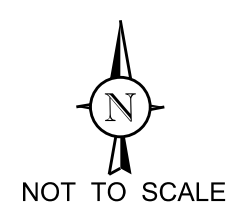
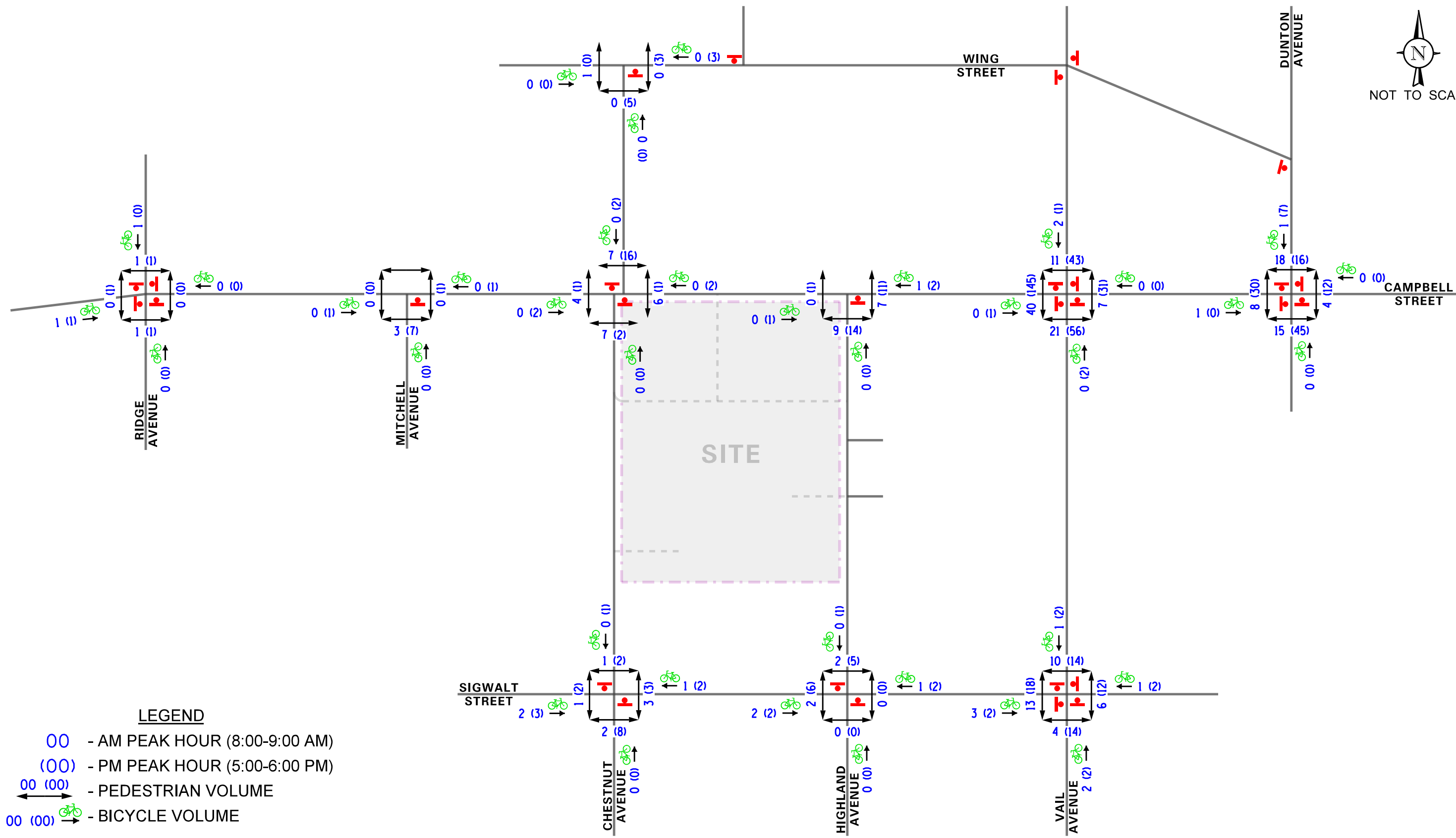
1. Highland Avenue and Campbell Street (AM – June 26, 2018; PM – February 7, 2019)
2. Chestnut Avenue and Campbell Street (AM – August 8, 2017; PM – February 7, 2019)
3. Highland Avenue and Sigwalt Street (AM – June 26, 2018; PM – February 7, 2019)
4. Chestnut Avenue and Sigwalt Street (June 26, 2018)
5. Vail Avenue and Campbell Street (AM – June 26, 2018; PM – February 7, 2019)
6. Vail Avenue and Sigwalt Street (May 18, 2017)
7. Dunton Avenue and Campbell Street (June 26, 2018)
8. Ridge Avenue and Campbell Street (June 26, 2018)
9. Mitchell Avenue and Campbell Street (June 26, 2018)
10. Chestnut Avenue and Wing Street (June 26, 2018)
11. Highland Avenue and North Garage Ramp (June 27, 2018)
12. Highland Avenue and South Garage Ramp (June 27, 2018)

The results of the traffic counts showed that the weekday morning peak hour of traffic generally occurs from 8:00 A.M. to 9:00 A.M. and the weekday evening peak hour of traffic generally occurs from 5:00 P.M. to 6:00 P.M. It is important to note that traffic counts were previously conducted at the intersections of Sigwalt Street at its intersections with Chestnut Avenue and Highland Avenue in May 2017 when school was in session. A comparison of these traffic counts to the current counts conducted for the weekday morning during the summer when school is not in session shows that the traffic along Sigwalt Street is comparable. Further, a comparison of the above-noted traffic counts for the intersection of Highland Avenue and Campbell Street conducted in February 2019 compared to former traffic counts conducted during the summer months in June 2018 shows that both the vehicle and pedestrian traffic at this intersection during the weekday evening peak hour is higher in the February counts than what was counted in the June counts. Lastly, the existing traffic volumes are increased by a regional growth factor for projected conditions (to be discussed later in this report), thereby providing for a conservative analysis for projected traffic conditions.

Traffic counts were also conducted for the four access driveways on the north side of Campbell Street between Chestnut Avenue and Highland Avenue that serve two residential developments. The access driveways to the far east are actually separate garage doors providing one inbound and one outbound access to the residential development. For the purposes of this study, these two separate garage doors are illustrated as one access drive.

It should be noted that due to the ongoing COVID-19 pandemic it is anticipated that new traffic counts conducted at the study are intersections would not reflect typical traffic conditions. As such, the traffic counts previously conducted in 2017, 2018 and 2019 were utilized as a basis of the traffic study.

Figure 4 illustrates the existing peak hour vehicle traffic volumes. **Figure 5** illustrates the existing peak hour pedestrian and bicycle traffic volumes.



Weekday Evening and Saturday Evening Traffic Volumes

Traffic counts were also conducted at the intersections of Campbell with Chestnut, Highland, and Vail, and at the Highland and Sigwalt intersection on Thursday, February 7, Friday, February 8, and Saturday, February 9, 2019 from 4:00 P.M. to 10:00 P.M. each day. **Tables A through C** (located in the Appendix of this report) show the volume of traffic by hour traversing each intersection highlighting the peak hour of each intersection. As shown in the respective tables, the weekday evening peak hour analyzed in this study is higher than the nighttime hours. Further, the Saturday volumes are lower than the weekday volumes. As such, the weekday evening peak hour analyzed in this traffic study represents the peak traffic conditions in the area.

Accident Analysis

KLOA, Inc. obtained accident data from the Village of Arlington Heights and IDOT for the most recent available five years (2012 to 2016) for all of the studied intersections. **Table 1** summarizes the accident data for the intersections¹. A review of the data showed that the intersections are not high accident locations and that no fatalities were reported.

Table 1
ACCIDENT DATA SUMMARY

Intersection	Year				
	2012	2013	2014	2015	2016
Highland Avenue with Campbell Street	0	4	1	0	2
Chestnut Avenue with Campbell Street	1	0	1	0	2
Vail Avenue with Campbell Street	0	0	1	0	2
Highland Avenue with Sigwalt Street	1	1	1	0	1
Chestnut Avenue with Sigwalt Street	2	0	0	0	3
Ridge Avenue with Campbell Street	3	0	0	1	1
Mitchell Avenue with Campbell Street	0	0	0	0	0
Dunton Avenue with Campbell Street	1	0	0	0	3
Chestnut Avenue with Wing Street	0	0	0	0	0

¹ **Disclaimer:** The motor vehicle crash data referenced herein was partly provided by the Illinois Department of Transportation. The author is responsible for any data analyses and conclusions drawn.

Public Transportation

Sidewalks are provided on the surrounding roadway network and high-visibility or standard crosswalks are generally provided, as noted above. The intersection of Chestnut Avenue with Sigwalt Street does not provide crosswalks. Furthermore, the site is located approximately one-third of a mile walking distance from the Arlington Heights UP-NW Metra Station which offers daily service between Harvard/McHenry and Chicago.

The site is also within the vicinity of Pace Bus Route 696 (Randhurst/Woodfield/Harper College) which provides weekday service from Mt. Prospect to Palatine. Service operates from Randhurst Mall to Harper College. Rush hour service runs every 30 minutes and mid-day service runs every hour. This bus route serves the following major destinations: Randhurst Mall, Prospect H.S., Metra Union Pacific Northwest Line (Arlington Heights), Cook County Courthouse, Rolling Meadows Shopping Center, East Park, Mallard Cove, Woodfield Gardens, Motorola Headquarters, Schaumburg Convention Center, IKEA, Roosevelt University, Woodfield Mall, Pace Northwest Transportation Center, and Harper College.

3. Traffic Characteristics of the Proposed Development

To evaluate the impact of the subject development on the area roadway system, it was necessary to quantify the number of vehicle trips the overall development will generate during the weekday morning and the weekday evening peak hours and then determine the directions from which this traffic will approach and depart the individual sites.

Proposed Development Plan

The overall proposed development plan is included in the Appendix of this report and is detailed below.

- 225 West Campbell Street. Located at the north end of the site, is proposed to include approximately 234 residential apartment units, and 7,962 square feet of retail/restaurant space on the first floor. There will be no occupied area in the basement that would require additional parking stalls.
- 44 South Highland Avenue. Located on the east side of the site, is a proposed parking garage. The parking will serve the residents of the 225 West Campbell Street building and some of the residents of the 33 South Chestnut building, and will be an extension of the existing parking garage located on the east side of Highland Avenue. Access to the garage will be from two access drives off Highland Avenue and an access drive off Campbell Street. A pedestrian tunnel will connect the two buildings.
- 33 South Chestnut Avenue. Located on the west side of the site, is proposed to include approximately 85 residential apartment units and an underground parking garage on one lower level containing 44 parking stalls. Access to and from the garage will be from one access drive off Chestnut Avenue.

Vehicle Access and Parking

Internal Circulation

An internal access drive is proposed to provide access to the 44 South Highland Avenue parking garage, as well as to allow drop-off/pick-up of residents and guests. The access drive will have a traffic circle in the center providing drop-off/pick-up of pedestrians and providing vehicle circulation within the site and access to the parking garage, two loading docks, and two loading areas for USPS and parcel carriers. North of the traffic circle, the access provides two-way traffic flow and will T-intersect Campbell Street from the south providing one lane inbound and one lane outbound under stop sign control. West of the traffic circle, the access drive becomes one-way westbound (exit) only and will T-intersect Chestnut Avenue under stop sign control, restricted to right-out only turning movements. East of the traffic circle, the access drive will provide one lane inbound only from Highland Avenue.

Internal Access Drive Garage Access

Access to the 44 South Highland Avenue garage will be from both Highland Avenue as well as from the internal access drive at the north end of the building. Because of the one-way westbound orientation of the internal access drive between the garage access and Highland Avenue, turning movements to/from the garage access will be restricted to left-in/right-in/left-out only. Vehicles turning left into the garage from the east and turning right into the garage from the west will be under free flow conditions. Vehicles exiting the garage will be under stop sign control and will be restricted to left-out only turning movements. Signage indicating the turning restriction and one-way travel will be provided.

Proposed Access and Campbell Street

Located approximately 130 feet east of Chestnut Avenue, this proposed access will provide one lane inbound and one lane outbound under stop sign control. The proposed access drive is located just to the west of the four access drives located on the north side of Campbell Street. Up to eight, on-street parking spaces could be provided on the south side of Campbell Street between Chestnut Avenue and Highland Avenue with the introduction of the new access drive. If permitted, these spaces should be striped so as to maintain existing sight lines at Highland Avenue and to provide adequate sight lines at the proposed access drive. A sight distance diagram is included in the Appendix, which indicates that if strictly adhered to, these eight on-street spaces will not be available.

44 South Highland Avenue and 225 West Campbell Street

As noted, an approximate 345-space parking garage will be at 44 South Highland Avenue and will be accessible to the residents and commercial customers and employees of the 225 West Campbell Street building and some of the residents of the 33 S. Chestnut building. Access to the garage will be from the proposed access drives off Campbell Street and Highland Avenue, as described above, in addition to a full access driveway off Highland Avenue, located in alignment with the southerly access ramp serving the public parking garage on the east side of the roadway. This access driveway will be restricted to residents only. Visual warning devices should be posted at this location to warn pedestrians of exiting traffic.

33 South Chestnut Avenue

Access to the underground parking garage will be from a single driveway off Chestnut Avenue, approximately 220 feet north of Sigwalt Street. The access drive will provide one lane inbound and one lane outbound under stop sign control. Visual warning devices should be posted at this location to warn pedestrians of exiting traffic.

In conjunction with the proposed development, Chestnut Avenue will be widened approximately eight feet on the east side of the roadway along the site frontage to accommodate approximately ten on-street parking spaces.

Directional Distribution

The directions from which vehicles will approach and depart the overall site were estimated based on existing travel patterns, as determined from the traffic counts, as well as the type and location of the access drives proposed to serve the development. **Figure 6** illustrates the directional distribution of the development generated traffic. Figure 6 also shows the distance, in feet, between existing and proposed roadways.

Estimated Site Traffic Generation

The estimates of vehicle traffic to be generated by the development are based upon the proposed land use types and sizes. The volume of traffic generated was estimated using data published in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition. However, the ITE trip rates are based on suburban rates where the primary mode of transportation is the automobile.

As previously indicated, the proposed development is located within one-third mile of the Arlington Heights Milwaukee District- Northwest Metra Station. A review of the census data indicates that approximately 15 percent of the residents located within one-quarter mile of the Metra station utilize alternative modes of transportation to get to work. As a result, the estimated number of generated trips was reduced by 15 percent to account for the residents that will use means of transportation other than the automobile to commute to work and or patron the proposed retail land uses. Further, the overall development is located in the heart of a major retail, entertainment, and commercial district that has pedestrian accessibility and provides nearby goods and services so that the residents need not drive.

Table 2 tabulates the total trips anticipated from this proposed development for the weekday morning and weekday evening peak hours, as well as the daily (two-way) traffic volumes.

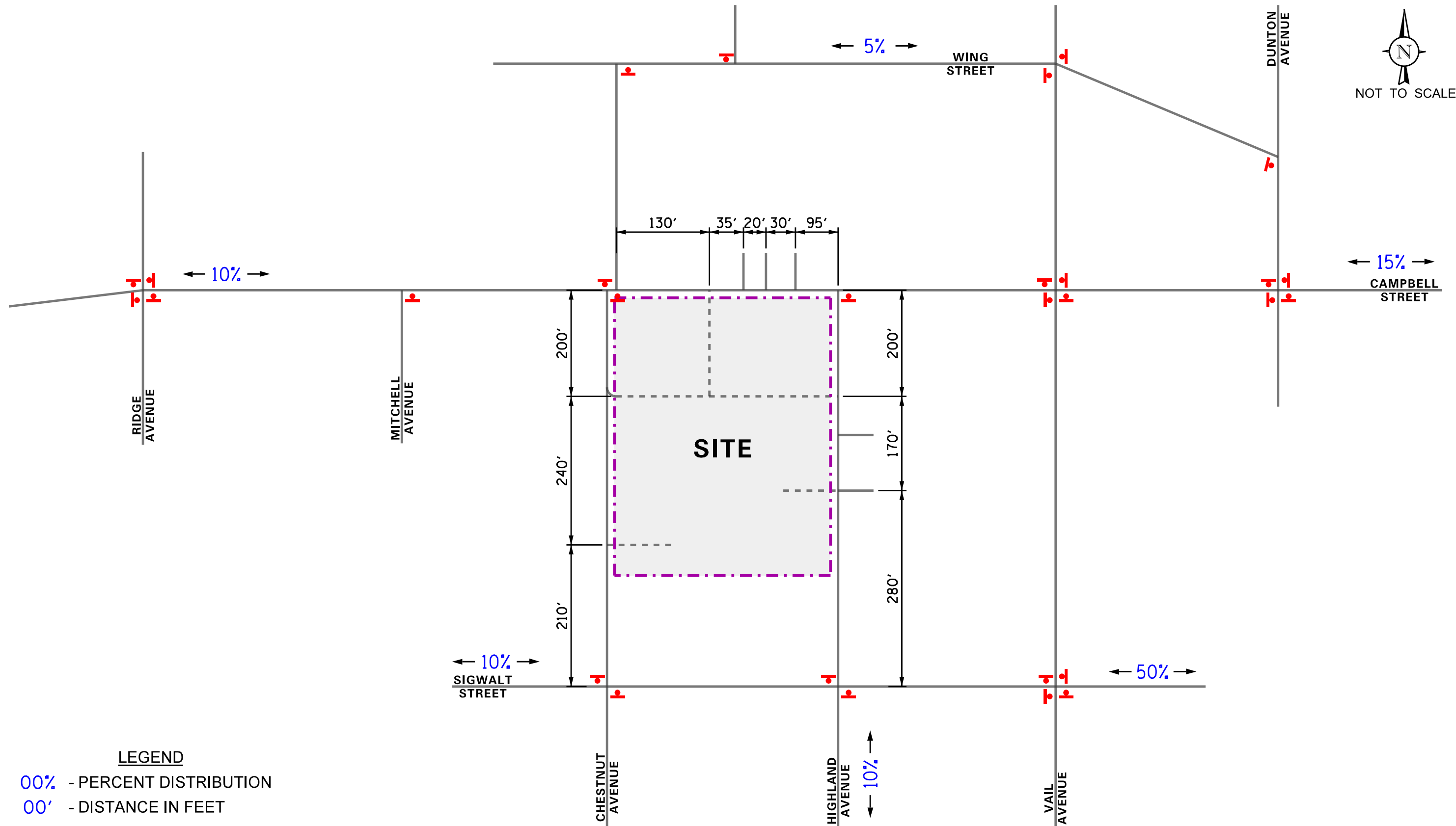


Table 2

ESTIMATED VEHICLE TRIP GENERATION FOR THE PROPOSED DEVELOPMENT

Development/Size	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Weekday Daily Trips
	In	Out	In	Out	
<u>Residential</u>					
<u>225 West Campbell Street</u>					
LUC 220 – 234 rental units	25	82	79	47	1,728
<u>33 South Chestnut Avenue</u>					
LUC 220 – 85 rental units	<u>9</u>	<u>30</u>	<u>30</u>	<u>18</u>	<u>564</u>
Less 15% Reduction:	<u>-5</u>	<u>-17</u>	<u>-16</u>	<u>-10</u>	<u>-344</u>
Total Residential Vehicle Trips:	29	95	93	55	1,948
<u>Non-Residential Uses</u>					
<u>225 West Campbell Street</u>					
LUC 820 – 4,962 s.f. Retail	3	2	9	10	188
LUC 931 – 3,000 s.f. Restaurant	1	1	15	8	252
Less 15% Reduction:	<u>--</u>	<u>--</u>	<u>-4</u>	<u>-3</u>	<u>-66</u>
Total Non-Residential Vehicle Trips:	4	3	20	15	374
Total Development Traffic Volumes:					

Trip Generation Comparison

The volume of traffic estimated to be generated by the proposed development was compared to the volume of traffic estimated to be generated by the previous proposal for this development. As summarized in the traffic impact study prepared by KLOA, Inc. dated March 15, 2019 for the previous proposal for the development, the previous proposal included 361 residential units, 16,897 square-feet of retail space, 12,075 square-feet of restaurant space, and 7,500 square-feet of office space. **Table 3** summarizes the trip generation comparison. As can be seen from Table 3, the proposed development is projected to generate approximately 24 percent less trips during the weekday morning peak hour, approximately 41 percent less trips during weekday evening peak hour, and approximately 36 percent less trips daily.

Table 3
TRIP GENERATION COMPARISON

Development/Size	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Weekday Daily Trips
	In	Out	In	Out	
Total Traffic Volumes Proposed Development	33	98	113	70	2,322
Total Traffic Volumes Previous Proposal	53	118	190	125	3,653
Difference	-20	-20	-77	-55	-1,331

4. Projected Traffic Conditions

The total projected traffic volumes include the existing traffic volumes, increase in background traffic due to ambient growth, and the traffic estimated to be generated by the proposed subject development.

Development Traffic Assignment

The estimated weekday morning and evening peak hour traffic volumes that will be generated by the proposed development were assigned to the roadway system in accordance with the previously described directional distribution (Figure 6). The traffic assignment for the total development traffic is illustrated in **Figure 7**. Separate traffic assignments for the residential uses and the non-residential uses are shown in **Figure 7A** and **Figure 7B**, respectively, and are included in the Appendix of this report.

Background Traffic Conditions

The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on the Village of Arlington Heights 2015 Comprehensive Plan, an increase of one-half percent per year over eight years (four percent total) was applied to project Year 2026 conditions.

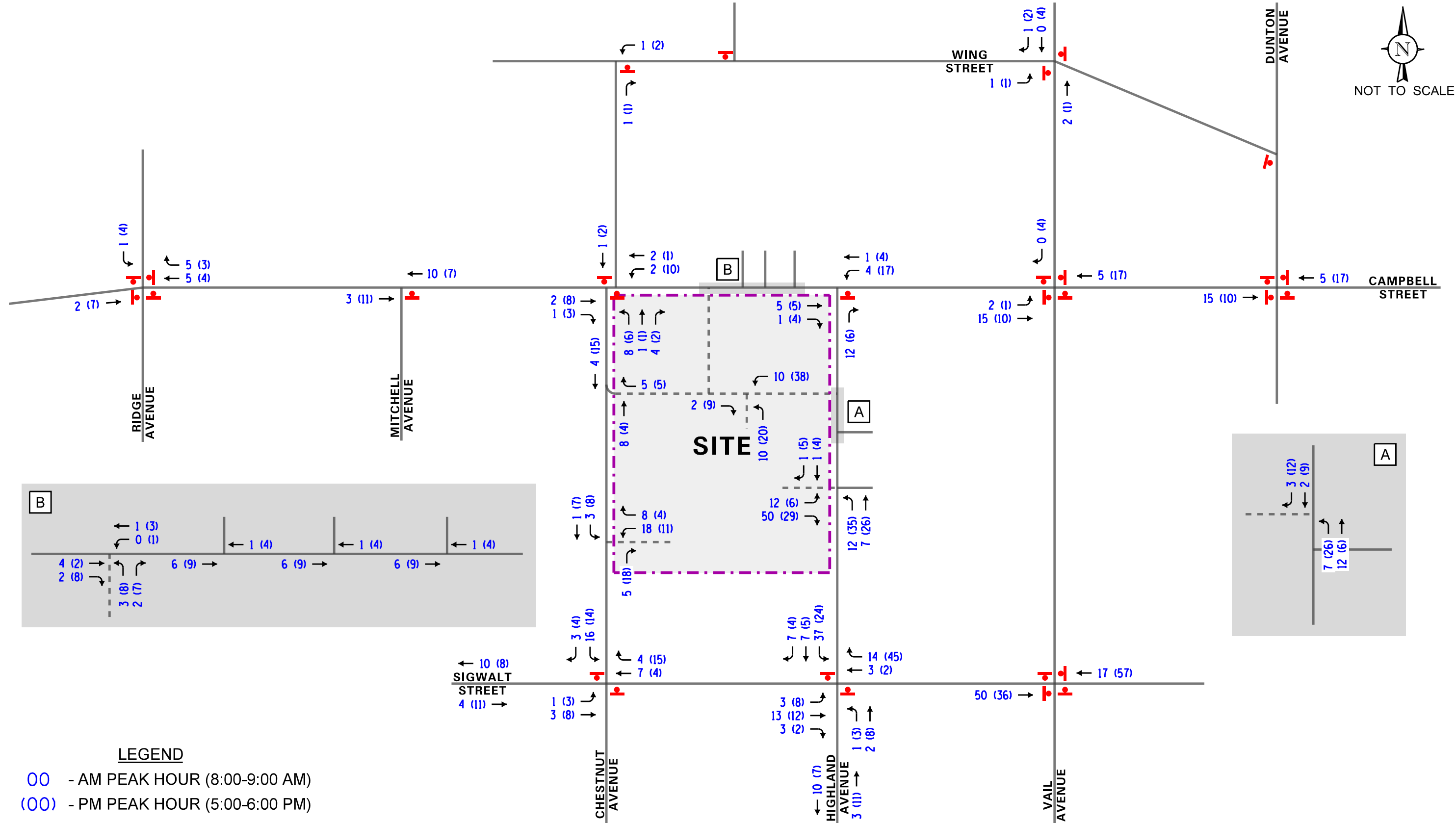
Furthermore, the traffic estimated to be generated by the recently constructed rowhome development located just south of the site which is bound by Sigwalt Street on the south, Chestnut Avenue on the west, and Highland Avenue on the east was included in the Year 2026 background conditions. This development consists of 16 rowhomes with access provided via a single access drive off Highland Avenue.

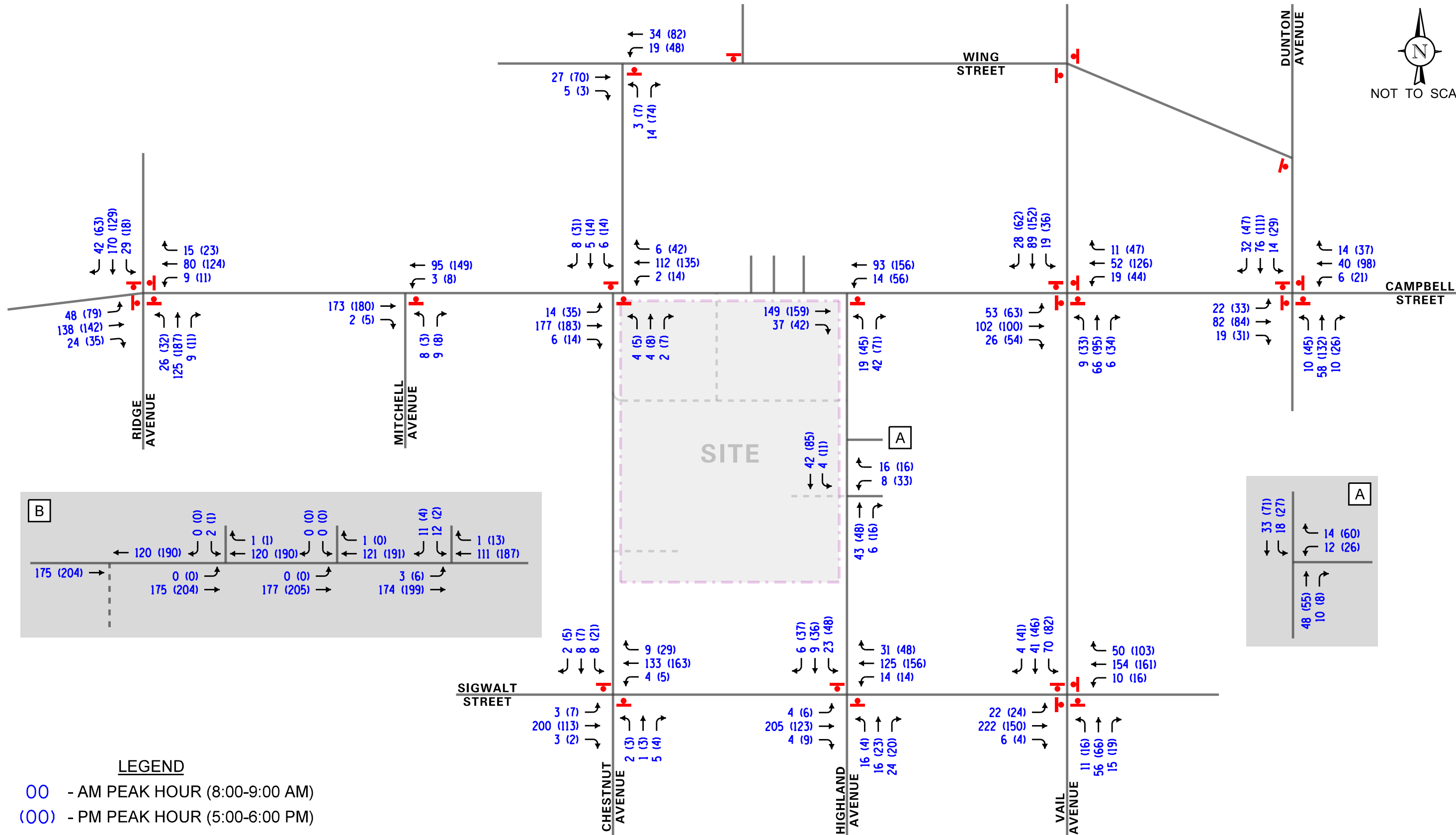
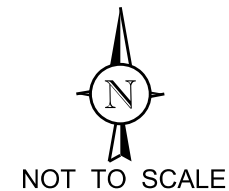
Figure 8 shows the Year 2026 Base (No-Build) traffic volumes.

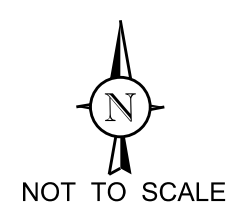
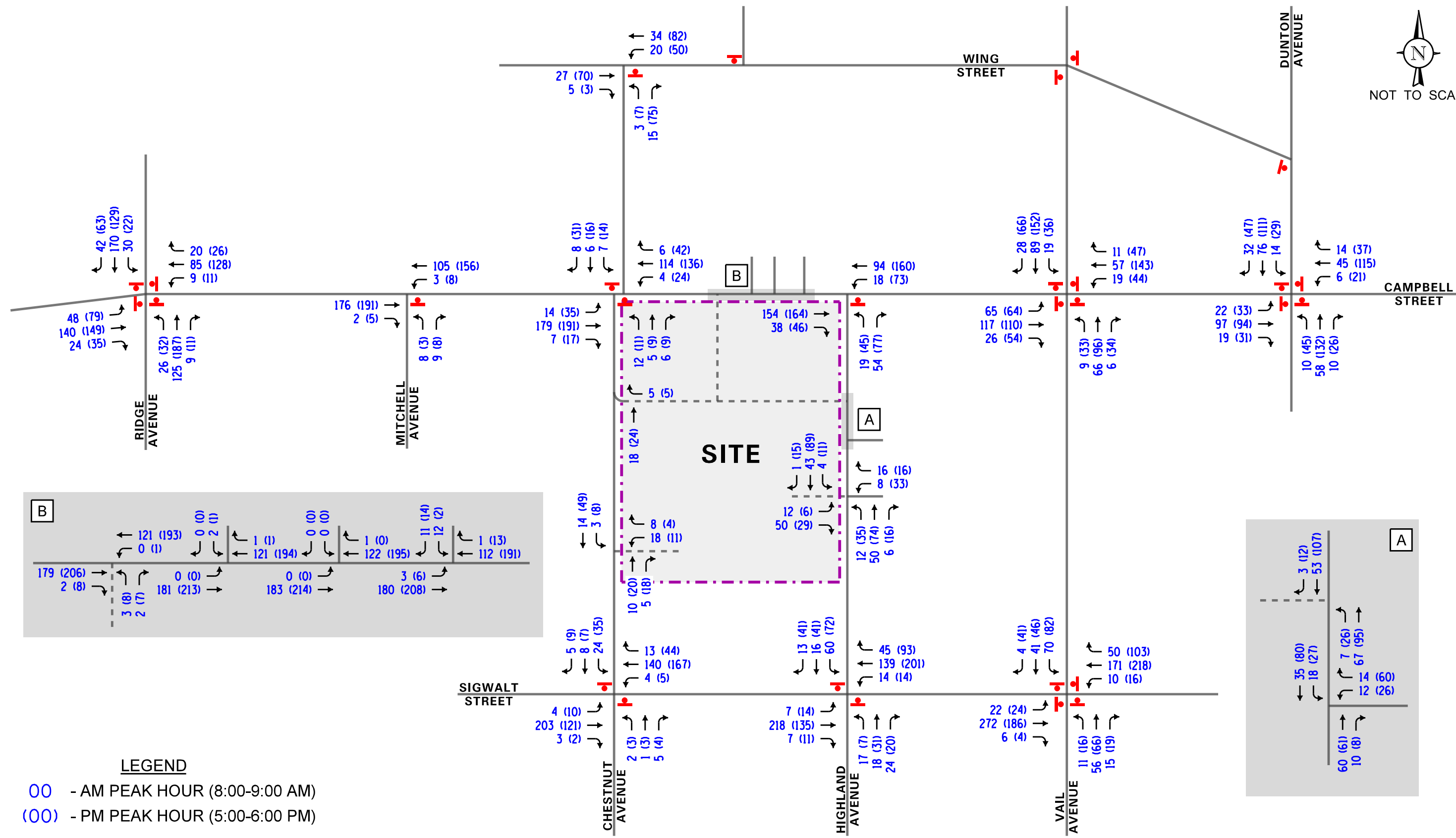
Total Projected Traffic Volumes

Total projected traffic volumes include the Year 2026 Base traffic volumes (Figure 8) and the traffic estimated to be generated by the proposed overall development (Figure 7). It is important to note that the existing pedestrian and bicycle traffic volumes (Figure 5) were increased to account for projected pedestrian activity in this area.

Figure 9 shows the total projected vehicle traffic volumes.







5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and weekday evening peak hours. The analysis includes conducting capacity analyses to determine how well the roadway system and access drives are projected to operate and whether any roadway improvements or modifications are required.

Traffic Analyses

Roadway and adjacent or nearby intersection analyses were performed for the weekday morning and weekday evening peak hour periods for the existing (Year 2018/2019) and future projected (Year 2026) traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM)*, 2010 and analyzed using Synchro/SimTraffic computer software.

The analyses for the unsignalized intersections determine the average control delay to vehicles at an intersection. Control delay is the elapsed time from a vehicle joining the queue at a stop sign (includes the time required to decelerate to a stop) until its departure from the stop sign and resumption of free flow speed. The methodology analyzes each intersection approach controlled by a stop sign and considers traffic volumes on all approaches and lane characteristics.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter from A to F based on the average control delay experienced by vehicles passing through the intersection. The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for signalized intersections and unsignalized intersections are included in the Appendix of this report.

Pedestrian and bicycle impacts are factored into the resulting levels of service and delay for each respective intersection. As noted, the existing pedestrian volumes were increased under projected traffic conditions to account for increased pedestrian activity in the area resulting from the proposed development.

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the existing (Year 2018/2019) and Year 2026 total projected conditions are presented in **Tables 4 and 5**, respectively. **Table 6** shows the LOS and delay for the proposed access intersections for future conditions. A discussion of the intersections follows.

Table 4
CAPACITY ANALYSIS RESULTS – EXISTING TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Highland Avenue and Campbell Street				
• Northbound Approach	B	10.1	B	12.3
Chestnut Avenue and Campbell Street				
• Northbound Approach	B	11.1	B	12.7
• Southbound Approach	B	10.5	B	12.3
Highland Avenue and Sigwalt Street				
• Northbound Approach	B	12.9	B	11.9
• Southbound Approach	B	14.1	B	13.8
Chestnut Avenue and Sigwalt Street				
• Northbound Approach	B	10.2	B	11.0
• Southbound Approach	B	11.3	B	11.9
Vail Avenue and Campbell Street				
• Overall	A	9.5	B	11.3
• Eastbound Approach	A	9.9	B	11.3
• Westbound Approach	A	8.9	B	11.0
• Northbound Approach	A	9.8	B	11.8
• Southbound Approach	A	9.2	B	11.3
Vail Avenue and Sigwalt Street				
• Overall	A	9.8	B	10.1
• Eastbound Approach	B	10.3	A	9.9
• Westbound Approach	A	9.6	B	10.6
• Northbound Approach	A	9.0	A	9.3
• Southbound Approach	A	9.5	B	10.1

Table 4
CAPACITY ANALYSIS RESULTS – EXISTING TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Dunton Avenue and Campbell Street				
• Overall	A	8.3	B	10.1
• Eastbound Approach	A	8.5	A	9.9
• Westbound Approach	A	7.9	A	9.9
• Northbound Approach	A	8.3	B	10.4
• Southbound Approach	A	8.3	B	10.1
Ridge Avenue and Campbell Street				
• Overall	B	10.5	B	11.7
• Eastbound Approach	B	10.8	B	12.4
• Westbound Approach	B	9.5	B	10.7
• Northbound Approach	B	10.0	B	11.9
• Southbound Approach	B	10.9	B	11.2
Mitchell Avenue and Campbell Street				
• Northbound Approach	A	9.9	B	10.3
Chestnut Avenue and Wing Street				
• Northbound Approach	A	8.7	A	9.7
Highland Avenue and North Garage Ramp				
• Westbound Approach	A	9.0	A	9.3
Highland Avenue and South Garage Ramp				
• Westbound Approach	A	8.8	A	9.5
LOS = Level of Service Delay is measured in seconds.				

Table 5

CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Highland Avenue and Campbell Street				
• Northbound Approach	B	12.1	C	15.0
<i>Highland and Campbell (All-Way Stop)</i>				
• Overall	A	8.2	A	9.3
• Eastbound Approach	A	8.5	A	9.1
• Westbound Approach	A	8.1	A	9.7
• Northbound Approach	A	7.7	A	8.7
Chestnut Avenue and Campbell Street				
• Northbound Approach	B	13.3	C	15.9
• Southbound Approach	B	12.6	B	14.7
Highland Avenue and Sigwalt Street				
• Northbound Approach	C	18.7	C	16.3
• Southbound Approach	D	28.4	C	24.4
<i>Highland Ave and Sigwalt St (All-Way Stop)</i>				
• Overall	B	10.9	B	10.4
• Eastbound Approach	B	11.7	A	9.6
• Westbound Approach	B	10.7	B	11.3
• Northbound Approach	A	9.3	A	8.9
• Southbound Approach	B	10.1	B	10.0
Chestnut Avenue and Sigwalt Street				
• Northbound Approach	B	12.1	B	12.5
• Southbound Approach	B	14.2	B	14.2

Table 5
CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Vail Avenue and Campbell Street				
• Overall	B	10.0	B	12.4
• Eastbound Approach	B	10.7	B	12.2
• Westbound Approach	A	9.2	B	12.5
• Northbound Approach	B	10.0	B	12.9
• Southbound Approach	A	9.5	B	12.3
Vail Avenue and Sigwalt Street				
• Overall	B	10.7	B	11.7
• Eastbound Approach	B	11.6	B	11.2
• Westbound Approach	B	10.3	B	13.0
• Northbound Approach	A	9.4	B	10.0
• Southbound Approach	B	10.0	B	10.9
Dunton Avenue and Campbell Street				
• Overall	A	8.5	B	10.6
• Eastbound Approach	A	8.7	B	10.4
• Westbound Approach	A	8.1	B	10.5
• Northbound Approach	A	8.5	B	11.0
• Southbound Approach	A	8.5	B	10.5
Ridge Avenue and Campbell Street				
• Overall	B	10.8	B	12.4
• Eastbound Approach	B	11.2	B	13.3
• Westbound Approach	A	9.8	B	11.2
• Northbound Approach	B	10.3	B	12.6
• Southbound Approach	B	11.4	B	11.9

Table 5
CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Mitchell Avenue and Campbell Street				
• Northbound Approach	B	11.6	B	11.4
Chestnut Avenue and Wing Street				
• Northbound Approach	A	9.9	B	10.9
Highland Avenue and North Garage Ramp				
• Westbound Approach	B	10.4	B	11.0
LOS = Level of Service Delay is measured in seconds.				

Table 6
CAPACITY ANALYSIS RESULTS FOR PROPOSED INTERSECTIONS
FUTURE (YEAR 2026) CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Campbell Street and Proposed Access				
• Northbound Approach	B	11.6	B	12.4
Chestnut Avenue and Exit Access				
• Westbound Approach	A	8.9	A	8.9
Chestnut Avenue and 33 West Chestnut Access				
• Westbound Approach	A	9.9	B	10.2
Highland Avenue and South Garage Ramp/Access				
• Eastbound Approach	B	10.4	B	10.8
• Westbound Approach	B	10.5	B	12.9
LOS = Level of Service Delay is measured in seconds.				

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identify any roadway and traffic control improvements to accommodate the development traffic.

Highland Avenue and Campbell Street

The northbound approach currently operates at a LOS B or better during the peak hours. Under future conditions, the northbound approach will continue to operate at acceptable levels of service during the peak hours with minimal increases in overall delay. The queue analysis shows that the northbound queue on Highland Avenue will not exceed one to two vehicles during peak hours. Furthermore, westbound left-turn movements from Campbell Street onto Highland Avenue are projected to continue operating at LOS A during the peak hours with increases in delay of less than one second and 95th percentile queues of one to two vehicles. Although a review of peak hour traffic volumes shows that an all-way stop sign-controlled intersection is not warranted, consideration should be given for this intersection to be under all-way stop sign control. The analyses show that this intersection will continue to operate at good levels of service as an all-way stop sign controlled intersection. Regardless of the traffic control at this intersection, the proposed development traffic will have a limited impact on the operations of this intersection. High-visibility crosswalks should be provided on the east, west and south legs of the intersection.

Chestnut Avenue and Campbell Street

The results of the capacity analyses indicate that the northbound and southbound approaches currently operate at LOS B or better during the peak hours. Under future conditions, the northbound and southbound approaches are projected to operate at LOS C or better during the peak hours with minimal increases in delay. Further, a review of peak hour traffic volumes shows that an all-way stop sign controlled intersection is not warranted. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required. The existing high-visibility crosswalks on all four legs should be restriped due to weathering/fading.

Highland Avenue and Sigwalt Street

The results of the capacity analyses indicate that the northbound and southbound approach will operate at the acceptable LOS D or better during the weekday morning and weekday evening peak hours. However, the queue analysis shows that the southbound traffic on Highland Avenue will not exceed two to three vehicles. Although a review of peak hour traffic volumes shows that an all-way stop sign-controlled intersection is not warranted, this intersection was also analyzed assuming all-way stop sign control. The analyses show that the overall intersection, as well as the individual approaches, will operate at a LOS B or better for both peak hours under projected conditions. The existing high-visibility crosswalks on all four legs should be restriped due to weathering/fading.

Chestnut Avenue and Sigwalt Street

The results of the capacity analyses indicate that the northbound and southbound approaches currently operate at LOS B during the weekday morning and weekday evening peak hours. Under future conditions, the northbound and southbound approaches are projected to continue operating at LOS B during the peak hours with minimal increases in delay. Further, a review of peak hour traffic volumes shows that an all-way stop sign controlled intersection is not warranted. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required. High-visibility crosswalks are recommended on all four legs of the intersection. No crosswalks currently exist on any leg.

Vail Avenue and Campbell Street

The intersection will continue operating at a LOS B or better during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Vail Avenue and Sigwalt Street

The intersection will continue operating at a LOS B or better during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Dunton Avenue and Campbell Street

The intersection will continue operating at a LOS B or better during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Ridge Avenue and Campbell Street

The intersection will continue operating at a LOS B or better during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Mitchell Avenue and Campbell Street

The intersection will continue operating at a LOS B or better during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Chestnut Avenue and Wing Street

The intersection will continue operating at a LOS A during both peak hours under projected conditions. As such, the proposed development traffic will have a limited impact on the operations of this intersection and no roadway or traffic control improvements will be required.

Highland Avenue with North Garage Ramp

As noted, the Arlington Heights Public Parking Garage is located on the east side of Highland Avenue, between Campbell Street and Sigwalt Street. The garage extends to the west side of Highland Avenue providing parking on the west side of the roadway and two access drives on the east side of the roadway that provide access to the garage ramps. The analyses show that the northerly garage ramp will continue operating at good levels of service under projected conditions, which includes the introduction of two new access drives on the west side of Highland Avenue serving the proposed development. No roadway or traffic control improvements are recommended on Highland Avenue in conjunction with the proposed development.

Proposed Access and Campbell Street

As noted, the development proposes an internal access drive system that will bifurcate the site, separating the Campbell Street building from the Chestnut and Highland Avenue buildings to the south. A traffic circle will be provided at the front of the Campbell Street building to allow access to Highland Avenue, Campbell Street, and Chestnut Avenue, in addition to providing internal circulation and access to drop-off/pick-up loading areas, short-term parking, and access to the parking garage. North of the traffic circle will be a two-lane access drive that will T-intersect Campbell Street from the south, approximately 130 feet east of Chestnut Avenue. Drop off areas will be located off to the side of the drive aisle, similar to on-street parking. There is adequate room for vehicles to pass by vehicles that are stopped to allow for the boarding and alighting of passengers, which will occur on the curb side. Further, pedestrian movements across the lanes will be minimal since each building will have its own designated drop-off lane. “No parking or standing” signage will be posted.

At its intersection with Campbell Street, this proposed access will provide one lane inbound and one lane outbound under stop sign control. The proposed access drive is located just to the west of the four access drives located on the north side of Campbell Street. Both the capacity analysis and the traffic simulation along the Campbell Street corridor between Chestnut Avenue and Highland Avenue show that through traffic will not be impeded along this corridor with the introduction of this proposed access drive. Further, the access drives on the north side of Campbell Street have very low volumes of traffic during the peak hour periods. As such, turning movement conflicts between these access driveways and the proposed access driveway to the south will be low. Therefore, no roadway improvements are needed with respect to providing a westbound left-turn lane or an eastbound right-turn lane. A sight distance diagram included in the Appendix indicates that if strictly adhered to, the on-street parking spaces on the south side of Campbell Street should be removed. Field observations during peak periods show that the existing parking spaces on the south side of Campbell Street are not used during the weekday morning peak hour but are occupied during the weekday evening peak hour.

Providing access on Campbell Street with an entrance access only on Highland Avenue and a right-out only on Chestnut Avenue will ensure that an adequate and flexible access system is provided. It will reduce the traffic movements on Highland Avenue, particularly at its intersection with Campbell Street, thereby ensuring that efficient traffic operations are maintained at the access drives and adjacent intersections.

Highland Avenue with Proposed (Inbound) Access Drive

East of the traffic circle, the access drive will have a one-way westbound/inbound orientation only from Highland Avenue providing one lane of traffic. The results of the capacity analyses show that introducing an inbound only access drive off Highland Avenue at this location will not impede through traffic operations along Highland Avenue or turning movements to/from the two garage ramps serving the parking garage located on the east side of Highland Avenue. Further, the analyses show that there is reserved capacity along Highland Avenue to accommodate additional traffic under projected conditions. As such, the proposed access drive will be adequate in accommodating the traffic projected to be generated by the proposed development and will have a limited impact on the operations of Highland Avenue. A high-visibility crosswalk should be provided across the driveway.

Chestnut Avenue and Exit Access

West of the proposed traffic circle, the proposed east-west roadway will be narrowed to one-way westbound only and will serve as an exit only from the development at its T-intersection with Chestnut Avenue. The exit will be designed to physically restrict exiting turning movements to right-turns only and will be under stop sign control. As such, any vehicle desiring to exit the development from this access drive must travel northbound to Campbell Street, thereby minimizing its impact on Chestnut Avenue between Campbell Street and Sigwalt Street. As shown in Figure 8, the outbound turning movements projected to exit during peak hours are less than 10 vehicles. Therefore, this proposed access will have a low impact on the existing operations along Chestnut Avenue. A high visibility crosswalk should be provided across the driveway. Do Not Enter signage should be posted at the exit to deter opposing vehicles from entering the one-way westbound/exit orientation.

Highland Avenue with Proposed Access/South Garage Ramp

An access drive is proposed on the west side of Highland Avenue in alignment with the southerly garage ramp on the east side of Highland Avenue. The access will provide direct access to the parking garage proposed at 44 South Highland Avenue. The access drive will be restricted to resident traffic only and will provide one lane inbound and one lane outbound under stop sign control. Further, the traffic estimated to access this drive during peak hours is low and will have a very low impact on the traffic and parking operations along Highland Avenue.

Visual warning devices should be posted at the access drive to alert both pedestrians and approaching vehicles of exiting traffic. Further, additional lighting should be considered within the public garage, including during the daytime, to improve visibility of both the proposed access drive as well as the two existing ramp driveways serving the public parking garage. A sight distance diagram is included in the Appendix.

Chestnut Avenue and 33 South Chestnut Access

An access driveway is proposed off Chestnut Avenue to provide access to the parking garage for the proposed 33 South Chestnut residential building. The access driveway will be located approximately 220 feet north of Sigwalt Street and will provide one lane inbound and one lane outbound under stop sign control. A high visibility crosswalk should be provided across the driveway. Further, visual warning devices should be considered to warn passing pedestrians of exiting vehicles.

As noted, on-street parking is prohibited on the west side of the roadway and is restricted to two hours on the east side of the roadway. Given the limited width of the roadway and with a car parked on the east side of the roadway, when two opposing vehicles approach, the northbound vehicle must yield to southbound traffic before bypassing the parked vehicle. In addition, given the low volumes of vehicles estimated to utilize the proposed access drive on Chestnut Avenue, it will have a low impact on the traffic and parking operations on Chestnut Avenue between Campbell Street and Sigwalt Street.

It is important to note that approximately six access driveways serving single-family homes were previously located on the east side of Chestnut Avenue, in addition to a surface parking lot that had two full access drives off Chestnut Avenue, near Campbell Street. The subject development is proposing two access drives off Chestnut Avenue, of which the northerly access drive will be restricted to exiting right-turns only and the southerly access drive will be a full access drive that will only serve the residents of 33 South Chestnut Avenue, which is shown to have low traffic volumes during peak hours.

Chestnut Avenue Widening

In conjunction with the proposed development, Chestnut Avenue will be widened approximately eight feet on the east side of the roadway along the site frontage to accommodate approximately 10 on-street parking spaces. The proposed widening will improve through traffic flow for both directions of travel on Chestnut Avenue since currently northbound vehicles must yield to opposing southbound vehicles when there is a parked vehicle on the east side of the roadway.

Fire/Emergency and Truck Circulation

Fire/Emergency vehicles will access the development via the Highland Avenue access drive and proceed west and then south to exit via the proposed access drives off Campbell Street or Chestnut Street. Single-unit trucks and garbage trucks will utilize the internal access driveway to access the three proposed buildings included in the overall development.

Internal Circulation

- As noted, the development proposes an internal access drive system that will connect to Highland Avenue, Chestnut Avenue, and Campbell Street. This proposed access driveway has been designed to maximize traffic functions to occur on-site rather than requiring redundant circulation on the surrounding roadway system.
- Residents and guests can access the 44 South Highland Avenue parking garage from the proposed northerly access drive off Highland Avenue or the proposed access off Campbell Street. Vehicles exiting the garage can either turn left and head west to exit via Chestnut Avenue or Campbell Street.
- Loading areas will be provided on-site to allow for small unit truck deliveries, as well as the pick-up/drop-off of pedestrians. A two-bay loading area will also be provided off Highland Avenue between the two proposed access drives.
- As noted, small delivery trucks and trash trucks will utilize the access driveway, thereby removing these standing/loading functions from the surrounding roadways.

Internal Access Drive Garage Access

Access to the 44 South Highland Avenue garage will be from both Highland Avenue as well as from the internal access drive at the north end of the building. Because of the one-way westbound orientation of the internal access drive between the garage access and Highland Avenue, turning movements to/from the garage access will be restricted to left-in/right-in/left-out only. Vehicles turning left into the garage from the east and turning right into the garage from the west will be under free flow conditions. Vehicles exiting the garage will be under stop sign control and will be restricted to left out only turning movements. Signage indicating the turning restriction and one-way travel will be provided.

Pedestrian Mobility

The development proposes a pedestrian network system both within the development, as well as along the site frontage of the surrounding roadways (Chestnut Avenue, Campbell Street, and Highland Avenue). Further, it is our understanding that a pedestrian crossing study conducted by others for the Village of Arlington Heights to determine where mid-block pedestrian crossings are desired. The study recommended a mid-block pedestrian crossing on Campbell Street on the west leg of its intersection with the Public Alley that T-intersects Campbell Street from the north, just east of Highland Avenue. Further, high-visibility crosswalks should be provided on surrounding intersections, as identified earlier in this study.

As part of the proposed development curb extension/bump outs will be provided along the south side of Campbell Street between Highland Avenue and Chestnut Avenue, at the proposed crosswalk on the east leg of the intersection on Campbell Street with Highland Avenue, and along the west side of Highland Avenue between Campbell Street and the proposed access drive serving the site.

Sight Distance Evaluation

A sight distance evaluation was conducted at Campbell Street with Chestnut Avenue, Highland Avenue, and the proposed full access drive, as well as the proposed garage access drive off Highland Avenue using Village standards. Sight distance diagrams (**Figure F** and **Figure G**, respectively) are included in the Appendix of this report. As shown in Figure F, to comply with sight distance standards as outlined in Village Code, and as noted earlier, all on-street parking on the south side of Campbell Street from west of Chestnut Avenue to east of Highland Avenue will need to be removed, resulting in a loss of eight to ten on-street parking spaces.

Alternate Site Plan Evaluation

It should be noted that there is an alternate proposal for this development, in which no parking is provided within the 33 S. Chestnut building and an additional level is constructed to the 44 South Highland Avenue parking garage to accommodate the parking demand of the residents of 33 S. Chestnut residential building. With this proposal, the proposed full movement access drive serving the 33 S. Chestnut residential building will be eliminated and these vehicles will access the Highland Avenue parking garage with the proposed access system as previously described.

Figure 10 illustrates the Year 2026 total projected traffic volumes with the reassignment of the 33 S. Chestnut building residents to the Highland Avenue parking garage and **Tables 7** and **8** summarizes the results of the capacity analyses with this reassignment.

As can be seen from Table 7, the study area intersections are projected to continue operating at acceptable levels of service during the weekday morning and weekday evening peak hours and the proposed access system will continue to be adequate in accommodating the traffic estimated to be generated by the proposed development.

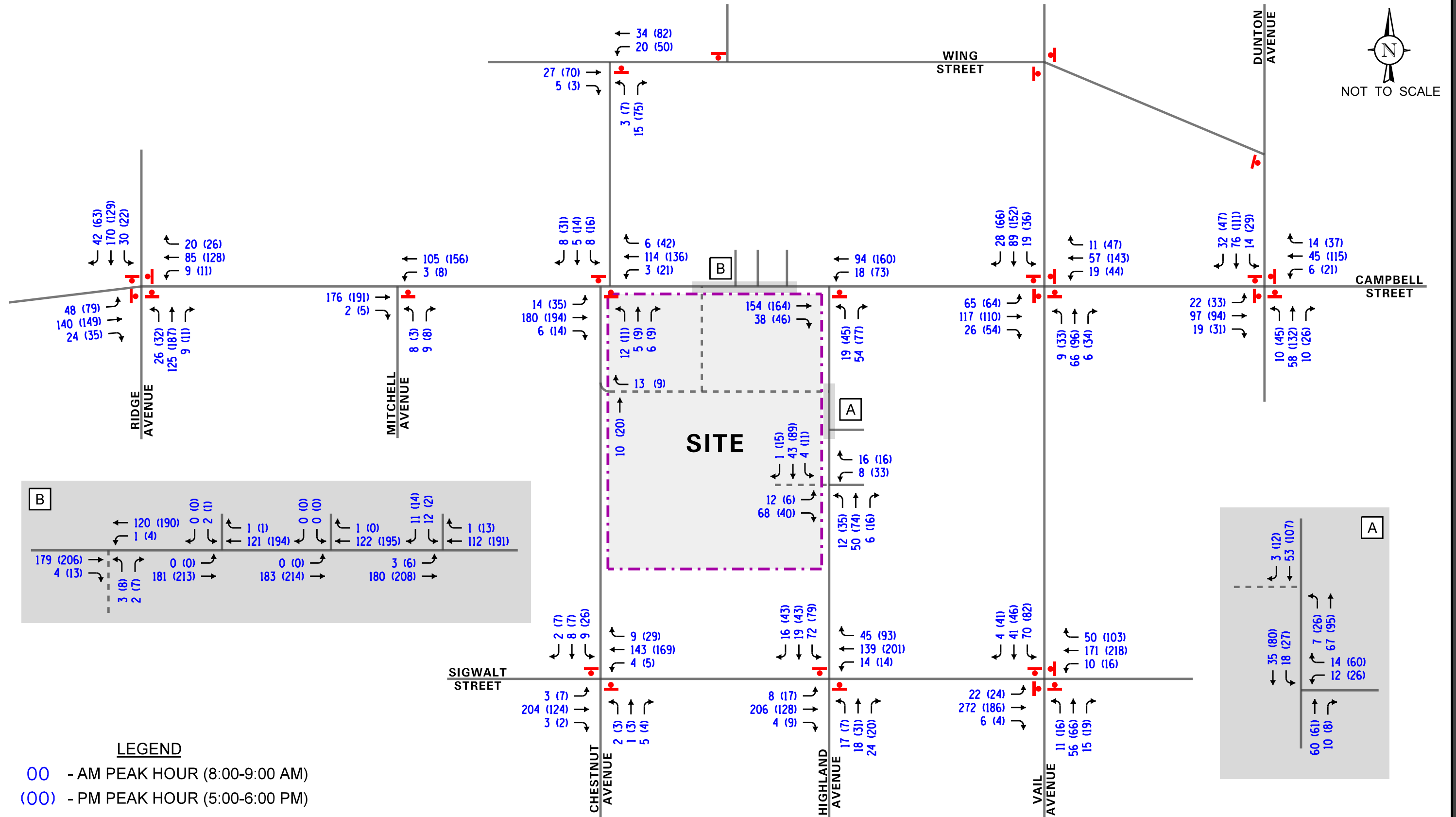


Table 7

CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Highland Avenue and Campbell Street				
• Northbound Approach	B	12.1	C	15.0
<i>Highland and Campbell (All-Way Stop)</i>				
• Overall	A	8.2	A	9.3
• Eastbound Approach	A	8.5	A	9.1
• Westbound Approach	A	8.1	A	9.7
• Northbound Approach	A	7.7	A	8.7
Chestnut Avenue and Campbell Street				
• Northbound Approach	B	13.3	C	15.8
• Southbound Approach	B	12.6	B	14.7
Highland Avenue and Sigwalt Street				
• Northbound Approach	C	18.4	C	16.3
• Southbound Approach	D	31.3	D	25.7
<i>Highland Ave and Sigwalt St (All-Way Stop)</i>				
• Overall	B	11.0	B	10.5
• Eastbound Approach	B	11.7	A	9.7
• Westbound Approach	B	11.0	B	11.4
• Northbound Approach	A	9.3	A	8.9
• Southbound Approach	B	10.5	B	10.2
Chestnut Avenue and Sigwalt Street				
• Northbound Approach	B	12.1	B	12.4
• Southbound Approach	B	13.9	B	13.7

Table 7

CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Vail Avenue and Campbell Street				
• Overall	B	10.0	B	12.4
• Eastbound Approach	B	10.7	B	12.2
• Westbound Approach	A	9.2	B	12.5
• Northbound Approach	B	10.0	B	12.9
• Southbound Approach	A	9.5	B	12.3
Vail Avenue and Sigwalt Street				
• Overall	B	10.7	B	11.7
• Eastbound Approach	B	11.6	B	11.2
• Westbound Approach	B	10.3	B	13.0
• Northbound Approach	A	9.4	B	10.0
• Southbound Approach	B	10.0	B	10.9
Dunton Avenue and Campbell Street				
• Overall	A	8.5	B	10.6
• Eastbound Approach	A	8.7	B	10.4
• Westbound Approach	A	8.1	B	10.5
• Northbound Approach	A	8.5	B	11.0
• Southbound Approach	A	8.5	B	10.5
Ridge Avenue and Campbell Street				
• Overall	B	10.8	B	12.4
• Eastbound Approach	B	11.2	B	13.3
• Westbound Approach	A	9.8	B	11.2
• Northbound Approach	B	10.3	B	12.6
• Southbound Approach	B	11.4	B	11.9

Table 7

CAPACITY ANALYSIS RESULTS – FUTURE TRAFFIC CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Mitchell Avenue and Camp bell Street				
• Northbound Approach	B	11.6	B	11.4
Chestnut Avenue and Wing Street				
• Northbound Approach	A	9.9	B	10.9
Highland Avenue and North Garage Ramp				
• Westbound Approach	B	10.4	B	11.0
LOS = Level of Service Delay is measured in seconds.				

Table 8

CAPACITY ANALYSIS RESULTS FOR PROPOSED INTERSECTIONS
FUTURE (YEAR 2026) CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Campbell Street and Proposed Access				
• Northbound Approach	B	11.6	B	12.4
Chestnut Avenue and Exit Access				
• Westbound Approach	A	8.9	A	8.9
Highland Avenue and South Garage Ramp/Access				
• Eastbound Approach	B	10.5	B	10.8
• Westbound Approach	B	10.6	B	13.1
LOS = Level of Service Delay is measured in seconds.				

6. Parking Evaluation

The overall completed development proposes a total of 389 parking spaces, resulting in a 1.14 parking spaces per residential unit parking ratio. Further, the overall development proposes a total of 392 bedrooms, resulting in a 0.99 parking spaces per bedroom parking ratio. As such, the proposed parking supply is adequate to accommodate peak parking demands based on industry standards, as noted below.

Parking Based on ITE Data

In reviewing the survey data published in the 5th Edition of the *ITE Parking Generation Manual* for Land Use Code 220, the following was determined:

- The average peak parking demand ratio based on the number of bedrooms ranged between 0.9 and 1.0 spaces per bedroom. The development proposes 389 parking spaces for a total of approximately 392 bedrooms (0.99 spaces per bedroom ratio).
- The rate shows a direct correlation between the number of bedrooms and the peak parking demand. Developments with less than 1.5 bedrooms per unit had a peak parking demand of 92 percent of the average peak parking demand. This will apply to the proposed development since the development proposes an average of 1.23 bedrooms per unit.

Parking Based on Transit-Oriented Development Data

The proposed development is considered a Transit-Oriented Development (TOD) due to its close proximity to the Metra station, other nearby modes of travel, and the availability of goods and services within a walkable distance.

Parking studies conducted of similar TOD developments in the area show that car ownership is approximately 15 percent less for residents in a TOD development. Further, studies have also found that the peak parking demand ranged from 0.9 vehicles per unit to 1.05 vehicles per unit. Also, the close proximity of commuter parking that can be used in the evening will also benefit the development with respect to visitors for the residential development.

Lastly, the proposed final parking ratio of 1.14 spaces per unit is consistent with other apartment developments (built or planned) in the Chicago area that are located within proximity to train stations. A review of the parking supply at similar developments indicates that approximately 60 percent of the reviewed apartment developments provide less than 1.25 spaces per unit. A summary table of the location, number of units, and parking spaces provided for these developments is shown in **Table 6**.

Table 6
PARKING RATIOS OF APARTMENT DEVELOPMENTS (NEAR PUBLIC TRANSIT)

Development	Location	Units	Parking	Parking Ratio
River 595	Des Plaines	60	104	1.73
Kingston Pointe	Des Plaines	144	228	1.58
Walker & Parker	Clarendon Hills	42	42	1.00
Forest & Gilbert	Downers Grove	89	102	1.15
Adriatic Grove	Downers Grove	48	64	1.33
Residences at the Grove	Downers Grove	294	345	1.17
100 North Addison	Elmhurst	165	199	1.21
1717 Ridge	Evanston	175	205	1.17
AMLI Evanston	Evanston	214	312	1.46
Central Station	Evanston	80	80	1.00
E2	Evanston	356	371	1.04
The Reserve at Evanston	Evanston	195	219	1.12
Midtown Square	Glenview	138	160	1.16
The Reserve at Glenview	Glenview	239	333	1.39
Uptown La Grange	La Grange	254	336	1.32
Ninety7Fifty on the Park	Orland Park	295	300	1.02
Wheaton 121	Wheaton	306	400	1.31
The Residences of Wilmette	Wilmette	75	117	1.56
Average		185	224	1.26

7. Conclusion

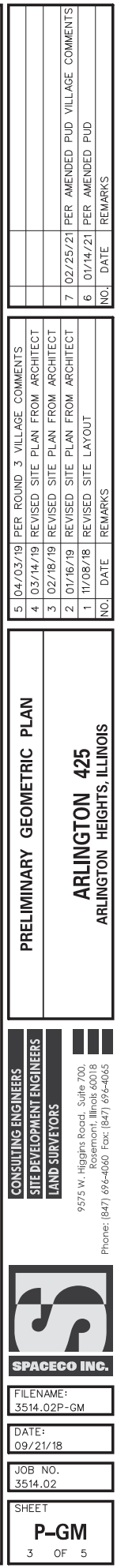
The proposed Arlington 425 Development, which consists of three separate buildings, 225 West Campbell Street, 33 South Chestnut Avenue, and 44 South Highland Avenue, proposes a total of approximately 319 residential rental units and up to approximately 7,962 square feet of retail/restaurant space. A total of 389 parking spaces will be provided in two separate garages. Access to the development is proposed from two access drives on Highland Avenue, an access drive on Campbell Street, and two access drives on Chestnut Avenue. Based on the preceding analyses and recommendations, the following conclusions have been made:

- The proposed overall development is located on the west portion of the Village of Arlington Heights's downtown district, which provides retail, entertainment, and commercial uses, and experiences high pedestrian mobility and interactivity. A residential development in this area is considered a complementary land use to further support these convenient and nearby goods and services without requiring the use of an automobile.
- Accessibility to and from the individual sites and surrounding area is enhanced by the various alternative modes of transportation serving the area, including bus transit and pedestrian and bicycle amenities.
- The amount of traffic generated by the overall proposed development will be reduced due to the alternative modes of transportation serving the area and the convenience and accessibility of nearby goods and services.
- The development-generated traffic can be accommodated without significant impact to the external roadway system. All of the intersections within the study limits are generally projected to operate at current levels of service with the addition of the subject development-generated traffic and regional growth in traffic.
- All-way stop sign control should be considered for the intersections of Highland Avenue with Campbell Street and Sigwalt Street. Both Sigwalt Street traffic and Campbell Street traffic is currently under free flow conditions.
- The proposed access off Campbell Street will not conflict with the turning movements with the four access drives intersecting Campbell Street from the north, east of the proposed access drive. Traffic counts show that there are low volumes of traffic turning to/from these access drives during peak hours.
- A review of projected peak hour traffic volumes shows that an all-way stop sign control is not warranted on Chestnut Avenue at its intersections with Campbell Street or Sigwalt Street.

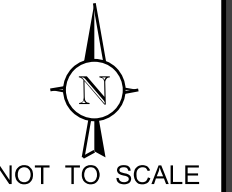
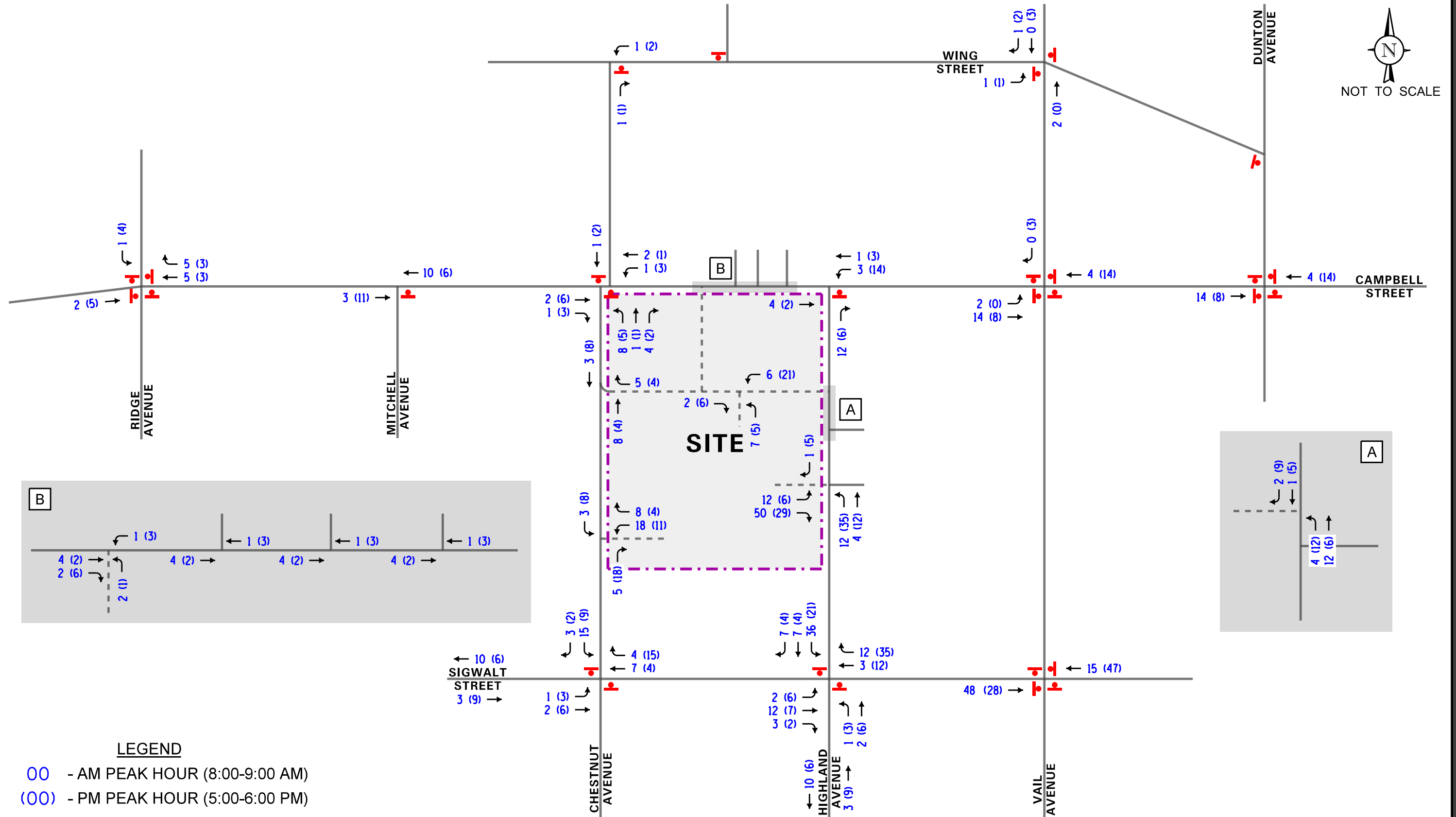
Appendix

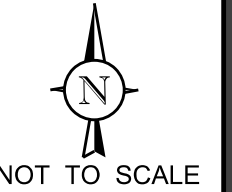
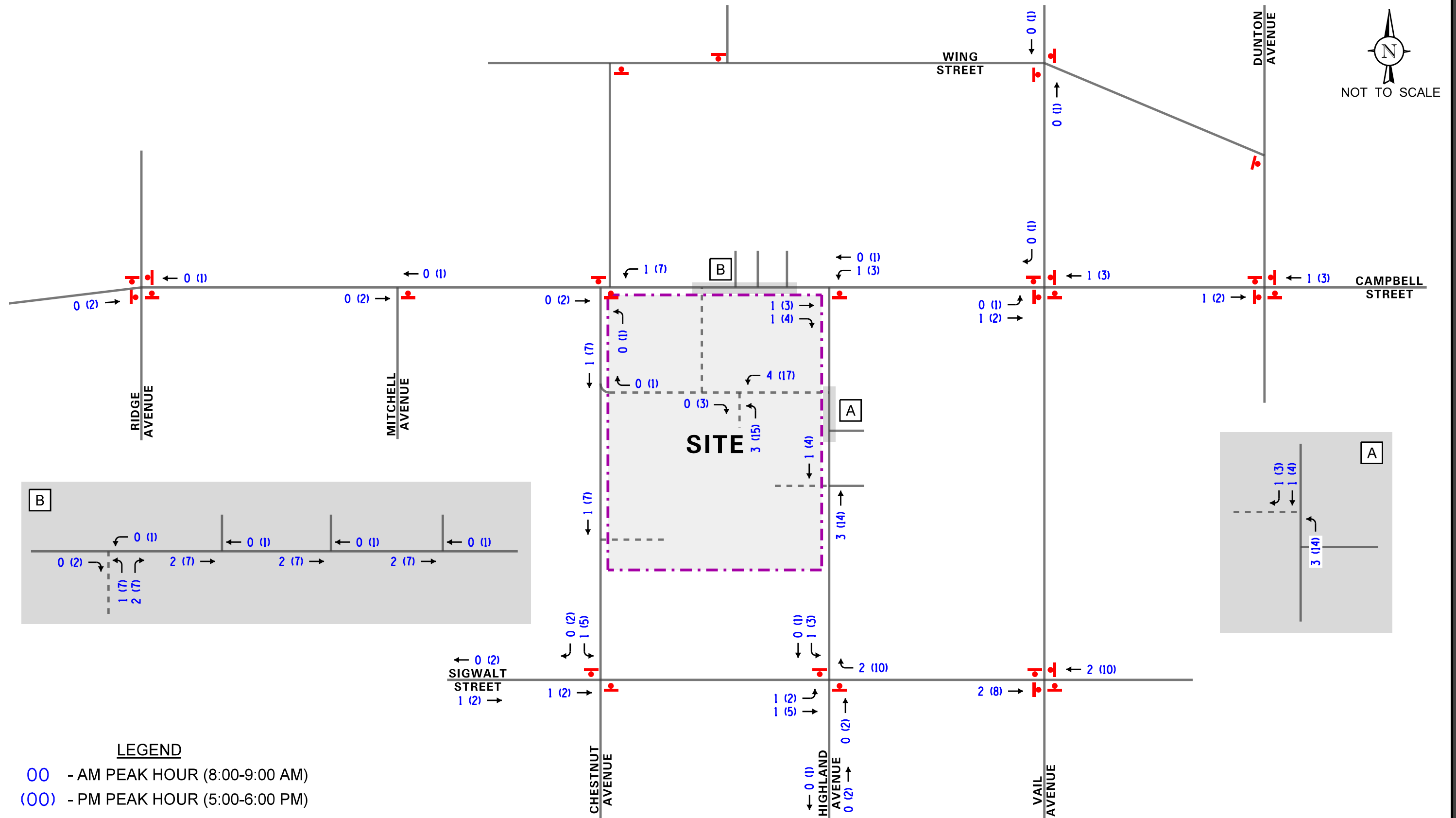
Site Plan
Site Traffic Assignment Figures
Sight Distance Exhibits
Traffic Counts
Capacity Analysis

Site Plan

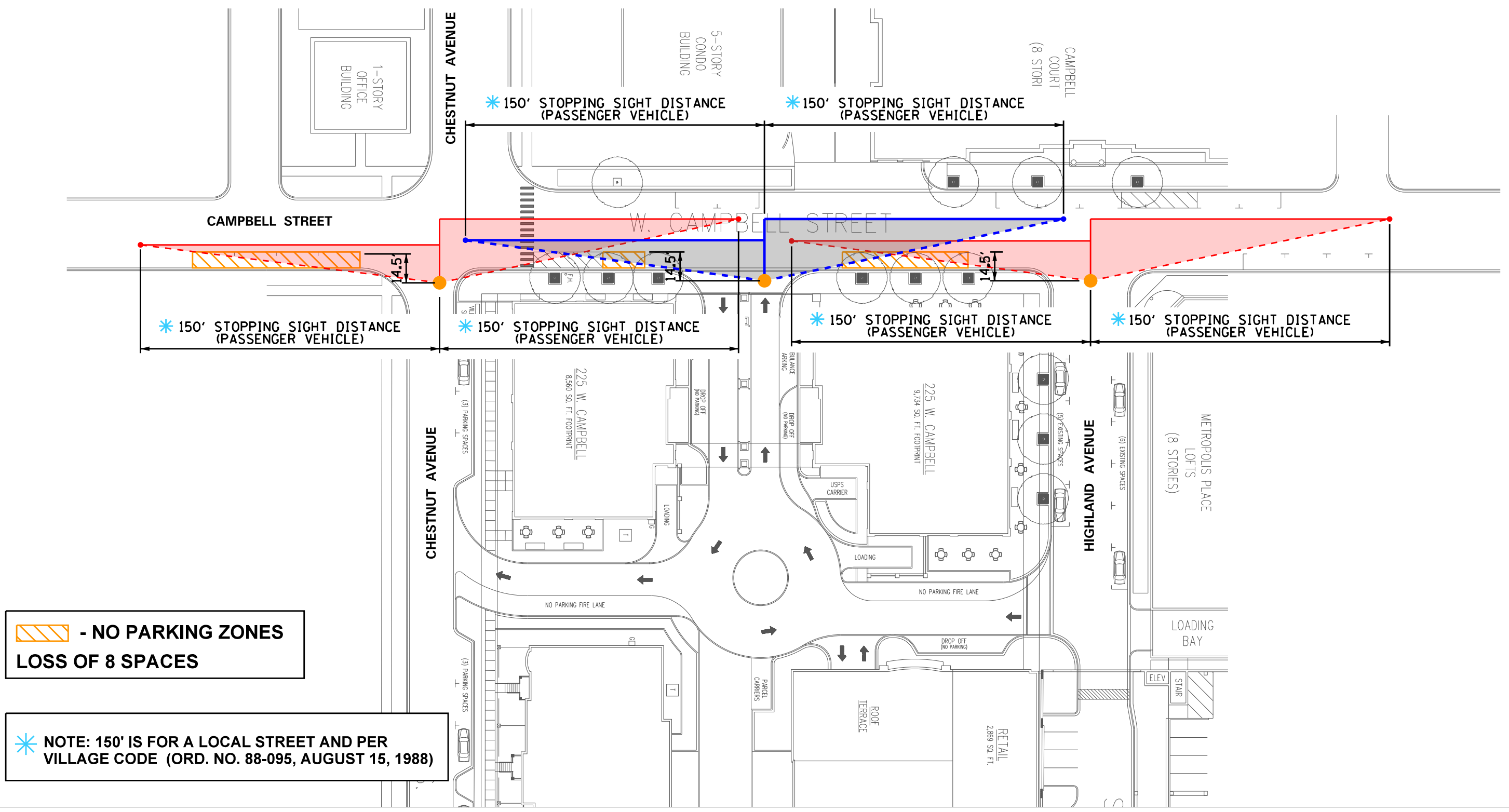


Site Traffic Assignment Figures



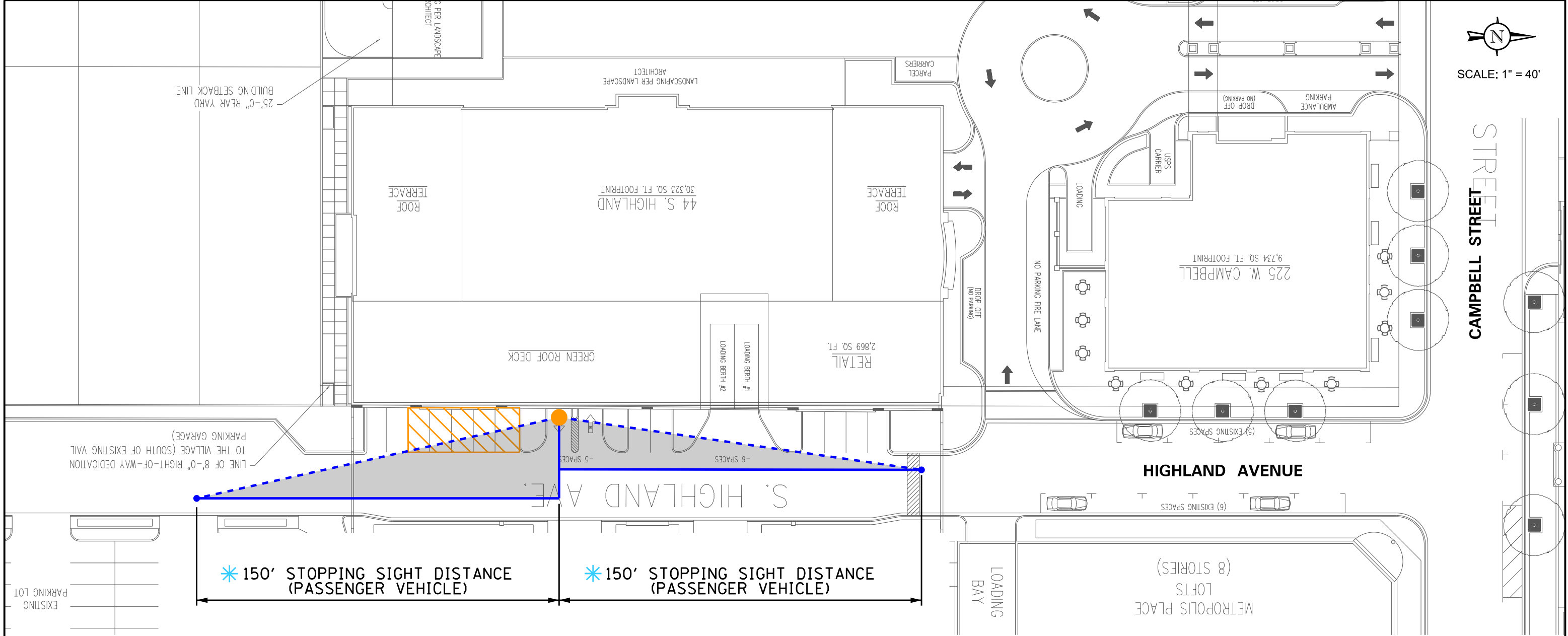


Sight Distance Exhibits



 - NO PARKING ZONES
 LOSS OF 8 SPACES

 NOTE: 150' IS FOR A LOCAL STREET AND PER VILLAGE CODE (ORD. NO. 88-095, AUGUST 15, 1988)



 - NO PARKING ZONES
LOSS OF 5 SPACES

 NOTE: 150' IS FOR A LOCAL STREET AND PER
VILLAGE CODE (ORD. NO. 88-095, AUGUST 15, 1988)

ARLINGTON 425
ARLINGTON HEIGHTS, ILLINOIS

SIGHT DISTANCE STUDY ALONG HIGHLAND AVENUE

DRAWN: MD
DATE: 02-19-19
PROJECT # 18-127
FIGURE: G

CHECKED: LA
REV: 03-14-19



Traffic Counts



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Campbell Street and Highland Avenue
Site Code:
Start Date: 06/26/2018
Page No: 1

Turning Movement Data

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Highland Avenue Northbound				
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	Int. Total
7:00 AM	0	9	11	0	20	0	0	15	1	15	0	8	5	4	48
7:15 AM	0	17	8	0	25	0	0	14	3	14	0	7	8	3	54
7:30 AM	0	20	13	0	33	0	2	16	5	18	0	7	4	1	62
7:45 AM	0	27	17	0	44	0	3	18	4	21	0	6	4	2	75
Hourly Total	0	73	49	0	122	0	5	63	13	68	0	28	21	10	239
8:00 AM	0	22	8	0	30	1	1	16	3	18	0	3	5	1	56
8:15 AM	0	39	13	0	52	0	4	18	1	22	0	8	8	0	90
8:30 AM	0	38	5	0	43	0	4	17	1	21	0	6	12	3	82
8:45 AM	0	41	10	0	51	0	3	16	2	19	0	1	14	5	85
Hourly Total	0	140	36	0	176	1	12	67	7	80	0	18	39	9	313
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	37	5	1	42	0	6	30	3	36	0	5	9	6	92
4:15 PM	0	40	5	2	45	4	1	22	2	27	0	2	5	5	79
4:30 PM	0	38	6	0	44	0	3	40	0	43	0	2	9	6	98
4:45 PM	0	36	12	3	48	3	3	24	0	30	0	2	7	3	87
Hourly Total	0	151	28	6	179	7	13	116	5	136	0	11	30	20	411
5:00 PM	0	36	7	0	43	0	10	38	3	48	0	8	17	5	116
5:15 PM	0	23	7	0	30	0	10	35	2	45	0	6	16	0	97
5:30 PM	0	36	6	0	42	0	9	31	1	40	0	10	18	1	110
5:45 PM	0	43	8	1	51	1	18	16	5	35	0	7	9	8	102
Hourly Total	0	138	28	1	166	1	47	120	11	168	0	31	60	14	425
Grand Total	0	502	141	7	643	9	77	366	36	452	0	88	150	53	1333
Approach %	0.0	78.1	21.9	-	-	2.0	17.0	81.0	-	-	0.0	37.0	63.0	-	-
Total %	0.0	37.7	10.6	-	48.2	0.7	5.8	27.5	-	33.9	0.0	6.6	11.3	-	17.9
Lights	0	500	140	-	640	9	75	356	-	440	0	87	147	-	234
% Lights	-	99.6	99.3	-	99.5	100.0	97.4	97.3	-	97.3	-	98.9	98.0	-	98.6
Buses	0	0	0	-	0	0	0	1	-	1	0	1	0	-	2
% Buses	-	0.0	0.0	-	0.0	0.0	0.0	0.3	-	0.2	-	1.1	0.0	-	0.4
Single-Unit Trucks	0	0	1	-	1	0	0	4	-	4	0	0	0	-	5
% Single-Unit Trucks	-	0.0	0.7	-	0.2	0.0	0.0	1.1	-	0.9	-	0.0	0.0	-	0.4
Articulated Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	1
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.3	-	0.2	-	0.0	0.0	-	0.1
Bicycles on Road	0	2	0	-	2	0	2	4	-	6	0	0	3	-	11
% Bicycles on Road	-	0.4	0.0	-	0.3	0.0	2.6	1.1	-	1.3	-	0.0	2.0	-	0.8
Pedestrians	-	-	-	7	-	-	-	-	36	-	-	-	-	53	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-



Kenig, Lindgren, O'Hara, Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Campbell Street and Highland Avenue
Site Code:
Start Date: 06/26/2018
Page No.: 2

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Highland Avenue Northbound				
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	Int. Total
8:00 AM	0	22	8	0	30	1	1	16	3	18	0	3	5	1	56
8:15 AM	0	39	13	0	52	0	4	18	1	22	0	8	8	0	90
8:30 AM	0	38	5	0	43	0	4	17	1	21	0	6	12	3	82
8:45 AM	0	41	10	0	51	0	3	16	2	19	0	1	14	5	85
Total	0	140	36	0	176	1	12	67	7	80	0	18	39	9	313
Approach %	0.0	79.5	20.5	-	-	1.3	15.0	83.8	-	-	0.0	31.6	68.4	-	-
Total %	0.0	44.7	11.5	-	56.2	0.3	3.8	21.4	-	25.6	0.0	5.8	12.5	-	18.2
PHF	0.000	0.854	0.692	-	0.846	0.250	0.750	0.931	-	0.909	0.000	0.563	0.696	-	0.869
% Lights	0	140	35	-	175	1	12	63	-	76	0	18	39	-	308
% Buses	-	100.0	97.2	-	99.4	100.0	100.0	94.0	-	95.0	-	100.0	100.0	-	98.4
Single-Unit Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	1
% Single-Unit Trucks	0	0	1	-	1	0.0	0.0	1.5	-	1.3	-	0.0	0.0	-	0.3
Articulated Trucks	0	0	2.8	-	0.6	0.0	0.0	3.0	-	2.5	0	0	0	-	3
% Articulated Trucks	0	0	0	-	0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	1.0
Bicycles on Road	0	0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0
% Bicycles on Road	0	0	0	-	0	0.0	0.0	1	-	1	0	0	0	-	1
Pedestrians	-	0.0	0.0	-	0.0	0.0	0.0	1.5	-	1.3	-	0.0	0.0	-	0.3
% Pedestrians	-	-	-	0	-	-	-	-	7	-	-	-	-	9	-
	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-



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Count Name: Campbell Street and Highland Avenue
Site Code:
Start Date: 06/26/2018
Page No.: 3

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Highland Avenue Northbound				
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	Int. Total
5:00 PM	0	36	7	0	43	0	10	38	3	48	0	8	17	5	116
5:15 PM	0	23	7	0	30	0	10	35	2	45	0	6	16	0	97
5:30 PM	0	36	6	0	42	0	9	31	1	40	0	10	18	1	110
5:45 PM	0	43	8	1	51	1	18	16	5	35	0	7	9	8	102
Total	0	138	28	1	166	1	47	120	11	168	0	31	60	14	425
Approach %	0.0	83.1	16.9	-	-	0.6	28.0	71.4	-	-	0.0	34.1	65.9	-	-
Total %	0.0	32.5	6.6	-	39.1	0.2	11.1	28.2	-	39.5	0.0	7.3	14.1	-	21.4
PHF	0.000	0.802	0.875	-	0.814	0.250	0.653	0.789	-	0.875	0.000	0.775	0.833	-	0.916
% Lights	0	137	28	-	165	1	45	120	-	166	0	31	60	-	422
% Buses	0	99.3	100.0	-	99.4	100.0	95.7	100.0	-	98.8	0	100.0	100.0	-	99.3
Single-Unit Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Single-Unit Trucks	0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0	0.0	0.0	-	0.0
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Articulated Trucks	0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0	0.0	0.0	-	0.0
Bicycles on Road	0	1	0	-	1	0	2	0	-	2	0	0	0	-	3
% Bicycles on Road	0	0.7	0.0	-	0.6	0.0	4.3	0.0	-	1.2	0	0.0	0.0	-	0.7
Pedestrians	-	-	-	1	-	-	-	-	11	-	-	-	-	14	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Campbell St and Chestnut Ave
Site Code:
Start Date: 08/08/2017
Page No: 1

Turning Movement Data

Start Time	Campbell Ave Eastbound						Campbell St Westbound						Chestnut Ave Northbound						Chestnut Ave Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	4	24	0	0	28	0	0	24	2	3	26	0	0	1	2	3	3	0	0	5	2	2	7	64
7:15 AM	0	2	24	1	0	27	0	0	18	3	2	21	0	0	2	0	3	2	0	2	4	1	3	7	57
7:30 AM	0	5	26	0	1	31	0	0	22	2	1	24	0	1	1	0	0	2	0	1	3	2	5	6	63
7:45 AM	0	0	43	5	3	48	0	1	25	2	4	28	0	2	4	0	2	6	0	0	4	1	5	5	87
Hourly Total	0	11	117	6	4	134	0	1	89	9	10	99	0	3	8	2	8	13	0	3	16	6	15	25	271
8:00 AM	0	2	34	1	1	37	0	1	25	1	1	27	0	0	1	0	2	1	0	2	1	2	1	5	70
8:15 AM	0	3	38	1	1	42	0	0	28	2	3	30	0	2	0	0	1	2	0	2	2	2	3	6	80
8:30 AM	0	6	38	1	1	45	0	1	28	1	0	30	0	1	1	0	2	2	0	1	2	2	1	5	82
8:45 AM	0	2	43	3	1	48	0	0	26	2	2	28	0	1	2	2	2	5	0	1	0	2	2	3	84
Hourly Total	0	13	153	6	4	172	0	2	107	6	6	115	0	4	4	2	7	10	0	6	5	8	7	19	316
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	7	53	0	2	60	0	0	29	1	1	30	0	3	0	0	5	3	0	1	2	6	0	9	102
4:15 PM	0	4	35	0	1	39	0	0	38	2	1	40	0	6	1	0	0	7	0	0	2	7	2	9	95
4:30 PM	0	6	24	0	1	30	1	2	30	5	0	38	0	2	2	0	2	4	0	3	1	6	0	10	82
4:45 PM	0	3	33	4	0	40	0	0	31	2	0	33	0	2	2	3	2	7	0	1	3	3	2	7	87
Hourly Total	0	20	145	4	4	169	1	2	128	10	2	141	0	13	5	3	9	21	0	5	8	22	4	35	366
5:00 PM	0	2	40	3	0	45	0	0	34	0	0	34	0	4	2	2	2	8	0	1	1	9	2	11	98
5:15 PM	0	7	41	2	0	50	2	2	26	3	0	33	0	4	2	0	0	6	0	1	1	5	0	7	96
5:30 PM	0	5	29	4	0	38	1	5	35	6	2	47	0	4	1	2	4	7	0	5	2	3	4	10	102
5:45 PM	0	6	50	3	1	59	2	1	31	3	4	37	0	2	8	3	6	13	0	3	4	2	10	9	118
Hourly Total	0	20	160	12	1	192	5	8	126	12	6	151	0	14	13	7	12	34	0	10	8	19	16	37	414
Grand Total	0	64	575	28	13	667	6	13	450	37	24	506	0	34	30	14	36	78	0	24	37	55	42	116	1367
Approach %	0.0	9.6	86.2	4.2	-	-	1.2	2.6	88.9	7.3	-	-	0.0	43.6	38.5	17.9	-	-	0.0	20.7	31.9	47.4	-	-	-
Total %	0.0	4.7	42.1	2.0	-	48.8	0.4	1.0	32.9	2.7	-	37.0	0.0	2.5	2.2	1.0	-	5.7	0.0	1.8	2.7	4.0	-	8.5	-
Lights	0	60	564	27	-	651	6	13	440	35	-	494	0	34	27	13	-	74	0	24	34	53	-	111	1330
% Lights	-	93.8	98.1	96.4	-	97.6	100.0	100.0	97.8	94.6	-	97.6	-	100.0	90.0	92.9	-	94.9	-	100.0	91.9	96.4	-	95.7	97.3
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	2
% Buses	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	6.7	0.0	-	2.6	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	7	0	-	7	0	0	5	2	-	7	0	0	1	1	-	2	0	0	1	2	-	3	19
% Single-Unit Trucks	-	0.0	1.2	0.0	-	1.0	0.0	0.0	1.1	5.4	-	1.4	-	0.0	3.3	7.1	-	2.6	-	0.0	2.7	3.6	-	2.6	1.4
Articulated Trucks	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	-	1.6	0.2	0.0	-	0.3	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	3	3	1	-	7	0	0	5	0	-	5	0	0	0	0	-	0	0	0	2	0	-	2	14
% Bicycles on Road	-	4.7	0.5	3.6	-	1.0	0.0	0.0	1.1	0.0	-	1.0	-	0.0	0.0	0.0	-	0.0	-	0.0	5.4	0.0	-	1.7	1.0
Pedestrians	-	-	-	-	13	-	-	-	-	-	24	-	-	-	-	-	36	-	-	-	-	-	42	-	-



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Start Date: 08/08/2017
Page No.: 3

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Ave Eastbound						Campbell St Westbound						Chestnut Ave Northbound						Chestnut Ave Southbound					
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total
8:00 AM	0	2	34	1	1	37	0	1	25	1	1	27	0	0	1	0	0	2	0	2	1	2	1	5
8:15 AM	0	3	38	1	1	42	0	0	28	2	3	30	0	2	0	0	0	1	2	2	2	2	3	6
8:30 AM	0	6	38	1	1	45	0	1	28	1	0	30	0	1	1	0	0	2	0	1	2	2	1	5
8:45 AM	0	2	43	3	1	48	0	0	26	2	2	28	0	1	2	2	2	5	0	1	0	2	2	3
Total	0	13	153	6	4	172	0	2	107	6	6	115	0	4	4	2	7	10	0	6	5	8	7	19
Approach %	0.0	7.6	89.0	3.5	-	-	0.0	1.7	93.0	5.2	-	-	0.0	40.0	40.0	20.0	-	-	0.0	31.6	26.3	42.1	-	-
Total %	0.0	4.1	48.4	1.9	-	54.4	0.0	0.6	33.9	1.9	-	36.4	0.0	1.3	1.3	0.6	-	3.2	0.0	1.9	1.6	2.5	-	6.0
PHF	0.000	0.542	0.890	0.500	-	0.896	0.000	0.500	0.955	0.750	-	0.958	0.000	0.500	0.500	0.250	-	0.500	0.000	0.750	0.625	1.000	-	0.792
Lights	0	13	151	6	-	170	0	2	104	5	-	111	0	4	4	2	-	10	0	6	5	7	-	18
% Lights	-	100.0	98.7	100.0	-	98.8	-	100.0	97.2	83.3	-	96.5	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	87.5	-	94.7
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0
Single-Unit Trucks	0	0	2	0	-	2	0	0	3	1	-	4	0	0	0	0	-	0	0	0	0	1	-	1
% Single-Unit Trucks	-	0.0	1.3	0.0	-	1.2	-	0.0	2.8	16.7	-	3.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	12.5	-	5.3
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0
Pedestrians	-	-	-	-	4	-	-	-	-	-	6	-	-	-	-	-	7	-	-	-	-	-	7	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-



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9575 W. Higgins Rd., Suite 400

Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Campbell St and Chestnut Ave
Site Code:
Start Date: 08/08/2017
Page No: 4

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Ave Eastbound						Campbell St Westbound						Chestnut Ave Northbound						Chestnut Ave Southbound						App. Total	Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
5:00 PM	0	2	40	3	0	45	0	0	34	0	0	34	0	4	2	2	2	8	0	1	1	9	2	11	98	
5:15 PM	0	7	41	2	0	50	2	2	26	3	0	33	0	4	2	0	0	6	0	1	1	5	0	7	96	
5:30 PM	0	5	29	4	0	38	1	5	35	6	2	47	0	4	1	2	4	7	0	5	2	3	4	10	102	
5:45 PM	0	6	50	3	1	59	2	1	31	3	4	37	0	2	8	3	6	13	0	3	4	2	10	9	118	
Total	0	20	160	12	1	192	5	8	126	12	6	151	0	14	13	7	12	34	0	10	8	19	16	37	414	
Approach %	0.0	10.4	83.3	6.3	-	-	3.3	5.3	83.4	7.9	-	-	0.0	41.2	38.2	20.6	-	-	0.0	27.0	21.6	51.4	-	-	-	
Total %	0.0	4.8	38.6	2.9	-	46.4	1.2	1.9	30.4	2.9	-	36.5	0.0	3.4	3.1	1.7	-	8.2	0.0	2.4	1.9	4.6	-	8.9	-	
PHF	0.000	0.714	0.800	0.750	-	0.814	0.625	0.400	0.900	0.500	-	0.803	0.000	0.875	0.406	0.583	-	0.654	0.000	0.500	0.500	0.528	-	0.841	0.877	
Lights	0	20	157	11	-	188	5	8	123	12	-	148	0	14	13	7	-	34	0	10	6	19	-	35	405	
% Lights	-	100.0	98.1	91.7	-	97.9	100.0	100.0	97.6	100.0	-	98.0	-	100.0	100.0	100.0	-	100.0	-	100.0	75.0	100.0	-	94.6	97.8	
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	
% Buses	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	
Single-Unit Trucks	0	0	2	0	-	2	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	3	
% Single-Unit Trucks	-	0.0	1.3	0.0	-	1.0	0.0	0.0	0.8	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.7	
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	
Bicycles on Road	0	0	1	1	-	2	0	0	2	0	-	2	0	0	0	0	-	0	0	0	2	0	-	2	6	
% Bicycles on Road	-	0.0	0.6	8.3	-	1.0	0.0	0.0	1.6	0.0	-	1.3	-	0.0	0.0	0.0	-	0.0	-	0.0	25.0	0.0	-	5.4	1.4	
Pedestrians	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	-	12	-	-	-	-	16	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-



Kenig Lindgren O'Hara Aboona, Inc.
9575 W. Higgins Rd., Suite 400
Rosemont, Illinois, United States 60018
(847)518-9990

Count Name: Sigwalt Street and Highland Avenue
Site Code:
Start Date: 06/26/2018
Page No: 1

Turning Movement Data

Start Time	Sigwalt Street Eastbound						Sigwalt Street Westbound						Highland Avenue Northbound						Highland Avenue Southbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	0	9	30	1	4	40	0	4	35	5	1	44	0	0	6	3	0	9	0	3	1	2	4	6	99
7:15 AM	0	5	28	0	0	33	0	1	21	2	0	24	0	0	2	2	0	4	0	6	0	2	1	8	69
7:30 AM	0	7	31	0	1	38	0	2	20	7	0	29	0	1	2	2	0	5	0	7	2	3	0	12	84
7:45 AM	0	10	16	1	2	27	0	2	29	3	2	34	0	1	8	3	0	12	0	7	0	1	0	8	81
Hourly Total	0	31	105	2	7	138	0	9	105	17	3	131	0	2	18	10	0	30	0	23	3	8	5	34	333
8:00 AM	0	0	25	2	1	27	0	1	14	3	0	18	0	3	3	3	0	9	0	3	1	2	2	6	60
8:15 AM	0	2	23	0	0	25	0	3	28	7	0	38	0	2	5	1	0	8	0	4	2	1	0	7	78
8:30 AM	0	2	26	0	0	28	0	1	26	9	0	36	0	2	2	4	0	8	0	8	2	1	0	11	83
8:45 AM	0	0	32	2	1	34	0	8	36	9	0	53	0	8	5	15	0	28	0	5	3	1	0	9	124
Hourly Total	0	4	106	4	2	114	0	13	104	28	0	145	0	15	15	23	0	53	0	20	8	5	2	33	345
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	25	1	2	26	0	3	41	4	0	48	0	0	5	3	0	8	0	5	3	0	0	8	90
4:15 PM	0	1	25	1	3	27	0	2	30	3	0	35	0	0	1	2	0	3	0	2	2	0	2	4	69
4:30 PM	0	0	32	0	0	32	0	0	38	3	2	41	0	1	1	5	0	7	0	6	2	4	2	12	92
4:45 PM	0	2	29	1	2	32	0	0	42	6	0	48	0	0	5	7	0	12	0	2	0	2	0	4	96
Hourly Total	0	3	111	3	7	117	0	5	151	16	2	172	0	1	12	17	0	30	0	15	7	6	4	28	347
5:00 PM	0	0	28	2	2	30	0	2	48	4	0	54	0	1	3	1	0	5	0	6	6	5	2	17	106
5:15 PM	0	2	29	3	1	34	0	1	28	3	0	32	0	1	7	2	0	10	0	7	4	5	0	16	92
5:30 PM	0	3	25	0	2	28	0	2	48	4	0	54	0	0	4	1	0	5	0	13	8	13	1	34	121
5:45 PM	0	5	26	1	1	32	0	2	43	5	0	50	0	2	2	7	0	11	0	7	7	3	2	17	110
Hourly Total	0	10	108	6	6	124	0	7	167	16	0	190	0	4	16	11	0	31	0	33	25	26	5	84	429
Grand Total	0	48	430	15	22	493	0	34	527	77	5	638	0	22	61	61	0	144	0	91	43	45	16	179	1454
Approach %	0.0	9.7	87.2	3.0	-	-	0.0	5.3	82.6	12.1	-	-	0.0	15.3	42.4	42.4	-	-	0.0	50.8	24.0	25.1	-	-	-
Total %	0.0	3.3	29.6	1.0	-	33.9	0.0	2.3	36.2	5.3	-	43.9	0.0	1.5	4.2	4.2	-	9.9	0.0	6.3	3.0	3.1	-	12.3	-
Lights	0	48	421	14	-	483	0	31	516	77	-	624	0	22	57	60	-	139	0	90	40	45	-	175	1421
% Lights	-	100.0	97.9	93.3	-	98.0	-	91.2	97.9	100.0	-	97.8	-	100.0	93.4	98.4	-	96.5	-	98.9	93.0	100.0	-	97.8	97.7
Buses	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	2
% Buses	-	0.0	0.2	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	1.6	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	6	0	-	6	0	0	7	0	-	7	0	0	0	1	-	1	0	1	0	0	-	1	15
% Single-Unit Trucks	-	0.0	1.4	0.0	-	1.2	-	0.0	1.3	0.0	-	1.1	-	0.0	0.0	1.6	-	0.7	-	1.1	0.0	0.0	-	0.6	1.0
Articulated Trucks	0	0	0	0	-	0	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	3
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	0	2	1	-	3	0	3	1	0	-	4	0	0	3	0	-	3	0	0	3	0	-	3	13
% Bicycles on Road	-	0.0	0.5	6.7	-	0.6	-	8.8	0.2	0.0	-	0.6	-	0.0	4.9	0.0	-	2.1	-	0.0	7.0	0.0	-	1.7	0.9
Pedestrians	-	-	-	-	22	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	16	-	-



Rosemont, Illinois, United States 60018
(847)518-9990

Turning Movement Peak Hour Data (8:00 AM)

[illegible]

Rosemont, Illinois, United States 60018
(847)518-9990

Site Code:
Start Date: 06/26/2018
Page No: 4

Turning Movement Peak Hour Data (5:00 PM)

[illegible]

07/02/18
11:39:45

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
700	97	30	77	0	77	63	64	0	204
715	94	27	65	0	65	58	63	0	186
730	90	21	56	0	48	58	61	0	167
745	84	25	54	0	56	44	63	0	163
800	52	25	62	0	65	27	47	0	139
815	34	20	53	0	58	16	33	0	107*
830	18	16	46	0	51	8	21	0	80*
845	11	7	25	0	26	5	12	0	43*
1600	63	35	55	0	71	20	62	0	153
1615	73	42	71	0	91	25	70	0	186
1630	77	39	74	0	86	30	74	0	190
1645	86	43	80	0	98	31	80	0	209
1700	91	64	105	0	136	34	90	0	260
1715	72	52	80	0	104	27	73	0	204*
1730	57	46	61	0	86	18	60	0	164*
1745	28	25	35	0	48	10	30	0	88*

07/02/18
11:42:01

Intersection # 2 highland/garageramp

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: Appr/Exit Totals

Intersection # 2 highland/garageramp

Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
700	9	41	25	0	19	34	22	0	75
715	7	35	20	0	17	27	18	0	62
730	7	26	22	0	12	29	14	0	55
745	8	23	17	0	13	25	10	0	48
800	4	23	6	0	15	10	8	0	33
815	3	17	6	0	12	9	5	0	26*
830	1	15	2	0	12	3	3	0	18*
845	0	7	2	0	6	2	1	0	9*
1600	9	20	8	0	7	17	13	0	37
1615	9	28	10	0	10	19	18	0	47
1630	10	27	14	0	9	24	18	0	51
1645	11	35	10	0	10	21	25	0	56
1700	11	47	15	0	15	26	32	0	73
1715	10	36	13	0	10	23	26	0	59*
1730	8	31	8	0	9	16	22	0	47*
1745	3	17	7	0	6	10	11	0	27*

Table A

Thursday, February 7, 2019

Time	Campbell/ Chestnut	Campbell/ Highland	Campbell/ Vail	Sigwalt/ Highland	Total
4:00 PM	342	338	554	358	1592
5:00 PM	471	502	773	449	2195
6:00 PM	361	439	712	386	1898
7:00 PM	244	310	568	286	1408
8:00 PM	161	187	326	180	854
9:00 PM	130	178	253	124	685

Table B

Friday, February 8, 2019

Time	Campbell/ Chestnut	Campbell/ Highland	Campbell/ Vail	Sigwalt/ Highland	Total
4:00 PM	355	366	579	395	1695
5:00 PM	419	451	740	465	2075
6:00 PM	394	469	812	376	2051
7:00 PM	316	430	682	257	1685
8:00 PM	179	263	472	199	1113
9:00 PM	163	227	376	166	932

Table C

Saturday, February 9, 2019

Time	Campbell/ Chestnut	Campbell/ Highland	Campbell/ Vail	Sigwalt/ Highland	Total
4:00 PM	277	329	583	258	1447
5:00 PM	382	486	763	305	1936
6:00 PM	337	465	789	316	1907
7:00 PM	316	422	699	293	1730
8:00 PM	154	287	428	156	1025
9:00 PM	163	228	371	139	901

Capacity Analysis – Existing Conditions

HCM 6th TWSC
1: Highland Ave & Campbell St

02/21/2019

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	143	36	13	89	18	39
Future Vol, veh/h	143	36	13	89	18	39
Conflicting Peds, #/hr	0	9	9	0	0	7
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	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	6	0	0
Mvmt Flow	164	41	15	102	21	45

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	214
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1368
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1356
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	768	-	-	1356	-
HCM Lane V/C Ratio	0.085	-	-	0.011	-
HCM Control Delay (s)	10.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

02/21/2019

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	13	170	6	2	107	6	4	4	2	6	5	8
Future Vol, veh/h	13	170	6	2	107	6	4	4	2	6	5	8
Conflicting Peds, #/hr	7	0	7	7	0	7	4	0	6	6	0	4
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	14	185	7	2	116	7	4	4	2	7	5	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	130	0	0	199	0	0	359	358	202	357	358	131
Stage 1	-	-	-	-	-	-	224	224	-	131	131	-
Stage 2	-	-	-	-	-	-	135	134	-	226	227	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1455	-	-	1373	-	-	596	568	839	598	568	919
Stage 1	-	-	-	-	-	-	779	718	-	873	788	-
Stage 2	-	-	-	-	-	-	868	785	-	777	716	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1445	-	-	1364	-	-	574	553	829	579	553	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	574	553	-	579	553	-
Stage 1	-	-	-	-	-	-	765	705	-	857	781	-
Stage 2	-	-	-	-	-	-	849	778	-	757	703	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.1			11.1			10.5		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	602	1445	-	-	1364	-	-	674				
HCM Lane V/C Ratio	0.018	0.01	-	-	0.002	-	-	0.031				
HCM Control Delay (s)	11.1	7.5	0	-	7.6	0	-	10.5				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0.1				

HCM 6th TWSC
3: Highland Ave & Sigwalt St

02/21/2019

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	197	4	13	120	28	15	15	23	20	8	5
Future Vol, veh/h	4	197	4	13	120	28	15	15	23	20	8	5
Conflicting Peds, #/hr	2	0	0	0	0	2	2	0	0	0	0	2
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	0	2	0	0	1	0	0	0	4	5	0	0
Mvmt Flow	6	281	6	19	171	40	21	21	33	29	11	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	287	0	0	536	547	284	554	530	195
Stage 1	-	-	-	-	-	-	296	296	-	231	231	-
Stage 2	-	-	-	-	-	-	240	251	-	323	299	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.24	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.336	3.545	4	3.3
Pot Cap-1 Maneuver	1369	-	-	1287	-	-	459	447	750	438	457	851
Stage 1	-	-	-	-	-	-	717	672	-	765	717	-
Stage 2	-	-	-	-	-	-	768	703	-	683	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1366	-	-	1287	-	-	438	436	750	396	446	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	438	436	-	396	446	-
Stage 1	-	-	-	-	-	-	713	669	-	760	703	-
Stage 2	-	-	-	-	-	-	735	690	-	629	667	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	12.9	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	534	1366	-	-	1287	-	-	444
HCM Lane V/C Ratio	0.142	0.004	-	-	0.014	-	-	0.106
HCM Control Delay (s)	12.9	7.6	0	-	7.8	0	-	14.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.4

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

02/21/2019

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	3	192	3	4	127	9	2	1	5	8	8	2
Future Vol, veh/h	3	192	3	4	127	9	2	1	5	8	8	2
Conflicting Peds, #/hr	1	0	2	2	0	1	1	0	3	3	0	1
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	3	209	3	4	138	10	2	1	5	9	9	2
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	149	0	0	214	0	0	377	376	216	375	372	145
Stage 1	-	-	-	-	-	-	219	219	-	152	152	-
Stage 2	-	-	-	-	-	-	158	157	-	223	220	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1432	-	-	1356	-	-	580	555	824	582	558	902
Stage 1	-	-	-	-	-	-	783	722	-	850	772	-
Stage 2	-	-	-	-	-	-	844	768	-	780	721	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1431	-	-	1353	-	-	568	551	820	573	554	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	568	551	-	573	554	-
Stage 1	-	-	-	-	-	-	780	719	-	847	769	-
Stage 2	-	-	-	-	-	-	829	765	-	770	718	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			10.2			11.3		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	700	1431	-	-	1353	-	-	588				
HCM Lane V/C Ratio	0.012	0.002	-	-	0.003	-	-	0.033				
HCM Control Delay (s)	10.2	7.5	0	-	7.7	0	-	11.3				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1				

HCM 6th AWSC
5: Vail Ave & Campbell St

02/21/2019

Intersection

Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	97	25	18	50	11	9	63	6	18	86	27
Future Vol, veh/h	51	97	25	18	50	11	9	63	6	18	86	27
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	6	0	11	3	0	0	8	4
Mvmt Flow	62	118	30	22	61	13	11	77	7	22	105	33
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	9.9	8.9	9.8	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	12%	34%	0%	26%	0%	17%	0%
Vol Thru, %	81%	66%	0%	74%	0%	83%	0%
Vol Right, %	8%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	148	25	68	11	104	27
LT Vol	9	51	0	18	0	18	0
Through Vol	63	97	0	50	0	86	0
RT Vol	6	0	25	0	11	0	27
Lane Flow Rate	95	180	30	83	13	127	33
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.15	0.274	0.039	0.128	0.018	0.194	0.044
Departure Headway (Hd)	5.68	5.464	4.585	5.551	4.814	5.497	4.843
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	628	655	776	643	738	649	735
Service Time	3.745	3.219	2.34	3.315	2.578	3.256	2.601
HCM Lane V/C Ratio	0.151	0.275	0.039	0.129	0.018	0.196	0.045
HCM Control Delay	9.8	10.3	7.5	9.1	7.7	9.6	7.8
HCM Lane LOS	A	B	A	A	A	A	A
HCM 95th-tile Q	0.5	1.1	0.1	0.4	0.1	0.7	0.1

HCM 6th AWSC
6: Vail Ave & Sigwalt St

02/21/2019

Intersection

Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	213	6	10	146	48	11	54	14	67	39	4
Future Vol, veh/h	21	213	6	10	146	48	11	54	14	67	39	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	232	7	11	159	52	12	59	15	73	42	4
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	10.3	9.6	9	9.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	9%	5%	61%
Vol Thru, %	68%	89%	72%	35%
Vol Right, %	18%	3%	24%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	240	204	110
LT Vol	11	21	10	67
Through Vol	54	213	146	39
RT Vol	14	6	48	4
Lane Flow Rate	86	261	222	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.123	0.343	0.286	0.175
Departure Headway (Hd)	5.15	4.73	4.649	5.272
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	757	767	674
Service Time	3.23	2.787	2.708	3.348
HCM Lane V/C Ratio	0.125	0.345	0.289	0.178
HCM Control Delay	9	10.3	9.6	9.5
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	1.5	1.2	0.6

HCM 6th AWSC
7: Ridge Ave & Campbell St

02/21/2019

Intersection

Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	133	23	9	77	14	25	120	9	28	163	40
Future Vol, veh/h	46	133	23	9	77	14	25	120	9	28	163	40
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	1	4	0	4	0	0	1	0	0	1	3
Mvmt Flow	52	151	26	10	88	16	28	136	10	32	185	45
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	10.8	9.5	10	10.9
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	23%	9%	12%
Vol Thru, %	78%	66%	77%	71%
Vol Right, %	6%	11%	14%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	202	100	231
LT Vol	25	46	9	28
Through Vol	120	133	77	163
RT Vol	9	23	14	40
Lane Flow Rate	175	230	114	262
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.332	0.169	0.368
Departure Headway (Hd)	5.215	5.2	5.346	5.043
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	690	691	670	717
Service Time	3.247	3.233	3.384	3.043
HCM Lane V/C Ratio	0.254	0.333	0.17	0.365
HCM Control Delay	10	10.8	9.5	10.9
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	1	1.5	0.6	1.7

HCM 6th TWSC
8: Mitchell Ave & Campbell St

02/21/2019

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	2	3	90	8	9
Future Vol, veh/h	166	2	3	90	8	9
Conflicting Peds, #/hr	0	3	3	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	84	84	84	84	84	84
Heavy Vehicles, %	1	0	0	2	0	0
Mvmt Flow	198	2	4	107	10	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	203
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1381
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1377
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	755	-	-	1377	-
HCM Lane V/C Ratio	0.027	-	-	0.003	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

02/21/2019

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	26	5	18	33	3	13
Future Vol, veh/h	26	5	18	33	3	13
Conflicting Peds, #/hr	0	0	0	0	1	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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	3	0	8
Mvmt Flow	29	5	20	36	3	14

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	34
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1591
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1591
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	994	-	-	1591	-
HCM Lane V/C Ratio	0.018	-	-	0.012	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

02/21/2019

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	21	78	18	6	38	13	10	56	10	13	73	31
Future Vol, veh/h	21	78	18	6	38	13	10	56	10	13	73	31
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	1	0	0	3	0	10	2	10	0	4	3
Mvmt Flow	26	95	22	7	46	16	12	68	12	16	89	38
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	8.5	7.9	8.3	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	18%	11%	11%
Vol Thru, %	74%	67%	67%	62%
Vol Right, %	13%	15%	23%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	117	57	117
LT Vol	10	21	6	13
Through Vol	56	78	38	73
RT Vol	10	18	13	31
Lane Flow Rate	93	143	70	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.12	0.177	0.087	0.173
Departure Headway (Hd)	4.666	4.465	4.491	4.362
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	769	805	798	823
Service Time	2.691	2.488	2.517	2.385
HCM Lane V/C Ratio	0.121	0.178	0.088	0.174
HCM Control Delay	8.3	8.5	7.9	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0.3	0.6

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

02/21/2019

Intersection

Int Delay, s/veh 2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	13	44	10	17	32
Future Vol, veh/h	12	13	44	10	17	32
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	13	14	48	11	18	35

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	125	54	0
Stage 1	54	-	-
Stage 2	71	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	870	1013	-
Stage 1	969	-	-
Stage 2	952	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	860	1013	-
Mov Cap-2 Maneuver	860	-	-
Stage 1	969	-	-
Stage 2	941	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	933	1545
HCM Lane V/C Ratio	-	-	0.029	0.012
HCM Control Delay (s)	-	-	9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
12: Highland Ave & South Garage Ramp

02/21/2019

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	8	0	15	0	39	6	4	40	0
Future Vol, veh/h	0	0	0	8	0	15	0	39	6	4	40	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	0	0	0	9	0	16	0	42	7	4	43	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	97	97	46
Stage 1	46	46	-
Stage 2	51	51	-
Critical Hdwy	6.42	6.52	6.22
Critical Hdwy Stg 1	5.42	5.52	-
Critical Hdwy Stg 2	5.42	5.52	-
Follow-up Hdwy	3.518	4.018	3.318
Pot Cap-1 Maneuver	902	793	1023
Stage 1	976	857	-
Stage 2	971	852	-
Platoon blocked, %			
Mov Cap-1 Maneuver	899	0	1023
Mov Cap-2 Maneuver	899	0	-
Stage 1	976	0	-
Stage 2	968	0	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	976	1558
HCM Lane V/C Ratio	-	-	0.026	0.003
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	39	53	150	43	67
Future Vol, veh/h	153	39	53	150	43	67
Conflicting Peds, #/hr	0	25	25	0	25	25
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	166	42	58	163	47	73

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	233
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1335
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1303
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	614	-	-	1303	-
HCM Lane V/C Ratio	0.195	-	-	0.044	-
HCM Control Delay (s)	12.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	175	13	13	130	40	4	8	7	13	13	30
Future Vol, veh/h	34	175	13	13	130	40	4	8	7	13	13	30
Conflicting Peds, #/hr	25	0	25	25	0	25	25	0	25	25	0	25
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	37	190	14	14	141	43	4	9	8	14	14	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	209	0	0	229	0	0	535	533	247	521	519	213
Stage 1	-	-	-	-	-	-	296	296	-	216	216	-
Stage 2	-	-	-	-	-	-	239	237	-	305	303	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1362	-	-	1339	-	-	456	453	792	466	461	827
Stage 1	-	-	-	-	-	-	712	668	-	786	724	-
Stage 2	-	-	-	-	-	-	764	709	-	705	664	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1330	-	-	1307	-	-	393	413	755	418	420	788
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	413	-	418	420	-
Stage 1	-	-	-	-	-	-	674	632	-	744	698	-
Stage 2	-	-	-	-	-	-	692	683	-	651	628	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.6	12.7	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	489	1330	-	-	1307	-	-	559
HCM Lane V/C Ratio	0.042	0.028	-	-	0.011	-	-	0.109
HCM Control Delay (s)	12.7	7.8	0	-	7.8	0	-	12.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4

HCM 6th TWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	118	9	13	150	43	4	21	19	44	34	35
Future Vol, veh/h	5	118	9	13	150	43	4	21	19	44	34	35
Conflicting Peds, #/hr	25	0	25	25	0	25	25	0	25	25	0	25
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	133	10	15	169	48	4	24	21	49	38	39
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	168	0	0	462	447	188	446	428	243
Stage 1	-	-	-	-	-	-	175	175	-	248	248	-
Stage 2	-	-	-	-	-	-	287	272	-	198	180	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1324	-	-	1410	-	-	510	506	854	523	519	796
Stage 1	-	-	-	-	-	-	827	754	-	756	701	-
Stage 2	-	-	-	-	-	-	720	685	-	804	750	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1292	-	-	1376	-	-	427	474	814	461	486	759
Mov Cap-2 Maneuver	-	-	-	-	-	-	427	474	-	461	486	-
Stage 1	-	-	-	-	-	-	803	732	-	734	676	-
Stage 2	-	-	-	-	-	-	621	660	-	736	728	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.5			11.9			13.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	571	1292	-	-	1376	-	-	534				
HCM Lane V/C Ratio	0.087	0.004	-	-	0.011	-	-	0.238				
HCM Control Delay (s)	11.9	7.8	0	-	7.6	0	-	13.8				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.9				

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

12/18/2020

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	7	108	2	5	156	28	3	3	4	20	7	5
Future Vol, veh/h	7	108	2	5	156	28	3	3	4	20	7	5
Conflicting Peds, #/hr	25	0	25	25	0	25	25	0	25	25	0	25
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	8	117	2	5	170	30	3	3	4	22	8	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	144	0	0	386	394	168	383	380	235
Stage 1	-	-	-	-	-	-	159	159	-	220	220	-
Stage 2	-	-	-	-	-	-	227	235	-	163	160	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1344	-	-	1438	-	-	573	542	876	575	552	804
Stage 1	-	-	-	-	-	-	843	766	-	782	721	-
Stage 2	-	-	-	-	-	-	776	710	-	839	766	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1312	-	-	1404	-	-	532	511	835	538	520	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	532	511	-	538	520	-
Stage 1	-	-	-	-	-	-	817	742	-	758	701	-
Stage 2	-	-	-	-	-	-	741	690	-	806	742	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	613	1312	-	-	1404	-	-	560
HCM Lane V/C Ratio	0.018	0.006	-	-	0.004	-	-	0.062
HCM Control Delay (s)	11	7.8	0	-	7.6	0	-	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

HCM 6th AWSC
5: Vail Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	83	34	39	103	33	32	91	33	35	146	60
Future Vol, veh/h	67	83	34	39	103	33	32	91	33	35	146	60
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	93	38	44	116	37	36	102	37	39	164	67
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	11.3	11	11.8	11.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	21%	45%	0%	27%	0%	19%	0%
Vol Thru, %	58%	55%	0%	73%	0%	81%	0%
Vol Right, %	21%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	150	34	142	33	181	60
LT Vol	32	67	0	39	0	35	0
Through Vol	91	83	0	103	0	146	0
RT Vol	33	0	34	0	33	0	60
Lane Flow Rate	175	169	38	160	37	203	67
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.298	0.3	0.058	0.281	0.056	0.346	0.1
Departure Headway (Hd)	6.117	6.398	5.46	6.331	5.481	6.123	5.317
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	587	561	654	566	652	588	673
Service Time	4.165	4.144	3.206	4.079	3.228	3.866	3.06
HCM Lane V/C Ratio	0.298	0.301	0.058	0.283	0.057	0.345	0.1
HCM Control Delay	11.8	11.9	8.5	11.6	8.6	12.1	8.7
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	1.2	1.3	0.2	1.1	0.2	1.5	0.3

HCM 6th AWSC
6: Vail Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	144	4	15	152	99	15	63	18	79	44	39
Future Vol, veh/h	23	144	4	15	152	99	15	63	18	79	44	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	157	4	16	165	108	16	68	20	86	48	42
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	9.9	10.6	9.3	10.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	13%	6%	49%
Vol Thru, %	66%	84%	57%	27%
Vol Right, %	19%	2%	37%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	171	266	162
LT Vol	15	23	15	79
Through Vol	63	144	152	44
RT Vol	18	4	99	39
Lane Flow Rate	104	186	289	176
Geometry Grp	1	1	1	1
Degree of Util (X)	0.155	0.259	0.376	0.257
Departure Headway (Hd)	5.333	5.122	4.678	5.251
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	706	758	688
Service Time	3.339	3.122	2.772	3.251
HCM Lane V/C Ratio	0.154	0.263	0.381	0.256
HCM Control Delay	9.3	9.9	10.6	10.1
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.5	1	1.8	1

HCM 6th AWSC
7: Ridge Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh 11.7
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	136	34	11	119	22	31	180	11	17	124	61
Future Vol, veh/h	76	136	34	11	119	22	31	180	11	17	124	61
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	149	37	12	131	24	34	198	12	19	136	67
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	12.4	10.7	11.9	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	31%	7%	8%
Vol Thru, %	81%	55%	78%	61%
Vol Right, %	5%	14%	14%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	222	246	152	202
LT Vol	31	76	11	17
Through Vol	180	136	119	124
RT Vol	11	34	22	61
Lane Flow Rate	244	270	167	222
Geometry Grp	1	1	1	1
Degree of Util (X)	0.375	0.413	0.261	0.334
Departure Headway (Hd)	5.538	5.495	5.628	5.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	646	654	636	661
Service Time	3.59	3.546	3.685	3.475
HCM Lane V/C Ratio	0.378	0.413	0.263	0.336
HCM Control Delay	11.9	12.4	10.7	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	2	1	1.5

HCM 6th TWSC
8: Mitchell Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	172	5	8	143	3	8
Future Vol, veh/h	172	5	8	143	3	8
Conflicting Peds, #/hr	0	25	25	0	25	25
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	185	5	9	154	3	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	215
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1355
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1323
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	697	-	-	1323	-
HCM Lane V/C Ratio	0.017	-	-	0.007	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

12/18/2020

Intersection

Int Delay, s/veh 4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	3	46	79	4	71
Future Vol, veh/h	67	3	46	79	4	71
Conflicting Peds, #/hr	0	25	25	0	25	25
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	4	55	94	5	85

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	109
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1481
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1446
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	853	-	-	1446	-
HCM Lane V/C Ratio	0.105	-	-	0.038	-
HCM Control Delay (s)	9.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	80	30	20	93	36	43	127	25	28	107	45
Future Vol, veh/h	32	80	30	20	93	36	43	127	25	28	107	45
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	91	34	23	106	41	49	144	28	32	122	51
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	9.9	9.9	10.4	10.1
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	23%	13%	16%
Vol Thru, %	65%	56%	62%	59%
Vol Right, %	13%	21%	24%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	142	149	180
LT Vol	43	32	20	28
Through Vol	127	80	93	107
RT Vol	25	30	36	45
Lane Flow Rate	222	161	169	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.314	0.234	0.244	0.286
Departure Headway (Hd)	5.096	5.223	5.18	5.038
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	687	694	716
Service Time	3.112	3.254	3.205	3.056
HCM Lane V/C Ratio	0.314	0.234	0.244	0.286
HCM Control Delay	10.4	9.9	9.9	10.1
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.3	0.9	1	1.2

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

12/18/2020

Intersection

Int Delay, s/veh 4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	58	52	8	26	66
Future Vol, veh/h	25	58	52	8	26	66
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	27	63	57	9	28	72

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	190	62	0
Stage 1	62	-	-
Stage 2	128	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	799	1003	-
Stage 1	961	-	-
Stage 2	898	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	784	1003	-
Mov Cap-2 Maneuver	784	-	-
Stage 1	961	-	-
Stage 2	881	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	925	1536
HCM Lane V/C Ratio	-	-	0.098	0.018
HCM Control Delay (s)	-	-	9.3	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

HCM 6th TWSC
12: Highland Ave & South Garage Ramp

12/18/2020

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	32	0	15	0	45	15	11	80	0
Future Vol, veh/h	0	0	0	32	0	15	0	45	15	11	80	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	0	0	0	35	0	16	0	49	16	12	87	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	176	176	87	168	168	57	87	0	0	65	0	0
Stage 1	111	111	-	57	57	-	-	-	-	-	-	-
Stage 2	65	65	-	111	111	-	-	-	-	-	-	-
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	786	717	971	796	725	1009	1509	-	-	1537	-	-
Stage 1	894	804	-	955	847	-	-	-	-	-	-	-
Stage 2	946	841	-	894	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	769	711	971	791	719	1009	1509	-	-	1537	-	-
Mov Cap-2 Maneuver	769	711	-	791	719	-	-	-	-	-	-	-
Stage 1	894	798	-	955	847	-	-	-	-	-	-	-
Stage 2	931	841	-	887	798	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0		9.5		0		0.9					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1509	-	-	-	850	1537	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.06	0.008	-	-				
HCM Control Delay (s)	0	-	-	0	9.5	7.4	0	-				
HCM Lane LOS	A	-	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0	-	-				

Capacity Analysis – Future Conditions

HCM 6th TWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	38	18	94	19	54
Future Vol, veh/h	154	38	18	94	19	54
Conflicting Peds, #/hr	0	60	60	0	60	60
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	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	6	0	0
Mvmt Flow	177	44	21	108	22	62

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	281
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1293
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1219
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	-	-	1219	-
HCM Lane V/C Ratio	0.141	-	-	0.017	-
HCM Control Delay (s)	12.1	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

12/18/2020

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	14	179	7	4	114	6	12	5	6	7	6	8
Future Vol, veh/h	14	179	7	4	114	6	12	5	6	7	6	8
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	15	195	8	4	124	7	13	5	7	8	7	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	263	0	0	493	488	319	491	489	248
Stage 1	-	-	-	-	-	-	289	289	-	196	196	-
Stage 2	-	-	-	-	-	-	204	199	-	295	293	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1383	-	-	1301	-	-	486	480	722	488	480	791
Stage 1	-	-	-	-	-	-	719	673	-	806	739	-
Stage 2	-	-	-	-	-	-	798	736	-	713	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1227	-	-	416	420	642	420	420	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	416	420	-	420	420	-
Stage 1	-	-	-	-	-	-	669	627	-	750	694	-
Stage 2	-	-	-	-	-	-	733	691	-	651	624	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.3			13.3			12.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	459	1304	-	-	1227	-	-	496				
HCM Lane V/C Ratio	0.054	0.012	-	-	0.004	-	-	0.046				
HCM Control Delay (s)	13.3	7.8	0	-	7.9	0	-	12.6				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.2	0	-	-	0	-	-	0.1				

HCM 6th TWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	218	7	14	139	45	17	18	24	60	16	13
Future Vol, veh/h	7	218	7	14	139	45	17	18	24	60	16	13
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	0	2	0	0	1	0	0	0	4	5	0	0
Mvmt Flow	10	311	10	20	199	64	24	26	34	86	23	19
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	323	0	0	381	0	0	748	759	436	757	732	351
Stage 1	-	-	-	-	-	-	396	396	-	331	331	-
Stage 2	-	-	-	-	-	-	352	363	-	426	401	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.24	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.336	3.545	4	3.3
Pot Cap-1 Maneuver	1248	-	-	1189	-	-	331	338	616	320	351	697
Stage 1	-	-	-	-	-	-	633	607	-	676	649	-
Stage 2	-	-	-	-	-	-	669	628	-	601	604	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1177	-	-	1121	-	-	263	291	548	243	303	620
Mov Cap-2 Maneuver	-	-	-	-	-	-	263	291	-	243	303	-
Stage 1	-	-	-	-	-	-	591	567	-	631	599	-
Stage 2	-	-	-	-	-	-	576	580	-	502	564	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.6			18.7			28.4		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	346	1177	-	-	1121	-	-	278				
HCM Lane V/C Ratio	0.244	0.008	-	-	0.018	-	-	0.457				
HCM Control Delay (s)	18.7	8.1	0	-	8.3	0	-	28.4				
HCM Lane LOS	C	A	A	-	A	A	-	D				
HCM 95th %tile O(veh)	0.9	0	-	-	0.1	-	-	2.3				

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

12/18/2020

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	203	3	4	140	13	2	1	5	24	8	5
Future Vol, veh/h	4	203	3	4	140	13	2	1	5	24	8	5
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	4	221	3	4	152	14	2	1	5	26	9	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	226	0	0	284	0	0	525	525	343	521	519	279
Stage 1	-	-	-	-	-	-	291	291	-	227	227	-
Stage 2	-	-	-	-	-	-	234	234	-	294	292	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1342	-	-	1278	-	-	463	458	700	466	461	760
Stage 1	-	-	-	-	-	-	717	672	-	776	716	-
Stage 2	-	-	-	-	-	-	769	711	-	714	671	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1265	-	-	1205	-	-	399	404	622	407	407	676
Mov Cap-2 Maneuver	-	-	-	-	-	-	399	404	-	407	407	-
Stage 1	-	-	-	-	-	-	673	631	-	729	672	-
Stage 2	-	-	-	-	-	-	707	668	-	664	630	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			12.1			14.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	515	1265	-	-	1205	-	-	430				
HCM Lane V/C Ratio	0.017	0.003	-	-	0.004	-	-	0.094				
HCM Control Delay (s)	12.1	7.9	0	-	8	0	-	14.2				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0.3				

HCM 6th AWSC
5: Vail Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	117	26	19	57	11	9	66	6	19	89	28
Future Vol, veh/h	65	117	26	19	57	11	9	66	6	19	89	28
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	6	0	11	3	0	0	8	4
Mvmt Flow	79	143	32	23	70	13	11	80	7	23	109	34
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	10.7	9.2	10	9.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	11%	36%	0%	25%	0%	18%	0%
Vol Thru, %	81%	64%	0%	75%	0%	82%	0%
Vol Right, %	7%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	182	26	76	11	108	28
LT Vol	9	65	0	19	0	19	0
Through Vol	66	117	0	57	0	89	0
RT Vol	6	0	26	0	11	0	28
Lane Flow Rate	99	222	32	93	13	132	34
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.16	0.34	0.041	0.145	0.018	0.207	0.047
Departure Headway (Hd)	5.841	5.522	4.637	5.636	4.906	5.652	4.995
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	609	648	766	631	722	631	711
Service Time	3.922	3.288	2.402	3.417	2.686	3.425	2.768
HCM Lane V/C Ratio	0.163	0.343	0.042	0.147	0.018	0.209	0.048
HCM Control Delay	10	11.1	7.6	9.4	7.8	9.9	8
HCM Lane LOS	A	B	A	A	A	A	A
HCM 95th-tile Q	0.6	1.5	0.1	0.5	0.1	0.8	0.1

HCM 6th AWSC
6: Vail Ave & Sigwalt St

12/18/2020

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	272	6	10	171	50	11	56	15	70	41	4
Future Vol, veh/h	22	272	6	10	171	50	11	56	15	70	41	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	296	7	11	186	54	12	61	16	76	45	4
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	11.6	10.3	9.4	10
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	7%	4%	61%
Vol Thru, %	68%	91%	74%	36%
Vol Right, %	18%	2%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	300	231	115
LT Vol	11	22	10	70
Through Vol	56	272	171	41
RT Vol	15	6	50	4
Lane Flow Rate	89	326	251	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.436	0.334	0.195
Departure Headway (Hd)	5.509	4.813	4.784	5.621
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	740	741	642
Service Time	3.514	2.902	2.879	3.623
HCM Lane V/C Ratio	0.136	0.441	0.339	0.195
HCM Control Delay	9.4	11.6	10.3	10
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.5	2.2	1.5	0.7

HCM 6th AWSC
7: Ridge Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	140	24	9	85	20	26	125	9	30	170	42
Future Vol, veh/h	48	140	24	9	85	20	26	125	9	30	170	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	1	4	0	4	0	0	1	0	0	1	3
Mvmt Flow	55	159	27	10	97	23	30	142	10	34	193	48
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	11.2	9.8	10.3	11.4
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	23%	8%	12%
Vol Thru, %	78%	66%	75%	70%
Vol Right, %	6%	11%	18%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	212	114	242
LT Vol	26	48	9	30
Through Vol	125	140	85	170
RT Vol	9	24	20	42
Lane Flow Rate	182	241	130	275
Geometry Grp	1	1	1	1
Degree of Util (X)	0.27	0.355	0.195	0.391
Departure Headway (Hd)	5.339	5.304	5.426	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	677	661	701
Service Time	3.374	3.338	3.466	3.157
HCM Lane V/C Ratio	0.27	0.356	0.197	0.392
HCM Control Delay	10.3	11.2	9.8	11.4
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.1	1.6	0.7	1.9

HCM 6th TWSC
8: Mitchell Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	176	2	3	105	8	9
Future Vol, veh/h	176	2	3	105	8	9
Conflicting Peds, #/hr	0	60	60	0	60	60
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	84	84	84	84	84	84
Heavy Vehicles, %	1	0	0	2	0	0
Mvmt Flow	210	2	4	125	10	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	272
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1303
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1229
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	562	-	-	1229	-
HCM Lane V/C Ratio	0.036	-	-	0.003	-
HCM Control Delay (s)	11.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

12/18/2020

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	5	20	34	3	15
Future Vol, veh/h	27	5	20	34	3	15
Conflicting Peds, #/hr	0	60	60	0	60	60
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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	3	0	8
Mvmt Flow	30	5	22	37	3	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	95
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1512
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1426
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	759	-	-	1426	-
HCM Lane V/C Ratio	0.026	-	-	0.015	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

12/18/2020

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	22	97	19	6	45	14	10	58	10	14	76	32
Future Vol, veh/h	22	97	19	6	45	14	10	58	10	14	76	32
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	1	0	0	3	0	10	2	10	0	4	3
Mvmt Flow	27	118	23	7	55	17	12	71	12	17	93	39
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	8.7	8.1	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	16%	9%	11%
Vol Thru, %	74%	70%	69%	62%
Vol Right, %	13%	14%	22%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	138	65	122
LT Vol	10	22	6	14
Through Vol	58	97	45	76
RT Vol	10	19	14	32
Lane Flow Rate	95	168	79	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.211	0.1	0.184
Departure Headway (Hd)	4.765	4.511	4.555	4.456
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	796	786	805
Service Time	2.796	2.54	2.589	2.484
HCM Lane V/C Ratio	0.126	0.211	0.101	0.185
HCM Control Delay	8.5	8.7	8.1	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.3	0.7

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

12/18/2020

Intersection

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	14	60	10	18	35
Future Vol, veh/h	12	14	60	10	18	35
Conflicting Peds, #/hr	60	60	0	60	60	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	13	15	65	11	20	38

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	269	191	0
Stage 1	131	-	-
Stage 2	138	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	720	851	-
Stage 1	895	-	-
Stage 2	889	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	631	757	-
Mov Cap-2 Maneuver	631	-	-
Stage 1	844	-	-
Stage 2	826	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	693	1365
HCM Lane V/C Ratio	-	-	0.041	0.014
HCM Control Delay (s)	-	-	10.4	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
12: Highland Ave & South Garage Ramp

12/18/2020

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	0	50	8	0	16	12	50	6	4	43	1
Future Vol, veh/h	12	0	50	8	0	16	12	50	6	4	43	1
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	54	9	0	17	13	54	7	4	47	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	268	263	168	287	260	178	108	0	0	121	0	0
Stage 1	116	116	-	144	144	-	-	-	-	-	-	-
Stage 2	152	147	-	143	116	-	-	-	-	-	-	-
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	685	642	876	665	645	865	1483	-	-	1467	-	-
Stage 1	889	800	-	859	778	-	-	-	-	-	-	-
Stage 2	850	775	-	860	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	589	564	779	545	566	769	1398	-	-	1383	-	-
Mov Cap-2 Maneuver	589	564	-	545	566	-	-	-	-	-	-	-
Stage 1	829	752	-	801	727	-	-	-	-	-	-	-
Stage 2	775	724	-	752	752	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	10.4		10.5			1.3			0.6			
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1398	-	-	733	676	1383	-	-				
HCM Lane V/C Ratio	0.009	-	-	0.092	0.039	0.003	-	-				
HCM Control Delay (s)	7.6	0	-	10.4	10.5	7.6	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile O(veh)	0	-	-	0.3	0.1	0	-	-				

HCM 6th TWSC
13: Proposed Access & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	179	2	0	121	3	2
Future Vol, veh/h	179	2	0	121	3	2
Conflicting Peds, #/hr	0	60	60	0	60	60
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	195	2	0	132	3	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	257
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1308
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1233
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	553	-	-	1233	-
HCM Lane V/C Ratio	0.01	-	-	-	-
HCM Control Delay (s)	11.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
14: Chestnut Ave & Exit Access

12/18/2020

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	18	0	0	17
Future Vol, veh/h	0	5	18	0	0	17
Conflicting Peds, #/hr	60	60	0	60	60	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	0	5	20	0	0	18

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	80	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	980	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	924	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 924	-
HCM Lane V/C Ratio	- 0.006	-
HCM Control Delay (s)	- 8.9	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th TWSC
15: Chestnut Ave & 33 S Chestnut Access

12/18/2020

Intersection

Int Delay, s/veh 4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	8	10	5	3	14
Future Vol, veh/h	18	8	10	5	3	14
Conflicting Peds, #/hr	60	60	0	60	60	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	20	9	11	5	3	15

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	155	134	0
Stage 1	74	-	-
Stage 2	81	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	836	915	-
Stage 1	949	-	-
Stage 2	942	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	742	813	-
Mov Cap-2 Maneuver	742	-	-
Stage 1	895	-	-
Stage 2	886	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	762	1436
HCM Lane V/C Ratio	-	-	0.037	0.002
HCM Control Delay (s)	-	-	9.9	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	46	73	160	45	77
Future Vol, veh/h	164	46	73	160	45	77
Conflicting Peds, #/hr	0	60	60	0	60	60
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	178	50	79	174	49	84

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	288
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1274
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1201
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	493	-	-	1201	-
HCM Lane V/C Ratio	0.269	-	-	0.066	-
HCM Control Delay (s)	15	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.2	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

12/18/2020

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	35	191	17	24	136	42	11	9	9	14	16	31
Future Vol, veh/h	35	191	17	24	136	42	11	9	9	14	16	31
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	38	208	18	26	148	46	12	10	10	15	17	34
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	254	0	0	286	0	0	662	659	337	646	645	291
Stage 1	-	-	-	-	-	-	353	353	-	283	283	-
Stage 2	-	-	-	-	-	-	309	306	-	363	362	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1311	-	-	1276	-	-	375	384	705	385	391	748
Stage 1	-	-	-	-	-	-	664	631	-	724	677	-
Stage 2	-	-	-	-	-	-	701	662	-	656	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1236	-	-	1203	-	-	290	322	627	315	328	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	322	-	315	328	-
Stage 1	-	-	-	-	-	-	604	574	-	659	623	-
Stage 2	-	-	-	-	-	-	595	609	-	578	569	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1			15.9			14.7		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	361	1236	-	-	1203	-	-	436				
HCM Lane V/C Ratio	0.087	0.031	-	-	0.022	-	-	0.152				
HCM Control Delay (s)	15.9	8	0	-	8.1	0	-	14.7				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.3	0.1	-	-	0.1	-	-	0.5				

HCM 6th TWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Int Delay, s/veh 7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	135	11	14	201	93	7	31	20	72	41	41
Future Vol, veh/h	14	135	11	14	201	93	7	31	20	72	41	41
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	152	12	16	226	104	8	35	22	81	46	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	224	0	0	666	672	278	649	626	398
Stage 1	-	-	-	-	-	-	250	250	-	370	370	-
Stage 2	-	-	-	-	-	-	416	422	-	279	256	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1169	-	-	1345	-	-	373	377	761	383	401	652
Stage 1	-	-	-	-	-	-	754	700	-	650	620	-
Stage 2	-	-	-	-	-	-	614	588	-	728	696	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1102	-	-	1268	-	-	267	325	677	295	345	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	325	-	295	345	-
Stage 1	-	-	-	-	-	-	700	650	-	603	575	-
Stage 2	-	-	-	-	-	-	482	546	-	618	646	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.4	16.3	24.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	384	1102	-	-	1268	-	-	355
HCM Lane V/C Ratio	0.17	0.014	-	-	0.012	-	-	0.487
HCM Control Delay (s)	16.3	8.3	0	-	7.9	0	-	24.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	2.6

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

12/18/2020

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	121	2	5	167	44	3	3	4	35	7	9
Future Vol, veh/h	10	121	2	5	167	44	3	3	4	35	7	9
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	132	2	5	182	48	3	3	4	38	8	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	290	0	0	194	0	0	500	515	253	495	492	326
Stage 1	-	-	-	-	-	-	215	215	-	276	276	-
Stage 2	-	-	-	-	-	-	285	300	-	219	216	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1272	-	-	1379	-	-	481	464	786	485	478	715
Stage 1	-	-	-	-	-	-	787	725	-	730	682	-
Stage 2	-	-	-	-	-	-	722	666	-	783	724	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1199	-	-	1300	-	-	411	407	699	421	419	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	407	-	421	419	-
Stage 1	-	-	-	-	-	-	734	677	-	681	640	-
Stage 2	-	-	-	-	-	-	660	625	-	723	676	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.2			12.5			14.2		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	490	1199	-	-	1300	-	-	447				
HCM Lane V/C Ratio	0.022	0.009	-	-	0.004	-	-	0.124				
HCM Control Delay (s)	12.5	8	0	-	7.8	0	-	14.2				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0.4				

HCM 6th AWSC
5: Vail Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh 12.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	110	54	44	143	47	33	96	34	36	152	66
Future Vol, veh/h	64	110	54	44	143	47	33	96	34	36	152	66
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	124	61	49	161	53	37	108	38	40	171	74
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	12.2	12.5	12.9	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	20%	37%	0%	24%	0%	19%	0%
Vol Thru, %	59%	63%	0%	76%	0%	81%	0%
Vol Right, %	21%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	174	54	187	47	188	66
LT Vol	33	64	0	44	0	36	0
Through Vol	96	110	0	143	0	152	0
RT Vol	34	0	54	0	47	0	66
Lane Flow Rate	183	196	61	210	53	211	74
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.333	0.36	0.097	0.382	0.084	0.383	0.118
Departure Headway (Hd)	6.546	6.63	5.73	6.551	5.718	6.527	5.719
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	540	621	546	623	549	623
Service Time	4.622	4.402	3.501	4.323	3.49	4.296	3.487
HCM Lane V/C Ratio	0.335	0.363	0.098	0.385	0.085	0.384	0.119
HCM Control Delay	12.9	13.1	9.1	13.4	9	13.3	9.3
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	1.5	1.6	0.3	1.8	0.3	1.8	0.4

HCM 6th AWSC
6: Vail Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	186	4	16	218	103	16	66	19	82	46	41
Future Vol, veh/h	24	186	4	16	218	103	16	66	19	82	46	41
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	26	202	4	17	237	112	17	72	21	89	50	45
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	11.2	13	10	10.9
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	11%	5%	49%
Vol Thru, %	65%	87%	65%	27%
Vol Right, %	19%	2%	31%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	214	337	169
LT Vol	16	24	16	82
Through Vol	66	186	218	46
RT Vol	19	4	103	41
Lane Flow Rate	110	233	366	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.344	0.506	0.287
Departure Headway (Hd)	5.743	5.326	4.969	5.628
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	624	675	725	637
Service Time	3.791	3.364	3.002	3.671
HCM Lane V/C Ratio	0.176	0.345	0.505	0.289
HCM Control Delay	10	11.2	13	10.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.6	1.5	2.9	1.2

HCM 6th AWSC
7: Ridge Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh 12.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	149	35	11	128	26	32	187	11	22	129	63
Future Vol, veh/h	79	149	35	11	128	26	32	187	11	22	129	63
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	164	38	12	141	29	35	205	12	24	142	69
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	13.3	11.2	12.6	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	30%	7%	10%
Vol Thru, %	81%	57%	78%	60%
Vol Right, %	5%	13%	16%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	263	165	214
LT Vol	32	79	11	22
Through Vol	187	149	128	129
RT Vol	11	35	26	63
Lane Flow Rate	253	289	181	235
Geometry Grp	1	1	1	1
Degree of Util (X)	0.4	0.452	0.29	0.365
Departure Headway (Hd)	5.699	5.627	5.766	5.584
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	636	618	640
Service Time	3.766	3.692	3.841	3.652
HCM Lane V/C Ratio	0.402	0.454	0.293	0.367
HCM Control Delay	12.6	13.3	11.2	11.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	2.3	1.2	1.7

HCM 6th TWSC
8: Mitchell Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	191	5	8	156	3	8
Future Vol, veh/h	191	5	8	156	3	8
Conflicting Peds, #/hr	0	60	60	0	60	60
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	5	9	168	3	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	270
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1293
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1219
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1219	-
HCM Lane V/C Ratio	0.021	-	-	0.007	-
HCM Control Delay (s)	11.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

12/18/2020

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	4	49	81	8	75
Future Vol, veh/h	69	4	49	81	8	75
Conflicting Peds, #/hr	0	60	60	0	60	60
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	5	58	96	10	89

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	147
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1435
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1353
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1353	-
HCM Lane V/C Ratio	0.139	-	-	0.043	-
HCM Control Delay (s)	10.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	94	31	21	115	37	45	132	26	29	111	47
Future Vol, veh/h	33	94	31	21	115	37	45	132	26	29	111	47
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	107	35	24	131	42	51	150	30	33	126	53
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	10.4	10.5	11	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	21%	12%	16%
Vol Thru, %	65%	59%	66%	59%
Vol Right, %	13%	20%	21%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	158	173	187
LT Vol	45	33	21	29
Through Vol	132	94	115	111
RT Vol	26	31	37	47
Lane Flow Rate	231	180	197	212
Geometry Grp	1	1	1	1
Degree of Util (X)	0.337	0.267	0.29	0.307
Departure Headway (Hd)	5.259	5.362	5.307	5.204
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	670	676	691
Service Time	3.293	3.4	3.344	3.239
HCM Lane V/C Ratio	0.338	0.269	0.291	0.307
HCM Control Delay	11	10.4	10.5	10.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.5	1.1	1.2	1.3

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

12/18/2020

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	60	61	8	27	80
Future Vol, veh/h	26	60	61	8	27	80
Conflicting Peds, #/hr	60	60	0	60	60	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	28	65	66	9	29	87

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	336	191	0
Stage 1	131	-	-
Stage 2	205	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	659	851	-
Stage 1	895	-	-
Stage 2	829	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	573	757	-
Mov Cap-2 Maneuver	573	-	-
Stage 1	844	-	-
Stage 2	764	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	690	1366
HCM Lane V/C Ratio	-	-	0.135	0.021
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

HCM 6th TWSC
12: Highland Ave & South Garage Ramp

12/18/2020

Intersection												
Int Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	29	33	0	16	35	74	16	11	89	15
Future Vol, veh/h	6	0	29	33	0	16	35	74	16	11	89	15
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	7	0	32	36	0	17	38	80	17	12	97	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	422	422	225	430	422	209	173	0	0	157	0	0
Stage 1	189	189	-	225	225	-	-	-	-	-	-	-
Stage 2	233	233	-	205	197	-	-	-	-	-	-	-
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	542	523	814	535	523	831	1404	-	-	1423	-	-
Stage 1	813	744	-	778	718	-	-	-	-	-	-	-
Stage 2	770	712	-	797	738	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	456	447	724	441	447	739	1324	-	-	1342	-	-
Mov Cap-2 Maneuver	456	447	-	441	447	-	-	-	-	-	-	-
Stage 1	744	695	-	712	657	-	-	-	-	-	-	-
Stage 2	688	651	-	712	689	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		12.9		2.2		0.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1324	-	-	658	508	1342	-	-				
HCM Lane V/C Ratio	0.029	-	-	0.058	0.105	0.009	-	-				
HCM Control Delay (s)	7.8	0	-	10.8	12.9	7.7	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0	-	-				

HCM 6th TWSC
13: Proposed Access & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	206	8	1	193	8	7
Future Vol, veh/h	206	8	1	193	8	7
Conflicting Peds, #/hr	0	60	60	0	60	60
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	224	9	1	210	9	8

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	293
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1269
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1196
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	504	-	-	1196	-
HCM Lane V/C Ratio	0.032	-	-	0.001	-
HCM Control Delay (s)	12.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
14: Chestnut Ave & Exit Access

12/18/2020

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	24	0	0	57
Future Vol, veh/h	0	5	24	0	0	57
Conflicting Peds, #/hr	60	60	0	60	60	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	0	5	26	0	0	62

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	86	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	973	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	917	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 917	-
HCM Lane V/C Ratio	- 0.006	-
HCM Control Delay (s)	- 8.9	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th TWSC
15: Chestnut Ave & 33 S Chestnut Access

12/18/2020

Intersection

Int Delay, s/veh 2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	4	20	18	8	49
Future Vol, veh/h	11	4	20	18	8	49
Conflicting Peds, #/hr	60	60	0	60	60	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	12	4	22	20	9	53

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	223	152	0
Stage 1	92	-	-
Stage 2	131	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	765	894	-
Stage 1	932	-	-
Stage 2	895	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	675	795	-
Mov Cap-2 Maneuver	675	-	-
Stage 1	879	-	-
Stage 2	838	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	703	1405
HCM Lane V/C Ratio	-	-	0.023	0.006
HCM Control Delay (s)	-	-	10.2	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th AWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	38	18	94	19	54
Future Vol, veh/h	154	38	18	94	19	54
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	0	6	0	0
Mvmt Flow	177	44	21	108	22	62
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.1	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	26%	0%	16%
Vol Thru, %	0%	80%	84%
Vol Right, %	74%	20%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	73	192	112
LT Vol	19	0	18
Through Vol	0	154	94
RT Vol	54	38	0
Lane Flow Rate	84	221	129
Geometry Grp	1	1	1
Degree of Util (X)	0.099	0.247	0.152
Departure Headway (Hd)	4.259	4.027	4.25
Convergence, Y/N	Yes	Yes	Yes
Cap	847	878	830
Service Time	2.259	2.109	2.344
HCM Lane V/C Ratio	0.099	0.252	0.155
HCM Control Delay	7.7	8.5	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1	0.5

HCM 6th AWSC

3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	218	7	14	139	45	17	18	24	60	16	13
Future Vol, veh/h	7	218	7	14	139	45	17	18	24	60	16	13
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	2	0	0	1	0	0	0	4	5	0	0
Mvmt Flow	10	311	10	20	199	64	24	26	34	86	23	19
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	11.7	10.7	9.3	10.1
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	3%	7%	67%
Vol Thru, %	31%	94%	70%	18%
Vol Right, %	41%	3%	23%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	232	198	89
LT Vol	17	7	14	60
Through Vol	18	218	139	16
RT Vol	24	7	45	13
Lane Flow Rate	84	331	283	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.441	0.373	0.201
Departure Headway (Hd)	5.457	4.792	4.746	5.684
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	660	742	747	634
Service Time	3.463	2.888	2.845	3.688
HCM Lane V/C Ratio	0.127	0.446	0.379	0.2
HCM Control Delay	9.3	11.7	10.7	10.1
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.4	2.3	1.7	0.7

HCM 6th AWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	46	73	160	45	77
Future Vol, veh/h	164	46	73	160	45	77
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	178	50	79	174	49	84
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.1	9.7	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	37%	0%	31%
Vol Thru, %	0%	78%	69%
Vol Right, %	63%	22%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	122	210	233
LT Vol	45	0	73
Through Vol	0	164	160
RT Vol	77	46	0
Lane Flow Rate	133	228	253
Geometry Grp	1	1	1
Degree of Util (X)	0.173	0.279	0.321
Departure Headway (Hd)	4.699	4.403	4.56
Convergence, Y/N	Yes	Yes	Yes
Cap	763	815	788
Service Time	2.737	2.434	2.591
HCM Lane V/C Ratio	0.174	0.28	0.321
HCM Control Delay	8.7	9.1	9.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.1	1.4

HCM 6th AWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh 10.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	135	11	14	201	93	7	31	20	72	41	41
Future Vol, veh/h	14	135	11	14	201	93	7	31	20	72	41	41
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	152	12	16	226	104	8	35	22	81	46	46
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	9.6	11.3	8.9	10
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	9%	5%	47%
Vol Thru, %	53%	84%	65%	27%
Vol Right, %	34%	7%	30%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	160	308	154
LT Vol	7	14	14	72
Through Vol	31	135	201	41
RT Vol	20	11	93	41
Lane Flow Rate	65	180	346	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.246	0.442	0.249
Departure Headway (Hd)	5.331	4.931	4.598	5.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	721	775	687
Service Time	3.331	3.017	2.67	3.261
HCM Lane V/C Ratio	0.096	0.25	0.446	0.252
HCM Control Delay	8.9	9.6	11.3	10
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.3	1	2.3	1

HCM 6th TWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	38	18	94	19	54
Future Vol, veh/h	154	38	18	94	19	54
Conflicting Peds, #/hr	0	60	60	0	60	60
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	87	87	87	87	87	87
Heavy Vehicles, %	0	3	0	6	0	0
Mvmt Flow	177	44	21	108	22	62

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	281
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1293
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1219
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	-	-	1219	-
HCM Lane V/C Ratio	0.141	-	-	0.017	-
HCM Control Delay (s)	12.1	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

12/18/2020

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	14	180	6	3	114	6	12	5	6	8	5	8
Future Vol, veh/h	14	180	6	3	114	6	12	5	6	8	5	8
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	15	196	7	3	124	7	13	5	7	9	5	9
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	263	0	0	491	487	320	490	487	248
Stage 1	-	-	-	-	-	-	290	290	-	194	194	-
Stage 2	-	-	-	-	-	-	201	197	-	296	293	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1383	-	-	1301	-	-	488	481	721	489	481	791
Stage 1	-	-	-	-	-	-	718	672	-	808	740	-
Stage 2	-	-	-	-	-	-	801	738	-	712	670	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	1227	-	-	419	421	641	421	421	703
Mov Cap-2 Maneuver	-	-	-	-	-	-	419	421	-	421	421	-
Stage 1	-	-	-	-	-	-	668	626	-	752	696	-
Stage 2	-	-	-	-	-	-	738	694	-	650	624	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			0.2			13.3			12.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	461	1304	-	-	1227	-	-	497				
HCM Lane V/C Ratio	0.054	0.012	-	-	0.003	-	-	0.046				
HCM Control Delay (s)	13.3	7.8	0	-	7.9	0	-	12.6				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.2	0	-	-	0	-	-	0.1				

HCM 6th TWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	206	4	14	139	45	17	18	24	72	19	16
Future Vol, veh/h	8	206	4	14	139	45	17	18	24	72	19	16
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	70	70	70	70	70	70	70	70	70	70	70	70
Heavy Vehicles, %	0	2	0	0	1	0	0	0	4	5	0	0
Mvmt Flow	11	294	6	20	199	64	24	26	34	103	27	23
Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	323	0	0	360	0	0	735	742	417	740	713	351
Stage 1	-	-	-	-	-	-	379	379	-	331	331	-
Stage 2	-	-	-	-	-	-	356	363	-	409	382	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.24	7.15	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.336	3.545	4	3.3
Pot Cap-1 Maneuver	1248	-	-	1210	-	-	338	346	632	329	360	697
Stage 1	-	-	-	-	-	-	647	618	-	676	649	-
Stage 2	-	-	-	-	-	-	666	628	-	613	616	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1177	-	-	1141	-	-	264	298	562	250	310	620
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	298	-	250	310	-
Stage 1	-	-	-	-	-	-	603	577	-	630	599	-
Stage 2	-	-	-	-	-	-	565	580	-	513	575	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	0.3		0.6		18.4		31.3					
HCM LOS					C		D					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	352	1177	-	-	1141	-	-	285				
HCM Lane V/C Ratio	0.239	0.01	-	-	0.018	-	-	0.536				
HCM Control Delay (s)	18.4	8.1	0	-	8.2	0	-	31.3				
HCM Lane LOS	C	A	A	-	A	A	-	D				
HCM 95th %tile O(veh)	0.9	0	-	-	0.1	-	-	2.9				

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

12/18/2020

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	204	3	4	143	9	2	1	5	9	8	2
Future Vol, veh/h	3	204	3	4	143	9	2	1	5	9	8	2
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	3	222	3	4	155	10	2	1	5	10	9	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	285	0	0	524	523	344	521	519	280
Stage 1	-	-	-	-	-	-	290	290	-	228	228	-
Stage 2	-	-	-	-	-	-	234	233	-	293	291	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1344	-	-	1277	-	-	464	459	699	466	461	759
Stage 1	-	-	-	-	-	-	718	672	-	775	715	-
Stage 2	-	-	-	-	-	-	769	712	-	715	672	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1204	-	-	402	405	621	408	407	675
Mov Cap-2 Maneuver	-	-	-	-	-	-	402	405	-	408	407	-
Stage 1	-	-	-	-	-	-	675	632	-	729	671	-
Stage 2	-	-	-	-	-	-	711	669	-	665	632	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			12.1			13.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	516	1267	-	-	1204	-	-	425
HCM Lane V/C Ratio	0.017	0.003	-	-	0.004	-	-	0.049
HCM Control Delay (s)	12.1	7.8	0	-	8	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

HCM 6th AWSC
5: Vail Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	117	26	19	57	11	9	66	6	19	89	28
Future Vol, veh/h	65	117	26	19	57	11	9	66	6	19	89	28
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	0	0	6	0	11	3	0	0	8	4
Mvmt Flow	79	143	32	23	70	13	11	80	7	23	109	34
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	10.7	9.2	10	9.5
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	11%	36%	0%	25%	0%	18%	0%
Vol Thru, %	81%	64%	0%	75%	0%	82%	0%
Vol Right, %	7%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	81	182	26	76	11	108	28
LT Vol	9	65	0	19	0	19	0
Through Vol	66	117	0	57	0	89	0
RT Vol	6	0	26	0	11	0	28
Lane Flow Rate	99	222	32	93	13	132	34
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.16	0.34	0.041	0.145	0.018	0.207	0.047
Departure Headway (Hd)	5.841	5.522	4.637	5.636	4.906	5.652	4.995
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	609	648	766	631	722	631	711
Service Time	3.922	3.288	2.402	3.417	2.686	3.425	2.768
HCM Lane V/C Ratio	0.163	0.343	0.042	0.147	0.018	0.209	0.048
HCM Control Delay	10	11.1	7.6	9.4	7.8	9.9	8
HCM Lane LOS	A	B	A	A	A	A	A
HCM 95th-tile Q	0.6	1.5	0.1	0.5	0.1	0.8	0.1

HCM 6th AWSC
6: Vail Ave & Sigwalt St

12/18/2020

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	272	6	10	171	50	11	56	15	70	41	4
Future Vol, veh/h	22	272	6	10	171	50	11	56	15	70	41	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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	296	7	11	186	54	12	61	16	76	45	4
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	11.6	10.3	9.4	10
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	7%	4%	61%
Vol Thru, %	68%	91%	74%	36%
Vol Right, %	18%	2%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	300	231	115
LT Vol	11	22	10	70
Through Vol	56	272	171	41
RT Vol	15	6	50	4
Lane Flow Rate	89	326	251	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.136	0.436	0.334	0.195
Departure Headway (Hd)	5.509	4.813	4.784	5.621
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	740	741	642
Service Time	3.514	2.902	2.879	3.623
HCM Lane V/C Ratio	0.136	0.441	0.339	0.195
HCM Control Delay	9.4	11.6	10.3	10
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.5	2.2	1.5	0.7

HCM 6th AWSC
7: Ridge Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	140	24	9	85	20	26	125	9	30	170	42
Future Vol, veh/h	48	140	24	9	85	20	26	125	9	30	170	42
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	1	4	0	4	0	0	1	0	0	1	3
Mvmt Flow	55	159	27	10	97	23	30	142	10	34	193	48
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	11.2	9.8	10.3	11.4
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	23%	8%	12%
Vol Thru, %	78%	66%	75%	70%
Vol Right, %	6%	11%	18%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	212	114	242
LT Vol	26	48	9	30
Through Vol	125	140	85	170
RT Vol	9	24	20	42
Lane Flow Rate	182	241	130	275
Geometry Grp	1	1	1	1
Degree of Util (X)	0.27	0.355	0.195	0.391
Departure Headway (Hd)	5.339	5.304	5.426	5.124
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	677	661	701
Service Time	3.374	3.338	3.466	3.157
HCM Lane V/C Ratio	0.27	0.356	0.197	0.392
HCM Control Delay	10.3	11.2	9.8	11.4
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.1	1.6	0.7	1.9

HCM 6th TWSC
8: Mitchell Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	176	2	3	105	8	9
Future Vol, veh/h	176	2	3	105	8	9
Conflicting Peds, #/hr	0	60	60	0	60	60
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	84	84	84	84	84	84
Heavy Vehicles, %	1	0	0	2	0	0
Mvmt Flow	210	2	4	125	10	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	272
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1303
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1229
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	562	-	-	1229	-
HCM Lane V/C Ratio	0.036	-	-	0.003	-
HCM Control Delay (s)	11.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

12/18/2020

Intersection

Int Delay, s/veh 3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	27	5	20	34	3	15
Future Vol, veh/h	27	5	20	34	3	15
Conflicting Peds, #/hr	0	60	60	0	60	60
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	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	3	0	8
Mvmt Flow	30	5	22	37	3	16

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	95
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1512
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1426
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	759	-	-	1426	-
HCM Lane V/C Ratio	0.026	-	-	0.015	-
HCM Control Delay (s)	9.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

12/18/2020

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	22	97	19	6	45	14	10	58	10	14	76	32
Future Vol, veh/h	22	97	19	6	45	14	10	58	10	14	76	32
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	1	0	0	3	0	10	2	10	0	4	3
Mvmt Flow	27	118	23	7	55	17	12	71	12	17	93	39
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	8.7	8.1	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	16%	9%	11%
Vol Thru, %	74%	70%	69%	62%
Vol Right, %	13%	14%	22%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	138	65	122
LT Vol	10	22	6	14
Through Vol	58	97	45	76
RT Vol	10	19	14	32
Lane Flow Rate	95	168	79	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.211	0.1	0.184
Departure Headway (Hd)	4.765	4.511	4.555	4.456
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	752	796	786	805
Service Time	2.796	2.54	2.589	2.484
HCM Lane V/C Ratio	0.126	0.211	0.101	0.185
HCM Control Delay	8.5	8.7	8.1	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.3	0.7

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

12/18/2020

Intersection

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	14	60	10	18	35
Future Vol, veh/h	12	14	60	10	18	35
Conflicting Peds, #/hr	60	60	0	60	60	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	13	15	65	11	20	38

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	269	191	0
Stage 1	131	-	-
Stage 2	138	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	720	851	-
Stage 1	895	-	-
Stage 2	889	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	631	757	-
Mov Cap-2 Maneuver	631	-	-
Stage 1	844	-	-
Stage 2	826	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	2.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	693	1365
HCM Lane V/C Ratio	-	-	0.041	0.014
HCM Control Delay (s)	-	-	10.4	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
12: Highland Ave & South Garage Ramp

12/18/2020

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	68	8	0	16	12	50	6	4	43	1
Future Vol, veh/h	12	0	68	8	0	16	12	50	6	4	43	1
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	74	9	0	17	13	54	7	4	47	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	268	263	168	297	260	178	108	0	0	121	0	0
Stage 1	116	116	-	144	144	-	-	-	-	-	-	-
Stage 2	152	147	-	153	116	-	-	-	-	-	-	-
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	685	642	876	655	645	865	1483	-	-	1467	-	-
Stage 1	889	800	-	859	778	-	-	-	-	-	-	-
Stage 2	850	775	-	849	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	589	564	779	522	566	769	1398	-	-	1383	-	-
Mov Cap-2 Maneuver	589	564	-	522	566	-	-	-	-	-	-	-
Stage 1	829	752	-	801	727	-	-	-	-	-	-	-
Stage 2	775	724	-	722	752	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		10.6		1.3		0.6	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1398	-	-	743	664	1383	-
HCM Lane V/C Ratio	0.009	-	-	0.117	0.039	0.003	-
HCM Control Delay (s)	7.6	0	-	10.5	10.6	7.6	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.4	0.1	0	-

HCM 6th TWSC
13: Proposed Access & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	179	4	1	120	3	2
Future Vol, veh/h	179	4	1	120	3	2
Conflicting Peds, #/hr	0	60	60	0	60	60
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	195	4	1	130	3	2

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	259
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1306
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1231
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	552	-	-	1231	-
HCM Lane V/C Ratio	0.01	-	-	0.001	-
HCM Control Delay (s)	11.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
14: Chestnut Ave & Exit Access

12/18/2020

Intersection

Int Delay, s/veh 3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	13	10	0	0	14
Future Vol, veh/h	0	13	10	0	0	14
Conflicting Peds, #/hr	60	60	0	60	60	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	0	14	11	0	0	15

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	71	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	991	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	934	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 934	-
HCM Lane V/C Ratio	- 0.015	-
HCM Control Delay (s)	- 8.9	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th TWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	46	73	160	45	77
Future Vol, veh/h	164	46	73	160	45	77
Conflicting Peds, #/hr	0	60	60	0	60	60
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	178	50	79	174	49	84

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	288
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1274
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1201
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	15
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	493	-	-	1201	-
HCM Lane V/C Ratio	0.269	-	-	0.066	-
HCM Control Delay (s)	15	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.2	-

HCM 6th TWSC
2: Chestnut Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	35	194	14	21	136	42	11	9	9	16	14	31
Future Vol, veh/h	35	194	14	21	136	42	11	9	9	16	14	31
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	38	211	15	23	148	46	12	10	10	17	15	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	254	0	0	286	0	0	657	655	339	642	639	291
Stage 1	-	-	-	-	-	-	355	355	-	277	277	-
Stage 2	-	-	-	-	-	-	302	300	-	365	362	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1311	-	-	1276	-	-	378	386	703	387	394	748
Stage 1	-	-	-	-	-	-	662	630	-	729	681	-
Stage 2	-	-	-	-	-	-	707	666	-	654	625	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1236	-	-	1203	-	-	295	324	625	317	331	665
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	324	-	317	331	-
Stage 1	-	-	-	-	-	-	602	573	-	663	628	-
Stage 2	-	-	-	-	-	-	604	614	-	576	569	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.8			15.8			14.7		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	365	1236	-	-	1203	-	-	438
HCM Lane V/C Ratio	0.086	0.031	-	-	0.019	-	-	0.151
HCM Control Delay (s)	15.8	8	0	-	8.1	0	-	14.7
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.5

HCM 6th TWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Int Delay, s/veh 8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	128	9	14	201	93	7	31	20	79	43	43
Future Vol, veh/h	17	128	9	14	201	93	7	31	20	79	43	43
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	144	10	16	226	104	8	35	22	89	48	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	214	0	0	665	669	269	646	622	398
Stage 1	-	-	-	-	-	-	247	247	-	370	370	-
Stage 2	-	-	-	-	-	-	418	422	-	276	252	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1169	-	-	1356	-	-	374	379	770	385	403	652
Stage 1	-	-	-	-	-	-	757	702	-	650	620	-
Stage 2	-	-	-	-	-	-	612	588	-	730	698	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1102	-	-	1279	-	-	265	325	685	296	346	580
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	325	-	296	346	-
Stage 1	-	-	-	-	-	-	700	649	-	601	575	-
Stage 2	-	-	-	-	-	-	477	546	-	618	646	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.4			16.3			25.7		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	384	1102	-	-	1279	-	-	355
HCM Lane V/C Ratio	0.17	0.017	-	-	0.012	-	-	0.522
HCM Control Delay (s)	16.3	8.3	0	-	7.8	0	-	25.7
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	2.9

HCM 6th TWSC
4: Chestnut Ave & Sigwalt St

12/18/2020

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	7	124	2	5	169	29	3	3	4	26	7	7
Future Vol, veh/h	7	124	2	5	169	29	3	3	4	26	7	7
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	8	135	2	5	184	32	3	3	4	28	8	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	276	0	0	197	0	0	490	498	256	486	483	320
Stage 1	-	-	-	-	-	-	212	212	-	270	270	-
Stage 2	-	-	-	-	-	-	278	286	-	216	213	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
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	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1287	-	-	1376	-	-	489	474	783	492	483	721
Stage 1	-	-	-	-	-	-	790	727	-	736	686	-
Stage 2	-	-	-	-	-	-	728	675	-	786	726	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1213	-	-	1297	-	-	420	417	696	429	425	641
Mov Cap-2 Maneuver	-	-	-	-	-	-	420	417	-	429	425	-
Stage 1	-	-	-	-	-	-	739	680	-	689	644	-
Stage 2	-	-	-	-	-	-	668	634	-	728	680	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.2			12.4			13.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	498	1213	-	-	1297	-	-	455				
HCM Lane V/C Ratio	0.022	0.006	-	-	0.004	-	-	0.096				
HCM Control Delay (s)	12.4	8	0	-	7.8	0	-	13.7				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0.3				

HCM 6th AWSC
5: Vail Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh 12.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	110	54	44	143	47	33	96	34	36	152	66
Future Vol, veh/h	64	110	54	44	143	47	33	96	34	36	152	66
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	124	61	49	161	53	37	108	38	40	171	74
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	12.2	12.5	12.9	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	20%	37%	0%	24%	0%	19%	0%
Vol Thru, %	59%	63%	0%	76%	0%	81%	0%
Vol Right, %	21%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	174	54	187	47	188	66
LT Vol	33	64	0	44	0	36	0
Through Vol	96	110	0	143	0	152	0
RT Vol	34	0	54	0	47	0	66
Lane Flow Rate	183	196	61	210	53	211	74
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.333	0.36	0.097	0.382	0.084	0.383	0.118
Departure Headway (Hd)	6.546	6.63	5.73	6.551	5.718	6.527	5.719
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	546	540	621	546	623	549	623
Service Time	4.622	4.402	3.501	4.323	3.49	4.296	3.487
HCM Lane V/C Ratio	0.335	0.363	0.098	0.385	0.085	0.384	0.119
HCM Control Delay	12.9	13.1	9.1	13.4	9	13.3	9.3
HCM Lane LOS	B	B	A	B	A	B	A
HCM 95th-tile Q	1.5	1.6	0.3	1.8	0.3	1.8	0.4

HCM 6th AWSC
6: Vail Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	186	4	16	218	103	16	66	19	82	46	41
Future Vol, veh/h	24	186	4	16	218	103	16	66	19	82	46	41
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	26	202	4	17	237	112	17	72	21	89	50	45
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	11.2	13	10	10.9
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	11%	5%	49%
Vol Thru, %	65%	87%	65%	27%
Vol Right, %	19%	2%	31%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	214	337	169
LT Vol	16	24	16	82
Through Vol	66	186	218	46
RT Vol	19	4	103	41
Lane Flow Rate	110	233	366	184
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.344	0.506	0.287
Departure Headway (Hd)	5.743	5.326	4.969	5.628
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	624	675	725	637
Service Time	3.791	3.364	3.002	3.671
HCM Lane V/C Ratio	0.176	0.345	0.505	0.289
HCM Control Delay	10	11.2	13	10.9
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.6	1.5	2.9	1.2

HCM 6th AWSC
7: Ridge Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh 12.4
Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	149	35	11	128	26	32	187	11	22	129	63
Future Vol, veh/h	79	149	35	11	128	26	32	187	11	22	129	63
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	87	164	38	12	141	29	35	205	12	24	142	69
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	13.3	11.2	12.6	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	30%	7%	10%
Vol Thru, %	81%	57%	78%	60%
Vol Right, %	5%	13%	16%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	263	165	214
LT Vol	32	79	11	22
Through Vol	187	149	128	129
RT Vol	11	35	26	63
Lane Flow Rate	253	289	181	235
Geometry Grp	1	1	1	1
Degree of Util (X)	0.4	0.452	0.29	0.365
Departure Headway (Hd)	5.699	5.627	5.766	5.584
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	629	636	618	640
Service Time	3.766	3.692	3.841	3.652
HCM Lane V/C Ratio	0.402	0.454	0.293	0.367
HCM Control Delay	12.6	13.3	11.2	11.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.9	2.3	1.2	1.7

HCM 6th TWSC
8: Mitchell Ave & Campbell St

12/18/2020

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	191	5	8	156	3	8
Future Vol, veh/h	191	5	8	156	3	8
Conflicting Peds, #/hr	0	60	60	0	60	60
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	205	5	9	168	3	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	270
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1293
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1219
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1219	-
HCM Lane V/C Ratio	0.021	-	-	0.007	-
HCM Control Delay (s)	11.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
9: Chestnut Ave & Wing St

12/18/2020

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	4	49	81	8	75
Future Vol, veh/h	69	4	49	81	8	75
Conflicting Peds, #/hr	0	60	60	0	60	60
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	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	5	58	96	10	89

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	147
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1435
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1353
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	710	-	-	1353	-
HCM Lane V/C Ratio	0.139	-	-	0.043	-
HCM Control Delay (s)	10.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

HCM 6th AWSC
10: Dunton Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	94	31	21	115	37	45	132	26	29	111	47
Future Vol, veh/h	33	94	31	21	115	37	45	132	26	29	111	47
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	107	35	24	131	42	51	150	30	33	126	53
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	10.4	10.5	11	10.5
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	21%	12%	16%
Vol Thru, %	65%	59%	66%	59%
Vol Right, %	13%	20%	21%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	158	173	187
LT Vol	45	33	21	29
Through Vol	132	94	115	111
RT Vol	26	31	37	47
Lane Flow Rate	231	180	197	212
Geometry Grp	1	1	1	1
Degree of Util (X)	0.337	0.267	0.29	0.307
Departure Headway (Hd)	5.259	5.362	5.307	5.204
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	670	676	691
Service Time	3.293	3.4	3.344	3.239
HCM Lane V/C Ratio	0.338	0.269	0.291	0.307
HCM Control Delay	11	10.4	10.5	10.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.5	1.1	1.2	1.3

HCM 6th TWSC
11: Highland Ave & North Garage Ramp

12/18/2020

Intersection

Int Delay, s/veh 4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	60	61	8	27	80
Future Vol, veh/h	26	60	61	8	27	80
Conflicting Peds, #/hr	60	60	0	60	60	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	28	65	66	9	29	87

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	336	191	0
Stage 1	131	-	-
Stage 2	205	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	659	851	-
Stage 1	895	-	-
Stage 2	829	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	573	757	-
Mov Cap-2 Maneuver	573	-	-
Stage 1	844	-	-
Stage 2	764	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	690	1366
HCM Lane V/C Ratio	-	-	0.135	0.021
HCM Control Delay (s)	-	-	11	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

HCM 6th TWSC

12: Highland Ave & South Garage Ramp

12/18/2020

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	40	33	0	16	35	74	16	11	89	15
Future Vol, veh/h	6	0	40	33	0	16	35	74	16	11	89	15
Conflicting Peds, #/hr	60	0	60	60	0	60	60	0	60	60	0	60
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	7	0	43	36	0	17	38	80	17	12	97	16
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	422	422	225	436	422	209	173	0	0	157	0	0
Stage 1	189	189	-	225	225	-	-	-	-	-	-	-
Stage 2	233	233	-	211	197	-	-	-	-	-	-	-
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	542	523	814	531	523	831	1404	-	-	1423	-	-
Stage 1	813	744	-	778	718	-	-	-	-	-	-	-
Stage 2	770	712	-	791	738	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	456	447	724	430	447	739	1324	-	-	1342	-	-
Mov Cap-2 Maneuver	456	447	-	430	447	-	-	-	-	-	-	-
Stage 1	744	695	-	712	657	-	-	-	-	-	-	-
Stage 2	688	651	-	694	689	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		13.1		2.2		0.7					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1324	-	-	672	498	1342	-	-				
HCM Lane V/C Ratio	0.029	-	-	0.074	0.107	0.009	-	-				
HCM Control Delay (s)	7.8	0	-	10.8	13.1	7.7	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile O(veh)	0.1	-	-	0.2	0.4	0	-	-				

HCM 6th TWSC
13: Proposed Access & Campbell St

12/18/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	206	13	4	190	8	7
Future Vol, veh/h	206	13	4	190	8	7
Conflicting Peds, #/hr	0	60	60	0	60	60
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	224	14	4	207	9	8
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	566	351
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1263	-	486	692
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1191	-	431	615
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	724	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.2		12.4	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	501	-	-	1191	-	
HCM Lane V/C Ratio	0.033	-	-	0.004	-	
HCM Control Delay (s)	12.4	-	-	8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
14: Chestnut Ave & Exit Access

12/18/2020

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	20	0	0	57
Future Vol, veh/h	0	9	20	0	0	57
Conflicting Peds, #/hr	60	60	0	60	60	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	0	10	22	0	0	62

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	82	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.22	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.318	-
Pot Cap-1 Maneuver	0	978	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	922	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 922	-
HCM Lane V/C Ratio	- 0.011	-
HCM Control Delay (s)	- 8.9	-
HCM Lane LOS	- A	-
HCM 95th %tile Q(veh)	- 0	-

HCM 6th AWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	38	18	94	19	54
Future Vol, veh/h	154	38	18	94	19	54
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	3	0	6	0	0
Mvmt Flow	177	44	21	108	22	62
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	8.1	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	26%	0%	16%
Vol Thru, %	0%	80%	84%
Vol Right, %	74%	20%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	73	192	112
LT Vol	19	0	18
Through Vol	0	154	94
RT Vol	54	38	0
Lane Flow Rate	84	221	129
Geometry Grp	1	1	1
Degree of Util (X)	0.099	0.247	0.152
Departure Headway (Hd)	4.259	4.027	4.25
Convergence, Y/N	Yes	Yes	Yes
Cap	847	878	830
Service Time	2.259	2.109	2.344
HCM Lane V/C Ratio	0.099	0.252	0.155
HCM Control Delay	7.7	8.5	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	1	0.5

HCM 6th AWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	206	4	14	139	45	17	18	24	72	19	16
Future Vol, veh/h	8	206	4	14	139	45	17	18	24	72	19	16
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	0	2	0	0	1	0	0	0	4	5	0	0
Mvmt Flow	11	294	6	20	199	64	24	26	34	103	27	23
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	11.7	11	9.3	10.5
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	4%	7%	67%
Vol Thru, %	31%	94%	70%	18%
Vol Right, %	41%	2%	23%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	59	218	198	107
LT Vol	17	8	14	72
Through Vol	18	206	139	19
RT Vol	24	4	45	16
Lane Flow Rate	84	311	283	153
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.431	0.386	0.24
Departure Headway (Hd)	5.48	4.982	4.908	5.655
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	726	735	634
Service Time	3.521	2.991	2.917	3.691
HCM Lane V/C Ratio	0.129	0.428	0.385	0.241
HCM Control Delay	9.3	11.7	11	10.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.4	2.2	1.8	0.9

HCM 6th AWSC
1: Highland Ave & Campbell St

12/18/2020

Intersection

Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	46	73	160	45	77
Future Vol, veh/h	164	46	73	160	45	77
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	178	50	79	174	49	84
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.1	9.7	8.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	37%	0%	31%
Vol Thru, %	0%	78%	69%
Vol Right, %	63%	22%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	122	210	233
LT Vol	45	0	73
Through Vol	0	164	160
RT Vol	77	46	0
Lane Flow Rate	133	228	253
Geometry Grp	1	1	1
Degree of Util (X)	0.173	0.279	0.321
Departure Headway (Hd)	4.699	4.403	4.56
Convergence, Y/N	Yes	Yes	Yes
Cap	763	815	788
Service Time	2.737	2.434	2.591
HCM Lane V/C Ratio	0.174	0.28	0.321
HCM Control Delay	8.7	9.1	9.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.6	1.1	1.4

HCM 6th AWSC
3: Highland Ave & Sigwalt St

12/18/2020

Intersection

Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	128	9	14	201	93	7	31	20	79	43	43
Future Vol, veh/h	17	128	9	14	201	93	7	31	20	79	43	43
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	144	10	16	226	104	8	35	22	89	48	48
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	9.7	11.4	8.9	10.2
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	11%	5%	48%
Vol Thru, %	53%	83%	65%	26%
Vol Right, %	34%	6%	30%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	154	308	165
LT Vol	7	17	14	79
Through Vol	31	128	201	43
RT Vol	20	9	93	43
Lane Flow Rate	65	173	346	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.239	0.445	0.266
Departure Headway (Hd)	5.344	4.98	4.625	5.168
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	713	772	688
Service Time	3.344	3.067	2.697	3.26
HCM Lane V/C Ratio	0.096	0.243	0.448	0.269
HCM Control Delay	8.9	9.7	11.4	10.2
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.3	0.9	2.3	1.1