

# Traffic and Parking Impact Study Proposed Arlington 425 Residential Development

Arlington Heights, Illinois



Prepared For:

## CCH LLC

**KLOA**  
Kenig, Lindgren, O'Hara, Aboona, Inc.

March 15, 2019

# 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, a nine-story building is proposed to include approximately 182 residential apartment units, and 31,072 square feet of retail, restaurant, and office space on the first and second floors.
- 44 South Highland Avenue. Located on the east side of the site, a 12-story building is proposed to include approximately 125 residential apartment units, 2,869 square feet of retail space, and possibly a 2,000 to 2,500 square-foot restaurant located on the amenity floor. An approximate 460-space parking garage will be located in the podium of the building. The parking will serve the residents of this building, residents of the 225 West Campbell Street building, and customers and employees of the retail space in 225 West Campbell Street. Access to the garage will be from two access drives off Highland Avenue, an access drive off Campbell Street, and an exit only access drive off Chestnut Avenue. A pedestrian tunnel will connect the two buildings.
- 33 South Chestnut Avenue. Located on the west side of the site, a four-story building is proposed to include approximately 54 residential apartment units and an approximate 84-space parking garage on two lower levels. 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.

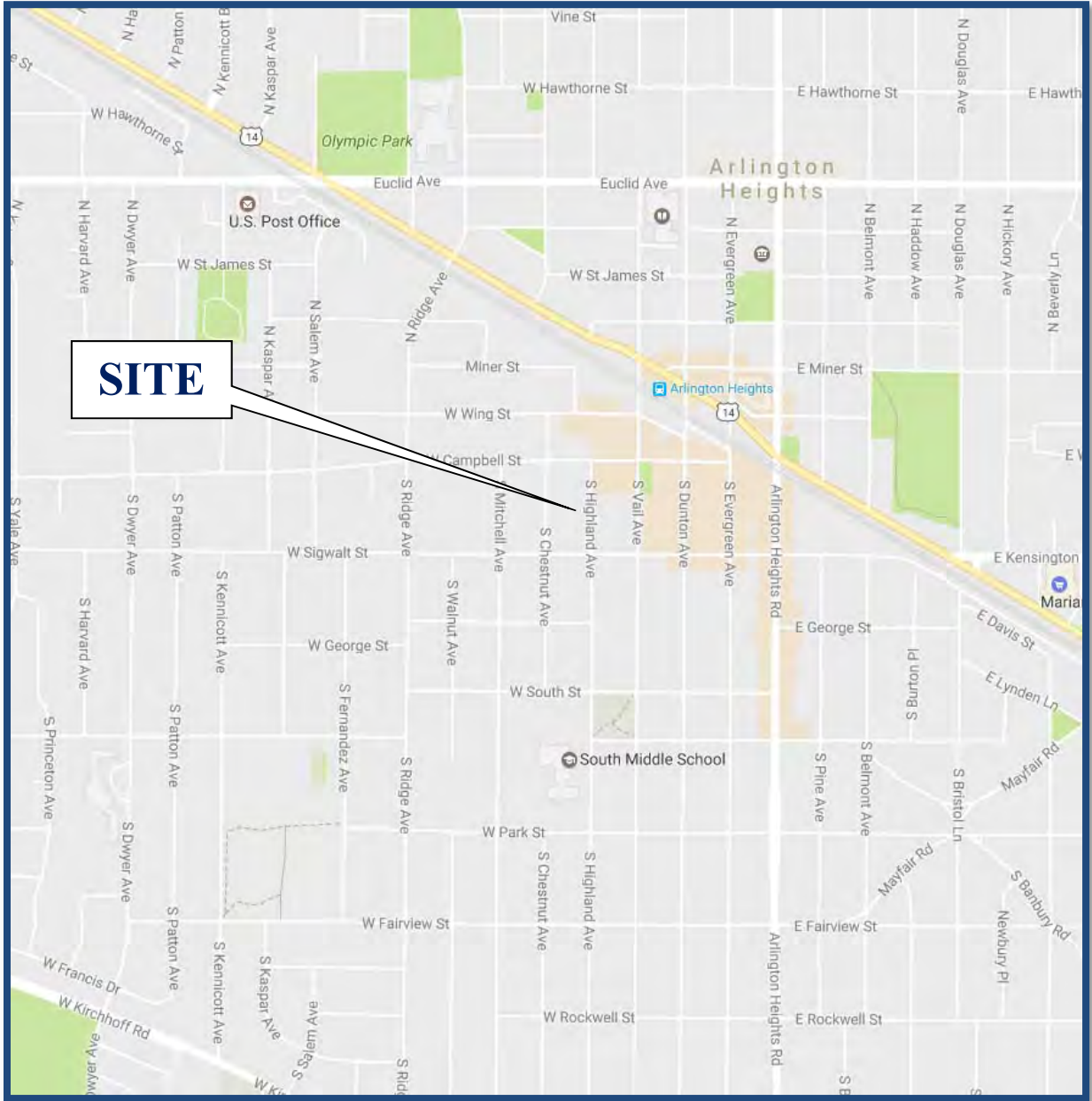
**Figure 1** shows the location of the site in relation to the area roadway system. **Figure 2** shows an aerial view of the site area.

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 2024) 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.

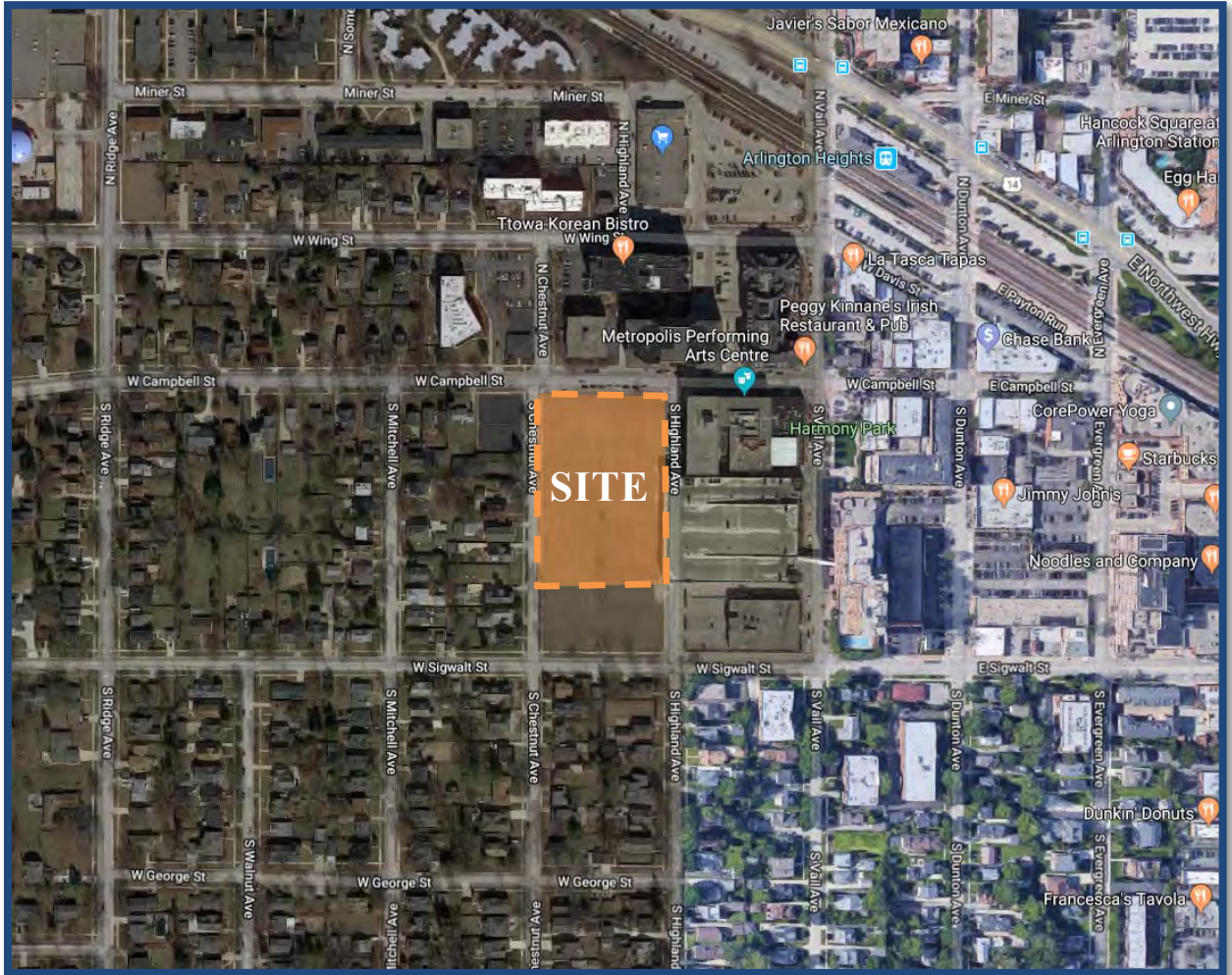


Site Location

Figure 1

*Arlington 425 Development  
Arlington Heights, Illinois*





**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

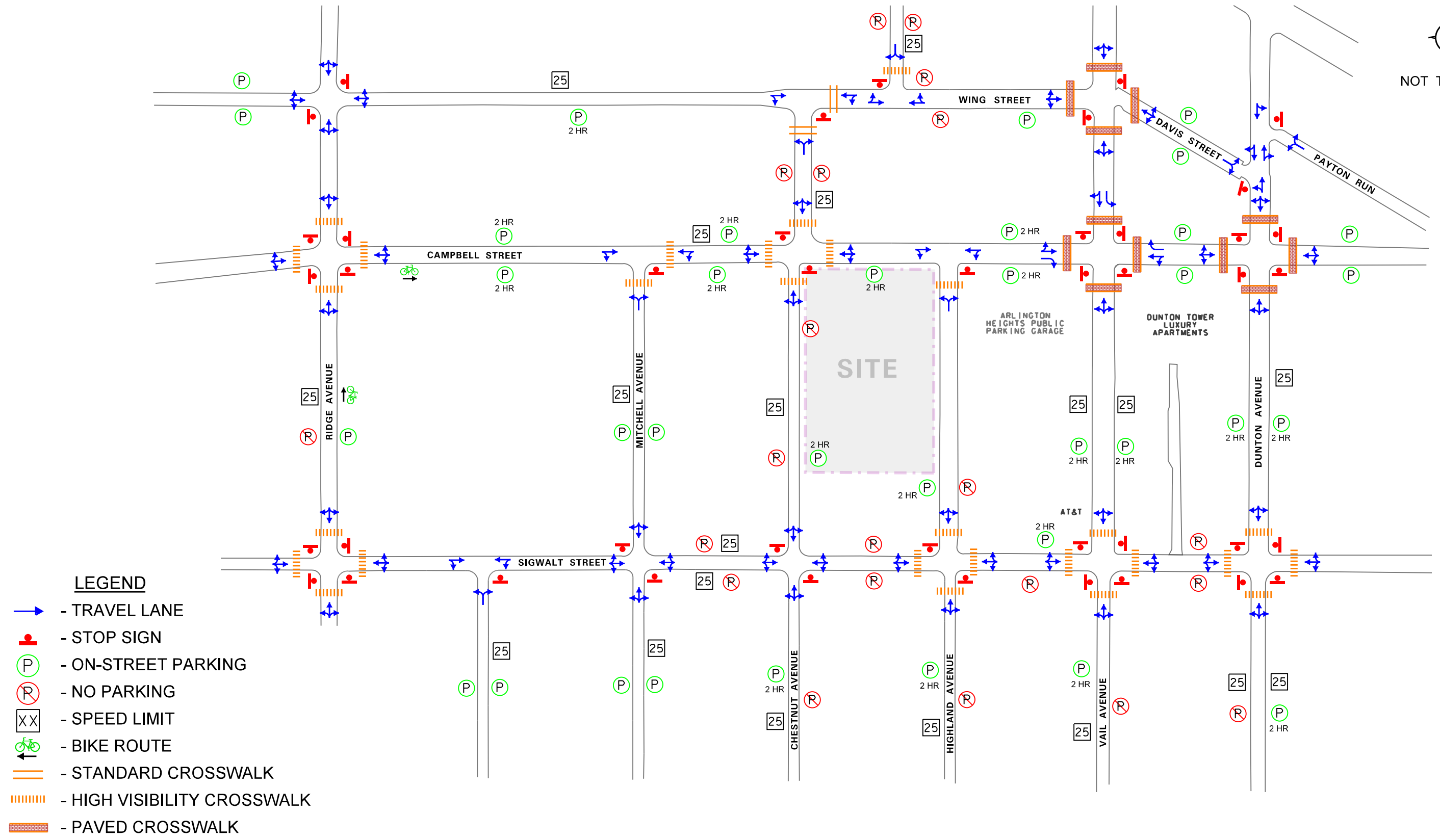
The site is located to the west of downtown Arlington Heights and referred to in the Downtown Master Plan as a portion of “Block 425”. It is bounded by Campbell Street to the north, undeveloped land/Sigwalt Street to the south, Chestnut Avenue to the west, and Highland Avenue to the east. The site is 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

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EXISTING ROADWAY CHARACTERISTICS

*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:

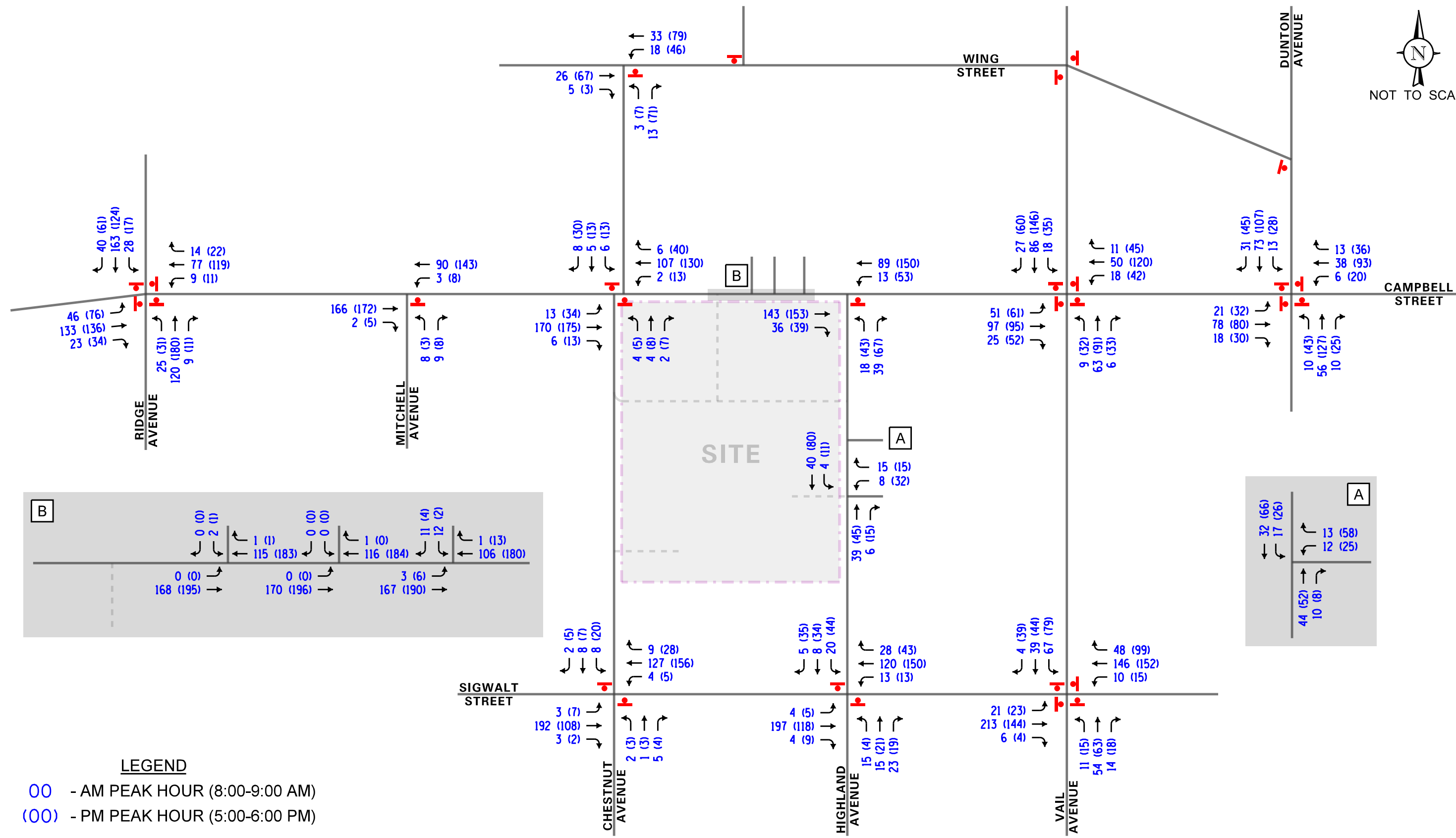
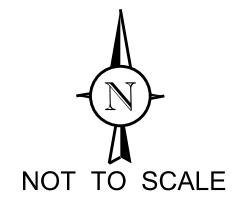
1. Highland Avenue and Campbell Street (AM – June 26, 2018; PM – February 7, 2019)
2. Chestnut Avenue and Campbell Street (AM – August 8, 2017; PM – February 7, 2019)
3. Highland Avenue and Sigwalt Street (AM – June 26, 2018; PM – February 7, 2019)
4. Chestnut Avenue and Sigwalt Street (June 26, 2018)
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.

**Figure 4** illustrates the existing peak hour vehicle traffic volumes.

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

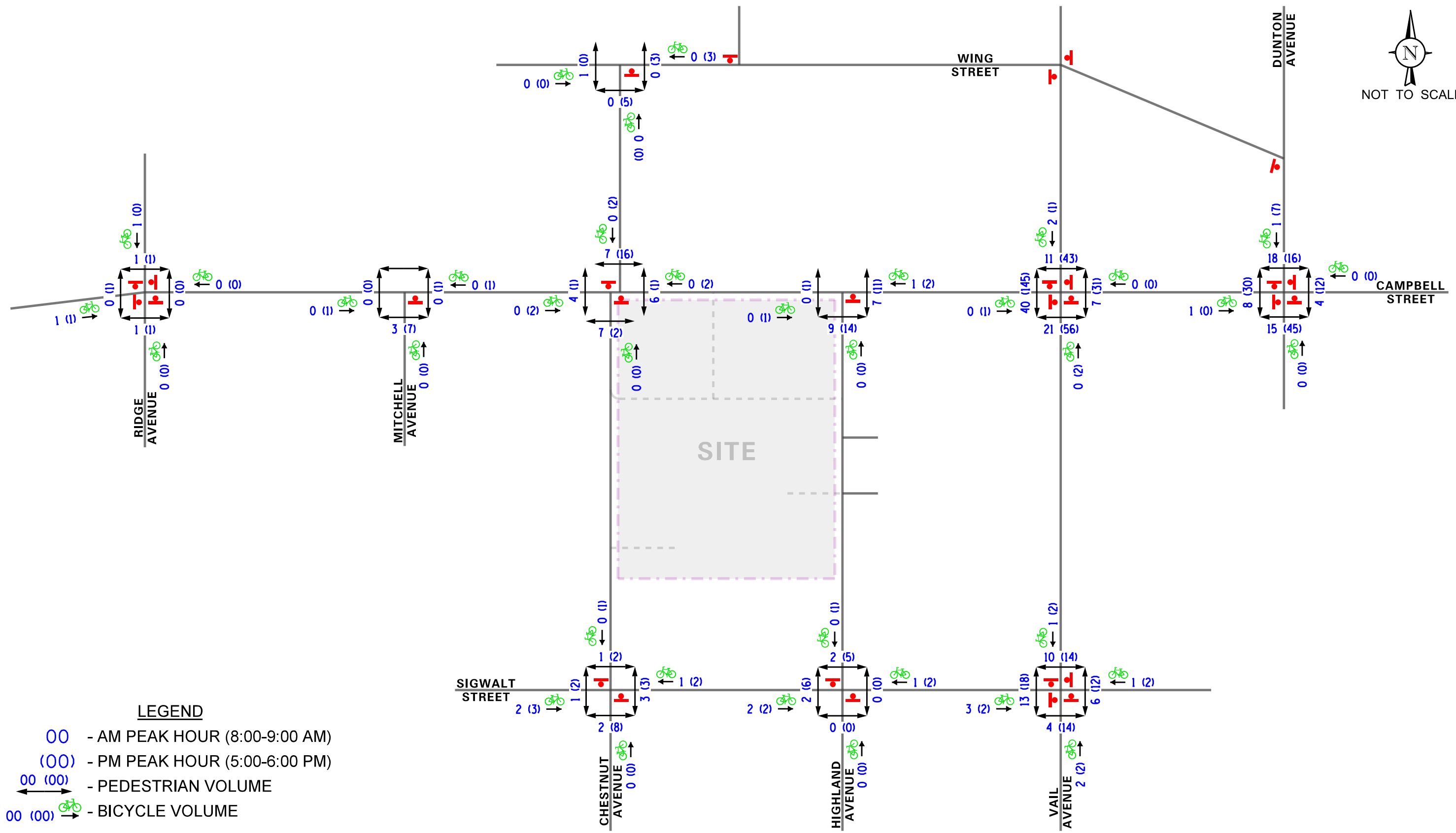
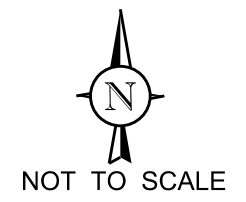


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EXISTING TRAFFIC VOLUMES



Job No: 18-127 Figure: 4



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EXISTING PEDESTRIAN AND BICYCLE TRAFFIC VOLUMES

Job No: 18-127 Figure: 5

## 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 evening peak hour analyzed in this study is higher 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 intersections<sup>1</sup>. 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

<sup>1</sup> **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, a nine-story building is proposed to include approximately 182 residential apartment units, and 31,072 square feet of retail, restaurant, and office space on the first and second floors.
- 44 South Highland Avenue. Located on the east side of the site, a 12-story building is proposed to include approximately 125 residential apartment units, 2,869 square feet of retail space, and possibly a 2,000 to 2,500 square-foot restaurant located on the amenity floor. An approximate 460-space parking garage will be located in the podium of the building. The parking will serve the residents of this building, residents of the 225 West Campbell Street building, and customers and employees of the retail space in 225 West Campbell Street. Access to the garage will be from two access drives off Highland Avenue, an access drive off Campbell Street, and an exit only access drive off Chestnut Avenue. A pedestrian tunnel will connect the two buildings.
- 33 South Chestnut Avenue. Located on the west side of the site, a four-story building is proposed to include approximately 54 residential apartment units and an approximate 84-space parking garage on two lower levels. 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 building 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 in the 44 South Highland Avenue building, two loading docks, and short-term parking spaces. 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 freeflow 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 460-space parking garage will be located in the podium of the 44 South Highland Avenue building and will be accessible to the residents and commercial customers and employees of the 225 West Campbell Street 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 approximate 84-space 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.

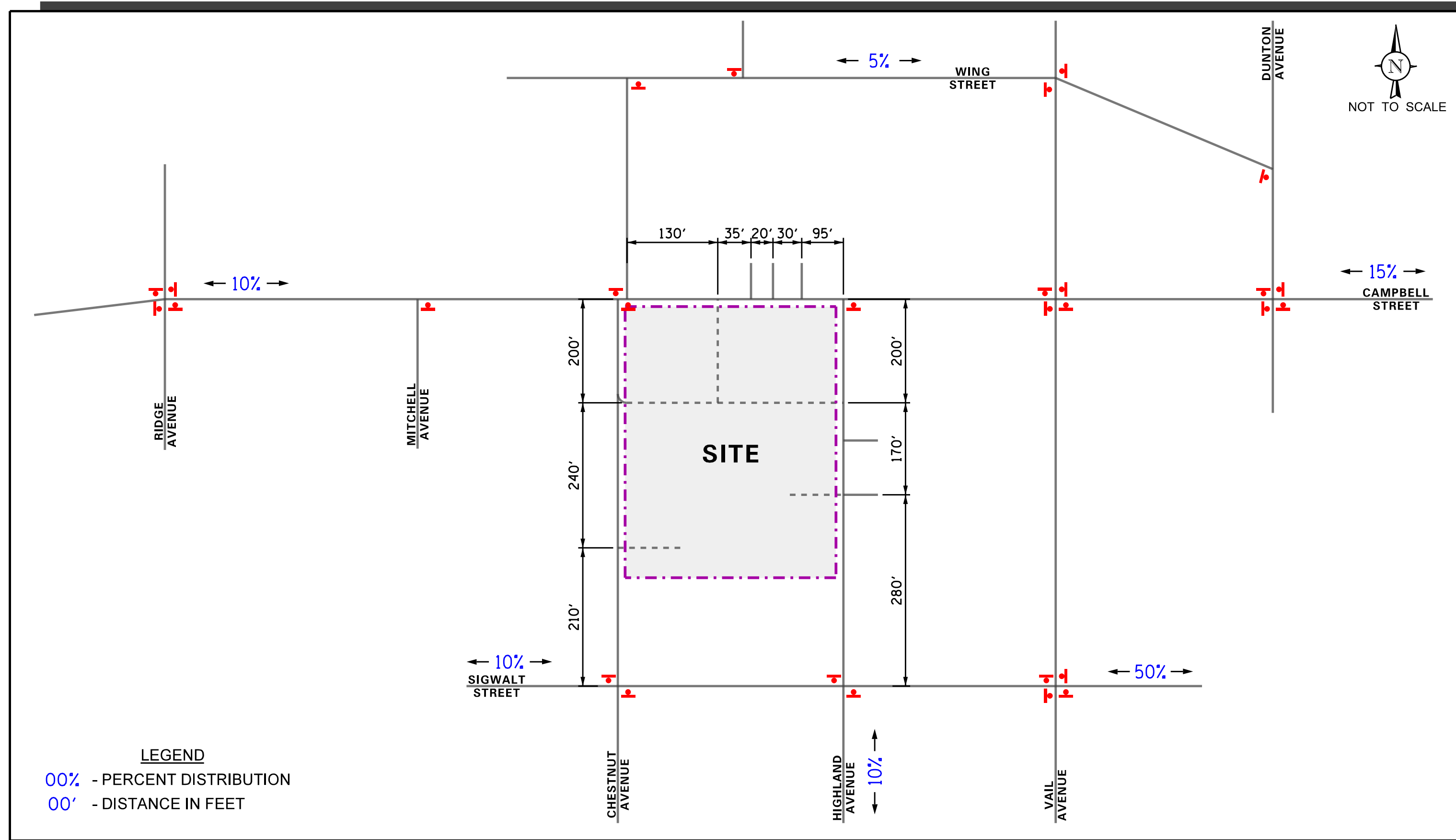
### Estimated Site Traffic Generation

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, 10<sup>th</sup> 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.





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ESTIMATED DIRECTIONAL DISTRIBUTION

**KLOA**  
 Kenig, Lindgren, O'Hara, Aboona, Inc.  
 Job No: 18-127 Figure: 6

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	
<b><u>Residential</u></b>					
<u>44 South Highland Avenue</u>					
LUC 220 – 125 rental units	14	45	45	27	904
<u>225 West Campbell Street</u>					
LUC 220 – 182 rental units	19	65	63	37	1,335
<u>33 South Chestnut Avenue</u>					
LUC 220 – 54 rental units	<u>6</u>	<u>20</u>	<u>22</u>	<u>12</u>	<u>367</u>
<i>Less 15% Reduction:</i>	<u>-6</u>	<u>-20</u>	<u>-20</u>	<u>-11</u>	<u>-391</u>
<b>Total Residential Vehicle Trips:</b>	<b>33</b>	<b>110</b>	<b>110</b>	<b>65</b>	<b>2,215</b>
<b><u>Non-Residential Uses</u></b>					
<u>44 South Highland Avenue</u>					
LUC 820 – 2,869 s.f. Retail	2	0	3	5	76
LUC 931 – 2,500 s.f. Restaurant	2	0	13	7	210
<u>225 West Campbell Street</u>					
LUC 820 – 14,028 s.f. Retail	8	5	25	28	530
LUC 931 – 9,575 s.f. Restaurant	5	2	50	25	803
LUC 710 – 7,500 s.f. General Office	<u>7</u>	<u>2</u>	<u>2</u>	<u>7</u>	<u>73</u>
<i>Less 15% Reduction:</i>	<u>-4</u>	<u>-1</u>	<u>-13</u>	<u>-12</u>	<u>-254</u>
<b>Total Non-Residential Vehicle Trips:</b>	<b>20</b>	<b>8</b>	<b>80</b>	<b>60</b>	<b>1,438</b>
<b>Total Development Traffic Volumes:</b>	<b>53</b>	<b>118</b>	<b>190</b>	<b>125</b>	<b>3,653</b>

## 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

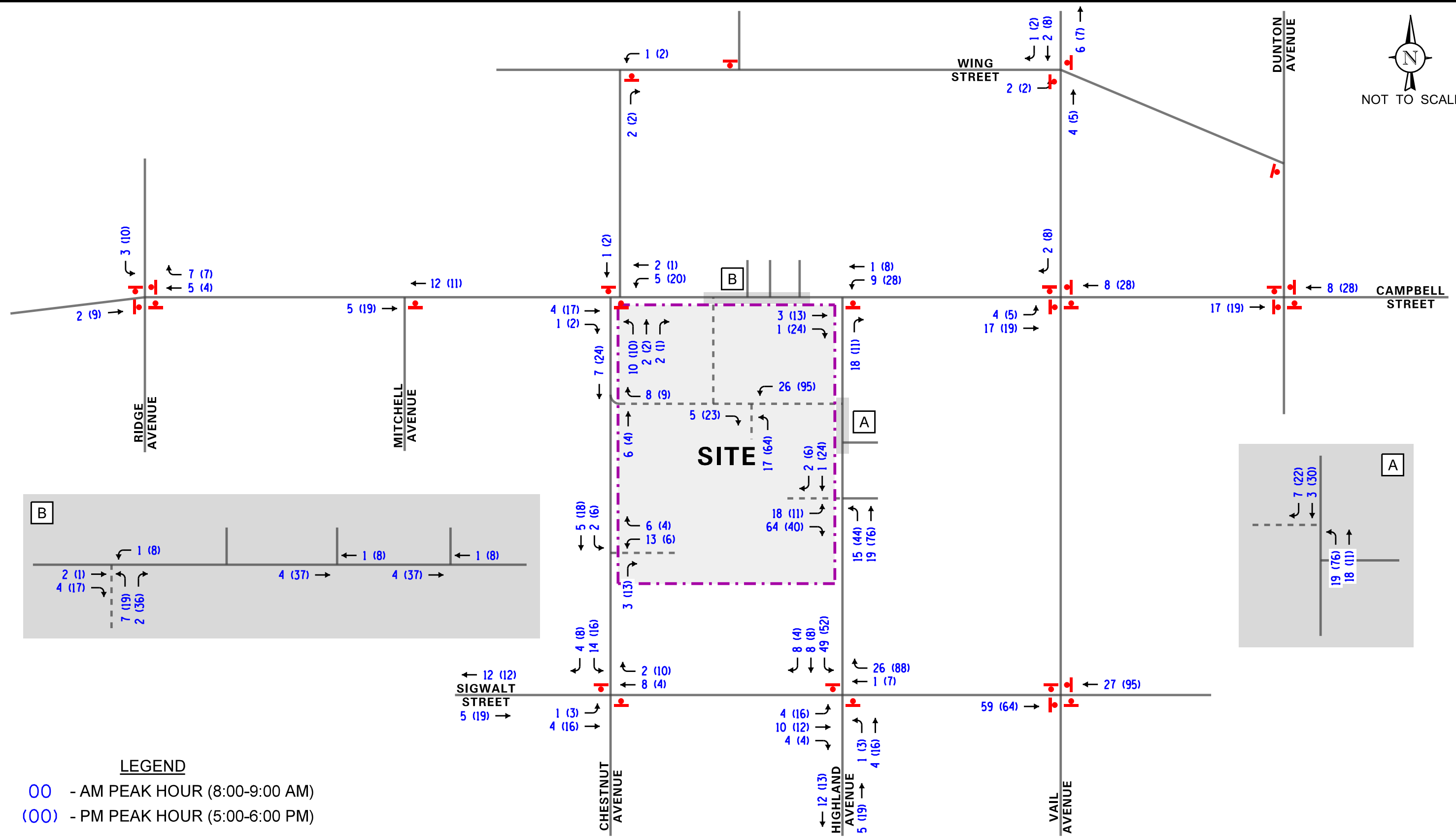
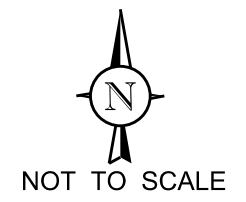
The existing traffic volumes (Figure 4) were increased by a regional growth factor to account for the increase in existing traffic related to regional growth in the area (i.e., not attributable to any particular planned development). Based on the Village of Arlington Heights 2015 Comprehensive Plan, an increase of one-half percent per year over six years (three percent total) was applied to project Year 2024 conditions.

**Figure 8** shows the Year 2024 Base (No-Build) traffic volumes.

### Total Projected Traffic Volumes

Total projected traffic volumes include the Year 2024 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.

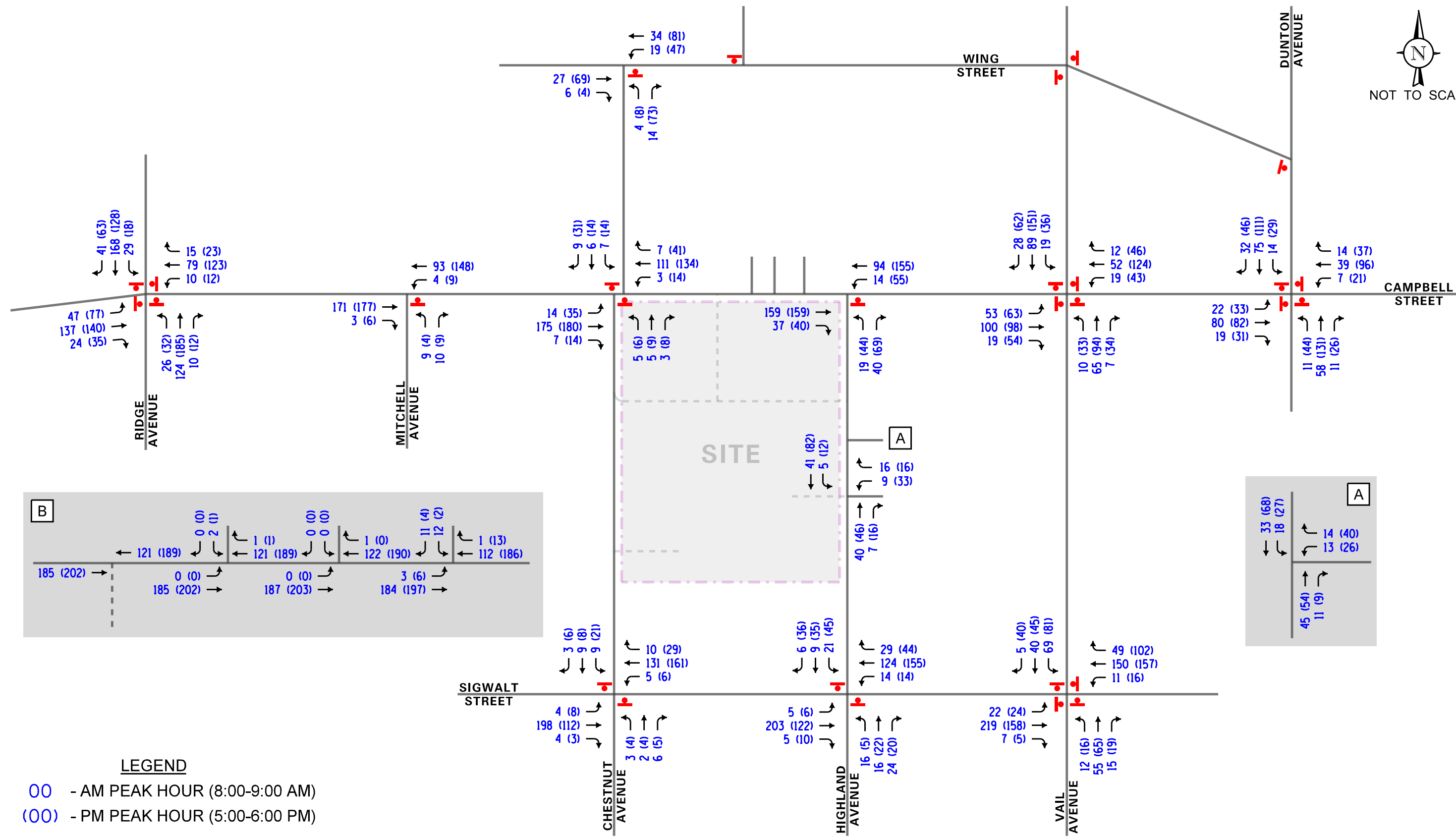
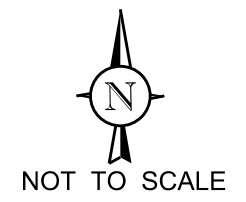
**Figure 9** shows the total projected vehicle traffic volumes.



ARLINGTON 425 DEVELOPMENT  
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ESTIMATED SITE-GENERATED TRAFFIC ASSIGNMENT  
(TOTAL TRAFFIC)

**KLOA**  
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Job No: 18-127 Figure: 7



**LEGEND**

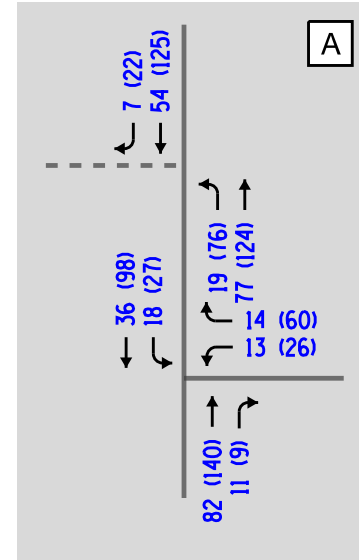
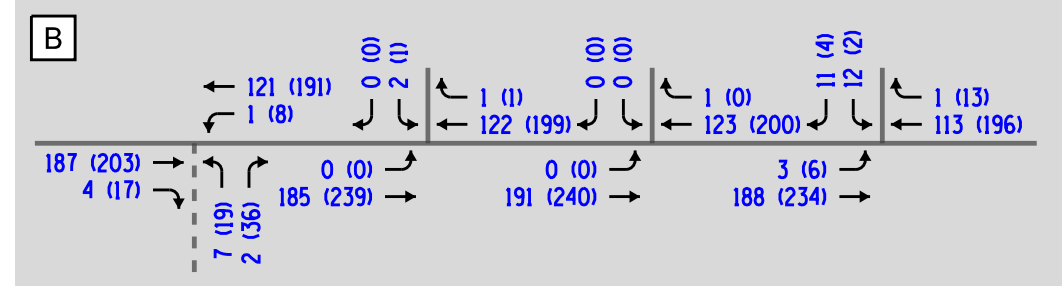
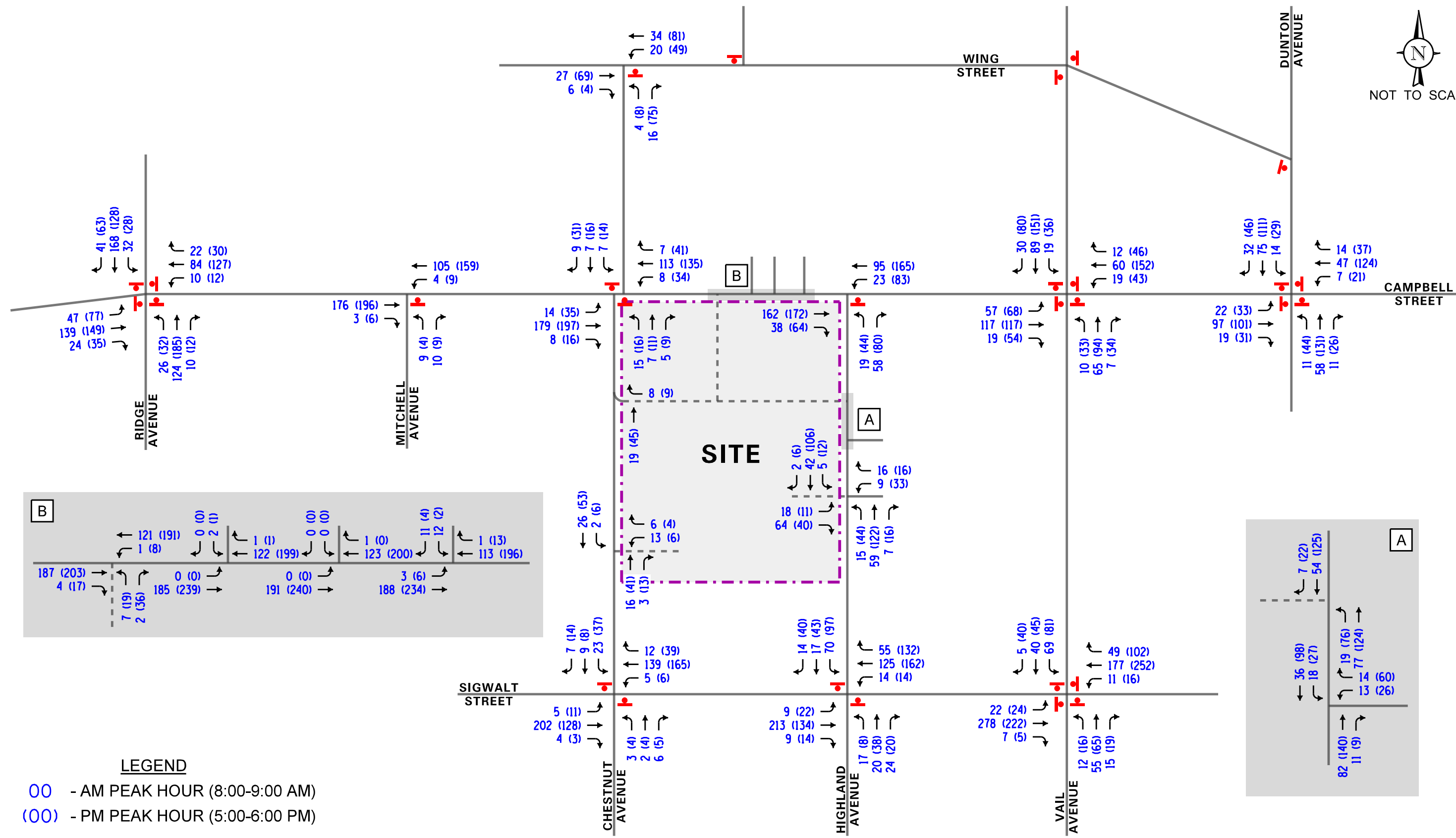
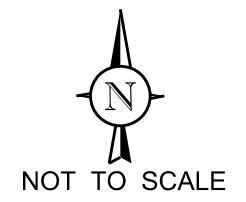
- 00 - AM PEAK HOUR (8:00-9:00 AM)
- (00) - PM PEAK HOUR (5:00-6:00 PM)

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YEAR 2024 BASE (NO BUILD) TRAFFIC VOLUMES



Job No: 18-127 Figure: 8



**LEGEND**  
 OO - AM PEAK HOUR (8:00-9:00 AM)  
 (OO) - PM PEAK HOUR (5:00-6:00 PM)

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TOTAL PROJECTED TRAFFIC VOLUMES



Job No: 18-127 Figure: 9

## 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 2024) 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 2024 total projected conditions are presented in **Tables 3 and 4**, respectively. **Table 5** shows the LOS and delay for the proposed access intersections for future conditions. A discussion of the intersections follows.

Table 3  
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	12.8	B	11.9
• Southbound Approach	B	14.3	B	14.1
Chestnut Avenue and Sigwalt Street				
• Overall	A	8.3	A	8.2
• Eastbound Approach	A	8.5	A	8.0
• Westbound Approach	A	8.1	A	8.3
• Northbound Approach	A	7.5	A	7.6
• Southbound Approach	A	7.9	A	7.9
Vail Avenue and Campbell Street				
• Overall	A	8.7	B	10.4
• Eastbound Approach	A	9.3	B	10.2
• Westbound Approach	A	8.3	B	10.0
• Northbound Approach	A	9.5	B	11.5
• Southbound Approach	A	8.8	B	10.2
Vail Avenue and Sigwalt Street				
• Overall	A	9.8	B	10.2
• Eastbound Approach	B	10.3	A	9.9
• Westbound Approach	A	9.6	B	10.7
• Northbound Approach	A	9.0	A	9.3
• Southbound Approach	A	9.5	B	10.1



Table 3  
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	9.8
• Westbound Approach	A	8.0	A	9.9
• Northbound Approach	A	8.2	B	10.4
• Southbound Approach	A	8.4	B	10.1
Ridge Avenue and Campbell Street				
• Overall	B	10.8	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	11.0	B	11.2
Mitchell Avenue and Campbell Street				
• Northbound Approach	A	9.9	B	10.2
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 4  
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	12.2	C	15.6
<i>Highland and Campbell (All-Way Stop)</i>				
• Overall	A	8.4	A	9.6
• Eastbound Approach	A	8.6	A	9.5
• Westbound Approach	A	8.4	B	10.1
• Northbound Approach	A	7.8	A	8.9
Chestnut Avenue and Campbell Street				
• Northbound Approach	B	14.4	C	18.0
• Southbound Approach	B	13.0	C	15.4
Highland Avenue and Sigwalt Street				
• Northbound Approach	C	19.5	C	17.7
• Southbound Approach	E	36.1	D	34.2
<i>Highland Ave and Sigwalt St (All-Way Stop)</i>				
• Overall	B	11.1	B	10.8
• Eastbound Approach	B	12.1	B	10.1
• Westbound Approach	B	10.8	B	11.7
• Northbound Approach	A	9.4	A	9.2
• Southbound Approach	B	10.4	B	10.7
Chestnut Avenue and Sigwalt Street				
• Overall	A	8.5	A	8.5
• Eastbound Approach	A	8.8	A	8.4
• Westbound Approach	A	8.3	A	8.7
• Northbound Approach	A	7.6	A	7.8
• Southbound Approach	A	8.1	A	8.2

Table 4  
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	A	9.2	B	11.7
• Eastbound Approach	A	9.7	B	11.5
• Westbound Approach	A	8.3	B	11.8
• Northbound Approach	A	9.7	B	12.7
• Southbound Approach	A	8.6	B	11.2
Vail Avenue and Sigwalt Street				
• Overall	B	10.9	B	12.8
• Eastbound Approach	B	11.9	B	12.2
• Westbound Approach	B	10.5	C	14.6
• Northbound Approach	A	9.4	B	10.3
• Southbound Approach	B	10.0	B	11.3
Dunton Avenue and Campbell Street				
• Overall	A	8.5	B	10.8
• Eastbound Approach	A	8.8	B	10.5
• Westbound Approach	A	8.2	B	10.7
• Northbound Approach	A	8.4	B	11.1
• Southbound Approach	A	8.6	B	10.7
Ridge Avenue and Campbell Street				
• Overall	B	10.9	B	12.5
• Eastbound Approach	B	11.2	B	13.4
• Westbound Approach	A	9.9	B	11.3
• Northbound Approach	B	10.4	B	12.6
• Southbound Approach	B	11.5	B	12.1

Table 4  
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	11.7	B	11.5
Chestnut Avenue and Wing Street				
• Northbound Approach	A	9.9	B	10.9
Highland Avenue and North Garage Ramp				
• Westbound Approach	B	10.6	B	11.9
LOS = Level of Service Delay is measured in seconds.				

Table 5  
CAPACITY ANALYSIS RESULTS FOR PROPOSED INTERSECTIONS  
FUTURE (YEAR 2024) CONDITIONS

Intersection/Approach	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
Campbell Street and Proposed Access				
• Northbound Approach	B	12.1	B	12.6
Chestnut Avenue and Exit Access				
• Westbound Approach	A	9.5	A	9.7
Chestnut Avenue and 33 West Chestnut Access				
• Westbound Approach	A	9.9	B	10.3
Highland Avenue and South Garage Ramp/Access				
• Eastbound Approach	B	10.9	B	11.8
• Westbound Approach	B	11.3	C	15.4
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 95<sup>th</sup> 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 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 continue to operate at LOS B 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 southbound approach will operate at a less than desirable LOS under the projected peak hour conditions as a two-way stop sign controlled intersection. 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 an 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 12 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 as part of the 44 South Highland Avenue residential building. 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 down the courtyard. To exit, the emergency vehicles will reverse from the courtyard and 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.

Autoturns were conducted for passenger vehicles, trucks and emergency vehicles navigating the site and are included in the Appendix of this report (**Figures A through E**).

## 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.
- Short-term parking spaces will be provided off the access driveway that are conveniently located for easy access to any of the three buildings.
- 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 freeflow 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.

## 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.

## 6. Parking Evaluation

The overall development proposes a total of 543 parking spaces, resulting in a 1.50 parking spaces per residential unit parking ratio. Further, the overall development proposes a total of 460 bedrooms, resulting in a 1.18 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 4<sup>th</sup> Edition of the *ITE Parking Generation Manual* for Land Use Code 221 (Low/Mid-Rise Apartments), 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 543 parking spaces for a total of approximately 460 bedrooms (1.18 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 1.3 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 parking ratio of 1.50 spaces per unit is similar to 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 they provide an average ratio of 1.26 spaces per unit. Approximately 60 percent of the 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
	<b>Average</b>	<b>185</b>	<b>224</b>	<b>1.26</b>

## Shared Parking

The development is proposing a total of 543 parking spaces, of which 460 parking spaces will be provided within the 44 South Highland building garage that will be shared between residents/guests, as well as for the use of the proposed restaurant, retail, and office uses. As noted above, the proposed parking supply exceeds the parking required by established Code.

At the direction of the Village, a shared parking analysis was conducted assuming a parking requirement of 1.5 parking spaces per residential unit, regardless of the number of bedrooms proposed within the unit.

Using ITE parking rates and ULI hourly distributions, a shared parking analysis was conducted under the following scenarios for both weekday and weekend conditions.

**Table 7** shows a shared parking analysis for a weekday condition based on the modified Village Code of 1.5 parking spaces per residential unit. As shown in Table 7, the modified Code would require the development to provide a total of 528 parking spaces. However, the shared parking analysis for the 460 parking spaces show that the peak parking demand will be approximately 441 parking spaces, thereby providing a parking surplus of 19 parking spaces during peak parking demand.

**Table 8** shows a shared parking analysis for a weekday condition using peak parking demand rates as identified in ITE parking standards. Using ITE data, a total of 512 parking spaces are needed considering the individual land uses proposed. However, under the shared parking analysis, the peak parking demand would be 389 parking spaces. Therefore, the proposed 460 parking spaces that would be shared among the two buildings and land uses are adequate to accommodate peak parking demands based on industry standards and will result in a parking surplus of approximately 71 vehicles during the peak parking demand.

**Table 9** shows a shared parking analysis for a weekday condition that was conducted at the request of the Village of Arlington Heights, which includes using the Village Code parking requirement of 1.5 parking spaces per residential unit and ITE/ULI parking standards for all non-residential uses. Under this scenario, the shared parking analysis shows a peak parking demand deficit of five parking spaces.

**Table 10** shows a shared parking analysis for a weekend condition using peak parking demand rates as identified in ITE/ULI parking standards. Using ITE/ULI data, a total of 477 parking spaces are needed considering the individual land uses proposed. However, under the shared parking analysis, the peak parking demand would be 406 parking spaces. Therefore, the proposed 460 parking spaces that would be shared among the two buildings and land uses are adequate to accommodate peak parking demands based on industry standards and will result in a parking surplus of approximately 54 vehicles during the peak parking demand.

**Table 11** shows a shared parking analysis for a weekend condition that was conducted at the request of the Village of Arlington Heights, which includes using the Village Code parking requirement of 1.5 parking spaces per residential unit and ITE parking standards for all non-residential uses. Under this scenario, the shared parking analysis shows a peak parking demand deficit of 86 parking spaces. It is important to note that the parking analysis assumes all “new” vehicles arriving for the non-residential uses, rather than deducting for patrons of these uses that may live in the development itself or nearby that may arrive by walking or another form of transportation that does not require a parking space, thereby providing for a conservative analysis.

**Table 7**  
**Shared Parking Analysis - Arlington 425**  
**Weekday - Arlington Heights Zoning Code**

<u>Land Use/Density</u>	<u>Parking Spaces Required</u>
<b><u>Retail</u></b>	
16,028 s.f.	24
<b><u>Restaurants</u></b>	
12,075 s.f.	35
<b><u>Office</u></b>	
7,500 s.f.	8
<b><u>44 South Highland Residential</u></b>	
125 Units	188
<b><u>225 Campbell Residential</u></b>	
182 Units	273

Total Peak Parking Demand based on Individual Land Use: 528  
 Total Peak Parking Space Demand based on Shared Parking: 441  
 Parking Spaces Proposed: 460  
 Parking Surplus/(Deficit): 19

<b>Time</b>	<b>Retail</b>	<b>Restaurant</b>	<b>Office</b>	<b>Residential</b>	<b>Total</b>
6:00 AM	0	9	0	424	433
7:00 AM	1	15	5	341	362
8:00 AM	4	20	6	295	325
9:00 AM	9	27	8	295	339
10:00 AM	16	30	8	295	349
11:00 AM	22	32	8	295	357
12:00 PM	24	35	7	295	361
1:00 PM	23	32	6	295	356
2:00 PM	23	19	7	295	344
3:00 PM	21	15	6	295	337
4:00 PM	19	15	6	203	243
5:00 PM	15	27	4	272	318
6:00 PM	15	29	2	318	364
7:00 PM	18	22	0	304	344
8:00 PM	17	23	0	346	386
9:00 PM	0	22	0	355	377
10:00 PM	0	17	0	424	441



**Table 8**  
**Shared Parking Analysis - Arlington 425**  
**Weekday - ITE Parking Generation Manual, 4th Edition**

<u>Land Use/Density</u>	<u>Average Peak Parking Demand</u>
<b><u>Retail</u></b>	
16,028 s.f.	33
<b><u>Restaurants</u></b>	
12,075 s.f.	85
<b><u>Office</u></b>	
7,500 s.f.	16
<b><u>44 South Highland Residential</u></b>	
125 Units	154
<b><u>225 Campbell Residential</u></b>	
182 Units	224

Total Peak Parking Demand based on Individual Land Use: 512  
 Total Peak Parking Space Demand based on Shared Parking: 389  
 Parking Spaces Proposed: 460  
 Parking Surplus/(Deficit): 71

Time	Retail	Restaurant	Office	Residential	Total
6:00 AM	0	22	0	348	370
7:00 AM	2	37	9	280	328
8:00 AM	6	48	13	242	309
9:00 AM	13	65	15	242	335
10:00 AM	22	72	16	242	352
11:00 AM	30	78	16	242	366
12:00 PM	33	85	14	242	374
1:00 PM	32	77	12	242	363
2:00 PM	31	45	13	242	331
3:00 PM	29	36	13	242	320
4:00 PM	26	36	12	166	240
5:00 PM	20	65	7	223	315
6:00 PM	21	71	4	261	357
7:00 PM	25	54	0	249	328
8:00 PM	23	56	0	284	363
9:00 PM	0	54	0	291	345
10:00 PM	0	41	0	348	389

**Table 9**  
**Shared Parking Analysis - Arlington 425**  
**Weekday - Village Code (Residential) and ITE (All Other Uses)**

<u>Land Use/Density</u>	<u>Average Peak Parking Demand</u>
<b><u>Retail</u></b> 16,028 s.f.	33
<b><u>Restaurants</u></b> 12,075 s.f.	85
<b><u>Office</u></b> 7,500 s.f.	16
<b><u>44 South Highland Residential</u></b> 125 Units	188
<b><u>225 Campbell Residential</u></b> 182 Units	273

Total Peak Parking Demand based on Individual Land Use: 595  
 Total Peak Parking Space Demand based on Shared Parking: 465  
 Parking Spaces Proposed: 460  
 Parking Surplus/(Deficit): (5)

Time	Retail	Restaurant	Office	Residential	Total
6:00 AM	0	22	0	424	446
7:00 AM	2	37	9	341	389
8:00 AM	6	48	13	295	362
9:00 AM	13	65	15	295	388
10:00 AM	22	72	16	295	405
11:00 AM	30	78	16	295	419
12:00 PM	33	85	14	295	427
1:00 PM	32	77	12	295	416
2:00 PM	31	45	13	295	384
3:00 PM	29	36	13	295	373
4:00 PM	26	36	12	203	277
5:00 PM	20	65	7	272	364
6:00 PM	21	71	4	318	414
7:00 PM	25	54	0	304	383
8:00 PM	23	56	0	346	425
9:00 PM	0	54	0	355	409
10:00 PM	0	41	0	424	465

**Table 10**  
**Shared Parking Analysis - Arlington 425**  
**Weekend - ITE Parking Generation Manual, 4th Edition**

<u>Land Use/Density</u>	<u>Average Peak Parking Demand</u>
<b><u>Retail</u></b> 16,028 s.f.	37
<b><u>Restaurants</u></b> 12,075 s.f.	108
<b><u>Office</u></b> 7,500 s.f.	16
<b><u>44 South Highland Residential</u></b> 125 Units	129
<b><u>225 Campbell Residential</u></b> 182 Units	187

Total Peak Parking Demand based on Individual Land Use: 477  
 Total Peak Parking Space Demand based on Shared Parking: 406  
 Parking Spaces Proposed: 460  
 Parking Surplus/(Deficit): 54

Time	Retail	Restaurant	Office	Residential	Total
6:00 AM	0	22	0	316	338
7:00 AM	5	32	3	284	324
8:00 AM	10	55	10	269	344
9:00 AM	22	79	13	253	367
10:00 AM	28	102	14	237	381
11:00 AM	33	108	16	221	378
12:00 PM	37	100	14	205	356
1:00 PM	37	91	13	221	362
2:00 PM	36	68	10	221	335
3:00 PM	34	42	6	221	303
4:00 PM	28	52	3	237	320
5:00 PM	25	59	2	269	355
6:00 PM	27	68	1	284	380
7:00 PM	19	80	0	307	406
8:00 PM	19	59	0	310	388
9:00 PM	0	42	0	313	355
10:00 PM	0	43	0	316	359

**Table 11**  
**Shared Parking Analysis - Arlington 425**  
**Weekend - Village Code (Residential) and ITE/ULI (All Other Uses)**

<u>Land Use/Density</u>	<u>Average Peak Parking Demand</u>
<b><u>Retail</u></b> 16,028 s.f.	37
<b><u>Restaurants</u></b> 12,075 s.f.	108
<b><u>Office</u></b> 7,500 s.f.	16
<b><u>44 South Highland Residential</u></b> 125 Units	188
<b><u>225 Campbell Residential</u></b> 182 Units	273

Total Peak Parking Demand based on Individual Land Use: 622  
 Total Peak Parking Space Demand based on Shared Parking: 546  
 Parking Spaces Proposed: 460  
 Parking Surplus/(Deficit): (86)

Time	Retail	Restaurant	Office	Residential	Total
6:00 AM	0	22	0	461	483
7:00 AM	5	32	3	415	455
8:00 AM	10	55	10	392	467
9:00 AM	22	79	13	369	483
10:00 AM	28	102	14	346	490
11:00 AM	33	108	16	323	480
12:00 PM	37	100	14	300	451
1:00 PM	37	91	13	323	464
2:00 PM	36	68	10	323	437
3:00 PM	34	42	6	323	405
4:00 PM	28	52	3	346	429
5:00 PM	25	59	2	392	478
6:00 PM	27	68	1	415	511
7:00 PM	19	80	0	447	546
8:00 PM	19	59	0	452	530
9:00 PM	0	42	0	456	498
10:00 PM	0	43	0	461	504

## 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 361 residential rental units and up to approximately 36,441 square feet of retail, office, and restaurant space. A total of 543 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 freeflow 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.

- The site will include an internal access driveway that will provide access to Highland Avenue, Chestnut Avenue, and Campbell Street. This internal access drive will allow for a majority of traffic functions (i.e. access to the parking garage, truck/refuse deliveries, drop-off/pick-up of pedestrians, etc.) to occur on-site, thereby limiting through traffic operations on the surrounding roadway network.
- The proposed access drives off Chestnut Avenue will have a low impact on the traffic and parking operations along Chestnut Avenue between Campbell Street and Sigwalt Street. The northerly access drive will be an exit only access and will be physically restricted to exiting right-turns only. Further, the proposed full access drive to the south will only serve the private parking garage for the proposed 33 South Chestnut Avenue residential building.
- 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. 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.
- The proposed southerly access drive off Highland Avenue in alignment with the southerly garage ramp on the east side of Highland Avenue will be restricted to resident use only and will have a low impact on the through traffic operations along Highland Avenue, as well as the garage parking and ramp operations.
- Existing high-visibility crosswalks should be restriped due to weathering/fading.
- High-visibility crosswalks are recommended across the driveway approach to each of the access drives proposed.
- The standard crosswalks on the east and south legs of the Chestnut Avenue/Wing Street intersection should be restriped as high-visibility crosswalks.
- High-visibility crosswalks should be provided on all four approaches of the Chestnut Avenue/Sigwalt Street intersection. There are no existing crosswalks at this intersection.
- The proposed access drives on Highland Avenue will have limited impact on the traffic and parking operations along Highland Avenue and to the public parking garage ramps on the east side of Highland Avenue.
- Visual warning devices should be provided at garage access drives to warn pedestrians of exiting traffic.
- Based on industry standards and a comparison to existing transit-oriented developments in the regional area, the proposed 543 parking spaces are adequate to accommodate the proposed development.

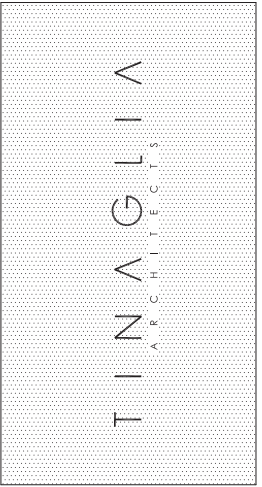
- The shared parking analysis indicates that the 543 parking spaces are adequate to accommodate peak parking demands throughout the day based on the application of either the Village Code or ITE industry standards.

# Appendix

Site Plan  
Site Traffic Assignment Figures  
Autoturn and Sight Distance Exhibits  
Traffic Counts  
ITE – ULI Vehicle Trip/Parking Rates  
Capacity Analysis



## Site Plan



CLIENT  
**CCH LLC**  
 838 BUSSE HIGHWAY  
 PARK RIDGE, IL 60068

PROJECT  
**ARLINGTON 425**  
 ARLINGTON HEIGHTS, ILLINOIS  
 MIXED-USE DEVELOPMENT

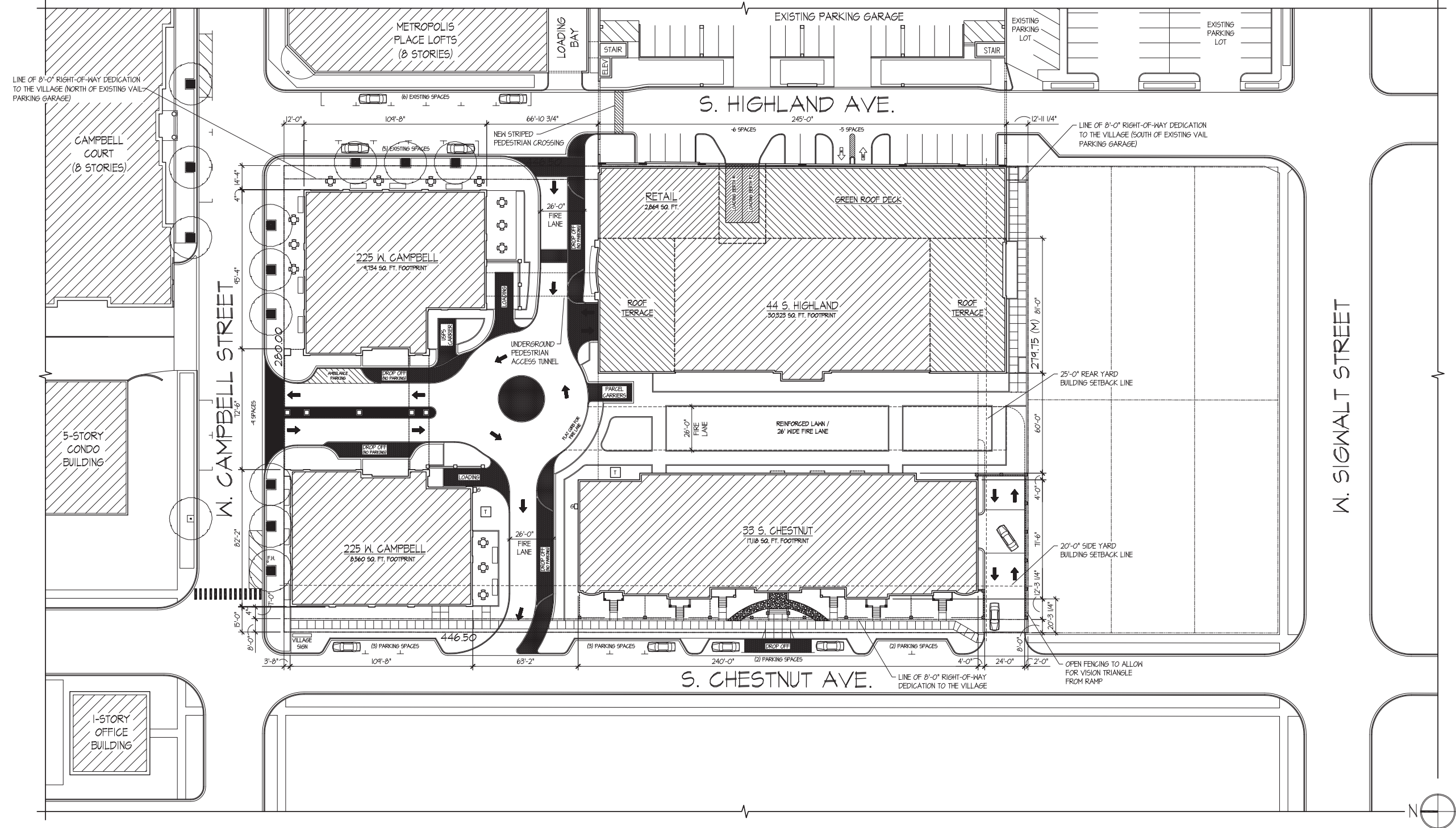
DRAWING TITLE  
**ARCHITECTURAL  
 SITE PLAN**

FILE NAME 3883-24P Site Plan  
 DRAWN BY RDL DATE 11.13.18

NO.	REVISED PER	DATE	BY
1	TRUCK TURNING REQ.	11.21.18	RDL
2	DESIGN DEVELOPMENT	11.27.18	RDL
3	DESIGN DEVELOPMENT	11.30.18	RDL
4	PRELIM D.C. MEETING	12.17.18	RDL
5	DESIGN DEVELOPMENT	12.20.18	RDL
6	DC & PC SUBMITTALS	1.14.19	RDL
7	REVISED PC SUBMITTAL	2.18.19	RDL
8	REVISED DC SUBMITTAL	3.1.19	RDL
9	REVISED PC SUBMITTAL	3.11.19	RDL

JOB NO. **388315**

SHEET NO. **CS**  
 OF 13



ARLINGTON 425: ARCHITECTURAL SITE PLAN  
 SCALE: 1" = 30'-0"

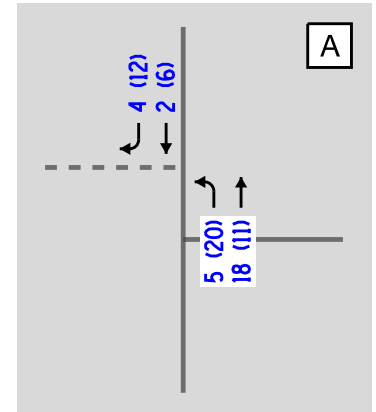
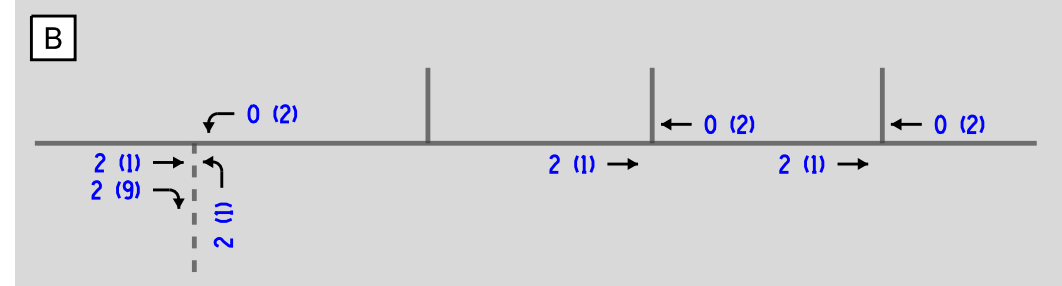
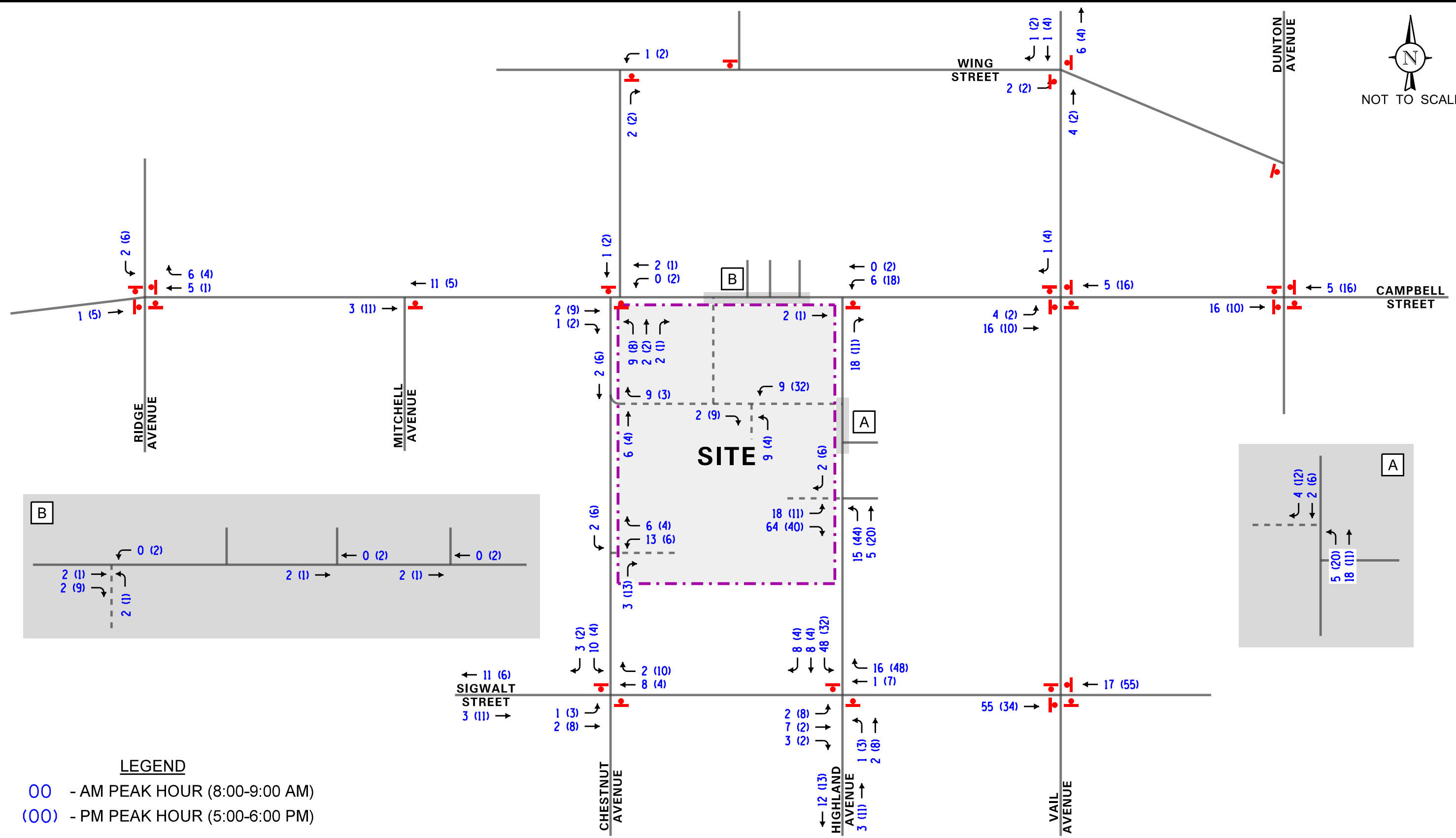
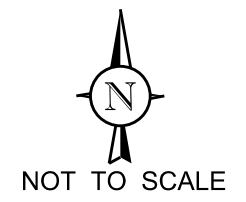
# ARLINGTON 425

A NEW B-5 DISTRICT PUD DEVELOPMENT PRESENTED BY:  
 CCH LLC \* 838 BUSSE HIGHWAY \* PARK RIDGE, ILLINOIS

DRAWING INDEX

NO.	DESCRIPTION
CS	COVER SHEET AND ARCHITECTURAL SITE PLAN
CP-1	CONTEXTUAL SITE PLAN
HL-1	44 S. HIGHLAND BUILDING FLOOR PLANS
HL-2	44 S. HIGHLAND BUILDING FLOOR PLANS
HL-3	44 S. HIGHLAND BUILDING ELEVATIONS
HL-4	44 S. HIGHLAND BUILDING ELEVATIONS
HL-5	44 S. HIGHLAND BUILDING SECTIONS
CA-1	225 W. CAMPBELL BUILDING FLOOR PLANS
CA-2	225 W. CAMPBELL BUILDING FLOOR PLANS
CA-3	225 W. CAMPBELL BUILDING ELEVATIONS
CA-4	225 W. CAMPBELL BUILDING ELEVATIONS
CH-1	33 S. CHESTNUT BUILDING FLOOR PLANS
CH-2	33 S. CHESTNUT BUILDING ELEVATIONS

## Site Traffic Assignment Figures



**LEGEND**

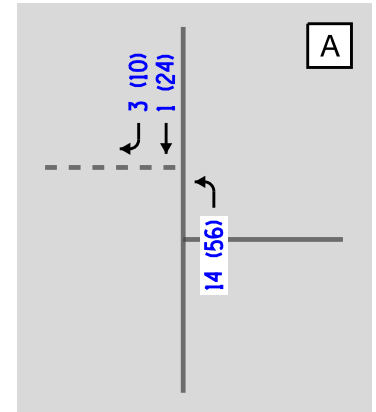
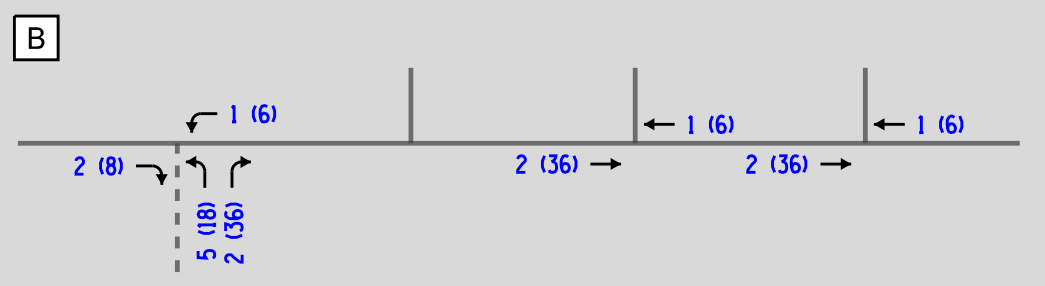
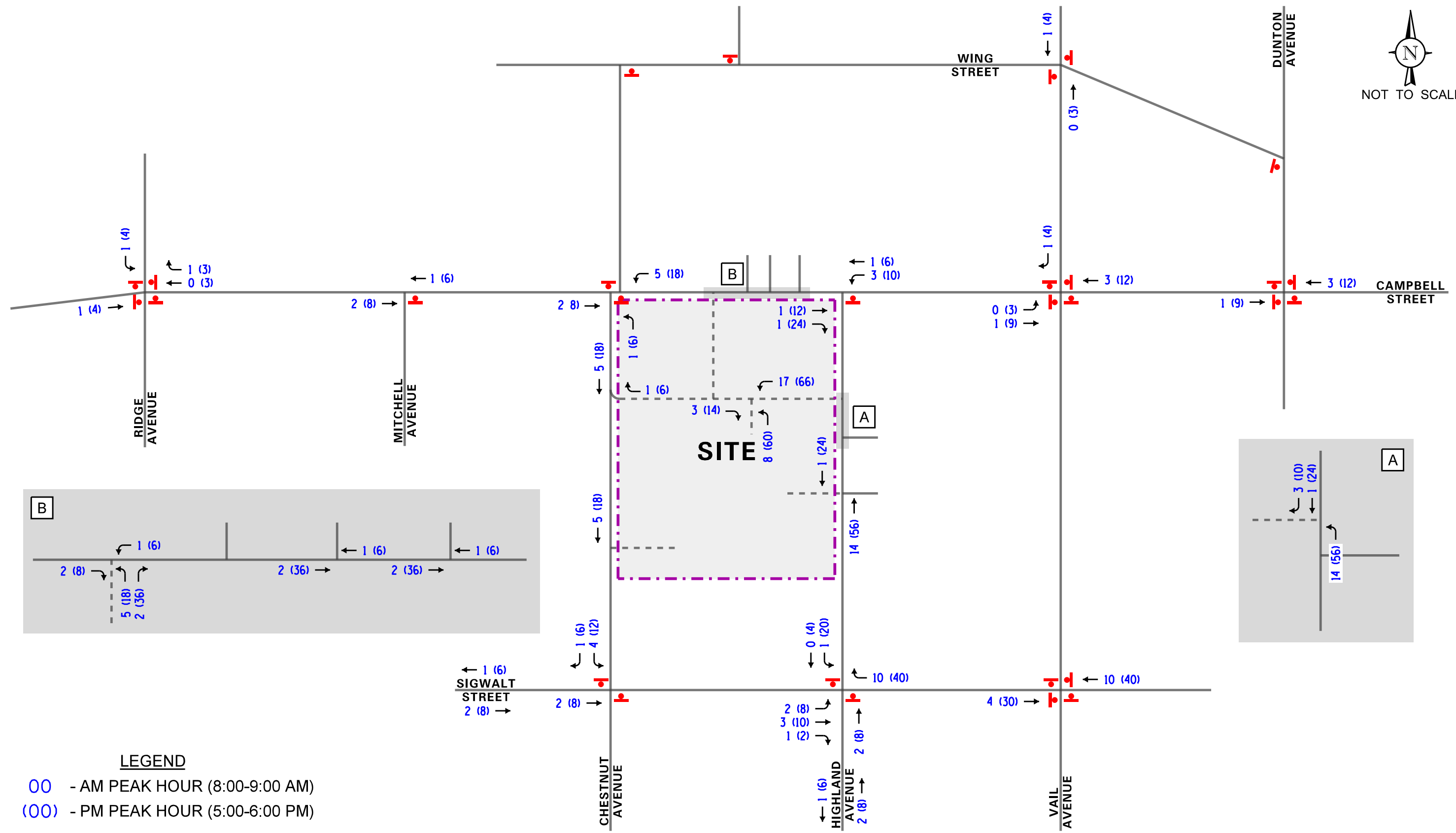
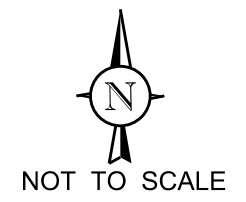
- 00 - AM PEAK HOUR (8:00-9:00 AM)
- (00) - PM PEAK HOUR (5:00-6:00 PM)

ARLINGTON 425 DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS

**ESTIMATED SITE-GENERATED TRAFFIC ASSIGNMENT  
(RESIDENTIAL USES)**



Job No: 18-127 Figure: 7A



**LEGEND**

- 00 - AM PEAK HOUR (8:00-9:00 AM)
- (00) - PM PEAK HOUR (5:00-6:00 PM)

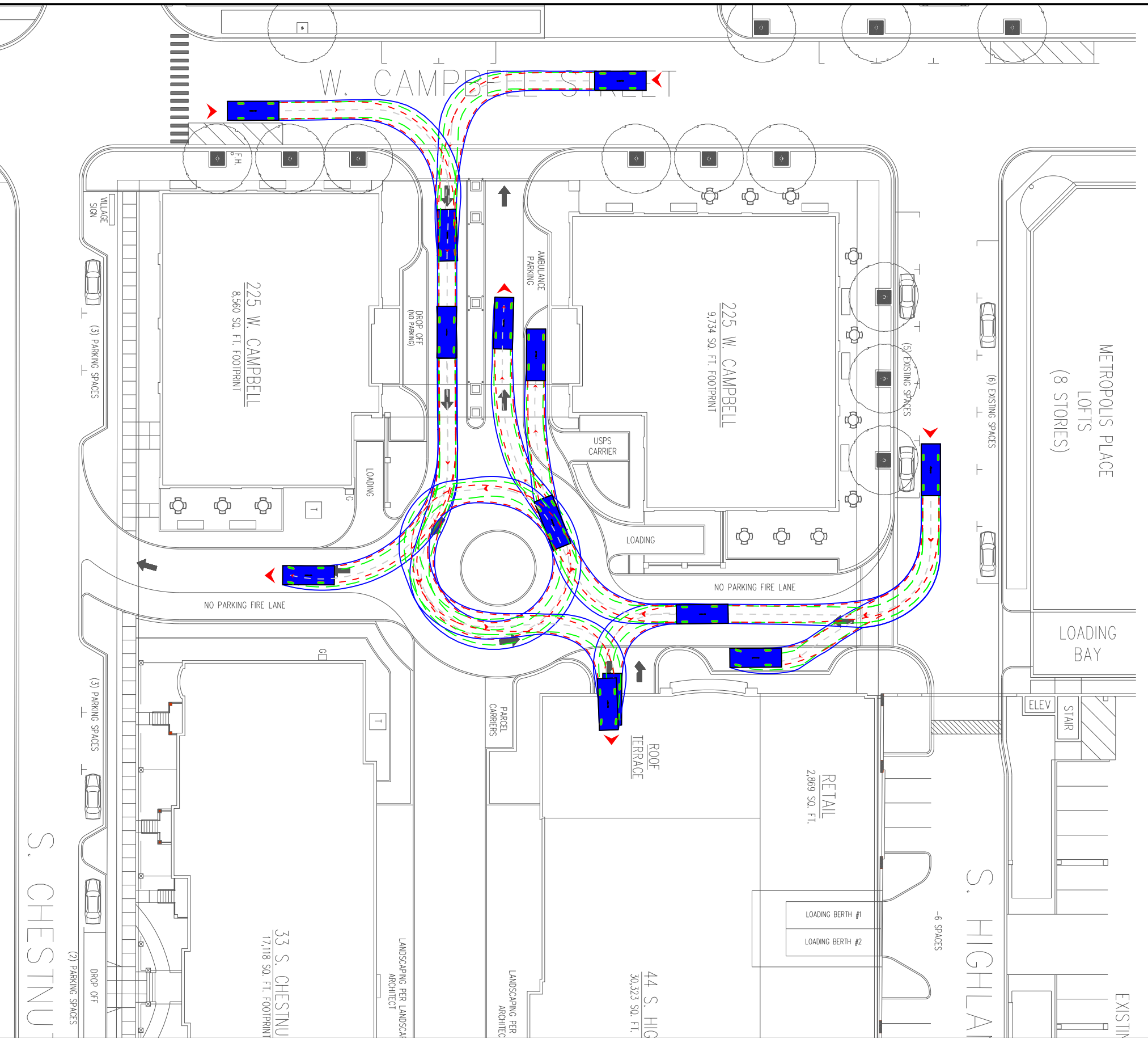
ARLINGTON 425 DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS

**ESTIMATED SITE-GENERATED TRAFFIC ASSIGNMENT  
(NON-RESIDENTIAL USES)**



Job No: 18-127 Figure: 7B

## Autoturn and Sight Distance Exhibits



**DESIGN VEHICLE**

19.00

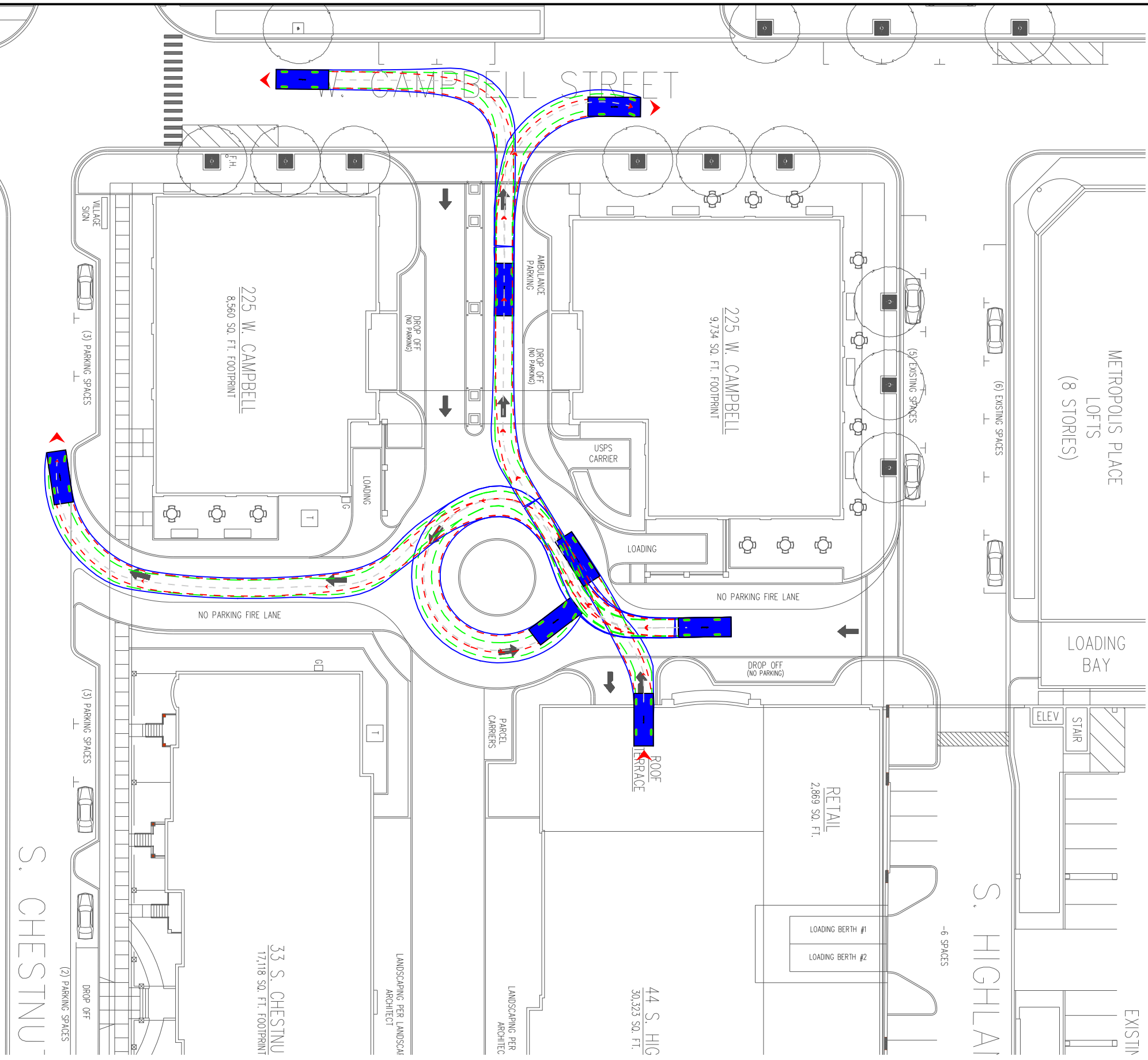
11.00

3.00

Passenger Vehicle

Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

- - Body of Vehicle
- - - - Front Tires Path
- - - - Rear Tires Path

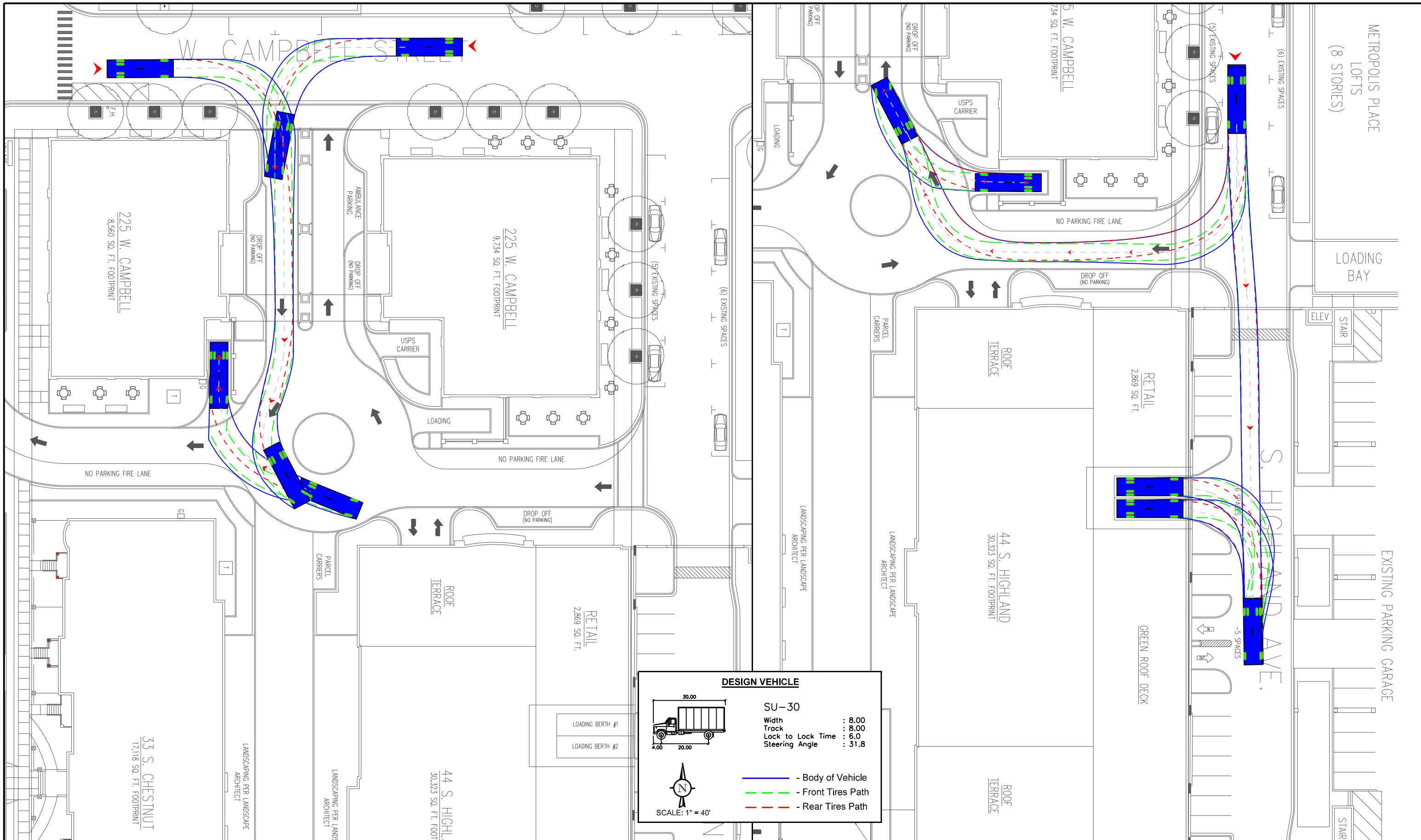


**DESIGN VEHICLE**

Passenger Vehicle  
 Width : 7.00  
 Track : 6.00  
 Lock to Lock Time : 6.0  
 Steering Angle : 31.6

— Body of Vehicle  
 - - - Front Tires Path  
 - - - Rear Tires Path





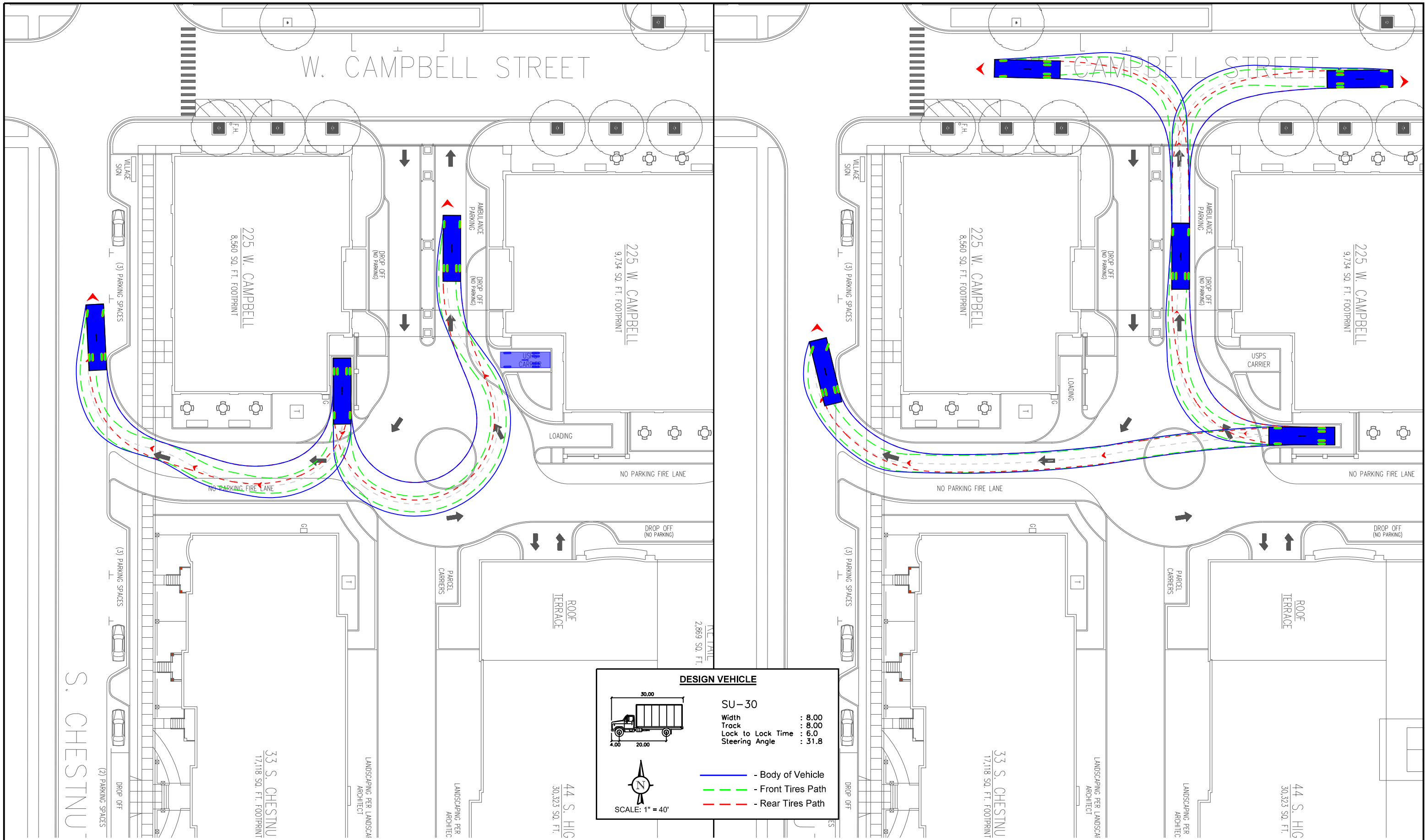
**ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS**

**INBOUND SINGLE UNIT TRUCK MANEUVERS**

DRAWN: MD  
DATE: 08-16-18  
PROJECT # 18-127  
FIGURE: B1

CHECKED: WW  
REV: 03-14-19





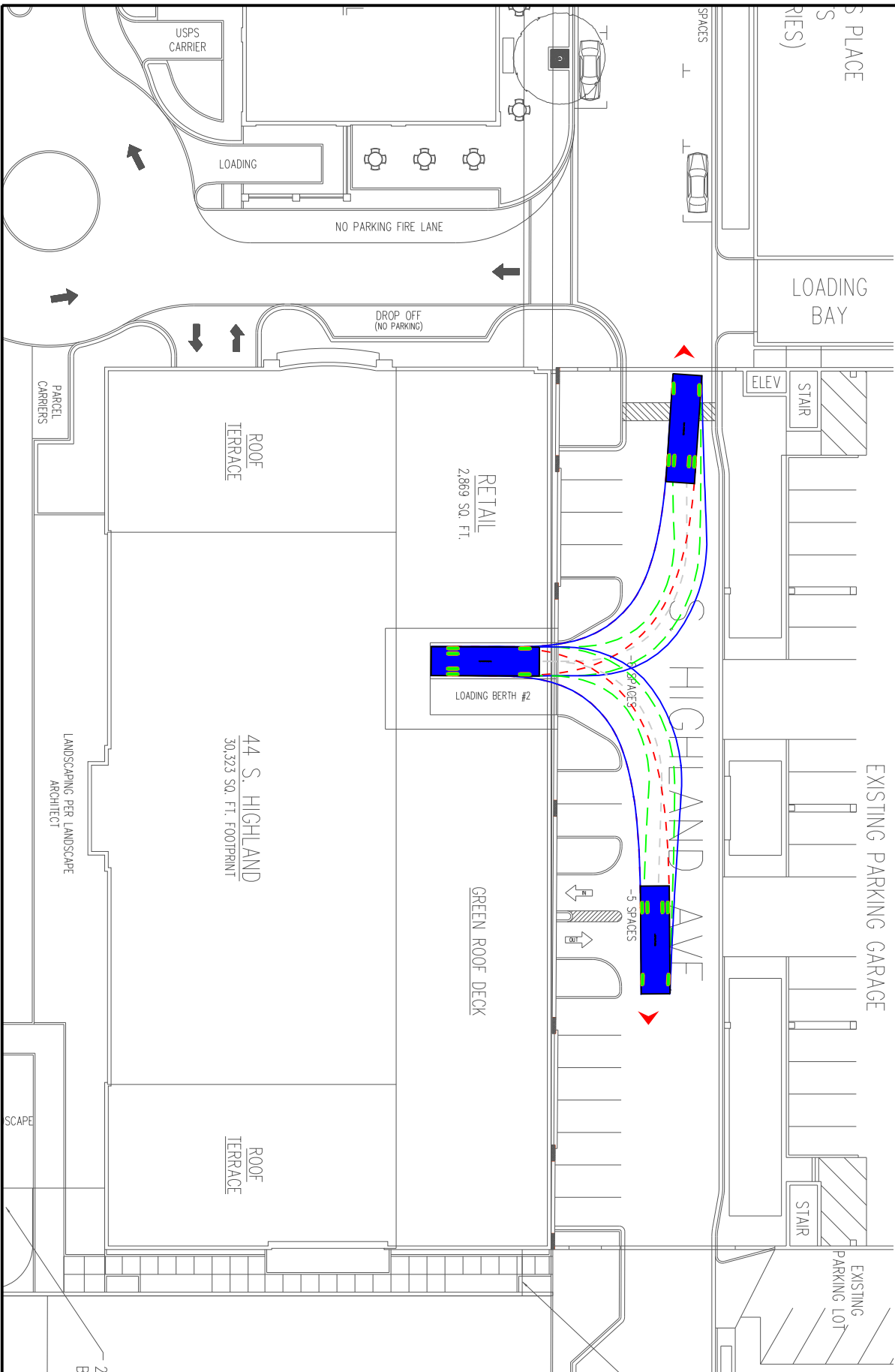
ARLINGTON 425  
 DEVELOPMENT  
 ARLINGTON HEIGHTS, ILLINOIS

**OUTBOUND SINGLE UNIT TRUCK MANEUVERS**

DRAWN: MD  
 DATE: 08-16-18  
 PROJECT # 18-127  
 FIGURE: B2

CHECKED: WW  
 REV: 03-14-19



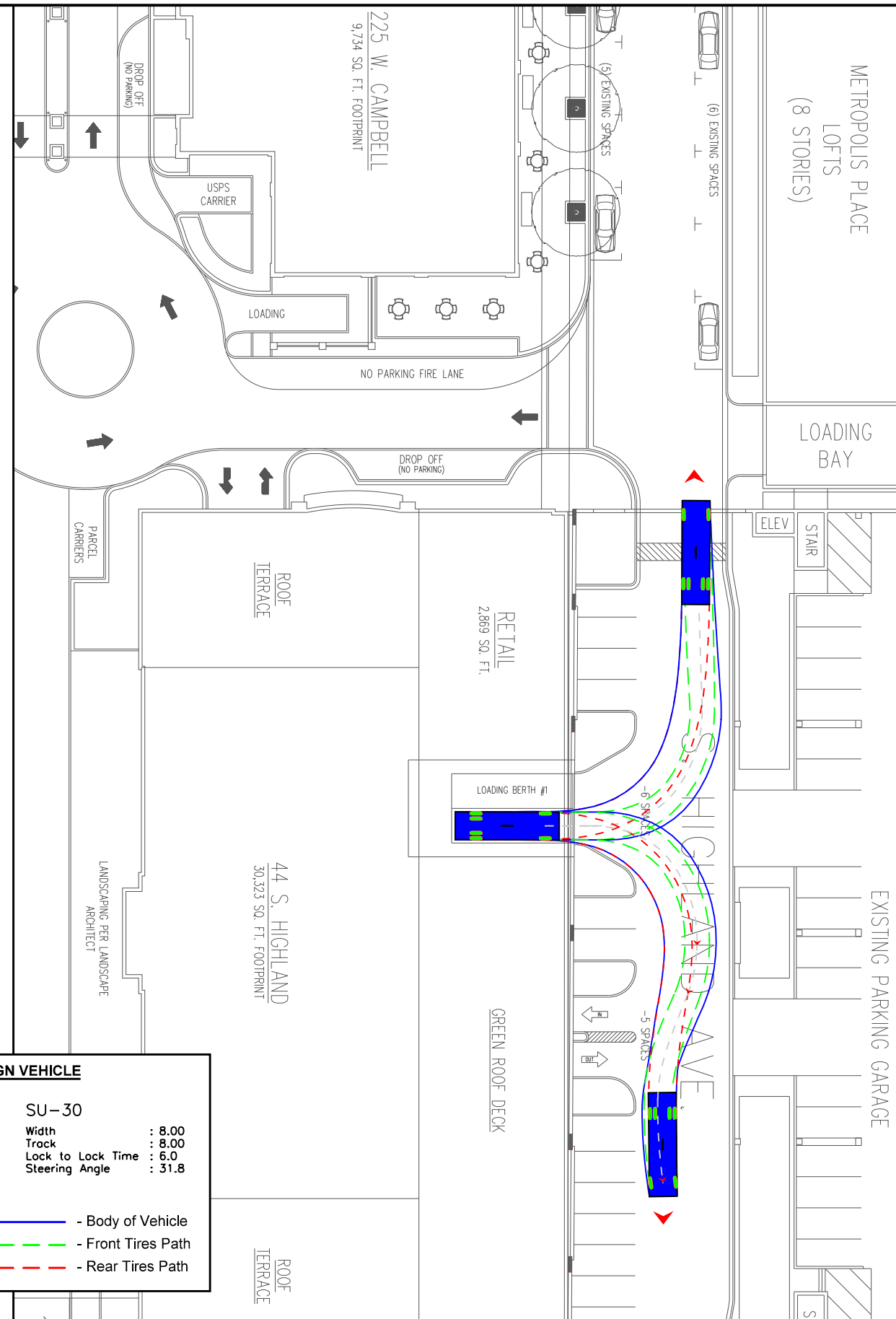


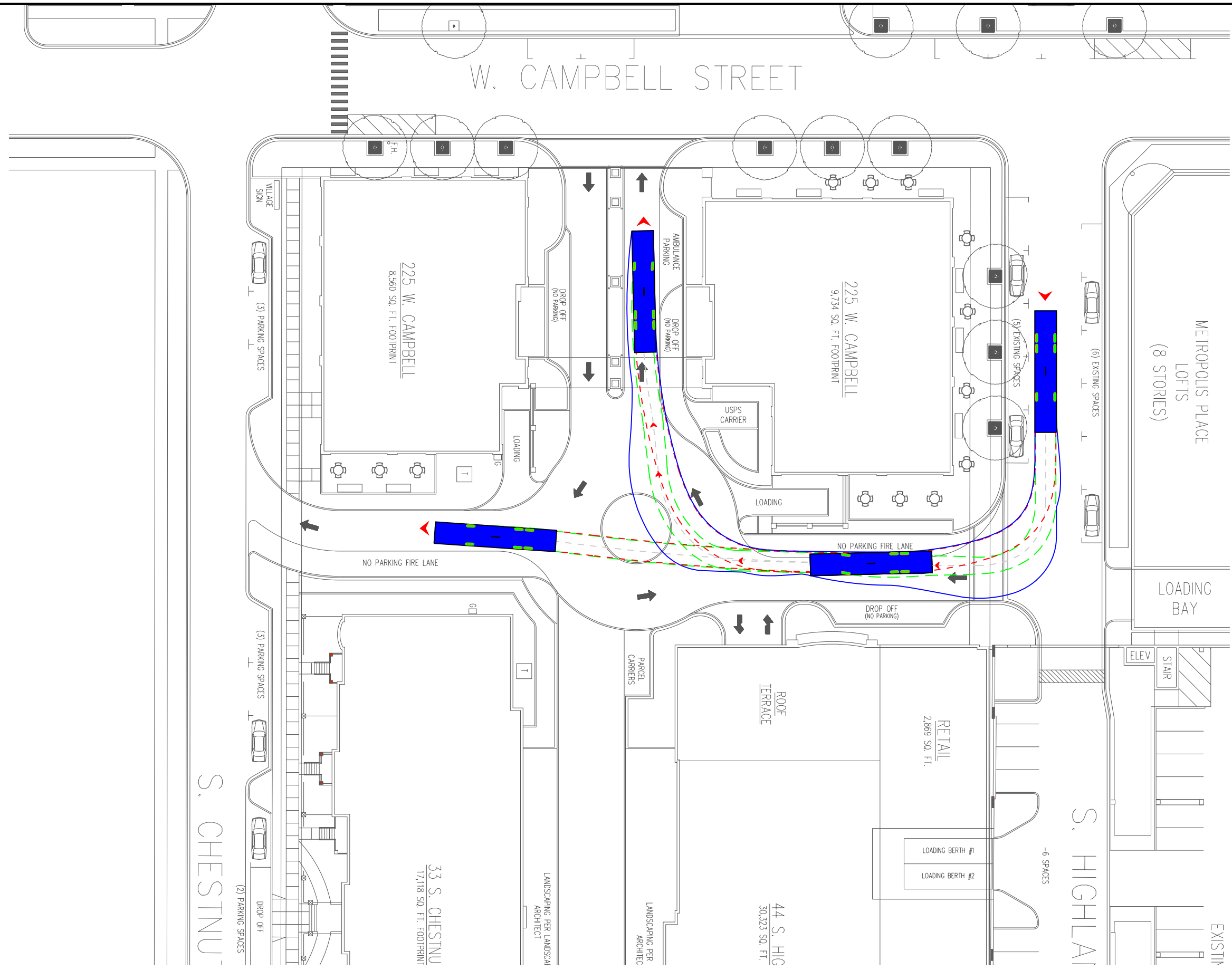
**DESIGN VEHICLE**

SU-30

Width	: 8.00
Truck	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

- - Body of Vehicle
- - - - Front Tires Path
- - - - Rear Tires Path





**DESIGN VEHICLE**

Arlington Hts FT  
Tower 131

Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

— Body of Vehicle  
— Front Tires Path  
— Rear Tires Path

**ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS**

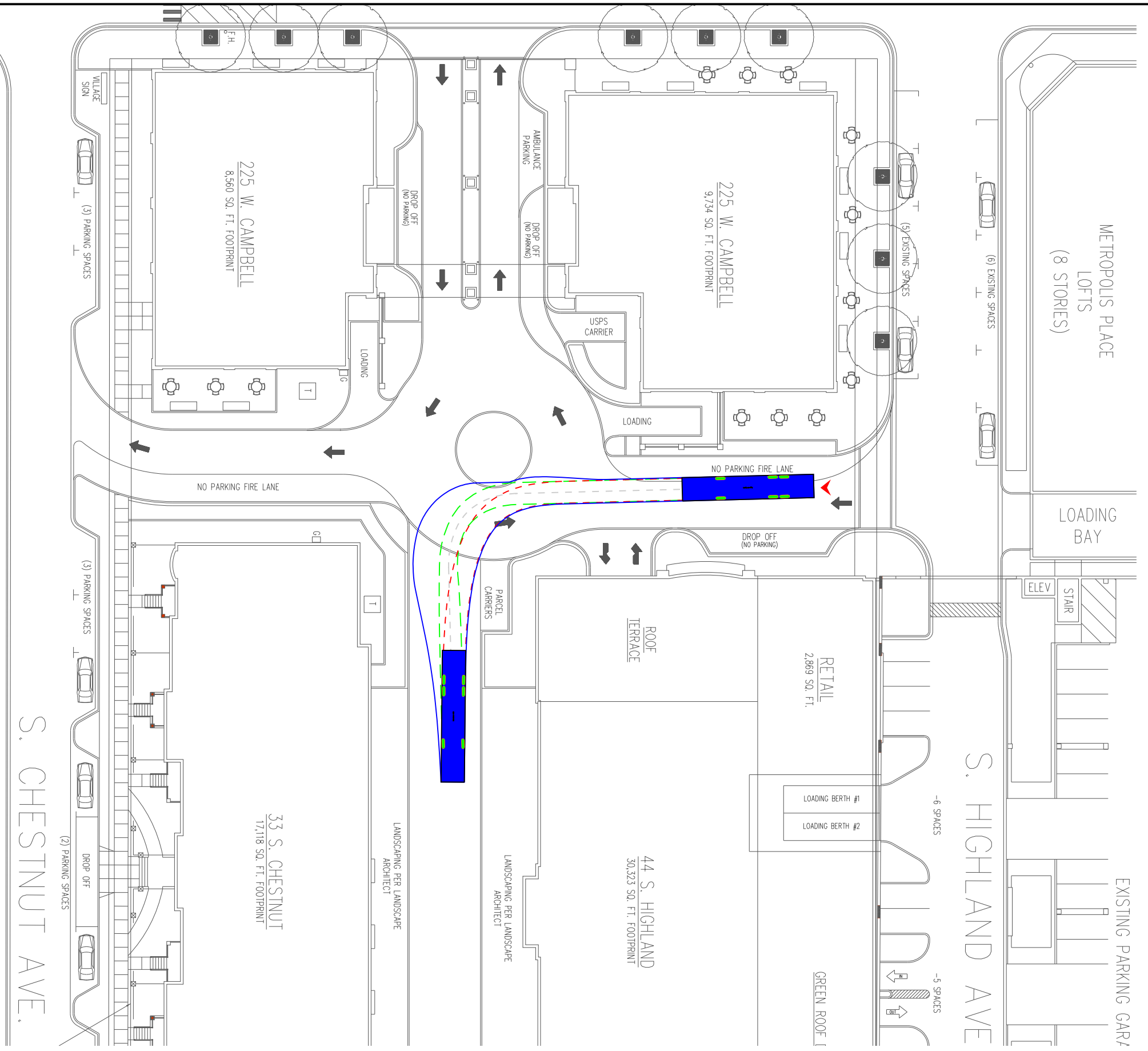
**INBOUND FIRE TRUCK MANEUVERS**

DRAWN: MD  
DATE: 08-16-18  
PROJECT # 18-127

CHECKED: WW  
REV: 03-14-19

FIGURE: C1



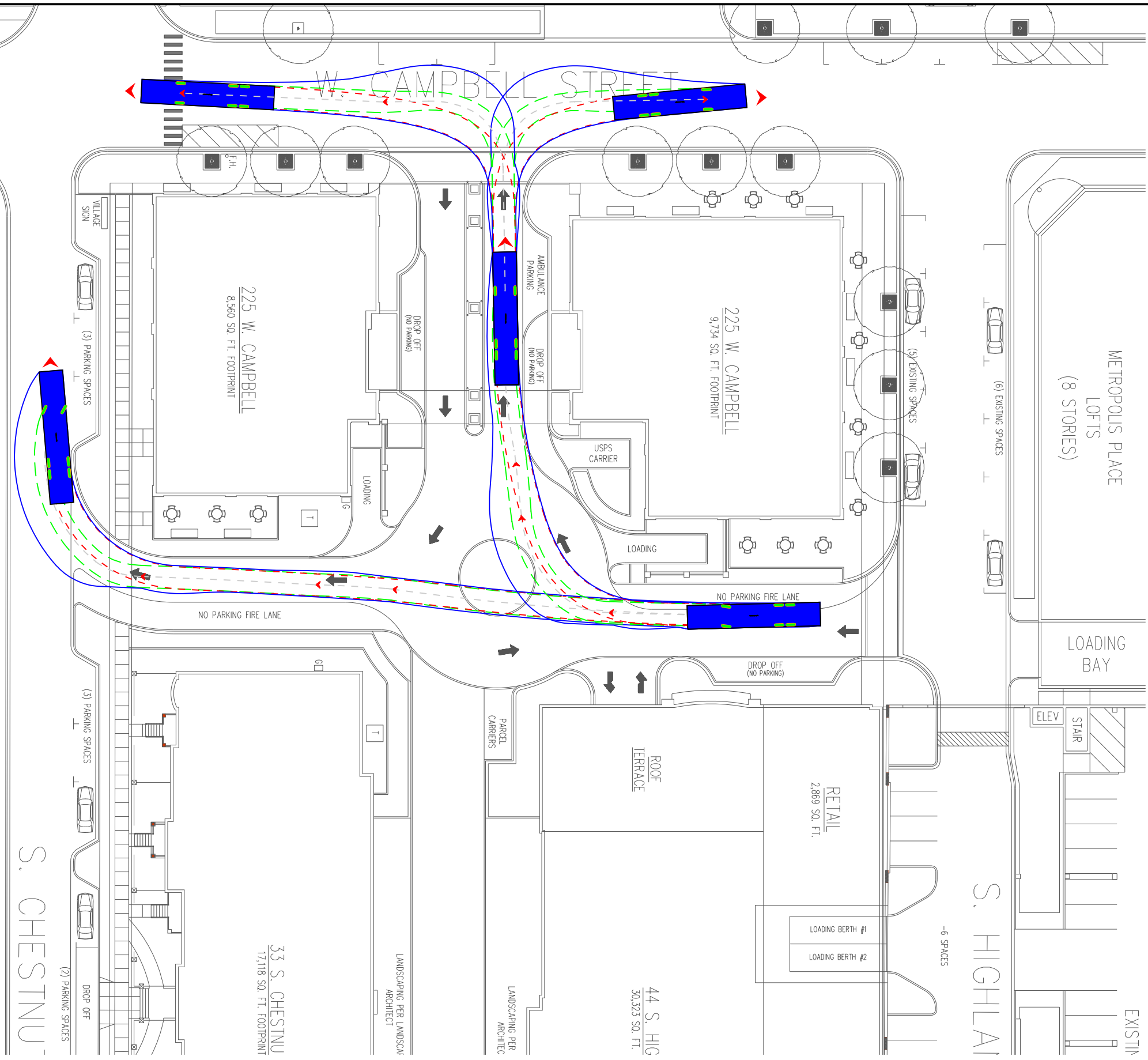


**DESIGN VEHICLE**

Arlington Hts FT  
Tower 131

Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

— Body of Vehicle  
- - - Front Tires Path  
- - - Rear Tires Path



**DESIGN VEHICLE**

Arlington Hts FT Tower 131

Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

— Body of Vehicle  
 - - - Front Tires Path  
 - - - Rear Tires Path

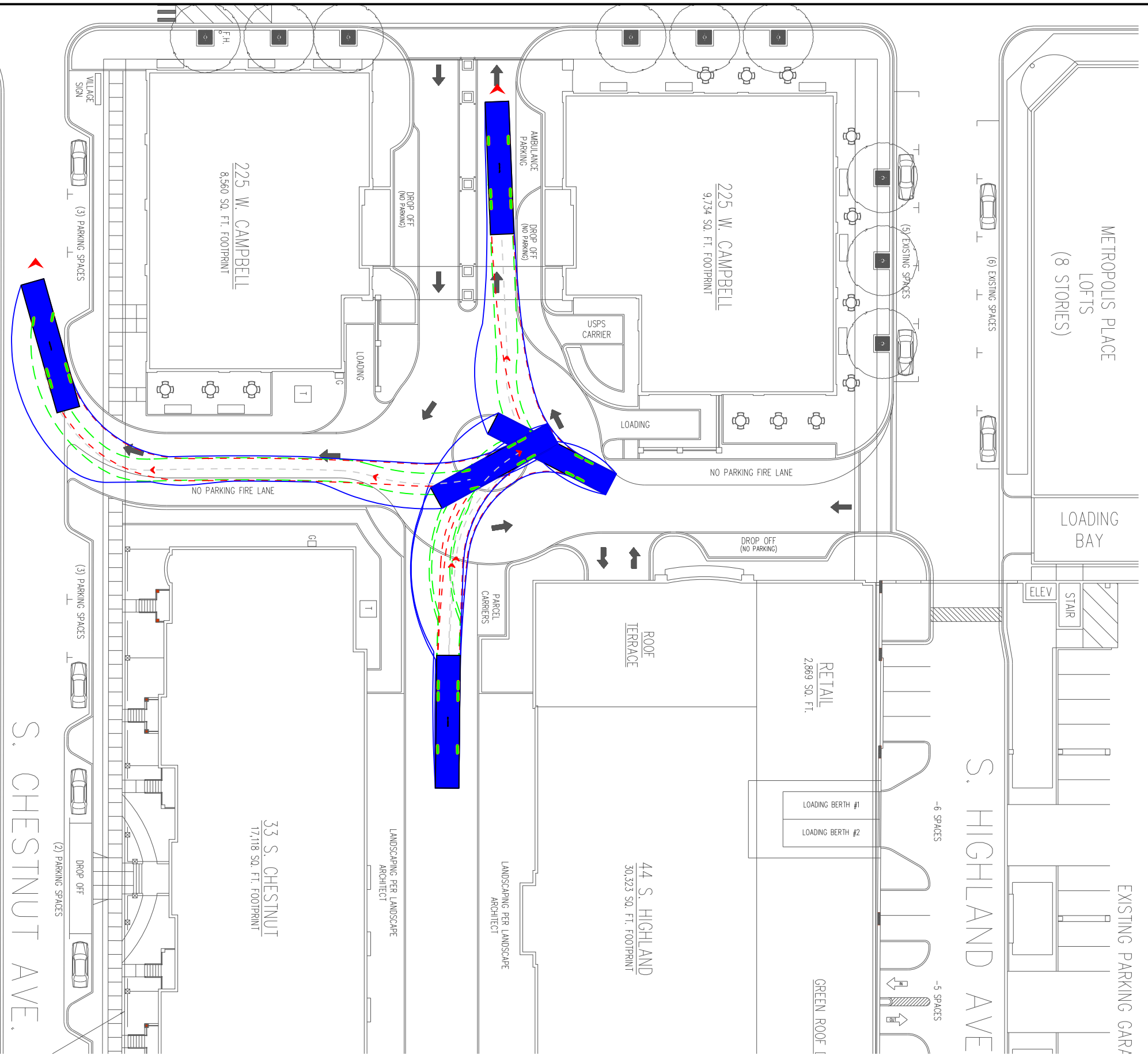
ARLINGTON 425  
 DEVELOPMENT  
 ARLINGTON HEIGHTS, ILLINOIS

**INBOUND FIRE TRUCK MANEUVERS**

DRAWN: MD  
 DATE: 08-16-18  
 PROJECT # 18-127  
 FIGURE: C3

CHECKED: WW  
 REV: 03-14-19





**DESIGN VEHICLE**

Arlington Hts FT  
Tower 131

Width	: 8.50
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

- - Body of Vehicle
- - - - Front Tires Path
- - - - Rear Tires Path

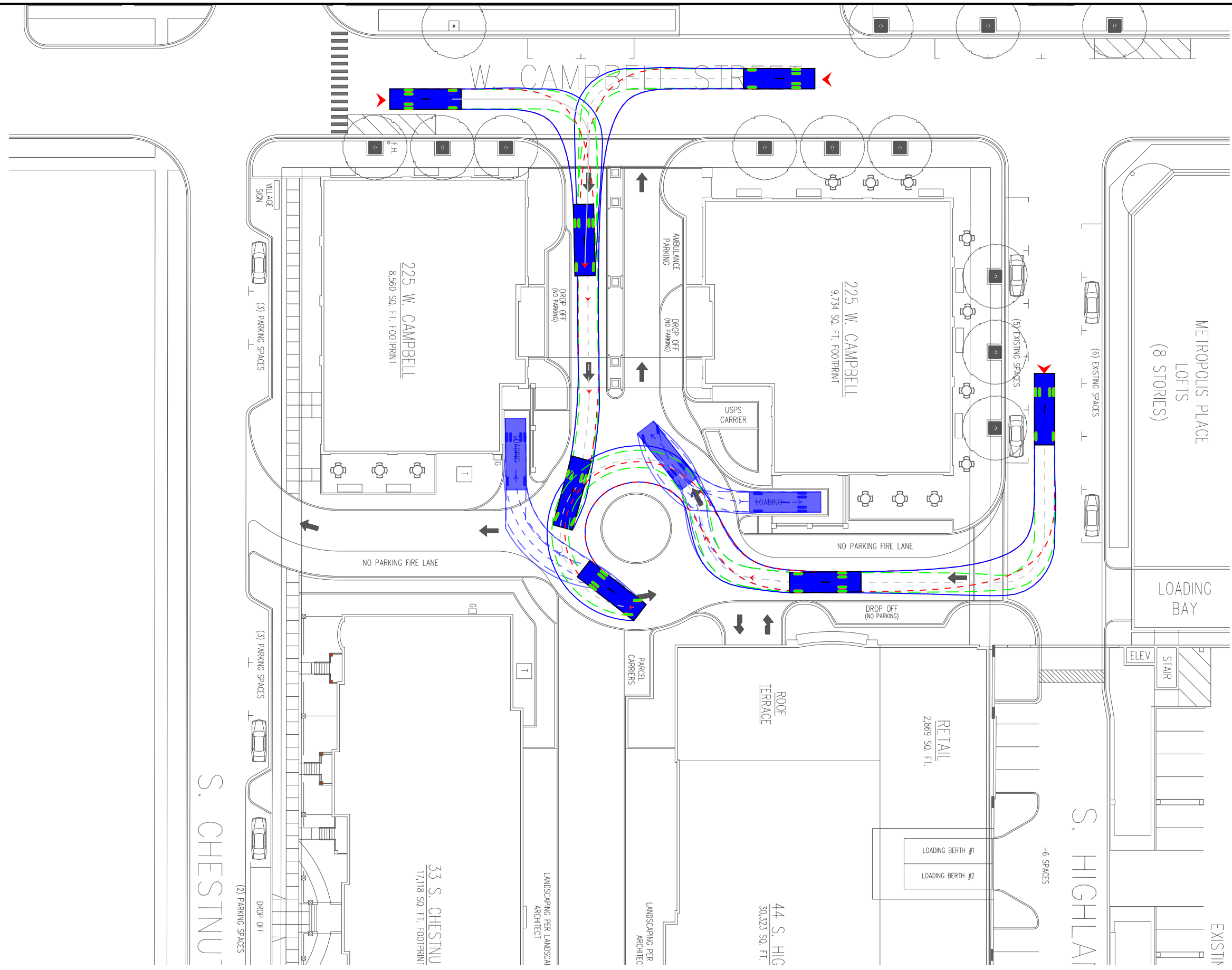
ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS

**OUTBOUND FIRE TRUCK MANEUVERS  
FROM COURTYARD**

DRAWN: MD  
DATE: 08-16-18  
PROJECT # 18-127  
FIGURE: C4

CHECKED: WW  
REV: 03-14-19





**DESIGN VEHICLE**

Wayne Royal GT16

Width	: 8.00
Track	: 8.04
Lock to Lock Time	: 6.0
Steering Angle	: 48.0

— - Body of Vehicle  
- - - - Front Tires Path  
- - - - Rear Tires Path

ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS

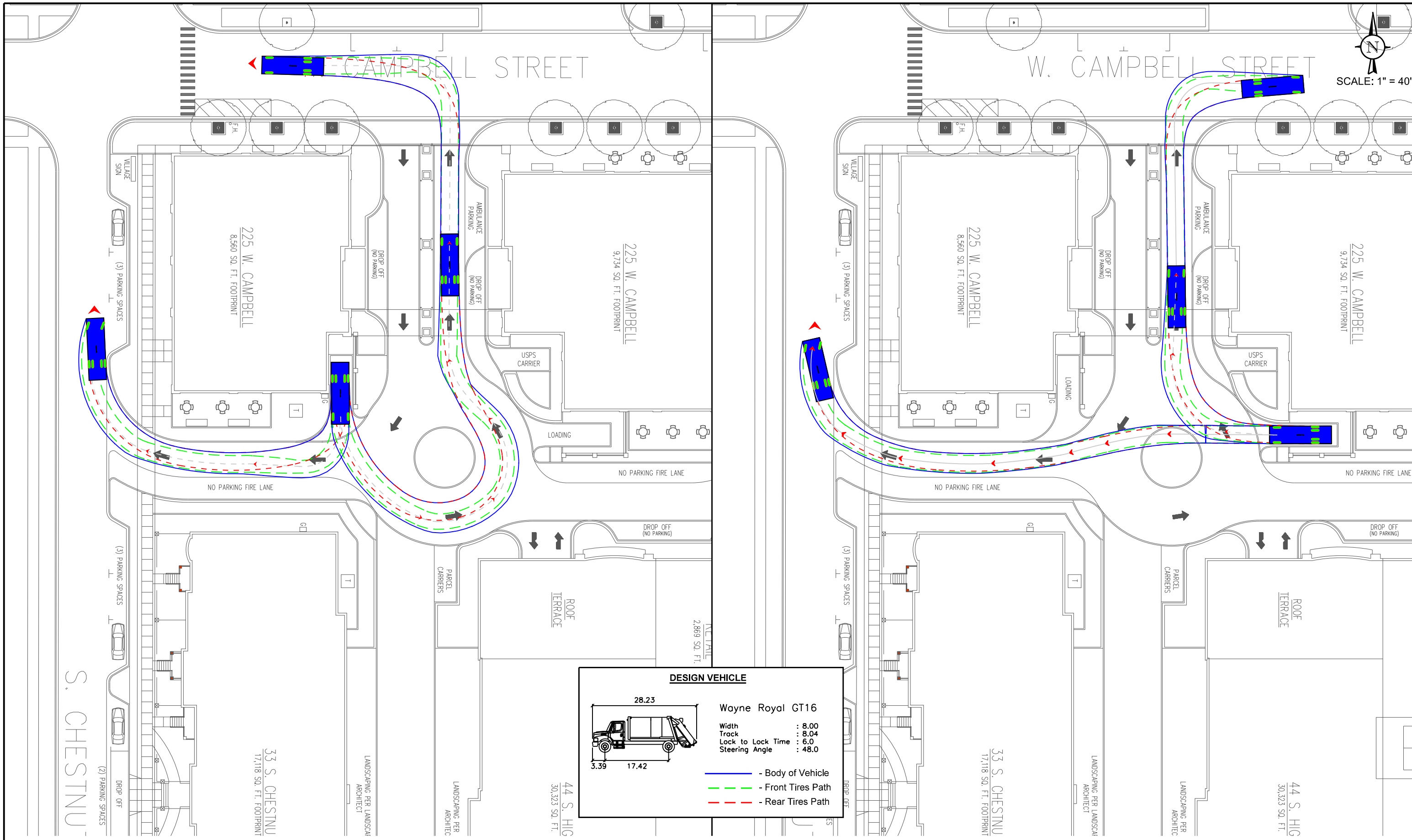
**INBOUND GARBAGE TRUCK MANEUVERS**

DRAWN: MD  
DATE: 08-16-18  
PROJECT # 18-127  
FIGURE: D1

CHECKED: WW  
REV: 03-14-19







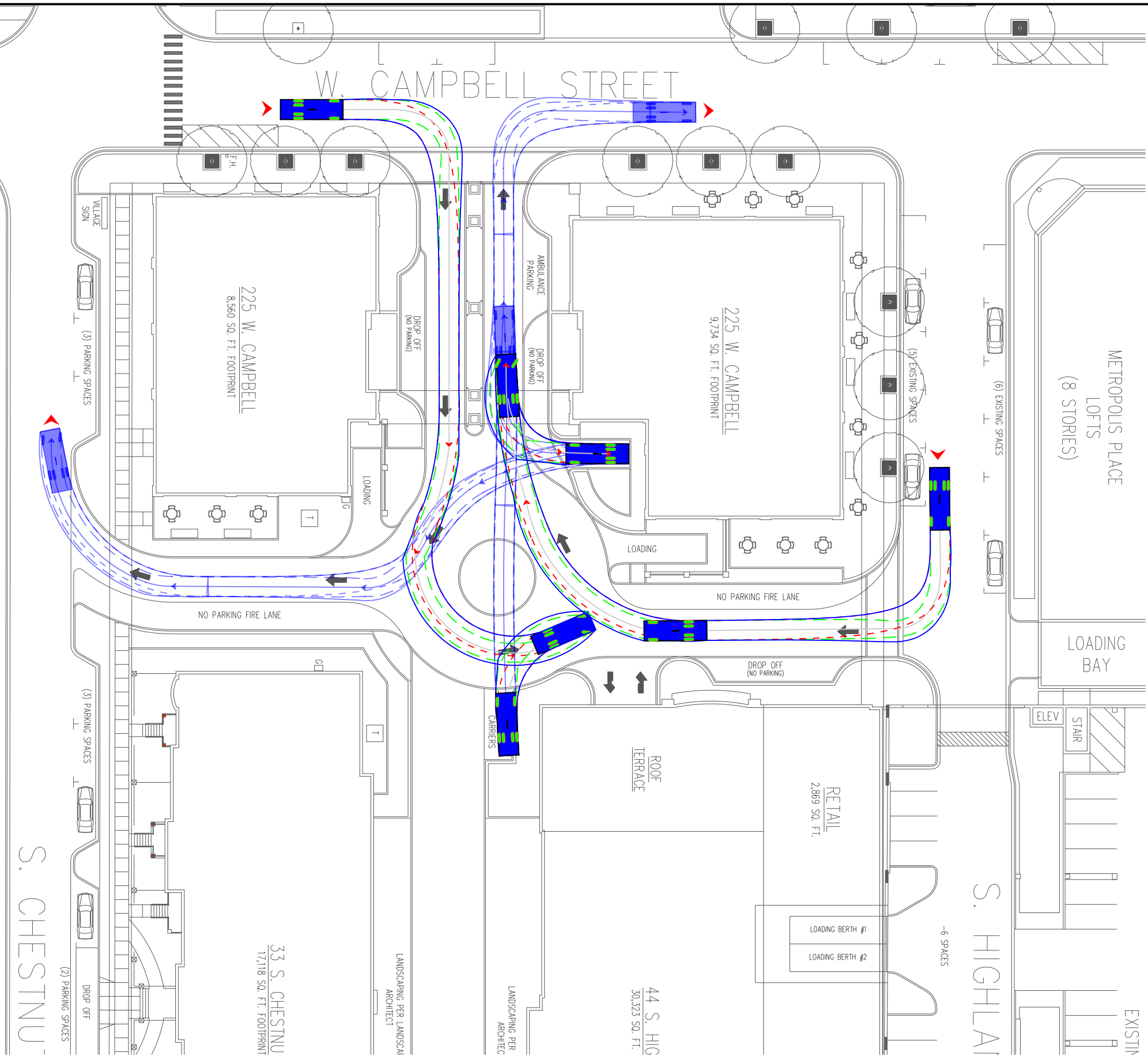
**ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS**

**OUTBOUND GARBAGE TRUCK MANEUVERS**

DRAWN: MD  
DATE: 08-16-18  
PROJECT # 18-127  
FIGURE: D2

CHECKED: WW  
REV: 03-14-19





**DESIGN VEHICLE**

Custom Medium Truck  
 Width : 7.12  
 Track : 7.12  
 Lock to Lock Time : 6.0  
 Steering Angle : 40.0

- - Body of Vehicle
- - - - Front Tires Path
- - - - Rear Tires Path

ARLINGTON 425  
DEVELOPMENT  
ARLINGTON HEIGHTS, ILLINOIS

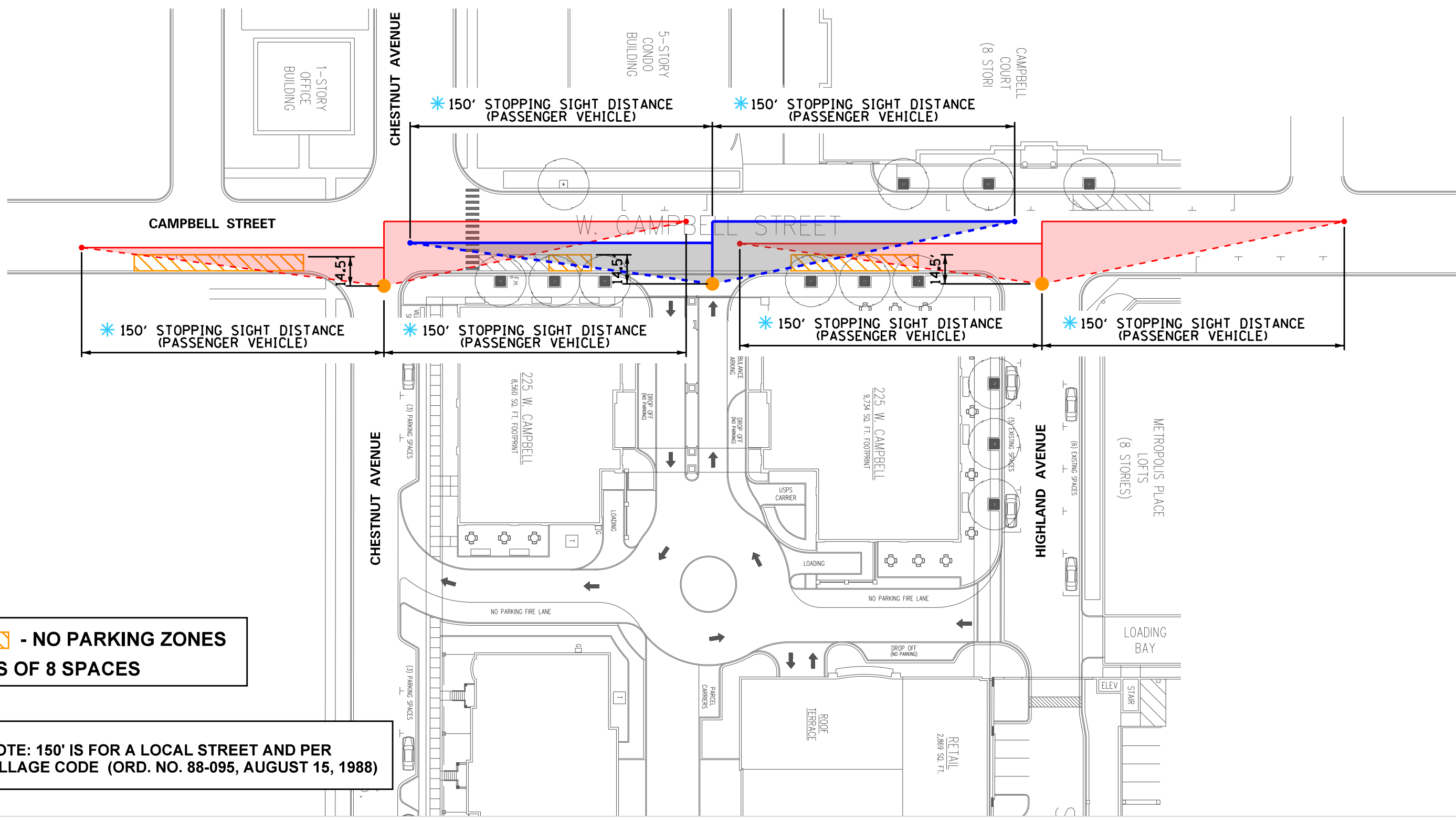
**PARCEL CARRIER TRUCK MANEUVERS**

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DATE: 08-16-18  
PROJECT # 18-127

CHECKED: WW  
REV: 03-14-19

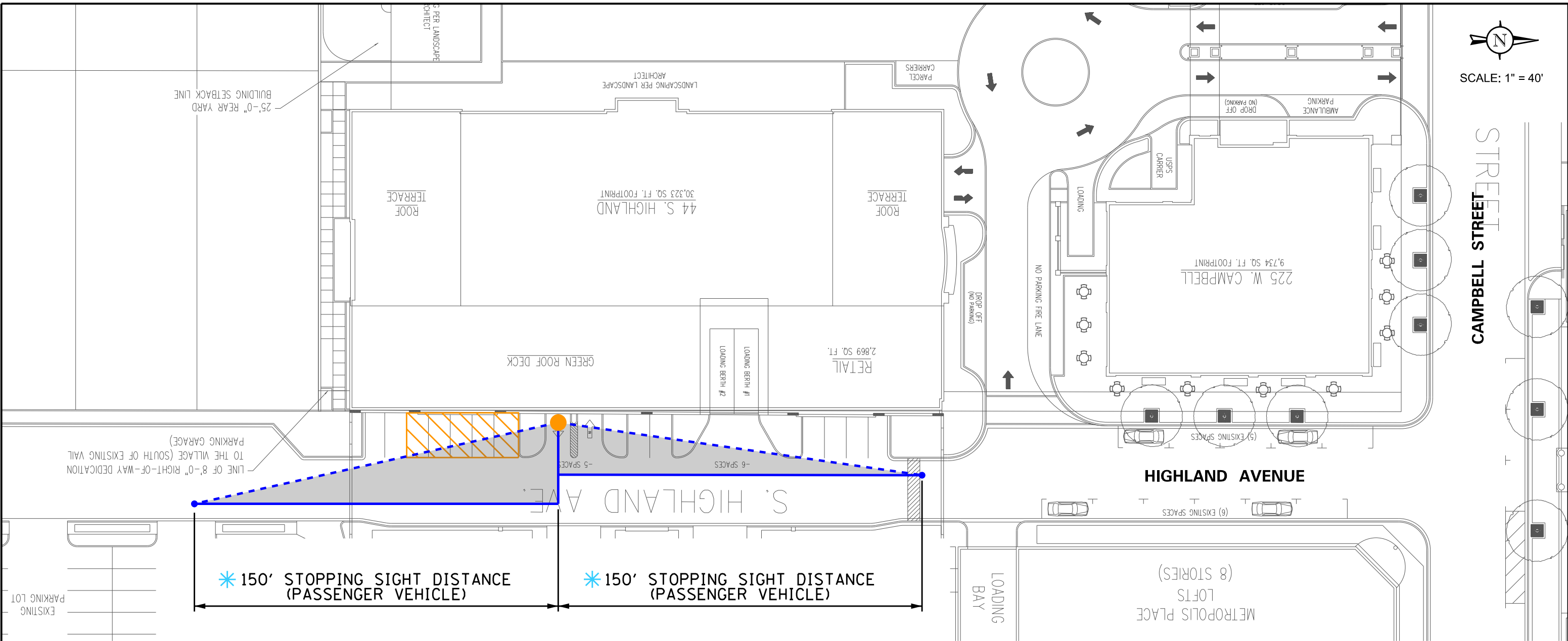
FIGURE: E





- 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)



\* 150' STOPPING SIGHT DISTANCE (PASSENGER VEHICLE)

\* 150' STOPPING SIGHT DISTANCE (PASSENGER VEHICLE)

- 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)

## 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: 06/26/2018  
 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	App. Total	Int. Total
7:00 AM	0	9	11	0	20	0	0	15	1	15	0	8	5	4	13	48
7:15 AM	0	17	8	0	25	0	0	14	3	14	0	7	8	3	15	54
7:30 AM	0	20	13	0	33	0	2	16	5	18	0	7	4	1	11	62
7:45 AM	0	27	17	0	44	0	3	18	4	21	0	6	4	2	10	75
Hourly Total	0	73	49	0	122	0	5	63	13	68	0	28	21	10	49	239
8:00 AM	0	22	8	0	30	1	1	16	3	18	0	3	5	1	8	56
8:15 AM	0	39	13	0	52	0	4	18	1	22	0	8	8	0	16	90
8:30 AM	0	38	5	0	43	0	4	17	1	21	0	6	12	3	18	82
8:45 AM	0	41	10	0	51	0	3	16	2	19	0	1	14	5	15	85
Hourly Total	0	140	36	0	176	1	12	67	7	80	0	18	39	9	57	313
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	37	5	1	42	0	6	30	3	36	0	5	9	6	14	92
4:15 PM	0	40	5	2	45	4	1	22	2	27	0	2	5	5	7	79
4:30 PM	0	38	6	0	44	0	3	40	0	43	0	2	9	6	11	98
4:45 PM	0	36	12	3	48	3	3	24	0	30	0	2	7	3	9	87
Hourly Total	0	151	28	6	179	7	13	116	5	136	0	11	30	20	41	356
5:00 PM	0	36	7	0	43	0	10	38	3	48	0	8	17	5	25	116
5:15 PM	0	23	7	0	30	0	10	35	2	45	0	6	16	0	22	97
5:30 PM	0	36	6	0	42	0	9	31	1	40	0	10	18	1	28	110
5:45 PM	0	43	8	1	51	1	18	16	5	35	0	7	9	8	16	102
Hourly Total	0	138	28	1	166	1	47	120	11	168	0	31	60	14	91	425
Grand Total	0	502	141	7	643	9	77	366	36	452	0	88	150	53	238	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	1314
% Lights	-	99.6	99.3	-	99.5	100.0	97.4	97.3	-	97.3	-	98.9	98.0	-	98.3	98.6
Buses	0	0	0	-	0	0	0	1	-	1	0	1	0	-	1	2
% Buses	-	0.0	0.0	-	0.0	0.0	0.0	0.3	-	0.2	-	1.1	0.0	-	0.4	0.2
Single-Unit Trucks	0	0	1	-	1	0	0	4	-	4	0	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	-	0.0	0.4
Articulated Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.3	-	0.2	-	0.0	0.0	-	0.0	0.1
Bicycles on Road	0	2	0	-	2	0	2	4	-	6	0	0	3	-	3	11
% Bicycles on Road	-	0.4	0.0	-	0.3	0.0	2.6	1.1	-	1.3	-	0.0	2.0	-	1.3	0.8
Pedestrians	-	-	-	7	-	-	-	-	36	-	-	-	-	53	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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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	App. Total	Int. Total
8:00 AM	0	22	8	0	30	1	1	16	3	18	0	3	5	1	8	56
8:15 AM	0	39	13	0	52	0	4	18	1	22	0	8	8	0	16	90
8:30 AM	0	38	5	0	43	0	4	17	1	21	0	6	12	3	18	82
8:45 AM	0	41	10	0	51	0	3	16	2	19	0	1	14	5	15	85
Total	0	140	36	0	176	1	12	67	7	80	0	18	39	9	57	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	-	0.792	0.869
Lights	0	140	35	-	175	1	12	63	-	76	0	18	39	-	57	308
% Lights	-	100.0	97.2	-	99.4	100.0	100.0	94.0	-	95.0	-	100.0	100.0	-	100.0	98.4
Buses	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Buses	-	0.0	0.0	-	0.0	0.0	0.0	1.5	-	1.3	-	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	1	-	1	0	0	2	-	2	0	0	0	-	0	3
% Single-Unit Trucks	-	0.0	2.8	-	0.6	0.0	0.0	3.0	-	2.5	-	0.0	0.0	-	0.0	1.0
Articulated Trucks	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
Bicycles on Road	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	0.0	1.5	-	1.3	-	0.0	0.0	-	0.0	0.3
Pedestrians	-	-	-	0	-	-	-	-	7	-	-	-	-	9	-	-
% Pedestrians	-	-	-	-	-	-	-	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	App. Total	Int. Total
5:00 PM	0	36	7	0	43	0	10	38	3	48	0	8	17	5	25	116
5:15 PM	0	23	7	0	30	0	10	35	2	45	0	6	16	0	22	97
5:30 PM	0	36	6	0	42	0	9	31	1	40	0	10	18	1	28	110
5:45 PM	0	43	8	1	51	1	18	16	5	35	0	7	9	8	16	102
Total	0	138	28	1	166	1	47	120	11	168	0	31	60	14	91	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	-	0.813	0.916
Lights	0	137	28	-	165	1	45	120	-	166	0	31	60	-	91	422
% Lights	-	99.3	100.0	-	99.4	100.0	95.7	100.0	-	98.8	-	100.0	100.0	-	100.0	99.3
Buses	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
Single-Unit Trucks	0	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	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	-	0	3
% Bicycles on Road	-	0.7	0.0	-	0.6	0.0	4.3	0.0	-	1.2	-	0.0	0.0	-	0.0	0.7
Pedestrians	-	-	-	1	-	-	-	-	11	-	-	-	-	14	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-





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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
7:00 AM	0	4	24	0	0	28	0	0	24	2	3	26	0	0	1	2	3	3
7:15 AM	0	2	24	1	0	27	0	0	18	3	2	21	0	0	2	0	3	2
7:30 AM	0	5	26	0	1	31	0	0	22	2	1	24	0	1	1	0	0	2
7:45 AM	0	0	43	5	3	48	0	1	25	2	4	28	0	2	4	0	2	6
Hourly Total	0	11	117	6	4	134	0	1	89	9	10	99	0	3	8	2	8	13
8:00 AM	0	2	34	1	1	37	0	1	25	1	1	27	0	2	1	0	2	1
8:15 AM	0	3	38	1	1	42	0	0	28	2	3	30	0	2	0	0	1	2
8:30 AM	0	6	38	1	1	45	0	1	28	1	0	30	0	1	1	0	2	2
8:45 AM	0	2	43	3	1	48	0	0	26	2	2	28	0	1	2	2	2	5
Hourly Total	0	13	153	6	4	172	0	2	107	6	6	115	0	4	4	2	7	10
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	7	53	0	2	60	0	0	29	1	1	30	0	3	0	0	5	3
4:15 PM	0	4	35	0	1	39	0	0	38	2	1	40	0	6	1	0	0	7
4:30 PM	0	6	24	0	1	30	1	2	30	5	0	38	0	2	2	0	2	4
4:45 PM	0	3	33	4	0	40	0	0	31	2	0	33	0	2	2	3	2	7
Hourly Total	0	20	145	4	4	169	1	2	128	10	2	141	0	13	5	3	9	21
5:00 PM	0	2	40	3	0	45	0	0	34	0	0	34	0	4	2	2	2	8
5:15 PM	0	7	41	2	0	50	2	2	26	3	0	33	0	4	2	0	0	6
5:30 PM	0	5	29	4	0	38	1	5	35	6	2	47	0	4	1	2	4	7
5:45 PM	0	6	50	3	1	59	2	1	31	3	4	37	0	2	8	3	6	13
Hourly Total	0	20	160	12	1	192	5	8	126	12	6	151	0	14	13	7	12	34
Grand Total	0	64	575	28	13	667	6	13	450	37	24	506	0	34	30	14	36	78
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	-	-
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
Lights	0	60	564	27	-	651	6	13	440	35	-	494	0	34	27	13	-	74
% 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
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	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
Single-Unit Trucks	0	0	7	0	-	7	0	0	5	2	-	7	0	0	1	1	-	2
% 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
Articulated Trucks	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0
% 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
Bicycles on Road	0	3	3	1	-	7	0	0	5	0	-	5	0	0	0	0	-	0
% 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
Pedestrians	-	-	-	-	-	13	-	-	-	-	-	24	-	-	-	-	-	36
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42



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Count Name: Campbell St and Chestnut Ave  
Site Code: 08/08/2017  
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	Int. Total
8:00 AM	0	2	34	1	1	37	0	1	25	1	1	27	0	0	1	0	0	2	1	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
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
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	0.940
Lights	0	13	151	6	-	170	0	2	104	5	-	111	0	4	4	2	-	10	0	6	5	7	-	18	309
% 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	97.8
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
% 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
Single-Unit Trucks	0	0	2	0	-	2	0	0	3	1	-	4	0	0	0	0	-	0	0	0	0	1	-	1	7
% 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	2.2
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
Bicycles on Road	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	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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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										
	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	
5:00 PM	0	2	40	3	0	45	0	0	34	0	0	34	0	4	2	2	2	2	0	1	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	0	0	1	1	5	0	0	7	96
5:30 PM	0	5	29	4	0	38	1	5	35	6	2	47	0	4	1	2	4	4	0	5	2	3	4	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	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	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: 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
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
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
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
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
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
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
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
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
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
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
*** 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
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
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
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
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
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
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
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
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
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
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
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
% 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
Buses	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0
% 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
Single-Unit Trucks	0	0	6	0	-	6	0	0	7	0	-	7	0	0	0	1	-	1	0	1	0	0	-	1
% 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
Articulated Trucks	0	0	0	0	-	0	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0
% 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
Bicycles on Road	0	0	2	1	-	3	0	3	1	0	-	4	0	0	3	0	-	3	0	0	3	0	-	3
% 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
Pedestrians	-	-	-	-	22	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	16	-



Kenig Lindgren O'Hara Aboona, Inc.  
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Count Name: Sigwalt Street and Highland Avenue  
Site Code: 06/26/2018  
Start Date: 06/26/2018  
Page No.: 3

### Turning Movement Peak Hour Data (8:00 AM)

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
8:00 AM	0	0	25	2	1	27	0	1	14	3	0	18	0	3	3	3	0	0	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	0	8	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	0	8	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
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
Approach %	0.0	3.5	93.0	3.5	-	-	0.0	9.0	71.7	19.3	-	-	0.0	28.3	28.3	43.4	-	-	0.0	60.6	24.2	15.2	-	-	-
Total %	0.0	1.2	30.7	1.2	-	33.0	0.0	3.8	30.1	8.1	-	42.0	0.0	4.3	4.3	6.7	-	15.4	0.0	5.8	2.3	1.4	-	9.6	-
PHF	0.000	0.500	0.828	0.500	-	0.838	0.000	0.406	0.722	0.778	-	0.684	0.000	0.469	0.750	0.383	-	0.473	0.000	0.625	0.667	0.625	-	0.750	0.686
Lights	0	4	104	4	-	112	0	13	103	28	-	144	0	15	15	22	-	52	0	19	8	5	-	32	340
% Lights	-	100.0	98.1	100.0	-	98.2	-	100.0	99.0	100.0	-	99.3	-	100.0	100.0	95.7	-	98.1	-	95.0	100.0	100.0	-	97.0	98.6
Buses	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	-	0.0	0.9	0.0	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	1	-	1	0	1	0	0	-	1	3
% Single-Unit Trucks	-	0.0	0.9	0.0	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	4.3	-	1.9	-	5.0	0.0	0.0	-	3.0	0.9
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	1.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Bicycles on Road	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	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	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: 06/26/2018  
Start Date: 06/26/2018  
Page No.: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Highland Avenue Northbound					Highland Avenue Southbound											
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total	
5:00 PM	0	0	28	2	30	0	2	48	4	54	0	1	3	1	5	0	6	6	5	17	0	6	6	5	2	17	106
5:15 PM	0	2	29	3	34	0	1	28	3	32	0	1	7	2	10	0	7	4	5	16	0	7	4	5	0	16	92
5:30 PM	0	3	25	0	28	0	2	48	4	54	0	0	4	1	5	0	13	8	13	34	0	13	8	13	1	34	121
5:45 PM	0	5	26	1	32	0	2	43	5	50	0	2	2	7	11	0	7	7	3	17	0	7	7	3	2	17	110
Total	0	10	108	6	124	0	7	167	16	190	0	4	16	11	31	0	33	25	26	84	0	33	25	26	5	84	429
Approach %	0.0	8.1	87.1	4.8	-	0.0	3.7	87.9	8.4	-	0.0	12.9	51.6	35.5	-	0.0	39.3	29.8	31.0	-	0.0	0.0	0.0	0.0	0.0	-	-
Total %	0.0	2.3	25.2	1.4	28.9	0.0	1.6	38.9	3.7	44.3	0.0	0.9	3.7	2.6	7.2	0.0	7.7	5.8	6.1	19.6	0.0	0.0	0.0	0.0	0.0	19.6	-
PHF	0.000	0.500	0.931	0.500	0.912	0.000	0.875	0.870	0.800	0.880	0.000	0.500	0.571	0.393	0.705	0.000	0.635	0.781	0.500	0.618	0.000	0.635	0.781	0.500	0.500	0.886	0.886
% Lights	0	10	105	6	121	0	7	163	16	186	0	4	16	11	31	0	33	24	26	83	0	33	24	26	2	83	421
% Lights	-	100.0	97.2	100.0	97.6	-	100.0	97.6	100.0	97.9	-	100.0	100.0	100.0	100.0	-	100.0	96.0	100.0	98.8	-	100.0	96.0	100.0	-	98.8	98.1
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
% 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	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% Single-Unit Trucks	-	0.0	2.8	0.0	2.4	-	0.0	1.8	0.0	1.6	-	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	1.4
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
% 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	0.0	0.0	0.0	0.0
Bicycles on Road	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1	2
% Bicycles on Road	-	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	4.0	0.0	1.2	-	0.0	4.0	0.0	0.0	1.2	0.5
Pedestrians	-	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	-	-	-	5	-	-	-	-	-	5	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-



**Kenig Lindgren O'Hara Aboona, Inc.**  
Kenig, Lindgren, O'Hara, Aboona, Inc.

9575 W. Higgins Rd., Suite 400  
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Count Name: Sigwalt/Chestnut  
Site Code:  
Start Date: 05/18/2017  
Page No: 1

### Turning Movement Data

Start Time	Sigwalt Street Eastbound				Sigwalt Street Westbound				Chestnut Avenue Northbound				Chestnut Avenue 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						
7:00 AM	0	0	58	0	0	58	0	0	26	0	1	26	0	1	0	0	1	2	2	2	5	91			
7:15 AM	0	0	29	0	0	29	0	0	14	2	1	16	0	1	0	0	0	1	0	0	1	1	47		
7:30 AM	0	0	54	1	0	54	0	2	30	1	0	33	0	4	4	0	0	1	0	0	1	8	97		
7:45 AM	0	1	70	0	1	71	0	0	39	3	3	42	0	0	1	1	0	0	2	2	1	0	5	120	
Hourly Total	0	1	210	1	1	212	0	2	109	6	5	117	0	2	1	4	6	7	0	8	3	4	19	355	
8:00 AM	0	2	39	1	0	42	0	0	36	2	0	38	0	1	0	1	1	2	1	1	0	0	3	85	
8:15 AM	0	0	30	1	0	31	0	2	22	3	0	27	0	1	0	1	0	2	0	1	1	0	3	63	
8:30 AM	0	0	24	2	0	26	0	0	31	2	0	33	0	0	1	0	1	1	0	1	1	0	3	63	
8:45 AM	0	1	32	0	3	33	0	1	29	3	0	33	0	0	1	0	0	1	0	3	1	2	0	73	
Hourly Total	0	3	125	4	3	132	0	3	118	10	0	131	0	2	1	3	1	6	1	6	4	4	15	284	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	3	26	0	0	29	0	1	39	4	3	44	0	0	1	1	1	7	2	0	3	2	1	6	81
4:15 PM	0	1	25	0	1	26	0	0	34	1	2	35	0	0	1	1	6	2	0	8	2	1	1	11	74
4:30 PM	0	0	31	2	1	33	0	0	50	0	0	50	0	0	0	2	1	2	0	1	3	0	3	4	89
4:45 PM	0	1	33	0	0	34	0	4	45	8	2	57	0	0	0	0	2	0	0	2	2	2	2	6	97
Hourly Total	0	5	115	2	2	122	0	5	168	13	7	186	0	0	2	4	16	6	0	14	9	4	7	27	341
5:00 PM	0	1	30	0	0	31	0	2	61	3	1	66	0	2	0	1	1	3	0	8	0	1	0	9	109
5:15 PM	0	0	39	0	0	39	0	0	54	6	1	60	0	1	2	0	3	3	0	2	5	2	0	9	111
5:30 PM	0	4	30	1	1	35	0	1	43	5	1	49	0	0	1	2	1	3	0	5	1	2	1	8	95
5:45 PM	0	2	32	1	1	35	0	2	49	14	0	65	0	0	0	1	3	1	0	5	1	0	1	6	107
Hourly Total	0	7	131	2	2	140	0	5	207	28	3	240	0	3	3	4	8	10	0	20	7	5	2	32	422
Grand Total	0	16	581	9	8	606	0	15	602	57	15	674	0	7	7	15	31	29	1	48	28	16	13	93	1402
Approach %	0.0	2.6	95.9	1.5	-	-	0.0	2.2	89.3	8.5	-	-	0.0	24.1	24.1	51.7	-	-	1.1	51.6	30.1	17.2	-	-	-
Total %	0.0	1.1	41.4	0.6	-	43.2	0.0	1.1	42.9	4.1	-	48.1	0.0	0.5	0.5	1.1	-	2.1	0.1	3.4	2.0	1.1	-	6.6	-
Lights	0	16	568	8	-	592	0	15	587	55	-	657	0	7	7	15	-	29	1	48	27	16	-	92	1370
% Lights	-	100.0	97.8	88.9	-	97.7	-	100.0	97.5	96.5	-	97.5	-	100.0	100.0	100.0	-	100.0	100.0	100.0	96.4	100.0	-	98.9	97.7
Buses	0	0	1	0	-	1	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	-	0.0	0.2	0.0	-	0.2	-	0.0	0.5	0.0	-	0.4	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	4	1	-	5	0	0	8	1	-	9	0	0	0	0	-	0	0	0	0	0	-	0	14
% Single-Unit Trucks	-	0.0	0.7	11.1	-	0.8	-	0.0	1.3	1.8	-	1.3	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	1.0
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	8	0	-	8	0	0	4	1	-	5	0	0	0	0	-	0	0	0	1	0	-	1	14
% Bicycles on Road	-	0.0	1.4	0.0	-	1.3	-	0.0	0.7	1.8	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0	0.0	3.6	0.0	-	1.1	1.0
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-	13	-



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

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

Count Name: Sigwalt/Chestnut  
 Site Code:  
 Start Date: 05/18/2017  
 Page No: 3

### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Chestnut Avenue Northbound					Chestnut 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	
7:30 AM	0	0	53	1	0	54	0	2	30	1	0	33	0	0	0	2	1	2	0	4	4	0	0	1	8	97
7:45 AM	0	1	70	0	1	71	0	0	39	3	3	42	0	0	1	1	0	2	0	2	2	1	0	0	5	120
8:00 AM	0	2	39	1	0	42	0	0	36	2	0	38	0	1	0	1	1	2	1	1	1	0	0	0	3	85
8:15 AM	0	0	30	1	0	31	0	2	22	3	0	27	0	1	0	1	0	2	0	1	1	1	0	0	3	63
Total	0	3	192	3	1	198	0	4	127	9	3	140	0	2	2	5	2	8	1	8	8	2	1	19	365	
Approach %	0.0	1.5	97.0	1.5	-	-	0.0	2.9	90.7	6.4	-	-	0.0	25.0	12.5	62.5	-	-	5.3	42.1	42.1	10.5	-	-	-	
Total %	0.0	0.8	52.6	0.8	-	54.2	0.0	1.1	34.8	2.5	-	38.4	0.0	0.5	0.3	1.4	-	2.2	0.3	2.2	2.2	0.5	-	5.2	-	
PHF	0.000	0.375	0.686	0.750	-	0.697	0.000	0.500	0.814	0.750	-	0.833	0.000	0.500	0.250	0.625	-	1.000	0.250	0.500	0.500	0.500	-	0.594	0.760	
Lights	0	3	189	3	-	195	0	4	124	7	-	135	0	2	1	5	-	8	1	8	8	2	-	19	357	
% Lights	-	100.0	98.4	100.0	-	98.5	-	100.0	97.6	77.8	-	96.4	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	97.8	
Buses	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1	
% Buses	-	0.0	0.0	0.0	-	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	-	0.0	0.3	
Single-Unit Trucks	0	0	1	0	-	1	0	0	2	1	-	3	0	0	0	0	-	0	0	0	0	0	-	0	4	
% Single-Unit Trucks	-	0.0	0.5	0.0	-	0.5	-	0.0	1.6	11.1	-	2.1	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	1.1	
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	2	0	-	2	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	3	
% Bicycles on Road	-	0.0	1.0	0.0	-	1.0	-	0.0	0.0	11.1	-	0.7	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.8	
Pedestrians	-	-	-	-	1	100.0	-	-	-	-	3	100.0	-	-	-	-	2	-	-	-	-	-	1	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	





**Kenig Lindgren O'Hara Aboona, Inc.**  
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(847)518-9990

Count Name: Sigwalt/Chestnut  
Site Code:  
Start Date: 05/18/2017  
Page No: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Sigwalt Street Eastbound						Sigwalt Street Westbound						Chestnut Avenue Northbound						Chestnut 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
5:00 PM	0	1	30	0	0	31	0	2	61	3	1	66	0	2	0	1	1	3	0	8	0	1	0	9	109
5:15 PM	0	0	39	0	0	39	0	0	54	6	1	60	0	1	2	0	3	3	0	2	5	2	0	9	111
5:30 PM	0	4	30	1	1	35	0	1	43	5	1	49	0	0	1	2	1	3	0	5	1	2	1	8	95
5:45 PM	0	2	32	1	1	35	0	2	49	14	0	65	0	0	0	1	3	1	0	5	1	0	1	6	107
Total	0	7	131	2	2	140	0	5	207	28	3	240	0	3	3	4	8	10	0	20	7	5	2	32	422
Approach %	0.0	5.0	93.6	1.4	-	-	0.0	2.1	86.3	11.7	-	-	0.0	30.0	30.0	40.0	-	-	0.0	62.5	21.9	15.6	-	-	-
Total %	0.0	1.7	31.0	0.5	-	33.2	0.0	1.2	49.1	6.6	-	56.9	0.0	0.7	0.7	0.9	-	2.4	0.0	4.7	1.7	1.2	-	7.6	-
PHF	0.000	0.438	0.840	0.500	-	0.897	0.000	0.625	0.848	0.800	-	0.909	0.000	0.375	0.375	0.500	-	0.833	0.000	0.625	0.350	0.625	-	0.889	0.950
% Lights	-	100.0	96.2	100.0	-	96.4	-	100.0	97.1	100.0	-	97.5	-	100.0	100.0	100.0	-	100.0	-	100.0	85.7	100.0	-	96.9	97.2
% Buses	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.5	0.0	-	0.4	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	2	0	-	2	0	0	3	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	5
% Single-Unit Trucks	-	0.0	1.5	0.0	-	1.4	-	0.0	1.4	0.0	-	1.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	1.2
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
Bicycles on Road	0	0	3	0	-	3	0	0	2	0	-	2	0	0	0	0	-	0	0	0	1	0	-	1	6
% Bicycles on Road	-	0.0	2.3	0.0	-	2.1	-	0.0	1.0	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	14.3	0.0	-	3.1	1.4
Pedestrians	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	8	-	-	-	-	-	2	-	-
% 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: Vail Avenue and Campbell Street  
Site Code:  
Start Date: 06/26/2018  
Page No: 1

### Turning Movement Data

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Vail Avenue Northbound						Vail 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
7:00 AM	0	8	12	1	41	21	0	4	8	1	2	13	0	1	23	1	3	25	0	4	16	2	6	22
7:15 AM	0	7	14	2	20	23	0	2	9	2	1	13	0	3	17	0	8	20	0	4	10	3	5	17
7:30 AM	0	5	12	6	27	23	0	5	14	3	4	22	0	1	16	1	4	18	0	4	26	3	3	33
7:45 AM	0	11	16	3	46	30	0	3	13	5	2	21	0	5	13	2	2	20	0	1	29	6	9	36
Hourly Total	0	31	54	12	134	97	0	14	44	11	9	69	0	10	69	4	17	83	0	13	81	14	23	108
8:00 AM	0	8	15	2	13	25	0	6	13	3	2	22	0	1	12	2	2	15	0	2	25	6	1	33
8:15 AM	0	12	24	4	19	40	0	5	12	3	3	20	0	5	12	3	6	20	0	4	25	5	4	34
8:30 AM	0	13	31	8	6	52	0	3	13	1	0	17	0	2	12	0	5	14	0	7	13	9	5	29
8:45 AM	0	18	27	11	2	56	0	4	12	4	2	20	0	1	27	1	8	29	0	5	23	7	1	35
Hourly Total	0	51	97	25	40	173	0	18	50	11	7	79	0	9	63	6	21	78	0	18	86	27	11	131
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	9	24	9	8	42	0	1	22	6	3	29	0	3	19	5	18	27	0	4	25	9	7	38
4:15 PM	0	15	20	8	27	43	0	2	20	6	3	28	0	3	22	5	17	30	0	8	32	4	12	44
4:30 PM	0	16	20	5	10	41	0	6	27	11	4	44	0	5	27	2	15	34	0	10	24	9	14	43
4:45 PM	0	13	26	6	15	45	1	3	23	9	1	36	0	4	21	3	16	28	0	10	17	12	5	39
Hourly Total	0	53	90	28	60	171	1	12	92	32	11	137	0	15	89	15	66	119	0	32	98	34	38	164
5:00 PM	0	20	22	8	13	50	0	7	22	7	6	36	0	10	24	0	9	34	0	10	36	11	9	57
5:15 PM	0	8	22	6	48	36	0	11	30	7	11	48	0	2	32	3	23	37	0	11	20	15	14	46
5:30 PM	1	22	19	11	11	53	0	12	30	8	4	50	0	3	30	6	5	39	0	9	39	10	5	58
5:45 PM	0	16	20	9	73	45	0	9	21	11	10	41	0	2	23	6	19	31	0	10	28	10	15	48
Hourly Total	1	66	83	34	145	184	0	39	103	33	31	175	0	17	109	15	56	141	0	40	123	46	43	209
Grand Total	1	201	324	99	379	625	1	83	289	87	58	480	0	51	330	40	160	421	0	103	388	121	115	612
Approach %	0.2	32.2	51.8	15.8	-	-	0.2	18.0	62.8	18.9	-	-	0.0	12.1	78.4	9.5	-	-	0.0	16.8	63.4	19.8	-	-
Total %	0.0	9.5	15.3	4.7	-	29.5	0.0	3.9	13.6	4.1	-	21.7	0.0	2.4	15.6	1.9	-	19.9	0.0	4.9	18.3	5.7	-	28.9
Lights	1	198	321	96	-	616	1	82	279	85	-	447	0	48	324	40	-	412	0	103	374	120	-	597
% Lights	100.0	98.5	99.1	97.0	-	98.6	100.0	98.8	96.5	97.7	-	97.2	-	94.1	98.2	100.0	-	97.9	-	100.0	96.4	99.2	-	97.5
Buses	0	0	0	0	-	0	0	0	3	0	-	3	0	0	0	0	-	0	0	0	5	0	-	5
% Buses	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	1.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.0	1.3	0.0	-	0.8
Single-Unit Trucks	0	1	1	2	-	4	0	0	5	1	-	6	0	3	2	0	-	5	0	0	4	0	-	4
% Single-Unit Trucks	0.0	0.5	0.3	2.0	-	0.6	0.0	0.0	1.7	1.1	-	1.3	-	5.9	0.6	0.0	-	1.2	-	0.0	1.0	0.0	-	0.7
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1
% Articulated Trucks	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	-	0.0	0.3	0.0	-	0.2
Bicycles on Road	0	2	2	1	-	5	0	1	1	1	-	3	0	0	4	0	-	4	0	0	4	1	-	5
% Bicycles on Road	0.0	1.0	0.6	1.0	-	0.8	0.0	1.2	0.3	1.1	-	0.7	-	0.0	1.2	0.0	-	1.0	-	0.0	1.0	0.8	-	0.8
Pedestrians	-	-	-	-	-	379	-	-	-	-	-	58	-	-	-	-	-	160	-	-	-	-	-	115



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

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

### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Vail Avenue Northbound					Vail 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
8:00 AM	0	8	15	2	13	25	0	6	13	3	2	22	0	1	12	2	2	15	0	2	25	6	1	33	95
8:15 AM	0	12	24	4	19	40	0	5	12	3	3	20	0	5	12	3	6	20	0	4	25	5	4	34	114
8:30 AM	0	13	31	8	6	52	0	3	13	1	0	17	0	2	12	0	5	14	0	7	13	9	5	29	112
8:45 AM	0	18	27	11	2	56	0	4	12	4	2	20	0	1	27	1	8	29	0	5	23	7	1	35	140
Total	0	51	97	25	40	173	0	18	50	11	7	79	0	9	63	6	21	78	0	18	86	27	11	131	461
Approach %	0.0	29.5	56.1	14.5	-	-	0.0	22.8	63.3	13.9	-	-	0.0	11.5	80.8	7.7	-	-	0.0	13.7	65.6	20.6	-	-	-
Total %	0.0	11.1	21.0	5.4	-	37.5	0.0	3.9	10.8	2.4	-	17.1	0.0	2.0	13.7	1.3	-	16.9	0.0	3.9	18.7	5.9	-	28.4	-
PHF	0.000	0.708	0.782	0.568	-	0.772	0.000	0.750	0.962	0.688	-	0.898	0.000	0.450	0.583	0.500	-	0.672	0.000	0.643	0.860	0.750	-	0.936	0.823
Lights	0	51	97	25	-	173	0	18	47	11	-	76	0	8	61	6	-	75	0	18	79	26	-	123	447
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	94.0	100.0	-	96.2	-	88.9	96.8	100.0	-	96.2	-	100.0	91.9	96.3	-	93.9	97.0
Buses	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	7
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	4.0	0.0	-	2.5	-	0.0	0.0	0.0	-	0.0	-	0.0	5.8	0.0	-	3.8	1.5
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	1	2	0	0	3	0	0	1	0	0	1	5
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	2.0	0.0	-	1.3	-	11.1	3.2	0.0	-	3.8	-	0.0	1.2	0.0	-	0.8	1.1
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
% 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
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2
% 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	1.2	3.7	-	1.5	0.4
Pedestrians	-	-	-	-	40	-	-	-	-	-	7	-	-	-	-	-	21	-	-	-	-	-	-	11	-
% 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: Vail Avenue and Campbell Street  
Site Code:  
Start Date: 06/26/2018  
Page No.: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Vail Avenue Northbound					Vail 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	
5:00 PM	0	20	22	8	13	50	0	7	22	7	6	36	0	10	24	0	9	34	0	10	36	11	9	57	177	
5:15 PM	0	8	22	6	48	36	0	11	30	7	11	48	0	2	32	3	23	37	0	11	20	15	14	46	167	
5:30 PM	1	22	19	11	11	53	0	12	30	8	4	50	0	3	30	6	5	39	0	9	39	10	5	58	200	
5:45 PM	0	16	20	9	73	45	0	9	21	11	10	41	0	2	23	6	19	31	0	10	28	10	15	48	165	
Total	1	66	83	34	145	184	0	39	103	33	31	175	0	17	109	15	56	141	0	40	123	46	43	209	709	
Approach %	0.5	35.9	45.1	18.5	-	-	0.0	22.3	58.9	18.9	-	-	0.0	12.1	77.3	10.6	-	-	0.0	19.1	58.9	22.0	-	-	-	-
Total %	0.1	9.3	11.7	4.8	-	26.0	0.0	5.5	14.5	4.7	-	24.7	0.0	2.4	15.4	2.1	-	19.9	0.0	5.6	17.3	6.5	-	29.5	-	
PHF	0.250	0.750	0.943	0.773	-	0.868	0.000	0.813	0.858	0.750	-	0.875	0.000	0.425	0.852	0.625	-	0.904	0.000	0.909	0.788	0.767	-	0.901	0.886	
Lights	1	65	83	34	-	183	0	39	103	33	-	175	0	17	107	15	-	139	0	40	121	46	-	207	704	
% Lights	100.0	98.5	100.0	100.0	-	99.5	-	100.0	100.0	100.0	-	100.0	-	100.0	98.2	100.0	-	98.6	-	100.0	98.4	100.0	-	99.0	99.3	
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	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1	1	
% 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	0.0	-	0.0	-	0.0	0.8	0.0	-	0.5	0.1	
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	1	0	0	-	1	0	0	0	0	-	0	0	0	2	0	-	2	0	0	1	0	-	1	4	
% Bicycles on Road	0.0	1.5	0.0	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	1.8	0.0	-	1.4	-	0.0	0.8	0.0	-	0.5	0.6	
Pedestrians	-	-	-	-	145	-	-	-	-	-	31	-	-	-	-	-	56	-	-	-	-	-	43	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	



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

### Turning Movement Data

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Dunton Avenue Northbound					Dunton 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	
7:00 AM	0	4	11	2	7	17	0	2	9	7	5	18	0	3	3	19	2	2	24	0	1	18	1	5	20
7:15 AM	0	3	16	0	2	19	0	0	7	3	14	10	0	2	11	1	8	14	0	2	9	3	6	14	
7:30 AM	0	6	8	3	4	17	0	1	12	2	2	15	0	1	24	2	2	27	0	4	19	8	1	31	
7:45 AM	0	5	14	1	3	20	0	1	11	8	7	20	0	4	18	4	0	26	0	4	18	9	2	31	
Hourly Total	0	18	49	6	16	73	0	4	39	20	28	63	0	10	72	9	12	91	0	11	64	21	14	96	
8:00 AM	0	5	10	2	5	17	0	2	10	2	2	14	0	4	11	1	4	16	0	1	16	7	1	24	
8:15 AM	0	3	24	4	2	31	0	2	10	2	3	14	0	3	10	1	3	14	0	5	21	4	5	30	
8:30 AM	0	6	23	8	1	37	1	0	10	5	2	16	0	2	15	1	5	18	0	3	12	9	6	24	
8:45 AM	0	7	21	4	0	32	0	1	8	4	2	13	0	1	20	7	3	28	0	4	24	11	6	39	
Hourly Total	0	21	78	18	8	117	1	5	38	13	9	57	0	10	56	10	15	76	0	13	73	31	18	117	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	5	19	7	6	31	0	1	13	13	8	27	0	8	21	4	9	33	0	3	17	5	12	25	
4:15 PM	0	7	21	4	7	32	0	10	14	10	3	34	0	5	32	6	8	43	0	4	25	9	9	38	
4:30 PM	0	4	19	11	5	34	0	2	25	10	18	37	0	14	20	8	21	42	0	0	20	8	15	28	
4:45 PM	0	9	22	8	3	39	0	1	12	8	5	21	0	13	32	4	10	49	0	10	15	10	4	35	
Hourly Total	0	25	81	30	21	136	0	14	64	41	34	119	0	40	105	22	48	167	0	17	77	32	40	126	
5:00 PM	0	7	23	3	4	33	1	4	22	10	0	37	0	10	29	7	11	46	0	3	30	10	1	43	
5:15 PM	0	9	19	8	14	36	0	4	24	11	4	39	0	10	36	7	11	53	0	6	14	9	3	29	
5:30 PM	0	6	17	10	4	33	0	6	28	4	5	38	1	8	28	4	5	41	0	8	23	17	7	48	
5:45 PM	0	10	21	9	13	40	0	5	19	11	3	35	0	14	34	7	18	55	0	11	40	9	5	60	
Hourly Total	0	32	80	30	35	142	1	19	93	36	12	149	1	42	127	25	45	195	0	28	107	45	16	180	
Grand Total	0	96	288	84	80	468	2	42	234	110	63	388	1	102	360	66	120	529	0	69	321	129	88	519	
Approach %	0.0	20.5	61.5	17.9	-	-	0.5	10.8	60.3	28.4	-	-	0.2	19.3	68.1	12.5	-	-	0.0	13.3	61.8	24.9	-	-	
Total %	0.0	5.0	15.1	4.4	-	24.6	0.1	2.2	12.3	5.8	-	20.4	0.1	5.4	18.9	3.5	-	27.8	0.0	3.6	16.9	6.8	-	27.3	
Lights	0	95	286	84	-	465	2	40	230	110	-	382	1	99	352	65	-	517	0	68	309	125	-	502	
% Lights	-	99.0	99.3	100.0	-	99.4	100.0	95.2	98.3	100.0	-	98.5	100.0	97.1	97.8	98.5	-	97.7	-	98.6	96.3	96.9	-	96.7	
Buses	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	0	-	0	0	0	0	2	1	3	
% Buses	-	0.0	0.0	0.0	-	0.0	0.0	2.4	0.4	0.0	-	0.5	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.8	-	0.6	
Single-Unit Trucks	0	0	1	0	-	1	0	0	2	0	-	2	0	3	3	1	-	7	0	0	1	1	-	2	
% Single-Unit Trucks	-	0.0	0.3	0.0	-	0.2	0.0	0.0	0.9	0.0	-	0.5	0.0	2.9	0.8	1.5	-	1.3	-	0.0	0.3	0.8	-	0.4	
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	1	-	1	
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.3	0.0	-	0.2	-	0.0	0.0	0.8	-	0.2	
Bicycles on Road	0	1	1	0	-	2	0	1	1	0	-	2	0	0	4	0	-	4	0	1	9	1	-	11	
% Bicycles on Road	-	1.0	0.3	0.0	-	0.4	0.0	2.4	0.4	0.0	-	0.5	0.0	0.0	1.1	0.0	-	0.8	-	1.4	2.8	0.8	-	2.1	
Pedestrians	-	-	-	-	-	80	-	-	-	-	-	83	-	-	-	-	-	120	-	-	-	-	-	88	



Kenig Lindgren O'Hara Aboona, Inc.  
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Rosemont, Illinois, United States 60018  
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Count Name: Campbell Street and Dunton Avenue  
Site Code: 06/26/2018  
Start Date: 06/26/2018  
Page No.: 3

### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Dunton Avenue Northbound						Dunton 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	U-Turn	Left	Thru	Right	Peds	App. Total
8:00 AM	0	5	10	2	5	17	0	2	10	2	2	14	0	4	11	1	4	16	0	1	16	7	1	24	0	0	0	0	0	0
8:15 AM	0	3	24	4	2	31	0	2	10	2	3	14	0	3	10	1	3	14	0	5	21	4	5	30	0	0	0	0	0	0
8:30 AM	0	6	23	8	1	37	1	0	10	5	2	16	0	2	15	1	5	18	0	3	12	9	6	24	0	0	0	0	0	0
8:45 AM	0	7	21	4	0	32	0	1	8	4	2	13	0	1	20	7	3	28	0	4	24	11	6	39	0	0	0	0	0	0
Total	0	21	78	18	8	117	1	5	38	13	9	57	0	10	56	10	15	76	0	13	73	31	18	117	0	0	0	0	0	0
Approach %	0.0	17.9	66.7	15.4	-	-	1.8	8.8	66.7	22.8	-	-	0.0	13.2	73.7	13.2	-	-	0.0	11.1	62.4	26.5	-	-	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	5.7	21.3	4.9	-	31.9	0.3	1.4	10.4	3.5	-	15.5	0.0	2.7	15.3	2.7	-	20.7	0.0	3.5	19.9	8.4	-	31.9	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.750	0.813	0.563	-	0.791	0.250	0.625	0.950	0.650	-	0.891	0.000	0.625	0.700	0.357	-	0.679	0.000	0.650	0.760	0.705	-	0.750	0.000	0.000	0.000	0.000	0.000	0.819
% Lights	0	21	77	18	-	116	1	5	37	13	-	56	0	9	55	9	-	73	0	13	70	30	-	113	0	0	0	0	0	0
% Lights	-	100.0	98.7	100.0	-	99.1	100.0	100.0	97.4	100.0	-	98.2	-	90.0	98.2	90.0	-	96.1	-	100.0	95.9	96.8	-	96.6	-	-	-	-	-	97.5
% Buses	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0
% Buses	-	0.0	0.0	0.0	-	0.0	0.0	0.0	2.6	0.0	-	1.8	-	0.0	0.0	0.0	-	0.0	-	0.0	2.7	3.2	-	2.6	-	-	-	-	-	1.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	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	-	10.0	1.8	10.0	-	3.9	-	0.0	0.0	0.0	-	0.0	-	-	-	-	-	0.8
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
% 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	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
% Bicycles on Road	-	0.0	1.3	0.0	-	0.9	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	1.4	0.0	-	0.9	-	-	-	-	-	0.5
Pedestrians	-	-	-	-	8	-	-	-	-	-	9	-	-	-	-	-	15	-	-	-	-	-	18	-	-	-	-	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-



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Count Name: Campbell Street and Dunton Avenue  
Site Code: 06/26/2018  
Page No: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Dunton Avenue Northbound						Dunton 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	
5:00 PM	0	7	23	3	4	33	1	4	22	10	0	37	0	10	29	7	11	46	0	3	30	10	1	43	159
5:15 PM	0	9	19	8	14	36	0	4	24	11	4	39	0	10	36	7	11	53	0	6	14	9	3	29	157
5:30 PM	0	6	17	10	4	33	0	6	28	4	5	38	1	8	28	4	5	41	0	8	23	17	7	48	160
5:45 PM	0	10	21	9	13	40	0	5	19	11	3	35	0	14	34	7	18	55	0	11	40	9	5	60	190
Total	0	32	80	30	35	142	1	19	93	36	12	149	1	42	127	25	45	195	0	28	107	45	16	180	666
Approach %	0.0	22.5	56.3	21.1	-	-	0.7	12.8	62.4	24.2	-	-	0.5	21.5	65.1	12.8	-	-	0.0	15.6	59.4	25.0	-	-	-
Total %	0.0	4.8	12.0	4.5	-	21.3	0.2	2.9	14.0	5.4	-	22.4	0.2	6.3	19.1	3.8	-	29.3	0.0	4.2	16.1	6.8	-	27.0	-
PHF	0.000	0.800	0.870	0.750	-	0.888	0.250	0.792	0.830	0.818	-	0.955	0.250	0.750	0.882	0.893	-	0.886	0.000	0.636	0.669	0.662	-	0.750	0.876
Lights	0	32	80	30	-	142	1	19	93	36	-	149	1	42	127	25	-	195	0	27	101	45	-	173	659
% Lights	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	-	96.4	94.4	100.0	-	96.1	98.9
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	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
% 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	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
% 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	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	6	0	-	7	7
% 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	-	3.6	5.6	0.0	-	3.9	1.1
Pedestrians	-	-	-	-	35	-	-	-	-	-	12	-	-	-	-	-	45	-	-	-	-	-	16	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

### Turning Movement Data

Start Time	Campbell Street Eastbound				Campbell Street Westbound				Ridge Avenue Northbound				Ridge 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
7:00 AM	0	11	22	5	0	38	0	1	26	2	0	29	0	3	29	6	0	38
7:15 AM	0	8	18	3	0	29	0	2	16	3	0	21	0	9	24	10	0	43
7:30 AM	0	18	21	1	0	40	0	2	21	2	0	25	0	7	44	15	1	66
7:45 AM	0	12	26	3	0	41	0	1	15	10	0	26	0	10	53	11	0	74
Hourly Total	0	49	87	12	0	148	0	6	78	17	0	101	0	22	115	42	1	221
8:00 AM	0	12	29	3	0	44	0	2	19	7	0	28	0	7	36	13	0	56
8:15 AM	0	10	41	5	0	56	0	4	20	4	0	28	0	7	33	12	0	52
8:30 AM	0	16	27	8	0	51	0	2	21	2	0	25	0	4	43	2	1	49
8:45 AM	0	8	36	7	0	51	0	1	17	1	0	19	0	10	51	13	0	74
Hourly Total	0	46	133	23	0	202	0	9	77	14	0	100	0	28	163	40	1	231
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	19	39	8	0	66	0	4	27	7	0	38	0	5	28	22	0	55
4:15 PM	0	17	53	12	1	82	0	3	29	6	0	38	0	5	26	19	0	50
4:30 PM	0	16	43	7	0	66	0	0	33	2	0	35	0	5	41	13	0	59
4:45 PM	0	16	38	8	1	62	0	4	21	3	0	28	0	8	24	25	1	57
Hourly Total	0	68	173	35	2	276	0	11	110	18	0	139	0	23	119	79	1	221
5:00 PM	0	24	36	9	0	69	0	3	34	10	0	47	0	5	32	12	0	49
5:15 PM	0	22	26	11	1	59	0	5	40	1	0	46	0	2	37	16	1	55
5:30 PM	0	21	40	5	0	66	0	1	29	5	0	35	0	3	24	21	0	48
5:45 PM	0	9	34	9	0	52	0	2	16	6	0	24	0	7	31	12	0	50
Hourly Total	0	76	136	34	1	246	0	11	119	22	0	152	0	17	124	61	1	202
Grand Total	0	239	529	104	3	872	0	37	384	71	0	492	0	97	556	222	4	875
Approach %	0.0	27.4	60.7	11.9	-	-	0.0	7.5	78.0	14.4	-	-	0.0	11.1	63.5	25.4	-	-
Total %	0.0	8.1	18.0	3.5	-	29.7	0.0	1.3	13.1	2.4	-	16.7	0.0	3.3	18.9	7.6	-	29.8
Lights	0	239	525	99	-	863	0	37	371	69	-	477	0	97	543	218	-	858
% Lights	-	100.0	99.2	95.2	-	99.0	-	100.0	96.6	97.2	-	97.0	-	100.0	97.7	98.2	-	98.1
Buses	0	0	0	1	-	1	0	0	2	0	-	2	0	0	0	1	-	1
% Buses	-	0.0	0.0	1.0	-	0.1	-	0.0	0.5	0.0	-	0.4	-	0.0	0.0	0.5	-	0.1
Single-Unit Trucks	0	0	1	3	-	4	0	0	7	0	-	7	0	0	9	2	-	11
% Single-Unit Trucks	-	0.0	0.2	2.9	-	0.5	-	0.0	1.8	0.0	-	1.4	-	0.0	1.6	0.9	-	1.3
Articulated Trucks	0	0	1	1	-	2	0	0	0	1	-	1	0	0	1	0	-	1
% Articulated Trucks	-	0.0	0.2	1.0	-	0.2	-	0.0	0.0	1.4	-	0.2	-	0.0	0.2	0.0	-	0.1
Bicycles on Road	0	0	2	0	-	2	0	0	4	1	-	5	0	0	3	1	-	4
% Bicycles on Road	-	0.0	0.4	0.0	-	0.2	-	0.0	1.0	1.4	-	1.0	-	0.0	0.5	0.5	-	0.5
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	4





Kenig, Lindgren, O'Hara, Aboona, Inc.  
 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 Ridge  
 Avenue  
 Site Code:  
 Start Date: 06/26/2018  
 Page No.: 3

### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Ridge Avenue Northbound						Ridge 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
8:00 AM	0	12	29	3	0	44	0	2	19	7	0	28	0	6	20	1	0	27	0	7	36	13	0	56	155
8:15 AM	0	10	41	5	0	56	0	4	20	4	0	28	0	3	36	3	1	42	0	7	33	12	0	52	178
8:30 AM	0	16	27	8	0	51	0	2	21	2	0	25	0	7	26	1	0	34	0	4	43	2	1	49	159
8:45 AM	0	8	36	7	0	51	0	1	17	1	0	19	0	9	38	4	0	51	0	10	51	13	0	74	195
Total	0	46	133	23	0	202	0	9	77	14	0	100	0	25	120	9	1	154	0	28	163	40	1	231	687
Approach %	0.0	22.8	65.8	11.4	-	-	0.0	9.0	77.0	14.0	-	-	0.0	16.2	77.9	5.8	-	-	0.0	12.1	70.6	17.3	-	-	-
Total %	0.0	6.7	19.4	3.3	-	29.4	0.0	1.3	11.2	2.0	-	14.6	0.0	3.6	17.5	1.3	-	22.4	0.0	4.1	23.7	5.8	-	33.6	-
PHF	0.000	0.719	0.811	0.719	-	0.902	0.000	0.563	0.917	0.500	-	0.893	0.000	0.694	0.789	0.563	-	0.755	0.000	0.700	0.799	0.769	-	0.780	0.881
Lights	0	46	132	22	-	200	0	9	74	14	-	97	0	25	119	9	-	153	0	28	161	39	-	228	678
% Lights	-	100.0	99.2	95.7	-	99.0	-	100.0	96.1	100.0	-	97.0	-	100.0	99.2	100.0	-	99.4	-	100.0	98.8	97.5	-	98.7	98.7
Buses	0	0	0	1	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	1	-	1	3
% Buses	-	0.0	0.0	4.3	-	0.5	-	0.0	1.3	0.0	-	1.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.5	-	0.4	0.4
Single-Unit Trucks	0	0	1	0	-	1	0	0	2	0	-	2	0	0	1	0	-	1	0	0	1	0	-	1	5
% Single-Unit Trucks	-	0.0	0.8	0.0	-	0.5	-	0.0	2.6	0.0	-	2.0	-	0.0	0.8	0.0	-	0.6	-	0.0	0.6	0.0	-	0.4	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
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	1
% 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	0.6	0.0	-	0.4	0.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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(847)518-9990

Count Name: Campbell Street and Ridge Avenue  
Site Code: 06/26/2018  
Start Date: 06/26/2018  
Page No.: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Ridge Avenue Northbound						Ridge 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
5:00 PM	0	24	36	9	0	69	0	3	34	10	0	47	0	10	47	3	1	60	0	5	32	12	0	49	225
5:15 PM	0	22	26	11	1	59	0	5	40	1	0	46	0	4	38	2	0	44	0	2	37	16	1	55	204
5:30 PM	0	21	40	5	0	66	0	1	29	5	0	35	0	10	46	2	0	58	0	3	24	21	0	48	207
5:45 PM	0	9	34	9	0	52	0	2	16	6	0	24	0	7	49	4	0	60	0	7	31	12	0	50	186
Total	0	76	136	34	1	246	0	11	119	22	0	152	0	31	180	11	1	222	0	17	124	61	1	202	822
Approach %	0.0	30.9	55.3	13.8	-	-	0.0	7.2	78.3	14.5	-	-	0.0	14.0	81.1	5.0	-	-	0.0	8.4	61.4	30.2	-	-	-
Total %	0.0	9.2	16.5	4.1	-	29.9	0.0	1.3	14.5	2.7	-	18.5	0.0	3.8	21.9	1.3	-	27.0	0.0	2.1	15.1	7.4	-	24.6	-
PHF	0.000	0.792	0.850	0.773	-	0.891	0.000	0.550	0.744	0.550	-	0.809	0.000	0.775	0.918	0.688	-	0.925	0.000	0.607	0.838	0.726	-	0.918	0.913
% Lights	0	76	135	34	-	245	0	11	118	22	-	151	0	29	174	11	-	214	0	17	121	61	-	199	809
% Lights	-	100.0	99.3	100.0	-	99.6	-	100.0	99.2	100.0	-	99.3	-	93.5	96.7	100.0	-	96.4	-	100.0	97.6	100.0	-	98.5	98.4
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.6	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	0.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	2	5	0	0	7	0	0	2	0	0	2	10
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	0.8	0.0	-	0.7	-	6.5	2.8	0.0	-	3.2	-	0.0	1.6	0.0	-	1.0	1.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% 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	0.8	0.0	-	0.5	0.1
Bicycles on Road	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Road	-	0.0	0.7	0.0	-	0.4	-	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
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% 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: Campbell Street and Mitchell Avenue  
 Site Code:  
 Start Date: 06/26/2018  
 Page No: 1

### Turning Movement Data

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Mitchell Avenue Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	25	0	0	25	0	1	24	1	25	0	2	3	0	5	55
7:15 AM	0	27	2	0	29	0	0	24	0	24	0	0	0	0	0	53
7:30 AM	0	28	0	0	28	0	1	24	3	25	0	0	2	1	2	55
7:45 AM	0	41	0	0	41	0	1	24	2	25	0	1	2	1	3	69
Hourly Total	0	121	2	0	123	0	3	96	6	99	0	3	7	2	10	232
8:00 AM	0	31	0	0	31	0	0	25	0	25	0	3	1	0	4	60
8:15 AM	0	51	0	0	51	0	1	25	0	26	0	2	4	0	6	83
8:30 AM	0	39	0	0	39	0	1	24	0	25	0	0	0	0	0	64
8:45 AM	1	44	2	0	47	0	1	16	0	17	0	3	4	3	7	71
Hourly Total	1	165	2	0	168	0	3	90	0	93	0	8	9	3	17	278
***BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	48	1	0	49	0	2	40	0	42	0	2	2	0	4	95
4:15 PM	0	57	0	0	57	0	0	32	0	32	0	3	3	1	6	95
4:30 PM	0	52	2	0	54	0	4	37	0	41	0	0	3	1	3	98
4:45 PM	0	51	0	0	51	0	2	24	0	26	0	3	1	1	4	81
Hourly Total	0	208	3	0	211	0	8	133	0	141	0	8	9	3	17	369
5:00 PM	0	42	2	0	44	0	1	43	0	44	0	1	2	4	3	91
5:15 PM	0	38	1	0	39	0	3	43	0	46	0	1	1	0	2	87
5:30 PM	0	40	2	0	42	0	3	35	0	38	0	0	2	0	2	82
5:45 PM	0	52	0	0	52	0	1	22	1	23	0	1	3	3	4	79
Hourly Total	0	172	5	0	177	0	8	143	1	151	0	3	8	7	11	339
Grand Total	1	666	12	0	679	0	22	462	7	484	0	22	33	15	55	1218
Approach %	0.1	98.1	1.8	-	-	0.0	4.5	95.5	-	-	0.0	40.0	60.0	-	-	-
Total %	0.1	54.7	1.0	-	55.7	0.0	1.8	37.9	-	39.7	0.0	1.8	2.7	-	4.5	-
Lights	1	661	12	-	674	0	20	452	-	472	0	22	28	-	50	1196
% Lights	100.0	99.2	100.0	-	99.3	-	90.9	97.8	-	97.5	-	100.0	84.8	-	90.9	96.2
Buses	0	0	0	-	0	0	0	2	-	2	0	0	0	-	0	2
% Buses	0.0	0.0	0.0	-	0.0	-	0.0	0.4	-	0.4	-	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	1	0	-	1	0	0	3	-	3	0	0	0	-	0	4
% Single-Unit Trucks	0.0	0.2	0.0	-	0.1	-	0.0	0.6	-	0.6	-	0.0	0.0	-	0.0	0.3
Articulated Trucks	0	1	0	-	1	0	0	1	-	1	0	0	0	-	0	2
% Articulated Trucks	0.0	0.2	0.0	-	0.1	-	0.0	0.2	-	0.2	-	0.0	0.0	-	0.0	0.2
Bicycles on Road	0	3	0	-	3	0	2	4	-	6	0	0	5	-	5	14
% Bicycles on Road	0.0	0.5	0.0	-	0.4	-	9.1	0.9	-	1.2	-	0.0	15.2	-	9.1	1.1
Pedestrians	-	-	-	0	-	-	-	-	7	-	-	-	-	15	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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Count Name: Campbell Street and Mitchell Avenue  
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Start Date: 06/26/2018  
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### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Mitchell Avenue Northbound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
8:00 AM	0	31	0	0	31	0	0	25	0	25	0	3	1	0	4	60
8:15 AM	0	51	0	0	51	0	1	25	0	26	0	2	4	0	6	83
8:30 AM	0	39	0	0	39	0	1	24	0	25	0	0	0	0	0	64
8:45 AM	1	44	2	0	47	0	1	16	0	17	0	3	4	3	7	71
Total	1	165	2	0	168	0	3	90	0	93	0	8	9	3	17	278
Approach %	0.6	98.2	1.2	-	-	0.0	3.2	96.8	-	-	0.0	47.1	52.9	-	-	-
Total %	0.4	59.4	0.7	-	60.4	0.0	1.1	32.4	-	33.5	0.0	2.9	3.2	-	6.1	-
PHF	0.250	0.809	0.250	-	0.824	0.000	0.750	0.900	-	0.894	0.000	0.667	0.563	-	0.607	0.837
Lights	1	164	2	-	167	0	3	88	-	91	0	8	9	-	17	275
% Lights	100.0	99.4	100.0	-	99.4	-	100.0	97.8	-	97.8	-	100.0	100.0	-	100.0	98.9
Buses	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Buses	0.0	0.0	0.0	-	0.0	-	0.0	1.1	-	1.1	-	0.0	0.0	-	0.0	0.4
Single-Unit Trucks	0	1	0	-	1	0	0	1	-	1	0	0	0	-	0	2
% Single-Unit Trucks	0.0	0.6	0.0	-	0.6	-	0.0	1.1	-	1.1	-	0.0	0.0	-	0.0	0.7
Articulated Trucks	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
Bicycles on Road	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
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound				Campbell Street Westbound				Mitchell Avenue Northbound							
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
5:00 PM	0	42	2	0	44	0	1	43	0	44	0	1	2	4	3	91
5:15 PM	0	38	1	0	39	0	3	43	0	46	0	1	1	0	2	87
5:30 PM	0	40	2	0	42	0	3	35	0	38	0	0	2	0	2	82
5:45 PM	0	52	0	0	52	0	1	22	1	23	0	1	3	3	4	79
Total	0	172	5	0	177	0	8	143	1	151	0	3	8	7	11	339
Approach %	0.0	97.2	2.8	-	-	0.0	5.3	94.7	-	-	0.0	27.3	72.7	-	-	-
Total %	0.0	50.7	1.5	-	52.2	0.0	2.4	42.2	-	44.5	0.0	0.9	2.4	-	3.2	-
PHF	0.000	0.827	0.625	-	0.851	0.000	0.667	0.831	-	0.821	0.000	0.750	0.667	-	0.688	0.931
Lights	0	171	5	-	176	0	7	143	-	150	0	3	8	-	11	337
% Lights	-	99.4	100.0	-	99.4	-	87.5	100.0	-	99.3	-	100.0	100.0	-	100.0	99.4
Buses	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
Single-Unit Trucks	0	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
Articulated Trucks	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
Bicycles on Road	0	1	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Bicycles on Road	-	0.6	0.0	-	0.6	-	12.5	0.0	-	0.7	-	0.0	0.0	-	0.0	0.6
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	7	-	-
% Pedestrians	-	-	-	-	-	-	-	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: Wing Street and Chestnut Avenue  
Site Code:  
Start Date: 06/26/2018  
Page No.: 1

### Turning Movement Data

Start Time	Wing Street Eastbound				Wing Street Westbound				Chestnut Avenue Northbound							
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00 AM	0	15	1	0	16	0	6	11	0	17	0	0	6	0	6	39
7:15 AM	0	6	0	0	6	0	1	6	0	7	0	1	3	0	4	17
7:30 AM	0	12	0	0	12	0	6	10	0	16	0	1	4	1	5	33
7:45 AM	0	17	0	0	17	0	4	15	0	19	0	0	3	0	3	39
Hourly Total	0	50	1	0	51	0	17	42	0	59	0	2	16	1	18	128
8:00 AM	0	4	1	0	5	0	6	14	0	20	0	0	1	0	1	26
8:15 AM	0	6	1	0	7	1	3	7	0	11	0	3	4	0	7	25
8:30 AM	0	8	2	0	10	0	5	4	0	9	0	0	1	0	1	20
8:45 AM	0	8	1	1	9	0	3	8	0	11	0	0	7	0	7	27
Hourly Total	0	26	5	1	31	1	17	33	0	51	0	3	13	0	16	98
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	10	3	0	13	0	10	13	1	23	0	2	6	2	8	44
4:15 PM	0	7	1	0	8	2	7	16	0	25	0	0	7	2	7	40
4:30 PM	0	10	1	0	11	0	8	20	0	28	0	2	9	2	11	50
4:45 PM	0	12	2	0	14	0	6	24	0	30	0	1	13	1	14	58
Hourly Total	0	39	7	0	46	2	31	73	1	106	0	5	35	7	40	192
5:00 PM	0	12	1	0	13	0	3	17	0	20	0	0	5	0	5	38
5:15 PM	0	22	0	0	22	0	12	21	2	33	0	2	14	3	16	71
5:30 PM	0	13	0	0	13	0	13	24	0	37	0	2	10	1	12	62
5:45 PM	0	20	2	0	22	2	16	17	1	35	0	0	15	1	15	72
Hourly Total	0	67	3	0	70	2	44	79	3	125	0	4	44	5	48	243
Grand Total	0	182	16	1	198	5	109	227	4	341	0	14	108	13	122	661
Approach %	0.0	91.9	8.1	-	-	1.5	32.0	66.6	-	-	0.0	11.5	88.5	-	-	-
Total %	0.0	27.5	2.4	-	30.0	0.8	16.5	34.3	-	51.6	0.0	2.1	16.3	-	18.5	-
Lights	0	176	14	-	190	5	105	223	-	333	0	12	101	-	113	636
% Lights	-	96.7	87.5	-	96.0	100.0	96.3	98.2	-	97.7	-	85.7	93.5	-	92.6	96.2
Buses	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Buses	-	0.5	0.0	-	0.5	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	2	-	2	0	0	3	-	3	0	1	2	-	3	8
% Single-Unit Trucks	-	0.0	12.5	-	1.0	0.0	0.0	1.3	-	0.9	-	7.1	1.9	-	2.5	1.2
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	0
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	7.1	0.0	-	0.8	0.2
Bicycles on Road	0	5	0	-	5	0	4	1	-	5	0	0	5	-	5	15
% Bicycles on Road	-	2.7	0.0	-	2.5	0.0	3.7	0.4	-	1.5	-	0.0	4.6	-	4.1	2.3
Pedestrians	-	-	-	1	-	-	-	-	4	-	-	-	-	13	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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

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(847)518-9990

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

### Turning Movement Peak Hour Data (8:00 AM)

Start Time	Wing Street Eastbound				Wing Street Westbound				Chestnut Avenue Northbound							
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
8:00 AM	0	4	1	0	5	0	6	14	0	20	0	0	1	0	1	26
8:15 AM	0	6	1	0	7	1	3	7	0	11	0	3	4	0	7	25
8:30 AM	0	8	2	0	10	0	5	4	0	9	0	0	1	0	1	20
8:45 AM	0	8	1	1	9	0	3	8	0	11	0	0	7	0	7	27
Total	0	26	5	1	31	1	17	33	0	51	0	3	13	0	16	98
Approach %	0.0	83.9	16.1	-	-	2.0	33.3	64.7	-	-	0.0	18.8	81.3	-	-	-
Total %	0.0	26.5	5.1	-	31.6	1.0	17.3	33.7	-	52.0	0.0	3.1	13.3	-	16.3	-
PHF	0.000	0.813	0.625	-	0.775	0.250	0.708	0.589	-	0.638	0.000	0.250	0.464	-	0.571	0.907
Lights	0	26	5	-	31	1	17	32	-	50	0	3	12	-	15	96
% Lights	-	100.0	100.0	-	100.0	100.0	100.0	97.0	-	98.0	-	100.0	92.3	-	93.8	98.0
Buses	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
Single-Unit Trucks	0	0	0	-	0	0	0	1	-	1	0	0	1	-	1	2
% Single-Unit Trucks	-	0.0	0.0	-	0.0	0.0	0.0	3.0	-	2.0	-	0.0	7.7	-	6.3	2.0
Articulated Trucks	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
Bicycles on Road	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
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	0	-	-



Kenig Lindgren O'Hara Aboona, Inc.  
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(847)518-9990

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

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Wing Street Eastbound				Wing Street Westbound				Chestnut Avenue Northbound							
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
5:00 PM	0	12	1	0	13	0	3	17	0	20	0	0	5	0	5	38
5:15 PM	0	22	0	0	22	0	12	21	2	33	0	2	14	3	16	71
5:30 PM	0	13	0	0	13	0	13	24	0	37	0	2	10	1	12	62
5:45 PM	0	20	2	0	22	2	16	17	1	35	0	0	15	1	15	72
Total	0	67	3	0	70	2	44	79	3	125	0	4	44	5	48	243
Approach %	0.0	95.7	4.3	-	-	1.6	35.2	63.2	-	-	0.0	8.3	91.7	-	-	-
Total %	0.0	27.6	1.2	-	28.8	0.8	18.1	32.5	-	51.4	0.0	1.6	18.1	-	19.8	-
PHF	0.000	0.761	0.375	-	0.795	0.250	0.688	0.823	-	0.845	0.000	0.500	0.733	-	0.750	0.844
Lights	0	67	3	-	70	2	41	79	-	122	0	3	44	-	47	239
% Lights	-	100.0	100.0	-	100.0	100.0	93.2	100.0	-	97.6	-	75.0	100.0	-	97.9	98.4
Buses	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
Single-Unit Trucks	0	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	1	0	-	1	1
% Articulated Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	-	25.0	0.0	-	2.1	0.4
Bicycles on Road	0	0	0	-	0	0	3	0	-	3	0	0	0	-	0	3
% Bicycles on Road	-	0.0	0.0	-	0.0	0.0	6.8	0.0	-	2.4	-	0.0	0.0	-	0.0	1.2
Pedestrians	-	-	-	0	-	-	-	-	3	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: by Movement

Intersection # 1 highland/lowerlevelgar

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
700	0	59	38	25	0	5	25	52	0	0	0	0	204
715	0	56	38	20	0	7	20	45	0	0	0	0	186
730	0	53	37	13	0	8	21	35	0	0	0	0	167
745	0	52	32	14	0	11	12	42	0	0	0	0	163
800	0	35	17	13	0	12	10	52	0	0	0	0	139
815	0	25	9	12	0	8	7	46	0	0	0	0	107*
830	0	15	3	10	0	6	5	41	0	0	0	0	80*
845	0	9	2	4	0	3	3	22	0	0	0	0	43*
1600	0	45	18	18	0	17	2	53	0	0	0	0	153
1615	0	51	22	23	0	19	3	68	0	0	0	0	186
1630	0	54	23	19	0	20	7	67	0	0	0	0	190
1645	0	61	25	24	0	19	6	74	0	0	0	0	209
1700	0	65	26	39	0	25	8	97	0	0	0	0	260
1715	0	52	20	31	0	21	7	73	0	0	0	0	204*
1730	0	42	15	28	0	18	3	58	0	0	0	0	164*
1745	0	21	7	16	0	9	3	32	0	0	0	0	88*

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

Intersection # 1 highland/lowerlevelgar

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*

Arlington Heights, IL Weather: Warm and Dry  
 Highland Ave and Garage Ramp Access  
 Wednesday June 27, 2018

07/02/18  
 11:42:01

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: by Movement

Intersection # 2 highland/garageramp

Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
700	0	0	9	19	0	22	25	0	0	0	0	0	75
715	0	0	7	17	0	18	20	0	0	0	0	0	62
730	0	0	7	12	0	14	22	0	0	0	0	0	55
745	0	0	8	13	0	10	17	0	0	0	0	0	48
800	0	0	4	15	0	8	6	0	0	0	0	0	33
815	0	0	3	12	0	5	6	0	0	0	0	0	26*
830	0	0	1	12	0	3	2	0	0	0	0	0	18*
845	0	0	0	6	0	1	2	0	0	0	0	0	9*
1600	0	0	9	7	0	13	8	0	0	0	0	0	37
1615	0	0	9	10	0	18	10	0	0	0	0	0	47
1630	0	0	10	9	0	18	14	0	0	0	0	0	51
1645	0	0	11	10	0	25	10	0	0	0	0	0	56
1700	0	0	11	15	0	32	15	0	0	0	0	0	73
1715	0	0	10	10	0	26	13	0	0	0	0	0	59*
1730	0	0	8	9	0	22	8	0	0	0	0	0	47*
1745	0	0	3	6	0	11	7	0	0	0	0	0	27*

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*



**Kenig Lindgren O'Hara Aboona, Inc.**  
Kenig, Lindgren, O'Hara, Aboona, Inc.

9575 W. Higgins Rd., Suite 400  
Rosemont, Illinois, United States 60018  
(847)518-9990

Count Name: Sigwalt/Vail  
Site Code:  
Start Date: 05/18/2017  
Page No: 1

### Turning Movement Data

Start Time	Sigwalt Street Eastbound				Sigwalt Street Westbound				Vail Avenue Northbound				Vail Avenue 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							
7:00 AM	0	10	52	1	4	63	0	1	24	15	2	40	0	1	17	1	2	19	0	9	2	1	1	12	134	
7:15 AM	0	2	33	1	1	36	0	2	18	6	0	26	0	1	8	4	3	13	0	14	7	1	0	22	97	
7:30 AM	0	10	61	3	3	74	0	5	28	15	1	48	0	3	13	6	0	22	0	16	6	0	2	22	166	
7:45 AM	0	8	73	2	6	83	0	3	37	14	2	54	0	4	23	2	4	29	0	23	15	1	0	39	205	
Hourly Total	0	30	219	7	14	266	0	11	107	50	5	168	0	9	61	13	9	83	0	62	30	3	3	95	602	
8:00 AM	0	2	44	0	2	46	0	1	35	11	0	47	0	3	13	4	0	20	0	16	10	2	4	28	141	
8:15 AM	0	1	35	1	2	37	0	1	25	8	3	34	0	1	5	2	0	8	0	12	8	1	4	21	100	
8:30 AM	0	1	31	2	0	34	0	1	27	4	1	32	0	1	9	3	0	13	0	14	7	3	0	24	103	
8:45 AM	0	3	32	1	0	36	0	2	31	11	0	44	0	1	6	3	2	10	0	16	5	3	0	24	114	
Hourly Total	0	7	142	4	4	153	0	5	118	34	4	157	0	6	33	12	2	51	0	58	30	9	8	97	458	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	2	41	2	5	45	0	2	41	28	0	71	0	0	14	2	5	16	1	23	14	8	6	6	46	178
4:15 PM	0	2	34	3	5	39	0	1	34	20	2	55	0	0	14	2	0	16	1	17	8	5	6	6	31	141
4:30 PM	0	4	39	0	6	43	0	4	50	30	5	84	0	1	12	0	1	13	0	19	13	5	6	6	37	177
4:45 PM	0	5	37	1	0	43	0	2	44	26	2	72	0	1	10	3	2	14	1	18	12	8	6	6	39	168
Hourly Total	0	13	151	6	16	170	0	9	169	104	9	282	0	2	50	7	8	59	3	77	47	26	24	153	664	
5:00 PM	0	4	39	1	6	44	0	1	52	28	2	81	0	3	13	2	2	18	0	21	13	11	3	45	188	
5:15 PM	0	3	44	0	3	47	0	6	57	17	0	80	0	5	14	8	2	27	0	17	4	8	0	29	183	
5:30 PM	0	5	40	1	4	46	0	4	47	25	5	76	0	3	18	4	3	25	0	19	17	9	5	45	192	
5:45 PM	1	11	36	2	5	50	0	4	47	29	5	80	0	4	18	4	7	26	0	22	10	11	6	43	199	
Hourly Total	1	23	159	4	18	187	0	15	203	99	12	317	0	15	63	18	14	96	0	79	44	39	14	162	762	
Grand Total	1	73	671	21	52	766	0	40	597	287	30	924	0	32	207	50	33	289	3	276	151	77	49	507	2486	
Approach %	0.1	9.5	87.6	2.7	-	-	0.0	4.3	64.6	31.1	-	-	0.0	11.1	71.6	17.3	-	-	0.6	54.4	29.8	15.2	-	-	-	
Total %	0.0	2.9	27.0	0.8	-	30.8	0.0	1.6	24.0	11.5	-	37.2	0.0	1.3	8.3	2.0	-	11.6	0.1	11.1	6.1	3.1	-	20.4	-	
Lights	1	71	654	20	-	746	0	38	565	283	-	906	0	32	203	48	-	283	3	268	147	77	-	495	2430	
% Lights	100.0	97.3	97.5	95.2	-	97.4	-	95.0	98.0	98.6	-	98.1	-	100.0	98.1	96.0	-	97.9	100.0	97.1	97.4	100.0	-	97.6	97.7	
Buses	0	0	2	0	-	2	0	1	1	0	-	2	0	0	0	0	-	0	0	1	1	0	-	2	6	
% Buses	0.0	0.0	0.3	0.0	-	0.3	-	2.5	0.2	0.0	-	0.2	-	0.0	0.0	0.0	-	0.0	0.0	0.4	0.7	0.0	-	0.4	0.2	
Single-Unit Trucks	0	0	9	1	-	10	0	0	8	4	-	12	0	0	2	0	-	2	0	5	1	0	-	6	30	
% Single-Unit Trucks	0.0	0.0	1.3	4.8	-	1.3	-	0.0	1.3	1.4	-	1.3	-	0.0	1.0	0.0	-	0.7	0.0	1.8	0.7	0.0	-	1.2	1.2	
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	
% Articulated Trucks	0.0	1.4	0.0	0.0	-	0.1	-	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	1	6	0	-	7	0	1	3	0	-	4	0	0	2	2	-	4	0	2	2	0	-	4	19	
% Bicycles on Road	0.0	1.4	0.9	0.0	-	0.9	-	2.5	0.5	0.0	-	0.4	-	0.0	1.0	4.0	-	1.4	0.0	0.7	1.3	0.0	-	0.8	0.8	
Pedestrians	-	-	-	-	-	52	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	49	



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

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

Count Name: Sigwalt/Vail  
 Site Code:  
 Start Date: 05/18/2017  
 Page No: 3

### Turning Movement Peak Hour Data (7:30 AM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Vail Avenue Northbound					Vail 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
7:30 AM	0	10	61	3	3	74	0	5	28	15	1	48	0	3	13	6	0	22	0	16	6	0	2	22	166
7:45 AM	0	8	73	2	6	83	0	3	37	14	2	54	0	4	23	2	4	29	0	23	15	1	0	39	205
8:00 AM	0	2	44	0	2	46	0	1	35	11	0	47	0	3	13	4	0	20	0	16	10	2	4	28	141
8:15 AM	0	1	35	1	2	37	0	1	25	8	3	34	0	1	5	2	0	8	0	12	8	1	4	21	100
Total	0	21	213	6	13	240	0	10	125	48	6	183	0	11	54	14	4	79	0	67	39	4	10	110	612
Approach %	0.0	8.8	88.8	2.5	-	-	0.0	5.5	68.3	26.2	-	-	0.0	13.9	68.4	17.7	-	-	0.0	60.9	35.5	3.6	-	-	-
Total %	0.0	3.4	34.8	1.0	-	39.2	0.0	1.6	20.4	7.8	-	29.9	0.0	1.8	8.8	2.3	-	12.9	0.0	10.9	6.4	0.7	-	18.0	-
PHF	0.000	0.525	0.729	0.500	-	0.723	0.000	0.500	0.845	0.800	-	0.847	0.000	0.688	0.587	0.583	-	0.681	0.000	0.728	0.650	0.500	-	0.705	0.746
% Lights	-	20	210	6	-	236	0	8	123	45	-	176	0	11	52	13	-	76	0	66	36	4	-	106	594
% Buses	-	95.2	98.6	100.0	-	98.3	-	80.0	98.4	93.8	-	96.2	-	100.0	96.3	92.9	-	96.2	-	98.5	92.3	100.0	-	96.4	97.1
% Single-Unit Trucks	0	0	0	0	-	0	0	1	1	0	-	2	0	0	0	0	-	0	0	0	1	0	-	1	3
% Articulated Trucks	-	0.0	0.0	0.0	-	0.0	-	10.0	0.8	0.0	-	1.1	-	0.0	0.0	0.0	-	0.0	-	0.0	2.6	0.0	-	0.9	0.5
Bicycles on Road	0	0	1	0	-	1	0	0	1	3	-	4	0	0	1	0	-	1	0	1	1	0	-	2	8
% Bicycles on Road	-	0.0	0.5	0.0	-	0.4	-	0.0	0.8	6.3	-	2.2	-	0.0	1.9	0.0	-	1.3	-	1.5	2.6	0.0	-	1.8	1.3
% Pedestrians	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Pedestrians 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	0.0
% Pedestrians	-	4.8	0.9	0.0	-	1.3	-	10.0	0.0	0.0	-	0.5	-	0.0	1.9	7.1	-	2.5	-	0.0	2.6	0.0	-	0.9	1.1
% Pedestrians	-	-	-	-	13	-	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-



**Kenig Lindgren O'Hara Aboona, Inc.**  
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 (847)518-9990

Count Name: Sigwalt/Vail  
 Site Code:  
 Start Date: 05/18/2017  
 Page No: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Vail Avenue Northbound					Vail 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	
5:00 PM	0	4	39	1	6	44	0	1	52	28	2	81	0	3	13	2	2	18	0	21	13	11	3	45	188	
5:15 PM	0	3	44	0	3	47	0	6	57	17	0	80	0	5	14	8	2	27	0	17	4	8	0	29	183	
5:30 PM	0	5	40	1	4	46	0	4	47	25	5	76	0	3	18	4	3	25	0	19	17	9	5	45	192	
5:45 PM	1	11	36	2	5	50	0	4	47	29	5	80	0	4	18	4	7	26	0	22	10	11	6	43	199	
Total	1	23	159	4	18	187	0	15	203	99	12	317	0	15	63	18	14	96	0	79	44	39	14	162	762	
Approach %	0.5	12.3	85.0	2.1	-	-	0.0	4.7	64.0	31.2	-	-	0.0	15.6	65.6	18.8	-	-	0.0	48.8	27.2	24.1	-	-	-	
Total %	0.1	3.0	20.9	0.5	-	24.5	0.0	2.0	26.6	13.0	-	41.6	0.0	2.0	8.3	2.4	-	12.6	0.0	10.4	5.8	5.1	-	-	-	
PHF	0.250	0.523	0.903	0.500	-	0.935	0.000	0.625	0.890	0.853	-	0.978	0.000	0.750	0.875	0.563	-	0.889	0.000	0.898	0.647	0.886	-	0.900	0.957	
% Lights	1	23	155	4	-	183	0	15	197	99	-	311	0	15	62	17	-	94	0	77	44	39	-	160	748	
% Single-Unit Trucks	100.0	100.0	97.5	100.0	-	97.9	-	100.0	97.0	100.0	-	98.1	-	100.0	98.4	94.4	-	97.9	-	97.5	100.0	100.0	-	98.8	98.2	
% Buses	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	
% Single-Unit Trucks	0	0	2	0	-	2	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	0	-	0	6	
% Articulated Trucks	0.0	0.0	1.3	0.0	-	1.1	-	0.0	2.0	0.0	-	1.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.8	
% Bicycles on Road	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	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	
% Pedestrians	-	-	-	-	18	-	-	-	-	-	12	-	-	-	-	5.6	-	-	2.1	-	2.5	0.0	0.0	-	1.2	1.0
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Kenig Lindgren O'Hara Aboona, Inc.  
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Count Name: Campbell Street with Chestnut Avenue  
Site Code: 02/07/2019  
Page No: 1

### Turning Movement Data

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Chestnut Avenue Northbound					Chestnut 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
4:00 PM	0	1	30	4	0	35	0	0	26	4	0	30	0	1	0	2	0	3	0	1	1	6	0	8	76
4:15 PM	0	6	37	3	2	46	0	0	22	3	1	25	0	1	1	2	4	4	0	0	2	5	2	7	82
4:30 PM	0	1	40	1	0	42	0	0	26	2	1	28	0	0	4	0	3	4	0	2	5	4	0	11	85
4:45 PM	0	5	47	2	1	54	1	0	28	4	2	33	0	2	1	0	1	3	0	1	3	5	0	9	99
Hourly Total	0	13	154	10	3	177	1	0	102	13	4	116	0	4	6	4	8	14	0	4	11	20	2	35	342
5:00 PM	0	7	47	2	0	56	1	0	37	3	1	41	0	3	2	1	0	6	0	6	1	3	0	10	113
5:15 PM	0	8	50	2	0	60	1	3	26	13	5	43	0	0	4	0	2	4	0	2	7	3	5	12	119
5:30 PM	0	7	32	5	0	44	1	3	38	8	2	50	0	4	0	3	1	7	0	1	0	7	4	8	109
5:45 PM	0	10	64	3	0	77	0	3	24	8	3	35	0	0	2	1	5	3	0	5	2	8	7	15	130
Hourly Total	0	32	193	12	0	237	3	9	125	32	11	169	0	7	8	5	8	20	0	14	10	21	16	45	471
6:00 PM	0	9	29	3	1	41	0	2	42	11	2	55	0	1	2	3	0	6	0	5	4	12	3	21	123
6:15 PM	0	2	35	0	0	37	2	2	23	2	1	29	0	1	5	0	1	6	0	0	2	5	6	7	79
6:30 PM	0	3	32	2	0	37	1	0	25	7	0	33	0	2	2	1	0	5	0	1	3	7	1	11	86
6:45 PM	0	4	23	0	0	27	1	3	14	10	3	28	0	1	3	4	0	8	0	3	5	2	5	10	73
Hourly Total	0	18	119	5	1	142	4	7	104	30	6	145	0	5	12	8	1	25	0	9	14	26	15	49	361
7:00 PM	0	1	20	2	0	23	0	0	21	8	0	29	0	2	1	1	4	4	0	11	3	3	0	17	73
7:15 PM	0	2	19	0	0	21	0	0	12	5	0	17	0	3	2	2	0	7	0	4	3	2	2	9	54
7:30 PM	0	2	19	0	0	21	0	4	20	6	0	30	0	0	1	3	1	4	0	1	2	4	3	7	62
7:45 PM	1	4	26	1	1	32	0	2	9	2	0	13	0	2	0	1	0	3	0	3	2	2	0	7	55
Hourly Total	1	9	84	3	1	97	0	6	62	21	0	89	0	7	4	7	5	18	0	19	10	11	5	40	244
8:00 PM	0	0	16	0	0	16	2	1	17	2	0	22	0	0	0	1	0	1	0	2	2	1	0	5	44
8:15 PM	0	3	13	0	0	16	0	0	22	4	0	26	0	1	2	2	1	5	0	3	3	1	2	7	54
8:30 PM	0	0	6	0	0	6	0	2	15	1	0	18	0	0	0	0	0	0	0	2	1	1	0	4	28
8:45 PM	0	2	8	0	0	10	0	0	18	0	0	18	0	0	1	0	0	1	0	1	1	4	0	6	35
Hourly Total	0	5	43	0	0	48	2	3	72	7	0	84	0	1	3	3	1	7	0	8	7	7	2	22	161
9:00 PM	0	0	10	0	0	10	0	1	11	2	0	14	0	2	0	0	0	2	0	0	0	1	1	1	27
9:15 PM	0	3	11	1	0	15	0	1	17	0	0	18	0	2	0	0	0	2	0	1	2	2	1	5	40
9:30 PM	0	0	4	2	0	6	0	1	23	6	1	30	0	1	0	4	0	5	0	1	0	1	1	2	43
9:45 PM	0	0	6	0	0	6	0	0	9	0	0	9	0	0	0	0	0	0	0	0	2	3	1	5	20
Hourly Total	0	3	31	3	0	37	0	3	60	8	1	71	0	5	0	4	0	9	0	2	4	7	4	13	130
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	2	42	5	0	49	0	0	29	2	0	31	0	0	3	1	0	4	0	1	2	3	1	6	90
4:15 PM	0	5	32	1	0	38	0	1	34	3	2	38	0	0	1	0	1	1	0	1	2	7	1	10	87
4:30 PM	0	3	34	3	0	40	1	1	27	0	2	29	0	2	3	0	2	5	0	4	1	3	1	8	82
4:45 PM	0	4	42	1	0	47	1	0	30	7	2	38	0	2	1	2	0	5	0	4	1	1	0	6	96
Hourly Total	0	14	150	10	0	174	2	2	120	12	6	136	0	4	8	3	3	15	0	10	6	14	3	30	355
5:00 PM	0	8	41	3	0	52	1	1	27	5	0	34	0	2	3	0	0	5	0	3	2	4	0	9	100

5:15 PM	0	6	34	5	0	45	0	4	35	4	0	43	0	2	3	3	0	8	0	1	4	4	3	9	105	
5:30 PM	0	9	37	3	2	49	0	2	30	6	1	38	0	1	2	2	1	5	0	3	3	5	3	11	103	
5:45 PM	0	8	42	2	0	52	0	0	22	10	0	32	0	1	6	3	0	10	0	3	5	9	1	17	111	
Hourly Total	0	31	154	13	2	198	1	7	114	25	1	147	0	6	14	8	1	28	0	10	14	22	7	46	419	
6:00 PM	0	2	24	2	1	28	2	2	30	9	3	43	0	1	3	6	1	10	0	10	3	10	3	23	104	
6:15 PM	0	7	42	1	0	50	0	4	21	4	3	29	0	1	1	0	3	2	0	8	2	5	4	15	96	
6:30 PM	0	3	28	3	0	34	0	1	21	8	3	30	0	2	2	1	2	5	0	11	3	5	0	19	88	
6:45 PM	0	5	37	0	0	42	3	7	19	9	2	38	0	1	5	4	2	10	0	8	3	5	0	16	106	
Hourly Total	0	17	131	6	1	154	5	14	91	30	11	140	0	5	11	11	8	27	0	37	11	25	7	73	394	
7:00 PM	0	4	38	3	0	45	2	2	22	12	3	38	0	0	0	4	8	4	0	2	6	5	2	13	100	
7:15 PM	0	6	20	1	0	27	1	4	28	6	0	39	0	0	2	7	5	9	0	4	1	1	1	6	81	
7:30 PM	0	1	27	1	0	29	1	1	15	6	0	23	0	0	2	2	2	4	0	6	0	8	2	14	70	
7:45 PM	0	1	17	1	0	19	3	0	18	8	5	29	0	0	4	1	2	5	0	7	4	1	0	12	65	
Hourly Total	0	12	102	6	0	120	7	7	83	32	8	129	0	0	8	14	17	22	0	19	11	15	5	45	316	
8:00 PM	0	3	15	0	0	18	1	1	16	14	0	32	0	1	1	1	1	3	0	7	1	2	1	10	63	
8:15 PM	0	1	15	0	3	16	0	0	8	7	0	15	0	0	0	3	3	3	0	3	2	2	1	7	41	
8:30 PM	0	0	14	0	0	14	0	1	10	5	1	16	0	1	3	1	0	5	0	1	1	1	0	3	38	
8:45 PM	0	2	10	1	0	13	1	1	10	6	0	18	0	2	1	1	1	4	0	0	1	1	2	2	37	
Hourly Total	0	6	54	1	3	61	2	3	44	32	1	81	0	4	5	6	5	15	0	11	5	6	4	22	179	
9:00 PM	0	1	16	0	0	17	1	0	12	5	1	18	0	1	2	2	4	5	0	0	0	1	0	1	41	
9:15 PM	0	2	13	2	0	17	2	1	15	5	1	23	0	3	1	2	1	6	0	3	1	3	0	7	53	
9:30 PM	0	0	9	0	1	9	1	1	6	0	1	8	0	0	1	2	0	3	0	0	5	1	0	6	26	
9:45 PM	0	0	11	0	0	11	0	2	12	5	0	19	0	0	2	5	1	7	0	1	2	3	2	6	43	
Hourly Total	0	3	49	2	1	54	4	4	45	15	3	68	0	4	6	11	6	21	0	4	8	8	2	20	163	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	3	36	0	0	39	1	0	27	1	0	29	0	2	1	0	2	3	0	2	2	3	3	7	78	
4:15 PM	0	1	27	0	0	28	0	0	16	1	3	17	0	0	1	2	0	3	0	2	2	1	0	5	53	
4:30 PM	0	1	27	4	0	32	0	0	22	6	1	28	0	0	0	1	3	1	0	0	1	2	0	3	64	
4:45 PM	0	3	39	1	1	43	2	2	19	2	0	25	0	0	2	3	2	5	0	4	4	1	2	9	82	
Hourly Total	0	8	129	5	1	142	3	2	84	10	4	99	0	2	4	6	7	12	0	8	9	7	5	24	277	
5:00 PM	0	1	32	2	0	35	1	1	28	7	0	37	0	2	2	2	0	6	1	9	3	2	1	15	93	
5:15 PM	0	5	31	4	1	40	2	1	24	5	1	32	0	2	1	4	2	7	0	11	2	4	6	17	96	
5:30 PM	0	5	41	1	0	47	1	1	21	6	0	29	0	1	2	2	0	5	0	5	1	3	2	9	90	
5:45 PM	0	4	43	2	0	49	2	1	12	12	0	27	0	0	3	3	0	6	0	14	4	3	0	21	103	
Hourly Total	0	15	147	9	1	171	6	4	85	30	1	125	0	5	8	11	2	24	1	39	10	12	9	62	382	
6:00 PM	0	2	31	1	1	34	1	3	21	6	1	31	0	1	2	2	4	5	0	6	3	4	1	13	83	
6:15 PM	0	1	39	0	2	40	0	4	19	9	0	32	0	1	1	0	7	2	0	7	1	3	2	11	85	
6:30 PM	0	6	27	1	0	34	2	3	18	8	0	31	0	3	2	3	3	8	0	5	2	1	1	8	81	
6:45 PM	0	3	33	1	0	37	1	6	21	6	0	34	0	0	0	2	5	2	0	7	3	5	2	15	88	
Hourly Total	0	12	130	3	3	145	4	16	79	29	1	128	0	5	5	7	19	17	0	25	9	13	6	47	337	
7:00 PM	0	3	26	1	0	30	0	2	23	18	0	43	0	2	3	1	2	6	0	7	1	3	4	11	90	
7:15 PM	0	4	20	4	2	28	2	5	15	12	3	34	0	3	2	5	1	10	0	6	2	4	4	12	84	
7:30 PM	0	5	24	4	0	33	2	2	10	9	1	23	0	1	0	0	5	1	0	7	1	2	7	10	67	
7:45 PM	0	8	12	0	1	20	1	2	23	4	0	30	0	4	2	5	4	11	0	11	2	1	5	14	75	
Hourly Total	0	20	82	9	3	111	5	11	71	43	4	130	0	10	7	11	12	28	0	31	6	10	20	47	316	
8:00 PM	0	1	16	1	0	18	2	0	13	5	5	20	0	0	0	1	2	1	1	2	0	2	5	5	44	
8:15 PM	0	3	16	2	4	21	0	2	9	8	1	19	0	0	1	5	3	6	0	3	3	0	0	6	52	
8:30 PM	0	0	10	2	0	12	2	2	9	2	2	15	0	0	1	0	0	1	0	1	3	0	0	4	32	
8:45 PM	1	0	7	0	0	8	1	1	11	2	2	15	0	0	0	0	3	0	0	0	3	0	3	3	26	
Hourly Total	1	4	49	5	4	59	5	5	42	17	10	69	0	0	2	6	8	8	1	6	9	2	8	18	154	
9:00 PM	0	1	10	1	0	12	1	2	17	2	2	22	0	2	2	0	6	0	0	2	2	0	0	4	44	
9:15 PM	0	0	6	1	0	7	1	0	15	1	1	17	0	0	0	0	0	0	0	4	1	1	4	9	33	

9:30 PM	0	1	6	0	2	7	1	1	12	1	0	15	0	0	0	0	0	0	0	0	0	1	1	1	1	3	4	26	
9:45 PM	0	0	16	1	3	17	0	1	17	3	2	21	0	1	0	1	2	2	2	2	2	0	3	2	0	0	1	5	45
Hourly Total	0	2	38	3	5	43	3	4	61	7	5	75	0	3	2	3	2	8	8	8	0	11	6	5	4	22	148		
Grand Total	2	224	1839	105	29	2170	57	107	1444	393	77	2001	0	77	113	128	113	318	318	318	2	267	160	231	124	660	5149		
Approach %	0.1	10.3	84.7	4.8	-	-	2.8	5.3	72.2	19.6	-	-	0.0	24.2	35.5	40.3	-	-	-	-	0.3	40.5	24.2	35.0	-	-	-		
Total %	0.0	4.4	35.7	2.0	-	42.1	1.1	2.1	28.0	7.6	-	38.9	0.0	1.5	2.2	2.5	-	6.2	6.2	6.2	0.0	5.2	3.1	4.5	-	12.8			
Lights	2	223	1833	104	-	2162	57	107	1436	391	-	1991	0	75	113	127	-	315	315	315	2	267	159	229	-	657	5125		
% Lights	100.0	99.6	99.7	99.0	-	99.6	100.0	100.0	99.4	99.5	-	99.5	-	97.4	100.0	99.2	-	99.1	99.1	99.1	100.0	100.0	99.4	99.1	-	99.5	99.5		
Buses	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	0	1	-	1	2		
% Buses	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-	0.2	0.0		
Single-Unit Trucks	0	0	4	0	-	4	0	0	6	2	-	8	0	2	0	1	-	3	3	3	0	0	0	1	-	1	16		
% Single-Unit Trucks	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	0.4	0.5	-	0.4	-	2.6	0.0	0.8	-	0.9	0.9	0.9	0.0	0.0	0.0	0.4	-	0.2	0.3		
Articulated Trucks	0	0	0	1	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	-	0	1		
% Articulated Trucks	0.0	0.0	0.0	1.0	-	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	0.0		
Bicycles on Road	0	1	2	0	-	3	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	1	0	-	1	5		
% Bicycles on Road	0.0	0.4	0.1	0.0	-	0.1	0.0	0.0	0.1	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.6	0.0	-	0.2	0.1		
Pedestrians	-	-	-	-	29	-	-	-	-	-	77	-	-	-	-	-	-	113	-	-	-	-	-	-	124	-	-		
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-		





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(847)518-9990

Count Name: Campbell Street with Chestnut Avenue  
Site Code: 02/07/2019  
Start Date: 02/07/2019  
Page No.: 4

### Turning Movement Peak Hour Data (5:15 PM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Chestnut Avenue Northbound						Chestnut 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	U-Turn	Left	Thru	Right	Peds	App. Total	
5:15 PM	0	8	50	2	0	60	1	3	26	13	5	43	0	0	4	0	3	1	7	0	2	7	3	5	12	0	2	7	3	5	12
5:30 PM	0	7	32	5	0	44	1	3	38	8	2	50	0	4	0	3	1	7	0	1	0	7	4	8	0	1	0	7	4	8	
5:45 PM	0	10	64	3	0	77	0	3	24	8	3	35	0	0	2	1	5	3	0	5	2	8	7	15	0	5	2	8	7	15	
6:00 PM	0	9	29	3	1	41	0	2	42	11	2	55	0	1	2	3	0	6	0	5	4	12	3	21	0	5	4	12	3	21	
Total	0	34	175	13	1	222	2	11	130	40	12	183	0	5	8	7	8	20	0	13	13	30	19	56	0	13	13	30	19	56	
Approach %	0.0	15.3	78.8	5.9	-	-	1.1	6.0	71.0	21.9	-	-	0.0	25.0	40.0	35.0	-	-	0.0	23.2	23.2	53.6	-	-	0.0	23.2	23.2	53.6	-	-	
Total %	0.0	7.1	36.4	2.7	-	46.2	0.4	2.3	27.0	8.3	-	36.0	0.0	1.0	1.7	1.5	-	4.2	0.0	2.7	2.7	6.2	-	11.6	0.0	2.7	2.7	6.2	-	11.6	
PHF	0.000	0.850	0.684	0.650	-	0.721	0.500	0.917	0.774	0.769	-	0.832	0.000	0.313	0.500	0.583	-	0.714	0.000	0.650	0.464	0.625	-	0.667	0.000	0.650	0.464	0.625	-	0.667	
Lights	0	34	174	13	-	221	2	11	129	40	-	182	0	5	8	7	-	20	0	13	13	30	-	56	0	13	13	30	-	56	
% Lights	-	100.0	99.4	100.0	-	99.5	100.0	100.0	99.2	100.0	-	99.5	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	
Buses	0	0	0	0	-	0	0	0	1	0	-	1	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	0.8	0.0	-	0.5	-	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	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	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	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	
% 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	0.0	0.0	-	0.0	
Bicycles on Road	0	0	1	0	-	1	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	0.6	0.0	-	0.5	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	
Pedestrians	-	-	-	-	1	-	-	-	-	-	12	-	-	-	-	-	8	-	-	-	-	-	19	-	-	-	-	-	-	-	
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	



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Count Name: Campbell Street with Chestnut Avenue  
 Site Code: 02/07/2019  
 Start Date: 02/07/2019  
 Page No.: 5

### Turning Movement Peak Hour Data (5:15 PM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Chestnut Avenue Northbound					Chestnut 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
5:15 PM	0	6	34	5	0	45	0	4	35	4	0	43	0	2	3	3	0	8	0	1	4	4	3	9	105
5:30 PM	0	9	37	3	2	49	0	2	30	6	1	38	0	1	2	2	1	5	0	3	3	5	3	11	103
5:45 PM	0	8	42	2	0	52	0	0	22	10	0	32	0	1	6	3	0	10	0	3	5	9	1	17	111
6:00 PM	0	2	24	2	1	28	2	2	30	9	3	43	0	1	3	6	1	10	0	10	3	10	3	23	104
Total	0	25	137	12	3	174	2	8	117	29	4	156	0	5	14	14	2	33	0	17	15	28	10	60	423
Approach %	0.0	14.4	78.7	6.9	-	-	1.3	5.1	75.0	18.6	-	-	0.0	15.2	42.4	42.4	-	-	0.0	28.3	25.0	46.7	-	-	-
Total %	0.0	5.9	32.4	2.8	-	41.1	0.5	1.9	27.7	6.9	-	36.9	0.0	1.2	3.3	3.3	-	7.8	0.0	4.0	3.5	6.6	-	14.2	-
PHF	0.000	0.694	0.815	0.600	-	0.837	0.250	0.500	0.836	0.725	-	0.907	0.000	0.625	0.583	0.583	-	0.825	0.000	0.425	0.750	0.700	-	0.652	0.953
% Lights	0	24	136	12	-	172	2	8	115	29	-	154	0	5	14	14	-	33	0	17	15	28	-	60	419
% Lights	-	96.0	99.3	100.0	-	98.9	100.0	100.0	98.3	100.0	-	98.7	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	99.1
% 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
% 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	1	0	-	1	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	3
% Single-Unit Trucks	-	0.0	0.7	0.0	-	0.6	0.0	0.0	1.7	0.0	-	1.3	-	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	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	4.0	0.0	0.0	-	0.6	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	0.2
Pedestrians	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	10	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Campbell Street with Chestnut Avenue  
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### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Chestnut Avenue Northbound						Chestnut 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	
5:00 PM	0	1	32	2	0	35	1	1	28	7	0	37	0	2	2	2	2	0	6	1	9	3	2	1	15	93
5:15 PM	0	5	31	4	1	40	2	1	24	5	1	32	0	2	1	4	2	2	7	0	11	2	4	6	17	96
5:30 PM	0	5	41	1	0	47	1	1	21	6	0	29	0	1	2	2	0	5	5	0	5	1	3	2	9	90
5:45 PM	0	4	43	2	0	49	2	1	12	12	0	27	0	0	3	3	0	6	6	0	14	4	3	0	21	103
Total	0	15	147	9	1	171	6	4	85	30	1	125	0	5	8	11	2	24	24	1	39	10	12	9	62	382
Approach %	0.0	8.8	86.0	5.3	-	-	4.8	3.2	68.0	24.0	-	-	0.0	20.8	33.3	45.8	-	-	-	1.6	62.9	16.1	19.4	-	-	-
Total %	0.0	3.9	38.5	2.4	-	44.8	1.6	1.0	22.3	7.9	-	32.7	0.0	1.3	2.1	2.9	-	6.3	6.3	0.3	10.2	2.6	3.1	-	16.2	-
PHF	0.000	0.750	0.855	0.563	-	0.872	0.750	1.000	0.759	0.625	-	0.845	0.000	0.625	0.667	0.688	-	0.857	0.857	0.250	0.696	0.625	0.750	-	0.738	0.927
Lights	0	15	147	9	-	171	6	4	85	30	-	125	0	5	8	11	-	24	24	1	39	10	12	-	62	382
% Lights	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	100.0	-	100.0	100.0
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
% 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	-	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	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	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
% 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	-	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
% 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	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	-	9	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-



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

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Count Name: Campbell Street with Highland Avenue  
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### 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	App. Total	Int. Total
4:00 PM	1	27	4	1	32	1	9	24	4	34	0	5	7	1	12	78
4:15 PM	0	32	8	1	40	3	5	21	4	29	1	1	7	8	9	78
4:30 PM	0	32	7	0	39	1	4	25	9	30	1	8	10	3	19	88
4:45 PM	0	40	8	0	48	0	4	36	2	40	0	2	4	7	6	94
Hourly Total	1	131	27	2	159	5	22	106	19	133	2	16	28	19	46	338
5:00 PM	0	47	10	0	57	0	6	37	5	43	0	7	14	5	21	121
5:15 PM	0	38	11	1	49	1	15	39	10	55	0	10	13	2	23	127
5:30 PM	0	33	8	3	41	1	7	38	8	46	0	9	16	11	25	112
5:45 PM	0	47	15	0	62	2	19	35	5	56	0	9	15	9	24	142
Hourly Total	0	165	44	4	209	4	47	149	28	200	0	35	58	27	93	502
6:00 PM	0	33	5	0	38	1	12	39	15	52	1	14	23	3	38	128
6:15 PM	0	27	11	0	38	1	9	26	10	36	0	3	21	2	24	98
6:30 PM	0	32	4	0	36	2	11	26	7	39	1	9	33	6	43	118
6:45 PM	0	26	6	1	32	1	15	23	10	39	0	6	18	4	24	95
Hourly Total	0	118	26	1	144	5	47	114	42	166	2	32	95	15	129	439
7:00 PM	0	22	9	2	31	0	4	33	0	37	2	4	16	15	22	90
7:15 PM	0	20	3	0	23	1	9	15	4	25	0	6	20	2	26	74
7:30 PM	0	16	9	0	25	0	16	26	4	42	0	5	11	4	16	83
7:45 PM	0	17	11	0	28	0	9	14	0	23	0	0	12	1	12	63
Hourly Total	0	75	32	2	107	1	38	88	8	127	2	15	59	22	76	310
8:00 PM	0	17	2	0	19	0	8	16	5	24	0	5	5	4	10	53
8:15 PM	0	15	3	0	18	0	5	23	3	28	0	1	8	3	9	55
8:30 PM	0	6	3	0	9	0	0	19	1	19	0	5	10	1	15	43
8:45 PM	0	8	1	0	9	0	2	13	2	15	0	3	9	3	12	36
Hourly Total	0	46	9	0	55	0	15	71	11	86	0	14	32	11	46	187
9:00 PM	0	11	1	0	12	0	2	10	2	12	0	4	12	2	16	40
9:15 PM	0	7	6	0	13	0	2	18	8	20	0	3	8	2	11	44
9:30 PM	0	6	1	1	7	1	2	19	1	22	0	9	22	1	31	60
9:45 PM	0	3	3	1	6	0	1	6	3	7	0	5	16	4	21	34
Hourly Total	0	27	11	2	38	1	7	53	14	61	0	21	58	9	79	178
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	32	8	0	40	0	7	27	2	34	0	3	4	4	7	81
4:15 PM	0	34	4	1	38	1	9	32	0	42	0	6	10	5	16	96
4:30 PM	0	33	5	0	38	0	1	30	1	31	0	5	11	1	16	85
4:45 PM	0	37	6	0	43	3	6	37	0	46	0	2	13	12	15	104
Hourly Total	0	136	23	1	159	4	23	126	3	153	0	16	38	22	54	366
5:00 PM	0	37	9	0	46	0	12	21	3	33	0	11	10	2	21	100
5:15 PM	0	29	14	0	43	1	18	37	1	56	0	6	11	2	17	116

5:30 PM	0	34	6	0	40	1	19	32	14	52	0	11	16	2	27	119
5:45 PM	0	35	9	0	44	2	16	24	3	42	0	7	23	7	30	116
Hourly Total	0	135	38	0	173	4	65	114	21	183	0	35	60	13	95	451
6:00 PM	0	36	6	0	42	0	20	32	1	52	0	11	27	5	38	132
6:15 PM	0	44	7	1	51	0	13	27	1	40	0	8	18	7	26	117
6:30 PM	0	33	7	0	40	1	8	24	3	33	0	5	10	10	15	88
6:45 PM	0	35	20	0	55	1	19	41	8	61	0	0	16	12	16	132
Hourly Total	0	148	40	1	188	2	60	124	13	186	0	24	71	34	95	489
7:00 PM	0	28	16	6	44	3	23	34	7	60	0	7	24	13	31	135
7:15 PM	0	22	10	0	32	0	18	29	3	47	0	7	34	9	41	120
7:30 PM	0	27	9	0	36	0	14	20	2	34	1	1	23	7	25	95
7:45 PM	0	21	8	0	29	2	6	23	4	31	0	9	11	13	20	80
Hourly Total	0	98	43	6	141	5	61	106	16	172	1	24	92	42	117	430
8:00 PM	0	21	2	0	23	2	10	23	2	35	0	7	15	9	22	80
8:15 PM	0	21	5	0	26	2	6	18	3	26	0	1	18	8	19	71
8:30 PM	0	12	4	0	16	1	4	9	2	14	0	6	16	1	22	52
8:45 PM	0	7	4	1	11	1	10	17	0	28	0	6	15	12	21	60
Hourly Total	0	61	15	1	76	6	30	67	7	103	0	20	64	30	84	263
9:00 PM	0	15	2	1	17	3	8	9	3	20	0	6	22	6	28	65
9:15 PM	0	15	4	0	19	0	6	14	1	20	0	7	10	5	17	56
9:30 PM	0	12	4	0	16	2	5	9	7	16	0	3	16	5	19	51
9:45 PM	0	9	1	0	10	0	6	13	7	19	0	9	17	15	26	55
Hourly Total	0	51	11	1	62	5	25	45	18	75	0	25	65	31	90	227
***BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	34	3	0	37	3	6	24	7	33	0	4	11	8	15	85
4:15 PM	0	30	3	0	33	1	9	13	6	23	0	6	14	5	20	76
4:30 PM	0	33	7	0	40	0	10	17	5	27	1	12	7	7	20	87
4:45 PM	0	33	5	0	38	2	10	23	15	35	1	4	3	8	8	81
Hourly Total	0	130	18	0	148	6	35	77	33	118	2	26	35	22	63	329
5:00 PM	0	34	10	1	44	0	21	28	7	49	0	8	17	5	25	118
5:15 PM	0	45	8	0	53	0	24	30	9	54	0	6	17	9	23	130
5:30 PM	0	35	12	0	47	0	21	23	2	44	0	7	16	2	23	114
5:45 PM	0	41	18	0	59	1	23	22	4	46	0	7	12	13	19	124
Hourly Total	0	155	48	1	203	1	89	103	22	193	0	28	62	29	90	486
6:00 PM	0	33	6	1	39	4	15	24	5	43	0	5	20	7	25	107
6:15 PM	0	30	15	1	45	1	19	30	8	50	0	8	21	11	29	124
6:30 PM	0	27	14	0	41	2	18	25	6	45	1	5	18	12	24	110
6:45 PM	0	25	15	0	40	1	21	34	4	56	0	5	23	9	28	124
Hourly Total	0	115	50	2	165	8	73	113	23	194	1	23	82	39	106	465
7:00 PM	0	18	12	0	30	1	35	35	2	71	0	8	22	10	30	131
7:15 PM	0	31	7	0	38	3	19	30	6	52	0	5	15	12	20	110
7:30 PM	0	31	6	0	37	0	15	22	4	37	0	8	17	16	25	99
7:45 PM	0	21	6	1	27	3	9	24	2	36	0	8	11	18	19	82
Hourly Total	0	101	31	1	132	7	78	111	14	196	0	29	65	56	94	422
8:00 PM	0	17	5	3	22	2	10	15	2	27	0	5	19	6	24	73
8:15 PM	0	20	9	0	29	1	7	20	3	28	0	4	18	10	22	79
8:30 PM	0	12	3	0	15	0	15	15	4	30	0	4	18	1	22	67
8:45 PM	0	9	2	1	11	2	12	10	6	24	0	6	27	7	33	68
Hourly Total	0	58	19	4	77	5	44	60	15	109	0	19	82	24	101	287
9:00 PM	0	8	3	0	11	5	8	16	2	29	0	5	14	4	19	59
9:15 PM	0	8	4	0	12	0	5	15	18	20	0	5	20	0	25	57
9:30 PM	0	8	0	0	8	2	4	15	1	21	0	2	20	0	22	51

	0	16	3	0	19	0	4	10	4	14	0	15	13	9	28	61
9:45 PM	0	40	10	0	50	7	21	56	25	84	0	27	67	13	94	228
Hourly Total	0	1790	495	29	2286	76	780	1683	332	2539	10	429	1113	458	1552	6377
Grand Total	0.0	78.3	21.7	-	-	3.0	30.7	66.3	-	-	0.6	27.6	71.7	-	-	-
Approach %	0.0	28.1	7.8	-	35.8	1.2	12.2	26.4	-	39.8	0.2	6.7	17.5	-	24.3	-
Total %	1	1781	494	-	2276	76	779	1675	-	2530	10	429	1112	-	1551	6357
Lights	100.0	99.5	99.8	-	99.6	100.0	99.9	99.5	-	99.6	100.0	100.0	99.9	-	99.9	99.7
% Lights	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
% Buses	0	7	1	-	8	0	0	7	-	7	0	0	0	-	0	15
Single-Unit Trucks	0.0	0.4	0.2	-	0.3	0.0	0.0	0.4	-	0.3	0.0	0.0	0.0	-	0.0	0.2
% Single-Unit Trucks	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
% Articulated Trucks	0	2	0	-	2	0	1	1	-	2	0	0	1	-	1	5
Bicycles on Road	0.0	0.1	0.0	-	0.1	0.0	0.1	0.1	-	0.1	0.0	0.0	0.1	-	0.1	0.1
% Bicycles on Road	-	-	-	29	-	-	-	-	332	-	-	-	-	458	-	-
Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Campbell Street with Highland Avenue  
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### Turning Movement Peak Hour Data (5:15 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	App. Total	Int. Total
5:15 PM	0	38	11	1	49	1	15	39	10	55	0	10	13	2	25	127
5:30 PM	0	33	8	3	41	1	7	38	8	46	0	9	16	11	25	112
5:45 PM	0	47	15	0	62	2	19	35	5	56	0	9	15	9	24	142
6:00 PM	0	33	5	0	38	1	12	39	15	52	1	14	23	3	38	128
Total	0	151	39	4	190	5	53	151	38	209	1	42	67	25	110	509
Approach %	0.0	79.5	20.5	-	-	2.4	25.4	72.2	-	-	0.9	38.2	60.9	-	-	-
Total %	0.0	29.7	7.7	-	37.3	1.0	10.4	29.7	-	41.1	0.2	8.3	13.2	-	21.6	-
PHF	0.000	0.803	0.650	-	0.766	0.625	0.697	0.968	-	0.933	0.250	0.750	0.728	-	0.724	0.896
Lights	0	150	39	-	189	5	52	150	-	207	1	42	67	-	110	506
% Lights	-	99.3	100.0	-	99.5	100.0	98.1	99.3	-	99.0	100.0	100.0	100.0	-	100.0	99.4
Buses	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
Single-Unit Trucks	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Single-Unit Trucks	-	0.0	0.0	-	0.0	0.0	0.0	0.7	-	0.5	0.0	0.0	0.0	-	0.0	0.2
Articulated Trucks	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
Bicycles on Road	0	1	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Bicycles on Road	-	0.7	0.0	-	0.5	0.0	1.9	0.0	-	0.5	0.0	0.0	0.0	-	0.0	0.4
Pedestrians	-	-	-	4	-	-	-	-	38	-	-	-	-	25	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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### Turning Movement Peak Hour Data (5:30 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	App. Total	Int. Total
5:30 PM	0	34	6	0	40	1	19	32	14	52	0	11	16	2	27	119
5:45 PM	0	35	9	0	44	2	16	24	3	42	0	7	23	7	30	116
6:00 PM	0	36	6	0	42	0	20	32	1	52	0	11	27	5	38	132
6:15 PM	0	44	7	1	51	0	13	27	1	40	0	8	18	7	26	117
Total	0	149	28	1	177	3	68	115	19	186	0	37	84	21	121	484
Approach %	0.0	84.2	15.8	-	-	1.6	36.6	61.8	-	-	0.0	30.6	69.4	-	-	-
Total %	0.0	30.8	5.8	-	36.6	0.6	14.0	23.8	-	38.4	0.0	7.6	17.4	-	25.0	-
PHF	0.000	0.847	0.778	-	0.868	0.375	0.850	0.898	-	0.894	0.000	0.841	0.778	-	0.796	0.917
Lights	0	149	28	-	177	3	68	115	-	186	0	37	84	-	121	484
% Lights	-	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	-	100.0	100.0
Buses	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
Single-Unit Trucks	0	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	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	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
Pedestrians	-	-	-	1	-	-	-	-	19	-	-	-	-	21	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-





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### Turning Movement Peak Hour Data (6:15 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	App. Total	Int. Total
6:15 PM	0	30	15	1	45	1	19	30	8	50	0	8	21	11	29	124
6:30 PM	0	27	14	0	41	2	18	25	6	45	1	5	18	12	24	110
6:45 PM	0	25	15	0	40	1	21	34	4	56	0	5	23	9	28	124
7:00 PM	0	18	12	0	30	1	35	35	2	71	0	8	22	10	30	131
Total	0	100	56	1	156	5	93	124	20	222	1	26	84	42	111	489
Approach %	0.0	64.1	35.9	-	-	2.3	41.9	55.9	-	-	0.9	23.4	75.7	-	-	-
Total %	0.0	20.4	11.5	-	31.9	1.0	19.0	25.4	-	45.4	0.2	5.3	17.2	-	22.7	-
PHF	0.000	0.933	0.933	-	0.867	0.625	0.664	0.886	-	0.782	0.250	0.813	0.913	-	0.925	0.933
% Lights	0	100	56	-	156	5	93	124	-	222	1	26	84	-	111	489
% Lights	-	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0
Buses	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
Single-Unit Trucks	0	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	0.0
Articulated Trucks	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
Bicycles on Road	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
Pedestrians	-	-	-	1	-	-	-	-	20	-	-	-	-	42	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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### Turning Movement Data

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Vail Avenue Northbound						Vail 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
4:00 PM	0	12	10	7	4	29	0	1	22	3	5	26	0	5	19	2	4	26	0	5	23	7	6	35	116
4:15 PM	0	17	20	3	23	40	0	5	18	9	14	32	0	2	20	5	11	27	0	5	34	11	5	50	149
4:30 PM	0	15	19	10	6	44	0	3	19	8	7	30	0	3	22	2	8	27	1	11	24	5	3	41	142
4:45 PM	0	8	27	7	22	42	0	8	19	7	11	34	0	5	19	1	5	25	0	11	20	15	12	46	147
Hourly Total	0	52	76	27	55	155	0	17	78	27	37	122	0	15	80	10	28	105	1	32	101	38	26	172	554
5:00 PM	0	15	26	13	20	54	0	6	25	11	10	42	0	7	22	4	5	33	0	4	29	13	1	53	182
5:15 PM	0	13	20	15	46	48	0	11	32	10	8	53	0	8	21	10	3	39	0	4	39	15	15	58	198
5:30 PM	0	17	24	17	15	58	0	6	27	6	10	39	0	10	20	8	6	38	0	6	32	12	7	50	185
5:45 PM	0	13	29	11	104	53	0	13	29	15	19	57	0	7	21	5	19	33	0	15	34	16	11	65	208
Hourly Total	0	58	99	56	185	213	0	36	113	42	47	191	0	32	84	27	33	143	0	36	134	56	34	226	773
6:00 PM	0	18	22	9	35	49	0	12	32	14	7	58	0	7	29	10	17	46	0	10	41	17	3	68	221
6:15 PM	0	13	22	8	13	43	0	6	25	8	26	39	0	1	16	4	18	21	0	7	29	7	19	43	146
6:30 PM	0	21	28	17	34	66	0	6	22	8	17	36	0	4	19	5	15	28	0	3	30	17	7	50	180
6:45 PM	0	12	14	14	14	40	0	11	20	12	11	43	0	7	20	6	12	33	0	9	29	11	12	49	165
Hourly Total	0	64	86	48	96	198	0	35	99	42	61	176	0	19	84	25	62	128	0	29	129	52	41	210	712
7:00 PM	1	14	19	6	48	40	0	6	23	15	3	44	1	5	28	8	17	42	0	6	29	14	4	49	175
7:15 PM	0	10	17	15	35	42	1	9	13	14	5	37	0	5	20	6	13	31	0	11	26	7	3	44	154
7:30 PM	0	9	12	6	12	27	0	6	27	4	10	37	0	2	18	7	12	27	0	7	22	14	6	43	134
7:45 PM	0	9	11	9	9	29	0	10	13	3	6	26	0	4	18	3	16	25	0	3	17	5	5	25	105
Hourly Total	1	42	59	36	104	138	1	31	76	36	24	144	1	16	84	24	58	125	0	27	94	40	18	161	588
8:00 PM	0	5	12	6	14	23	0	1	15	4	7	20	0	3	18	5	15	26	1	8	21	6	6	36	105
8:15 PM	0	10	11	2	24	23	0	2	10	5	11	17	0	5	12	6	8	23	0	2	18	8	5	28	91
8:30 PM	0	9	6	3	15	18	0	2	7	4	3	13	0	5	9	0	6	14	0	3	8	8	4	19	64
8:45 PM	0	8	6	6	7	20	0	1	9	4	7	14	0	4	4	2	13	10	0	0	16	6	1	22	66
Hourly Total	0	32	35	17	60	84	0	6	41	17	28	64	0	17	43	13	42	73	1	13	63	28	16	105	326
9:00 PM	0	11	8	2	7	21	0	1	5	1	4	7	0	4	10	1	6	15	0	0	9	5	3	14	57
9:15 PM	0	9	4	3	22	16	0	1	8	2	5	11	0	4	7	4	5	15	0	1	14	7	2	22	64
9:30 PM	0	17	5	7	18	29	0	2	12	1	6	15	0	3	13	3	1	19	0	3	13	4	5	20	83
9:45 PM	0	5	12	0	8	17	0	2	3	4	4	9	0	2	10	3	8	15	0	1	6	1	2	8	49
Hourly Total	0	42	29	12	55	83	0	6	28	8	19	42	0	13	40	11	20	64	0	5	42	17	12	64	253
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	5	25	6	7	36	0	5	24	13	9	42	0	5	18	7	5	30	0	3	16	7	6	26	134
4:15 PM	0	8	17	7	36	32	0	3	23	12	14	38	0	10	20	4	11	34	0	1	23	7	4	31	135
4:30 PM	0	19	29	2	7	50	0	5	15	6	3	30	0	3	21	6	3	30	0	8	37	13	5	58	164
4:45 PM	0	9	20	10	13	39	0	9	24	6	11	39	0	9	14	4	5	27	0	4	25	12	10	41	146
Hourly Total	0	41	91	25	63	157	0	22	86	37	37	145	0	27	73	21	24	121	0	16	101	39	25	156	579
5:00 PM	0	14	25	12	26	51	0	10	18	15	14	43	0	3	20	5	9	28	0	9	31	17	5	57	179

5:15 PM	0	7	13	15	20	35	0	3	34	10	7	47	0	8	20	6	9	34	0	8	19	17	2	44	160
5:30 PM	0	15	24	11	47	50	0	11	27	10	14	48	0	10	33	7	13	50	0	11	32	11	5	55	203
5:45 PM	0	18	21	7	85	46	0	17	18	16	25	51	0	8	18	10	18	36	0	15	32	18	10	65	198
Hourly Total	0	54	83	45	178	182	0	41	97	51	60	189	0	29	91	28	49	148	0	43	115	63	22	221	740
6:00 PM	0	24	27	17	26	68	0	12	28	11	19	51	0	9	20	8	30	37	0	13	33	19	5	65	221
6:15 PM	0	18	21	13	52	52	0	11	19	21	21	51	0	8	21	6	29	35	0	13	35	16	7	64	202
6:30 PM	0	11	29	13	33	53	0	15	19	14	10	48	0	9	23	3	27	35	0	12	22	13	12	47	183
6:45 PM	0	9	23	16	46	48	0	14	24	13	17	51	0	15	20	5	48	40	1	10	31	25	8	67	206
Hourly Total	0	62	100	59	157	221	0	52	90	59	67	201	0	41	84	22	134	147	1	48	121	73	32	243	812
7:00 PM	0	16	23	26	72	65	0	15	33	14	23	62	0	7	17	12	29	36	0	4	26	17	31	47	210
7:15 PM	0	15	23	16	48	54	0	7	24	15	18	46	0	5	18	7	41	30	0	8	24	18	24	50	180
7:30 PM	0	15	18	11	25	44	1	8	21	6	10	36	0	5	16	12	25	33	0	9	25	17	8	51	164
7:45 PM	0	13	12	5	20	30	0	9	15	8	20	32	0	5	14	5	31	24	0	11	16	15	12	42	128
Hourly Total	0	59	76	58	165	193	1	39	93	43	71	176	0	22	65	36	126	123	0	32	91	67	75	190	682
8:00 PM	0	14	14	10	33	38	0	5	16	14	3	35	0	6	20	5	14	31	0	7	14	15	11	36	140
8:15 PM	0	10	17	10	38	37	0	8	9	11	14	28	0	4	15	7	7	26	0	7	26	12	11	45	136
8:30 PM	0	12	12	10	16	34	0	6	10	7	7	23	0	3	12	8	16	23	0	5	16	5	5	26	106
8:45 PM	0	7	6	7	25	20	0	2	13	5	10	20	0	5	10	2	28	17	0	4	17	12	13	33	90
Hourly Total	0	43	49	37	112	129	0	21	48	37	34	106	0	18	57	22	65	97	0	23	73	44	40	140	472
9:00 PM	0	13	17	12	10	42	0	5	7	6	17	18	0	5	13	3	18	21	1	3	16	5	11	25	106
9:15 PM	0	11	13	4	24	28	0	2	14	9	9	25	0	4	11	4	34	19	0	4	11	9	6	24	96
9:30 PM	1	7	7	8	24	23	1	3	6	2	7	12	0	4	14	1	22	19	0	5	13	6	10	24	78
9:45 PM	0	17	11	3	24	31	0	2	7	6	20	15	0	5	12	5	32	22	0	6	15	7	20	28	96
Hourly Total	1	48	48	27	82	124	1	12	34	23	53	70	0	18	50	13	106	81	1	18	55	27	47	101	376
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	14	22	8	20	44	1	7	17	7	13	32	0	3	20	4	10	27	0	8	22	9	6	39	142
4:15 PM	0	15	19	10	18	44	0	6	11	13	21	30	0	4	12	2	12	18	0	10	26	11	19	47	139
4:30 PM	0	13	20	5	14	38	0	6	17	12	26	35	0	3	23	6	22	32	1	9	24	8	11	42	147
4:45 PM	0	10	18	12	24	40	0	14	16	10	15	40	0	6	16	6	16	28	0	12	21	14	15	47	155
Hourly Total	0	52	79	35	76	166	1	33	61	42	75	137	0	16	71	18	60	105	1	39	93	42	51	175	583
5:00 PM	0	19	17	14	5	50	0	10	27	13	10	50	0	15	22	8	18	45	0	7	20	19	6	46	191
5:15 PM	0	21	16	16	26	53	0	9	21	14	34	44	0	10	22	10	54	42	0	17	34	17	26	68	207
5:30 PM	0	17	18	17	31	52	0	10	26	20	21	56	0	5	22	8	41	35	0	6	27	14	34	47	190
5:45 PM	0	12	15	18	26	45	0	11	20	18	25	49	0	7	18	12	48	37	0	3	28	13	16	44	175
Hourly Total	0	69	66	65	88	200	0	40	94	65	90	199	0	37	84	38	161	159	0	33	109	63	82	205	763
6:00 PM	0	19	22	17	45	58	0	19	19	11	38	49	0	10	16	7	60	33	0	11	15	21	31	47	187
6:15 PM	0	15	20	17	62	52	0	21	27	13	26	61	0	6	23	7	50	36	0	10	30	23	39	63	212
6:30 PM	0	16	19	11	33	46	0	15	24	13	18	52	0	4	17	21	42	42	0	15	26	13	16	54	194
6:45 PM	0	17	15	16	53	48	1	13	22	14	26	50	0	15	13	11	45	39	0	13	24	22	28	59	196
Hourly Total	0	67	76	61	193	204	1	68	92	51	108	212	0	35	69	46	197	150	0	49	95	79	114	223	789
7:00 PM	0	13	14	14	63	41	0	18	37	11	54	66	0	11	15	6	72	32	0	8	39	26	52	73	212
7:15 PM	0	14	12	14	75	40	0	7	16	11	20	34	0	4	29	8	63	41	0	15	27	26	25	68	183
7:30 PM	0	17	16	12	41	45	0	12	19	8	18	39	0	5	9	10	40	24	1	10	22	16	20	49	157
7:45 PM	0	9	20	13	32	42	0	8	14	9	7	31	0	5	21	5	28	31	0	8	22	13	22	43	147
Hourly Total	0	53	62	53	211	168	0	45	86	39	99	170	0	25	74	29	203	128	1	41	110	81	119	233	699
8:00 PM	0	10	11	7	44	28	0	9	11	2	30	22	0	4	12	5	30	21	0	6	10	12	18	28	99
8:15 PM	0	14	13	10	27	37	0	3	9	7	23	19	0	5	12	4	32	21	1	6	14	10	13	31	108
8:30 PM	0	7	16	12	59	35	1	2	11	7	22	21	1	9	14	6	42	30	0	4	20	9	10	33	119
8:45 PM	0	18	9	8	43	35	0	6	9	6	22	21	0	6	7	3	17	16	1	4	16	9	18	30	102
Hourly Total	0	49	49	37	173	135	1	20	40	22	97	83	1	24	45	18	121	88	2	20	60	40	59	122	428
9:00 PM	0	10	9	10	24	29	0	1	18	6	17	25	0	5	14	5	35	24	0	6	20	9	8	35	113
9:15 PM	0	19	8	2	31	29	1	4	15	4	10	24	0	1	10	9	18	20	0	0	10	8	13	18	91

	0	16	10	8	35	34	0	4	9	7	21	20	0	5	7	2	31	14	0	3	10	6	23	19	87
9:30 PM	0	13	10	7	53	30	0	1	9	4	28	14	2	2	21	3	33	28	0	0	4	4	20	8	80
9:45 PM	0	58	37	27	143	122	1	10	51	21	76	83	2	13	52	19	117	86	0	9	44	27	64	80	371
Hourly Total	0	945	1200	725	2196	2872	7	534	1307	662	1083	2510	4	417	1230	420	1606	2071	8	513	1630	876	877	3027	10480
Approach %	0.1	32.9	41.8	25.2	-	-	0.3	21.3	52.1	26.4	-	-	0.2	20.1	59.4	20.3	-	-	0.3	16.9	53.8	28.9	-	-	-
Total %	0.0	9.0	11.5	6.9	-	27.4	0.1	5.1	12.5	6.3	-	24.0	0.0	4.0	11.7	4.0	-	19.8	0.1	4.9	15.6	8.4	-	28.9	-
Lights	2	942	1197	724	-	2865	7	534	1302	658	-	2501	4	414	1228	420	-	2066	8	513	1625	876	-	3022	10454
% Lights	100.0	99.7	99.8	99.9	-	99.8	100.0	100.0	99.6	99.4	-	99.6	100.0	99.3	99.8	100.0	-	99.8	100.0	100.0	99.7	100.0	-	99.8	99.8
Buses	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	0.0	0.0	0.1	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	2	2	1	-	5	0	0	4	4	-	8	0	3	2	0	-	5	0	0	4	0	-	4	22
% Single-Unit Trucks	0.0	0.2	0.2	0.1	-	0.2	0.0	0.0	0.3	0.6	-	0.3	0.0	0.7	0.2	0.0	-	0.2	0.0	0.0	0.2	0.0	-	0.1	0.2
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.1	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	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	2
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	2196	-	-	-	-	-	1083	-	-	-	-	-	-	1606	-	-	-	-	-	877	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-



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Count Name: Campbell Street with Vail Avenue  
Site Code: 02/07/2019  
Start Date: 02/07/2019  
Page No: 4

### Turning Movement Peak Hour Data (5:15 PM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Vail Avenue Northbound					Vail 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
5:15 PM	0	13	20	15	46	48	0	11	32	10	8	53	0	8	21	10	3	39	0	4	39	15	15	58	198
5:30 PM	0	17	24	17	15	58	0	6	27	6	10	39	0	10	20	8	6	38	0	6	32	12	7	50	185
5:45 PM	0	13	29	11	104	53	0	13	29	15	19	57	0	7	21	5	19	33	0	15	34	16	11	65	208
6:00 PM	0	18	22	9	35	49	0	12	32	14	7	58	0	7	29	10	17	46	0	10	41	17	3	68	221
Total	0	61	95	52	200	208	0	42	120	45	44	207	0	32	91	33	45	156	0	35	146	60	36	241	812
Approach %	0.0	29.3	45.7	25.0	-	-	0.0	20.3	58.0	21.7	-	-	0.0	20.5	58.3	21.2	-	-	0.0	14.5	60.6	24.9	-	-	-
Total %	0.0	7.5	11.7	6.4	-	25.6	0.0	5.2	14.8	5.5	-	25.5	0.0	3.9	11.2	4.1	-	19.2	0.0	4.3	18.0	7.4	-	29.7	-
PHF	0.000	0.847	0.819	0.765	-	0.897	0.000	0.808	0.938	0.750	-	0.892	0.000	0.800	0.784	0.825	-	0.848	0.000	0.583	0.890	0.882	-	0.886	0.919
Lights	0	60	94	52	206	206	0	42	119	45	206	206	0	32	90	33	-	155	0	35	145	60	240	807	
% Lights	-	98.4	98.9	100.0	-	99.0	-	100.0	99.2	100.0	-	99.5	-	100.0	98.9	100.0	-	99.4	-	100.0	99.3	100.0	-	99.6	99.4
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
% 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
Single-Unit Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	1	0	-	1	0	0	1	0	-	1	4
% Single-Unit Trucks	-	0.0	1.1	0.0	-	0.5	-	0.0	0.8	0.0	-	0.5	-	0.0	1.1	0.0	-	0.6	-	0.0	0.7	0.0	-	0.4	0.5
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Articulated Trucks	-	1.6	0.0	0.0	-	0.5	-	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	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	0.0
Pedestrians	-	-	-	-	200	-	-	-	-	-	44	-	-	-	-	-	45	-	-	-	-	-	36	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Campbell Street with Vail Avenue  
 Site Code:  
 Start Date: 02/07/2019  
 Page No.: 5

### Turning Movement Peak Hour Data (5:30 PM)

Start Time	Campbell Street Eastbound					Campbell Street Westbound					Vail Avenue Northbound					Vail 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
5:30 PM	0	15	24	11	47	50	0	11	27	10	14	48	0	10	33	7	13	50	0	11	33	11	5	55	203
5:45 PM	0	18	21	7	85	46	0	17	18	16	25	51	0	8	18	10	18	36	0	15	32	18	10	65	198
6:00 PM	0	24	27	17	26	68	0	12	28	11	19	51	0	9	20	8	30	37	0	13	33	19	5	65	221
6:15 PM	0	18	21	13	52	52	0	11	19	21	21	51	0	8	21	6	29	35	0	13	35	16	7	64	202
Total	0	75	93	48	210	216	0	51	92	58	79	201	0	35	92	31	90	158	0	52	133	64	27	249	824
Approach %	0.0	34.7	43.1	22.2	-	-	0.0	25.4	45.8	28.9	-	-	0.0	22.2	58.2	19.6	-	-	0.0	20.9	53.4	25.7	-	-	-
Total %	0.0	9.1	11.3	5.8	-	26.2	0.0	6.2	11.2	7.0	-	24.4	0.0	4.2	11.2	3.8	-	19.2	0.0	6.3	16.1	7.8	-	30.2	-
PHF	0.000	0.781	0.861	0.706	-	0.794	0.000	0.750	0.821	0.690	-	0.985	0.000	0.875	0.697	0.775	-	0.790	0.000	0.867	0.950	0.842	-	0.958	0.932
Lights	0	75	93	48	-	216	0	51	91	58	-	200	0	35	92	31	-	158	0	52	133	64	-	249	823
% Lights	-	100.0	100.0	100.0	-	100.0	-	100.0	98.9	100.0	-	99.5	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	99.9
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
Single-Unit Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Single-Unit Trucks	-	0.0	0.0	0.0	-	0.0	-	0.0	1.1	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.1
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
Bicycles on Road	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	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0
Pedestrians	-	-	-	-	210	-	-	-	-	-	79	-	-	-	-	-	90	-	-	-	-	-	27	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Campbell Street with Vail Avenue  
Site Code:  
Start Date: 02/07/2019  
Page No.: 6

### Turning Movement Peak Hour Data (6:15 PM)

Start Time	Campbell Street Eastbound						Campbell Street Westbound						Vail Avenue Northbound						Vail 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	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total		
6:15 PM	0	15	20	17	62	52	0	21	27	13	26	61	0	6	23	7	50	36	0	10	30	23	39	63	0	18.5	47.8	33.7	-	-	-	212	
6:30 PM	0	16	19	11	33	46	0	15	24	13	18	52	0	4	17	21	42	42	0	15	26	13	16	54	0	5.7	14.6	10.3	-	-	-	194	
6:45 PM	0	17	15	16	53	48	1	13	22	14	26	50	0	15	13	11	45	39	0	13	24	22	28	59	0	0.000	0.798	0.743	0.911	-	-	-	196
7:00 PM	0	13	14	14	63	41	0	18	37	11	54	66	0	11	15	6	72	32	0	8	39	26	52	73	0	46	119	84	-	-	-	212	
Total	0	61	68	58	211	187	1	67	110	51	124	229	0	36	68	45	209	149	0	46	119	84	135	249	0	100.0	100.0	100.0	-	-	-	814	
Approach %	0.0	32.6	36.4	31.0	-	-	0.4	29.3	48.0	22.3	-	-	0.0	24.2	45.6	30.2	-	-	0.0	18.5	47.8	33.7	-	-	0.0	0.0	0.0	0.0	-	-	-	-	
Total %	0.0	7.5	8.4	7.1	-	23.0	0.1	8.2	13.5	6.3	-	28.1	0.0	4.4	8.4	5.5	-	18.3	0.0	5.7	14.6	10.3	-	30.6	0.0	0.000	0.767	0.763	0.808	-	-	-	0.853
PHF	0.000	0.897	0.850	0.853	-	0.899	0.250	0.798	0.743	0.911	-	0.867	0.000	0.600	0.739	0.536	-	0.887	0.000	0.46	1.19	0.84	-	249	0	100.0	100.0	100.0	-	-	-	100.0	
% Lights	-	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	100.0	-	-	100.0	100.0	100.0	-	100.0	-	100.0	100.0	100.0	-	-	-	100.0
% 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
% 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	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	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	-	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
% 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	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
% 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	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	-	0.0
Pedestrians	-	-	-	-	211	-	-	-	-	-	124	-	-	-	-	-	209	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Sigwalt Street with Highland Avenue  
Site Code: 02/07/2019  
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	
4:00 PM	0	1	22	2	0	25	0	1	38	3	3	42	0	0	2	2	2	1	4	0	4	3	3	0	10
4:15 PM	0	1	26	1	0	28	0	4	38	4	0	46	0	2	4	1	0	7	0	5	1	4	0	10	
4:30 PM	0	3	23	1	0	27	0	1	43	5	0	49	0	3	4	2	0	9	0	7	4	5	0	16	
4:45 PM	0	3	25	1	0	29	0	1	37	5	3	43	0	3	2	4	0	9	0	1	3	0	1	4	
Hourly Total	0	8	96	5	0	109	0	7	156	17	6	180	0	8	12	9	1	29	0	17	11	12	1	40	
5:00 PM	0	1	20	0	2	21	0	1	36	6	1	43	0	1	8	5	0	14	0	8	4	8	1	20	
5:15 PM	0	2	23	1	1	26	0	5	40	12	0	57	0	2	7	7	0	16	0	8	5	4	1	17	
5:30 PM	0	1	33	3	0	37	0	3	41	9	0	53	0	1	4	2	0	7	0	7	11	7	0	25	
5:45 PM	0	0	34	4	1	38	0	3	31	10	1	44	0	1	4	6	0	11	0	9	5	6	1	20	
Hourly Total	0	4	110	8	4	122	0	12	148	37	2	197	0	5	23	20	0	48	0	32	25	25	3	82	
6:00 PM	1	1	28	1	0	31	0	2	38	12	3	52	0	0	6	4	0	10	0	20	13	18	0	51	
6:15 PM	0	0	16	0	0	16	0	2	25	9	0	36	0	0	2	2	0	4	0	7	9	5	0	21	
6:30 PM	0	0	13	0	0	13	0	2	20	10	2	32	0	1	5	4	0	10	0	11	6	13	0	30	
6:45 PM	0	1	15	1	1	17	0	1	29	14	0	44	0	0	0	2	0	2	0	7	3	7	0	17	
Hourly Total	1	2	72	2	1	77	0	7	112	45	5	164	0	1	13	12	0	26	0	45	31	43	0	119	
7:00 PM	0	3	17	0	1	20	0	3	28	9	4	40	0	2	2	2	0	6	0	12	8	4	0	24	
7:15 PM	0	1	14	1	2	16	0	3	32	9	0	44	0	0	2	1	0	3	0	7	1	4	1	12	
7:30 PM	0	2	14	1	1	17	0	0	19	4	1	23	0	1	3	2	0	6	0	11	0	3	2	14	
7:45 PM	0	2	15	1	0	18	0	3	17	7	0	27	0	0	2	3	0	5	0	7	1	3	0	11	
Hourly Total	0	8	60	3	4	71	0	9	96	29	5	134	0	3	9	8	0	20	0	37	10	14	3	61	
8:00 PM	0	1	14	0	0	15	0	3	19	2	0	24	1	0	3	1	0	5	0	6	3	5	0	14	
8:15 PM	0	0	11	0	0	11	0	2	35	3	0	40	0	0	2	0	0	2	0	14	2	4	0	20	
8:30 PM	0	1	5	0	0	6	0	0	10	1	0	11	0	0	2	1	0	3	0	1	1	0	0	2	
8:45 PM	0	0	6	1	0	7	0	1	8	2	0	11	0	1	1	0	0	2	0	5	1	1	0	7	
Hourly Total	0	2	36	1	0	39	0	6	72	8	0	86	1	1	8	2	0	12	0	26	7	10	0	43	
9:00 PM	0	0	5	0	0	5	0	0	13	4	2	17	0	0	0	0	0	0	0	7	1	2	0	10	
9:15 PM	0	0	14	0	0	14	0	2	17	0	0	19	0	0	1	0	0	1	0	4	3	1	0	8	
9:30 PM	0	1	3	1	0	5	1	1	9	5	0	16	0	0	0	0	0	0	0	8	1	1	0	10	
9:45 PM	0	0	1	0	0	1	0	0	6	4	1	10	0	0	0	0	0	0	0	3	2	3	0	8	
Hourly Total	0	1	23	1	0	25	1	3	45	13	3	62	0	0	1	0	0	1	0	22	7	7	0	36	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	0	23	0	0	23	0	0	36	6	0	42	0	1	0	5	0	6	0	7	0	2	0	9	
4:15 PM	0	2	27	1	0	30	0	5	29	7	0	41	0	0	4	3	0	7	0	6	3	1	1	10	
4:30 PM	0	1	38	0	0	39	0	5	43	10	2	58	0	1	3	2	0	6	0	9	6	8	0	23	
4:45 PM	0	3	23	0	0	26	0	3	48	11	0	62	0	0	2	4	0	6	0	3	0	4	0	7	
Hourly Total	0	6	111	1	0	118	0	13	156	34	2	203	0	2	9	14	0	25	0	25	9	15	1	49	
5:00 PM	0	4	25	0	0	29	0	6	42	3	0	51	0	2	2	4	0	8	0	7	3	6	1	16	



5:15 PM	0	3	27	2	0	32	0	1	37	11	1	49	0	1	4	2	0	7	0	11	2	4	0	17	105	
5:30 PM	0	7	33	1	1	41	0	2	42	14	0	58	0	1	3	1	0	5	0	19	5	14	0	38	142	
5:45 PM	0	3	28	1	0	32	0	4	42	14	0	60	0	0	7	1	0	8	0	8	4	2	0	14	114	
Hourly Total	0	17	113	4	1	134	0	13	163	42	1	218	0	4	16	8	0	28	0	45	14	26	1	85	465	
6:00 PM	0	4	27	1	0	32	0	1	38	10	0	49	0	2	3	2	0	7	0	14	12	10	0	36	124	
6:15 PM	0	0	15	0	0	15	0	2	40	14	2	56	0	2	0	5	0	7	0	18	3	1	0	22	100	
6:30 PM	0	0	17	3	0	20	0	3	30	8	1	41	0	2	0	4	0	6	0	6	4	4	0	14	81	
6:45 PM	0	1	15	0	0	16	0	4	29	6	1	39	0	3	5	1	1	9	0	2	2	3	0	7	71	
Hourly Total	0	5	74	4	0	83	0	10	137	38	4	185	0	9	8	12	1	29	0	40	21	18	0	79	376	
7:00 PM	0	1	22	0	0	23	0	4	22	9	0	35	0	1	5	3	0	9	0	18	2	6	0	26	93	
7:15 PM	0	3	16	0	0	19	0	3	13	6	3	22	0	2	2	3	0	7	0	16	4	4	0	24	72	
7:30 PM	0	2	11	1	0	14	0	0	15	6	1	21	0	0	2	0	0	2	0	8	3	0	0	11	48	
7:45 PM	0	0	4	1	0	5	0	1	21	3	0	25	0	0	2	0	0	2	1	4	1	6	0	12	44	
Hourly Total	0	6	53	2	0	61	0	8	71	24	4	103	0	3	11	6	0	20	1	46	10	16	0	73	257	
8:00 PM	0	0	16	0	0	16	0	0	25	9	0	34	0	1	4	1	0	6	0	9	2	0	0	11	67	
8:15 PM	0	0	8	1	0	9	0	2	11	3	1	16	0	0	0	2	0	2	0	4	2	3	0	9	36	
8:30 PM	0	0	6	0	0	6	0	0	19	13	0	32	0	0	0	3	0	3	0	8	1	1	0	10	51	
8:45 PM	0	0	11	0	0	11	1	0	18	4	0	23	0	1	1	1	0	3	0	5	3	0	0	8	45	
Hourly Total	0	0	41	1	0	42	1	2	73	29	1	105	0	2	5	7	0	14	0	26	8	4	0	38	199	
9:00 PM	0	2	2	0	0	4	0	1	15	7	1	23	0	1	4	1	0	6	0	17	2	3	2	22	55	
9:15 PM	0	2	5	1	0	8	0	2	16	4	0	22	0	1	1	1	0	3	0	10	0	3	0	13	46	
9:30 PM	0	0	9	1	0	10	0	0	11	3	0	14	0	0	3	0	0	3	0	5	1	2	0	8	35	
9:45 PM	0	1	3	0	0	4	0	1	7	2	0	10	0	1	0	2	0	3	0	9	1	3	0	13	30	
Hourly Total	0	5	19	2	0	26	0	4	49	16	1	69	0	3	8	4	0	15	0	41	4	11	2	56	166	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	11	0	1	12	0	3	28	6	1	37	0	0	3	1	0	4	0	5	1	2	0	8	61	
4:15 PM	0	1	14	0	0	15	0	0	30	9	0	39	0	0	5	5	3	10	0	9	3	2	0	14	78	
4:30 PM	0	0	9	1	1	10	0	2	20	4	0	26	0	0	3	1	0	4	0	13	1	2	1	16	56	
4:45 PM	0	0	19	3	2	22	0	0	31	3	0	34	0	0	1	0	1	1	0	5	1	0	1	6	63	
Hourly Total	0	2	53	4	4	59	0	5	109	22	1	136	0	0	12	7	4	19	0	32	6	6	4	44	258	
5:00 PM	0	2	22	2	2	26	1	2	30	4	2	37	0	0	4	3	0	7	0	17	1	1	0	19	89	
5:15 PM	0	3	17	0	0	20	0	2	24	6	0	32	0	0	3	4	0	7	0	9	0	5	0	14	73	
5:30 PM	0	1	14	0	0	15	0	2	21	10	1	33	0	0	2	1	0	3	0	22	3	5	0	30	81	
5:45 PM	0	1	19	1	0	21	1	0	16	8	1	25	0	0	1	1	0	2	0	9	2	3	0	14	62	
Hourly Total	0	7	72	3	2	82	2	6	91	28	4	127	0	0	10	9	0	19	0	57	6	14	0	77	305	
6:00 PM	0	7	16	0	0	23	0	1	23	11	1	35	0	0	2	6	0	8	0	6	1	1	0	8	74	
6:15 PM	0	3	20	0	0	23	0	2	26	7	0	35	0	1	2	3	0	6	1	17	1	1	0	20	84	
6:30 PM	0	4	18	0	0	22	0	2	14	14	2	30	0	0	0	4	0	4	0	16	0	7	0	23	79	
6:45 PM	0	2	17	0	0	19	0	2	22	12	0	36	0	2	2	2	0	6	0	14	1	3	0	18	79	
Hourly Total	0	16	71	0	0	87	0	7	85	44	3	136	0	3	6	15	0	24	1	53	3	12	0	69	316	
7:00 PM	0	2	20	1	0	23	0	6	19	8	2	33	0	1	3	3	0	7	0	18	2	3	1	23	86	
7:15 PM	0	3	25	0	0	28	0	2	28	7	1	37	0	0	2	5	0	7	0	13	3	8	1	24	96	
7:30 PM	0	1	23	1	0	25	0	3	11	5	2	19	0	0	2	3	0	5	0	14	1	2	0	17	66	
7:45 PM	0	1	3	1	0	5	0	0	19	5	2	24	0	0	1	0	0	1	0	10	1	4	0	15	45	
Hourly Total	0	7	71	3	0	81	0	11	77	25	7	113	0	1	8	11	0	20	0	55	7	17	2	79	293	
8:00 PM	0	0	4	0	0	4	0	2	9	3	1	14	0	0	2	2	0	2	0	8	1	2	0	11	31	
8:15 PM	0	0	13	1	0	14	2	2	12	2	0	18	0	0	2	1	0	3	0	7	0	2	0	9	44	
8:30 PM	0	2	8	1	2	11	0	1	12	3	0	16	0	0	0	3	0	3	0	15	0	2	1	17	47	
8:45 PM	0	0	2	1	0	3	0	0	13	4	0	17	0	0	3	0	0	3	0	7	1	3	0	11	34	
Hourly Total	0	2	27	3	2	32	2	5	46	12	1	65	0	0	7	4	0	11	0	37	2	9	1	48	156	
9:00 PM	0	2	7	1	0	10	0	1	8	2	1	11	0	0	0	0	0	0	0	9	2	2	0	13	34	
9:15 PM	0	0	3	0	0	3	0	1	13	2	0	16	0	0	0	2	0	2	0	14	1	1	1	16	37	

9:30 PM	0	2	4	0	0	6	0	0	0	10	5	2	15	0	0	0	0	0	4	1	2	0	7	30	
9:45 PM	0	0	8	1	1	9	0	1	14	1	0	0	16	0	0	1	1	1	9	0	2	0	11	38	
Hourly Total	0	4	22	2	1	28	0	3	45	10	3	58	0	0	0	1	5	1	36	4	7	1	47	139	
Grand Total	1	102	1124	49	19	1276	6	131	1731	473	53	2341	1	45	167	153	7	366	2	672	185	266	19	1125	5108
Approach %	0.1	8.0	88.1	3.8	-	-	0.3	5.6	73.9	20.2	-	-	0.3	12.3	45.6	41.8	-	-	0.2	59.7	16.4	23.6	-	-	-
Total %	0.0	2.0	22.0	1.0	-	25.0	0.1	2.6	33.9	9.3	-	45.8	0.0	0.9	3.3	3.0	-	7.2	0.0	13.2	3.6	5.2	-	22.0	-
Lights	1	102	1120	48	-	1271	6	131	1722	473	-	2332	1	44	166	153	-	364	2	671	182	266	-	1121	5088
% Lights	100.0	100.0	99.6	98.0	-	99.6	100.0	100.0	99.5	100.0	-	99.6	100.0	97.8	99.4	100.0	-	99.5	100.0	99.9	98.4	100.0	-	99.6	99.6
Buses	0	0	0	0	-	0	0	0	2	0	-	2	0	0	0	0	-	0	0	0	0	0	-	2	2
% Buses	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.1	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	4	1	-	5	0	0	6	0	-	6	0	1	0	0	-	1	0	1	1	0	-	2	14
% Single-Unit Trucks	0.0	0.0	0.4	2.0	-	0.4	0.0	0.0	0.3	0.0	-	0.3	0.0	2.2	0.0	0.0	-	0.3	0.0	0.1	0.5	0.0	-	0.2	0.3
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	0.0	-	0.0	0.0
Bicycles on Road	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	0	0	2	0	-	2	4
% Bicycles on Road	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.1	0.0	-	0.0	0.0	0.0	0.6	0.0	-	0.3	0.0	0.0	1.1	0.0	-	0.2	0.1
Pedestrians	-	-	-	-	-	19	-	-	-	-	-	53	-	-	-	-	-	7	-	-	-	-	-	19	-
% Pedestrians	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-



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### Turning Movement Peak Hour Data (5:15 PM)

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
5:15 PM	0	2	23	1	1	26	0	5	40	12	0	57	0	2	7	7	0	16	0	8	5	4	1	17	116
5:30 PM	0	1	33	3	0	37	0	3	41	9	0	53	0	1	4	2	0	7	0	7	11	7	0	25	122
5:45 PM	0	0	34	4	1	38	0	2	31	10	1	44	0	1	4	6	0	11	0	9	5	6	1	20	113
6:00 PM	1	1	28	1	0	31	0	2	38	12	3	52	0	0	6	4	0	10	0	20	13	18	0	51	144
Total	1	4	118	9	2	132	0	13	150	43	4	206	0	4	21	19	0	44	0	44	34	35	2	113	495
Approach %	0.8	3.0	89.4	6.8	-	-	0.0	6.3	72.8	20.9	-	-	0.0	9.1	47.7	43.2	-	-	0.0	38.9	30.1	31.0	-	-	-
Total %	0.2	0.8	23.8	1.8	-	26.7	0.0	2.6	30.3	8.7	-	41.6	0.0	0.8	4.2	3.8	-	8.9	0.0	8.9	6.9	7.1	-	22.8	-
PHF	0.250	0.500	0.868	0.563	-	0.868	0.000	0.650	0.915	0.896	-	0.904	0.000	0.500	0.750	0.679	-	0.688	0.000	0.550	0.654	0.486	-	0.554	0.859
Lights	1	4	118	9	-	132	0	13	149	43	-	205	0	3	21	19	-	43	0	44	33	35	-	112	492
% Lights	100.0	100.0	100.0	100.0	-	100.0	-	100.0	99.3	100.0	-	99.5	-	75.0	100.0	100.0	-	97.7	-	100.0	97.1	100.0	-	99.1	99.4
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
% 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	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	2
% Single-Unit Trucks	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.7	0.0	-	0.5	-	25.0	0.0	0.0	-	2.3	-	0.0	0.0	0.0	-	0.0	0.4
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
% 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% 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	2.9	0.0	-	0.9	0.2
Pedestrians	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	0	-	-	-	-	100.0	-	-



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### Turning Movement Peak Hour Data (5:15 PM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Highland Avenue Northbound					Highland Avenue Southbound					
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	
5:15 PM	0	3	27	2	32	0	1	37	11	49	0	1	4	2	7	0	11	2	4	17	
5:30 PM	0	7	33	1	41	0	2	42	14	58	0	1	3	1	5	0	19	5	14	38	
5:45 PM	0	3	28	1	32	0	4	42	14	60	0	0	7	1	8	0	8	4	2	14	
6:00 PM	0	4	27	1	32	0	1	38	10	49	0	2	3	2	7	0	14	12	10	36	
Total	0	17	115	5	137	0	8	159	49	216	0	4	17	6	27	0	52	23	30	105	
Approach %	0.0	12.4	83.9	3.6	-	0.0	3.7	73.6	22.7	-	0.0	14.8	63.0	22.2	-	0.0	49.5	21.9	28.6	-	
Total %	0.0	3.5	23.7	1.0	28.2	0.0	1.6	32.8	10.1	44.5	0.0	0.8	3.5	1.2	5.6	0.0	10.7	4.7	6.2	21.6	
PHF	0.000	0.607	0.871	0.625	0.835	0.000	0.500	0.946	0.875	0.900	0.000	0.500	0.607	0.750	0.844	0.000	0.684	0.479	0.536	0.691	
Lights	0	17	115	5	137	0	8	159	49	216	0	4	17	6	27	0	52	22	30	104	
% Lights	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	100.0	95.7	100.0	-	99.8
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% 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	0.0	-	0.0	4.3	0.0	-	1.0
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	-	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	0	-	-	-	-	-	-



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Site Code: 02/07/2019  
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### Turning Movement Peak Hour Data (6:30 PM)

Start Time	Sigwalt Street Eastbound					Sigwalt Street Westbound					Highland Avenue Northbound					Highland Avenue Southbound											
	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	U-Turn	Left	Thru	Right	App. Total	Int. Total	
6:30 PM	0	4	18	0	22	0	2	14	14	30	0	0	0	4	4	0	16	0	7	23	0	16	0	7	0	23	79
6:45 PM	0	2	17	0	19	0	2	22	12	36	0	2	2	2	6	0	14	1	3	18	0	14	1	3	0	18	79
7:00 PM	0	2	20	1	23	0	6	19	8	33	0	1	3	3	7	0	18	2	3	23	0	18	2	3	1	23	86
7:15 PM	0	3	25	0	28	0	2	28	7	37	0	0	2	5	7	0	13	3	8	24	0	13	3	8	1	24	96
Total	0	11	80	1	92	0	12	83	41	136	0	3	7	14	24	0	61	6	21	88	0	61	6	21	2	88	340
Approach %	0.0	12.0	87.0	1.1	-	0.0	8.8	61.0	30.1	-	0.0	12.5	29.2	58.3	-	0.0	69.3	6.8	23.9	-	0.0	17.9	1.8	6.2	-	25.9	-
Total %	0.0	3.2	23.5	0.3	27.1	0.0	3.5	24.4	12.1	40.0	0.0	0.9	2.1	4.1	7.1	0.0	17.9	1.8	6.2	-	0.000	0.847	0.500	0.656	-	0.917	0.885
PHF	0.000	0.688	0.800	0.250	0.821	0.000	0.500	0.741	0.732	0.919	0.000	0.375	0.583	0.700	0.857	0.000	0.61	0.6	0.21	0.88	0.000	0.61	0.6	0.21	0.88	339	
Lights	0	11	79	1	91	0	12	83	41	136	0	3	7	14	24	0	61	6	21	88	0	61	6	21	2	88	339
% Lights	-	100.0	98.8	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	100.0	99.7
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
% 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	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Single-Unit Trucks	-	0.0	1.3	0.0	1.1	-	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	0.3
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
% 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	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
% 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	-	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrians	-	-	-	-	0	-	-	-	-	5	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
% Pedestrians	-	-	-	-	0	-	-	-	-	100.0	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-

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	<b>2195</b>
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	<b>2075</b>
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	<b>1936</b>
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

## ITE/ULI Vehicle Trip/Parking Rates

# Multifamily Housing (Low-Rise) (220)

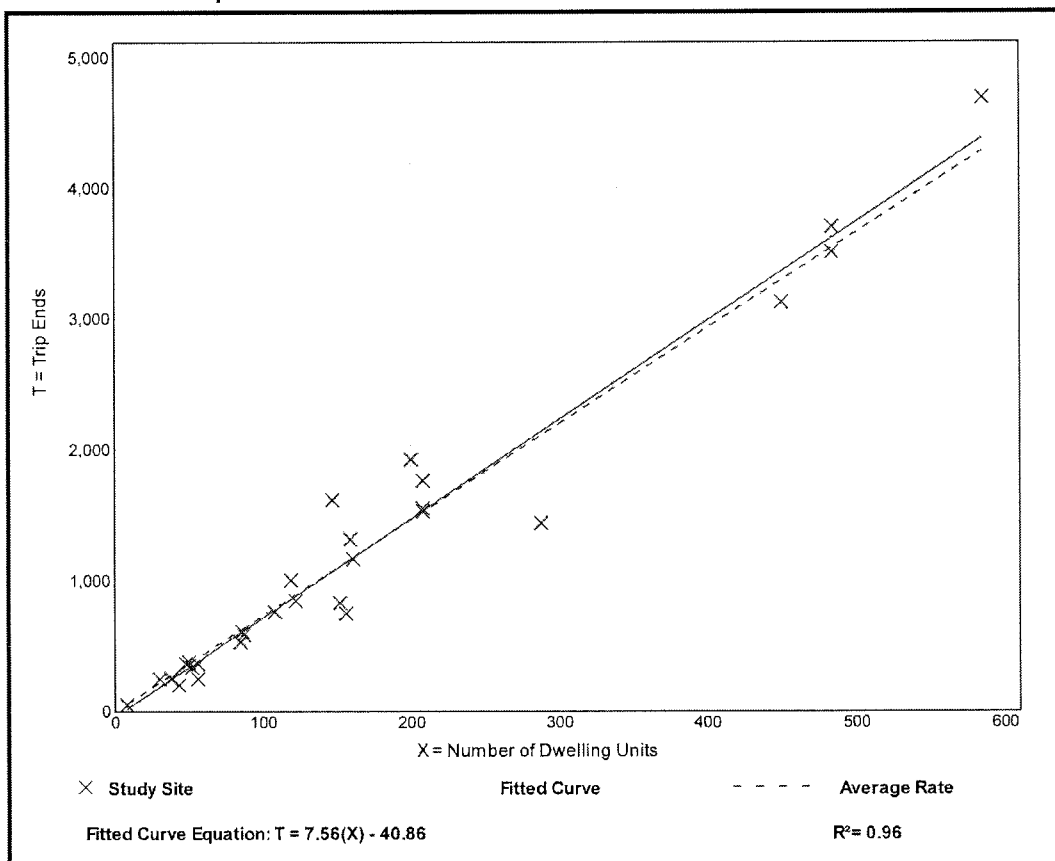
Vehicle Trip Ends vs: Dwelling Units  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 29  
Avg. Num. of Dwelling Units: 168  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.32	4.45 - 10.97	1.31

## Data Plot and Equation





## Multifamily Housing (Low-Rise) (220)

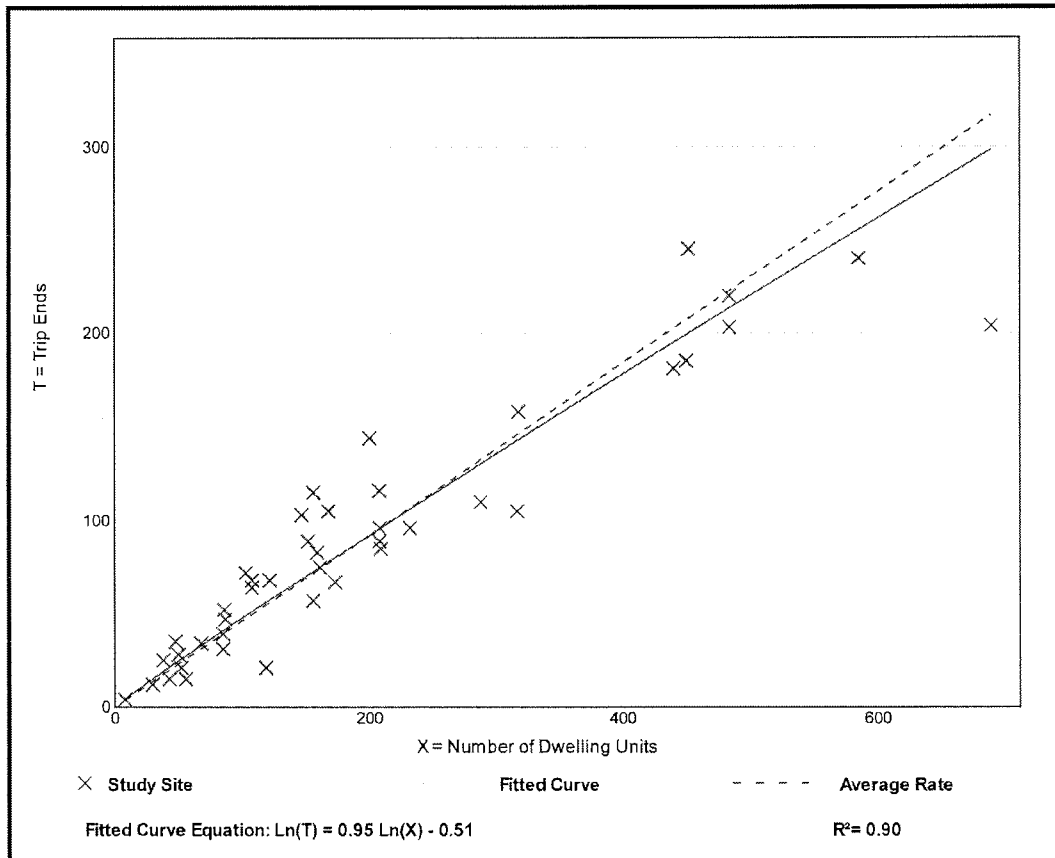
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 42  
 Avg. Num. of Dwelling Units: 199  
 Directional Distribution: 23% entering, 77% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.18 - 0.74	0.12

### Data Plot and Equation



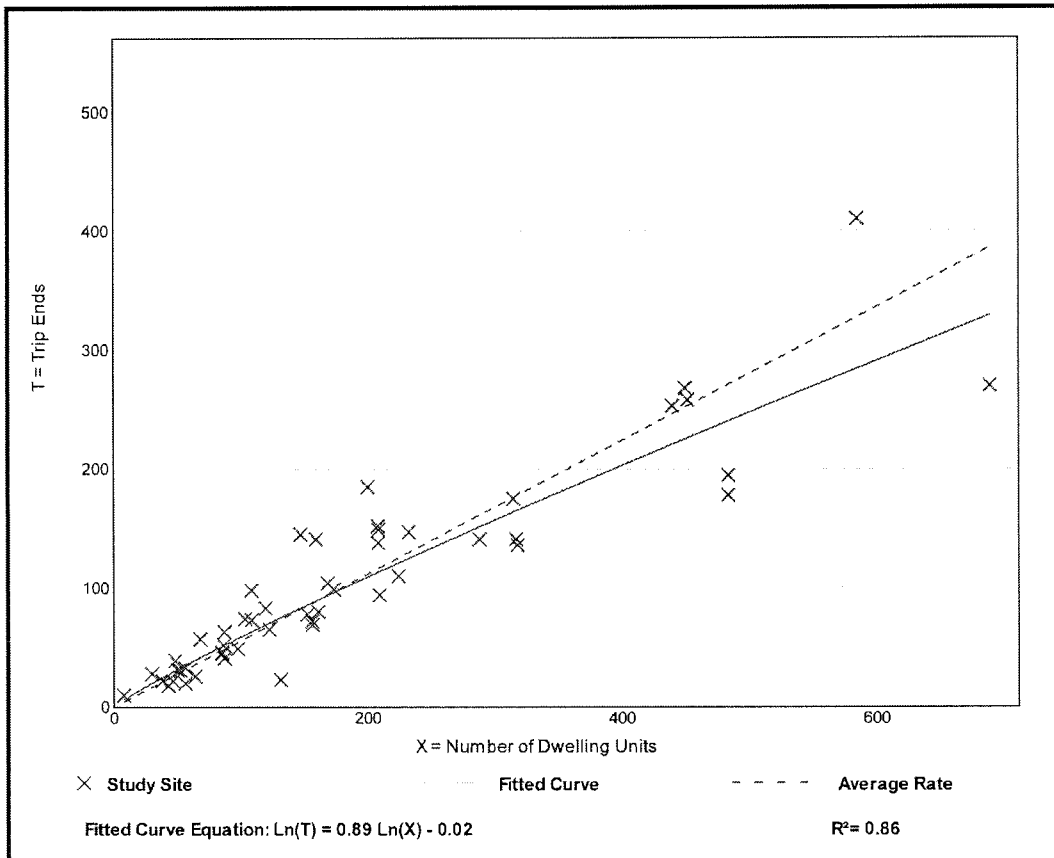
## Multifamily Housing (Low-Rise) (220)

**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 50  
 Avg. Num. of Dwelling Units: 187  
 Directional Distribution: 63% entering, 37% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

### Data Plot and Equation



# Shopping Center (820)

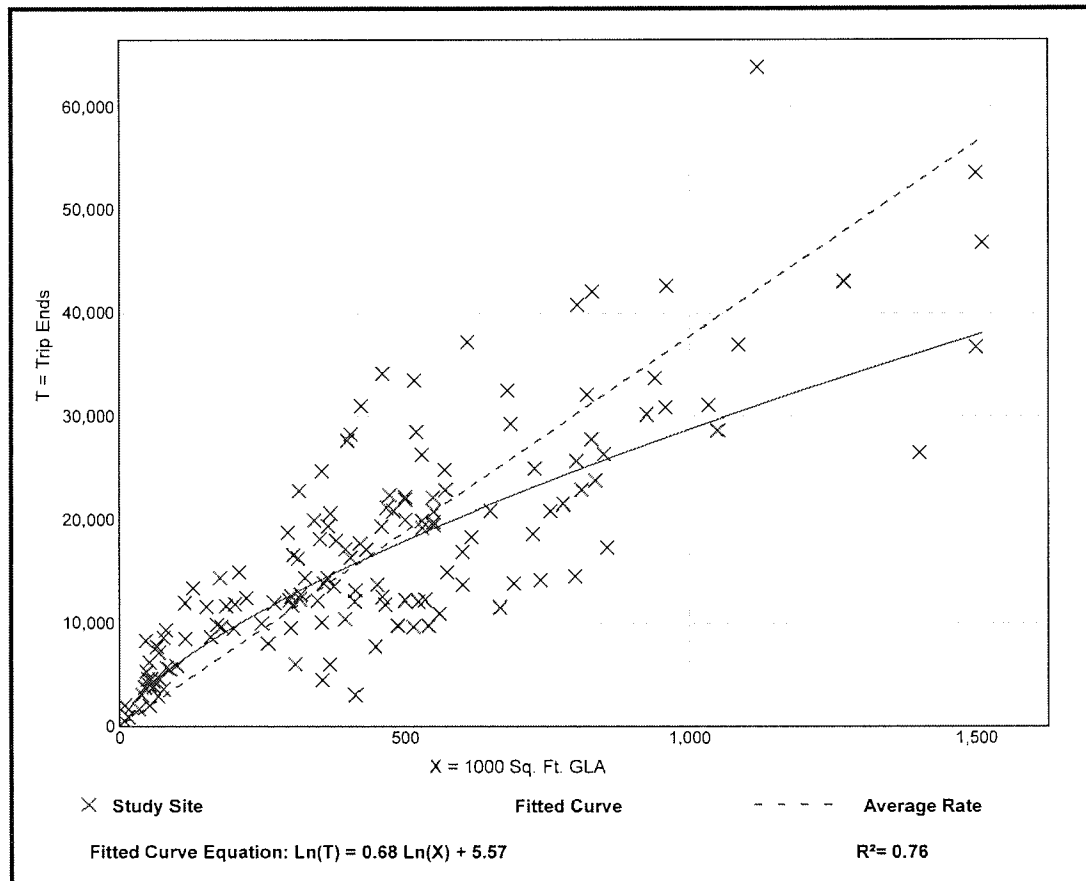
**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 147  
1000 Sq. Ft. GLA: 453  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

## Data Plot and Equation



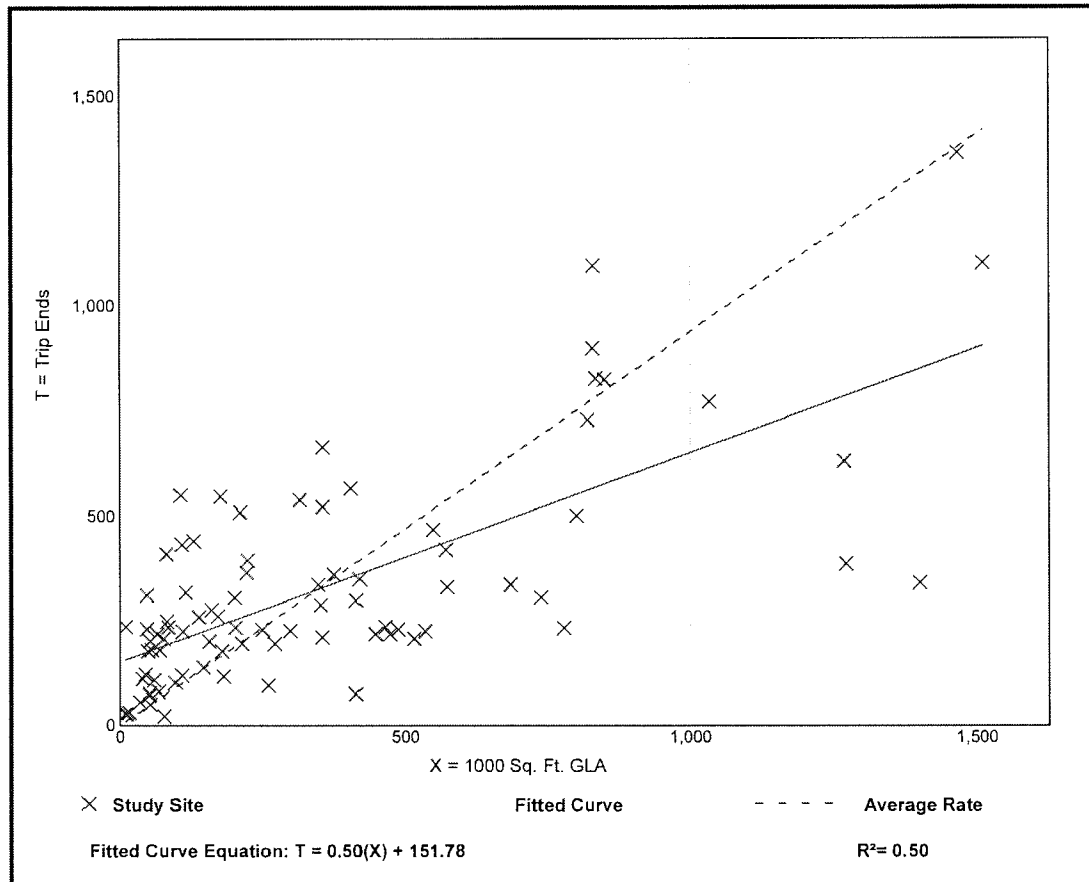
## Shopping Center (820)

**Vehicle Trip Ends vs:** 1000 Sq. Ft. GLA  
**On a:** Weekday,  
 Peak Hour of Adjacent Street Traffic,  
 One Hour Between 7 and 9 a.m.  
**Setting/Location:** General Urban/Suburban  
 Number of Studies: 84  
 1000 Sq. Ft. GLA: 351  
 Directional Distribution: 62% entering, 38% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

### Data Plot and Equation



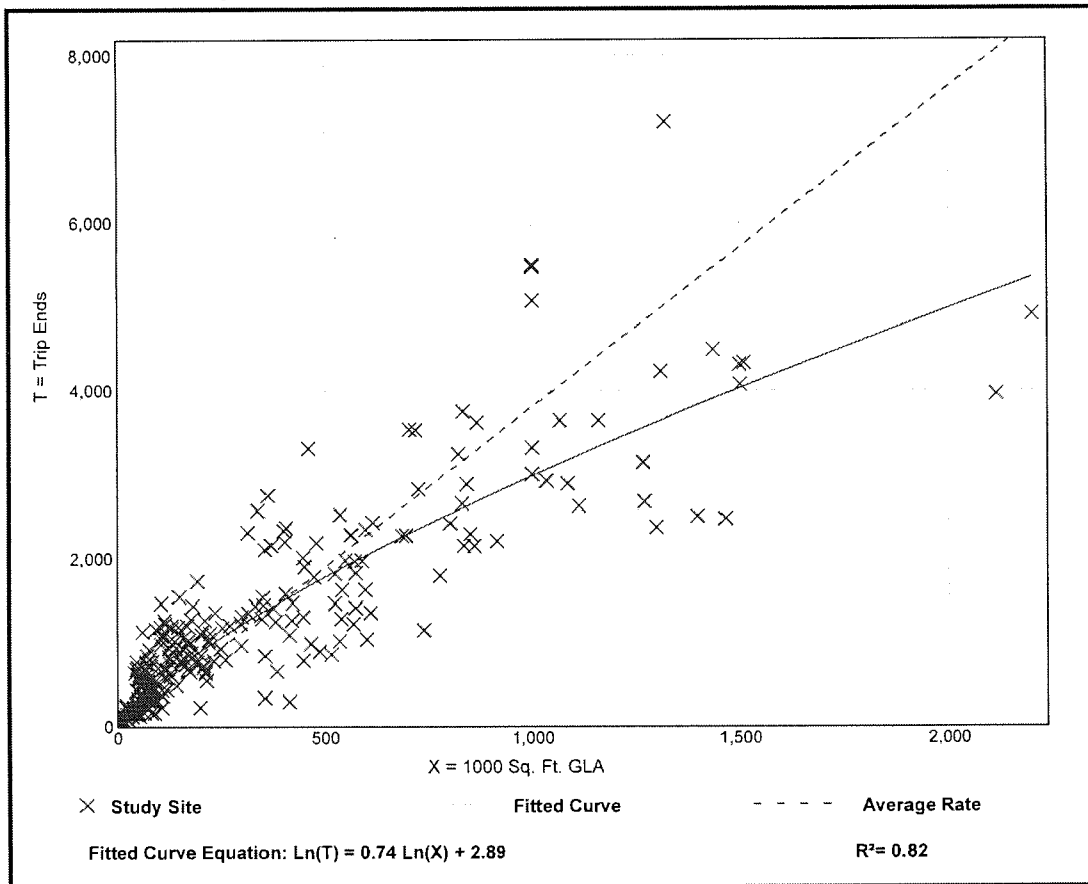
# Shopping Center (820)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 261  
 1000 Sq. Ft. GLA: 327  
 Directional Distribution: 48% entering, 52% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

## Data Plot and Equation



# General Office Building (710)

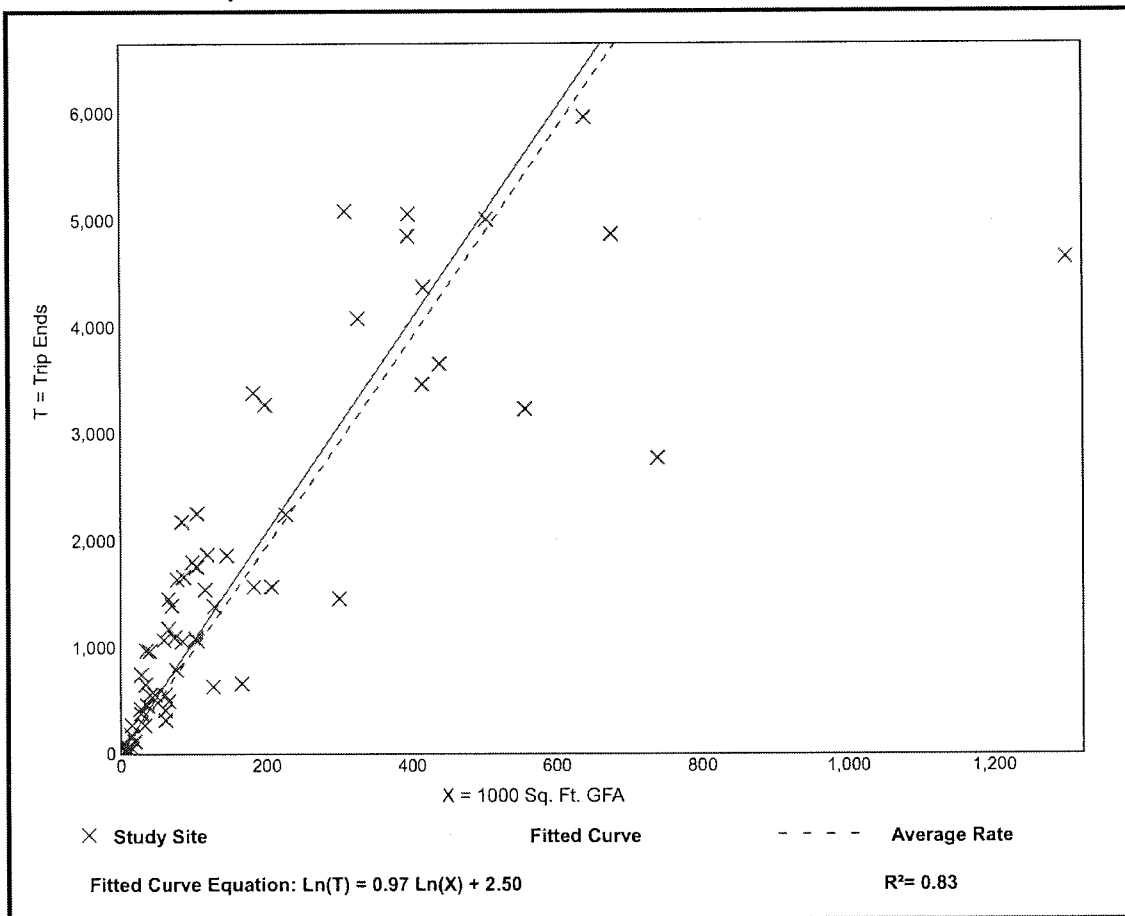
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban  
Number of Studies: 66  
1000 Sq. Ft. GFA: 171  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.74	2.71 - 27.56	5.15

## Data Plot and Equation



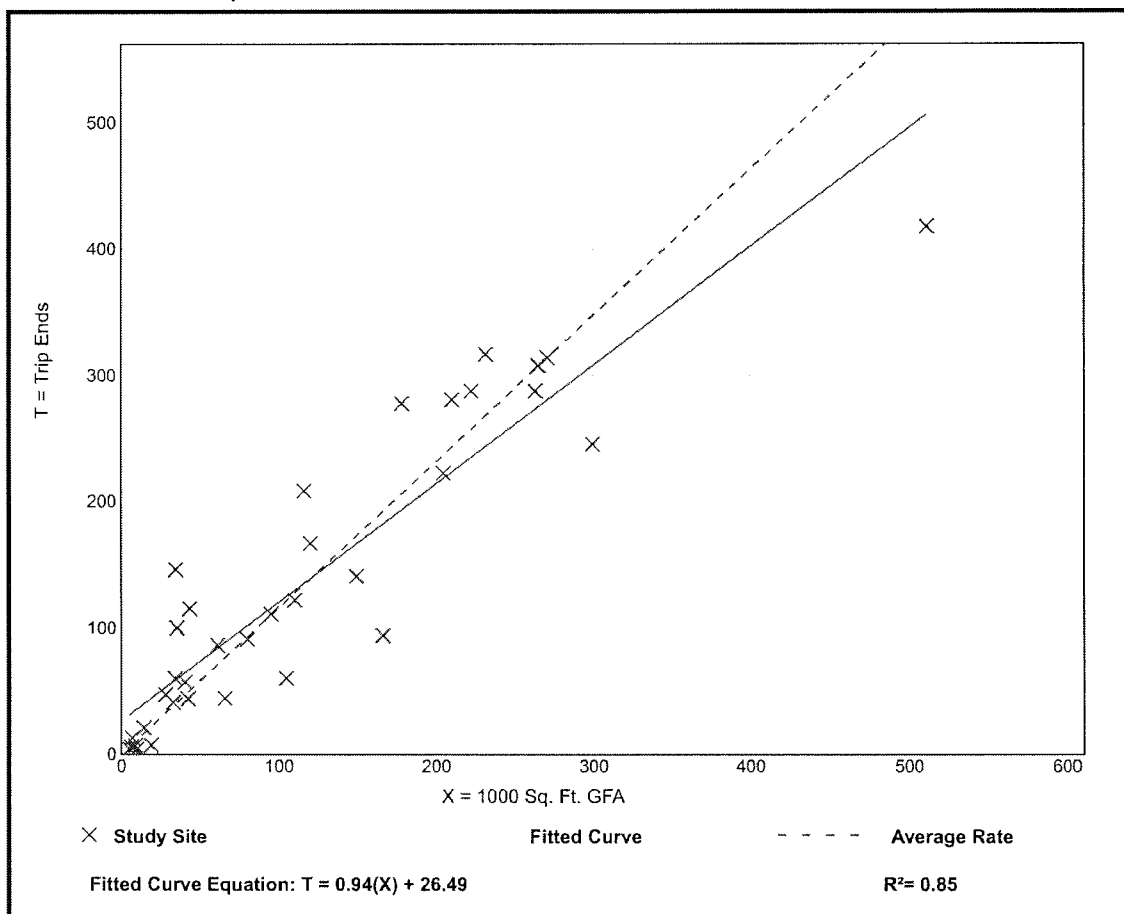
# General Office Building (710)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 35  
 1000 Sq. Ft. GFA: 117  
 Directional Distribution: 86% entering, 14% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.16	0.37 - 4.23	0.47

## Data Plot and Equation



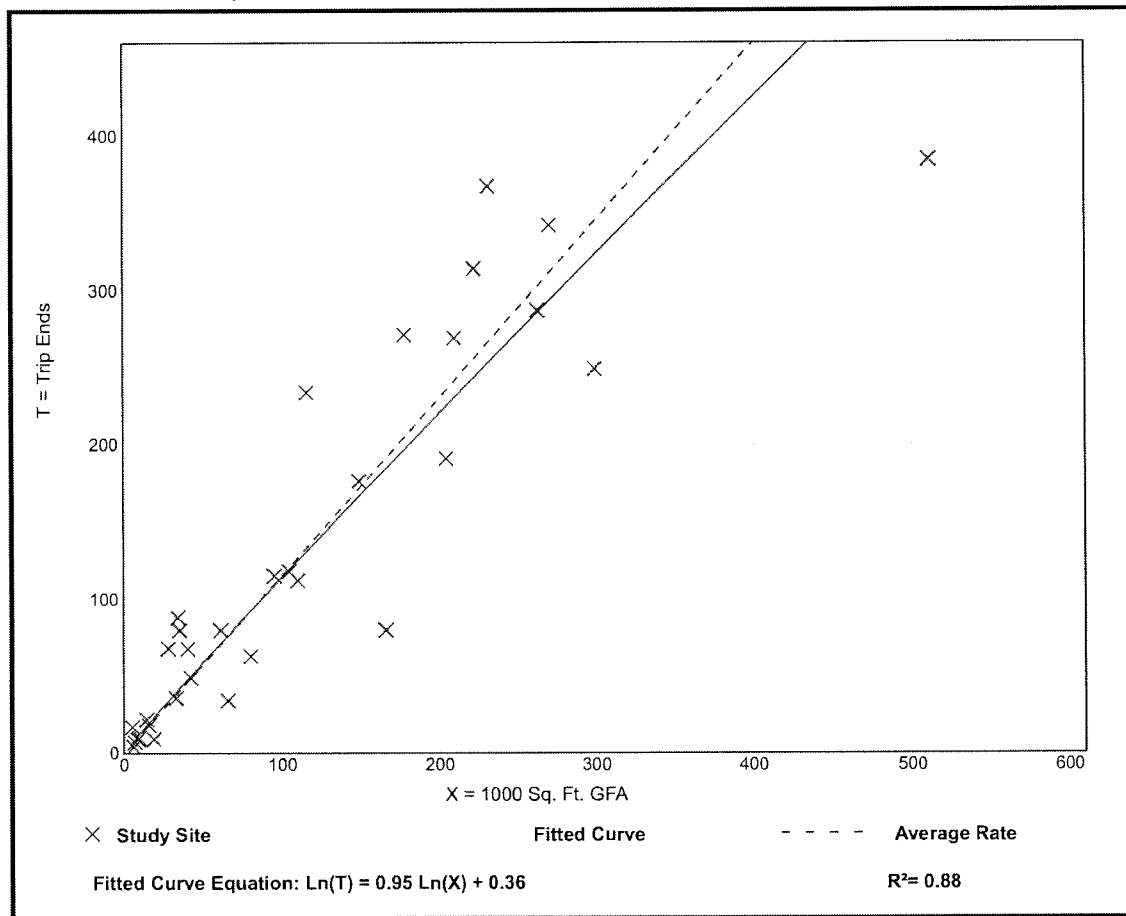
# General Office Building (710)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 32  
 1000 Sq. Ft. GFA: 114  
 Directional Distribution: 16% entering, 84% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.15	0.47 - 3.23	0.42

## Data Plot and Equation





# Quality Restaurant (931)

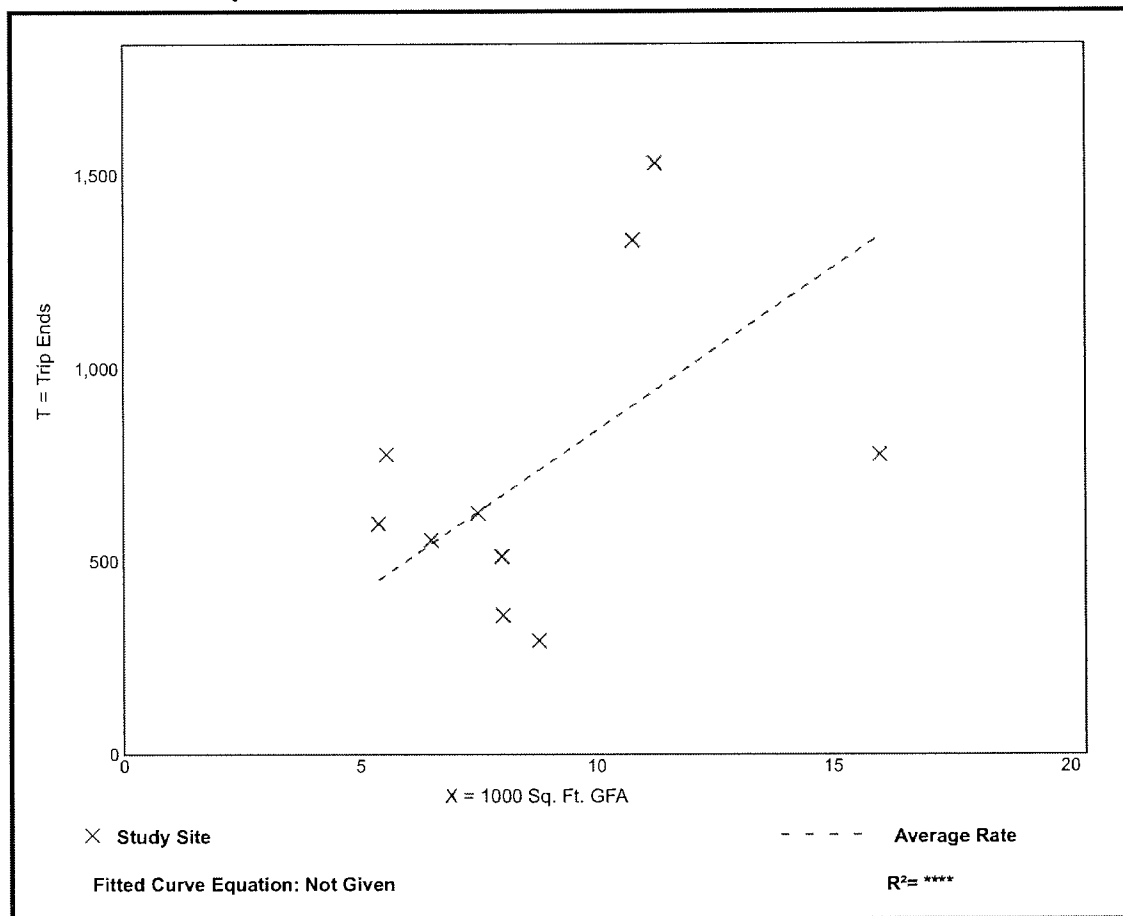
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

**Setting/Location:** General Urban/Suburban  
Number of Studies: 10  
1000 Sq. Ft. GFA: 9  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.84	33.45 - 139.93	40.01

## Data Plot and Equation



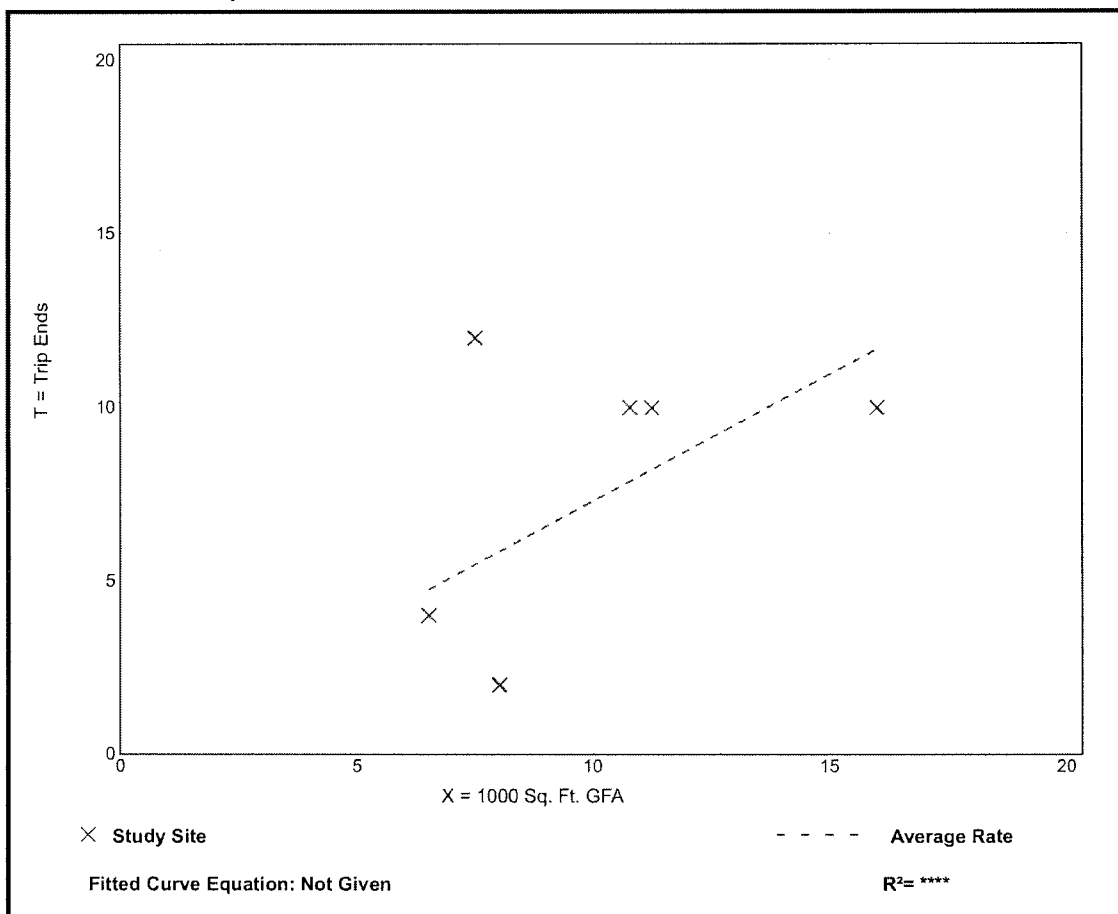
## Quality Restaurant (931)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 7  
 1000 Sq. Ft. GFA: 10  
 Directional Distribution: Not Available

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.73	0.25 - 1.60	0.42

### Data Plot and Equation



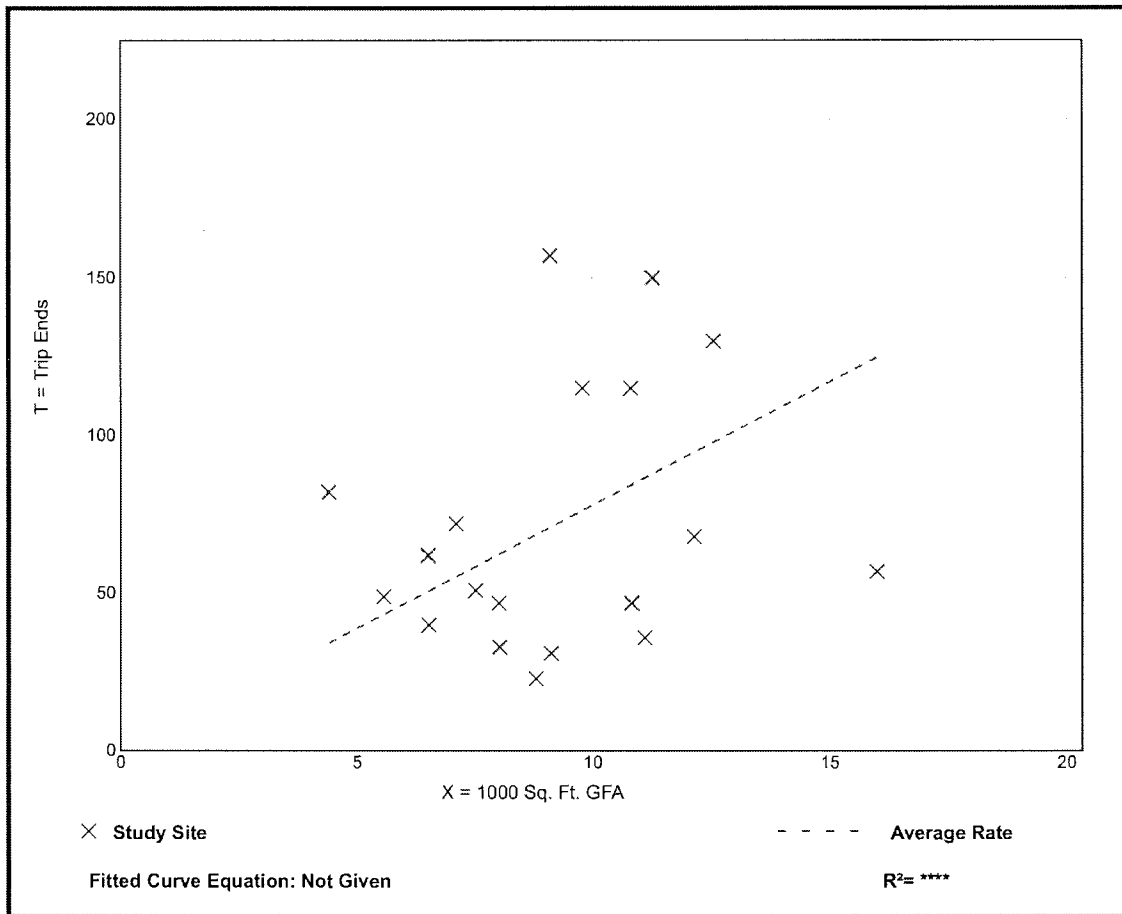
# Quality Restaurant (931)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 19  
 1000 Sq. Ft. GFA: 9  
 Directional Distribution: 67% entering, 33% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
7.80	2.62 - 18.68	4.49

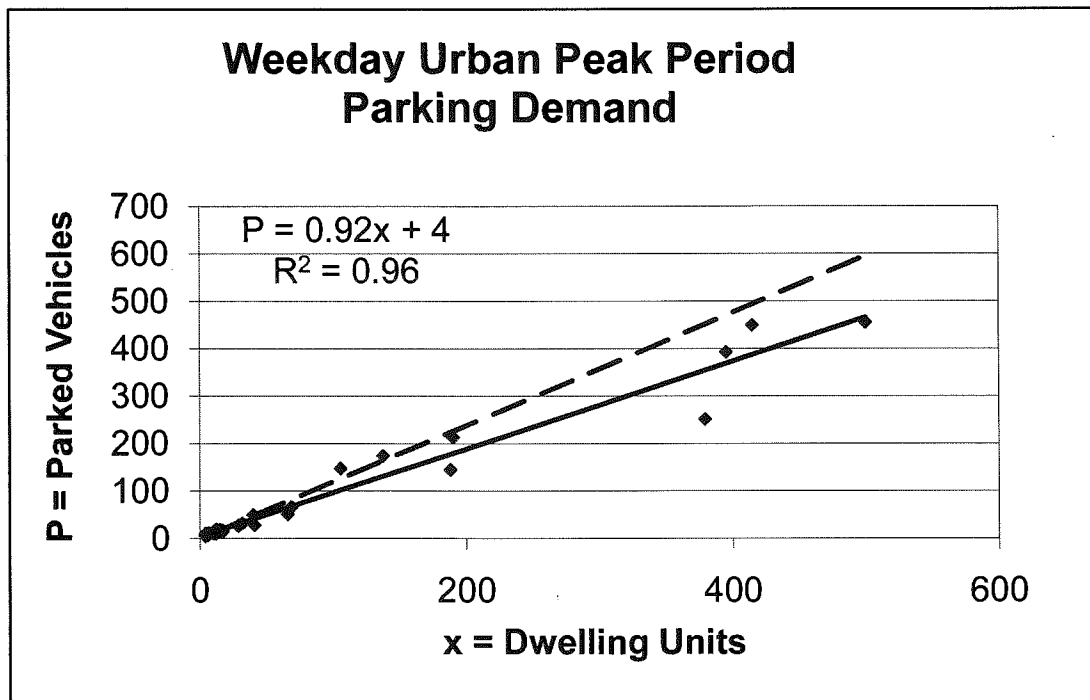
## Data Plot and Equation



# Land Use: 221 Low/Mid-Rise Apartment

**Average Peak Period Parking Demand vs. Dwelling Units**  
**On a Weekday**  
**Location: Urban**

Statistic	Peak Period Demand
Peak Period	10:00 p.m.-5:00 a.m.
Number of Study Sites	40
Average Size of Study Sites	70 dwelling units
Average Peak Period Parking Demand	1.20 vehicles per dwelling unit
Standard Deviation	0.42
Coefficient of Variation	35%
95% Confidence Interval	1.07-1.33 vehicles per dwelling unit
Range	0.66-2.50 vehicles per dwelling unit
85th Percentile	1.61 vehicles per dwelling unit
33rd Percentile	0.93 vehicles per dwelling unit

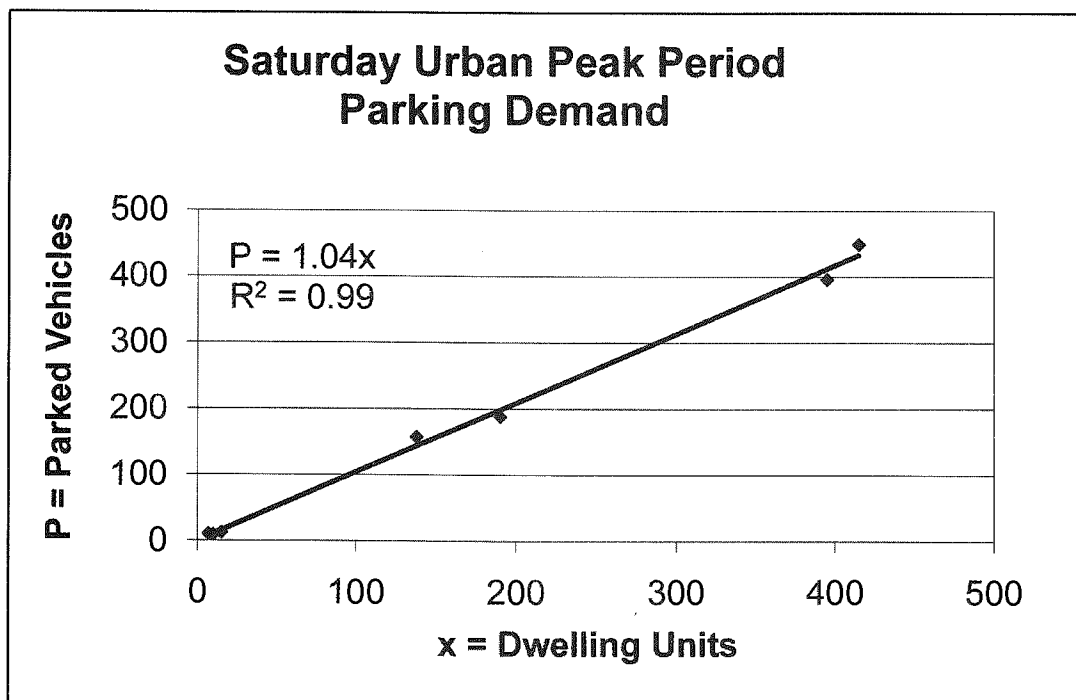


Actual Data Points     
  Fitted Curve     
  Average Rate

# Land Use: 221 Low/Mid-Rise Apartment

**Average Peak Period Parking Demand vs. Dwelling Units  
On a: Saturday  
Location: Urban**

Statistic	Peak Period Demand
Peak Period	No clear peak period emerged from the data; likely to fall between 10:00 p.m. and 6:00 a.m.
Number of Study Sites	8
Average Size of Study Sites	147 dwelling units
Average Peak Period Parking Demand	1.03 vehicles per dwelling unit
Standard Deviation	0.19
Coefficient of Variation	19%
Range	0.80–1.43 vehicles per dwelling unit
85th Percentile	1.14 vehicles per dwelling unit
33rd Percentile	0.93 vehicles per dwelling unit



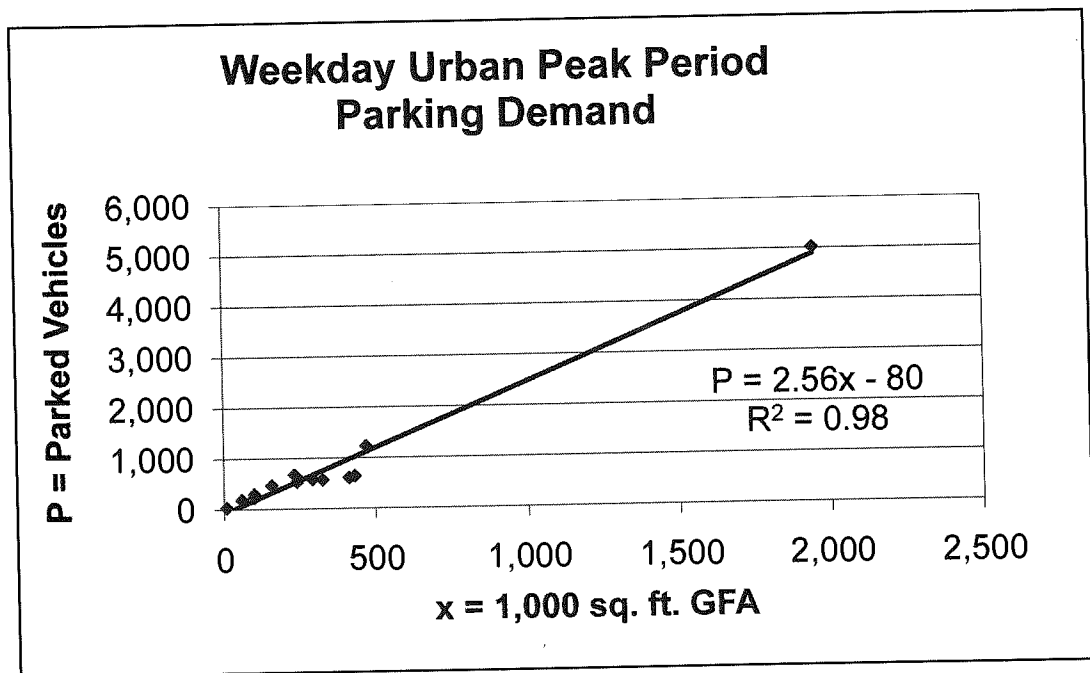
◆ Actual Data Points

— Fitted Curve/Average Rate

# Land Use: 701 Office Building

Average Peak Period Parking Demand vs. 1,000 sq. ft. GFA  
On a: Weekday  
Location: Urban

Statistic	Peak Period Demand
Peak Period	9:00 a.m.–5:00 p.m.
Number of Study Sites	14
Average Size of Study Sites	370,000 sq. ft. GFA
Average Peak Period Parking Demand	2.47 vehicles per 1,000 sq. ft. GFA
Standard Deviation	0.62
Coefficient of Variation	25%
Range	1.46–3.43 vehicles per 1,000 sq. ft. GFA
85th Percentile	2.98 vehicles per 1,000 sq. ft. GFA
33rd Percentile	2.24 vehicles per 1,000 sq. ft. GFA



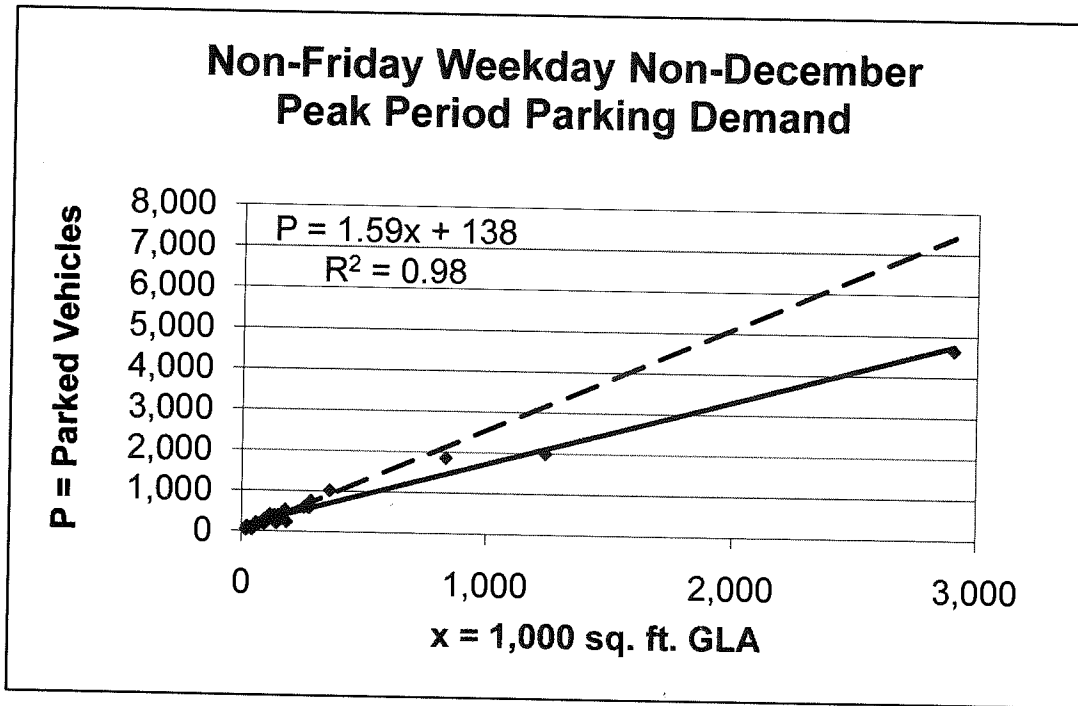
◆ Actual Data Points

— Fitted Curve/Average Rate

# Land Use: 820 Shopping Center

## Average Peak Period Parking Demand vs. 1,000 sq. ft. GLA On a: Non-Friday Weekday (Non-December)

Statistic	Peak Period Demand
Peak Period	11:00–3:00 p.m.; 6:00–7:00 p.m.
Number of Study Sites	24
Average Size of Study Sites	357,700 sq. ft. GLA
Average Peak Period Parking Demand	2.55 vehicles per 1,000 sq. ft. GLA
Standard Deviation	0.93
Coefficient of Variation	37%
Range	1.33–5.58 vehicles per 1,000 sq. ft. GLA
85th Percentile	3.16 vehicles per 1,000 sq. ft. GLA
33rd Percentile	2.20 vehicles per 1,000 sq. ft. GLA

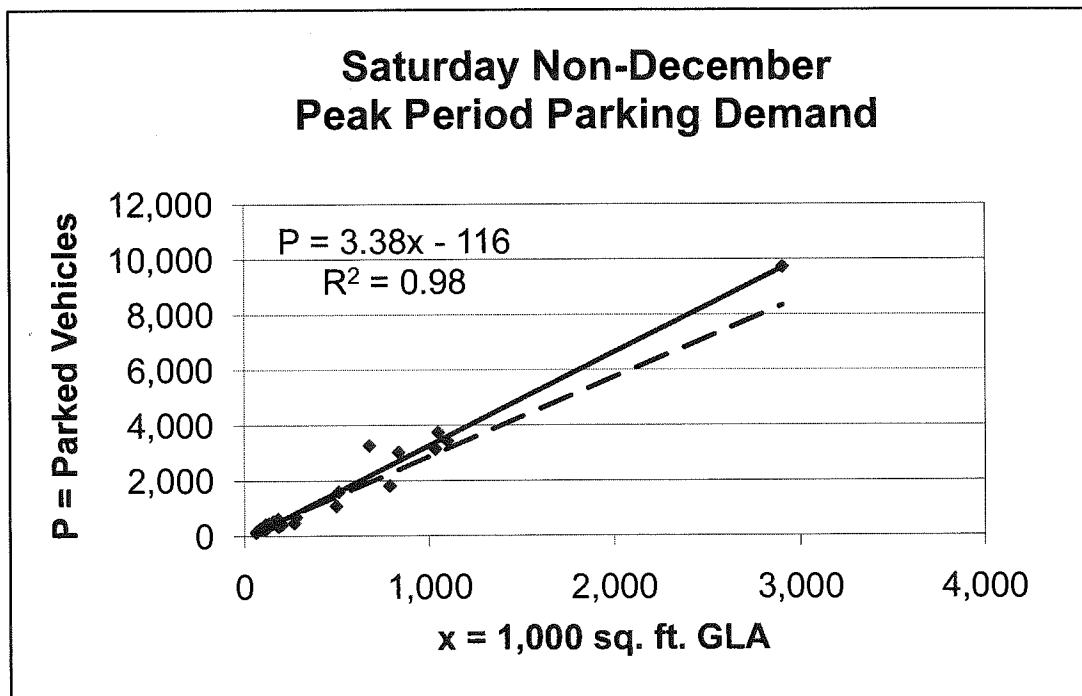


◆ Actual Data Points      — Fitted Curve      ---- Average Rate

# Land Use: 820 Shopping Center

## Average Peak Period Parking Demand vs. 1,000 sq. ft. GLA On a: Saturday (Non-December)

Statistic	Peak Period Demand
Peak Period	1:00–2:00 p.m.
Number of Study Sites	26
Average Size of Study Sites	458,000 sq. ft. GLA
Average Peak Period Parking Demand	2.87 vehicles per 1,000 sq. ft. GLA
Standard Deviation	0.70
Coefficient of Variation	24%
95% Confidence Interval	2.60–3.14 vehicles per 1,000 sq. ft. GLA
Range	1.73–4.82 vehicles per 1,000 sq. ft. GLA
85th Percentile	3.40 vehicles per 1,000 sq. ft. GLA
33rd Percentile	2.46 vehicles per 1,000 sq. ft. GLA



◆ Actual Data Points      — Fitted Curve      - - - Average Rate



**Table 2-1**

**Land Use Changes between First and Second Editions of Shared Parking**

Land Use in Second Edition	Land Use in First Edition	Comment
Office (70) <25,000 sq. ft.	Single category: Office	Per Parking Generation, separation is appropriate.
Office (70) 25,000 to 100,000 sq. ft.		
Office (70) 100,000 to 500,000 sq. ft.		
Office (70) >500,000 sq. ft.		
Data Processing Center		
Medical/Dental Office (720)		
Bank with Drive-in (912)		
Retail		
Community Center (<400,000 sq. ft. (820))	Retail (400,000 sq. ft.)	n/a
Regional Center (400,000 to 600,000 sq. ft. (820))	Retail (600,000 sq. ft.)	
Super Regional Center (>600,000 sq. ft. (820))		
Fine/Casual Dining (Quality Restaurant, 931; High Turnover with Bar, 932)		
Family Restaurant (High Turnover with No Bar, 932)	Single category: Restaurant	Unpublished study by team member and Parking Generation indicated separation is appropriate.
Fast Food (ITE Fast Food, 933)		
Complex (444) (>10 screens)		
Residential, Renter (221, 222, 224)	Same	
Residential, Owned (230)	Single category: Residential	First-edition ratio was applicable for ES screens. Per Parking Generation, separation is appropriate for suburban and transit (CBD oriented locations). Per published references, separation is appropriate.
Leisure Hotel (830)—Rooms		
Business Hotel (312)—Rooms	Guest Rooms	
Restaurant/Lounge	Restaurant/Lounge	
Conference Center/Banquet (20 to 50 sq. ft./room)	Conference Rooms	
Convention (>50 sq. ft./room)	Convention Area	
Convention Center (485)		
Health Club (492)	Not covered	
Performing Arts Center (441)	Not covered	Common in shared parking situations, especially in central business districts.
Active Entertainment (400 series)	Not covered	Common in shared parking situations.
Nightclub	Not covered	Common in shared parking situations.
Arena	Not covered	Significant trend in retail development due to wide variation in specific tenants; default values for parking ratios are not provided.
Baseball Stadium	Not covered	Significant trend in retail development.
Football Stadium	Not covered	Common in shared parking situations.
	Not covered	Common in shared parking situations.

**Notes**

The ITE Parking Generation land use code is provided in parentheses. The first edition of Shared Parking recommended that, between 400,000 and 600,000 sq. ft., the ratio should be linearly interpolated from 4.0 to 5.0 spaces per 1,000 sq. ft., which was consistent with the then-current ULI/IC Publication on Parking Requirements for Shopping Centers. The table summarizing the parking ratios, however, identified retail as noted and thus was not completely clear regarding the ratio to be used between 400,000 and 600,000 sq. ft.

**10 Shared Parking**

**Table 2-2 Summary of Recommended Base Parking Ratios (Spaces per Unit Land Use)**

Land Use	Weekday		Weekend		Unit	Source
	Visitor	Employee	Visitor	Employee		
Community Shopping Center (<400,000 sq. ft.)	2.9	0.7	3.2	0.8	/sq ft G/A	1
Regional Shopping Center (400,000 to 600,000 sq. ft.)	Sliding scale between 400,000 and 600,000 sq. ft.				/sq ft G/A	1
Super Regional Shopping Center (>600,000 sq. ft.)	3.2	0.8	3.6	0.9	/sq ft G/A	1
Fine/Casual Dining	15.25	2.75	17.0	3.0	/sq ft G/A	2, 3
Family Restaurant	9.0	1.5	12.75	2.25	/sq ft G/A	3
Fast-food Restaurant	12.75	2.25	12.0	2.0	/sq ft G/A	2
Nightclub	15.25	1.25	17.5	1.5	/sq ft G/A	3
Active Entertainment	Custom to each tenant					
Complex	0.19	0.01	0.26	0.01	/seat	3, 2
Performing Arts Theater	0.3	0.07	0.33	0.07	/seat	2
Arena	0.27	0.03	0.3	0.03	/seat	3
Pro Football Stadium	0.3	0.01	0.3	0.01	/seat	3
Pro Baseball Stadium	0.31	0.01	0.34	0.01	/seat	3
Health Club	6.6	0.4	5.5	0.25	/sq ft G/A	3, 4
Convention Center	5.5	0.5	5.5	0.5	/sq ft G/A	3
Hotel—Business	1.0	0.25	0.9	0.18	/room	2, 3
Hotel—Leisure	0.9	0.25	1.0	0.18	/room	2, 3
Restaurant/Lounge	10.0	—	10.0	—	/sq ft G/A	2, 3, 5
Conference Center/Banquet (20 to 50 sq. ft./guest room)	30.0	—	30.0	—	/sq ft G/A	2, 3, 5
Convention Space (>50 sq. ft./guest room)	20.0	—	10.0	—	/sq ft G/A	2, 3, 5
Residential, Rental	0.15	1.5 <sup>a</sup>	0.15	1.5 <sup>a</sup>	/unit	2
Residential, Owned	0.15	1.7 <sup>a</sup>	0.15	1.7 <sup>a</sup>	/unit	2
Office (<25,000 sq. ft.)	0.3	3.5	0.03	0.35	/sq ft G/A	2
Office (25,000 to 100,000 sq. ft.)	0.3	3.5	0.03	0.35	/sq ft G/A	2
Office (100,000 to 500,000 sq. ft.)	Sliding scale between 25,000 sq. ft. and 100,000 sq. ft.					
	0.25	3.15	0.03	0.32	/sq ft G/A	2
	Sliding scale between 100,000 sq. ft. and 500,000 sq. ft.					
	0.25	3.15	0.03	0.32	/sq ft G/A	2
	Sliding scale between 500,000 sq. ft. and 1,000,000 sq. ft.					
	0.2	2.6	0.02	0.26	/sq ft G/A	2
Office >500,000 sq. ft.	0.2	2.6	0.02	0.26	/sq ft G/A	2
Data Processing Office	0.25	5.75	0.03	0.58	/sq ft G/A	2, 3
Medical/Dental Office	3.0	1.5	3.0	1.5	/sq ft G/A	2, 3
Bank Branch with Drive-in	3.0	1.6	3.0	1.6	/sq ft G/A	2

**Notes**  
 Ratios based on peak parking spaces required with virtually 100% auto use and typical redshifting for suburban conditions.  
<sup>a</sup>/sq ft = per thousand sq. ft.  
 1: 0 spaces reserved for residents' solo use, 24 hours a day; remainder shared with visitors and other uses.

**Sources:**

1. Parking Requirements for Shopping Centers, 2nd ed. (Washington, D.C.: ULI—the Urban Land Institute, 1999).
2. Parking Requirements, 3rd ed. (Washington, D.C.: Institute of Transportation Engineers, 2004).
3. Data collected by team members.
4. John W. Dorsett, "Parking Requirements for Health Clubs," The Parking Professional, April 2004.
5. Gerald Slaton, "Total Parking: How Much is Enough?" Urban Land, January 1988.

**Table 2-5** Recommended Time-of-Day Factors for Weekdays

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.	9 p.m.	10 p.m.	11 p.m.	Midnight	Source	
Shopping Center—Typical —Peak December	Customer	1%	5%	15%	35%	65%	85%	95%	100%	95%	90%	90%	95%	95%	95%	80%	50%	30%	10%	—	1	
	Customer	1%	5%	15%	30%	55%	75%	90%	100%	100%	100%	100%	85%	80%	75%	65%	50%	30%	10%	—	1	
	Customer	1%	5%	10%	20%	40%	65%	90%	100%	100%	100%	100%	100%	85%	70%	55%	40%	25%	15%	5%	—	
Late December	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%	100%	100%	100%	95%	95%	90%	75%	40%	15%	—	2	
	Customer	—	—	—	15%	40%	75%	75%	75%	65%	40%	50%	75%	100%	100%	100%	100%	100%	95%	75%	25%	2
Fine/Casual Dining	Employee	—	20%	50%	75%	90%	90%	90%	90%	90%	90%	75%	100%	100%	100%	100%	100%	100%	100%	85%	35%	2
	Customer	25%	50%	60%	75%	85%	90%	90%	90%	50%	45%	45%	75%	80%	80%	80%	80%	60%	55%	50%	25%	2
Family Restaurant	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%	100%	75%	95%	95%	95%	95%	80%	65%	65%	35%	2	
	Customer	5%	10%	20%	30%	55%	85%	100%	100%	100%	90%	60%	85%	85%	80%	80%	50%	30%	20%	10%	5%	3
Fast Food	Employee	15%	20%	30%	40%	75%	100%	100%	100%	100%	95%	70%	60%	70%	90%	90%	60%	40%	30%	20%	20%	2
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	25%	50%	75%	100%	100%	100%	100%	2	
Nightclub	Employee	—	—	—	5%	5%	5%	5%	10%	10%	10%	10%	45%	70%	100%	100%	100%	100%	100%	100%	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Cineplex—Typical Late December	Customer	—	—	—	—	—	—	20%	45%	55%	55%	55%	60%	60%	80%	100%	100%	100%	80%	65%	40%	2, 6
	Customer	—	—	—	—	—	—	35%	60%	75%	80%	80%	80%	70%	80%	100%	100%	100%	85%	70%	55%	2, 6
Performing Arts Theater	Employee	—	—	—	—	—	—	50%	60%	60%	75%	75%	100%	100%	100%	100%	100%	100%	100%	70%	50%	2
	Customer	—	—	—	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	25%	100%	100%	100%	—	—	2
No matinee	Employee	—	10%	10%	20%	20%	20%	30%	30%	30%	30%	30%	30%	100%	100%	100%	100%	100%	100%	100%	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Arena	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Stadium	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
8 a.m. start	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Health Club	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Convention Center	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Visitor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Hotel—Business	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2	
	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%	60%	65%	70%	75%	75%	80%	85%	95%	100%	100%	5	
Hotel—Leisure	Employee	95%	95%	90%	80%	70%	70%	65%	65%	70%	70%	75%	80%	85%	85%	90%	95%	95%	100%	100%	2	
	Guest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Restaurant/Lounge	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5, 3	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Conference/Banquet	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Convention	Employee	5%	30%	90%	90%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2	
	Guest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Residential	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	2	
Residential	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Resident	100%	90%	85%	80%	75%	70%	65%	70%	70%	70%	70%	75%	85%	90%	97%	98%	99%	100%	100%	2	
Office	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Visitor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Medical/Dental Office	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Visitor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Bank	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Customer	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Bank	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
	Employee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	

**Sources:**  
 1. Confidential data provided by shop-  
 ping centers in the Washington, D.C., area.  
 2. Developed by team members.  
 3. Parking Generation, 3rd ed.  
 (Washington, D.C.: Institute of  
 Transportation Engineers, 2004)  
 4. John W. Dornett, "Parking  
 Requirements for Health Clubs,  
 Shopping Centers, and Hotels,"  
 1980, ASCE, Vol. 10, No. 4, p. 204.  
 5. How Much is Enough? Urban Land,  
 January 1988.  
 6. Parking study conducted by Patton  
 Harris Rust & Associates for the  
 Peterson Companies, 2001.

**16 Shared Parking**

**Table 2-6** Recommended Time-of-Day Factors for Weekends

Land Use	User	6 a.m.	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.	2 p.m.
Shopping Center—typical	Customer	1%	5%	10%	30%	50%	65%	80%	90%	100%
	Customer	1%	5%	10%	35%	60%	70%	85%	95%	100%
	Customer	1%	5%	10%	20%	40%	60%	80%	95%	100%
Late December	Employee	10%	15%	40%	75%	85%	95%	100%	100%	100%
	Customer	—	—	—	—	—	15%	50%	55%	45%
Fine/Casual Dining	Employee	—	20%	30%	60%	75%	75%	75%	75%	75%
	Customer	10%	25%	45%	70%	90%	90%	100%	85%	65%
Family Restaurant	Employee	50%	75%	90%	90%	100%	100%	100%	100%	100%
	Customer	5%	10%	20%	30%	55%	85%	100%	100%	90%
Fast Food	Employee	15%	20%	30%	40%	75%	100%	100%	100%	95%
	Customer	—	—	—	—	—	—	—	—	—
Nightclub	Employee	—	—	—	5%	5%	5%	5%	10%	10%
	Customer	—	—	—	—	—	—	—	—	—
Complex—typical	Customer	—	—	—	—	—	—	20%	45%	55%
	Customer	—	—	—	—	—	—	—	35%	60%
Late December	Employee	—	—	—	—	—	—	—	50%	60%
	Customer	—	—	—	—	—	—	—	—	—
Performing Arts Theater	Customer	—	—	—	—	1%	1%	1%	1%	6%
	Employee	10%	10%	10%	20%	20%	20%	30%	30%	100%
Arena (two shows)	Customer	—	—	—	—	1%	1%	1%	1%	25%
	Employee	10%	10%	10%	20%	20%	20%	30%	30%	100%
Stadium (T.D.M. static; see weekday for evening game)	Customer	—	—	—	—	1%	1%	1%	1%	100%
	Employee	—	—	—	—	—	—	—	—	—
Health Club	Customer	80%	45%	35%	50%	35%	50%	50%	30%	25%
	Employee	50%	50%	50%	50%	50%	50%	50%	50%	50%
Convention Center	Visitor	—	—	—	—	—	—	—	—	—
	Employee	5%	30%	33%	33%	100%	100%	100%	100%	100%
Hotel—Business	Guest	95%	90%	80%	70%	60%	60%	55%	55%	60%
	Guest	95%	90%	90%	80%	70%	70%	65%	65%	70%
Restaurant/Lounge	Customer	—	—	—	—	—	—	—	—	—
	Customer	—	—	—	—	—	—	—	—	—
Conference/Banquet	Customer	—	—	—	—	—	—	—	—	—
	Employee	5%	30%	30%	30%	100%	100%	100%	100%	100%
Residential	Guest	—	—	—	—	—	—	—	—	—
	Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%
Residential	Resident	100%	100%	85%	80%	75%	70%	65%	70%	70%
	Visitor	—	—	—	—	—	—	—	—	—
Office	Employee	—	—	—	—	—	—	—	—	—
	Visitor	—	—	—	—	—	—	—	—	—
Medical/Dental Office	Employee	—	—	—	—	—	—	—	—	—
	Customer	—	—	—	—	—	—	—	—	—
Bank	Employee	—	—	—	—	—	—	—	—	—
	Employee	—	—	—	—	—	—	—	—	—

18 Shared Parking

Key Findings 19

- Sources:**
1. Confidential data provided by shopping center managers.
  2. Developed by team members.
  3. Washington, D.C.: Institute of Transportation Engineers, 2004.
  4. John W. Dorsett, "Parking Requirements for Health Clubs," The Parking Professional, April 2004.
  5. Gerald Salzman, "Hotel Parking: How Many Enough?" Urban Land, 1988.
  6. Parking study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

## Capacity Analysis – Existing Conditions

# HCM Unsignalized Intersection Capacity Analysis

## 1: Highland Ave & Campbell St

02/21/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	143	36	13	89	18	39
Future Volume (Veh/h)	143	36	13	89	18	39
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	164	41	15	102	21	45
Pedestrians				7	9	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				3.5	3.5	
Percent Blockage				1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			214		326	200
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			214		326	200
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		97	95
cM capacity (veh/h)			1356		660	833
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	205	117	66			
Volume Left	0	15	21			
Volume Right	41	0	45			
cSH	1700	1356	769			
Volume to Capacity	0.12	0.01	0.09			
Queue Length 95th (ft)	0	1	7			
Control Delay (s)	0.0	1.1	10.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.1	10.1			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			2.0			
Intersection Capacity Utilization			28.2%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Chestnut Ave & Campbell St

02/21/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	13	170	6	2	107	6	4	4	2	6	5	8
Future Volume (Veh/h)	13	170	6	2	107	6	4	4	2	6	5	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	185	7	2	116	7	4	4	2	7	5	9
Pedestrians		4			6			7			7	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		0			1			1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	130			199			362	358	202	357	358	130
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	130			199			362	358	202	357	358	130
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			99	99	100	99	99	99
cM capacity (veh/h)	1446			1364			567	555	829	575	555	909
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	206	125	10	21								
Volume Left	14	2	4	7								
Volume Right	7	7	2	9								
cSH	1446	1364	599	676								
Volume to Capacity	0.01	0.00	0.02	0.03								
Queue Length 95th (ft)	1	0	1	2								
Control Delay (s)	0.6	0.1	11.1	10.5								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.6	0.1	11.1	10.5								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			1.3									
Intersection Capacity Utilization			28.4%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 3: Highland Ave & Sigwalt St

02/21/2019



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	197	4	13	120	28	15	15	23	20	8	5
Future Volume (Veh/h)	4	197	4	13	120	28	15	15	23	20	8	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	6	281	6	19	171	40	21	21	33	29	11	7
Pedestrians		2									2	
Lane Width (ft)		12.0									12.0	
Walking Speed (ft/s)		3.5									3.5	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	213			287			540	547	284	570	530	195
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	213			287			540	547	284	570	530	195
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			95	95	96	93	98	99
cM capacity (veh/h)	1367			1287			436	438	750	387	448	848
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	293	230	75	47								
Volume Left	6	19	21	29								
Volume Right	6	40	33	7								
cSH	1367	1287	535	436								
Volume to Capacity	0.00	0.01	0.14	0.11								
Queue Length 95th (ft)	0	1	12	9								
Control Delay (s)	0.2	0.8	12.8	14.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.2	0.8	12.8	14.3								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			2.9									
Intersection Capacity Utilization			26.1%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 4: Chestnut Ave & Sigwalt St

02/21/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	3	192	3	4	127	9	2	1	5	8	8	2
Future Volume (vph)	3	192	3	4	127	9	2	1	5	8	8	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	209	3	4	138	10	2	1	5	9	9	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	215	152	8	20								
Volume Left (vph)	3	4	2	9								
Volume Right (vph)	3	10	5	2								
Hadj (s)	0.03	0.00	-0.29	0.06								
Departure Headway (s)	4.1	4.2	4.4	4.8								
Degree Utilization, x	0.25	0.18	0.01	0.03								
Capacity (veh/h)	854	847	743	691								
Control Delay (s)	8.5	8.1	7.5	7.9								
Approach Delay (s)	8.5	8.1	7.5	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.3									
Level of Service			A									
Intersection Capacity Utilization			22.7%	ICU Level of Service	A							
Analysis Period (min)			15									



# HCM Unsignalized Intersection Capacity Analysis

## 5: Vail Ave & Campbell St

02/21/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔		↕			↔	↔
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	51	97	25	18	50	11	9	63	6	18	86	27
Future Volume (vph)	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
Hourly flow rate (vph)	62	118	30	22	61	13	11	77	7	22	105	33

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	180	30	83	13	95	127	33
Volume Left (vph)	62	0	22	0	11	22	0
Volume Right (vph)	0	30	0	13	7	0	33
Hadj (s)	0.17	-0.70	0.21	-0.70	0.04	0.20	-0.63
Departure Headway (s)	5.5	4.6	5.6	4.7	5.6	5.6	4.8
Degree Utilization, x	0.27	0.04	0.13	0.02	0.15	0.20	0.04
Capacity (veh/h)	624	738	600	711	612	606	705
Control Delay (s)	9.3	6.6	8.3	6.6	9.5	8.8	6.8
Approach Delay (s)	9.0		8.1		9.5	8.4	
Approach LOS	A		A		A	A	

### Intersection Summary

Delay	8.7
Level of Service	A
Intersection Capacity Utilization	36.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 6: Vail Ave & Sigwalt St

02/21/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	21	213	6	10	146	48	11	54	14	67	39	4
Future Volume (vph)	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
Hourly flow rate (vph)	23	232	7	11	159	52	12	59	15	73	42	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	262	222	86	119
Volume Left (vph)	23	11	12	73
Volume Right (vph)	7	52	15	4
Hadj (s)	0.04	-0.10	-0.04	0.14
Departure Headway (s)	4.8	4.7	5.2	5.3
Degree Utilization, x	0.35	0.29	0.12	0.18
Capacity (veh/h)	712	722	617	609
Control Delay (s)	10.3	9.6	9.0	9.5
Approach Delay (s)	10.3	9.6	9.0	9.5
Approach LOS	B	A	A	A

Intersection Summary			
Delay		9.8	
Level of Service		A	
Intersection Capacity Utilization	38.7%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 7: Ridge Ave & Campbell St

02/21/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	46	133	23	9	77	14	25	120	9	28	163	40
Future Volume (vph)	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
Hourly flow rate (vph)	52	151	26	10	88	16	28	136	10	32	185	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	229	114	174	262
Volume Left (vph)	52	10	28	32
Volume Right (vph)	26	16	10	45
Hadj (s)	0.00	-0.01	0.01	-0.06
Departure Headway (s)	5.2	5.4	5.3	5.1
Degree Utilization, x	0.33	0.17	0.25	0.37
Capacity (veh/h)	635	596	633	665
Control Delay (s)	10.8	9.5	10.0	11.0
Approach Delay (s)	10.8	9.5	10.0	11.0
Approach LOS	B	A	B	B

Intersection Summary			
Delay		10.5	
Level of Service		B	
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 8: Mitchell Ave & Campbell St

02/21/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↗
Traffic Volume (veh/h)	166	2	3	90	8	9
Future Volume (Veh/h)	166	2	3	90	8	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	198	2	4	107	10	11
Pedestrians						3
Lane Width (ft)						12.0
Walking Speed (ft/s)						3.5
Percent Blockage						0
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			203		317	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			203		317	202
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1377		676	841
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	200	111	21			
Volume Left	0	4	10			
Volume Right	2	0	11			
cSH	1700	1377	754			
Volume to Capacity	0.12	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.3	9.9			
Lane LOS			A			
Approach Delay (s)	0.0	0.3	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			19.3%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 9: Chestnut Ave & Wing St

















02/21/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	
Traffic Volume (veh/h)	26	5	18	33	3	13
Future Volume (Veh/h)	26	5	18	33	3	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	29	5	20	36	3	14
Pedestrians	1					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	3.5					
Percent Blockage	0					
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			34		108	32
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			34		108	32
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			99		100	99
cM capacity (veh/h)			1591		882	1026
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	34	56	17			
Volume Left	0	20	3			
Volume Right	5	0	14			
cSH	1700	1591	997			
Volume to Capacity	0.02	0.01	0.02			
Queue Length 95th (ft)	0	1	1			
Control Delay (s)	0.0	2.7	8.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	2.7	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			19.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 10: Dunton Ave & Campbell St

02/21/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	21	78	18	6	38	13	10	56	10	13	73	31
Future Volume (vph)	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
Hourly flow rate (vph)	26	95	22	7	46	16	12	68	12	16	89	38
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	143	69	92	143								
Volume Left (vph)	26	7	12	16								
Volume Right (vph)	22	16	12	38								
Hadj (s)	-0.04	-0.08	0.02	-0.08								
Departure Headway (s)	4.5	4.5	4.6	4.4								
Degree Utilization, x	0.18	0.09	0.12	0.18								
Capacity (veh/h)	751	737	739	764								
Control Delay (s)	8.5	8.0	8.2	8.4								
Approach Delay (s)	8.5	8.0	8.2	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.3									
Level of Service			A									
Intersection Capacity Utilization			27.8%	ICU Level of Service	A							
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 11: Highland Ave & North Garage Ramp

02/21/2019


















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	13	44	10	17	32
Future Volume (Veh/h)	12	13	44	10	17	32
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	14	48	11	18	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124	54			59	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	54			59	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			99	
cM capacity (veh/h)	860	1014			1545	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	27	59	53			
Volume Left	13	0	18			
Volume Right	14	11	0			
cSH	934	1700	1545			
Volume to Capacity	0.03	0.03	0.01			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	9.0	0.0	2.6			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	2.6			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			2.7			
Intersection Capacity Utilization		19.3%		ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 12: Highland Ave & South Garage Ramp

02/21/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	8	0	15	0	39	6	4	40	0
Future Volume (Veh/h)	0	0	0	8	0	15	0	39	6	4	40	0
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	9	0	16	0	42	7	4	43	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	112	100	43	96	96	46	43			49		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	112	100	43	96	96	46	43			49		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	98	100			100		
cM capacity (veh/h)	850	788	1027	884	792	1024	1566			1558		
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>									
Volume Total	25	49	47									
Volume Left	9	0	4									
Volume Right	16	7	0									
cSH	969	1700	1558									
Volume to Capacity	0.03	0.03	0.00									
Queue Length 95th (ft)	2	0	0									
Control Delay (s)	8.8	0.0	0.6									
Lane LOS	A		A									
Approach Delay (s)	8.8	0.0	0.6									
Approach LOS	A											
<b>Intersection Summary</b>												
Average Delay			2.1									
Intersection Capacity Utilization			15.4%	ICU Level of Service								A
Analysis Period (min)			15									



# HCM Unsignalized Intersection Capacity Analysis

## 1: Highland Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	153	39	53	150	43	67
Future Volume (Veh/h)	153	39	53	150	43	67
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	166	42	58	163	47	73
Pedestrians	25			25	25	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			233			237
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			233			237
tC, single (s)			4.1			6.2
tC, 2 stage (s)						
tF (s)			2.2			3.3
p0 queue free %			96			90
cM capacity (veh/h)			1303			764
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	208	221	120			
Volume Left	0	58	47			
Volume Right	42	0	73			
cSH	1700	1303	616			
Volume to Capacity	0.12	0.04	0.19			
Queue Length 95th (ft)	0	3	18			
Control Delay (s)	0.0	2.4	12.3			
Lane LOS			A			B
Approach Delay (s)	0.0	2.4	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			44.1%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Chestnut Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	34	175	13	13	130	40	4	8	7	13	13	30
Future Volume (Veh/h)	34	175	13	13	130	40	4	8	7	13	13	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	190	14	14	141	43	4	9	8	14	14	33
Pedestrians		25			25			25			25	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			229			552	533	247	524	518	212
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			229			552	533	247	524	518	212
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	98	99	97	97	96
cM capacity (veh/h)	1329			1307			371	415	754	403	423	789
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	241	198	21	61								
Volume Left	37	14	4	14								
Volume Right	14	43	8	33								
cSH	1329	1307	487	556								
Volume to Capacity	0.03	0.01	0.04	0.11								
Queue Length 95th (ft)	2	1	3	9								
Control Delay (s)	1.4	0.6	12.7	12.3								
Lane LOS	A	A	B	B								
Approach Delay (s)	1.4	0.6	12.7	12.3								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			2.8									
Intersection Capacity Utilization			37.1%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 3: Highland Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	5	118	9	13	150	43	4	21	19	44	34	35
Future Volume (Veh/h)	5	118	9	13	150	43	4	21	19	44	34	35
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	6	133	10	15	169	48	4	24	21	49	38	39
Pedestrians		25			25			25			25	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	242			168			481	447	188	456	428	243
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	242			168			481	447	188	456	428	243
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	95	97	89	92	95
cM capacity (veh/h)	1293			1376			401	475	814	438	487	758
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	149	232	49	126								
Volume Left	6	15	4	49								
Volume Right	10	48	21	39								
cSH	1293	1376	568	522								
Volume to Capacity	0.00	0.01	0.09	0.24								
Queue Length 95th (ft)	0	1	7	23								
Control Delay (s)	0.4	0.6	11.9	14.1								
Lane LOS	A	A	B	B								
Approach Delay (s)	0.4	0.6	11.9	14.1								
Approach LOS			B	B								
<b>Intersection Summary</b>												
Average Delay			4.6									
Intersection Capacity Utilization			36.7%		ICU Level of Service				A			
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 4: Chestnut Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	108	2	5	156	28	3	3	4	20	7	5
Future Volume (vph)	7	108	2	5	156	28	3	3	4	20	7	5
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
Hourly flow rate (vph)	8	117	2	5	170	30	3	3	4	22	8	5




















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	127	205	10	35
Volume Left (vph)	8	5	3	22
Volume Right (vph)	2	30	4	5
Hadj (s)	0.04	-0.05	-0.15	0.07
Departure Headway (s)	4.2	4.1	4.5	4.7
Degree Utilization, x	0.15	0.23	0.01	0.05
Capacity (veh/h)	828	865	733	704
Control Delay (s)	8.0	8.3	7.6	7.9
Approach Delay (s)	8.0	8.3	7.6	7.9
Approach LOS	A	A	A	A

Intersection Summary			
Delay		8.2	
Level of Service		A	
Intersection Capacity Utilization	28.5%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 5: Vail Ave & Campbell St

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	67	83	34	39	103	33	32	91	33	35	146	60
Future Volume (vph)	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
Hourly flow rate (vph)	75	93	38	44	116	37	36	102	37	39	164	67
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	168	38	160	37	175	203	67					
Volume Left (vph)	75	0	44	0	36	39	0					
Volume Right (vph)	0	38	0	37	37	0	67					
Hadj (s)	0.26	-0.67	0.17	-0.67	-0.05	0.13	-0.67					
Departure Headway (s)	6.4	5.4	6.3	5.4	6.0	6.1	5.3					
Degree Utilization, x	0.30	0.06	0.28	0.06	0.29	0.34	0.10					
Capacity (veh/h)	530	613	535	610	562	560	637					
Control Delay (s)	10.8	7.6	10.5	7.6	11.5	11.0	7.6					
Approach Delay (s)	10.2		10.0		11.5	10.2						
Approach LOS	B		A		B	B						
Intersection Summary												
Delay			10.4									
Level of Service			B									
Intersection Capacity Utilization			47.9%		ICU Level of Service					A		
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 6: Vail Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	23	144	4	15	152	99	15	63	18	79	44	39
Future Volume (vph)	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
Hourly flow rate (vph)	25	157	4	16	165	108	16	68	20	86	48	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	186	289	104	176
Volume Left (vph)	25	16	16	86
Volume Right (vph)	4	108	20	42
Hadj (s)	0.05	-0.18	-0.05	-0.01
Departure Headway (s)	5.1	4.8	5.3	5.3
Degree Utilization, x	0.26	0.38	0.15	0.26
Capacity (veh/h)	652	714	595	625
Control Delay (s)	9.9	10.7	9.3	10.1
Approach Delay (s)	9.9	10.7	9.3	10.1
Approach LOS	A	B	A	B

Intersection Summary			
Delay		10.2	
Level of Service		B	
Intersection Capacity Utilization	40.2%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 7: Ridge Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	76	136	34	11	119	22	31	180	11	17	124	61
Future Volume (vph)	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
Hourly flow rate (vph)	84	149	37	12	131	24	34	198	12	19	136	67

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	270	167	244	222
Volume Left (vph)	84	12	34	19
Volume Right (vph)	37	24	12	67
Hadj (s)	0.01	-0.04	0.03	-0.13
Departure Headway (s)	5.5	5.7	5.6	5.5
Degree Utilization, x	0.42	0.26	0.38	0.34
Capacity (veh/h)	601	567	590	602
Control Delay (s)	12.4	10.7	11.9	11.2
Approach Delay (s)	12.4	10.7	11.9	11.2
Approach LOS	B	B	B	B

### Intersection Summary

Delay	11.7
Level of Service	B
Intersection Capacity Utilization	53.5%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 8: Mitchell Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	172	5	8	143	3	8
Future Volume (Veh/h)	172	5	8	143	3	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	185	5	9	154	3	9
Pedestrians	25			25	25	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			215		410	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			215		410	238
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	99
cM capacity (veh/h)			1323		566	764
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	190	163	12			
Volume Left	0	9	3			
Volume Right	5	0	9			
cSH	1700	1323	702			
Volume to Capacity	0.11	0.01	0.02			
Queue Length 95th (ft)	0	1	1			
Control Delay (s)	0.0	0.5	10.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			29.7%	ICU Level of Service	A	
Analysis Period (min)			15			



# HCM Unsignalized Intersection Capacity Analysis

## 9: Chestnut Ave & Wing St

















03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↘
Traffic Volume (veh/h)	67	3	46	79	4	71
Future Volume (Veh/h)	67	3	46	79	4	71
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	80	4	55	94	5	85
Pedestrians	25			25	25	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			109		336	132
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			109		336	132
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		99	90
cM capacity (veh/h)			1446		604	874
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	84	149	90			
Volume Left	0	55	5			
Volume Right	4	0	85			
cSH	1700	1446	853			
Volume to Capacity	0.05	0.04	0.11			
Queue Length 95th (ft)	0	3	9			
Control Delay (s)	0.0	3.0	9.7			
Lane LOS		A	A			
Approach Delay (s)	0.0	3.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			4.1			
Intersection Capacity Utilization			30.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 10: Dunton Ave & Campbell St

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	32	80	30	20	93	36	43	127	25	28	107	45
Future Volume (vph)	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
Hourly flow rate (vph)	36	91	34	23	106	41	49	144	28	32	122	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	161	170	221	205								
Volume Left (vph)	36	23	49	32								
Volume Right (vph)	34	41	28	51								
Hadj (s)	-0.05	-0.08	0.00	-0.08								
Departure Headway (s)	5.2	5.2	5.1	5.0								
Degree Utilization, x	0.23	0.25	0.31	0.29								
Capacity (veh/h)	625	632	658	661								
Control Delay (s)	9.8	9.9	10.4	10.1								
Approach Delay (s)	9.8	9.9	10.4	10.1								
Approach LOS	A	A	B	B								
Intersection Summary												
Delay			10.1									
Level of Service			B									
Intersection Capacity Utilization			36.4%	ICU Level of Service	A							
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 11: Highland Ave & North Garage Ramp

03/15/2019



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	25	58	52	8	26	66
Future Volume (Veh/h)	25	58	52	8	26	66
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	63	57	9	28	72
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	190	62			66	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190	62			66	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	94			98	
cM capacity (veh/h)	785	1004			1536	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	90	66	100			
Volume Left	27	0	28			
Volume Right	63	9	0			
cSH	926	1700	1536			
Volume to Capacity	0.10	0.04	0.02			
Queue Length 95th (ft)	8	0	1			
Control Delay (s)	9.3	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.3	0.0	2.2			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			4.1			
Intersection Capacity Utilization		23.2%		ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 12: Highland Ave & South Garage Ramp

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	32	0	15	0	45	15	11	80	0
Future Volume (Veh/h)	0	0	0	32	0	15	0	45	15	11	80	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	35	0	16	0	49	16	12	87	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	184	176	87	168	168	57	87			65		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	184	176	87	168	168	57	87			65		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	96	100	98	100			99		
cM capacity (veh/h)	760	712	971	791	719	1009	1509			1537		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	0	51	65	99								
Volume Left	0	35	0	12								
Volume Right	0	16	16	0								
cSH	1700	849	1509	1537								
Volume to Capacity	0.00	0.06	0.00	0.01								
Queue Length 95th (ft)	0	5	0	1								
Control Delay (s)	0.0	9.5	0.0	0.9								
Lane LOS	A	A		A								
Approach Delay (s)	0.0	9.5	0.0	0.9								
Approach LOS	A	A										
<b>Intersection Summary</b>												
Average Delay			2.7									
Intersection Capacity Utilization			21.5%		ICU Level of Service				A			
Analysis Period (min)			15									

## Capacity Analysis – Future Conditions

# HCM Unsignalized Intersection Capacity Analysis

## 1: Highland Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↗
Traffic Volume (veh/h)	162	38	23	95	19	58
Future Volume (Veh/h)	162	38	23	95	19	58
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	186	44	26	109	22	67
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			290		489	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			290		489	328
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		95	90
cM capacity (veh/h)			1210		471	638
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	230	135	89			
Volume Left	0	26	22			
Volume Right	44	0	67			
cSH	1700	1210	587			
Volume to Capacity	0.14	0.02	0.15			
Queue Length 95th (ft)	0	2	13			
Control Delay (s)	0.0	1.7	12.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.7	12.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			2.9			
Intersection Capacity Utilization			42.0%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Chestnut Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	14	179	8	8	113	7	15	7	5	7	7	9
Future Volume (Veh/h)	14	179	8	8	113	7	15	7	5	7	7	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	15	195	9	9	123	8	16	8	5	8	8	10
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	191			264			508	498	320	504	499	247
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	191			264			508	498	320	504	499	247
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			96	98	99	98	98	99
cM capacity (veh/h)	1304			1226			370	413	641	375	413	704

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	219	140	29	26
Volume Left	15	9	16	8
Volume Right	9	8	5	10
cSH	1304	1226	412	474
Volume to Capacity	0.01	0.01	0.07	0.05
Queue Length 95th (ft)	1	1	6	4
Control Delay (s)	0.6	0.6	14.4	13.0
Lane LOS	A	A	B	B
Approach Delay (s)	0.6	0.6	14.4	13.0
Approach LOS			B	B

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization		33.0%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 3: Highland Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	9	213	9	14	125	55	17	20	24	70	17	14
Future Volume (Veh/h)	9	213	9	14	125	55	17	20	24	70	17	14
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	13	304	13	20	179	79	24	29	34	100	24	20
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	318			377			747	754	430	764	722	338
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	318			377			747	754	430	764	722	338
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			90	90	94	54	92	97
cM capacity (veh/h)	1182			1124			241	294	552	219	307	630
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	330	278	87	144								
Volume Left	13	20	24	100								
Volume Right	13	79	34	20								
cSH	1182	1124	335	255								
Volume to Capacity	0.01	0.02	0.26	0.57								
Queue Length 95th (ft)	1	1	26	79								
Control Delay (s)	0.4	0.8	19.5	36.1								
Lane LOS	A	A	C	E								
Approach Delay (s)	0.4	0.8	19.5	36.1								
Approach LOS			C	E								
<b>Intersection Summary</b>												
Average Delay			8.6									
Intersection Capacity Utilization			36.9%		ICU Level of Service				A			
Analysis Period (min)			15									



# HCM Unsignalized Intersection Capacity Analysis

## 4: Chestnut Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	202	4	5	139	12	3	2	6	23	9	7
Future Volume (vph)	5	202	4	5	139	12	3	2	6	23	9	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	220	4	5	151	13	3	2	7	25	10	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	229	169	12	43
Volume Left (vph)	5	5	3	25
Volume Right (vph)	4	13	7	8
Hadj (s)	0.03	-0.01	-0.27	0.04
Departure Headway (s)	4.2	4.3	4.6	4.8
Degree Utilization, x	0.27	0.20	0.02	0.06
Capacity (veh/h)	832	815	716	680
Control Delay (s)	8.8	8.3	7.6	8.1
Approach Delay (s)	8.8	8.3	7.6	8.1
Approach LOS	A	A	A	A

### Intersection Summary

Delay	8.5
Level of Service	A
Intersection Capacity Utilization	32.2%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 5: Vail Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↖	↗
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	57	117	19	19	60	12	10	65	7	19	89	30
Future Volume (vph)	57	117	19	19	60	12	10	65	7	19	89	30
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
Hourly flow rate (vph)	70	143	23	23	73	15	12	79	9	23	109	37

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	213	23	96	15	100	132	37
Volume Left (vph)	70	0	23	0	12	23	0
Volume Right (vph)	0	23	0	15	9	0	37
Hadj (s)	0.16	-0.70	0.20	-0.70	0.03	0.20	-0.63
Departure Headway (s)	5.6	4.7	5.7	4.8	5.7	5.7	4.9
Degree Utilization, x	0.33	0.03	0.15	0.02	0.16	0.21	0.05
Capacity (veh/h)	617	726	591	695	593	589	682
Control Delay (s)	10.0	6.6	8.6	6.7	9.7	9.1	7.0
Approach Delay (s)	9.7		8.3		9.7	8.6	
Approach LOS	A		A		A	A	

### Intersection Summary

Delay	9.2
Level of Service	A
Intersection Capacity Utilization	47.2%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 6: Vail Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	278	7	11	177	49	12	55	15	69	40	5
Future Volume (vph)	22	278	7	11	177	49	12	55	15	69	40	5
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
Hourly flow rate (vph)	24	302	8	12	192	53	13	60	16	75	43	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	334	257	89	123
Volume Left (vph)	24	12	13	75
Volume Right (vph)	8	53	16	5
Hadj (s)	0.03	-0.08	-0.04	0.13
Departure Headway (s)	4.9	4.9	5.6	5.7
Degree Utilization, x	0.45	0.35	0.14	0.19
Capacity (veh/h)	700	697	565	568
Control Delay (s)	11.9	10.5	9.4	10.0
Approach Delay (s)	11.9	10.5	9.4	10.0
Approach LOS	B	B	A	B

















### Intersection Summary

Delay	10.9
Level of Service	B
Intersection Capacity Utilization	43.1%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 7: Ridge Ave & Campbell St

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	47	139	24	10	84	22	26	124	10	32	168	41
Future Volume (vph)	47	139	24	10	84	22	26	124	10	32	168	41
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
Hourly flow rate (vph)	53	158	27	11	95	25	30	141	11	36	191	47
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	238	131	182	274								
Volume Left (vph)	53	11	30	36								
Volume Right (vph)	27	25	11	47								
Hadj (s)	0.00	-0.05	0.01	-0.06								
Departure Headway (s)	5.4	5.5	5.4	5.2								
Degree Utilization, x	0.35	0.20	0.27	0.39								
Capacity (veh/h)	621	584	606	650								
Control Delay (s)	11.2	9.9	10.4	11.5								
Approach Delay (s)	11.2	9.9	10.4	11.5								
Approach LOS	B	A	B	B								
Intersection Summary												
Delay			10.9									
Level of Service			B									
Intersection Capacity Utilization			42.6%	ICU Level of Service	A							
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 8: Mitchell Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	176	3	4	105	9	10
Future Volume (Veh/h)	176	3	4	105	9	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	210	4	5	125	11	12
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			274		467	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			274		467	332
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	98
cM capacity (veh/h)			1226		494	635
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	214	130	23			
Volume Left	0	5	11			
Volume Right	4	0	12			
cSH	1700	1226	559			
Volume to Capacity	0.13	0.00	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.3	11.7			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.3	11.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.9			
Intersection Capacity Utilization			31.5%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 9: Chestnut Ave & Wing St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	27	6	20	34	4	16
Future Volume (Veh/h)	27	6	20	34	4	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	30	7	22	37	4	18
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			97		234	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			97		234	154
tC, single (s)			4.1		6.4	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			98		99	98
cM capacity (veh/h)			1423		664	780

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	37	59	22
Volume Left	0	22	4
Volume Right	7	0	18
cSH	1700	1423	756
Volume to Capacity	0.02	0.02	0.03
Queue Length 95th (ft)	0	1	2
Control Delay (s)	0.0	2.9	9.9
Lane LOS		A	A
Approach Delay (s)	0.0	2.9	9.9
Approach LOS			A

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis  
 10: Dunton Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	97	19	7	47	14	11	58	11	14	75	32
Future Volume (vph)	22	97	19	7	47	14	11	58	11	14	75	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
Hourly flow rate (vph)	27	118	23	9	57	17	13	71	13	17	91	39

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	168	83	97	147
Volume Left (vph)	27	9	13	17
Volume Right (vph)	23	17	13	39
Hadj (s)	-0.04	-0.07	0.02	-0.08
Departure Headway (s)	4.6	4.6	4.7	4.5
Degree Utilization, x	0.21	0.11	0.13	0.19
Capacity (veh/h)	741	722	717	741
Control Delay (s)	8.8	8.2	8.4	8.6
Approach Delay (s)	8.8	8.2	8.4	8.6
Approach LOS	A	A	A	A

Intersection Summary

Delay	8.5
Level of Service	A
Intersection Capacity Utilization	32.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Highland Ave & North Garage Ramp

03/15/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	14	82	11	18	36
Future Volume (Veh/h)	13	14	82	11	18	36
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	15	89	12	20	39
Pedestrians	60		60		60	
Lane Width (ft)	12.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	6		6		6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	294	215			161	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	294	215			161	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			99	
cM capacity (veh/h)	610	733			1337	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	29	101	59			
Volume Left	14	0	20			
Volume Right	15	12	0			
cSH	668	1700	1337			
Volume to Capacity	0.04	0.06	0.01			
Queue Length 95th (ft)	3	0	1			
Control Delay (s)	10.6	0.0	2.7			
Lane LOS	B		A			
Approach Delay (s)	10.6	0.0	2.7			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			2.5			
Intersection Capacity Utilization			31.0%	ICU Level of Service		A
Analysis Period (min)	15					



# HCM Unsignalized Intersection Capacity Analysis

## 12: Highland Ave & South Garage Ramp

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	18	0	64	9	0	16	15	59	7	5	42	2
Future Volume (Veh/h)	18	0	64	9	0	16	15	59	7	5	42	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	0	70	10	0	17	16	64	8	5	46	2
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	294	281	167	347	278	188	108			132		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	294	281	167	347	278	188	108			132		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	91	98	100	98	99			100		
cM capacity (veh/h)	518	549	780	445	552	759	1398			1370		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	90	27	88	53								
Volume Left	20	10	16	5								
Volume Right	70	17	8	2								
cSH	701	602	1398	1370								
Volume to Capacity	0.13	0.04	0.01	0.00								
Queue Length 95th (ft)	11	4	1	0								
Control Delay (s)	10.9	11.3	1.5	0.7								
Lane LOS	B	B	A	A								
Approach Delay (s)	10.9	11.3	1.5	0.7								
Approach LOS	B	B										
<b>Intersection Summary</b>												
Average Delay			5.6									
Intersection Capacity Utilization			32.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 13: Proposed Access & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	187	4	1	121	7	2
Future Volume (Veh/h)	187	4	1	121	7	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	203	4	1	132	8	2
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			267		459	325
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			267		459	325
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1223		498	637
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	207	133	10			
Volume Left	0	1	8			
Volume Right	4	0	2			
cSH	1700	1223	520			
Volume to Capacity	0.12	0.00	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.1	12.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	12.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			31.6%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Chestnut Ave & Exit Access

03/15/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Volume (veh/h)	0	8	19	0	0	23
Future Volume (Veh/h)	0	8	19	0	0	23
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	9	21	0	0	25
Pedestrians	60		60			60
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	6		6			6
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	166	141			81	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	141			81	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	733	806			1430	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	9	21	25			
Volume Left	0	0	0			
Volume Right	9	0	0			
cSH	806	1700	1700			
Volume to Capacity	0.01	0.01	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.5	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.5	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.6			
Intersection Capacity Utilization			30.8%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 15: Chestnut Ave & 33 S Chestnut Access

03/15/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	13	6	16	3	2	26
Future Volume (Veh/h)	13	6	16	3	2	26
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	7	17	3	2	28
Pedestrians	60		60			60
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	6		6			6
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	170	138			80	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	170	138			80	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	728	809			1431	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	21	20	30			
Volume Left	14	0	2			
Volume Right	7	3	0			
cSH	753	1700	1431			
Volume to Capacity	0.03	0.01	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	9.9	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.9	0.0	0.5			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.1			
Intersection Capacity Utilization			30.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Highland Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	162	38	23	95	19	58
Future Volume (vph)	162	38	23	95	19	58
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	186	44	26	109	22	67

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	230	135	89
Volume Left (vph)	0	26	22
Volume Right (vph)	44	0	67
Hadj (s)	-0.11	0.12	-0.40
Departure Headway (s)	4.1	4.5	4.3
Degree Utilization, x	0.26	0.17	0.11
Capacity (veh/h)	846	775	772
Control Delay (s)	8.6	8.4	7.8
Approach Delay (s)	8.6	8.4	7.8
Approach LOS	A	A	A

Intersection Summary			
Delay		8.4	
Level of Service		A	
Intersection Capacity Utilization	41.5%		ICU Level of Service A
Analysis Period (min)		15	

### HCM Unsignalized Intersection Capacity Analysis 3: Highland Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	213	9	14	125	55	17	20	24	70	17	14
Future Volume (vph)	9	213	9	14	125	55	17	20	24	70	17	14
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
Hourly flow rate (vph)	13	304	13	20	179	79	24	29	34	100	24	20

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	330	278	87	144
Volume Left (vph)	13	20	24	100
Volume Right (vph)	13	79	34	20
Hadj (s)	0.02	-0.15	-0.15	0.11
Departure Headway (s)	5.0	4.9	5.5	5.7
Degree Utilization, x	0.46	0.38	0.13	0.23
Capacity (veh/h)	688	694	559	565
Control Delay (s)	12.1	10.8	9.4	10.4
Approach Delay (s)	12.1	10.8	9.4	10.4
Approach LOS	B	B	A	B

Intersection Summary			
Delay		11.1	
Level of Service		B	
Intersection Capacity Utilization		36.9%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 1: Highland Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	
Traffic Volume (veh/h)	172	64	83	165	44	80
Future Volume (Veh/h)	172	64	83	165	44	80
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	70	90	179	48	87
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			317		701	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			317		701	342
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		86	86
cM capacity (veh/h)			1172		332	623

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	257	269	135
Volume Left	0	90	48
Volume Right	70	0	87
cSH	1700	1172	475
Volume to Capacity	0.15	0.08	0.28
Queue Length 95th (ft)	0	6	29
Control Delay (s)	0.0	3.3	15.6
Lane LOS		A	C
Approach Delay (s)	0.0	3.3	15.6
Approach LOS			C

Intersection Summary			
Average Delay		4.5	
Intersection Capacity Utilization		50.4%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 2: Chestnut Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	35	197	16	34	135	41	16	11	9	14	16	31
Future Volume (Veh/h)	35	197	16	34	135	41	16	11	9	14	16	31
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	214	17	37	147	45	17	12	10	15	17	34
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	252			291			704	684	342	678	670	290
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	252			291			704	684	342	678	670	290
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			97			93	96	98	94	95	95
cM capacity (veh/h)	1238			1198			249	310	622	272	316	666

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	269	229	39	66
Volume Left	38	37	17	15
Volume Right	17	45	10	34
cSH	1238	1198	317	412
Volume to Capacity	0.03	0.03	0.12	0.16
Queue Length 95th (ft)	2	2	10	14
Control Delay (s)	1.4	1.5	18.0	15.4
Lane LOS	A	A	C	C
Approach Delay (s)	1.4	1.5	18.0	15.4
Approach LOS			C	C

Intersection Summary			
Average Delay		4.0	
Intersection Capacity Utilization		36.4%	ICU Level of Service
Analysis Period (min)		15	A



# HCM Unsignalized Intersection Capacity Analysis

## 3: Highland Ave & Sigwalt St

03/15/2019



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	22	134	14	14	162	132	8	38	20	97	43	40
Future Volume (Veh/h)	22	134	14	14	162	132	8	38	20	97	43	40
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	25	151	16	16	182	148	9	43	22	109	48	45
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	390			227			686	691	279	660	625	376
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			227			686	691	279	660	625	376
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			99			96	86	97	58	86	92
cM capacity (veh/h)	1102			1265			237	315	675	259	344	596

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	192	346	74	202
Volume Left	25	16	9	109
Volume Right	16	148	22	45
cSH	1102	1265	358	318
Volume to Capacity	0.02	0.01	0.21	0.64
Queue Length 95th (ft)	2	1	19	102
Control Delay (s)	1.3	0.5	17.7	34.2
Lane LOS	A	A	C	D
Approach Delay (s)	1.3	0.5	17.7	34.2
Approach LOS			C	D

Intersection Summary			
Average Delay		10.6	
Intersection Capacity Utilization		45.5%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 4: Chestnut Ave & Sigwalt St




















03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	128	3	6	165	39	4	4	5	37	8	14
Future Volume (vph)	11	128	3	6	165	39	4	4	5	37	8	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	139	3	7	179	42	4	4	5	40	9	15
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	154	228	13	64								
Volume Left (vph)	12	7	4	40								
Volume Right (vph)	3	42	5	15								
Hadj (s)	0.04	-0.07	-0.14	0.02								
Departure Headway (s)	4.4	4.2	4.7	4.8								
Degree Utilization, x	0.19	0.27	0.02	0.08								
Capacity (veh/h)	801	831	698	690								
Control Delay (s)	8.4	8.7	7.8	8.2								
Approach Delay (s)	8.4	8.7	7.8	8.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.5									
Level of Service			A									
Intersection Capacity Utilization			32.6%	ICU Level of Service	A							
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 5: Vail Ave & Campbell St

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	68	117	54	43	152	46	33	94	34	36	151	80
Future Volume (vph)	68	117	54	43	152	46	33	94	34	36	151	80
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
Hourly flow rate (vph)	76	131	61	48	171	52	37	106	38	40	170	90
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1	SB 2					
Volume Total (vph)	207	61	219	52	181	210	90					
Volume Left (vph)	76	0	48	0	37	40	0					
Volume Right (vph)	0	61	0	52	38	0	90					
Hadj (s)	0.22	-0.67	0.14	-0.67	-0.05	0.13	-0.67					
Departure Headway (s)	6.7	5.8	6.6	5.8	6.5	6.5	5.7					
Degree Utilization, x	0.38	0.10	0.40	0.08	0.33	0.38	0.14					
Capacity (veh/h)	508	579	515	579	506	516	580					
Control Delay (s)	12.5	8.2	12.7	8.1	12.7	12.3	8.5					
Approach Delay (s)	11.5		11.8		12.7	11.2						
Approach LOS	B		B		B	B						
Intersection Summary												
Delay			11.7									
Level of Service			B									
Intersection Capacity Utilization			64.9%		ICU Level of Service						C	
Analysis Period (min)			15									

# HCM Unsignalized Intersection Capacity Analysis

## 6: Vail Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	222	5	16	252	102	16	65	19	81	45	40
Future Volume (vph)	24	222	5	16	252	102	16	65	19	81	45	40
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
Hourly flow rate (vph)	26	241	5	17	274	111	17	71	21	88	49	43

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	272	402	109	180
Volume Left (vph)	26	17	17	88
Volume Right (vph)	5	111	21	43
Hadj (s)	0.04	-0.12	-0.05	-0.01
Departure Headway (s)	5.4	5.1	6.0	5.9
Degree Utilization, x	0.41	0.57	0.18	0.29
Capacity (veh/h)	617	674	511	543
Control Delay (s)	12.2	14.6	10.3	11.3
Approach Delay (s)	12.2	14.6	10.3	11.3
Approach LOS	B	B	B	B

Intersection Summary			
Delay		12.8	
Level of Service		B	
Intersection Capacity Utilization	48.0%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 7: Ridge Ave & Campbell St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	77	149	35	12	127	30	32	185	12	28	128	63
Future Volume (vph)	77	149	35	12	127	30	32	185	12	28	128	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
Hourly flow rate (vph)	85	164	38	13	140	33	35	203	13	31	141	69

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	287	186	251	241
Volume Left (vph)	85	13	35	31
Volume Right (vph)	38	33	13	69
Hadj (s)	0.01	-0.06	0.03	-0.11
Departure Headway (s)	5.7	5.8	5.8	5.7
Degree Utilization, x	0.45	0.30	0.40	0.38
Capacity (veh/h)	583	549	566	577
Control Delay (s)	13.4	11.3	12.6	12.1
Approach Delay (s)	13.4	11.3	12.6	12.1
Approach LOS	B	B	B	B

### Intersection Summary

Delay	12.5
Level of Service	B
Intersection Capacity Utilization	54.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
8: Mitchell Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	196	6	9	159	4	9
Future Volume (Veh/h)	196	6	9	159	4	9
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	211	6	10	171	4	10
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			277		525	334
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			277		525	334
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1212		452	629
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	217	181	14			
Volume Left	0	10	4			
Volume Right	6	0	10			
cSH	1700	1212	566			
Volume to Capacity	0.13	0.01	0.02			
Queue Length 95th (ft)	0	1	2			
Control Delay (s)	0.0	0.5	11.5			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.5	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			34.4%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 9: Chestnut Ave & Wing St

















03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↗
Traffic Volume (veh/h)	69	4	49	81	8	75
Future Volume (Veh/h)	69	4	49	81	8	75
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	82	5	58	96	10	89
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			147		416	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		416	204
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	88
cM capacity (veh/h)			1353		504	743
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	87	154	99			
Volume Left	0	58	10			
Volume Right	5	0	89			
cSH	1700	1353	709			
Volume to Capacity	0.05	0.04	0.14			
Queue Length 95th (ft)	0	3	12			
Control Delay (s)	0.0	3.2	10.9			
Lane LOS		A	B			
Approach Delay (s)	0.0	3.2	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			33.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 10: Dunton Ave & Campbell St

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	33	101	31	21	124	37	44	131	26	29	111	46
Future Volume (vph)	33	101	31	21	124	37	44	131	26	29	111	46
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
Hourly flow rate (vph)	38	115	35	24	141	42	50	149	30	33	126	52
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	188	207	229	211								
Volume Left (vph)	38	24	50	33								
Volume Right (vph)	35	42	30	52								
Hadj (s)	-0.04	-0.06	0.00	-0.08								
Departure Headway (s)	5.4	5.4	5.3	5.3								
Degree Utilization, x	0.28	0.31	0.34	0.31								
Capacity (veh/h)	604	614	616	624								
Control Delay (s)	10.5	10.7	11.1	10.7								
Approach Delay (s)	10.5	10.7	11.1	10.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			10.8									
Level of Service			B									
Intersection Capacity Utilization			39.4%	ICU Level of Service	A							
Analysis Period (min)			15									



HCM Unsignalized Intersection Capacity Analysis  
 11: Highland Ave & North Garage Ramp

03/15/2019



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	60	140	9	27	98
Future Volume (Veh/h)	26	60	140	9	27	98
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	65	152	10	29	107
Pedestrians	60		60		60	
Lane Width (ft)	12.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	6		6		6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	442	277			222	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	442	277			222	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	90			98	
cM capacity (veh/h)	498	677			1270	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	93	162	136			
Volume Left	28	0	29			
Volume Right	65	10	0			
cSH	611	1700	1270			
Volume to Capacity	0.15	0.10	0.02			
Queue Length 95th (ft)	13	0	2			
Control Delay (s)	11.9	0.0	1.8			
Lane LOS	B		A			
Approach Delay (s)	11.9	0.0	1.8			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			3.5			
Intersection Capacity Utilization			41.9%	ICU Level of Service		A
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 12: Highland Ave & South Garage Ramp

03/15/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	0	40	33	0	16	44	122	16	12	106	6
Future Volume (Veh/h)	11	0	40	33	0	16	44	122	16	12	106	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	0	43	36	0	17	48	133	17	13	115	7
Pedestrians		60			60			60			60	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			6			6			6	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	519	510	238	545	506	262	182			210		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	519	510	238	545	506	262	182			210		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	100	94	89	100	98	96			99		
cM capacity (veh/h)	358	395	712	331	398	691	1314			1283		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	55	53	198	135								
Volume Left	12	36	48	13								
Volume Right	43	17	17	7								
cSH	585	398	1314	1283								
Volume to Capacity	0.09	0.13	0.04	0.01								
Queue Length 95th (ft)	8	11	3	1								
Control Delay (s)	11.8	15.4	2.1	0.8								
Lane LOS	B	C	A	A								
Approach Delay (s)	11.8	15.4	2.1	0.8								
Approach LOS	B	C										
Intersection Summary												
Average Delay			4.5									
Intersection Capacity Utilization			36.3%	ICU Level of Service							A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 13: Proposed Access & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	203	17	8	191	19	36
Future Volume (Veh/h)	203	17	8	191	19	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	221	18	9	208	21	39
Pedestrians	60			60	60	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	6			6	6	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			299			576 350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			299			576 350
tC, single (s)			4.1			6.4 6.2
tC, 2 stage (s)						
tF (s)			2.2			3.5 3.3
p0 queue free %			99			95 94
cM capacity (veh/h)			1190			423 616
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	239	217	60			
Volume Left	0	9	21			
Volume Right	18	0	39			
cSH	1700	1190	531			
Volume to Capacity	0.14	0.01	0.11			
Queue Length 95th (ft)	0	1	9			
Control Delay (s)	0.0	0.4	12.6			
Lane LOS			A			B
Approach Delay (s)	0.0	0.4	12.6			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			35.6%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 14: Chestnut Ave & Exit Access

03/15/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↕
Traffic Volume (veh/h)	0	9	45	0	0	59
Future Volume (Veh/h)	0	9	45	0	0	59
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	10	49	0	0	64
Pedestrians	60		60			60
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	6		6			6
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	233	169			109	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	233	169			109	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			100	
cM capacity (veh/h)	671	778			1397	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	10	49	64			
Volume Left	0	0	0			
Volume Right	10	0	0			
cSH	778	1700	1700			
Volume to Capacity	0.01	0.03	0.04			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.7	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.8			
Intersection Capacity Utilization			30.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Chestnut Ave & 33 S Chestnut Access

03/15/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	4	41	13	6	53
Future Volume (Veh/h)	6	4	41	13	6	53
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	4	45	14	7	58
Pedestrians	60		60			60
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	6		6			6
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	244	172			119	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	244	172			119	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			99	
cM capacity (veh/h)	658	775			1385	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	11	59	65			
Volume Left	7	0	7			
Volume Right	4	14	0			
cSH	696	1700	1385			
Volume to Capacity	0.02	0.03	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.3	0.0	0.9			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	0.9			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			30.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 1: Highland Ave & Campbell St

03/15/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	172	64	83	165	44	80
Future Volume (vph)	172	64	83	165	44	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	70	90	179	48	87

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total (vph)	257	269	135
Volume Left (vph)	0	90	48
Volume Right (vph)	70	0	87
Hadj (s)	-0.13	0.10	-0.28
Departure Headway (s)	4.4	4.6	4.8
Degree Utilization, x	0.32	0.35	0.18
Capacity (veh/h)	783	745	682
Control Delay (s)	9.5	10.1	8.9
Approach Delay (s)	9.5	10.1	8.9
Approach LOS	A	B	A

Intersection Summary			
Delay		9.6	
Level of Service		A	
Intersection Capacity Utilization	50.4%		ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 3: Highland Ave & Sigwalt St

03/15/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	22	134	14	14	162	132	8	38	20	97	43	40
Future Volume (vph)	22	134	14	14	162	132	8	38	20	97	43	40
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
Hourly flow rate (vph)	25	151	16	16	182	148	9	43	22	109	48	45

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	192	346	74	202
Volume Left (vph)	25	16	9	109
Volume Right (vph)	16	148	22	45
Hadj (s)	0.01	-0.21	-0.12	0.01
Departure Headway (s)	5.2	4.7	5.5	5.4
Degree Utilization, x	0.28	0.46	0.11	0.30
Capacity (veh/h)	646	721	565	611
Control Delay (s)	10.1	11.7	9.2	10.7
Approach Delay (s)	10.1	11.7	9.2	10.7
Approach LOS	B	B	A	B

### Intersection Summary

Delay	10.8
Level of Service	B
Intersection Capacity Utilization	45.5%
ICU Level of Service	A
Analysis Period (min)	15