Planned Development Application

1450 Sherman Avenue

Evanston, IL 60201

14 – TRAFFIC CIRCULATION IMPACT STUDY

ALBION RESIDENTIAL

HPA

Traffic Impact Study

1454 Sherman Mixed-Use Development

Evanston, Illinois

Prepared for

ALBION RESIDENTIAL

Prepared by

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

August 3, 2017

Executive Summary

A traffic impact study was conducted for the proposed mixed-use development to be located at 1454 Sherman Avenue in Evanston, Illinois. The site is currently developed with retail/commercial land uses and is bound by retail buildings/Grove Street to the north, Lake Street to the south, Sherman Avenue to the east, and a public alley/Union Pacific and CTA rail lines to the west. The plans call for approximately 287 apartment units on a three-level podium that will include approximately 9,600 square feet of retail space fronting Sherman Avenue, and a three-level parking garage to include a total of approximately 182 parking spaces. Access to the parking garage and a three-dock loading area for trucks will be from the public alley. The main pedestrian entrance/lobby to the apartments and to the individual retail spaces will be from Sherman Avenue.

Alternative Modes of Transportation

Accessibility to and from the area is enhanced by the various alternative modes of transportation serving the area including the following.

- CTA Davis Street Purple Line Station – located approximately 7 minutes walking distance to the north of the proposed development
- CTA Dempster Street Purple Line Station – located approximately 4 minutes walking distance to the south of the proposed development
- Metra Rail Davis Street UP-North Line Station – located approximately 7 minutes walking distance to the north of the proposed development
- CTA Bus Routes 201 and 205 in the vicinity of the site
- Divvy bike station at the intersection of Benson Avenue and Church Street
- Zipcar car sharing station at 1603 Orrington

- All of the streets in the immediate area have sidewalks on both sides of the street.

- Crosswalks on Sherman Avenue at its intersections with Lake Street and at Grove Street are standard, parallel-line crosswalks. High-visibility crosswalks are recommended at these two intersections on all four legs.

- The signalized intersection of Sherman Avenue and Grove Street should be improved to include countdown pedestrian signals on all four legs of the intersection.

Total Projected Traffic Conditions

Traffic capacity analyses were conducted for both existing and future conditions using existing vehicle, pedestrian, and bicycle counts as a foundation for the following six intersections.

- Sherman Avenue and Grove Street (signalized)
- Sherman Avenue and Lake Street (all-way stop sign)
- Public Alley and Grove Street (unsignalized)
- Public Alley and Lake Street (unsignalized)
- Elmwood Avenue and Grove Street (unsignalized)
- Elmwood Avenue and Lake Street (all-way stop sign)

Further, the three access drives on the east side of Sherman Avenue, opposite the site frontage were also counted.

The traffic volume counts were conducted on Thursday, March 9, 2017 during the morning (7:00 to 9:00 A.M.) and the evening (4:00 to 6:00 P.M.) peak commuting periods. The public alley intersections were conducted on July 20, 2017. From this data, the weekday morning peak hour generally occurs between 8:00 and 9:00 A.M. and the weekday evening peak hour generally occurs between 5:00 and 6:00 P.M.

The projected traffic conditions include the existing traffic volumes, background growth in the area from regional growth and planned developments, and the vehicle traffic estimated to be generated by the proposed development. Census data shows that over 50 percent of residents in the area use alternative modes of transportation and do not drive to/from work. Further, the Census data shows that 52 percent of the residents renting in the area do not own a vehicle. As such, the alternative modes of transportation serving the area has resulted in a significant reduction in the traffic generated by area residential developments, particularly during the critical weekday morning and evening commuter peak periods. Therefore, estimated vehicle traffic volumes for this area were reduced by 50 percent.

It is important to note that the existing traffic volumes captured traffic being generated by the existing retail/commercial uses on the subject development site, but were not discounted. As such, adding the projected retail trip generation vehicles to the existing peak hour volumes represents a conservative study.

The results of the capacity analyses show that with the addition of the development traffic and the background traffic, all of the intersections outlined above are projected to continue to operate at generally the same acceptable levels of service.

Garage Access

- The garage access drive is proposed to be located off the public alley.
- There may be a gain in on-street parking on the west side of Sherman Avenue since the existing access driveway that serves the existing surface parking lot will be removed.
- The access will provide one lane inbound and one lane outbound under stop sign control.
- The public alley will be signed to have a one-way northbound orientation to mitigate the limited sightlines at Lake Street for exiting traffic, as well as to improve the traffic flow with the estimated increase in vehicle and truck traffic.
- The alley will be 16 feet wide across the site frontage.
- Do Not Enter signs should be posted facing Grove Street at the Public Alley/Grove Street intersection to deter opposing southbound vehicles from entering the one-way northbound alley.
- High-visibility or textured crosswalk should be provided across the alley at Lake Street. There is an existing textured crosswalk across the alley at Grove Street.

Loading/Refuse Access

Three loading docks for the shared use of the residential and retail uses will be located off the public alley on the west face of the building. The refuse will be located off the public alley as well. Similar to the vehicles accessing the parking garage, all trucks will enter the public alley from Lake Street and proceed north to the loading dock area. Upon exiting, the truck will proceed north on the public alley and exit onto Grove Street.

Parking

The development will provide a total of approximately 182 parking spaces, at a parking ratio of 0.63 spaces per unit. Approximately 11 parking spaces on the first floor will be reserved for retail tenant use during the day, and two of those spaces will be dedicated car-sharing spaces.

The on-site parking supply (0.63 parking ratio) considers the following.

- The development is a transit-oriented development (TOD) and is located in the city's transit-oriented downtown development district. TOD districts are urban environments which promote pedestrian mobility and interactivity with convenient and nearby goods and services without requiring the use of an automobile.

- Census tract data shows that 52 percent of renter households in the area do not own a vehicle.

- Further, the Census tract data for renter households with two or more bedrooms shows that 50 percent of the households own vehicles. Therefore, the proposed 0.63 parking ratio is consistent with the residential and vehicle ownership characteristics of the area.

- Two car-sharing stations are proposed to be located within the garage, and are also located in proximity to the site. This will further encourage residents to not own a vehicle. Information provided by ZipCar states that one shared car removes approximately 15 private vehicles from the street system.

- The E2 residential development, located at 1890 Maple Avenue, provides a parking supply of 1.0 (353 parking spaces for 353 rental units). The peak garage parking occupancy was determined to be 45 percent. As such, there are over 190 parking spaces available at any given time.

- Limited observations of the Holiday Inn parking garage located on the east side of Sherman Avenue across from the proposed development show a low parking occupancy.

- The Sherman Plaza parking garage is located approximately 800 feet from the proposed development and provides approximately 1,282 public parking spaces. A car count report obtained from the City of Evanston shows that over a five month period (January 2017 to May 2017) the parking garage had an average occupancy of 51 percent during the morning peak period and an average occupancy of 54 percent during the afternoon peak period. As such, on average, 500 parking spaces or more are available at any given time.

- The Maple Avenue garage (Maple Avenue and Clark Street) is located less than one-fourth of a mile from the proposed development and provides approximately 1,340 public parking spaces. A car count report obtained from the City of Evanston shows that over a five month period (January 2017 to May 2017) the parking garage had an average occupancy of 40 percent during the morning peak period and an average occupancy of 48 percent during the afternoon peak period. As such, on average, over 650 parking spaces are available at any given time. It is important to note that the garage has a slightly higher occupancy during the evenings because of the nearby theater.

- Paybox parking is provided on Sherman Avenue and on Grove Street in the vicinity of the site.

- A bicycle storage room will be provided on the ground floor, thereby further increasing the incentive to commute via bicycling rather than driving.

- Divvy bicycle stations are located in proximity to the site.

- If needed, valet parking will be provided for retail/restaurant customers. The valet service will have the option to utilize the available parking in the area including at the Holiday Inn garage and the Sherman Plaza garage.

1. Introduction

This report summarizes the methodologies, results and findings of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed mixed-use development to be located at 1454 Sherman Avenue in Evanston, Illinois. The site is currently developed with retail/commercial land uses and is bound by retail buildings/Grove Street to the north, Lake Street to the south, Sherman Avenue to the east, and a public alley/Union Pacific and CTA rail lines to the west.

The plans call for approximately 287 apartment units on a three-level podium that will include approximately 9,600 square feet of retail space fronting Sherman Avenue, and a three-level parking garage to include a total of approximately 182 parking spaces. Vehicle access to the parking garage and the three-dock loading area for trucks will be provided off the public alley. The main pedestrian entrance/lobby to the apartments and to the individual retail spaces will be from Sherman Avenue.

The proposed development is located in an area that promotes pedestrian and bicycle activity. Sidewalks, bicycle lanes, and crosswalks are located on the surrounding roadway network. Goods and services and major public transportation stations are also conveniently located nearby, thereby further reducing the need for a vehicle.

The following sections of this report present the following.

- Existing street conditions including vehicle, pedestrian, and bicycle traffic volumes for the weekday morning and weekday evening peak hours
- A detailed description of the proposed development
- Vehicle trip generation for the proposed development
- Directional distribution of development-generated traffic
- Future transportation conditions including access to and from the development

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

1. Existing Condition - Analyzes the capacity of the existing street system using existing peak hour traffic volumes in the surrounding area.

2. Future Condition – The future projected traffic volumes include the existing traffic volumes, regional growth in traffic, and the traffic estimated to be generated by the proposed subject development.

The purpose of this study is as follows:

1. To examine existing vehicle, pedestrian, and bicycle traffic conditions to establish a base condition

2. Determine the vehicle trips to be generated by the proposed development and then determine its impact on the surrounding neighborhood street network

3. Recommend improvements to effectively mitigate and accommodate the projected traffic conditions resulting from the proposed development.

2. Existing Conditions

Transportation conditions in the vicinity of the site were inventoried to obtain a basis for projecting future conditions. Four components of existing conditions were considered:

1. The geographic location of the site

2. The locations and availability of alternative modes of transportation, including public transportation, bicycle lanes, and pedestrian amenities

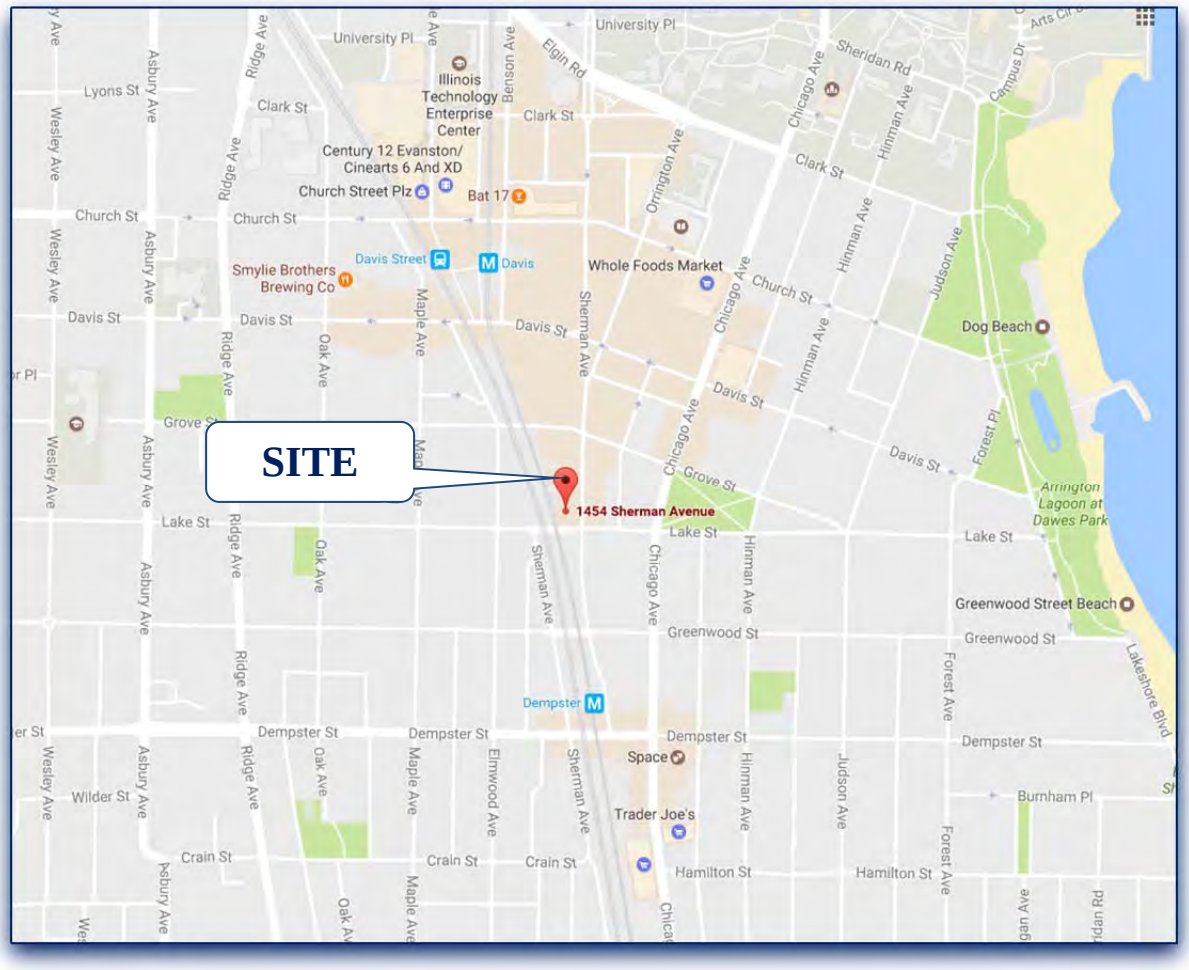
3. The characteristics of the adjacent street system, including lane geometry, traffic orientation (e.g. one-way street pairings) and intersection traffic controls

4. The weekday peak-hour vehicle, bicycle, and pedestrian traffic volumes at the study intersections

Site Location

The development site is located at 1454 Sherman Avenue in Evanston, Illinois. The site is currently developed with retail/commercial land uses and is bound by retail buildings/Grove Street to the north, Lake Street to the south, Sherman Avenue to the east, and a public alley/Union Pacific and CTA rail lines to the west.

Figure 1 shows the site location with respect to the surrounding street system. **Figure 2** shows an aerial view of the site area.



SITE LOCATION **Figure 1**

AERIAL VIEW OF SITE AREA **Figure 2**

Existing Street System Characteristics

The characteristics of the existing streets in the study area are illustrated in **Figure 3** and described below. All of the streets are under the jurisdiction of the City of Evanston.

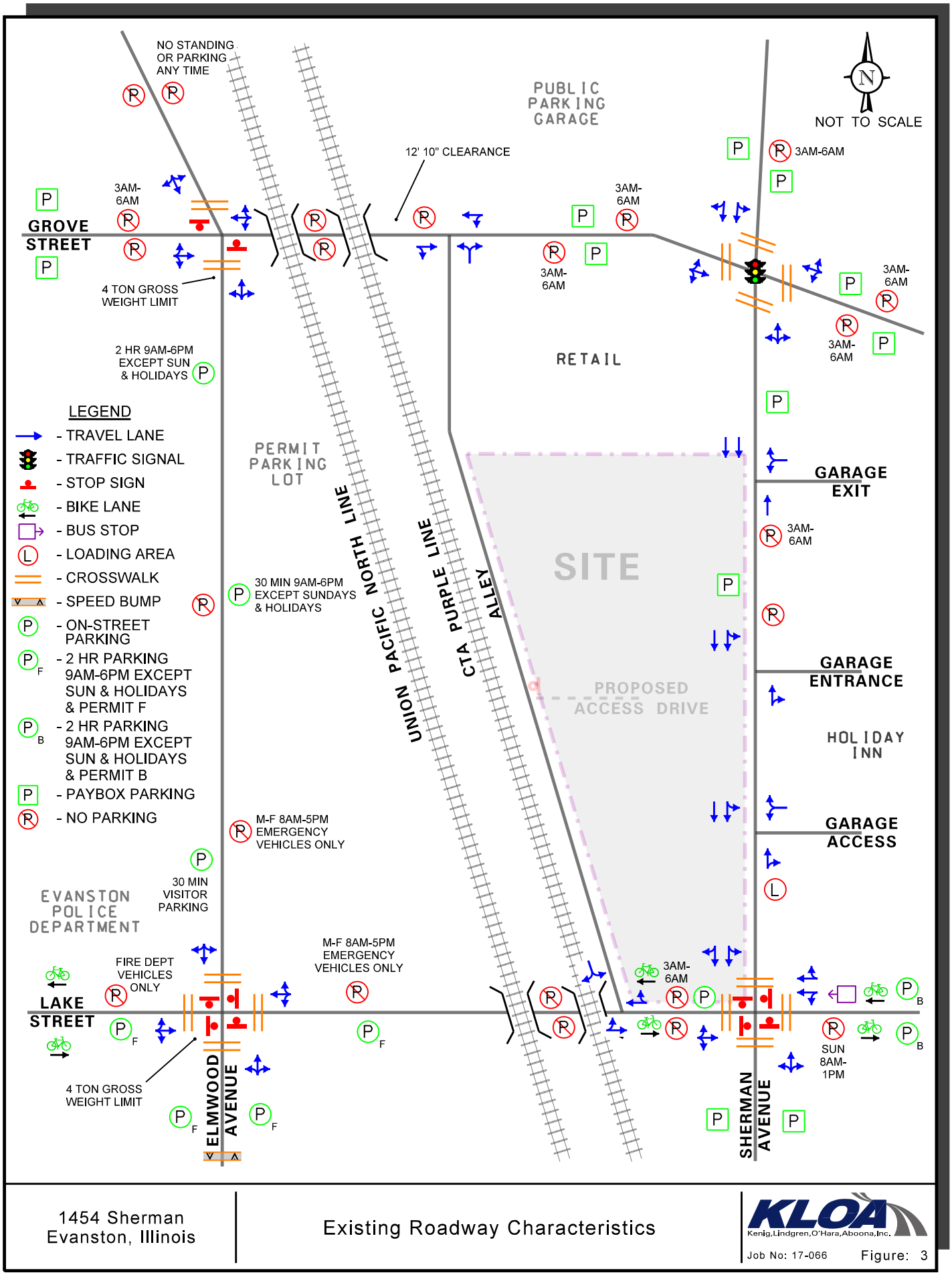
Sherman Avenue is a north-south street that is signalized at its intersection with Grove Street and under all-way stop sign control at its intersection with Lake Street. Restricted parking, loading areas, and paybox parking is provided on both sides of the street. There are no exclusive left-turn lanes on Sherman Avenue between Lake Street and Grove Street.

Grove Street is a two-lane, east-west street. Paybox parking is provided on both sides of the street with time restrictions during the early morning hours. There are no exclusive left-turn lanes on Grove Street between Elmwood Avenue and Sherman Avenue.

Lake Street is a two-lane, east-west street that provides an established bicycle lane for both directions of travel. Restricted/permit parking is available on both sides of the street.

Elmwood Avenue is a north-south, two-lane street that has restricted parking on both sides of the street.

Public Alley is an approximate 14-foot wide alley that is located between Grove Street to the north and Lake Street to the south, providing delivery/refuse access to the developments fronting Sherman Avenue. In conjunction with this development, the public alley is proposed to have a one-way northbound orientation to mitigate the limited sightlines at Lake Street for exiting traffic, as well as to improve the traffic flow with the estimated increase in vehicle and truck traffic. Further, the alley will be 16 feet wide across the site frontage.



1454 Sherman
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Existing Roadway Characteristics

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Job No: 17-066 Figure: 3

Alternative Modes of Transportation

Accessibility to and from the area is enhanced by the various alternative modes of transportation serving the area including the following.

- CTA Davis Street Purple Line Station – located approximately 7 minutes walking distance to the north of the proposed development
- CTA Dempster Street Purple Line Station – located approximately 4 minutes walking distance to the south of the proposed development
- Metra Rail Davis Street UP-North Line Station – located approximately 7 minutes walking distance to the north of the proposed development
- CTA Bus Routes 201 and 205 in the vicinity of the site

Pedestrian Facilities

Sidewalks are provided on the entire surrounding street network. Standard crosswalks are provided at all of the study intersections. High-visibility crosswalks are recommended at the intersections of Sherman Avenue with Grove Street and Lake Street.

The signalized intersection of Sherman Avenue and Grove Street should be improved to include countdown pedestrian signals on all four legs of the intersection.

Bicycle Facilities

It is important to note that the surrounding streets are within a public transit-oriented area, which naturally promotes and encourages pedestrian and bicycle activity. As noted, there is an established bicycle lane for both directions of travel on Lake Street.

Mode-Sharing Transportation Availability

The proposed development will provide two car-sharing spaces. Based on the ZipCar website, each shared car removes approximately 15 personal vehicles from the road.

Car-sharing vehicle sites are also available within walking distance of the site, including the car sharing station located at 1603 Orrington.

Also, there are approximately 10 bicycle sharing (e.g. Divvy) stations in the City of Evanston, with the closest at the intersection of Benson Avenue and Church Street. Further, bicycle racks are located at major retail and residential developments within the

surrounding area of the proposed development. Lastly, the proposed development will provide bicycle racks to the general public on Sherman Avenue, as well as a secured bicycle storage room for the residents of the site.

Census data shows that over 50 percent of residents in the area use alternative modes of transportation and do not drive to/from work. Further, the Census data shows that 52 percent of the residents renting in the area do not own a vehicle. Therefore, the alternative modes of transportation serving the area has resulted in a significant reduction in the traffic generated by area residential developments, particularly during the critical weekday morning and evening commuter peak periods.

Existing Traffic Volumes

Turning movement vehicle, pedestrian, and bicycle traffic counts were conducted on Thursday, March 9, 2017 during the morning (7:00 to 9:00 A.M.) and the evening (4:00 to 6:00 P.M.) peak commuting periods of traffic at the following six intersections.

- Sherman Avenue and Grove Street (signalized)
- Sherman Avenue and Lake Street (all-way stop sign)
- Public Alley and Grove Street (unsignalized)
- Public Alley and Lake Street (unsignalized)
- Elmwood Avenue and Grove Street (unsignalized)
- Elmwood Avenue and Lake Street (all-way stop sign)

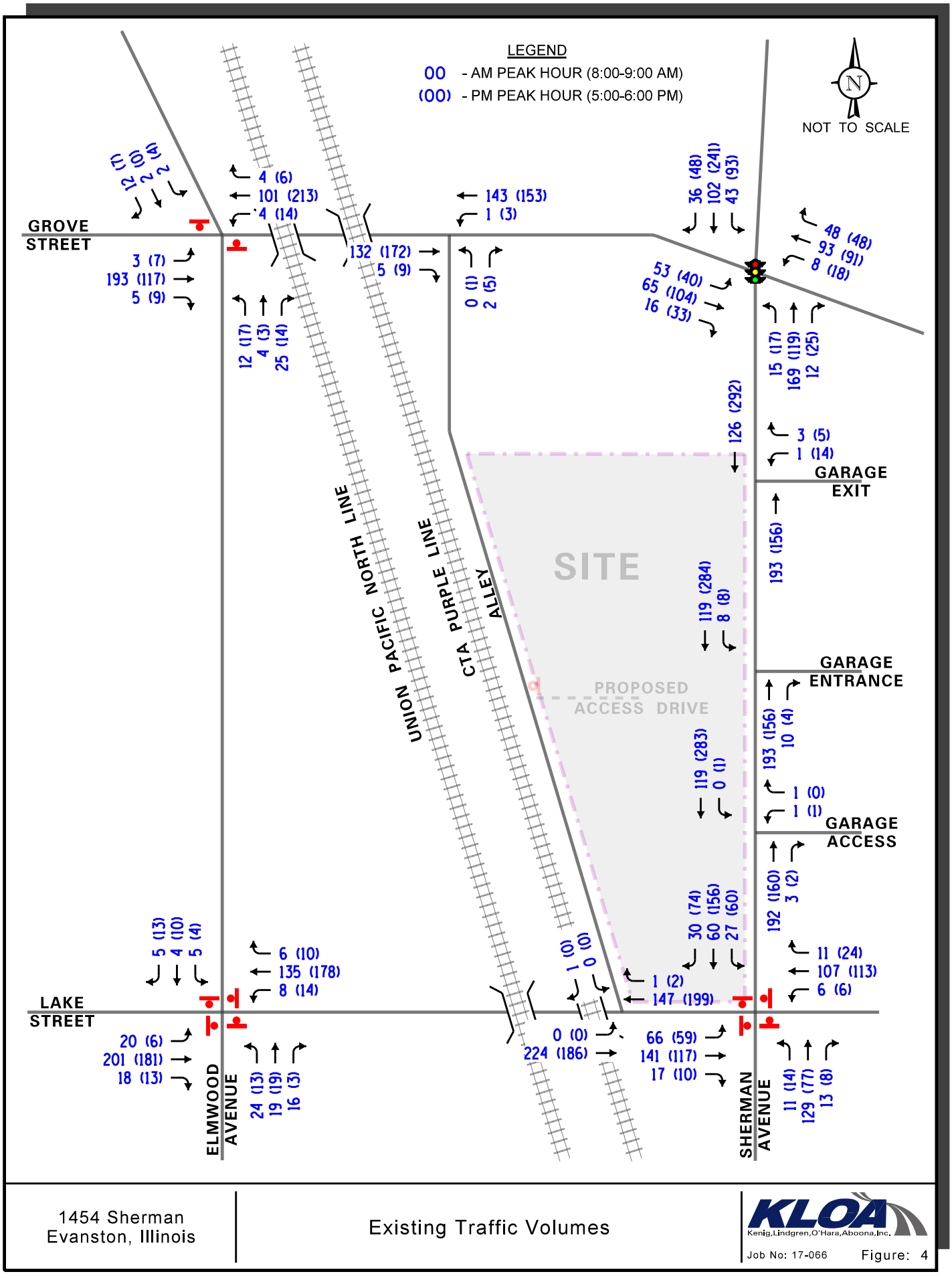
The public alley counts were conducted on Thursday, July 20, 2017. Further, the three access drives on the east side of Sherman Avenue, opposite the site frontage were also counted.

From this data, the weekday morning peak hour generally occurs between 8:00 and 9:00 A.M. and the weekday evening peak hour generally occurs between 5:00 and 6:00 P.M. These two respective peak hours will be used for the traffic capacity analyses and are presented later in this report.

It is important to note that the existing peak hour traffic volumes include the traffic generated by the existing retail development located on-site. These traffic volumes were not removed when projecting future traffic conditions to provide for a conservative analysis.

The existing peak hour vehicle traffic volumes are shown in **Figure 4**.

The existing peak hour pedestrian and bicycle traffic volumes are shown in **Figure 5**.



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Existing Traffic Volumes

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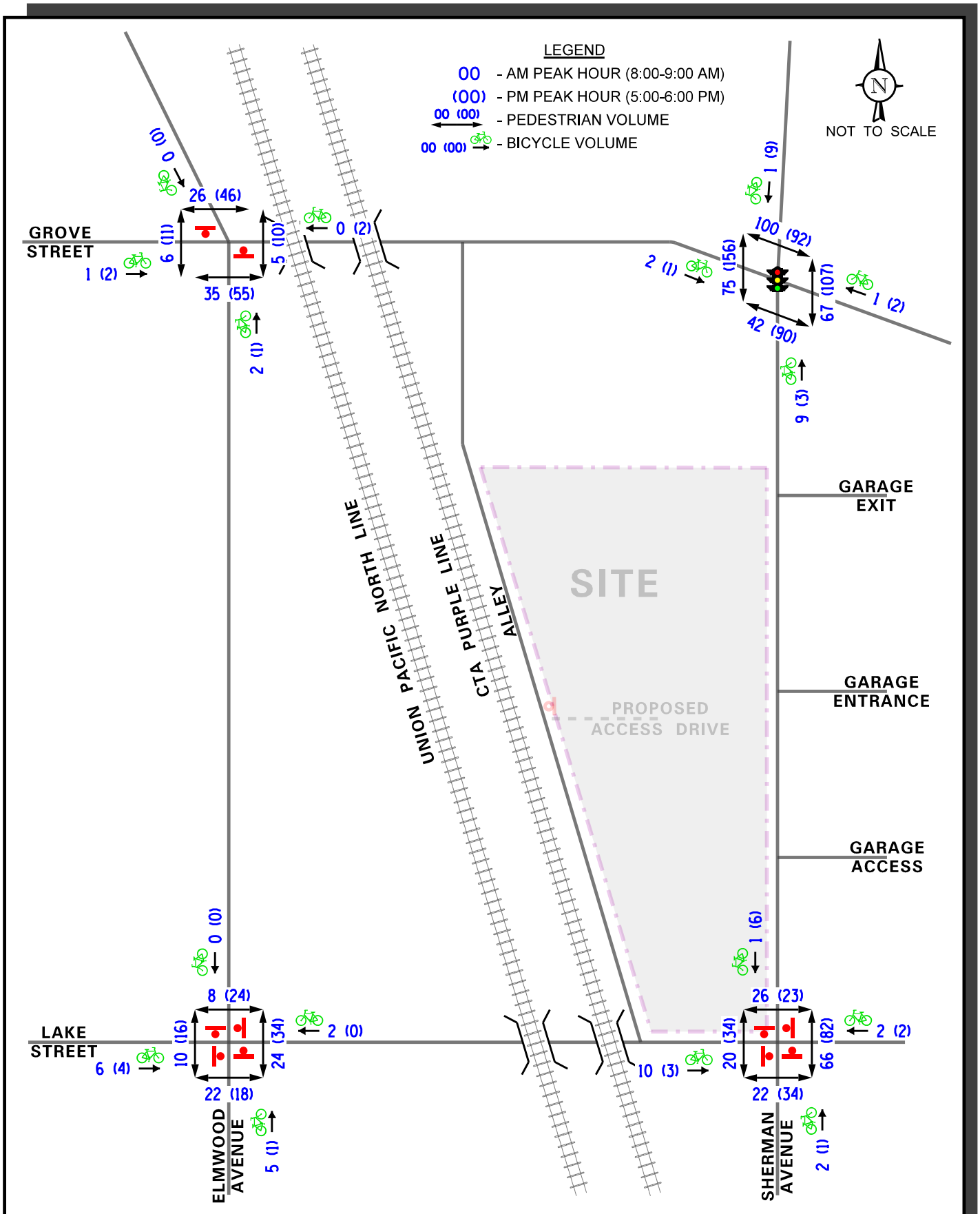

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Existing Pedestrian and Bicycle Traffic Volumes

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3. Traffic Characteristics of 1454 Sherman

To evaluate the impact of the subject development on the area street system, it was necessary to quantify the number of vehicle trips the overall site 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 site.

Proposed Site and Development Plan

The site is currently an existing retail development. The existing building will be removed in its entirety to accommodate this proposed development.

The plans call for approximately 287 apartment units on a three-level podium that will include approximately 9,600 square feet of retail space on the first/ground floor, fronting Sherman Avenue.

Parking

The three-level podium will contain a parking garage, providing a total of approximately 182 parking spaces, of which approximately 11 parking spaces on the first floor will be reserved for retail tenants, and two of those spaces will be dedicated car-sharing spaces.

A parking evaluation is provided later in this report.

Vehicle Access to the Development

The existing retail development has a single access driveway on Sherman Avenue. This access drive will be removed. The subject development proposes a single access driveway off the public alley to provide access to the ground floor parking, as well as access the secured residential garage on the upper levels. The access will provide one lane inbound and one lane outbound under stop sign control. In conjunction with this development, the public alley is proposed to have a one-way northbound orientation.

Residential Pick-up/Drop-off

A residential pick-up/drop-off area will be located on the west side of Sherman Avenue along the site frontage for the pick-up/drop-off of residents. The area will accommodate a maximum of two vehicles.

Loading/Refuse Access

Three loading dock areas for trucks serving both the residents and the commercial space will be provided off the public alley. The refuse will be located off the public alley as well. It is expected that all trucks will access the alley from Lake Street, proceed north and pull in to the respective loading docks areas. When departing, the trucks will reverse from the loading dock area and then pull forward to exit onto Grove Street to the north.

Pedestrian Access to the Development

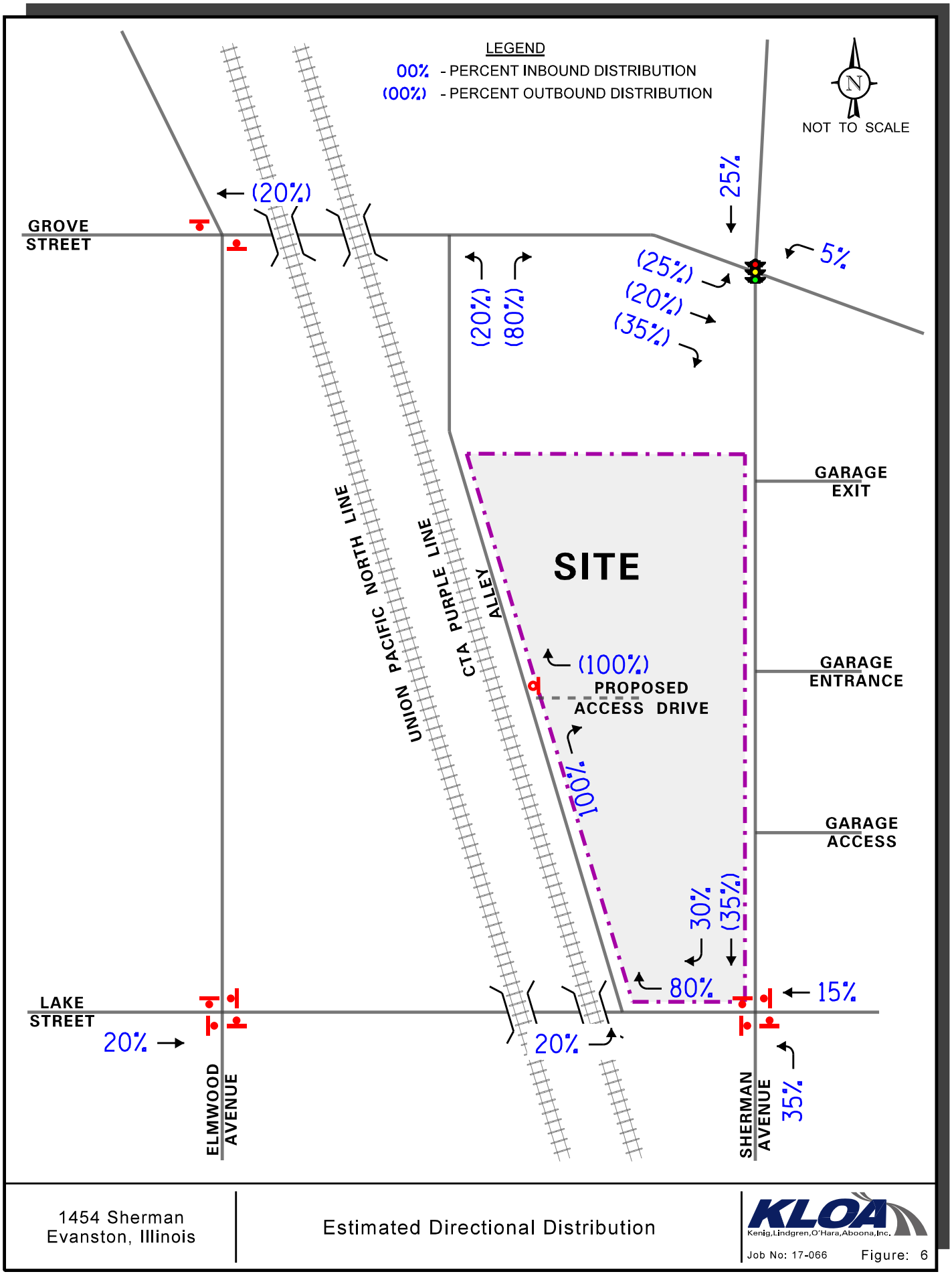
The main pedestrian entrance/lobby to the apartments and to the retail space will be from Sherman Avenue.

Bicycle Storage

A bicycle storage room for the residents will be located on the ground level and will provide 287 bicycle spaces (1 bicycle to 1 dwelling unit ratio), thereby satisfying and exceeding the City of Evanston's required ratio of one bicycle space per 1.5 dwelling units. Providing this bicycle storage room will further increase the incentive to commute via bicycling rather than driving or owning a vehicle.

Directional Distribution of Development Traffic

The directional distribution of how development traffic will approach and depart the site was estimated based on a combination of existing travel patterns and the orientation and physical restrictions of the surrounding street system. The estimated directional distribution for the proposed development was established and is illustrated in **Figure 6**.



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Estimated Directional Distribution

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Development 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, 9th Edition*. However, the ITE trip rates are based on suburban rates where the primary mode of transportation is the automobile. Given the Census data noted earlier, the location of the development within a dense, urban area and its proximity to alternative modes of transportation, the trip rates provided in the Trip Generation Manual were reduced by 50 percent.

Table 1 tabulates the total trips anticipated from this proposed development for the weekday morning and weekday evening peak hours. It is important to note that the existing traffic volumes captured traffic being generated by the existing retail/commercial uses on the subject development site, but were not discounted. As such, adding the projected retail trip generation vehicles to the existing peak hour volumes represents a conservative study.

Development Traffic Assignment

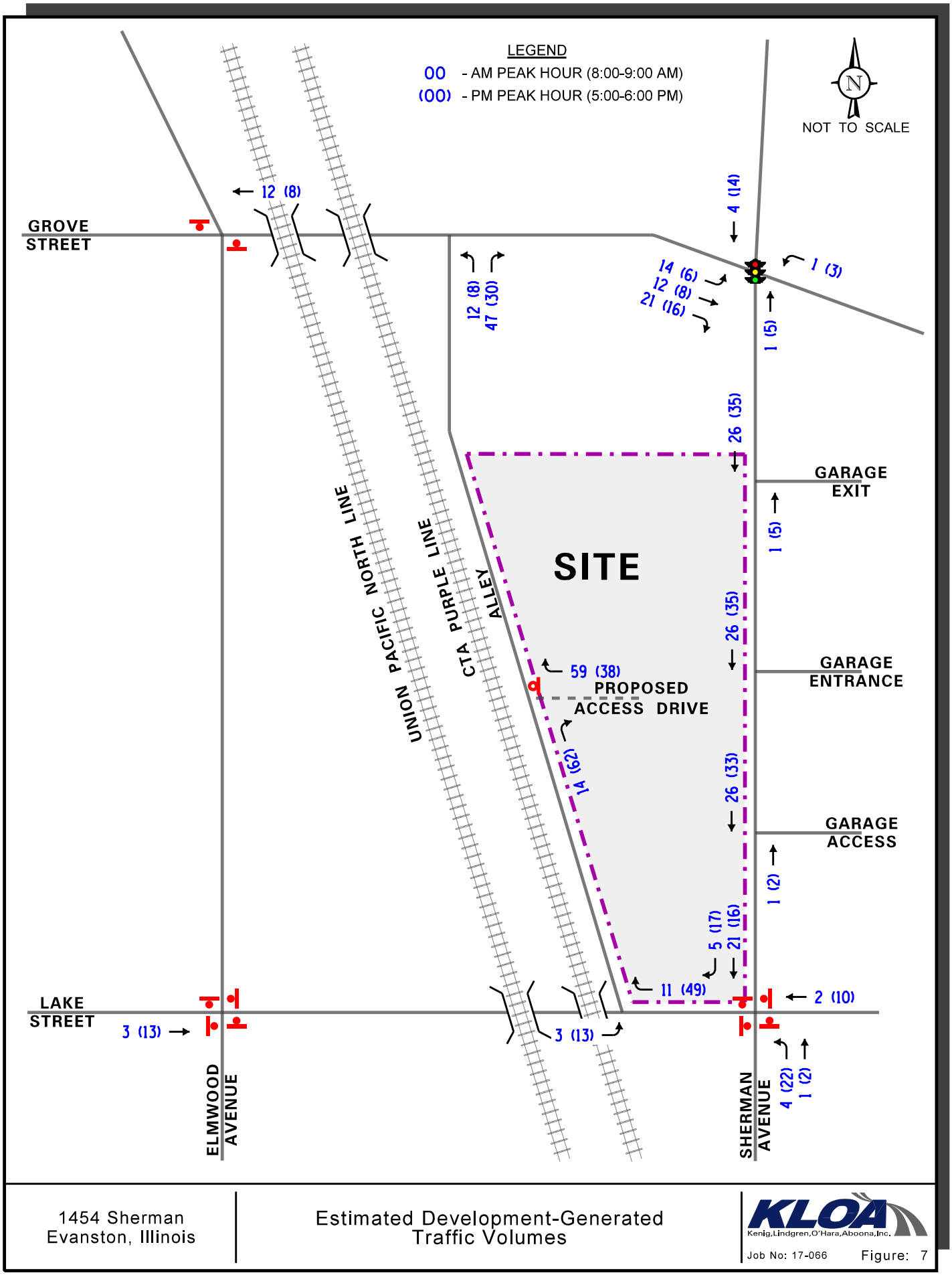
The peak hour traffic volumes projected to be generated by the proposed development (refer to Table 1) were assigned to the area streets based on the directional distribution analysis (Figure 6). **Figure 7** shows the assignment of the development-generated traffic volumes.

It is important to note that a portion of the retail traffic was assigned to the Sherman Avenue area since the retail traffic will primarily utilize the on-street parking in the area rather than access the parking garage from the public alley.

Table 1
ESTIMATED DEVELOPMENT-GENERATED TRAFFIC VOLUMES

ITE Land-Use Code	Type/Size	Weekday A.M. Peak Hour In	Weekday A.M. Peak Hour Out	Weekday P.M. Peak Hour In	Weekday P.M. Peak Hour Out	Weekday Two-Way Traffic
220	Apartments 287 units	30	120	118	64	1,805
	Less 50% Reduction[1]:	*-16*	*-62*	*-61*	*-33*	*-939*
	Total Residential Trips:	**14**	**58**	**57**	**31**	**866**
826	Retail 9,600 s.f.	3	4	20	25	465
	Less 50% Reduction[1]:	*-2*	*-2*	*-11*	*-13*	*-242*
	Total Retail Trips:	**1**	**2**	**9**	**12**	**223**
	Total Development Trips:	**15**	**60**	**66**	**43**	**1,089**

[1]Based on Census data that over 50 percent of residents either do not own a vehicle or use alternative modes of transportation to commute.



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Estimated Development-Generated
Traffic Volumes

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4. Total Projected Traffic Conditions

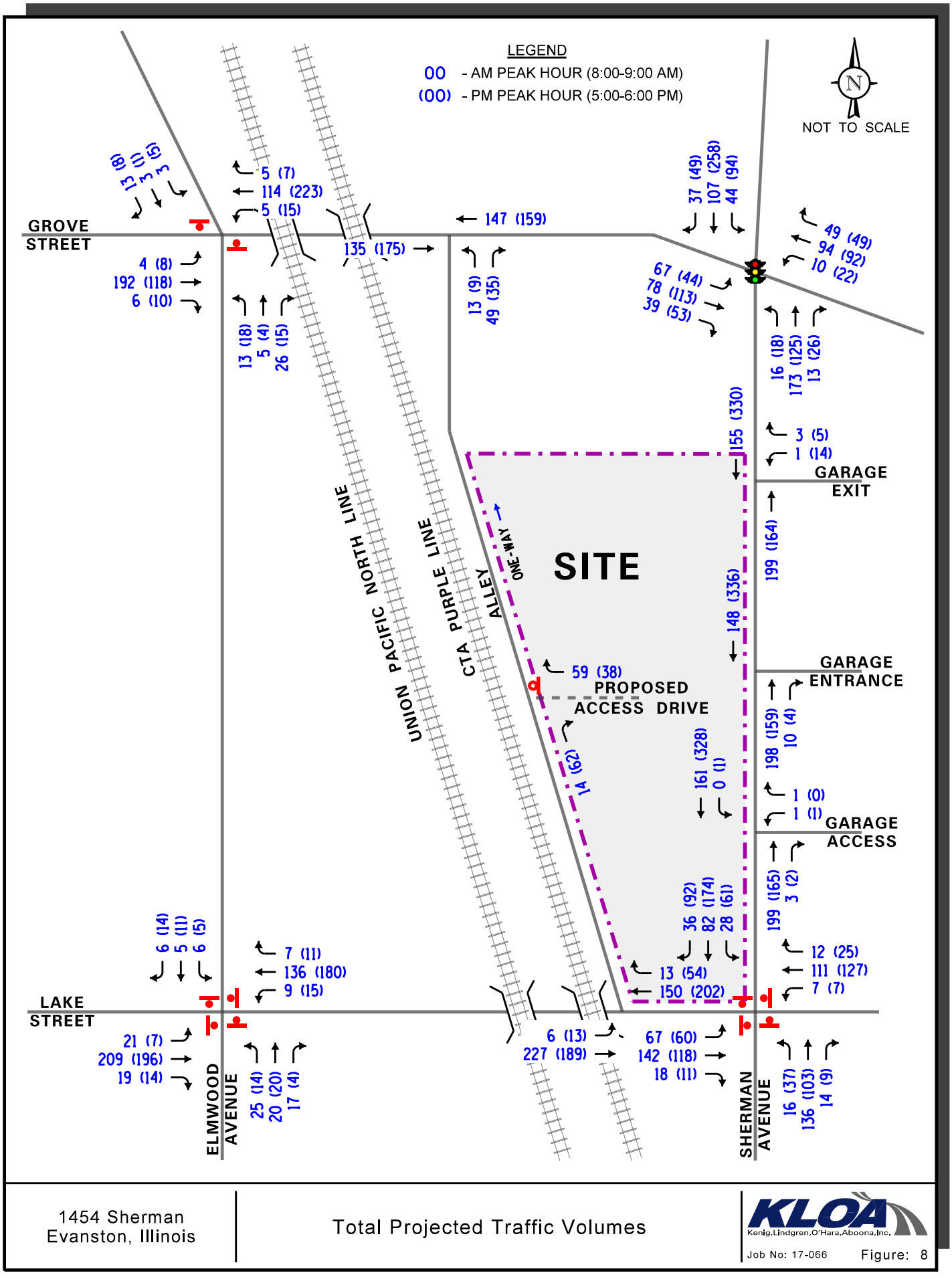
The total projected traffic volumes include the existing traffic volumes, traffic estimated to be generated by regional growth in the area, and the traffic estimated to be generated by the proposed subject development.

Regional Growth in Traffic

To account for the increase in existing traffic related to regional growth in the area (i.e. not attributable to any particular planned development) for Year 2019 conditions, the existing traffic volumes were increased by a total of one percent. This percentage increase is based on population forecasts provided by the Chicago Metropolitan Agency for Planning (CMAP) in the Goto 2040 projection spreadsheet dated October 11, 2014 that is located on the CMAP website.

Total Projected Traffic Volumes

Total projected traffic volumes include the existing traffic volumes increased by a regional growth factor of one percent, and the traffic estimated to be generated by the proposed subject development (refer to Figure 7). **Figure 8** shows the total projected traffic volumes.



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Total Projected Traffic Volumes

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5. Traffic Analysis and Recommendations

Capacity analyses were performed for the key intersections included in the study area to determine the ability of the existing street system to accommodate existing and future traffic demands. Traffic capacity analyses were performed for the existing and total projected peak hour traffic conditions.

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

The analyses for the traffic-signal controlled intersection of Sherman Avenue and Grove Street were accomplished using existing signal timing data provided by the City of Evanston to determine the average overall vehicle delay, volume-to-capacity ratios, and levels of service.

The analysis for the unsignalized intersections determines the average control delay to vehicles stopped 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 grade from A to F based on the average control delay experienced by vehicles passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Level of Service A is the highest grade (best traffic flow and least delay), Level of Service E represents saturated or at-capacity conditions, and Level of Service F is the lowest grade (oversaturated conditions, extensive delays).

The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections are shown in **Table 2**. A summary of the level of service/delay results for both existing and future conditions are presented in **Table 3** and **Table 4**, respectively.

A discussion of the intersections and recommendations follows.

Table 2
LEVEL OF SERVICE CRITERIA

Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0 - 10
B	> 10 - 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Signalized Intersections

Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤ 10
B	Good progression, with more vehicles stopping than for Level of Service A.	> 10 - 20
C	Individual cycle failures (i.e. one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	> 20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	> 35 – 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	> 55 – 80
F	The volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	> 80

Source: *Highway Capacity Manual, 2010*.

Table 3
CAPACITY ANALYSES RESULTS—EXISTING CONDITIONS

Intersection	Weekday A.M. Peak Hour LOS – Delay	Weekday P.M. Peak Hour LOS – Delay
Grove Street and Sherman Avenue (signal)	B – 12.4	B – 12.8
Lake Street and Sherman Avenue (all-way stop sign)	B – 10.4	B – 10.2
Public Alley and Grove Street (unsignalized)	NBA: A – 9.0	NBA: A – 9.5
Public Alley and Lake Street (unsignalized)	SBA: A – 9.1	SBA: A – 9.4
Lake Street and Elmwood Avenue (all-way stop sign)	A – 8.9	A – 8.8
Grove Street and Elmwood Avenue (stop sign)	NBA: B – 11.3 SBA: A – 9.9	NBA: A – 8.3 SBA: A – 7.9

LOS = Level of Service
Delay is measured in seconds.
NBA = Northbound approach.
SBA = Southbound approach.

Table 4
CAPACITY ANALYSES RESULTS—FUTURE CONDITIONS

Intersection	Weekday A.M. Peak Hour LOS – Delay	Weekday P.M. Peak Hour LOS – Delay
Grove Street and Sherman Avenue (signal)	B – 13.2	B – 13.3
Lake Street and Sherman Avenue (all-way stop sign)	B – 10.7	B – 11.1
Public Alley and Grove Street (unsignalized)	NBA: A – 9.6	NBA: A – 9.8
Public Alley and Lake Street (unsignalized)[1]	N/A	N/A
Lake Street and Elmwood Avenue (all-way stop sign)	A – 9.0	A – 9.0
Grove Street and Elmwood Avenue (stop sign)	NBA: B – 11.5 SBA: B – 10.3	NBA: B – 12.8 SBA: B – 11.9

LOS = Level of Service
Delay is measured in seconds.
NBA = Northbound approach.
SBA = Southbound approach.
[1]Public alley assumed to have one-way northbound orientation.

Discussion and Recommendations

The results of the capacity analyses show that with the addition of the development traffic and the increase in existing traffic due to regional growth, all of the intersections are projected to continue to operate at generally the same good levels of service (LOS). The following is a discussion of each analyzed intersection.

Grove Street and Sherman Avenue

The traffic capacity analyses show that this signalized intersection is currently operating at an acceptable Level of Service (LOS) and will maintain this acceptable LOS under future conditions. Consideration should be given to restriping the existing crosswalks to high-visibility and providing countdown pedestrian signals on all four legs of the intersection. No further street or traffic control improvements are recommended at this intersection in conjunction with the proposed development.

Lake Street and Sherman Avenue

The traffic capacity analyses show that this all-way stop sign controlled intersection is currently operating at an acceptable LOS and will maintain this acceptable LOS under future conditions. High-visibility crosswalks are recommended on all four legs of the intersection. No street or traffic control improvements are recommended at this intersection in conjunction with the proposed development.

Public Alley and Grove Street

This intersection will continue to operate at an acceptable LOS. As noted, the public alley is proposed to have a one-way northbound orientation to mitigate the limited sightlines at Lake Street for exiting traffic, as well as to improve the traffic flow with the estimated increase in vehicle and truck traffic. As such, this intersection will only have outbound turning movements from the public alley onto Grove Street, thereby reducing the number of turning movements at this intersection. Do Not Enter signs should be posted facing Grove Street to deter opposing vehicles from entering the one-way northbound orientation. Outbound movements should be under stop sign control.

Public Alley and Lake Street

As noted, the public alley is proposed to have a one-way northbound orientation to mitigate the limited sightlines at Lake Street for exiting traffic. As such, this intersection will only have inbound turning movements from Lake Street onto the public alley, thereby reducing the number of turning movements at this intersection. A high-visibility or textured crosswalk is recommended across the alley.

Lake Street and Elmwood Avenue

The traffic capacity analyses show that this all-way stop sign controlled intersection is currently operating at an acceptable LOS and will maintain this acceptable LOS under future conditions. No further street or traffic control improvements are recommended at this intersection in conjunction with the proposed development.

Grove Street and Elmwood Avenue

The traffic capacity analyses show that this intersection is currently operating at an acceptable LOS and will maintain this acceptable LOS under future conditions. No further street or traffic control improvements are recommended at this intersection in conjunction with the proposed development.

Garage Access

- The garage access drive is proposed to be located off the public alley.
- The alley will be 16 feet wide across the site frontage.
- There may be a gain in on-street parking on the west side of Sherman Avenue since the existing access driveway that serves the existing surface parking lot will be removed.
- The public alley will be signed to have a one-way northbound orientation.
- The access will provide one lane inbound and one lane outbound under stop sign control. Because of the one-way northbound orientation proposed for the public alley, turning movements will be limited to right-turn in/right-turn out only. One-way signage should be posted at the garage exit to enforce the one-way northbound orientation. Autoturn movements showing vehicles entering and exiting the parking garage are included in the Appendix of this report.

Residential Pick-up/Drop-off

A residential pick-up/drop-off area will be located on the west side of Sherman Avenue along the site frontage for the pick-up/drop-off of residents. The area will accommodate a maximum of two vehicles.

Loading/Refuse Access

Three loading docks for the shared use of the residential and retail uses will be located off the public alley on the west face of the building. The refuse will be located off the public alley as well. It is expected that all trucks will enter the public alley from Lake Street and proceed north to the loading dock area. Upon exiting, the truck will proceed north on the public alley and exit onto Grove Street. Autoturn movements showing trucks accessing the loading areas are included in the Appendix of this report.

Pedestrian and Vehicle Circulation Enhancements

To improve pedestrian mobility and vehicle circulation along the public alley, the following improvements are proposed. **Figure 9** illustrates these proposed enhancements.

Lake Street/Public Alley intersection

- Post "Begin One-Way Northbound signage"
- Post "Watch for Pedestrians" signage for traffic on Lake Street entering alley
- Provide a high-visibility or textured crosswalk across the alley

Grove Street/Public Alley intersection

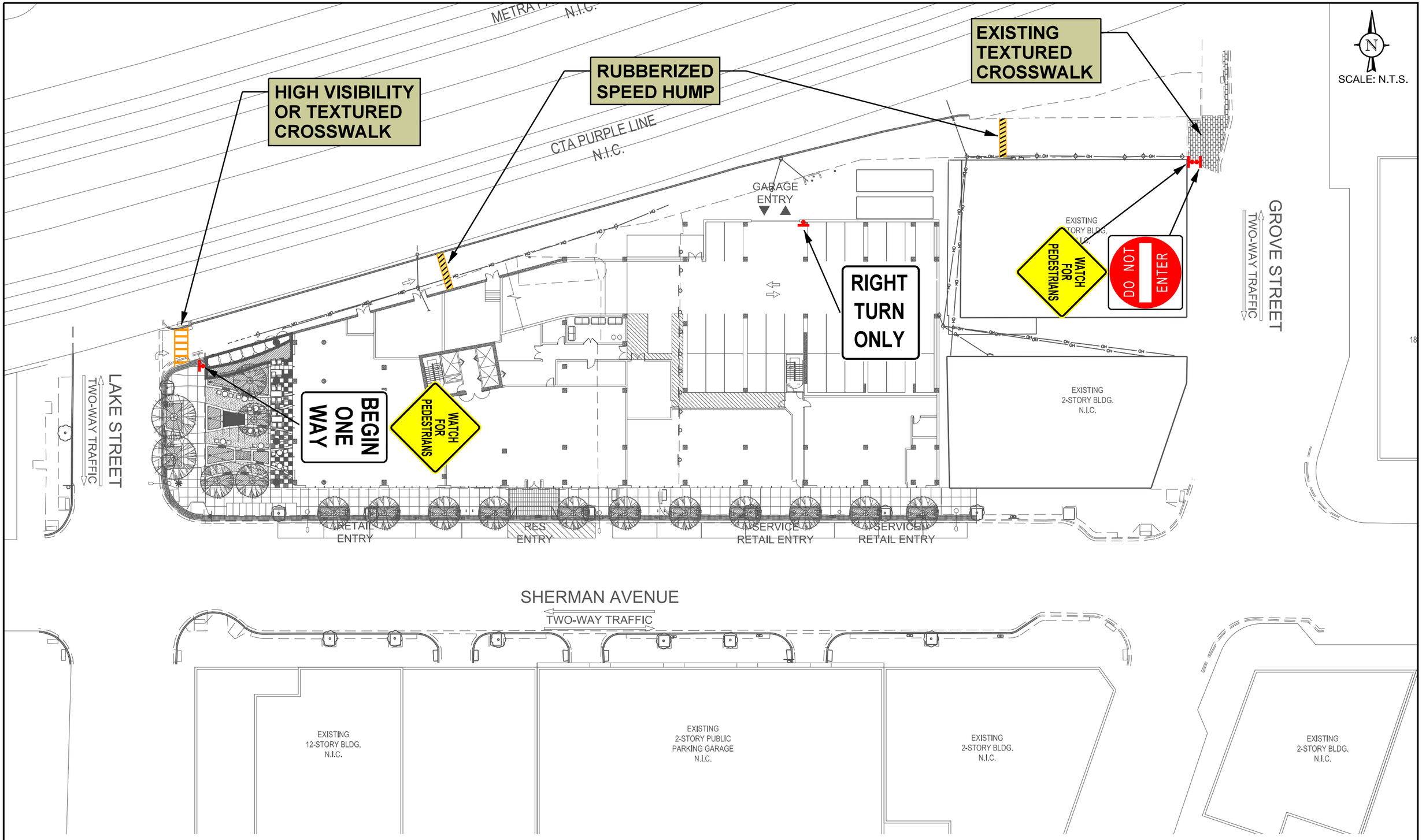
- Post "Do Not Enter" signage facing Grove Avenue
- Post "Watch for Pedestrians" signage for alley traffic approaching Grove Street
- There is an existing textured crosswalk across the alley

Garage Access

- Post right-turn only signage at the garage exit to reinforce the one-way northbound orientation of the alley.

Public Alley

- Public alley should have a one-way northbound orientation between Lake Street and Grove Street.
- Rubberized speed humps should be considered along the alley for speed calming.



1454 SHERMAN
MIXED-USE DEVELOPMENT
EVANSTON, ILLINOIS

PEDESTRIAN AND VEHICLE CIRCULATION ENHANCEMENTS FOR PUBLIC ALLEY

DRAWN: MD CHECKED: WW
DATE: 08-03-2017 REV:
PROJECT # 17-066
FIGURE: 9

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

Parking

The development will provide a total of approximately 182 parking spaces, at a parking ratio of 0.63 spaces per unit. Approximately 11 parking spaces on the first floor will be reserved for retail tenant use during the day, and two of those spaces will be dedicated car-sharing spaces.

The on-site parking supply (0.63 parking ratio) considers the following.

- The development is a transit-oriented development (TOD) and is located in the city's transit-oriented downtown development district. TOD districts are urban environments which promote pedestrian mobility and interactivity with convenient and nearby goods and services without requiring the use of an automobile.

- Census tract data shows that 52 percent of renter households in the area do not own a vehicle.

- Further, the Census tract data for renter households with two or more bedrooms shows that 50 percent of the households own vehicles. Therefore, the proposed 0.63 parking ratio is consistent with the residential and vehicle ownership characteristics of the area.

- Two car-sharing stations are proposed to be located within the garage, and are also located in proximity to the site. This will further encourage residents to not own a vehicle. Information provided by ZipCar states that one shared car removes approximately 15 private vehicles from the street system.

- The E2 residential development, located at 1890 Maple Avenue, provides a parking supply of 1.0 (353 parking spaces for 353 rental units). The peak garage parking occupancy was determined to be 45 percent. As such, there are over 190 parking spaces available at any given time.

- Limited observations of the Holiday Inn parking garage located on the east side of Sherman Avenue across from the proposed development show a low parking occupancy.

- The Sherman Plaza parking garage is located approximately 800 feet from the proposed development and provides approximately 1,282 public parking spaces. A car count report obtained from the City of Evanston shows that over a five month period (January 2017 to May 2017) the parking garage had an average occupancy of 51 percent during the morning peak period and an average occupancy of 54 percent during the afternoon peak period. As such, on average, 500 parking spaces or more are available at any given time.

- The Maple Avenue garage (Maple Avenue and Clark Street) is located less than one-fourth of a mile from the proposed development and provides approximately 1,340 public parking spaces. A car count report obtained from the City of Evanston shows that over a five month period (January 2017 to May 2017) the parking garage had an average occupancy of 40 percent during the morning peak period and an average occupancy of 48 percent during the afternoon peak period. As such, on average, over 650 parking spaces are available at any given time. It is important to note that the garage has a slightly higher occupancy during the evenings because of the nearby theater.

- Paybox parking is provided on Sherman Avenue and on Grove Street in the vicinity of the site.

- A bicycle storage room will be provided on the ground floor, thereby further increasing the incentive to commute via bicycling rather than driving.

- Divvy bicycle stations are located in proximity to the site.

- If needed, valet parking will be provided for retail/restaurant customers. The valet service will have the option to utilize the available parking in the area including at the Holiday Inn garage and the Sherman Plaza garage.

6. Conclusion

The plans for the proposed mixed-use development, to be located at 1454 Sherman Avenue, call for approximately 287 apartment units and approximately 9,600 square-feet of retail space. The site will provide a total of approximately 182 parking spaces: Access to the development will be provided off the public alley. Based on the preceding analyses and recommendations, the following conclusions have been made.

- The proposed development is located in an urban environment which promotes pedestrian mobility and interactivity with convenient and nearby goods and services without requiring the use of an automobile.

- Accessibility to and from the development and surrounding area is enhanced by the various alternative modes of transportation serving the area, including Metra, the CTA Purple Line, bus transit, and pedestrian and bicycle amenities.

- Based on Census data, the amount of traffic typically generated by an apartment development, such as what is proposed, was reduced by 50 percent to account for resident renters in the area that do not own a vehicle, the alternative modes of transportation serving the area, and the convenience and accessibility of nearby goods and services that can easily be obtained without the use of a vehicle.

- The development-generated traffic can be accommodated without significant impact to the external street 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 the existing traffic increased by a regional growth factor to establish future conditions.

- High-visibility crosswalks should be provided at the intersections of Sherman Avenue with Lake Street and Grove Street.

- Countdown pedestrian signals should be considered at the signalized intersection of Sherman Avenue and Grove Street.

- The public alley is proposed to have a one-way northbound orientation to mitigate the limited sightlines at Lake Street for exiting traffic, as well as to improve the traffic flow with the estimated increase in vehicle and truck traffic. Do Not Enter signage should be posted at Grove Street to deter opposing vehicles from entering the one-way northbound orientation.

- The access drive to the garage ramp is proposed to be located off the public alley. There may be a gain in on-street parking on the west side of Sherman Avenue since the existing access driveway that serves the existing surface parking lot will be removed.

- The access will provide one lane inbound and one lane outbound under stop sign control. Because of the one-way northbound orientation proposed for the public alley, turning movements will be limited to right-turn in/right-turn out only. Right-turn only signage should be posted at the garage exit to enforce the one-way northbound orientation.

- Three loading docks and refuse collection will be located off the north-south public alley on the west face of the proposed building.

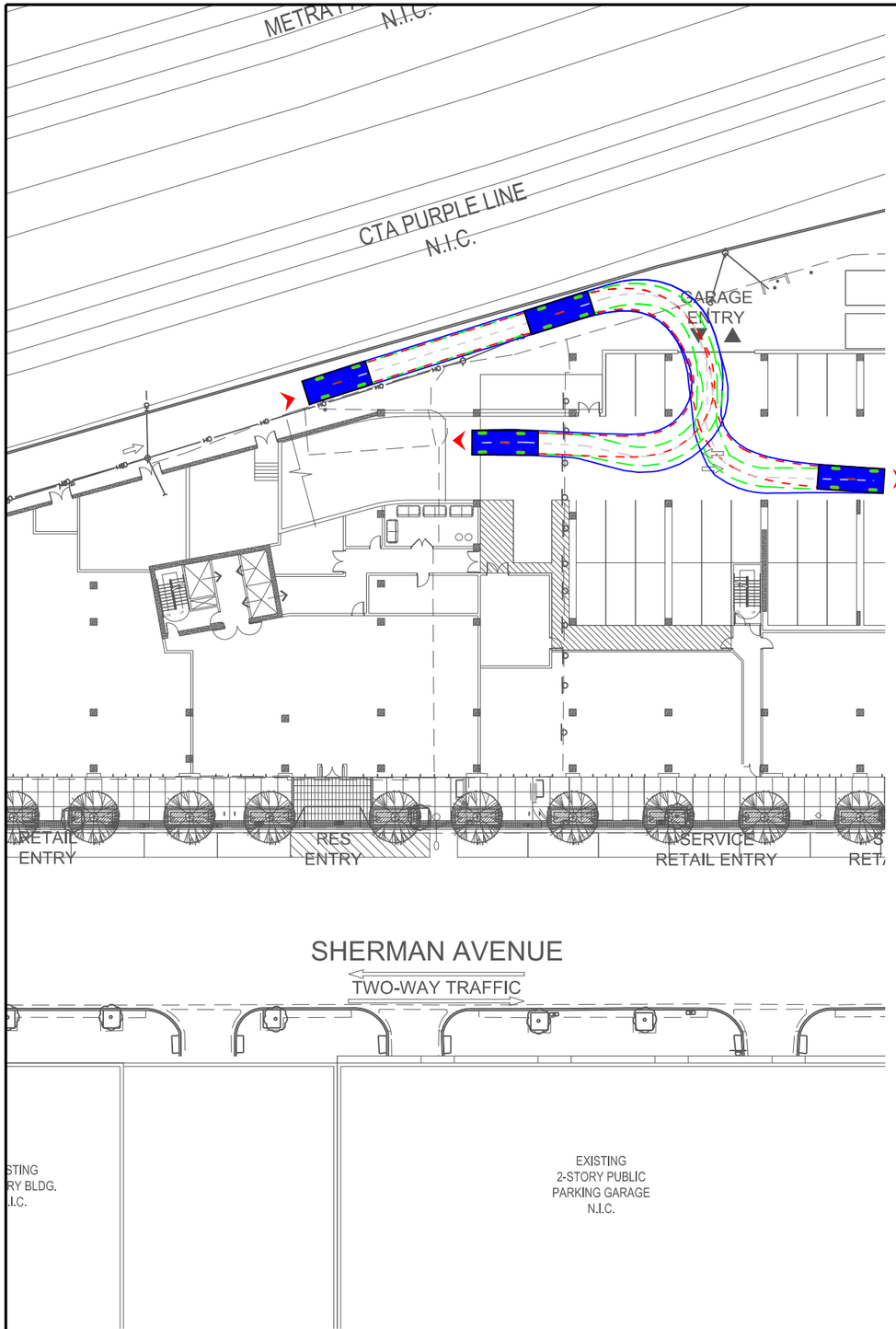
- Pedestrian and vehicle circulation enhancements such as directional and pedestrian signage, high-visibility or textured crosswalks, and speed humps should be considered.

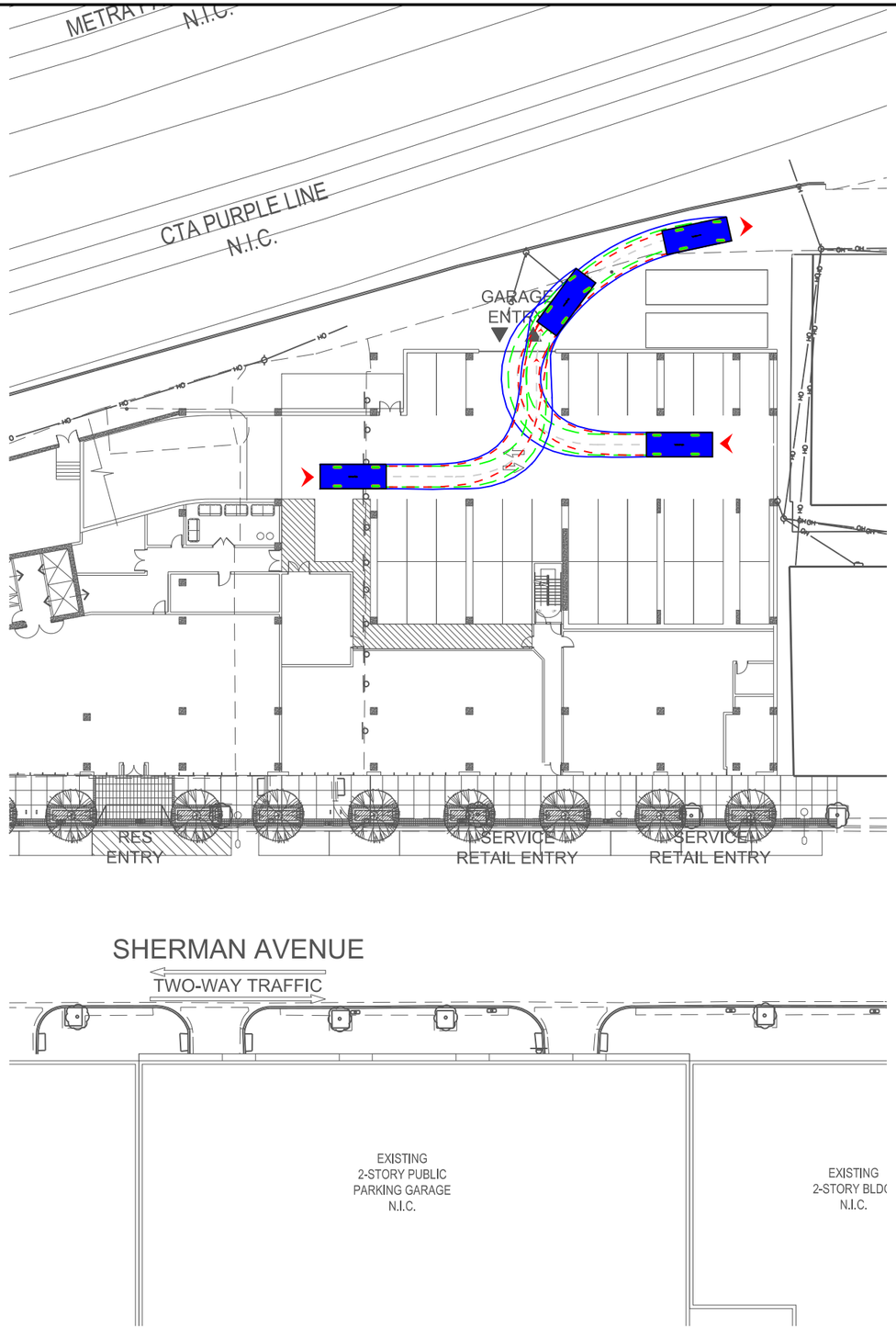
- A bicycle storage room for the residents will be located on the ground level. Providing this bicycle storage room will further increase the incentive to commute via bicycling rather than driving.

- The development will provide a total of approximately 182 parking spaces, at a parking ratio of 0.63 spaces per unit. Based on Census tract data, occupancy surveys of existing garages in the area, and that the site is designated as a transit-oriented development, the proposed 0.63 parking ratio is consistent with the residential and vehicle ownership characteristics of the area.

Appendix

Autoturns





SCALE: 1" = 40'

1454 SHERMAN
MIXED-USE DEVELOPMENT
EVANSTON, ILLINOIS

PASSENGER VEHICLE MANEUVERS

A - 3

DRAWN: MD CHECKED: LA
DATE: 07-11-2017 REV: 08-01-2017
PROJECT # 17-066
FIGURE: A

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

METRA
N.I.C.

CTA PURPLE LINE
N.I.C.

GARAGE
ENTRY

EXISTING
1-STORY BLDG.
N.I.C.

GROVE STREET
TWO-WAY TRAFFIC

EXISTING
2-STORY BLDG.
N.I.C.

LAKE STREET
TWO-WAY TRAFFIC

RETAIL
ENTRY

RES
ENTRY

SERVICE
RETAIL ENTRY

SERVICE
RETAIL ENTRY

SCALE: 1" = 40'

SHERMAN AVENUE
TWO-WAY TRAFFIC

EXISTING
12-STORY BLDG.
N.I.C.

EXISTING
2-STORY PUBLIC
PARKING GARAGE
N.I.C.

EXISTING
2-STORY BLDG.
N.I.C.

EXISTING
2-STORY BLDG.
N.I.C.

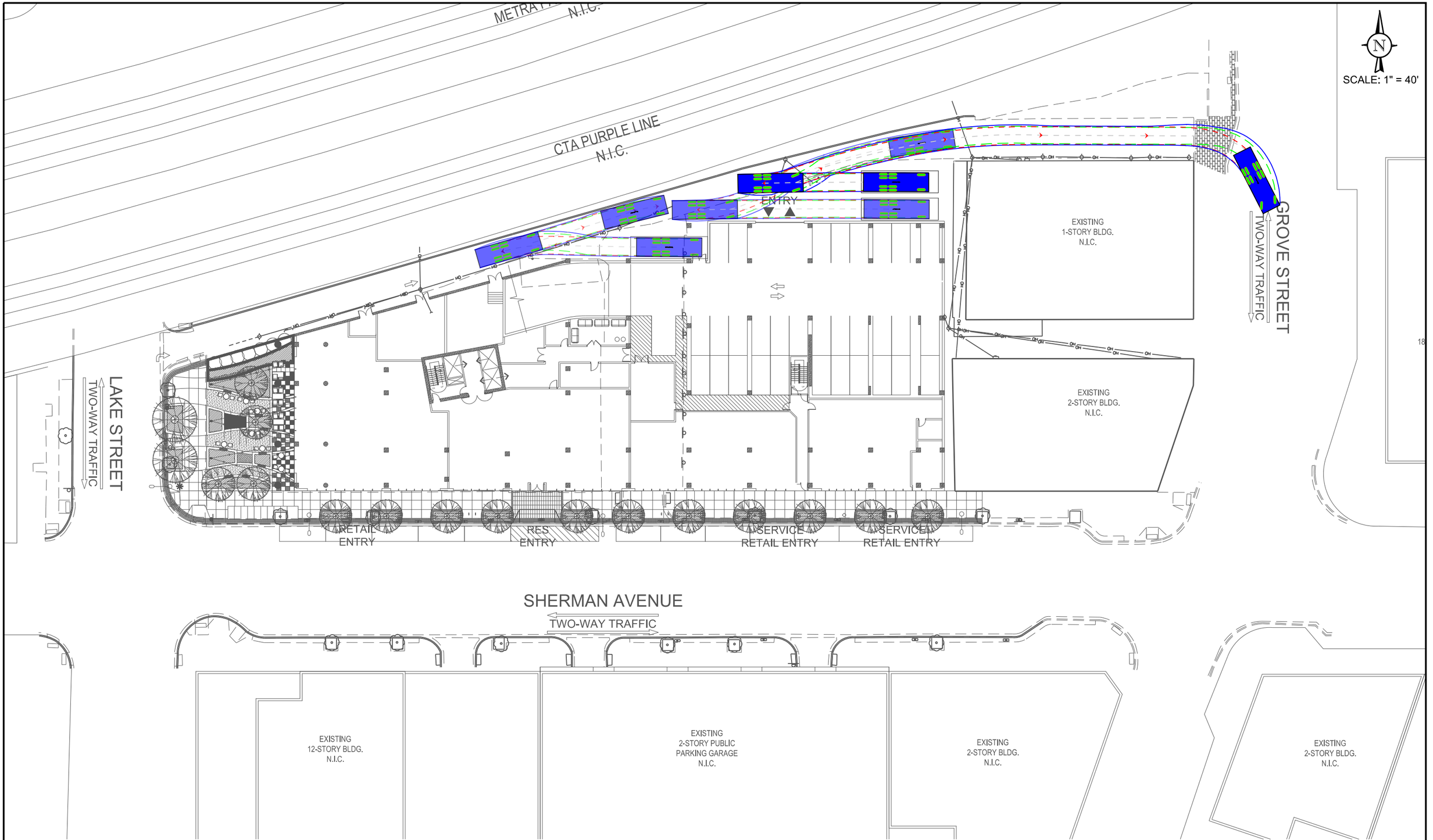
1454 SHERMAN
MIXED-USE DEVELOPMENT
EVANSTON, ILLINOIS

TRUCK MANEUVERS INBOUND

A - 4

DRAWN: MD CHECKED: LA
DATE: 07-11-2017 REV: 08-01-2017
PROJECT # 17-066
FIGURE: B

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



1454 SHERMAN
MIXED-USE DEVELOPMENT
EVANSTON, ILLINOIS

TRUCK MANEUVERS OUTBOUND

A - 5

DRAWN: MD CHECKED: LA
DATE: 07-11-2017 REV: 08-01-2017
PROJECT # 17-066
FIGURE: C

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

Traffic Counts

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

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

Count Name: Grove/Sherman
Site Code:
Start Date: 03/09/2017
Page No: 1

Turning Movement Data

Start Time	Grove Street Eastbound						Grove Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	3	12	2	6	17	0	0	10	1	2	11	0	2	16	1	0	19	0	8	17	9	7	34	81
7:15 AM	0	10	15	2	9	27	0	2	11	5	8	18	0	1	27	0	4	28	0	6	18	2	11	26	99
7:30 AM	0	12	14	3	5	29	0	1	10	6	12	17	0	3	33	0	6	36	0	4	16	6	13	26	108
7:45 AM	0	15	7	0	16	22	0	1	14	5	17	20	0	5	42	6	7	53	0	8	19	5	23	32	127
Hourly Total	0	40	48	7	36	95	0	4	45	17	39	66	0	11	118	7	17	136	0	26	70	22	54	118	415
8:00 AM	0	13	14	1	19	28	0	3	25	5	17	33	0	3	41	3	8	47	0	6	24	7	18	37	145
8:15 AM	0	16	15	5	19	36	0	1	22	11	13	34	0	7	52	3	11	62	0	12	26	4	35	42	174
8:30 AM	0	18	13	4	19	35	0	2	22	21	21	45	0	2	43	2	13	47	0	12	24	15	25	51	178
8:45 AM	0	7	24	6	18	37	0	2	24	12	16	38	0	3	42	4	10	49	0	13	29	10	22	52	176
Hourly Total	0	54	66	16	75	136	0	8	93	49	67	150	0	15	178	12	42	205	0	43	103	36	100	182	673
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	8	24	4	18	36	0	2	4	11	30	17	0	5	23	4	14	32	0	18	60	11	20	89	174
4:15 PM	0	4	22	11	11	37	0	2	11	8	20	21	0	3	26	6	17	35	0	14	46	12	13	72	165
4:30 PM	0	6	24	9	27	39	0	3	22	9	29	34	0	1	26	5	10	32	0	16	36	16	20	68	173
4:45 PM	0	12	17	7	36	36	0	1	23	12	25	36	1	3	28	3	10	35	0	17	44	12	25	73	180
Hourly Total	0	30	87	31	92	148	0	8	60	40	104	108	1	12	103	18	51	134	0	65	186	51	78	302	692
5:00 PM	0	8	28	9	50	45	0	4	26	15	30	45	0	3	22	11	22	36	0	28	64	11	43	103	229
5:15 PM	0	13	25	6	39	44	0	6	26	9	29	41	0	8	38	4	18	50	1	23	65	10	22	99	234
5:30 PM	0	6	35	10	34	51	0	5	14	8	18	27	0	3	33	9	24	45	0	19	59	13	12	91	214
5:45 PM	0	13	17	8	33	38	0	5	25	16	30	46	0	3	28	2	26	33	1	25	58	14	15	98	215
Hourly Total	0	40	105	33	156	178	0	20	91	48	107	159	0	17	121	26	90	164	2	95	246	48	92	391	892
Grand Total	0	164	306	87	359	557	0	40	289	154	317	483	1	55	520	63	200	639	2	229	605	157	324	993	2672
Approach %	0.0	29.4	54.9	15.6	-	-	0.0	8.3	59.8	31.9	-	-	0.2	8.6	81.4	9.9	-	-	0.2	23.1	60.9	15.8	-	-	-
Total %	0.0	6.1	11.5	3.3	-	20.8	0.0	1.5	10.8	5.8	-	18.1	0.0	2.1	19.5	2.4	-	23.9	0.1	8.6	22.6	5.9	-	37.2	-
Lights	0	156	296	84	-	536	0	37	278	150	-	465	1	54	500	61	-	616	1	218	578	153	-	950	2567
% Lights	-	95.1	96.7	96.6	-	96.2	-	92.5	96.2	97.4	-	96.3	100.0	98.2	96.2	96.8	-	96.4	50.0	95.2	95.5	97.5	-	95.7	96.1
Buses	0	2	0	0	-	2	0	0	2	2	-	4	0	0	3	0	-	3	0	1	0	1	-	2	11
% Buses	-	1.2	0.0	0.0	-	0.4	-	0.0	0.7	1.3	-	0.8	0.0	0.0	0.6	0.0	-	0.5	0.0	0.4	0.0	0.6	-	0.2	0.4
Single-Unit Trucks	0	3	6	2	-	11	0	0	6	1	-	7	0	1	0	1	-	2	0	5	9	3	-	17	37
% Single-Unit Trucks	-	1.8	2.0	2.3	-	2.0	-	0.0	2.1	0.6	-	1.4	0.0	1.8	0.0	1.6	-	0.3	0.0	2.2	1.5	1.9	-	1.7	1.4
Articulated Trucks	0	0	0	0	-	0	0	0	0	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	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.2	0.0	-	0.1	0.0
Bicycles on Road	0	3	4	1	-	8	0	3	3	1	-	7	0	0	17	1	-	18	1	5	17	0	-	23	56
% Bicycles on Road	-	1.8	1.3	1.1	-	1.4	-	7.5	1.0	0.6	-	1.4	0.0	0.0	3.3	1.6	-	2.8	50.0	2.2	2.8	0.0	-	2.3	2.1
Pedestrians	-	-	-	-	359	-	-	-	-	-	317	-	-	-	-	-	200	-	-	-	-	-	324	-	-

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

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

Count Name: Grove/Sherman
Site Code:
Start Date: 03/09/2017
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Grove Street Eastbound						Grove Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	13	14	1	19	28	0	3	25	5	17	33	0	3	41	3	8	47	0	6	24	7	18	37	145
8:15 AM	0	16	15	5	19	36	0	1	22	11	13	34	0	7	52	3	11	62	0	12	26	4	35	42	174
8:30 AM	0	18	13	4	19	35	0	2	22	21	21	45	0	2	43	2	13	47	0	12	24	15	25	51	178
8:45 AM	0	7	24	6	18	37	0	2	24	12	16	38	0	3	42	4	10	49	0	13	29	10	22	52	176
Total	0	54	66	16	75	136	0	8	93	49	67	150	0	15	178	12	42	205	0	43	103	36	100	182	673
Approach %	0.0	39.7	48.5	11.8	-	-	0.0	5.3	62.0	32.7	-	-	0.0	7.3	86.8	5.9	-	-	0.0	23.6	56.6	19.8	-	-	-
Total %	0.0	8.0	9.8	2.4	-	20.2	0.0	1.2	13.8	7.3	-	22.3	0.0	2.2	26.4	1.8	-	30.5	0.0	6.4	15.3	5.3	-	27.0	-
PHF	0.000	0.750	0.688	0.667	-	0.919	0.000	0.667	0.930	0.583	-	0.833	0.000	0.536	0.856	0.750	-	0.827	0.000	0.827	0.888	0.600	-	0.875	0.945
Lights	0	50	61	16	-	127	0	8	89	48	-	145	0	15	168	12	-	195	0	38	97	35	-	170	637
% Lights	-	92.6	92.4	100.0	-	93.4	-	100.0	95.7	98.0	-	96.7	-	100.0	94.4	100.0	-	95.1	-	88.4	94.2	97.2	-	93.4	94.7
Buses	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	0	1	0	0	-	1	3
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	1.1	0.0	-	0.7	-	0.0	0.6	0.0	-	0.5	-	2.3	0.0	0.0	-	0.5	0.4
Single-Unit Trucks	0	3	4	0	-	7	0	0	3	0	-	3	0	0	0	0	-	0	0	4	5	1	-	10	20
% Single-Unit Trucks	-	5.6	6.1	0.0	-	5.1	-	0.0	3.2	0.0	-	2.0	-	0.0	0.0	0.0	-	0.0	-	9.3	4.9	2.8	-	5.5	3.0
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
Bicycles on Road	0	1	1	0	-	2	0	0	0	1	-	1	0	0	9	0	-	9	0	0	1	0	-	1	13
% Bicycles on Road	-	1.9	1.5	0.0	-	1.5	-	0.0	0.0	2.0	-	0.7	-	0.0	5.1	0.0	-	4.4	-	0.0	1.0	0.0	-	0.5	1.9
Pedestrians	-	-	-	-	75	-	-	-	-	-	67	-	-	-	-	-	42	-	-	-	-	-	100	-	-
% 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: Grove/Sherman
Site Code:
Start Date: 03/09/2017
Page No: 4

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Grove Street Eastbound						Grove Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	8	28	9	50	45	0	4	26	15	30	45	0	3	22	11	22	36	0	28	64	11	43	103	229
5:15 PM	0	13	25	6	39	44	0	6	26	9	29	41	0	8	38	4	18	50	1	23	65	10	22	99	234
5:30 PM	0	6	35	10	34	51	0	5	14	8	18	27	0	3	33	9	24	45	0	19	59	13	12	91	214
5:45 PM	0	13	17	8	33	38	0	5	25	16	30	46	0	3	28	2	26	33	1	25	58	14	15	98	215
Total	0	40	105	33	156	178	0	20	91	48	107	159	0	17	121	26	90	164	2	95	246	48	92	391	892
Approach %	0.0	22.5	59.0	18.5	-	-	0.0	12.6	57.2	30.2	-	-	0.0	10.4	73.8	15.9	-	-	0.5	24.3	62.9	12.3	-	-	-
Total %	0.0	4.5	11.8	3.7	-	20.0	0.0	2.2	10.2	5.4	-	17.8	0.0	1.9	13.6	2.9	-	18.4	0.2	10.7	27.6	5.4	-	43.8	-
PHF	0.000	0.769	0.750	0.825	-	0.873	0.000	0.833	0.875	0.750	-	0.864	0.000	0.531	0.796	0.591	-	0.820	0.500	0.848	0.946	0.857	-	0.949	0.953
Lights	0	40	104	32	-	176	0	18	89	47	-	154	0	17	118	25	-	160	1	92	240	48	-	381	871
% Lights	-	100.0	99.0	97.0	-	98.9	-	90.0	97.8	97.9	-	96.9	-	100.0	97.5	96.2	-	97.6	50.0	96.8	97.6	100.0	-	97.4	97.6
Buses	0	0	0	0	-	0	0	0	0	1	-	1	0	0	1	0	-	1	0	0	0	0	-	0	2
% Buses	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.1	-	0.6	-	0.0	0.8	0.0	-	0.6	0.0	0.0	0.0	0.0	-	0.0	0.2
Single-Unit Trucks	0	0	0	1	-	1	0	0	2	0	-	2	0	0	0	0	-	0	0	0	1	0	-	1	4
% Single-Unit Trucks	-	0.0	0.0	3.0	-	0.6	-	0.0	2.2	0.0	-	1.3	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.4	0.0	-	0.3	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
% 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	-	1	0	2	0	0	-	2	0	0	2	1	-	3	1	3	5	0	-	9	15
% Bicycles on Road	-	0.0	1.0	0.0	-	0.6	-	10.0	0.0	0.0	-	1.3	-	0.0	1.7	3.8	-	1.8	50.0	3.2	2.0	0.0	-	2.3	1.7
Pedestrians	-	-	-	-	156	-	-	-	-	-	107	-	-	-	-	-	90	-	-	-	-	-	92	-	-
% 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: Lake/Sherman
Site Code:
Start Date: 03/09/2017
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Turning Movement Data

Start Time	Lake Street Eastbound						Lake Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	4	12	1	5	17	0	0	5	3	1	8	0	2	18	2	1	22	0	7	13	3	3	23	70
7:15 AM	0	14	13	3	2	30	0	0	14	0	7	14	0	0	24	1	4	25	0	5	14	5	4	24	93
7:30 AM	0	16	18	1	0	35	0	2	20	0	9	22	0	1	17	1	3	19	0	6	11	9	2	26	102
7:45 AM	0	23	19	3	1	45	0	0	32	5	9	37	0	3	31	0	7	34	0	4	9	6	3	19	135
Hourly Total	0	57	62	8	8	127	0	2	71	8	26	81	0	6	90	4	15	100	0	22	47	23	12	92	400
8:00 AM	0	14	31	5	6	50	0	2	31	5	21	38	1	4	29	4	0	38	0	8	13	5	6	26	152
8:15 AM	0	17	38	6	10	61	0	2	30	4	11	36	0	3	43	1	1	47	0	8	14	8	5	30	174
8:30 AM	0	16	35	4	2	55	0	0	17	0	17	17	0	1	32	4	13	37	0	5	16	10	6	31	140
8:45 AM	0	27	39	2	2	68	0	2	30	3	17	35	0	2	27	4	8	33	0	6	18	7	9	31	167
Hourly Total	0	74	143	17	20	234	0	6	108	12	66	126	1	10	131	13	22	155	0	27	61	30	26	118	633
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	15	30	6	4	51	0	4	23	3	16	30	0	0	14	2	6	16	0	22	27	11	4	60	157
4:15 PM	0	20	28	5	3	53	0	3	20	3	10	26	0	2	15	1	4	18	0	14	34	17	4	65	162
4:30 PM	0	10	32	3	9	45	0	1	23	3	12	27	0	0	17	2	4	19	0	8	26	16	3	50	141
4:45 PM	0	12	25	7	11	44	0	1	31	3	28	35	0	2	26	2	8	30	0	14	24	9	16	47	156
Hourly Total	0	57	115	21	27	193	0	9	97	12	66	118	0	4	72	7	22	83	0	58	111	53	27	222	616
5:00 PM	0	18	28	4	9	50	0	2	36	2	25	40	0	4	17	4	10	25	1	18	36	20	4	75	190
5:15 PM	0	13	32	3	9	48	0	3	32	9	21	44	0	1	26	1	10	28	0	15	43	28	8	86	206
5:30 PM	0	14	26	3	3	43	0	1	21	6	20	28	0	2	21	1	5	24	0	13	40	10	5	63	158
5:45 PM	0	14	33	1	13	48	0	0	25	8	16	33	0	7	14	2	9	23	0	15	41	17	6	73	177
Hourly Total	0	59	119	11	34	189	0	6	114	25	82	145	0	14	78	8	34	100	1	61	160	75	23	297	731
Grand Total	0	247	439	57	89	743	0	23	390	57	240	470	1	34	371	32	93	438	1	168	379	181	88	729	2380
Approach %	0.0	33.2	59.1	7.7	-	-	0.0	4.9	83.0	12.1	-	-	0.2	7.8	84.7	7.3	-	-	0.1	23.0	52.0	24.8	-	-	-
Total %	0.0	10.4	18.4	2.4	-	31.2	0.0	1.0	16.4	2.4	-	19.7	0.0	1.4	15.6	1.3	-	18.4	0.0	7.1	15.9	7.6	-	30.6	-
Lights	0	234	428	55	-	717	0	23	378	54	-	455	1	33	358	32	-	424	1	156	363	176	-	696	2292
% Lights	-	94.7	97.5	96.5	-	96.5	-	100.0	96.9	94.7	-	96.8	100.0	97.1	96.5	100.0	-	96.8	100.0	92.9	95.8	97.2	-	95.5	96.3
Buses	0	1	3	0	-	4	0	0	7	0	-	7	0	1	3	0	-	4	0	3	0	0	-	3	18
% Buses	-	0.4	0.7	0.0	-	0.5	-	0.0	1.8	0.0	-	1.5	0.0	2.9	0.8	0.0	-	0.9	0.0	1.8	0.0	0.0	-	0.4	0.8
Single-Unit Trucks	0	0	3	0	-	3	0	0	3	0	-	3	0	0	3	0	-	3	0	4	5	1	-	10	19
% Single-Unit Trucks	-	0.0	0.7	0.0	-	0.4	-	0.0	0.8	0.0	-	0.6	0.0	0.0	0.8	0.0	-	0.7	0.0	2.4	1.3	0.6	-	1.4	0.8
Articulated Trucks	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	0.0	0.6	0.0	0.0	-	0.1	0.0
Bicycles on Road	0	12	5	2	-	19	0	0	2	3	-	5	0	0	7	0	-	7	0	4	11	4	-	19	50
% Bicycles on Road	-	4.9	1.1	3.5	-	2.6	-	0.0	0.5	5.3	-	1.1	0.0	0.0	1.9	0.0	-	1.6	0.0	2.4	2.9	2.2	-	2.6	2.1
Pedestrians	-	-	-	-	89	-	-	-	-	-	240	-	-	-	-	-	93	-	-	-	-	-	88	-	-

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

Rosemont, Illinois, United States 60018
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Count Name: Lake/Sherman
Site Code:
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Turning Movement Peak Hour Data (8:00 AM)

Start Time	Lake Street Eastbound						Lake Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	14	31	5	6	50	0	2	31	5	21	38	1	4	29	4	0	38	0	8	13	5	6	26	152
8:15 AM	0	17	38	6	10	61	0	2	30	4	11	36	0	3	43	1	1	47	0	8	14	8	5	30	174
8:30 AM	0	16	35	4	2	55	0	0	17	0	17	17	0	1	32	4	13	37	0	5	16	10	6	31	140
8:45 AM	0	27	39	2	2	68	0	2	30	3	17	35	0	2	27	4	8	33	0	6	18	7	9	31	167
Total	0	74	143	17	20	234	0	6	108	12	66	126	1	10	131	13	22	155	0	27	61	30	26	118	633
Approach %	0.0	31.6	61.1	7.3	-	-	0.0	4.8	85.7	9.5	-	-	0.6	6.5	84.5	8.4	-	-	0.0	22.9	51.7	25.4	-	-	-
Total %	0.0	11.7	22.6	2.7	-	37.0	0.0	0.9	17.1	1.9	-	19.9	0.2	1.6	20.7	2.1	-	24.5	0.0	4.3	9.6	4.7	-	18.6	-
PHF	0.000	0.685	0.917	0.708	-	0.860	0.000	0.750	0.871	0.600	-	0.829	0.250	0.625	0.762	0.813	-	0.824	0.000	0.844	0.847	0.750	-	0.952	0.909
Lights	0	66	140	17	-	223	0	6	103	11	-	120	1	10	128	13	-	152	0	24	58	30	-	112	607
% Lights	-	89.2	97.9	100.0	-	95.3	-	100.0	95.4	91.7	-	95.2	100.0	100.0	97.7	100.0	-	98.1	-	88.9	95.1	100.0	-	94.9	95.9
Buses	0	0	1	0	-	1	0	0	4	0	-	4	0	0	1	0	-	1	0	2	0	0	-	2	8
% Buses	-	0.0	0.7	0.0	-	0.4	-	0.0	3.7	0.0	-	3.2	0.0	0.0	0.8	0.0	-	0.6	-	7.4	0.0	0.0	-	1.7	1.3
Single-Unit Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	2	0	-	3	3
% 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	-	3.7	3.3	0.0	-	2.5	0.5
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	8	2	0	-	10	0	0	1	1	-	2	0	0	2	0	-	2	0	0	1	0	-	1	15
% Bicycles on Road	-	10.8	1.4	0.0	-	4.3	-	0.0	0.9	8.3	-	1.6	0.0	0.0	1.5	0.0	-	1.3	-	0.0	1.6	0.0	-	0.8	2.4
Pedestrians	-	-	-	-	20	-	-	-	-	-	66	-	-	-	-	-	22	-	-	-	-	-	26	-	-
% 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
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Count Name: Lake/Sherman
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Turning Movement Peak Hour Data (5:00 PM)

Start Time	Lake Street Eastbound						Lake Street Westbound						Sherman Avenue Northbound						Sherman 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	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	18	28	4	9	50	0	2	36	2	25	40	0	4	17	4	10	25	1	18	36	20	4	75	190
5:15 PM	0	13	32	3	9	48	0	3	32	9	21	44	0	1	26	1	10	28	0	15	43	28	8	86	206
5:30 PM	0	14	26	3	3	43	0	1	21	6	20	28	0	2	21	1	5	24	0	13	40	10	5	63	158
5:45 PM	0	14	33	1	13	48	0	0	25	8	16	33	0	7	14	2	9	23	0	15	41	17	6	73	177
Total	0	59	119	11	34	189	0	6	114	25	82	145	0	14	78	8	34	100	1	61	160	75	23	297	731
Approach %	0.0	31.2	63.0	5.8	-	-	0.0	4.1	78.6	17.2	-	-	0.0	14.0	78.0	8.0	-	-	0.3	20.5	53.9	25.3	-	-	-
Total %	0.0	8.1	16.3	1.5	-	25.9	0.0	0.8	15.6	3.4	-	19.8	0.0	1.9	10.7	1.1	-	13.7	0.1	8.3	21.9	10.3	-	40.6	-
PHF	0.000	0.819	0.902	0.688	-	0.945	0.000	0.500	0.792	0.694	-	0.824	0.000	0.500	0.750	0.500	-	0.893	0.250	0.847	0.930	0.670	-	0.863	0.887
Lights	0	59	117	10	-	186	0	6	113	24	-	143	0	14	76	8	-	98	1	57	156	74	-	288	715
% Lights	-	100.0	98.3	90.9	-	98.4	-	100.0	99.1	96.0	-	98.6	-	100.0	97.4	100.0	-	98.0	100.0	93.4	97.5	98.7	-	97.0	97.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	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	1.3	0.0	-	1.0	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	3	0	0	-	3	3
% 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	4.9	0.0	0.0	-	1.0	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
% 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	1	-	3	0	0	1	1	-	2	0	0	1	0	-	1	0	1	4	1	-	6	12
% Bicycles on Road	-	0.0	1.7	9.1	-	1.6	-	0.0	0.9	4.0	-	1.4	-	0.0	1.3	0.0	-	1.0	0.0	1.6	2.5	1.3	-	2.0	1.6
Pedestrians	-	-	-	-	34	-	-	-	-	-	82	-	-	-	-	-	34	-	-	-	-	-	23	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Kenig Lindgren O'Hara Aboona, Inc.
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Count Name: Lake/Elmwood
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Turning Movement Data

Start Time	Lake Street Eastbound						Lake Street Westbound						Elmwood Avenue Northbound						Elmwood 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	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	6	19	0	2	25	0	0	11	0	2	11	0	5	3	0	7	8	0	1	1	1	1	3	47
7:15 AM	0	3	25	0	2	28	0	1	19	0	5	20	0	1	2	1	0	4	0	2	0	1	2	3	55
7:30 AM	0	1	38	2	0	41	0	2	26	4	0	32	0	4	3	3	2	10	0	0	0	2	1	2	85
7:45 AM	1	0	42	6	3	49	0	0	34	5	5	39	0	9	5	0	9	14	0	0	1	0	3	1	103
Hourly Total	1	10	124	8	7	143	0	3	90	9	12	102	0	19	13	4	18	36	0	3	2	4	7	9	290
8:00 AM	0	3	49	9	3	61	0	2	42	0	3	44	0	4	4	6	3	14	0	0	1	0	2	1	120
8:15 AM	0	8	48	6	4	62	0	4	29	4	10	37	0	13	9	4	5	26	0	1	0	1	1	2	127
8:30 AM	0	5	56	0	2	61	0	0	30	1	5	31	0	4	2	2	10	8	0	1	2	2	1	5	105
8:45 AM	0	4	53	4	1	61	0	2	36	1	6	39	0	4	5	7	4	16	0	3	1	2	4	6	122
Hourly Total	0	20	206	19	10	245	0	8	137	6	24	151	0	25	20	19	22	64	0	5	4	5	8	14	474
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	4	55	1	5	60	0	5	35	0	9	40	0	2	4	2	3	8	1	4	5	2	5	12	120
4:15 PM	0	3	39	7	1	49	0	3	31	5	1	39	0	3	4	1	3	8	0	4	4	3	3	11	107
4:30 PM	0	2	37	1	0	40	0	2	33	3	4	38	0	4	1	1	1	6	0	7	6	7	2	20	104
4:45 PM	0	3	42	4	2	49	0	2	37	2	5	41	0	4	1	2	5	7	0	3	2	3	2	8	105
Hourly Total	0	12	173	13	8	198	0	12	136	10	19	158	0	13	10	6	12	29	1	18	17	15	12	51	436
5:00 PM	0	1	48	3	2	52	0	4	60	1	6	65	0	3	7	2	1	12	0	0	2	3	3	5	134
5:15 PM	0	2	49	1	1	52	0	4	45	2	16	51	0	3	5	0	5	8	0	0	4	2	4	6	117
5:30 PM	0	2	41	4	4	47	0	2	29	2	4	33	0	3	0	0	7	3	0	1	1	2	5	4	87
5:45 PM	0	1	46	6	9	53	0	4	44	5	8	53	0	4	8	1	5	13	0	3	3	6	12	12	131
Hourly Total	0	6	184	14	16	204	0	14	178	10	34	202	0	13	20	3	18	36	0	4	10	13	24	27	469
Grand Total	1	48	687	54	41	790	0	37	541	35	89	613	0	70	63	32	70	165	1	30	33	37	51	101	1669
Approach %	0.1	6.1	87.0	6.8	-	-	0.0	6.0	88.3	5.7	-	-	0.0	42.4	38.2	19.4	-	-	1.0	29.7	32.7	36.6	-	-	-
Total %	0.1	2.9	41.2	3.2	-	47.3	0.0	2.2	32.4	2.1	-	36.7	0.0	4.2	3.8	1.9	-	9.9	0.1	1.8	2.0	2.2	-	6.1	-
Lights	1	43	668	51	-	763	0	35	527	35	-	597	0	65	57	29	-	151	1	28	32	36	-	97	1608
% Lights	100.0	89.6	97.2	94.4	-	96.6	-	94.6	97.4	100.0	-	97.4	-	92.9	90.5	90.6	-	91.5	100.0	93.3	97.0	97.3	-	96.0	96.3
Buses	0	0	4	0	-	4	0	0	7	0	-	7	0	2	0	0	-	2	0	0	0	0	-	0	13
% Buses	0.0	0.0	0.6	0.0	-	0.5	-	0.0	1.3	0.0	-	1.1	-	2.9	0.0	0.0	-	1.2	0.0	0.0	0.0	0.0	-	0.0	0.8
Single-Unit Trucks	0	5	5	1	-	11	0	0	4	0	-	4	0	0	1	0	-	1	0	0	1	1	-	2	18
% Single-Unit Trucks	0.0	10.4	0.7	1.9	-	1.4	-	0.0	0.7	0.0	-	0.7	-	0.0	1.6	0.0	-	0.6	0.0	0.0	3.0	2.7	-	2.0	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	0.0
Bicycles on Road	0	0	10	2	-	12	0	2	3	0	-	5	0	3	5	3	-	11	0	2	0	0	-	2	30
% Bicycles on Road	0.0	0.0	1.5	3.7	-	1.5	-	5.4	0.6	0.0	-	0.8	-	4.3	7.9	9.4	-	6.7	0.0	6.7	0.0	0.0	-	2.0	1.8
Pedestrians	-	-	-	-	41	-	-	-	-	-	89	-	-	-	-	-	70	-	-	-	-	-	51	-	-

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

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

Count Name: Lake/Elmwood
Site Code:
Start Date: 03/09/2017

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Lake Street Eastbound						Lake Street Westbound						Elmwood Avenue Northbound						Elmwood 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	U-Turn	Left	Thru	Right	Peds	App. Total	
8:00 AM	0	3	49	9	3	61	0	2	42	0	3	44	0	4	4	6	3	14	0	0	1	0	2	1	120
8:15 AM	0	8	48	6	4	62	0	4	29	4	10	37	0	13	9	4	5	26	0	1	0	1	1	2	127
8:30 AM	0	5	56	0	2	61	0	0	30	1	5	31	0	4	2	2	10	8	0	1	2	2	1	5	105
8:45 AM	0	4	53	4	1	61	0	2	36	1	6	39	0	4	5	7	4	16	0	3	1	2	4	6	122
Total	0	20	206	19	10	245	0	8	137	6	24	151	0	25	20	19	22	64	0	5	4	5	8	14	474
Approach %	0.0	8.2	84.1	7.8	-	-	0.0	5.3	90.7	4.0	-	-	0.0	39.1	31.3	29.7	-	-	0.0	35.7	28.6	35.7	-	-	-
Total %	0.0	4.2	43.5	4.0	-	51.7	0.0	1.7	28.9	1.3	-	31.9	0.0	5.3	4.2	4.0	-	13.5	0.0	1.1	0.8	1.1	-	3.0	-
PHF	0.000	0.625	0.920	0.528	-	0.988	0.000	0.500	0.815	0.375	-	0.858	0.000	0.481	0.556	0.679	-	0.615	0.000	0.417	0.500	0.625	-	0.583	0.933
Lights	0	17	199	18	-	234	0	8	131	6	-	145	0	24	18	16	-	58	0	5	3	4	-	12	449
% Lights	-	85.0	96.6	94.7	-	95.5	-	100.0	95.6	100.0	-	96.0	-	96.0	90.0	84.2	-	90.6	-	100.0	75.0	80.0	-	85.7	94.7
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	0.5	0.0	-	0.4	-	0.0	2.2	0.0	-	2.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.8
Single-Unit Trucks	0	3	1	0	-	4	0	0	1	0	-	1	0	0	1	0	-	1	0	0	1	1	-	2	8
% Single-Unit Trucks	-	15.0	0.5	0.0	-	1.6	-	0.0	0.7	0.0	-	0.7	-	0.0	5.0	0.0	-	1.6	-	0.0	25.0	20.0	-	14.3	1.7
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	5	1	-	6	0	0	2	0	-	2	0	1	1	3	-	5	0	0	0	0	-	0	13
% Bicycles on Road	-	0.0	2.4	5.3	-	2.4	-	0.0	1.5	0.0	-	1.3	-	4.0	5.0	15.8	-	7.8	-	0.0	0.0	0.0	-	0.0	2.7
Pedestrians	-	-	-	-	10	-	-	-	-	-	24	-	-	-	-	-	22	-	-	-	-	-	8	-	-
% 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: Lake/Elmwood
Site Code:
Start Date: 03/09/2017

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Lake Street Eastbound						Lake Street Westbound						Elmwood Avenue Northbound						Elmwood 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	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	1	48	3	2	52	0	4	60	1	6	65	0	3	7	2	1	12	0	0	2	3	3	5	134
5:15 PM	0	2	49	1	1	52	0	4	45	2	16	51	0	3	5	0	5	8	0	0	4	2	4	6	117
5:30 PM	0	2	41	4	4	47	0	2	29	2	4	33	0	3	0	0	7	3	0	1	1	2	5	4	87
5:45 PM	0	1	46	6	9	53	0	4	44	5	8	53	0	4	8	1	5	13	0	3	3	6	12	12	131
Total	0	6	184	14	16	204	0	14	178	10	34	202	0	13	20	3	18	36	0	4	10	13	24	27	469
Approach %	0.0	2.9	90.2	6.9	-	-	0.0	6.9	88.1	5.0	-	-	0.0	36.1	55.6	8.3	-	-	0.0	14.8	37.0	48.1	-	-	-
Total %	0.0	1.3	39.2	3.0	-	43.5	0.0	3.0	38.0	2.1	-	43.1	0.0	2.8	4.3	0.6	-	7.7	0.0	0.9	2.1	2.8	-	5.8	-
PHF	0.000	0.750	0.939	0.583	-	0.962	0.000	0.875	0.742	0.500	-	0.777	0.000	0.813	0.625	0.375	-	0.692	0.000	0.333	0.625	0.542	-	0.563	0.875
Lights	0	6	181	13	-	200	0	14	178	10	-	202	0	13	19	3	-	35	0	4	10	13	-	27	464
% Lights	-	100.0	98.4	92.9	-	98.0	-	100.0	100.0	100.0	-	100.0	-	100.0	95.0	100.0	-	97.2	-	100.0	100.0	100.0	-	100.0	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
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
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	1	-	4	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	5
% Bicycles on Road	-	0.0	1.6	7.1	-	2.0	-	0.0	0.0	0.0	-	0.0	-	0.0	5.0	0.0	-	2.8	-	0.0	0.0	0.0	-	0.0	1.1
Pedestrians	-	-	-	-	16	-	-	-	-	-	34	-	-	-	-	-	18	-	-	-	-	-	24	-	-
% 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: Grove/Elmwood
Site Code:
Start Date: 03/09/2017
Page No: 1

Turning Movement Data

Start Time	Grove Street Eastbound						Grove Street Westbound						Elmwood Avenue Northbound						Elmwood 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	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 AM	0	1	21	4	3	26	0	1	16	1	0	18	0	2	1	1	1	4	0	1	0	8	0	9	57
7:15 AM	0	0	41	3	1	44	1	0	11	0	1	12	0	0	0	2	5	2	0	2	1	2	2	5	63
7:30 AM	1	1	33	1	0	36	0	1	10	2	1	13	0	5	0	4	4	9	0	1	0	3	9	4	62
7:45 AM	0	0	31	1	1	32	0	1	11	0	0	12	0	0	4	3	5	7	0	3	0	5	8	8	59
Hourly Total	1	2	126	9	5	138	1	3	48	3	2	55	0	7	5	10	15	22	0	7	1	18	19	26	241
8:00 AM	0	1	54	0	2	55	0	0	31	0	1	31	0	2	2	5	7	9	0	0	1	3	3	4	99
8:15 AM	0	1	45	2	3	48	0	1	20	3	3	24	0	3	1	10	8	14	0	0	0	2	11	2	88
8:30 AM	0	0	45	2	0	47	0	1	28	0	1	29	0	4	1	6	15	11	0	1	0	4	8	5	92
8:45 AM	0	1	50	1	1	52	0	2	22	1	0	25	0	3	0	6	5	9	0	1	1	3	4	5	91
Hourly Total	0	3	194	5	6	202	0	4	101	4	5	109	0	12	4	27	35	43	0	2	2	12	26	16	370
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	28	8	0	37	0	2	29	2	0	33	0	6	0	2	6	8	0	0	1	2	16	3	81
4:15 PM	0	0	35	6	0	41	1	4	33	1	0	39	0	3	1	3	7	7	0	3	1	4	5	8	95
4:30 PM	0	2	29	6	2	37	0	8	56	2	3	66	0	2	1	4	8	7	0	4	2	0	11	6	116
4:45 PM	0	0	26	2	5	28	0	2	50	1	3	53	0	6	0	2	11	8	0	1	0	3	9	4	93
Hourly Total	0	3	118	22	7	143	1	16	168	6	6	191	0	17	2	11	32	30	0	8	4	9	41	21	385
5:00 PM	0	3	33	0	1	36	0	4	57	1	4	62	0	3	1	3	15	7	0	0	0	2	15	2	107
5:15 PM	0	2	30	3	4	35	0	5	59	1	4	65	0	8	0	3	19	11	0	1	0	3	10	4	115
5:30 PM	0	2	32	1	4	35	0	2	46	2	0	50	0	0	1	2	9	3	0	2	0	0	15	2	90
5:45 PM	0	0	24	5	2	29	0	4	52	2	2	58	0	7	1	6	12	14	0	1	0	2	6	3	104
Hourly Total	0	7	119	9	11	135	0	15	214	6	10	235	0	18	3	14	55	35	0	4	0	7	46	11	416
Grand Total	1	15	557	45	29	618	2	38	531	19	23	590	0	54	14	62	137	130	0	21	7	46	132	74	1412
Approach %	0.2	2.4	90.1	7.3	-	-	0.3	6.4	90.0	3.2	-	-	0.0	41.5	10.8	47.7	-	-	0.0	28.4	9.5	62.2	-	-	-
Total %	0.1	1.1	39.4	3.2	-	43.8	0.1	2.7	37.6	1.3	-	41.8	0.0	3.8	1.0	4.4	-	9.2	0.0	1.5	0.5	3.3	-	5.2	-
Lights	1	15	544	42	-	602	2	36	516	19	-	573	0	50	14	54	-	118	0	21	7	46	-	74	1367
% Lights	100.0	100.0	97.7	93.3	-	97.4	100.0	94.7	97.2	100.0	-	97.1	-	92.6	100.0	87.1	-	90.8	-	100.0	100.0	100.0	-	100.0	96.8
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	0.0	0.2	0.0	-	0.2	0.0	0.0	0.6	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	7	2	-	9	0	0	8	0	-	8	0	3	0	3	-	6	0	0	0	0	-	0	23
% Single-Unit Trucks	0.0	0.0	1.3	4.4	-	1.5	0.0	0.0	1.5	0.0	-	1.4	-	5.6	0.0	4.8	-	4.6	-	0.0	0.0	0.0	-	0.0	1.6
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	5	1	-	6	0	2	4	0	-	6	0	1	0	5	-	6	0	0	0	0	-	0	18
% Bicycles on Road	0.0	0.0	0.9	2.2	-	1.0	0.0	5.3	0.8	0.0	-	1.0	-	1.9	0.0	8.1	-	4.6	-	0.0	0.0	0.0	-	0.0	1.3
Pedestrians	-	-	-	-	29	-	-	-	-	-	23	-	-	-	-	-	137	-	-	-	-	-	132	-	-

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

Rosemont, Illinois, United States 60018
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Count Name: Grove/Elmwood
Site Code:
Start Date: 03/09/2017
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Grove Street Eastbound						Grove Street Westbound						Elmwood Avenue Northbound						Elmwood 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	1	54	0	2	55	0	0	31	0	1	31	0	2	2	5	7	9	0	0	1	3	3	4	99
8:15 AM	0	1	45	2	3	48	0	1	20	3	3	24	0	3	1	10	8	14	0	0	0	2	11	2	88
8:30 AM	0	0	45	2	0	47	0	1	28	0	1	29	0	4	1	6	15	11	0	1	0	4	8	5	92
8:45 AM	0	1	50	1	1	52	0	2	22	1	0	25	0	3	0	6	5	9	0	1	1	3	4	5	91
Total	0	3	194	5	6	202	0	4	101	4	5	109	0	12	4	27	35	43	0	2	2	12	26	16	370
Approach %	0.0	1.5	96.0	2.5	-	-	0.0	3.7	92.7	3.7	-	-	0.0	27.9	9.3	62.8	-	-	0.0	12.5	12.5	75.0	-	-	-
Total %	0.0	0.8	52.4	1.4	-	54.6	0.0	1.1	27.3	1.1	-	29.5	0.0	3.2	1.1	7.3	-	11.6	0.0	0.5	0.5	3.2	-	4.3	-
PHF	0.000	0.750	0.898	0.625	-	0.918	0.000	0.500	0.815	0.333	-	0.879	0.000	0.750	0.500	0.675	-	0.768	0.000	0.500	0.500	0.750	-	0.800	0.934
Lights	0	3	190	4	-	197	0	4	98	4	-	106	0	10	4	22	-	36	0	2	2	12	-	16	355
% Lights	-	100.0	97.9	80.0	-	97.5	-	100.0	97.0	100.0	-	97.2	-	83.3	100.0	81.5	-	83.7	-	100.0	100.0	100.0	-	100.0	95.9
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	1.0	0.0	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	0	3	1	-	4	0	0	2	0	-	2	0	2	0	3	-	5	0	0	0	0	-	0	11
% Single-Unit Trucks	-	0.0	1.5	20.0	-	2.0	-	0.0	2.0	0.0	-	1.8	-	16.7	0.0	11.1	-	11.6	-	0.0	0.0	0.0	-	0.0	3.0
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
Bicycles on Road	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	2	-	2	0	0	0	0	-	0	3
% Bicycles on Road	-	0.0	0.5	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	7.4	-	4.7	-	0.0	0.0	0.0	-	0.0	0.8
Pedestrians	-	-	-	-	6	-	-	-	-	-	5	-	-	-	-	-	35	-	-	-	-	-	26	-	-
% 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: Grove/Elmwood
Site Code:
Start Date: 03/09/2017
Page No: 4

Turning Movement Peak Hour Data (5:00 PM)

Start Time	Grove Street Eastbound						Grove Street Westbound						Elmwood Avenue Northbound						Elmwood 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	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	3	33	0	1	36	0	4	57	1	4	62	0	3	1	3	15	7	0	0	0	2	15	2	107
5:15 PM	0	2	30	3	4	35	0	5	59	1	4	65	0	8	0	3	19	11	0	1	0	3	10	4	115
5:30 PM	0	2	32	1	4	35	0	2	46	2	0	50	0	0	1	2	9	3	0	2	0	0	15	2	90
5:45 PM	0	0	24	5	2	29	0	4	52	2	2	58	0	7	1	6	12	14	0	1	0	2	6	3	104
Total	0	7	119	9	11	135	0	15	214	6	10	235	0	18	3	14	55	35	0	4	0	7	46	11	416
Approach %	0.0	5.2	88.1	6.7	-	-	0.0	6.4	91.1	2.6	-	-	0.0	51.4	8.6	40.0	-	-	0.0	36.4	0.0	63.6	-	-	-
Total %	0.0	1.7	28.6	2.2	-	32.5	0.0	3.6	51.4	1.4	-	56.5	0.0	4.3	0.7	3.4	-	8.4	0.0	1.0	0.0	1.7	-	2.6	-
PHF	0.000	0.583	0.902	0.450	-	0.938	0.000	0.750	0.907	0.750	-	0.904	0.000	0.563	0.750	0.583	-	0.625	0.000	0.500	0.000	0.583	-	0.688	0.904
Lights	0	7	116	9	-	132	0	14	211	6	-	231	0	17	3	14	-	34	0	4	0	7	-	11	408
% Lights	-	100.0	97.5	100.0	-	97.8	-	93.3	98.6	100.0	-	98.3	-	94.4	100.0	100.0	-	97.1	-	100.0	-	100.0	-	100.0	98.1
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
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	0.8	0.0	-	0.7	-	0.0	0.9	0.0	-	0.9	-	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
Bicycles on Road	0	0	2	0	-	2	0	1	1	0	-	2	0	1	0	0	-	1	0	0	0	0	-	0	5
% Bicycles on Road	-	0.0	1.7	0.0	-	1.5	-	6.7	0.5	0.0	-	0.9	-	5.6	0.0	0.0	-	2.9	-	0.0	-	0.0	-	0.0	1.2
Pedestrians	-	-	-	-	11	-	-	-	-	-	10	-	-	-	-	-	55	-	-	-	-	-	46	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Evanston, IL Weather: Warm and Morning Rain 07/24/17
Grove St and Alley West Of Sherman Passenger Vehicles Only 17:04:48
Thursday July 21, 2017

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

Intersection # 7 grove/alleywshermancars

Begin	N-Approach			E-Approach			S-Approach			W-Approach			Int
Time	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
700	0	0	0	0	0	2	2	0	0	1	0	0	5
715	0	0	0	0	0	2	2	0	0	2	0	0	6
730	0	0	0	0	0	3	2	0	0	2	0	0	7
745	0	0	0	0	0	2	2	0	0	4	0	0	8
800	0	0	0	0	0	1	1	0	0	3	0	0	5
815	0	0	0	0	0	1	1	0	0	2	0	0	4*
830	0	0	0	0	0	0	1	0	0	2	0	0	3*
845	0	0	0	0	0	0	1	0	0	0	0	0	1*
1600	0	0	0	0	0	4	3	0	2	0	0	0	9
1615	0	0	0	0	0	5	4	0	3	0	0	0	12
1630	0	0	0	0	0	4	4	0	2	0	0	0	10
1645	0	0	0	0	0	3	4	0	2	0	0	0	9
1700	0	0	0	0	0	3	5	0	1	0	0	0	9
1715	0	0	0	0	0	2	3	0	0	0	0	0	5*
1730	0	0	0	0	0	2	2	0	0	0	0	0	4*
1745	0	0	0	0	0	1	2	0	0	0	0	0	3*

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

Intersection # 7 grove/alleywshermancars

Begin	Approach Totals				Exit Totals				Int
Time	N	E	S	W	N	E	S	W	Total
700	0	2	2	1	0	2	3	0	5
715	0	2	2	2	0	2	4	0	6
730	0	3	2	2	0	2	5	0	7
745	0	2	2	4	0	2	6	0	8
800	0	1	1	3	0	1	4	0	5
815	0	1	1	2	0	1	3	0	4*
830	0	0	1	2	0	1	2	0	3*
845	0	0	1	0	0	1	0	0	1*
1600	0	4	5	0	0	3	4	2	9
1615	0	5	7	0	0	4	5	3	12
1630	0	4	6	0	0	4	4	2	10
1645	0	3	6	0	0	4	3	2	9
1700	0	3	6	0	0	5	3	1	9
1715	0	2	3	0	0	3	2	0	5*
1730	0	2	2	0	0	2	2	0	4*
1745	0	1	2	0	0	2	1	0	3*

Evanston, IL Weather: Warm and Morning Rain 07/24/17
Grove St and Alley West Of Sherman Single Unit Trucks Only 17:05:43
Thursday July 21, 2017

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

Intersection # 8 grove/alleywshermansingle

Begin	N-Approach			E-Approach			S-Approach			W-Approach			Int
Time	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
700	0	0	0	0	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0	0	0	0	0
730	0	0	0	0	0	0	0	0	0	0	0	0	0
745	0	0	0	0	0	0	1	0	0	0	0	0	1
800	0	0	0	0	0	0	1	0	0	0	0	0	1
815	0	0	0	0	0	0	1	0	0	0	0	0	1*
830	0	0	0	0	0	0	1	0	0	0	0	0	1*
845	0	0	0	0	0	0	0	0	0	0	0	0	0*
1600	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0	0	0	0	0*
1730	0	0	0	0	0	0	0	0	0	0	0	0	0*
1745	0	0	0	0	0	0	0	0	0	0	0	0	0*

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

Intersection # 8 grove/alleywshermansingle

Begin	Approach Totals				Exit Totals				Int
Time	N	E	S	W	N	E	S	W	Total
700	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0
730	0	0	0	0	0	0	0	0	0
745	0	0	1	0	0	1	0	0	1
800	0	0	1	0	0	1	0	0	1
815	0	0	1	0	0	1	0	0	1*
830	0	0	1	0	0	1	0	0	1*
845	0	0	0	0	0	0	0	0	0*
1600	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0
1630	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0*
1730	0	0	0	0	0	0	0	0	0*
1745	0	0	0	0	0	0	0	0	0*

Evanston, IL Weather: Warm and Morning Rain 07/24/17
Lake St and Alley West Of Sherman Passenger Vehicles Only 17:03:43
Thursday July 21, 2017

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

Intersection # 9 lake/alleywshermancars

Begin	N-Approach			E-Approach			S-Approach			W-Approach			Int
Time	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
700	0	0	0	0	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0	0	0	0	0
730	1	0	0	0	0	0	0	0	0	0	0	0	1
745	1	0	0	0	0	0	0	0	0	0	0	0	1
800	1	0	0	0	0	0	0	0	0	0	0	0	1
815	1	0	0	0	0	0	0	0	0	0	0	0	1*
830	0	0	0	0	0	0	0	0	0	0	0	0	0*
845	0	0	0	0	0	0	0	0	0	0	0	0	0*
1600	1	0	2	1	0	0	0	0	0	0	0	1	5
1615	1	0	1	1	0	0	0	0	0	0	0	1	4
1630	1	0	0	2	0	0	0	0	0	0	0	0	3
1645	0	0	0	2	0	0	0	0	0	0	0	0	2
1700	0	0	0	2	0	0	0	0	0	0	0	0	2
1715	0	0	0	2	0	0	0	0	0	0	0	0	2*
1730	0	0	0	1	0	0	0	0	0	0	0	0	1*
1745	0	0	0	0	0	0	0	0	0	0	0	0	0*

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

Intersection # 9 lake/alleywshermancars

Begin	Approach Totals				Exit Totals				Int
Time	N	E	S	W	N	E	S	W	Total
700	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0
730	1	0	0	0	0	0	0	1	1
745	1	0	0	0	0	0	0	1	1
800	1	0	0	0	0	0	0	1	1
815	1	0	0	0	0	0	0	1	1*
830	0	0	0	0	0	0	0	0	0*
845	0	0	0	0	0	0	0	0	0*
1600	3	1	0	1	2	2	0	1	5
1615	2	1	0	1	2	1	0	1	4
1630	1	2	0	0	2	0	0	1	3
1645	0	2	0	0	2	0	0	0	2
1700	0	2	0	0	2	0	0	0	2
1715	0	2	0	0	2	0	0	0	2*
1730	0	1	0	0	1	0	0	0	1*
1745	0	0	0	0	0	0	0	0	0*

Evanston, IL Weather: Warm and Morning Rain 07/24/17
Lake St and Alley West Of Sherman Single Unit Trucks Only 17:02:08
Thursday July 21, 2017

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

Intersection # 10 lake/alleywsherman/single

Begin	N-Approach			E-Approach			S-Approach			W-Approach			Int
Time	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
700	0	0	0	0	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0	0	0	0	0
730	0	0	0	1	0	0	0	0	0	0	0	0	1
745	0	0	0	1	0	0	0	0	0	0	0	0	1
800	0	0	0	1	0	0	0	0	0	0	0	0	1
815	0	0	0	1	0	0	0	0	0	0	0	0	1*
830	0	0	0	0	0	0	0	0	0	0	0	0	0*
845	0	0	0	0	0	0	0	0	0	0	0	0	0*
1600	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0	0	0	0	0
1630	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0	0	0	0	0*
1730	0	0	0	0	0	0	0	0	0	0	0	0	0*
1745	0	0	0	0	0	0	0	0	0	0	0	0	0*

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

Intersection # 10 lake/alleywsherman/single

Begin	Approach Totals				Exit Totals				Int
Time	N	E	S	W	N	E	S	W	Total
700	0	0	0	0	0	0	0	0	0
715	0	0	0	0	0	0	0	0	0
730	0	1	0	0	1	0	0	0	1
745	0	1	0	0	1	0	0	0	1
800	0	1	0	0	1	0	0	0	1
815	0	1	0	0	1	0	0	0	1*
830	0	0	0	0	0	0	0	0	0*
845	0	0	0	0	0	0	0	0	0*
1600	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0
1630	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0
1700	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0*
1730	0	0	0	0	0	0	0	0	0*
1745	0	0	0	0	0	0	0	0	0*

Garage Parking Counts

Car Count Report for 61972

Report Parameters FacilityID: 61972

	Car Count at 10:00 am	Car Count at 02:00 pm
1/2/2017	350	410
1/3/2017	751	810
1/6/2017	700	890
1/7/2017	345	427
1/8/2017	170	311
1/9/2017	685	
1/10/2017	732	
1/11/2017	872	
1/13/2017	848	879
1/14/2017	335	369
1/15/2017	218	325
1/16/2017	386	430
1/17/2017	878	907
1/18/2017	837	849
1/19/2017	853	820
1/20/2017	855	819
1/21/2017	388	412
1/22/2017	185	300
1/23/2017	587	746
1/24/2017	903	906
1/25/2017	889	902
1/26/2017	892	927
1/27/2017	849	869
1/28/2017	439	449
1/29/2017	170	267
1/30/2017	838	918
1/31/2017	936	993
2/1/2017	916	939
2/2/2017	984	992
2/3/2017	842	893
2/4/2017	460	432
2/5/2017	280	327

Car Count Report for 61972

Report Parameters FacilityID: 61972

	Car Count at 10:00 am	Car Count at 02:00 pm
2/6/2017	591	624
2/8/2017	905	845
2/9/2017	869	847
2/10/2017	829	905
2/11/2017	295	386
2/12/2017	180	359
2/13/2017	926	935
2/14/2017	958	1073
2/15/2017	956	918
2/16/2017	876	854
2/17/2017	886	900
2/18/2017	298	381
2/19/2017	217	352
2/20/2017	650	745
2/21/2017	929	942
2/22/2017	919	963
2/23/2017	976	
2/24/2017	831	871
2/25/2017	305	375
2/26/2017	205	376
2/27/2017	879	908
2/28/2017	963	966
3/1/2017	887	906
3/2/2017	907	923
3/7/2017	863	882
3/8/2017	902	932
3/11/2017	286	379
3/12/2017	198	286
3/13/2017	864	886
3/15/2017	937	954
3/16/2017	872	961
3/17/2017	819	
3/18/2017	305	396
3/19/2017	215	325

Car Count Report for 61972

Report Parameters FacilityID: 61972

	Car Count at 10:00 am	Car Count at 02:00 pm
3/20/2017	895	925
3/22/2017	935	942
3/23/2017	844	684
3/24/2017	846	806
3/25/2017	325	387
3/26/2017	225	335
3/29/2017	791	794
3/30/2017	805	820
3/31/2017	456	467
4/1/2017	336	389
4/2/2017	226	318
4/3/2017	856	943
4/4/2017	897	928
4/6/2017	892	953
4/7/2017	326	341
4/8/2017	326	341
4/9/2017	237	326
4/10/2017	868	936
4/11/2017	685	855
4/12/2017	867	898
4/13/2017	769	810
4/14/2017	652	596
4/15/2017	311	372
4/16/2017	174	349
4/17/2017	632	
4/18/2017	835	765
4/19/2017	58	213
4/20/2017	941	547
4/21/2017	869	617
4/22/2017	334	369
4/23/2017	241	306
4/24/2017	807	945
4/25/2017	935	922
4/27/2017	821	906

Car Count Report for 61972

Report Parameters FacilityID: 61972

	Car Count at 10:00 am	Car Count at 02:00 pm
4/28/2017	872	853
4/29/2017	257	345
4/30/2017	201	311
5/1/2017	897	926
5/2/2017	902	
5/3/2017	859	953
5/4/2017	872	952
5/5/2017	866	928
5/6/2017	276	358
5/7/2017	198	336
5/8/2017	861	949
5/9/2017	930	929
5/10/2017	890	918
5/11/2017	756	852
5/12/2017	825	739
5/13/2017	296	377
5/14/2017	285	321
5/15/2017	910	930

Car Count Report for 61971

Report Parameters FacilityID: 61971

	Car Count at 10:00 am	Car Count at 02:00 pm
1/2/2017	430	986
1/3/2017	650	1050
1/4/2017	702	985
1/5/2017	689	870
1/9/2017	601	835
1/10/2017	676	1102
1/11/2017	652	835
1/12/2017	646	874
1/13/2017	635	851
1/14/2017	346	436
1/15/2017	556	973
1/17/2017	659	904
1/19/2017	652	876
1/20/2017	644	826
1/21/2017	347	415
1/22/2017	340	
1/23/2017	648	874
1/25/2017	700	878
1/26/2017	692	715
1/27/2017	562	645
1/28/2017	225	583
1/29/2017	187	503
1/30/2017	625	720
1/31/2017	684	712
2/1/2017	722	
2/2/2017	703	627
2/3/2017	614	
2/4/2017	195	305
2/5/2017	360	904
2/6/2017	599	536
2/7/2017	667	675
2/8/2017	561	615

Car Count Report for 61971

Report Parameters FacilityID: 61971

	Car Count at 10:00 am	Car Count at 02:00 pm
2/9/2017	700	
2/10/2017	700	
2/11/2017	338	415
2/12/2017	1064	763
2/13/2017	707	655
2/15/2017	609	537
2/16/2017	669	
2/17/2017	678	
2/18/2017	205	310
2/19/2017	292	467
2/20/2017	431	485
2/21/2017	651	743
2/22/2017	667	752
2/23/2017	726	684
2/24/2017	670	637
2/25/2017	192	321
2/26/2017	428	523
2/27/2017	687	648
2/28/2017	665	546
3/1/2017	683	624
3/2/2017	676	645
3/3/2017	636	594
3/4/2017	192	344
3/5/2017	198	506
3/6/2017	701	787
3/7/2017	715	685
3/8/2017	669	
3/9/2017	683	692
3/10/2017	675	723
3/11/2017	195	414
3/12/2017	300	
3/14/2017	726	685
3/15/2017	692	715
3/16/2017	672	696

Car Count Report for 61971

Report Parameters FacilityID: 61971

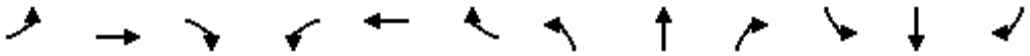
	Car Count at 10:00 am	Car Count at 02:00 pm
3/17/2017	705	683
3/18/2017	260	415
3/21/2017	820	767
3/22/2017	489	
3/23/2017	681	670
3/24/2017	720	700
3/25/2017	168	462
3/26/2017	202	529
3/28/2017	685	710
3/29/2017	702	725
3/30/2017	584	615
3/31/2017	677	693
4/1/2017	195	404
4/2/2017	177	409
4/3/2017	165	435
4/4/2017	216	241
4/5/2017	726	685
4/6/2017	662	635
4/7/2017	730	698
4/8/2017	189	394
4/9/2017	148	366
4/11/2017	665	631
4/12/2017	670	713
4/13/2017	587	643
4/14/2017	815	930
4/15/2017	165	365
4/16/2017	225	400
4/18/2017	630	685
4/19/2017	684	667
4/20/2017	584	647
4/21/2017	681	715
4/22/2017	197	402
4/23/2017	187	287
4/24/2017	712	668

Car Count Report for 61971

Report Parameters FacilityID: 61971

	Car Count at 10:00 am	Car Count at 02:00 pm
4/25/2017	693	694
4/26/2017	594	715
4/27/2017	674	726
4/28/2017	706	757
4/29/2017	186	424
4/30/2017	156	625
5/1/2017	685	769
5/2/2017	713	818
5/3/2017	695	
5/4/2017	673	743
5/5/2017	623	697
5/6/2017	325	415
5/7/2017	244	472
5/8/2017	527	667
5/9/2017	584	637
5/10/2017	596	692
5/11/2017	715	781
5/12/2017	726	315
5/13/2017	268	325
5/14/2017	428	685
5/15/2017	550	823
5/16/2017	652	695

Capacity Analyses

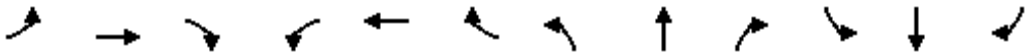


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	65	16	8	93	48	15	169	12	43	102	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.92			0.92			0.98			0.94	
Frt		0.984			0.956			0.992			0.970	
Flt Protected		0.981			0.997			0.996			0.988	
Satd. Flow (prot)	0	1642	0	0	1550	0	0	1720	0	0	3010	0
Flt Permitted		0.842			0.987			0.975			0.860	
Satd. Flow (perm)	0	1313	0	0	1531	0	0	1666	0	0	2552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			36			7			38	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		57			229			167			143	
Travel Time (s)		1.6			6.2			4.6			3.9	
Confl. Peds. (#/hr)	100		42	42		100	75		67	67		75
Confl. Bikes (#/hr)			2			1			9			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	0%	0%	5%	2%	0%	5%	0%	12%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)			10			10			10			10
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	157	0	0	207	0	0	190	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		32.0	32.0		43.0	43.0		43.0	43.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		57.3%	57.3%		57.3%	57.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		27.0			27.0			38.0			38.0	
Actuated g/C Ratio		0.36			0.36			0.51			0.51	
v/c Ratio		0.29			0.27			0.24			0.14	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.0			14.5			11.0			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.0			14.5			11.0			8.2	
LOS		B			B			B			A	
Approach Delay		18.0			14.5			11.0			8.2	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		42			38			49			18	
Queue Length 95th (ft)		85			81			88			34	
Internal Link Dist (ft)		1			149			87			63	
Turn Bay Length (ft)												
Base Capacity (vph)		479			574			847			1311	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.27			0.24			0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Sherman Ave & Grove St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	66	141	17	6	107	11	11	129	13	27	60	30
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)	73	155	19	7	118	12	12	142	14	30	66	33

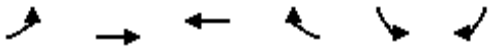
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	246	65	71	168	63	66
Volume Left (vph)	73	7	0	12	30	0
Volume Right (vph)	19	0	12	14	0	33
Hadj (s)	0.09	0.13	-0.03	-0.01	0.37	-0.31
Departure Headway (s)	5.7	5.8	5.7	5.8	6.2	5.5
Degree Utilization, x	0.39	0.11	0.11	0.27	0.11	0.10
Capacity (veh/h)	606	577	593	585	537	601
Control Delay (s)	12.2	8.3	8.2	10.9	8.8	8.0
Approach Delay (s)	12.2	8.2		10.9	8.3	
Approach LOS	B	A		B	A	

Intersection Summary				
Delay	10.4			
Level of Service	B			
Intersection Capacity Utilization	40.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	132	3	1	143	0	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)	143	3	1	155	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				250		
pX, platoon unblocked						
vC, conflicting volume			147		303	145
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		303	145
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		100	100
cM capacity (veh/h)			1429		686	899

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	147	157	2
Volume Left	0	1	0
Volume Right	3	0	2
cSH	1700	1429	899
Volume to Capacity	0.09	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.1	9.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.1	9.0
Approach LOS			A

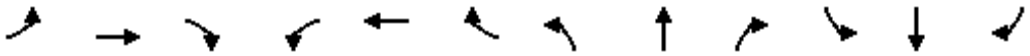
Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		18.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	224	147	1	0	1
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)	0	243	160	1	0	1
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	161				404	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	161				404	160
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				100	100
cM capacity (veh/h)	1412				601	882

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	243	161	1
Volume Left	0	0	0
Volume Right	0	1	1
cSH	1412	1700	882
Volume to Capacity	0.00	0.09	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

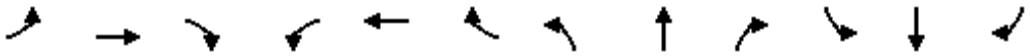
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	21.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	201	18	8	135	6	24	19	16	5	4	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	22	216	19	9	145	6	26	20	17	5	4	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	257	160	63	15
Volume Left (vph)	22	9	26	5
Volume Right (vph)	19	6	17	5
Hadj (s)	0.04	0.05	0.07	0.10
Departure Headway (s)	4.3	4.4	4.9	5.0
Degree Utilization, x	0.31	0.20	0.09	0.02
Capacity (veh/h)	813	782	671	645
Control Delay (s)	9.2	8.5	8.4	8.1
Approach Delay (s)	9.2	8.5	8.4	8.1
Approach LOS	A	A	A	A

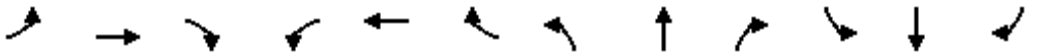
Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	34.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	193	5	4	101	4	12	4	25	2	2	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	208	5	4	109	4	13	4	27	2	2	13
Pedestrians		6			5			35			26	
Lane Width (ft)		11.0			11.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			3			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					453							
pX, platoon unblocked												
vC, conflicting volume	139			248			391	399	250	396	400	143
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	139			248			391	399	250	396	400	143
tC, single (s)	4.1			4.1			7.3	6.5	6.4	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.5	3.5	4.0	3.3
p0 queue free %	100			100			97	99	96	100	100	99
cM capacity (veh/h)	1428			1294			496	514	728	509	514	888

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	216	117	44	17
Volume Left	3	4	13	2
Volume Right	5	4	27	13
cSH	1428	1294	618	750
Volume to Capacity	0.00	0.00	0.07	0.02
Queue Length 95th (ft)	0	0	6	2
Control Delay (s)	0.1	0.3	11.3	9.9
Lane LOS	A	A	B	A
Approach Delay (s)	0.1	0.3	11.3	9.9
Approach LOS			B	A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	25.8%	ICU Level of Service	A
Analysis Period (min)	15		

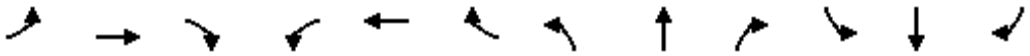


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	104	33	18	91	48	17	119	25	93	241	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.94			0.92			0.94			0.91	
Frt		0.975			0.959			0.979			0.981	
Flt Protected		0.989			0.994			0.995			0.988	
Satd. Flow (prot)	0	1706	0	0	1579	0	0	1680	0	0	3156	0
Flt Permitted		0.908			0.959			0.946			0.835	
Satd. Flow (perm)	0	1511	0	0	1509	0	0	1562	0	0	2543	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			33			18			31	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		57			229			167			143	
Travel Time (s)		1.6			6.2			4.6			3.9	
Confl. Peds. (#/hr)	92		90	90		92	156		107	107		156
Confl. Bikes (#/hr)			1			2			3			9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	3%	10%	2%	2%	0%	2%	4%	3%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)			10			10			10			10
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	186	0	0	166	0	0	169	0	0	403	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		32.0	32.0		43.0	43.0		43.0	43.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		57.3%	57.3%		57.3%	57.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		27.0			27.0			38.0			38.0	
Actuated g/C Ratio		0.36			0.36			0.51			0.51	
v/c Ratio		0.34			0.29			0.21			0.31	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		17.9			15.3			9.9			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		17.9			15.3			9.9			10.7	
LOS		B			B			A			B	
Approach Delay		17.9			15.3			9.9			10.7	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		56			43			36			49	
Queue Length 95th (ft)		105			88			70			77	
Internal Link Dist (ft)		1			149			87			63	
Turn Bay Length (ft)												
Base Capacity (vph)		554			564			800			1303	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.34			0.29			0.21			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Sherman Ave & Grove St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	59	117	10	6	113	24	14	77	8	60	156	74
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)	66	131	11	7	127	27	16	87	9	67	175	83

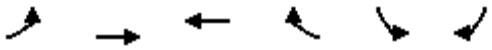
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	209	70	90	111	155	171
Volume Left (vph)	66	7	0	16	67	0
Volume Right (vph)	11	0	27	9	0	83
Hadj (s)	0.06	0.06	-0.18	0.01	0.30	-0.31
Departure Headway (s)	6.0	6.1	5.9	6.1	6.1	5.5
Degree Utilization, x	0.35	0.12	0.15	0.19	0.26	0.26
Capacity (veh/h)	566	546	569	548	564	627
Control Delay (s)	12.2	8.7	8.7	10.5	10.0	9.2
Approach Delay (s)	12.2	8.7		10.5	9.6	
Approach LOS	B	A		B	A	

Intersection Summary				
Delay	10.2			
Level of Service	B			
Intersection Capacity Utilization	48.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	172	0	3	153	1	5
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	0	3	166	1	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				250		
pX, platoon unblocked						
vC, conflicting volume			187		360	187
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			187		360	187
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		100	99
cM capacity (veh/h)			1381		635	853

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	187	170	7
Volume Left	0	3	1
Volume Right	0	0	5
cSH	1700	1381	807
Volume to Capacity	0.11	0.00	0.01
Queue Length 95th (ft)	0	0	1
Control Delay (s)	0.0	0.2	9.5
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	9.5
Approach LOS			A

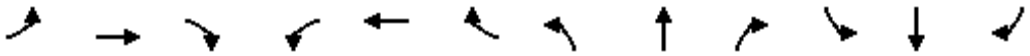
Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		20.5%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	186	199	2	0	1
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)	0	202	216	2	0	1
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	218				420	217
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	218				420	217
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				100	100
cM capacity (veh/h)	1345				588	820

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	202	218	1
Volume Left	0	0	0
Volume Right	0	2	1
cSH	1345	1700	820
Volume to Capacity	0.00	0.13	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.4
Approach LOS			A

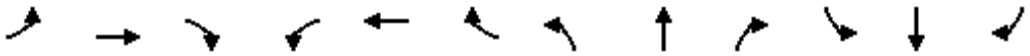
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	20.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	181	13	14	178	10	13	19	3	4	10	13
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)	7	206	15	16	202	11	15	22	3	5	11	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	227	230	40	31
Volume Left (vph)	7	16	15	5
Volume Right (vph)	15	11	3	15
Hadj (s)	0.01	-0.02	0.07	-0.26
Departure Headway (s)	4.3	4.3	5.0	4.7
Degree Utilization, x	0.27	0.27	0.06	0.04
Capacity (veh/h)	811	808	650	683
Control Delay (s)	8.9	8.9	8.3	7.9
Approach Delay (s)	8.9	8.9	8.3	7.9
Approach LOS	A	A	A	A

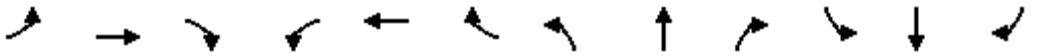
Intersection Summary				
Delay	8.8			
Level of Service	A			
Intersection Capacity Utilization	33.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	7	117	9	14	213	6	17	3	14	4	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	8	130	10	16	237	7	19	3	16	4	0	8
Pedestrians		11			10			55			46	
Lane Width (ft)		11.0			11.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			4			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					453							
pX, platoon unblocked												
vC, conflicting volume	289			195			495	526	200	495	528	297
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	289			195			495	526	200	495	528	297
tC, single (s)	4.1			4.2			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	99	98	99	100	99
cM capacity (veh/h)	1239			1292			417	417	804	423	416	715

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	148	259	38	12
Volume Left	8	16	19	4
Volume Right	10	7	16	8
cSH	1239	1292	520	572
Volume to Capacity	0.01	0.01	0.07	0.02
Queue Length 95th (ft)	0	1	6	2
Control Delay (s)	0.5	0.6	12.5	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	0.5	0.6	12.5	11.4
Approach LOS			B	B

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

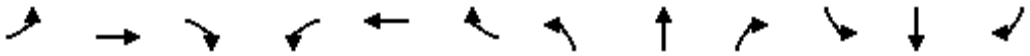


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	78	39	10	94	49	16	173	13	44	107	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.92			0.92			0.98			0.94	
Frt		0.971			0.957			0.991			0.970	
Flt Protected		0.982			0.997			0.996			0.989	
Satd. Flow (prot)	0	1623	0	0	1554	0	0	1718	0	0	3015	0
Flt Permitted		0.840			0.979			0.973			0.859	
Satd. Flow (perm)	0	1301	0	0	1522	0	0	1661	0	0	2553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			35			7			39	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		57			229			167			143	
Travel Time (s)		1.6			6.2			4.6			3.9	
Confl. Peds. (#/hr)	100		42	42		100	75		67	67		75
Confl. Bikes (#/hr)			2			1			9			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	0%	0%	5%	2%	0%	5%	0%	12%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)			10			10			10			10
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	194	0	0	162	0	0	213	0	0	198	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		32.0	32.0		43.0	43.0		43.0	43.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		57.3%	57.3%		57.3%	57.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		27.0			27.0			38.0			38.0	
Actuated g/C Ratio		0.36			0.36			0.51			0.51	
v/c Ratio		0.40			0.28			0.25			0.15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		19.1			14.9			11.1			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.1			14.9			11.1			8.2	
LOS		B			B			B			A	
Approach Delay		19.1			14.9			11.1			8.2	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		59			40			51			19	
Queue Length 95th (ft)		114			84			90			36	
Internal Link Dist (ft)		1			149			87			63	
Turn Bay Length (ft)												
Base Capacity (vph)		481			570			845			1312	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.28			0.25			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Sherman Ave & Grove St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	67	142	18	7	111	12	16	136	14	28	82	36
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)	74	156	20	8	122	13	18	149	15	31	90	40

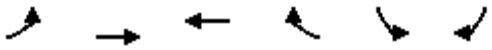
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	249	69	74	182	76	85
Volume Left (vph)	74	8	0	18	31	0
Volume Right (vph)	20	0	13	15	0	40
Hadj (s)	0.09	0.13	-0.03	0.00	0.33	-0.28
Departure Headway (s)	5.8	6.0	5.8	5.9	6.3	5.6
Degree Utilization, x	0.40	0.11	0.12	0.30	0.13	0.13
Capacity (veh/h)	588	556	572	573	534	590
Control Delay (s)	12.7	8.6	8.4	11.4	9.0	8.3
Approach Delay (s)	12.7	8.5		11.4	8.6	
Approach LOS	B	A		B	A	

Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	48.2%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	135	0	0	147	13	49
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)	147	0	0	160	14	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				256		
pX, platoon unblocked						
vC, conflicting volume			147		307	147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			147		307	147
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	94
cM capacity (veh/h)			1429		683	898

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	147	160	67
Volume Left	0	0	14
Volume Right	0	0	53
cSH	1700	1700	842
Volume to Capacity	0.09	0.09	0.08
Queue Length 95th (ft)	0	0	7
Control Delay (s)	0.0	0.0	9.6
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.6
Approach LOS			A

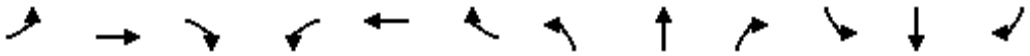
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	18.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	6	227	150	13	0	0
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)	7	247	163	14	0	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	177				430	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177				430	170
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				100	100
cM capacity (veh/h)	1393				578	871

Direction, Lane #	EB 1	WB 1
Volume Total	253	177
Volume Left	7	0
Volume Right	0	14
cSH	1393	1700
Volume to Capacity	0.00	0.10
Queue Length 95th (ft)	0	0
Control Delay (s)	0.2	0.0
Lane LOS	A	
Approach Delay (s)	0.2	0.0
Approach LOS		

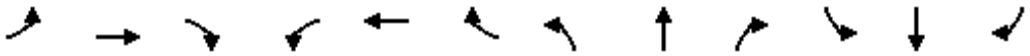
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	20.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	21	209	19	9	136	7	25	20	17	6	5	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	23	225	20	10	146	8	27	22	18	6	5	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	268	163	67	18
Volume Left (vph)	23	10	27	6
Volume Right (vph)	20	8	18	6
Hadj (s)	0.04	0.05	0.07	0.10
Departure Headway (s)	4.3	4.5	5.0	5.1
Degree Utilization, x	0.32	0.20	0.09	0.03
Capacity (veh/h)	808	775	663	637
Control Delay (s)	9.4	8.6	8.5	8.2
Approach Delay (s)	9.4	8.6	8.5	8.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.0			
Level of Service	A			
Intersection Capacity Utilization	35.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	4	192	6	5	114	5	13	5	26	3	3	13
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	4	206	6	5	123	5	14	5	28	3	3	14
Pedestrians		6			5			35			26	
Lane Width (ft)		11.0			11.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			3			2	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					452							
pX, platoon unblocked												
vC, conflicting volume	154			248			411	418	250	416	419	157
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	154			248			411	418	250	416	419	157
tC, single (s)	4.1			4.1			7.3	6.5	6.4	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.7	4.0	3.5	3.5	4.0	3.3
p0 queue free %	100			100			97	99	96	99	99	98
cM capacity (veh/h)	1410			1294			478	501	729	492	501	872

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	217	133	47	20
Volume Left	4	5	14	3
Volume Right	6	5	28	14
cSH	1410	1294	604	704
Volume to Capacity	0.00	0.00	0.08	0.03
Queue Length 95th (ft)	0	0	6	2
Control Delay (s)	0.2	0.3	11.5	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.2	0.3	11.5	10.3
Approach LOS			B	B

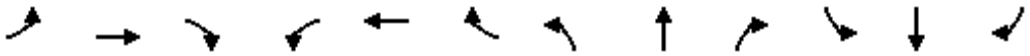
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	113	53	22	92	49	18	125	26	94	258	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.93			0.92			0.94			0.91	
Frt		0.966			0.959			0.980			0.982	
Flt Protected		0.990			0.993			0.995			0.988	
Satd. Flow (prot)	0	1674	0	0	1577	0	0	1683	0	0	3164	0
Flt Permitted		0.910			0.946			0.943			0.835	
Satd. Flow (perm)	0	1490	0	0	1487	0	0	1561	0	0	2556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			32			17			30	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		57			229			167			143	
Travel Time (s)		1.6			6.2			4.6			3.9	
Confl. Peds. (#/hr)	92		90	90		92	156		107	107		156
Confl. Bikes (#/hr)			1			2			3			9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	3%	10%	2%	2%	0%	2%	4%	3%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)			10			10			10			10
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	172	0	0	178	0	0	423	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0		32.0	32.0		43.0	43.0		43.0	43.0	
Total Split (%)	42.7%	42.7%		42.7%	42.7%		57.3%	57.3%		57.3%	57.3%	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effct Green (s)		27.0			27.0			38.0			38.0	
Actuated g/C Ratio		0.36			0.36			0.51			0.51	
v/c Ratio		0.40			0.31			0.22			0.32	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.5			15.8			10.2			10.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			15.8			10.2			10.9	
LOS		B			B			B			B	
Approach Delay		18.5			15.8			10.2			10.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		66			45			39			52	
Queue Length 95th (ft)		123			91			74			82	
Internal Link Dist (ft)		1			149			87			63	
Turn Bay Length (ft)												
Base Capacity (vph)		552			555			799			1309	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.31			0.22			0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Sherman Ave & Grove St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	60	118	11	7	127	25	37	103	9	61	174	92
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)	67	133	12	8	143	28	42	116	10	69	196	103

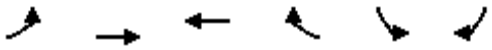
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2
Volume Total (vph)	212	79	99	167	166	201
Volume Left (vph)	67	8	0	42	69	0
Volume Right (vph)	12	0	28	10	0	103
Hadj (s)	0.06	0.06	-0.17	0.04	0.29	-0.33
Departure Headway (s)	6.4	6.5	6.2	6.3	6.3	5.7
Degree Utilization, x	0.38	0.14	0.17	0.29	0.29	0.32
Capacity (veh/h)	530	511	531	521	543	602
Control Delay (s)	13.1	9.3	9.3	12.0	10.6	10.1
Approach Delay (s)	13.1	9.3		12.0	10.3	
Approach LOS	B	A		B	B	

Intersection Summary				
Delay	11.1			
Level of Service	B			
Intersection Capacity Utilization	60.5%	ICU Level of Service		B
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	175	0	0	159	9	35
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)	190	0	0	173	10	38
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)				249		
pX, platoon unblocked						
vC, conflicting volume			190		363	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			190		363	190
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	96
cM capacity (veh/h)			1378		634	849

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	190	173	48
Volume Left	0	0	10
Volume Right	0	0	38
cSH	1700	1700	794
Volume to Capacity	0.11	0.10	0.06
Queue Length 95th (ft)	0	0	5
Control Delay (s)	0.0	0.0	9.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.8
Approach LOS			A

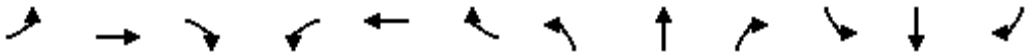
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	19.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	13	189	202	54	0	0
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)	14	205	220	59	0	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	278				483	249
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	278				483	249
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				100	100
cM capacity (veh/h)	1279				535	787

Direction, Lane #	EB 1	WB 1
Volume Total	220	278
Volume Left	14	0
Volume Right	0	59
cSH	1279	1700
Volume to Capacity	0.01	0.16
Queue Length 95th (ft)	1	0
Control Delay (s)	0.6	0.0
Lane LOS	A	
Approach Delay (s)	0.6	0.0
Approach LOS		

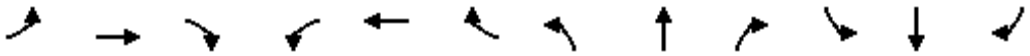
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	7	196	14	15	180	11	14	20	4	5	11	14
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)	8	223	16	17	205	12	16	23	5	6	12	16

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	247	234	43	34
Volume Left (vph)	8	17	16	6
Volume Right (vph)	16	13	5	16
Hadj (s)	0.01	-0.02	0.06	-0.25
Departure Headway (s)	4.4	4.3	5.1	4.8
Degree Utilization, x	0.30	0.28	0.06	0.05
Capacity (veh/h)	805	799	641	670
Control Delay (s)	9.2	9.0	8.4	8.0
Approach Delay (s)	9.2	9.0	8.4	8.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.0			
Level of Service	A			
Intersection Capacity Utilization	33.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	118	10	15	223	7	18	4	15	5	1	8
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	131	11	17	248	8	20	4	17	6	1	9
Pedestrians		11			10			55			46	
Lane Width (ft)		11.0			11.0			11.0			11.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			4			4	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					452							
pX, platoon unblocked												
vC, conflicting volume	302			197			515	544	202	514	546	309
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	302			197			515	544	202	514	546	309
tC, single (s)	4.1			4.2			7.2	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.6	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			95	99	98	99	100	99
cM capacity (veh/h)	1226			1289			403	407	803	409	406	704

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	151	272	41	16
Volume Left	9	17	20	6
Volume Right	11	8	17	9
cSH	1226	1289	506	537
Volume to Capacity	0.01	0.01	0.08	0.03
Queue Length 95th (ft)	1	1	7	2
Control Delay (s)	0.5	0.6	12.8	11.9
Lane LOS	A	A	B	B
Approach Delay (s)	0.5	0.6	12.8	11.9
Approach LOS			B	B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		