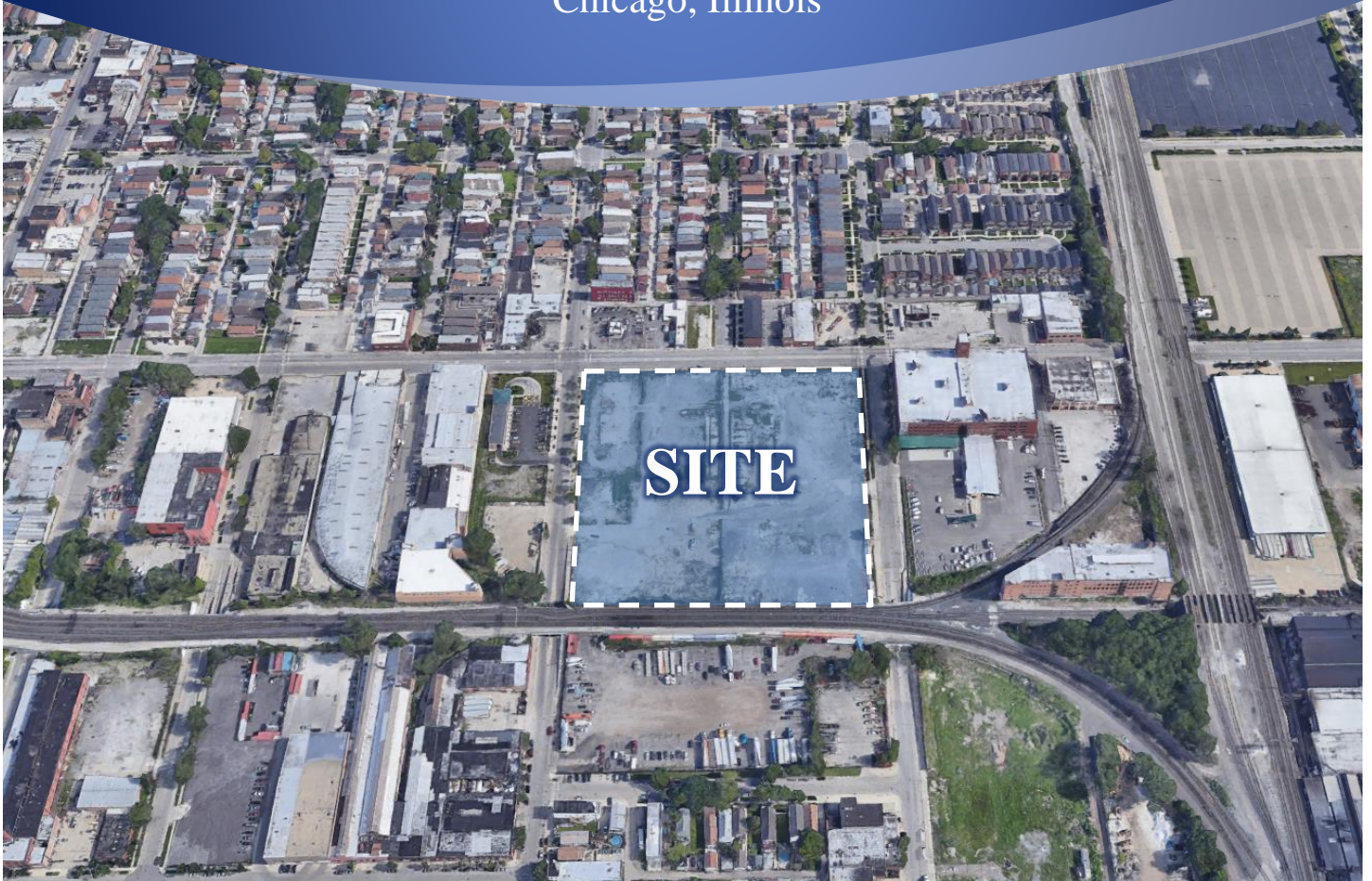


# Traffic Impact Study 3900 South Normal Avenue

Chicago, Illinois



Prepared For:

**3900 S. Normal TMG, LLC**



May 27, 2021

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# I. Executive Summary

This report summarizes the results of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for a proposed industrial building to be located at 3900 South Normal Avenue in Chicago, Illinois. The objectives of the traffic study are as follows:

- Determine the existing vehicular, pedestrian, bicycle, and public transportation conditions in the study area to establish a base condition.
- Assess the impact that the proposed development will have on transportation conditions in the area.
- Determine any street, access, bicycle, and pedestrian modifications and/or improvements that will be necessary to effectively accommodate and mitigate future conditions.

Vehicle, pedestrian, and bicycle counts were conducted during the weekday morning and weekday evening peak periods at the intersections of Perishing Road with Wallace Street and Normal Avenue and Root Street with Wallace Street and Normal Avenue in order to determine the general peak hour of traffic activity during these time periods.

As proposed, the site will be developed with an approximately 170,493 square-foot industrial building divided to serve up to four separate tenants. The development will provide a total of 179 parking spaces for employees, 26 spaces for trailer storage, and 16 truck loading bays. Access to the development is proposed to be provided via a full movement access drive on Wallace Street and a full movement access drive on Normal Avenue located approximately 250 feet south of Pershing Road.

Based on the preceding analyses and recommendations, the following conclusions have been made:

- The truck traffic generated by the development is anticipated to have a limited impact on the street system as the majority of truck traffic is expected to arrive and depart the site outside of peak hours.
- Area intersections have sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or traffic control modifications are required.
- The proposed access system will be adequate in accommodating the traffic estimated to be generated by the development.

# 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 a proposed industrial building to be located at 3900 South Normal Avenue in Chicago, Illinois. The site, which is currently vacant, is located on the south side of Pershing Road between Normal Avenue and Wallace Street. As proposed, the site will be developed with a multi-tenant industrial building with approximately 170,493 square feet of space. Access to the site is proposed to be provided via a full movement access drive off Wallace Street and a full movement access drive off Normal Avenue.

The purpose of this study was to examine existing traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any improvements to the transportation system are required to accommodate the proposed development. **Figure 1** shows the location of the site in relation to the area street system. **Figure 2** shows an aerial view of the site.

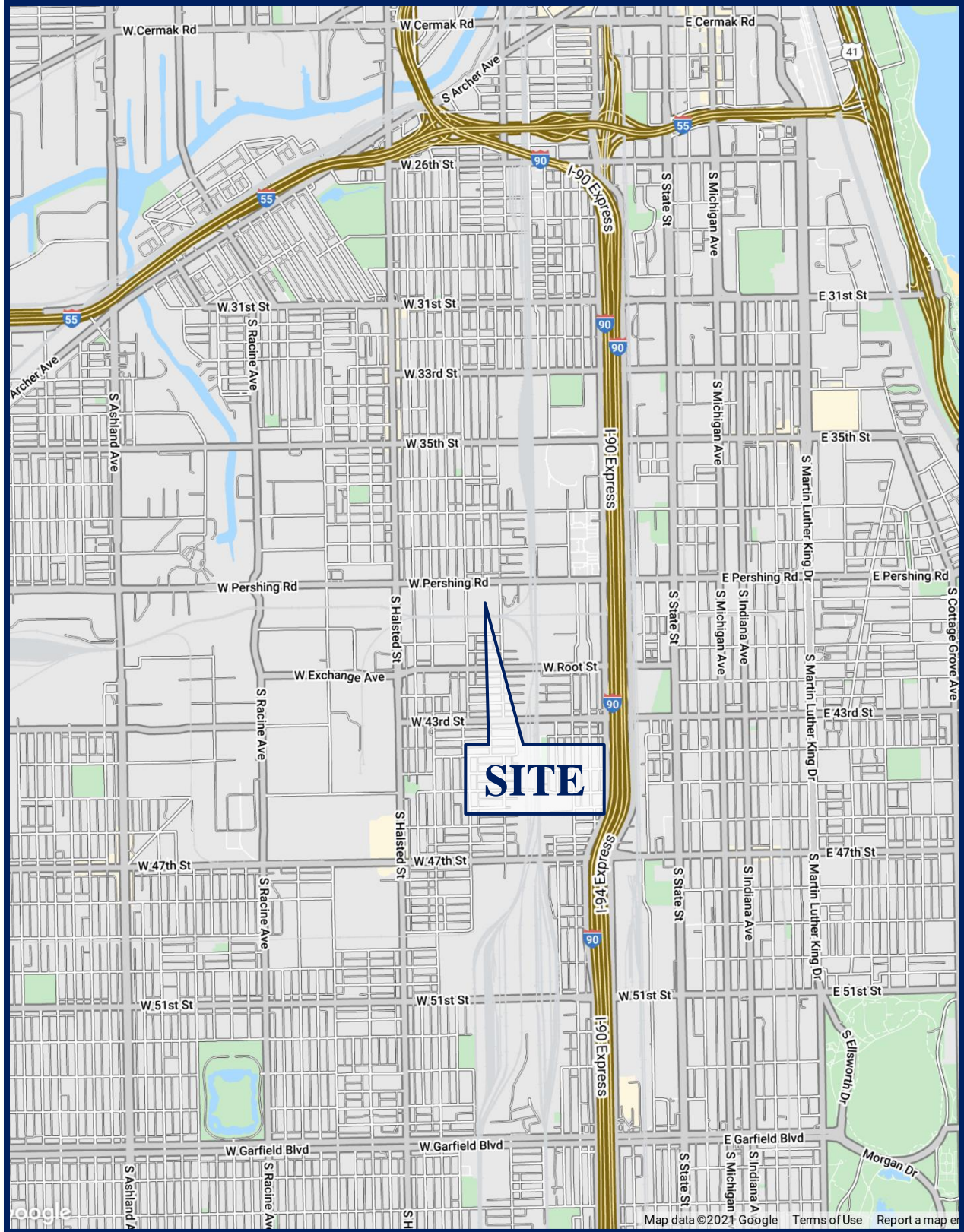
The sections of this report present the following:

- Existing street conditions
- A description of the proposed development
- Directional distribution of the development traffic
- Vehicle trip generation for the development
- Future traffic conditions including access to the development
- Traffic analyses for the weekday morning and weekday evening peak hours
- Evaluation and recommendations with respect to adequacy of the site access, on-site circulation, and adjacent street system.

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

1. Year 2021 Base Conditions – Analyzes the capacity of the existing roadway system using peak hour traffic volumes conducted in 2021 and adjusted to represent pre-pandemic conditions.
2. Year 2027 Total Projected Conditions – Analyzes the capacity of the future roadway system using the projected traffic volumes that include the Year 2021 base traffic volumes, ambient area growth not attributable to any particular development, and the additional traffic estimated to be generated by the proposed development.





Site Location

Figure 1

3900 S. Normal Avenue  
Chicago, Illinois







**Aerial View of Site**

**Figure 2**

## 2. Existing Conditions

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

### Site Location

The site is generally bounded by Pershing Avenue to the north, Normal Avenue to the east, Wallace Street to the west, and the Norfolk Southern Railway (NSR) railroad tracks to the south. The area offers a mixture of residential, industrial, and commercial uses. A U-Haul self-storage facility is located in the southeast quadrant of the intersection of Pershing Road with Normal Avenue and a car wash is located in the southwest quadrant of the intersection of Pershing Road with Wallace Street

### Existing Street System Characteristics

The characteristics of the existing streets near the development are described below and illustrated in **Figure 3**. All streets are under the jurisdiction of the Chicago Department of Transportation (CDOT) unless otherwise noted.

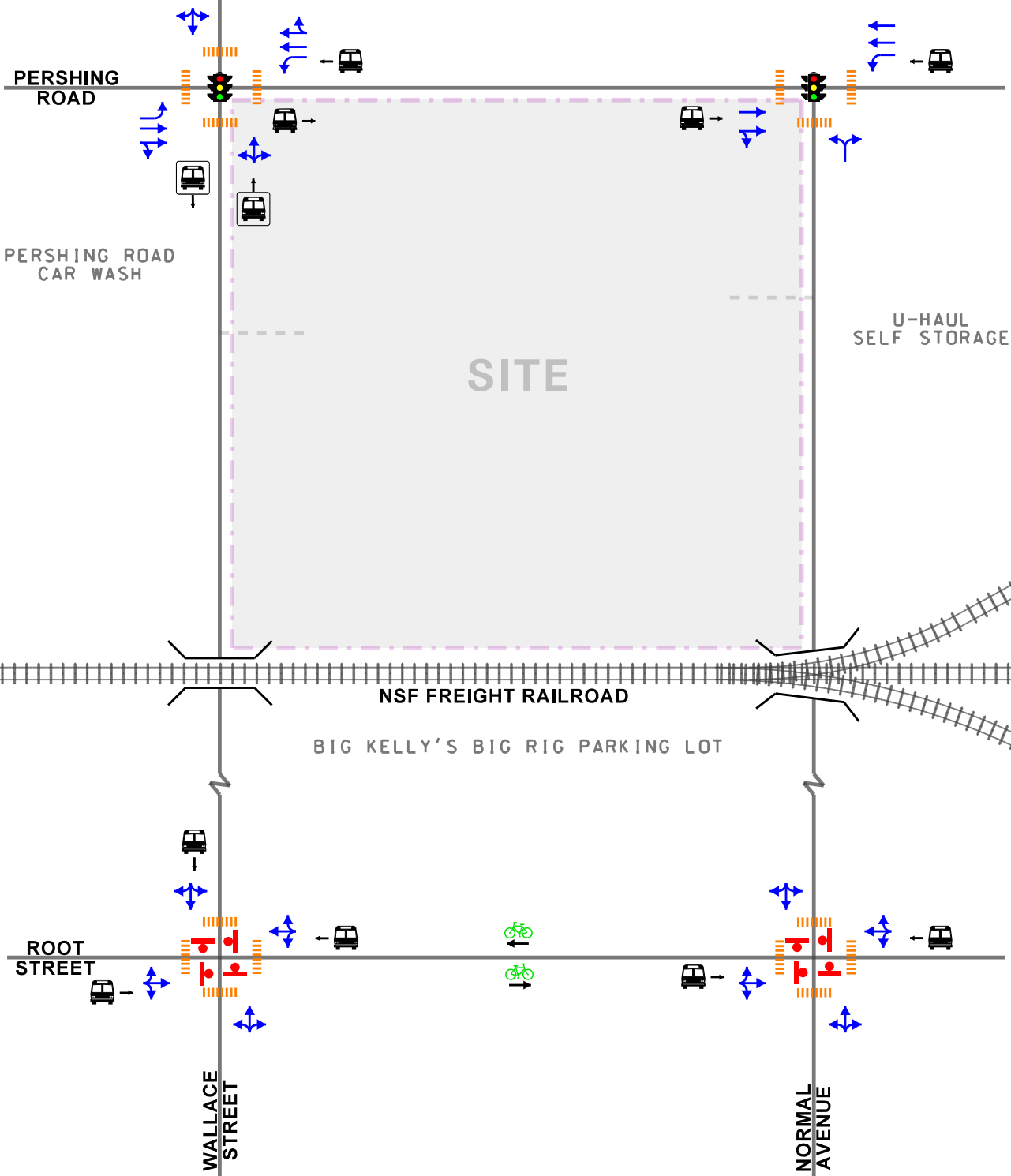
*Pershing Road* is an east-west, principal arterial street that provides two lanes in each direction. At its signalized intersection with Wallace Street, Pershing Road provides an exclusive left-turn lane, a through lane, and a shared through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks with pedestrian countdown signals. At its signalized intersection with Normal Avenue, Pershing Road provides one through lane and a shared through/right-turn lane on the eastbound approach and an exclusive left-turn lane and two through lanes on the westbound approach. All legs of this intersection provide high visibility crosswalks with pedestrian countdown signals. Parking is prohibited on both sides of the street between 7:00 A.M. and 9:00 A.M. and between 4:00 P.M. and 6:00 P.M. Monday through Friday. Pershing Road is under the jurisdiction of the Illinois Department of Transportation (IDOT), is designated as a Strategic Regional Arterial (SRA) route and carries an Annual Average Daily Traffic of 14,500 vehicles (IDOT 2018).

*Root Street* is an east-west, minor collector street that provides one lane in each direction. At its all-way stop sign controlled intersection with Wallace Street, Root Street provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks. At its all-way stop sign controlled intersection with Normal Avenue, Root Street provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks. Within the vicinity of the site, bike lanes are provided on both sides of Root Street and parking is generally permitted on both sides of the street. Root Street carries an AADT of 1,750 vehicles (IDOT 2018).





NOT TO SCALE



3900 S. Normal Avenue  
Chicago, Illinois

### Existing Roadway Characteristics



Job No: 21-118

Figure: 3

*Wallace Street* is a north-south, local street that provides one lane in each direction. At its signalized intersection with Pershing Road, Wallace Street provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks and pedestrian countdown timers. At its all-way stop sign controlled intersection with Root Street, Wallace Street provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks. Within the vicinity of the site parking is generally permitted on both sides of the street. Wallace Street has a viaduct with the NSR railroad tracks and, as such, is not impacted by train activity. Wallace Street carries an AADT of 3,300 vehicles (IDOT 2018).

*Normal Avenue* is a north-south local street that provides one lane in each direction. At its signalized intersection with Pershing Road, Normal Avenue provides a shared left-turn/right-turn lane on the northbound approach. It should be noted that access between Pershing Road and the north leg of Normal Avenue is prohibited. All legs of this intersection provide high visibility crosswalks and pedestrian countdown timers. At its all-way stop sign controlled intersection with Root Street, Normal Avenue provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks. Within the vicinity of the site parking is generally permitted on both sides of the street. Normal Avenue has a viaduct with the NSR railroad and, as such, is not impacted by train activity. Normal Avenue carries an AADT of 825 vehicles (IDOT 2018).

## Alternative Modes of Transportation

Accessibility to and from the area is enhanced by the various alternative modes of transportation serving the area as summarized below.

**Public Transportation.** The area is served by the Chicago Transit Authority (CTA) rapid transit via the Sox-35th Red Line station located approximately 3,500 feet northwest of the site. The CTA Red Line operates 24 hours a day, seven days a week between Howard Street and the 95<sup>th</sup>/Dan Ryan station located along the Dan Ryan Expressway at 95<sup>th</sup> Street. Additional service is provided via the Green Line tracks between the Cermak-McCormick Place station and the Ashland/63<sup>rd</sup> station during rush periods only.

In addition, the following bus routes serve the immediate area and have stops near the facility:

*Route 39 (Pershing)* generally runs along Pershing Road between the Lake Park Avenue and St. Louis Avenue. It operates daily, including holidays, from approximately 5:00 A.M. to 10:00 P.M. on weekdays and from approximately 7:30 A.M. to 5:15 P.M. on Saturdays.

*Route 43 (43rd)* generally runs along 43<sup>rd</sup> Street and Root Street between the Oakenwald Avenue and Halsted Avenue. It operates daily, including holidays, from approximately 5:00 A.M. to 8:10 P.M. on weekdays and from approximately 6:40 A.M. to 6:50 P.M. on Saturdays.

*Route 44 (Wallace-Racine)* generally runs along Wallace and Racine between the Halsted Orange Line Station and 87<sup>th</sup> Street. It operates daily, including holidays, from approximately 4:30 A.M. to 11:00 P.M. on weekdays and from approximately 8:00 A.M. to 7:30 P.M. on Saturdays.

***Pedestrian Accommodations.*** Sidewalks and high-visibility crosswalks are generally provided on the majority of the streets within the study area.

***Bike Facilities.*** Root Street provides dedicated bike lanes in both directions.

## Year 2021 Base Traffic Volumes

In order to determine current traffic conditions in the vicinity of the site, KLOA, Inc. conducted peak period traffic counts using Miovision Scout Video Collection Units on Tuesday, February 27, 2021 during the weekday morning (6:00 A.M. to 9:00 A.M.) and weekday evening (3:00 P.M. to 6:00 P.M.) peak periods at the following intersections:

- Pershing Road with Wallace Street
- Pershing Road with Normal Avenue
- Root Street with Wallace Street
- Root Street with Normal Avenue

The results of the traffic counts indicated that the weekday morning peak hour of traffic occurs from 7:15 A.M. to 8:15 A.M. and the weekday evening peak hour of traffic occurs from 3:15 P.M. to 4:15 P.M. Copies of the traffic count summary sheets are included in the Appendix. In order to accurately represent Year 2021 conditions due to the ongoing pandemic, the traffic volumes were compared with hourly counts previously conducted by IDOT on Pershing Road east of the site in 2018. Based on the 2018 counts, the 2021 traffic counts were increased by 25 percent during the weekday morning peak hour and 10 percent during the weekday evening peak hour.

**Figure 4** illustrates the Year 2021 base peak hour vehicle traffic volumes, inclusive of heavy vehicles. **Figure 5** illustrates the Year 2021 base heavy vehicle peak hour traffic volumes. **Figure 6** illustrates the existing pedestrian and bicycle volumes, showing direction of travel.

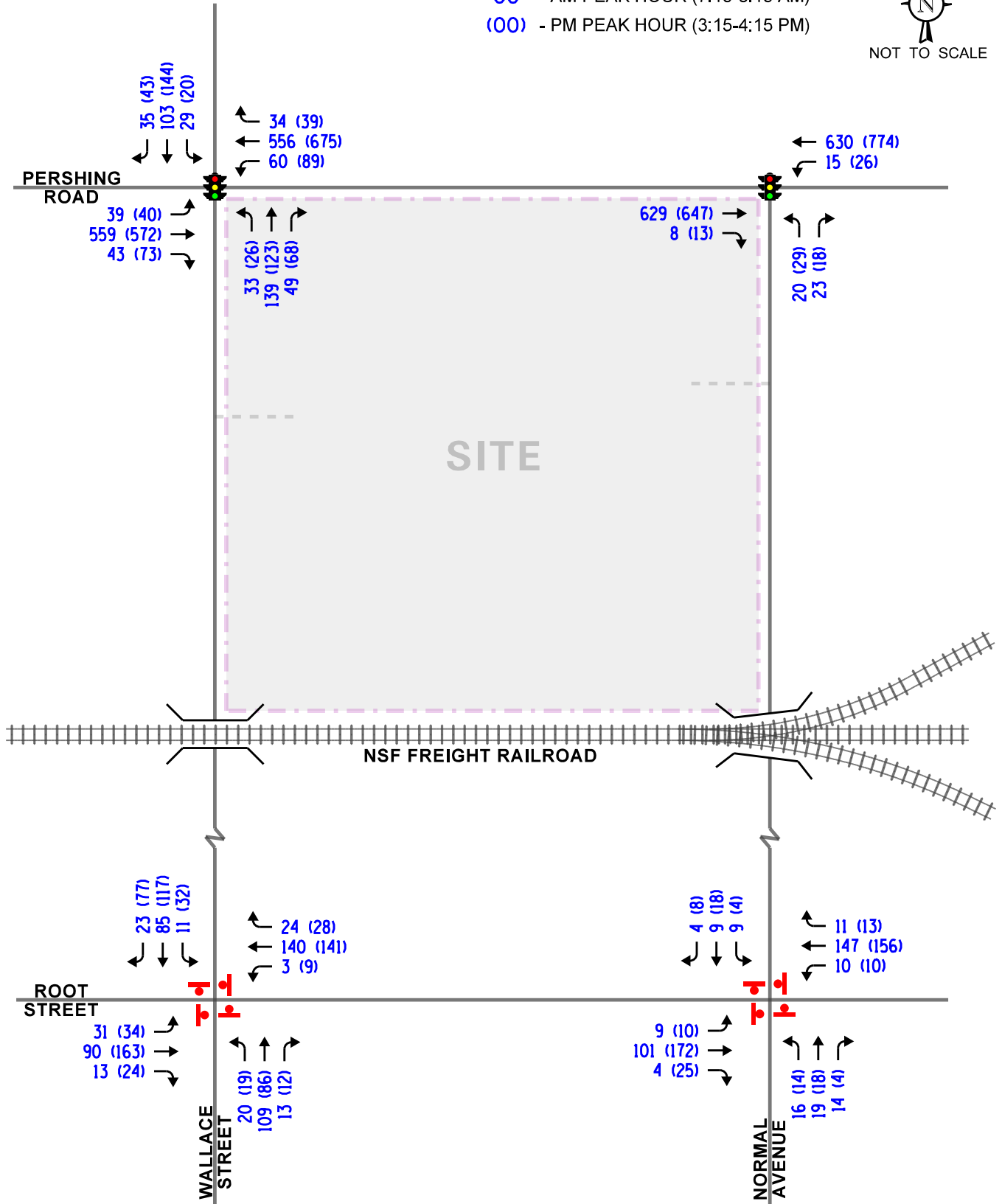


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3900 S. Normal Avenue  
Chicago, Illinois

Year 2021 Base Traffic Volumes



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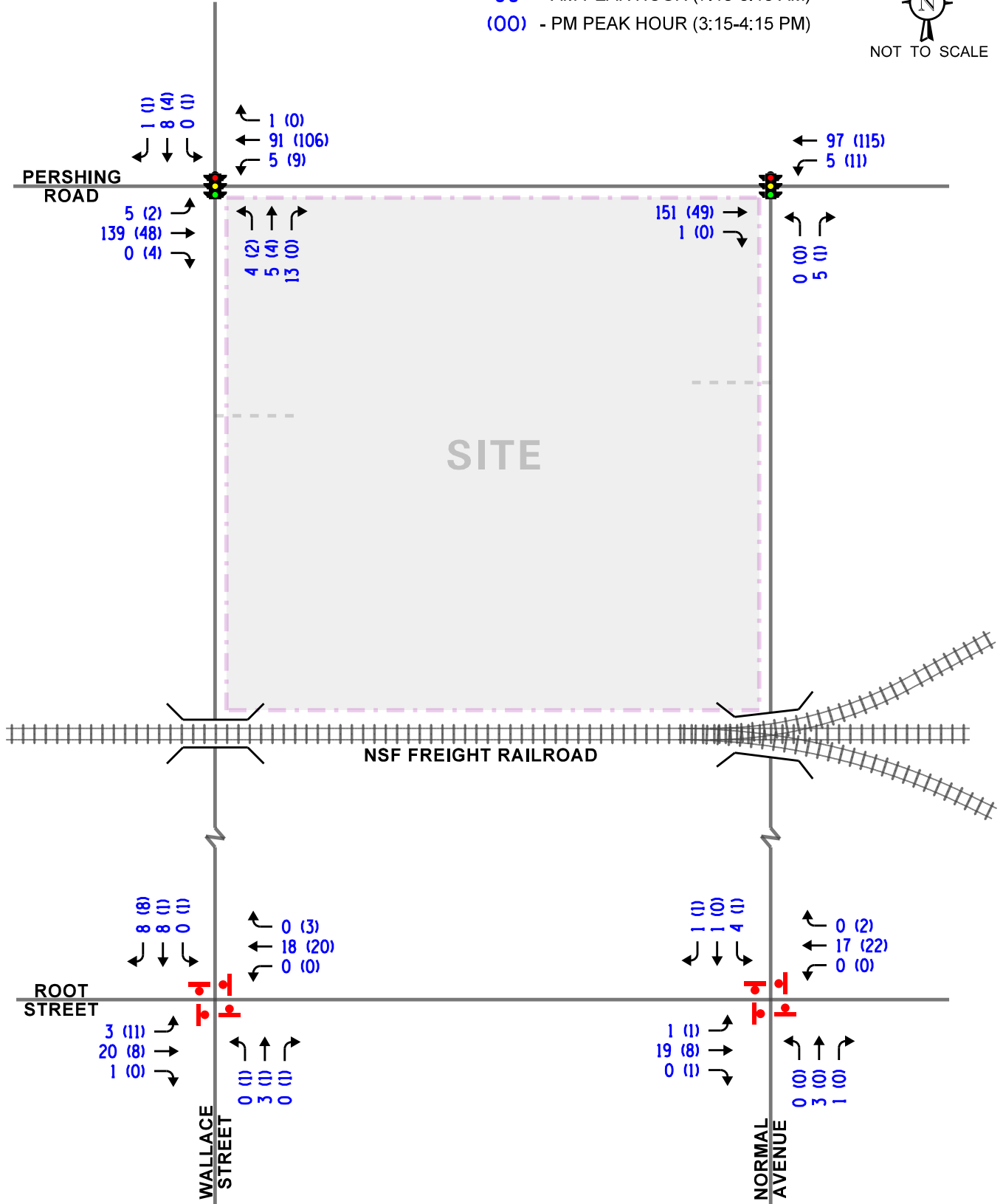
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3900 S. Normal Avenue  
Chicago, Illinois

Year 2021 Base Truck Traffic Volumes



Job No: 21-118

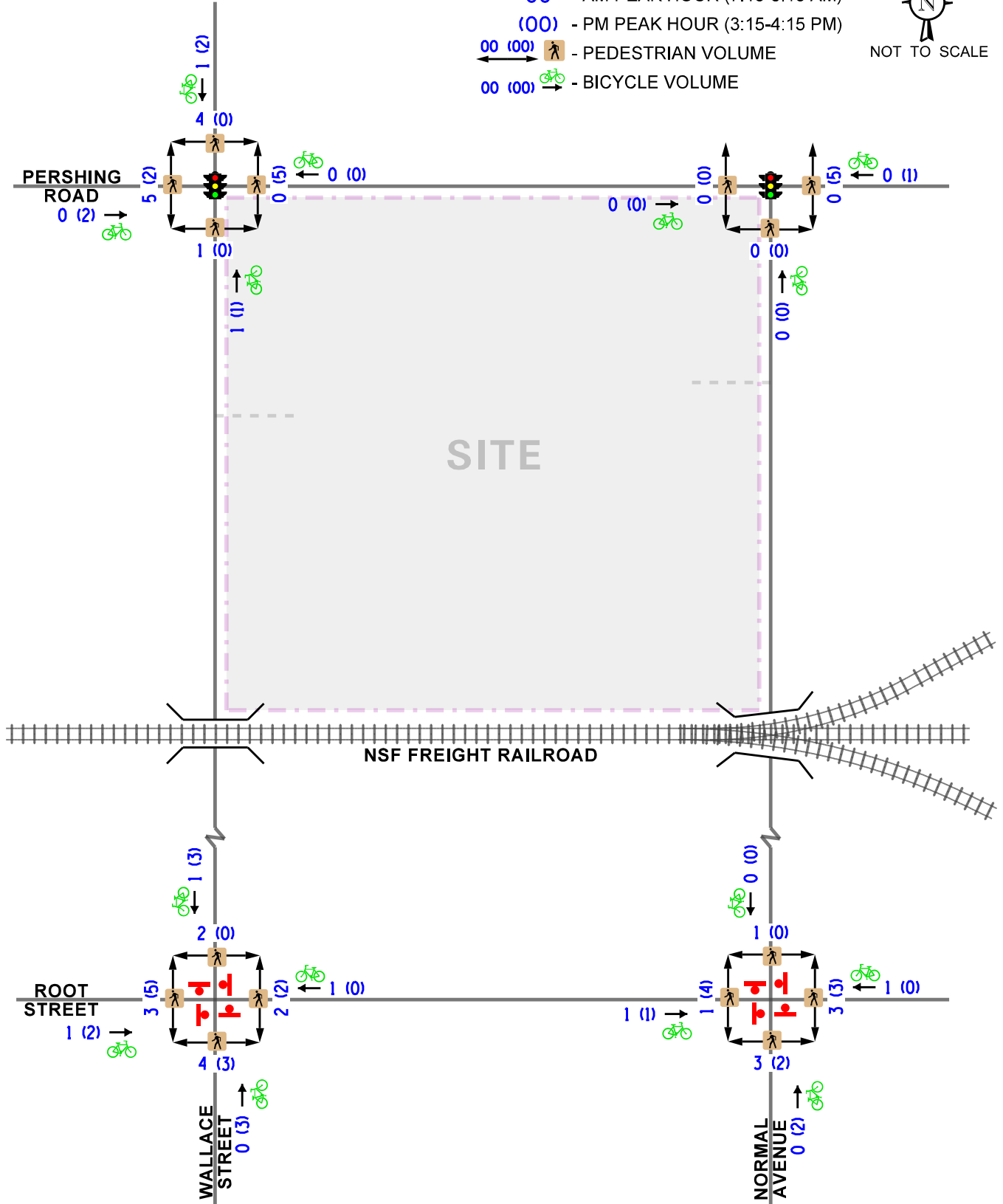
Figure: 5

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- 00 (00) [bicycle icon] - BICYCLE VOLUME



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3900 S. Normal Avenue  
Chicago, Illinois

Existing Pedestrian and Bicycle  
Traffic Volumes



Job No: 21-118

Figure: 6



### 3. Traffic Characteristics of the Proposed Development

In order to properly evaluate future traffic conditions in the surrounding area, it was necessary to determine the traffic characteristics of the proposed development, including the directional distribution and volumes of traffic that it will generate.

#### Proposed Development Plan

As proposed, the site will be developed with an approximately 170,493 square-foot industrial building divided to serve up to four separate tenants. The development will provide a total of 179 employee parking spaces. 16 truck loading bays will be provided on the east side of the building and 26 trailer storage spaces will be provided on the east side of the site. Access to the development is proposed to be provided as follows:

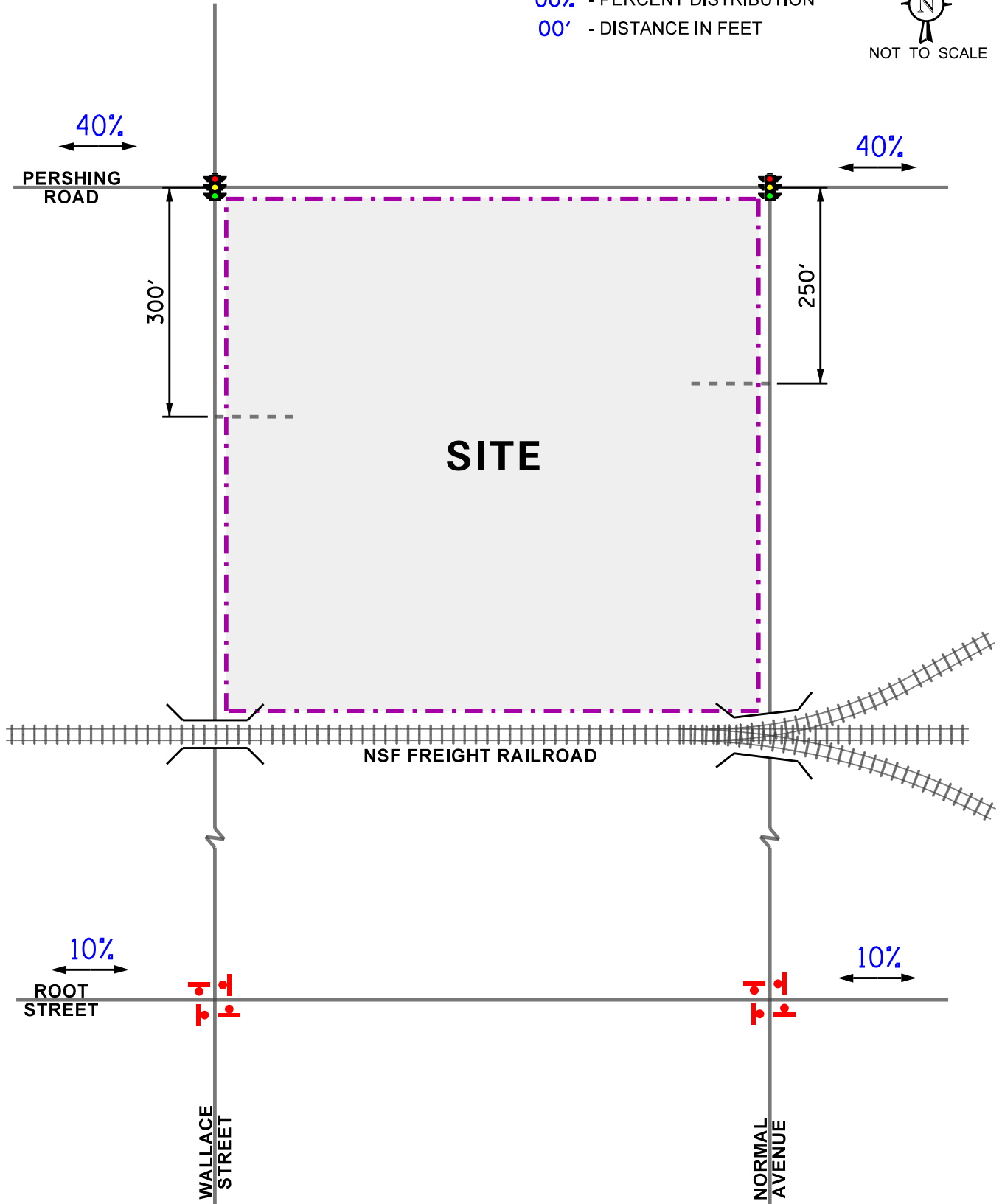
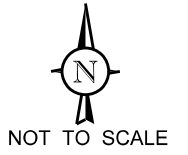
- A full movement access drive on the east side of Wallace Street located approximately 300 feet south of Pershing Road and will serve the employee parking lot. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.
- A full movement access drive on the west side of Normal Avenue located approximately 250 feet south of Pershing Road and will primarily serve the truck loading bays and will provide a connection to the employee parking lot south of the building and the parking lot in the northeast corner of the site. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

It should be noted that the proposed development will replace an existing curb cut on Wallace Street and an existing curb cut on Normal Avenue serving the site. A copy of the preliminary site plan is included in the appendix.

#### Directional Distribution

The directions from which traffic will approach and depart the site was estimated based on existing travel patterns, as determined from the traffic counts and the proposed access system of the development. **Figure 7** illustrates the directional distribution of traffic.

**LEGEND**  
00% - PERCENT DISTRIBUTION  
00' - DISTANCE IN FEET



3900 S. Normal Avenue  
Chicago, Illinois

Estimated Directional Distribution



Job No: 21-118

Figure: 7

## Peak Hour Traffic Volumes

The number of peak hour trips estimated to be generated by the proposed development was based on trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10<sup>th</sup> Edition. The “General Light Industrial” (Land-Use Code 110) was used for the development. It is important to note that ITE rates indicate that general light industrial developments typically generate minimal truck trips during the peak hours. However, in order to provide a conservative analysis, it was assumed that 10 percent of traffic generated by the development during the peak hours was truck traffic. **Table 1** summarizes the trips projected to be generated by the development.

Table 1  
ESTIMATED SITE GENERATED TRAFFIC

ITE Land-Use Code	Type/Size	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips
		In	Out	Total	In	Out	Total	
<b>110</b>	<b>General Light Industrial (170,493 s.f.)</b>	<b>105</b>	<b>14</b>	<b>119</b>	<b>14</b>	<b>93</b>	<b>107</b>	<b>844</b>
	Passenger Vehicles (90%)	94	13	107	13	83	96	760
	Trucks (10%)	11	1	12	1	10	11	84



## 4. Projected Traffic Conditions

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

### Development Traffic Assignment

The estimated weekday morning and weekday evening peak hour traffic volumes that will be generated by the proposed development were assigned to the street system in accordance with the previously described directional distribution (Figure 7). **Figure 8** illustrates the traffic assignment of the new passenger vehicle trips for the development. **Figure 9** illustrates the traffic assignment of the new truck trips for the development.

### Ambient Traffic Growth

To account for any additional increase in traffic due to other factors or developments not previously discussed, an ambient growth factor of 0.5 percent per year was also applied to the study area over a six-year period to represent Year 2027 no-build conditions. Furthermore, in order to account for the increase in population in the study area, bicycle and pedestrian volumes were increased by 10 percent at each intersection. **Figure 10** illustrates the Year 2027 No Build Volumes.

### Total Projected Traffic Volumes

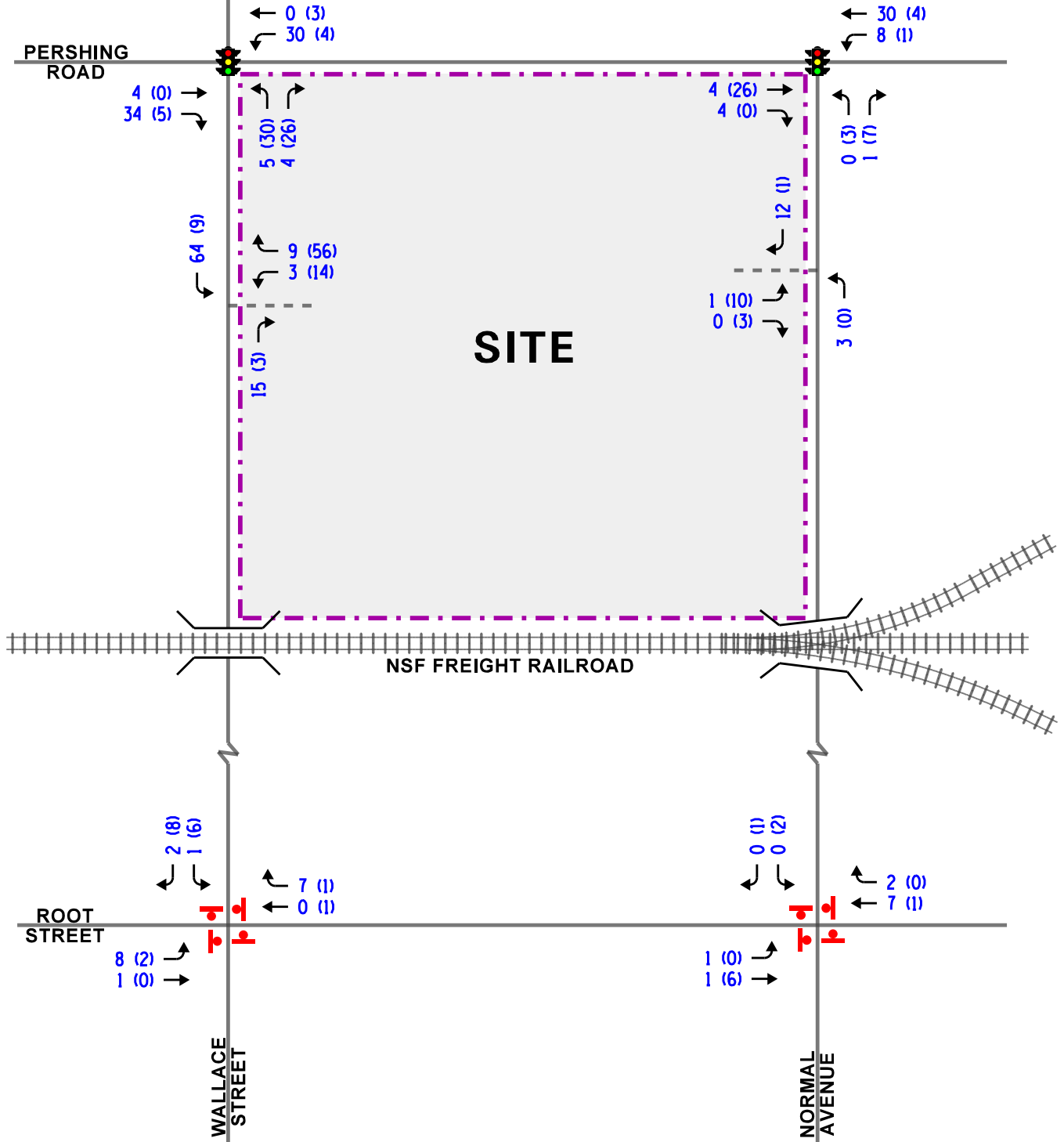
The Year 2021 base traffic volumes increased by the ambient growth in the area, were combined with the new peak hour traffic volumes generated by the subject development to determine the Year 2027 total traffic volumes, shown in **Figure 11**.

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3900 S. Normal Avenue  
Chicago, Illinois

Estimated Site-Generated  
Passenger Vehicle Traffic Volumes

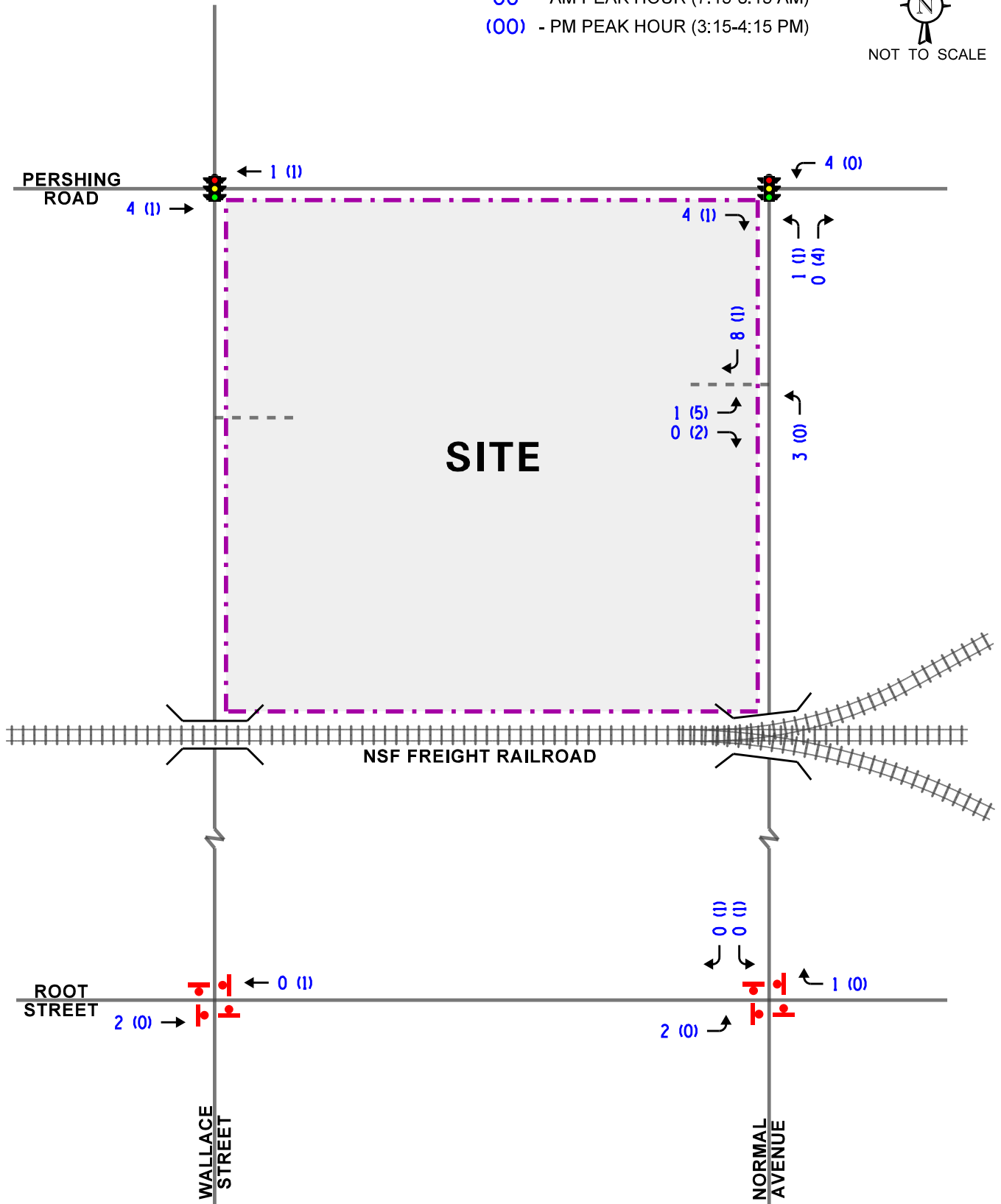
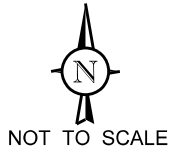


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Figure: 8

**LEGEND**

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- (00) - PM PEAK HOUR (3:15-4:15 PM)



3900 S. Normal Avenue  
Chicago, Illinois

Estimated Site-Generated  
Truck Traffic Volumes



Job No: 21-118

Figure: 9

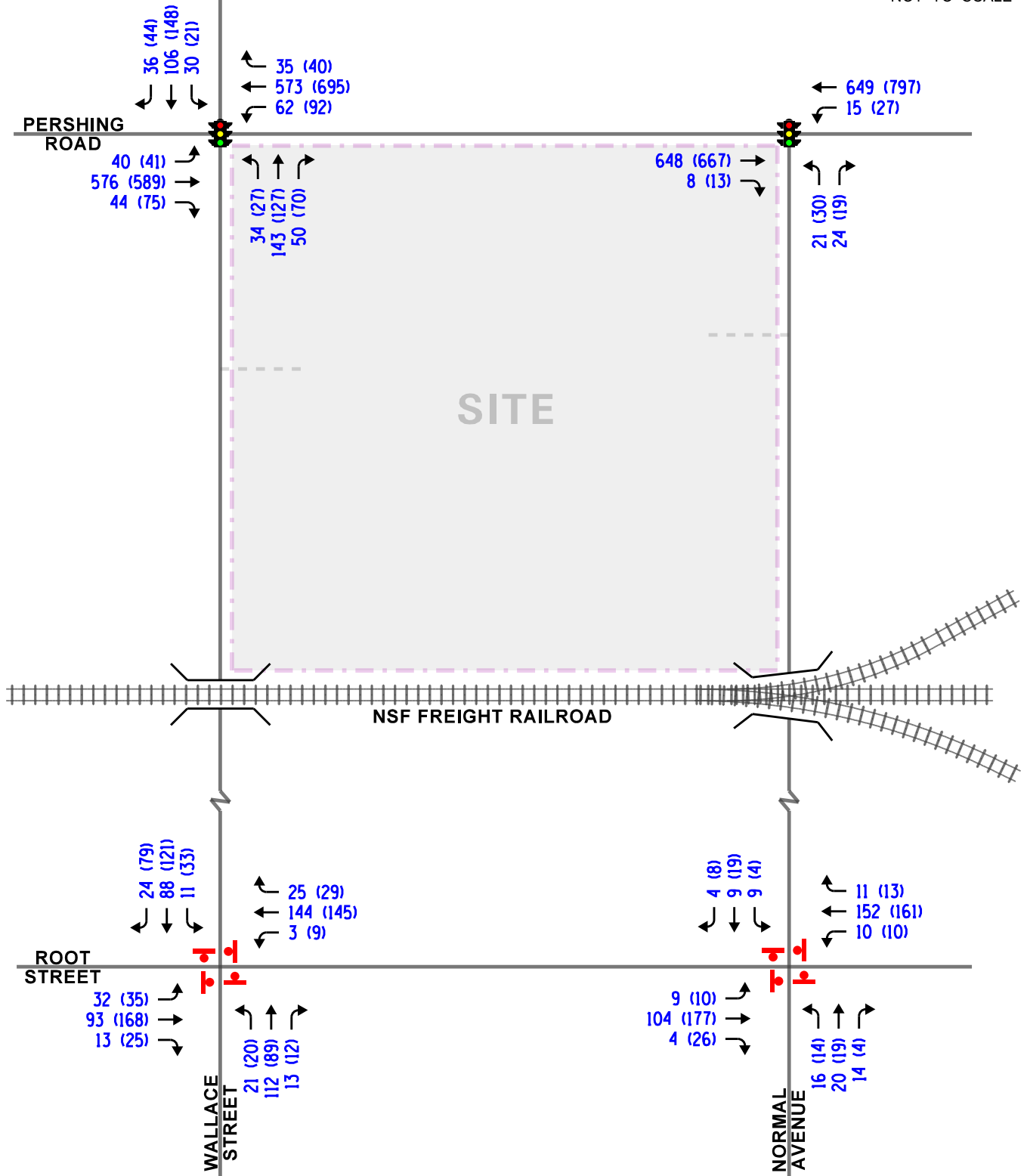


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3900 S. Normal Avenue  
Chicago, Illinois

Year 2027 No-Build Traffic Volumes

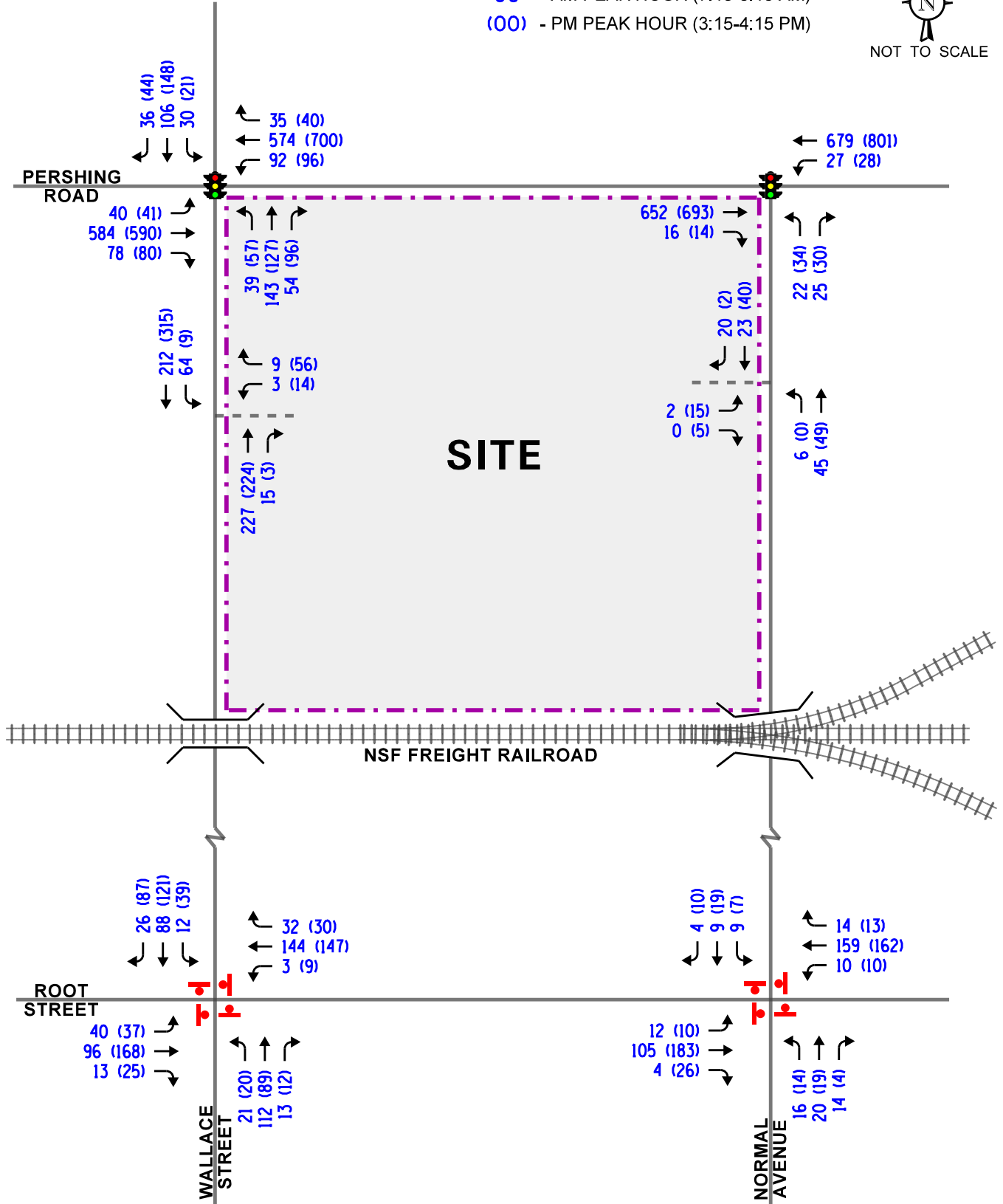


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NOT TO SCALE



3900 S. Normal Avenue  
Chicago, Illinois

Year 2027 Total Projected Traffic Volumes



Job No: 21-118

Figure: 11

## 5. Traffic Analysis and Recommendations

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

### Traffic Analyses

Intersection analyses were performed for the weekday morning and weekday evening peak hours for the Year 2021 base and Year 2027 total projected traffic volumes.

The traffic analyses were performed using the methodologies outlined in the Transportation Research Board's *Highway Capacity Manual (HCM), 6<sup>th</sup> Edition* and analyzed using Synchro/SimTraffic 11 software. The analysis for the signalized intersections were conducted utilizing actual cycle lengths, phasings, and offsets.

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

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

Summaries of the traffic analysis results showing the level of service and overall intersection delay (measured in seconds) for the Year 2021 base and Year 2027 total projected conditions are presented in **Tables 2** through **5**. A discussion of the intersections follows. Summary sheets for the capacity analyses are included in the Appendix.

Table 2

CAPACITY ANALYSIS RESULTS – PERSHING ROAD WITH WALLACE STREET

	Peak Hour	Eastbound		Westbound		Northbound	Southbound	Overall
		L	T/R	L	T/R	L/T/R	L/T/R	
Year 2021 Base Conditions	Weekday Morning Peak Hour	A 8.2	A 9.4	C 23.2	C 24.2	B 19.2	B 16.6	B 17.1
		A – 9.3		C – 24.1				
	Weekday Evening Peak Hour	A 9.2	A 9.1	C 27.1	C 25.5	B 17.7	B 18.2	B 18.0
		A – 9.1		C – 25.7				
Year 2027 Total Projected Conditions	Weekday Morning Peak Hour	A 8.4	A 9.6	C 26.6	C 24.4	B 19.7	B 16.9	B 17.4
		A – 9.5		C – 24.7				
	Weekday Evening Peak Hour	A 9.5	A 9.2	C 28.4	C 25.7	C 21.4	B 18.6	B 18.8
		A – 9.3		C – 26.0				
Letter denotes Level of Service Delay is measured in seconds.		L – Left-Turns T – Through				R – Right-Turns		

Table 3

CAPACITY ANALYSIS RESULTS – PERSHING ROAD WITH NORMAL AVENUE

	Peak Hour	Eastbound	Westbound		Northbound	Overall
		T/R	L/T		L/R	
Year 2021 Base Conditions	Weekday Morning Peak Hour	A 7.8	A 9.3	B 11.2	A 8.7	A 9.5
			B – 11.2			
	Weekday Evening Peak Hour	A 7.5	B 10.9	B 12.8	A 9.9	B 10.3
			B – 12.7			
Year 2027 Total Projected Conditions	Weekday Morning Peak Hour	A 8.1	B 10.4	B 11.6	A 8.7	A 9.9
			B – 11.6			
	Weekday Evening Peak Hour	A 8.5	B 11.5	B 13.1	A 9.0	B 10.9
			B – 13.0			
Letter denotes Level of Service Delay is measured in seconds.		L – Left-Turns T – Through				R – Right-Turns



Table 4

## CAPACITY ANALYSIS RESULTS – UNSIGNALIZED - BASE CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
<b>Root Street with Wallace Street<sup>1</sup></b>				
• Overall	A	9.2	B	11.2
• Eastbound Approach	A	9.3	B	12.4
• Westbound Approach	A	9.2	B	10.4
• Northbound Approach	A	9.2	B	10.1
• Southbound Approach	A	8.9	B	11.2
<b>Root Street with Normal Avenue<sup>1</sup></b>				
• Overall	A	8.4	A	8.9
• Eastbound Approach	A	8.4	A	9.2
• Westbound Approach	A	8.5	A	8.7
• Northbound Approach	A	7.9	A	8.2
• Southbound Approach	A	8.7	A	8.5
1 – All-Way Stop Sign Control	LOS = Level of Service			
2 – Two-Way Stop Sign Control	Delay is measured in seconds.			

Table 5  
CAPACITY ANALYSIS RESULTS – UNSIGNALIZED – TOTAL PROJECTED CONDITIONS

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	LOS	Delay	LOS	Delay
<b>Root Street with Wallace Street<sup>1</sup></b>				
• Overall	A	9.4	B	11.2
• Eastbound Approach	A	9.6	B	12.4
• Westbound Approach	A	9.5	B	10.4
• Northbound Approach	A	9.4	B	10.1
• Southbound Approach	A	9.1	B	11.2
<b>Root Street with Normal Avenue<sup>1</sup></b>				
• Overall	A	8.7	A	8.9
• Eastbound Approach	A	8.9	A	9.2
• Westbound Approach	A	8.7	A	8.7
• Northbound Approach	A	8.0	A	8.2
• Southbound Approach	A	8.8	A	8.5
<b>Wallace Street with the Proposed Site Access<sup>2</sup></b>				
• Westbound Approach	B	10.6	B	10.7
• Southbound Left Turn	A	7.9	A	7.7
<b>Normal Avenue with the Proposed Site Access<sup>2</sup></b>				
• Eastbound Approach	A	9.5	A	9.3
• Northbound Left Turn	A	7.8	--	--
1 – All-Way Stop Sign Control	LOS = Level of Service			
2 – Two-Way Stop Sign Control	Delay is measured in seconds.			

## Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identifies any street and traffic control improvements necessary to accommodate the development-generated traffic.

### *Pershing Road with Wallace Street*

The results of the capacity analysis indicate that overall, this intersection currently operates at Level of Service (LOS) B during the weekday morning and weekday evening peak hours. Furthermore, all the intersection movements operate at an acceptable LOS C or better during both peak hours.

Under Year 2027 total projected conditions, the overall intersection is projected to continue operating at LOS B during the weekday morning and weekday evening peak hours with increases in delay of less than one second. Furthermore, all of the intersection movements are projected to continue to operate at an acceptable LOS C or better during both peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no street improvements or traffic signal modifications will be required.

### *Pershing Road with Wallace Street*

The results of the capacity analysis indicate that overall, this intersection currently operates at LOS A during the weekday morning peak hour and LOS B during the weekday evening peak hours. Furthermore, all the intersection movements operate at a good LOS B or better during both peak hours.

Under Year 2027 total projected conditions, this intersection overall is projected to continue operating at LOS A during the weekday morning peak hour and LOS B during the weekday evening peak hour with increases in delay of less than one second. Furthermore, all the intersection movements are projected to continue to operate at a good LOS B or better during both peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no street improvements or traffic signal modifications will be required.

### *Root Street with Wallace Street*

The results of the capacity analysis indicate that this all-way stop sign control intersection currently operates at an overall LOS A during the weekday morning peak hour and at an LOS B during the weekday evening peak hour. Furthermore, all the intersection approaches operate at a good LOS B or better during both peak hours.

Under Year 2027 total projected conditions, this intersection is projected to continue operating at existing levels of service during the weekday morning and weekday evening peak hours with increases in delay of less than one second. Furthermore, all the intersection approaches are projected to operate at LOS B or better during both peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no street improvements or traffic control modifications will be required.

#### *Root Street with Normal Avenue*

The results of the capacity analysis indicate that this all-way stop sign control intersection currently operate at an overall LOS A during the weekday morning and weekday evening peak hours. Furthermore, all the intersection approaches operate at a good LOS A during both peak hours.

Under Year 2027 total projected conditions, this intersection is projected to continue operating at existing levels of service during the weekday morning and weekday evening peak hours with increases in delay of less than one second. Furthermore, all the intersection approaches are projected to operate at LOS A during both peak hours. As such, this intersection has sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no street improvements or traffic control modifications will be required.

#### *Wallace Street with the Proposed Site Access Drive*

As proposed, a full movement access drive will be provided on Wallace Street located approximately 300 feet south of Pershing Road and will serve the employee parking lot. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

The results of the capacity analysis indicate that outbound movements from the access drive to Wallace Street are projected to operate at LOS B during both peak hours. Furthermore, the southbound left-turn movement from Wallace Street to the access drive are projected to operate at LOS A during both peak hours. As such, this access drive will be adequate in accommodating the traffic generated by the development.

#### *Normal Avenue with the Proposed Site Access Drive*

As proposed, a full movement access drive will be provided on Normal Avenue located approximately 250 feet south of Pershing Road and will primarily serve the truck loading bays and will provide a connection to the employee parking lot south of the building and the parking lot in the northeast corner of the site. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.

The results of the capacity analysis indicate that outbound movements from the access drive to Normal Avenue are projected to operate at LOS A during both peak hours. Furthermore, the northbound left-turn movement from Normal Avenue onto the access drive are projected to operate at LOS A during both peak hours. As such, this access drive will be adequate in accommodating the traffic generated by the development.

## 6. Conclusion

Based on the preceding analyses and recommendations, the following conclusions have been made:

- Access to the development is proposed to be provided as follows:
  - A full movement access drive on the east side of Wallace Street located approximately 300 feet south of Pershing Road and will serve the employee parking lot. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.
  - A full movement access drive on the west side of Normal Avenue located approximately 250 feet south of Pershing Road and will primarily serve the truck loading bays and will provide a connection to the employee parking lot south of the building and the parking lot in the northeast corner of the site. This access drive will provide one inbound lane and one outbound lane with outbound movements under stop sign control.
- The truck traffic generated by the development is anticipated to have a limited impact on the street system as the majority of truck traffic is expected to arrive and depart the site outside of peak hours.
- Area intersections have sufficient reserve capacity to accommodate the traffic estimated to be generated by the proposed development and no roadway improvements or traffic control modifications are required.
- The proposed access system will be adequate in accommodating the traffic estimated to be generated by the development.



# Appendix

Traffic Count Summary Sheets  
Preliminary Site Plan  
Level of Service Criteria  
Capacity Analysis Summary Sheets

# Traffic Count Summary Sheets



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

Count Name: Pershing Road with Normal Avenue  
 Site Code:  
 Start Date: 04/27/2021  
 Page No: 1

### Turning Movement Data

Start Time	Pershing Road Eastbound			Pershing Road Westbound					Normal Avenue Northbound				Int. Total	
	Thru	Right	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds		App. Total
6:00 AM	81	1	82	0	2	102	0	104	0	2	4	0	6	192
6:15 AM	96	0	96	0	3	117	0	120	0	1	4	0	5	221
6:30 AM	101	2	103	0	2	140	0	142	0	2	3	0	5	250
6:45 AM	93	0	93	0	6	157	0	163	0	2	4	0	6	262
Hourly Total	371	3	374	0	13	516	0	529	0	7	15	0	22	925
7:00 AM	107	2	109	0	2	110	0	112	0	3	6	0	9	230
7:15 AM	119	0	119	0	1	135	0	136	0	3	1	0	4	259
7:30 AM	158	3	161	0	5	110	0	115	0	4	4	0	8	284
7:45 AM	134	1	135	0	3	129	0	132	0	6	7	0	13	280
Hourly Total	518	6	524	0	11	484	0	495	0	16	18	0	34	1053
8:00 AM	88	2	90	0	3	128	0	131	0	3	6	0	9	230
8:15 AM	102	3	105	0	5	109	0	114	0	2	7	0	9	228
8:30 AM	112	2	114	0	2	118	0	120	0	0	6	0	6	240
8:45 AM	92	2	94	0	4	122	0	126	0	2	1	0	3	223
Hourly Total	394	9	403	0	14	477	0	491	0	7	20	0	27	921
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	144	5	149	0	4	134	0	138	0	8	8	0	16	303
3:15 PM	161	2	163	0	5	158	1	163	0	9	4	0	13	339
3:30 PM	184	3	187	0	2	187	0	189	0	6	2	0	8	384
3:45 PM	111	4	115	0	5	182	2	187	0	6	4	0	10	312
Hourly Total	600	14	614	0	16	661	3	677	0	29	18	0	47	1338
4:00 PM	132	3	135	0	12	169	2	181	0	5	6	0	11	327
4:15 PM	101	0	101	0	8	183	0	191	0	7	2	0	9	301
4:30 PM	127	1	128	0	11	169	1	180	0	5	3	2	8	316
4:45 PM	103	2	105	0	7	191	1	198	0	4	4	0	8	311
Hourly Total	463	6	469	0	38	712	4	750	0	21	15	2	36	1255
5:00 PM	100	1	101	0	6	183	0	189	0	5	8	0	13	303
5:15 PM	100	0	100	0	5	170	0	175	0	5	4	0	9	284
5:30 PM	99	2	101	0	6	180	2	186	0	10	5	0	15	302
5:45 PM	72	2	74	0	6	182	1	188	0	3	3	0	6	268
Hourly Total	371	5	376	0	23	715	3	738	0	23	20	0	43	1157
Grand Total	2717	43	2760	0	115	3565	10	3680	0	103	106	2	209	6649
Approach %	98.4	1.6	-	0.0	3.1	96.9	-	-	0.0	49.3	50.7	-	-	-
Total %	40.9	0.6	41.5	0.0	1.7	53.6	-	55.3	0.0	1.5	1.6	-	3.1	-
Lights	2274	38	2312	0	82	3095	-	3177	0	98	86	-	184	5673
% Lights	83.7	88.4	83.8	-	71.3	86.8	-	86.3	-	95.1	81.1	-	88.0	85.3

Buses	56	0	56	0	1	60	-	61	0	0	1	-	1	118
% Buses	2.1	0.0	2.0	-	0.9	1.7	-	1.7	-	0.0	0.9	-	0.5	1.8
Single-Unit Trucks	177	2	179	0	17	162	-	179	0	3	14	-	17	375
% Single-Unit Trucks	6.5	4.7	6.5	-	14.8	4.5	-	4.9	-	2.9	13.2	-	8.1	5.6
Articulated Trucks	210	3	213	0	13	248	-	261	0	1	5	-	6	480
% Articulated Trucks	7.7	7.0	7.7	-	11.3	7.0	-	7.1	-	1.0	4.7	-	2.9	7.2
Bicycles on Road	0	0	0	0	2	0	-	2	0	1	0	-	1	3
% Bicycles on Road	0.0	0.0	0.0	-	1.7	0.0	-	0.1	-	1.0	0.0	-	0.5	0.0
Pedestrians	-	-	-	-	-	-	10	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-







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Count Name: Pershing Road with Normal Avenue  
 Site Code:  
 Start Date: 04/27/2021  
 Page No: 4

### Turning Movement Peak Hour Data (3:15 PM)

Start Time	Pershing Road Eastbound			Pershing Road Westbound					Normal Avenue Northbound					Int. Total
	Thru	Right	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
3:15 PM	161	2	163	0	5	158	1	163	0	9	4	0	13	339
3:30 PM	184	3	187	0	2	187	0	189	0	6	2	0	8	384
3:45 PM	111	4	115	0	5	182	2	187	0	6	4	0	10	312
4:00 PM	132	3	135	0	12	169	2	181	0	5	6	0	11	327
Total	588	12	600	0	24	696	5	720	0	26	16	0	42	1362
Approach %	98.0	2.0	-	0.0	3.3	96.7	-	-	0.0	61.9	38.1	-	-	-
Total %	43.2	0.9	44.1	0.0	1.8	51.1	-	52.9	0.0	1.9	1.2	-	3.1	-
PHF	0.799	0.750	0.802	0.000	0.500	0.930	-	0.952	0.000	0.722	0.667	-	0.808	0.887
Lights	543	12	555	0	13	592	-	605	0	26	15	-	41	1201
% Lights	92.3	100.0	92.5	-	54.2	85.1	-	84.0	-	100.0	93.8	-	97.6	88.2
Buses	6	0	6	0	1	14	-	15	0	0	0	-	0	21
% Buses	1.0	0.0	1.0	-	4.2	2.0	-	2.1	-	0.0	0.0	-	0.0	1.5
Single-Unit Trucks	16	0	16	0	6	26	-	32	0	0	1	-	1	49
% Single-Unit Trucks	2.7	0.0	2.7	-	25.0	3.7	-	4.4	-	0.0	6.3	-	2.4	3.6
Articulated Trucks	23	0	23	0	3	64	-	67	0	0	0	-	0	90
% Articulated Trucks	3.9	0.0	3.8	-	12.5	9.2	-	9.3	-	0.0	0.0	-	0.0	6.6
Bicycles on Road	0	0	0	0	1	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	4.2	0.0	-	0.1	-	0.0	0.0	-	0.0	0.1
Pedestrians	-	-	-	-	-	-	5	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



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

Count Name: Pershing Road with Wallace Street  
 Site Code:  
 Start Date: 04/27/2021  
 Page No: 1

### Turning Movement Data

Start Time	Pershing Road Eastbound						Pershing Road Westbound						Wallace Street Northbound						Wallace Street 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	
6:00 AM	0	3	69	3	1	75	0	1	103	1	0	105	0	1	10	1	0	12	0	7	3	4	0	14	206
6:15 AM	0	1	90	1	0	92	0	6	115	2	0	123	0	4	13	0	0	17	0	3	2	7	0	12	244
6:30 AM	0	2	79	4	0	85	0	7	123	1	0	131	0	2	14	6	0	22	0	5	3	3	0	11	249
6:45 AM	0	4	83	6	0	93	0	8	140	3	0	151	0	1	17	3	0	21	0	5	8	11	0	24	289
Hourly Total	0	10	321	14	1	345	0	22	481	7	0	510	0	8	54	10	0	72	0	20	16	25	0	61	988
7:00 AM	0	2	84	3	0	89	0	10	102	7	0	119	0	6	17	8	0	31	0	5	5	4	0	14	253
7:15 AM	0	7	100	10	1	117	0	14	124	7	0	145	0	4	37	8	1	49	0	8	22	7	0	37	348
7:30 AM	0	8	150	4	0	162	0	10	91	7	0	108	0	6	39	9	0	54	0	5	26	9	0	40	364
7:45 AM	0	8	117	9	4	134	0	9	124	8	0	141	0	8	17	12	0	37	0	7	24	5	4	36	348
Hourly Total	0	25	451	26	5	502	0	43	441	29	0	513	0	24	110	37	1	171	0	25	77	25	4	127	1313
8:00 AM	0	8	80	11	0	99	0	15	106	5	0	126	0	8	18	10	0	36	0	3	10	7	0	20	281
8:15 AM	0	10	77	11	0	98	0	13	90	2	0	105	0	13	14	11	0	38	0	5	16	7	0	28	269
8:30 AM	0	1	87	11	1	99	0	22	102	2	0	126	0	6	21	15	0	42	0	4	10	4	0	18	285
8:45 AM	0	6	78	6	0	90	0	15	109	2	0	126	0	12	27	14	0	53	0	3	15	2	0	20	289
Hourly Total	0	25	322	39	1	386	0	65	407	11	0	483	0	39	80	50	0	169	0	15	51	20	0	86	1124
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	7	120	14	0	141	0	10	123	9	2	142	0	7	21	12	0	40	0	3	51	11	0	65	388
3:15 PM	0	10	141	15	0	166	0	19	128	9	0	156	0	5	30	18	0	53	0	3	38	14	0	55	430
3:30 PM	0	10	171	21	0	202	0	16	179	6	0	201	0	6	27	15	0	48	0	6	38	14	0	58	509
3:45 PM	0	10	104	14	2	128	0	25	163	12	0	200	0	4	29	15	0	48	0	2	24	6	0	32	408
Hourly Total	0	37	536	64	2	637	0	70	593	36	2	699	0	22	107	60	0	189	0	14	151	45	0	210	1735
4:00 PM	0	6	104	16	0	126	0	21	144	8	5	173	0	9	26	14	0	49	0	7	31	5	0	43	391
4:15 PM	0	10	79	10	0	99	0	22	140	6	0	168	0	7	23	16	0	46	0	6	29	7	0	42	355
4:30 PM	0	5	83	13	0	101	0	11	140	9	1	160	0	3	27	24	1	54	0	4	24	11	0	39	354
4:45 PM	0	7	85	11	2	103	0	17	154	8	1	179	0	11	20	20	0	51	0	4	36	11	0	51	384
Hourly Total	0	28	351	50	2	429	0	71	578	31	7	680	0	30	96	74	1	200	0	21	120	34	0	175	1484
5:00 PM	0	7	81	9	2	97	0	17	166	13	0	196	0	11	26	16	0	53	0	4	33	17	0	54	400
5:15 PM	0	4	95	7	0	106	0	21	154	8	0	183	0	8	27	11	0	46	0	5	28	14	0	47	382
5:30 PM	0	7	80	9	0	96	0	14	161	11	0	186	0	7	24	14	0	45	0	3	24	11	0	38	365
5:45 PM	0	6	59	11	0	76	0	16	154	24	1	194	0	7	22	15	0	44	0	4	22	11	0	37	351
Hourly Total	0	24	315	36	2	375	0	68	635	56	1	759	0	33	99	56	0	188	0	16	107	53	0	176	1498
Grand Total	0	149	2296	229	13	2674	0	339	3135	170	10	3644	0	156	546	287	2	989	0	111	522	202	4	835	8142
Approach %	0.0	5.6	85.9	8.6	-	-	0.0	9.3	86.0	4.7	-	-	0.0	15.8	55.2	29.0	-	-	0.0	13.3	62.5	24.2	-	-	-
Total %	0.0	1.8	28.2	2.8	-	32.8	0.0	4.2	38.5	2.1	-	44.8	0.0	1.9	6.7	3.5	-	12.1	0.0	1.4	6.4	2.5	-	10.3	-
Lights	0	140	1888	222	-	2250	0	311	2698	161	-	3170	0	147	511	265	-	923	0	104	489	194	-	787	7130

% Lights	-	94.0	82.2	96.9	-	84.1	-	91.7	86.1	94.7	-	87.0	-	94.2	93.6	92.3	-	93.3	-	93.7	93.7	96.0	-	94.3	87.6
Buses	0	1	46	3	-	50	0	9	48	3	-	60	0	2	21	9	-	32	0	1	22	2	-	25	167
% Buses	-	0.7	2.0	1.3	-	1.9	-	2.7	1.5	1.8	-	1.6	-	1.3	3.8	3.1	-	3.2	-	0.9	4.2	1.0	-	3.0	2.1
Single-Unit Trucks	0	5	157	3	-	165	0	9	160	4	-	173	0	4	6	4	-	14	0	6	3	4	-	13	365
% Single-Unit Trucks	-	3.4	6.8	1.3	-	6.2	-	2.7	5.1	2.4	-	4.7	-	2.6	1.1	1.4	-	1.4	-	5.4	0.6	2.0	-	1.6	4.5
Articulated Trucks	0	3	203	0	-	206	0	10	229	2	-	241	0	3	0	9	-	12	0	0	2	2	-	4	463
% Articulated Trucks	-	2.0	8.8	0.0	-	7.7	-	2.9	7.3	1.2	-	6.6	-	1.9	0.0	3.1	-	1.2	-	0.0	0.4	1.0	-	0.5	5.7
Bicycles on Road	0	0	2	1	-	3	0	0	0	0	-	0	0	0	8	0	-	8	0	0	6	0	-	6	17
% Bicycles on Road	-	0.0	0.1	0.4	-	0.1	-	0.0	0.0	0.0	-	0.0	-	0.0	1.5	0.0	-	0.8	-	0.0	1.1	0.0	-	0.7	0.2
Pedestrians	-	-	-	-	13	-	-	-	-	10	-	-	-	-	-	-	2	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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(847)518-9990

Count Name: Pershing Road with Wallace Street  
Site Code:  
Start Date: 04/27/2021  
Page No: 3

### Turning Movement Peak Hour Data (7:15 AM)

Start Time	Pershing Road Eastbound						Pershing Road Westbound						Wallace Street Northbound						Wallace Street 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	
7:15 AM	0	7	100	10	1	117	0	14	124	7	0	145	0	4	37	8	1	49	0	8	22	7	0	37	348
7:30 AM	0	8	150	4	0	162	0	10	91	7	0	108	0	6	39	9	0	54	0	5	26	9	0	40	364
7:45 AM	0	8	117	9	4	134	0	9	124	8	0	141	0	8	17	12	0	37	0	7	24	5	4	36	348
8:00 AM	0	8	80	11	0	99	0	15	106	5	0	126	0	8	18	10	0	36	0	3	10	7	0	20	281
Total	0	31	447	34	5	512	0	48	445	27	0	520	0	26	111	39	1	176	0	23	82	28	4	133	1341
Approach %	0.0	6.1	87.3	6.6	-	-	0.0	9.2	85.6	5.2	-	-	0.0	14.8	63.1	22.2	-	-	0.0	17.3	61.7	21.1	-	-	-
Total %	0.0	2.3	33.3	2.5	-	38.2	0.0	3.6	33.2	2.0	-	38.8	0.0	1.9	8.3	2.9	-	13.1	0.0	1.7	6.1	2.1	-	9.9	-
PHF	0.000	0.969	0.745	0.773	-	0.790	0.000	0.800	0.897	0.844	-	0.897	0.000	0.813	0.712	0.813	-	0.815	0.000	0.719	0.788	0.778	-	0.831	0.921
Lights	0	27	336	34	-	397	0	44	377	26	-	447	0	23	106	29	-	158	0	23	75	27	-	125	1127
% Lights	-	87.1	75.2	100.0	-	77.5	-	91.7	84.7	96.3	-	86.0	-	88.5	95.5	74.4	-	89.8	-	100.0	91.5	96.4	-	94.0	84.0
Buses	0	0	9	0	-	9	0	0	5	1	-	6	0	1	3	5	-	9	0	0	3	0	-	3	27
% Buses	-	0.0	2.0	0.0	-	1.8	-	0.0	1.1	3.7	-	1.2	-	3.8	2.7	12.8	-	5.1	-	0.0	3.7	0.0	-	2.3	2.0
Single-Unit Trucks	0	3	50	0	-	53	0	3	28	0	-	31	0	1	1	2	-	4	0	0	1	1	-	2	90
% Single-Unit Trucks	-	9.7	11.2	0.0	-	10.4	-	6.3	6.3	0.0	-	6.0	-	3.8	0.9	5.1	-	2.3	-	0.0	1.2	3.6	-	1.5	6.7
Articulated Trucks	0	1	52	0	-	53	0	1	35	0	-	36	0	1	0	3	-	4	0	0	2	0	-	2	95
% Articulated Trucks	-	3.2	11.6	0.0	-	10.4	-	2.1	7.9	0.0	-	6.9	-	3.8	0.0	7.7	-	2.3	-	0.0	2.4	0.0	-	1.5	7.1
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	1	0	-	1	2
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.9	0.0	-	0.6	-	0.0	1.2	0.0	-	0.8	0.1
Pedestrians	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

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

Count Name: Pershing Road with Wallace Street  
Site Code:  
Start Date: 04/27/2021  
Page No: 4

### Turning Movement Peak Hour Data (3:15 PM)

Start Time	Pershing Road Eastbound						Pershing Road Westbound						Wallace Street Northbound						Wallace Street 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	
3:15 PM	0	10	141	15	0	166	0	19	128	9	0	156	0	5	30	18	0	53	0	3	38	14	0	55	430
3:30 PM	0	10	171	21	0	202	0	16	179	6	0	201	0	6	27	15	0	48	0	6	38	14	0	58	509
3:45 PM	0	10	104	14	2	128	0	25	163	12	0	200	0	4	29	15	0	48	0	2	24	6	0	32	408
4:00 PM	0	6	104	16	0	126	0	21	144	8	5	173	0	9	26	14	0	49	0	7	31	5	0	43	391
Total	0	36	520	66	2	622	0	81	614	35	5	730	0	24	112	62	0	198	0	18	131	39	0	188	1738
Approach %	0.0	5.8	83.6	10.6	-	-	0.0	11.1	84.1	4.8	-	-	0.0	12.1	56.6	31.3	-	-	0.0	9.6	69.7	20.7	-	-	-
Total %	0.0	2.1	29.9	3.8	-	35.8	0.0	4.7	35.3	2.0	-	42.0	0.0	1.4	6.4	3.6	-	11.4	0.0	1.0	7.5	2.2	-	10.8	-
PHF	0.000	0.900	0.760	0.786	-	0.770	0.000	0.810	0.858	0.729	-	0.908	0.000	0.667	0.933	0.861	-	0.934	0.000	0.643	0.862	0.696	-	0.810	0.854
Lights	0	34	476	61	-	571	0	73	519	35	-	627	0	22	107	62	-	191	0	17	125	38	-	180	1569
% Lights	-	94.4	91.5	92.4	-	91.8	-	90.1	84.5	100.0	-	85.9	-	91.7	95.5	100.0	-	96.5	-	94.4	95.4	97.4	-	95.7	90.3
Buses	0	0	6	2	-	8	0	3	11	0	-	14	0	1	4	0	-	5	0	1	4	0	-	5	32
% Buses	-	0.0	1.2	3.0	-	1.3	-	3.7	1.8	0.0	-	1.9	-	4.2	3.6	0.0	-	2.5	-	5.6	3.1	0.0	-	2.7	1.8
Single-Unit Trucks	0	1	15	2	-	18	0	1	32	0	-	33	0	0	0	0	-	0	0	0	0	1	-	1	52
% Single-Unit Trucks	-	2.8	2.9	3.0	-	2.9	-	1.2	5.2	0.0	-	4.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	2.6	-	0.5	3.0
Articulated Trucks	0	1	22	0	-	23	0	4	52	0	-	56	0	1	0	0	-	1	0	0	0	0	-	0	80
% Articulated Trucks	-	2.8	4.2	0.0	-	3.7	-	4.9	8.5	0.0	-	7.7	-	4.2	0.0	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	4.6
Bicycles on Road	0	0	1	1	-	2	0	0	0	0	-	0	0	0	1	0	-	1	0	0	2	0	-	2	5
% Bicycles on Road	-	0.0	0.2	1.5	-	0.3	-	0.0	0.0	0.0	-	0.0	-	0.0	0.9	0.0	-	0.5	-	0.0	1.5	0.0	-	1.1	0.3
Pedestrians	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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

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

Count Name: Root Street with Normal Avenue  
Site Code:  
Start Date: 04/27/2021  
Page No: 1

### Turning Movement Data

Start Time	Root Street Eastbound						Root Street Westbound						Normal Avenue Northbound						Normal 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	
6:00 AM	0	2	30	0	2	32	0	0	20	2	0	22	0	1	1	1	0	3	0	2	0	0	0	2	59
6:15 AM	0	1	16	1	0	18	0	0	29	2	0	31	0	3	3	1	0	7	0	1	0	0	0	1	57
6:30 AM	0	2	18	0	0	20	0	0	26	1	0	27	0	3	1	1	0	5	0	0	0	0	0	0	52
6:45 AM	0	1	23	1	1	25	0	1	37	2	0	40	0	3	3	2	0	8	0	1	0	1	0	2	75
Hourly Total	0	6	87	2	3	95	0	1	112	7	0	120	0	10	8	5	0	23	0	4	0	1	0	5	243
7:00 AM	0	3	34	1	1	38	0	0	24	1	0	25	0	1	1	2	0	4	0	1	1	1	0	3	70
7:15 AM	0	0	22	1	0	23	0	0	21	1	1	22	0	4	3	3	1	10	0	3	2	2	0	7	62
7:30 AM	0	1	17	2	0	20	0	2	32	5	0	39	0	3	3	3	1	9	0	0	2	0	0	2	70
7:45 AM	0	3	29	0	1	32	0	5	27	2	1	34	0	3	4	3	1	10	0	2	2	1	1	5	81
Hourly Total	0	7	102	4	2	113	0	7	104	9	2	120	0	11	11	11	3	33	0	6	7	4	1	17	283
8:00 AM	0	3	12	0	0	15	0	1	35	1	1	37	0	3	5	2	0	10	0	2	1	0	0	3	65
8:15 AM	0	2	24	1	0	27	0	0	34	0	0	34	0	4	2	2	3	8	0	1	1	0	0	2	71
8:30 AM	0	1	18	2	0	21	0	0	20	1	1	21	0	3	2	0	1	5	0	1	3	1	0	5	52
8:45 AM	0	1	27	1	1	29	0	1	26	3	1	30	0	4	2	2	3	8	0	2	0	2	1	4	71
Hourly Total	0	7	81	4	1	92	0	2	115	5	3	122	0	14	11	6	7	31	0	6	5	3	1	14	259
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	2	45	3	0	50	0	0	22	0	0	22	0	5	9	2	2	16	0	2	2	2	0	6	94
3:15 PM	0	2	40	6	1	48	0	3	36	5	0	44	0	5	6	1	0	12	0	0	3	1	0	4	108
3:30 PM	0	3	50	6	1	59	0	5	23	1	1	29	0	3	3	2	0	8	0	0	4	1	0	5	101
3:45 PM	1	2	33	7	0	43	0	0	24	4	2	28	0	3	4	1	0	8	0	1	4	1	0	6	85
Hourly Total	1	9	168	22	2	200	0	8	105	10	3	123	0	16	22	6	2	44	0	3	13	5	0	21	388
4:00 PM	0	1	33	4	2	38	0	1	57	2	0	60	0	2	3	0	2	5	0	3	5	4	0	12	115
4:15 PM	0	3	30	4	0	37	0	1	31	2	0	34	0	5	4	0	0	9	0	4	1	7	0	12	92
4:30 PM	0	1	34	10	0	45	1	2	35	1	0	39	0	4	9	1	0	14	0	2	5	2	1	9	107
4:45 PM	0	2	25	4	2	31	0	4	17	1	1	22	0	10	6	0	1	16	0	1	5	4	0	10	79
Hourly Total	0	7	122	22	4	151	1	8	140	6	1	155	0	21	22	1	3	44	0	10	16	17	1	43	393
5:00 PM	0	4	30	6	2	40	0	2	34	4	0	40	0	5	6	0	6	11	0	6	4	3	0	13	104
5:15 PM	0	2	31	3	1	36	0	3	28	2	0	33	0	0	5	0	3	5	0	3	1	3	0	7	81
5:30 PM	0	2	23	3	0	28	0	4	24	0	0	28	0	5	9	0	4	14	0	1	4	1	0	6	76
5:45 PM	0	2	31	3	2	36	0	2	30	2	0	34	0	3	6	1	2	10	0	0	5	2	0	7	87
Hourly Total	0	10	115	15	5	140	0	11	116	8	0	135	0	13	26	1	15	40	0	10	14	9	0	33	348
Grand Total	1	46	675	69	17	791	1	37	692	45	9	775	0	85	100	30	30	215	0	39	55	39	3	133	1914
Approach %	0.1	5.8	85.3	8.7	-	-	0.1	4.8	89.3	5.8	-	-	0.0	39.5	46.5	14.0	-	-	0.0	29.3	41.4	29.3	-	-	-
Total %	0.1	2.4	35.3	3.6	-	41.3	0.1	1.9	36.2	2.4	-	40.5	0.0	4.4	5.2	1.6	-	11.2	0.0	2.0	2.9	2.0	-	6.9	-
Lights	1	41	588	65	-	695	1	36	607	40	-	684	0	83	91	28	-	202	0	32	50	32	-	114	1695



% Lights	100.0	89.1	87.1	94.2	-	87.9	100.0	97.3	87.7	88.9	-	88.3	-	97.6	91.0	93.3	-	94.0	-	82.1	90.9	82.1	-	85.7	88.6
Buses	0	0	55	0	-	55	0	0	39	2	-	41	0	0	1	1	-	2	0	0	0	0	-	0	98
% Buses	0.0	0.0	8.1	0.0	-	7.0	0.0	0.0	5.6	4.4	-	5.3	-	0.0	1.0	3.3	-	0.9	-	0.0	0.0	0.0	-	0.0	5.1
Single-Unit Trucks	0	1	27	1	-	29	0	0	31	0	-	31	0	1	3	0	-	4	0	3	0	2	-	5	69
% Single-Unit Trucks	0.0	2.2	4.0	1.4	-	3.7	0.0	0.0	4.5	0.0	-	4.0	-	1.2	3.0	0.0	-	1.9	-	7.7	0.0	5.1	-	3.8	3.6
Articulated Trucks	0	2	3	0	-	5	0	0	10	2	-	12	0	1	3	0	-	4	0	4	2	4	-	10	31
% Articulated Trucks	0.0	4.3	0.4	0.0	-	0.6	0.0	0.0	1.4	4.4	-	1.5	-	1.2	3.0	0.0	-	1.9	-	10.3	3.6	10.3	-	7.5	1.6
Bicycles on Road	0	2	2	3	-	7	0	1	5	1	-	7	0	0	2	1	-	3	0	0	3	1	-	4	21
% Bicycles on Road	0.0	4.3	0.3	4.3	-	0.9	0.0	2.7	0.7	2.2	-	0.9	-	0.0	2.0	3.3	-	1.4	-	0.0	5.5	2.6	-	3.0	1.1
Pedestrians	-	-	-	-	17	-	-	-	-	9	-	-	-	-	-	-	30	-	-	-	-	-	3	-	-
% 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: Root Street with Normal Avenue  
Site Code:  
Start Date: 04/27/2021  
Page No: 3

### Turning Movement Peak Hour Data (7:15 AM)

Start Time	Root Street Eastbound						Root Street Westbound						Normal Avenue Northbound						Normal 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	
7:15 AM	0	0	22	1	0	23	0	0	21	1	1	22	0	4	3	3	1	10	0	3	2	2	0	7	62
7:30 AM	0	1	17	2	0	20	0	2	32	5	0	39	0	3	3	3	1	9	0	0	2	0	0	2	70
7:45 AM	0	3	29	0	1	32	0	5	27	2	1	34	0	3	4	3	1	10	0	2	2	1	1	5	81
8:00 AM	0	3	12	0	0	15	0	1	35	1	1	37	0	3	5	2	0	10	0	2	1	0	0	3	65
Total	0	7	80	3	1	90	0	8	115	9	3	132	0	13	15	11	3	39	0	7	7	3	1	17	278
Approach %	0.0	7.8	88.9	3.3	-	-	0.0	6.1	87.1	6.8	-	-	0.0	33.3	38.5	28.2	-	-	0.0	41.2	41.2	17.6	-	-	-
Total %	0.0	2.5	28.8	1.1	-	32.4	0.0	2.9	41.4	3.2	-	47.5	0.0	4.7	5.4	4.0	-	14.0	0.0	2.5	2.5	1.1	-	6.1	-
PHF	0.000	0.583	0.690	0.375	-	0.703	0.000	0.400	0.821	0.450	-	0.846	0.000	0.813	0.750	0.917	-	0.975	0.000	0.583	0.875	0.375	-	0.607	0.858
Lights	0	6	61	3	-	70	0	8	102	9	-	119	0	13	13	10	-	36	0	4	6	2	-	12	237
% Lights	-	85.7	76.3	100.0	-	77.8	-	100.0	88.7	100.0	-	90.2	-	100.0	86.7	90.9	-	92.3	-	57.1	85.7	66.7	-	70.6	85.3
Buses	0	0	11	0	-	11	0	0	5	0	-	5	0	0	0	1	-	1	0	0	0	0	-	0	17
% Buses	-	0.0	13.8	0.0	-	12.2	-	0.0	4.3	0.0	-	3.8	-	0.0	0.0	9.1	-	2.6	-	0.0	0.0	0.0	-	0.0	6.1
Single-Unit Trucks	0	0	7	0	-	7	0	0	5	0	-	5	0	0	1	0	-	1	0	2	0	0	-	2	15
% Single-Unit Trucks	-	0.0	8.8	0.0	-	7.8	-	0.0	4.3	0.0	-	3.8	-	0.0	6.7	0.0	-	2.6	-	28.6	0.0	0.0	-	11.8	5.4
Articulated Trucks	0	1	0	0	-	1	0	0	2	0	-	2	0	0	1	0	-	1	0	1	1	1	-	3	7
% Articulated Trucks	-	14.3	0.0	0.0	-	1.1	-	0.0	1.7	0.0	-	1.5	-	0.0	6.7	0.0	-	2.6	-	14.3	14.3	33.3	-	17.6	2.5
Bicycles on Road	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Bicycles on Road	-	0.0	1.3	0.0	-	1.1	-	0.0	0.9	0.0	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.7
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

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

Count Name: Root Street with Normal Avenue  
Site Code:  
Start Date: 04/27/2021  
Page No: 4

### Turning Movement Peak Hour Data (3:15 PM)

Start Time	Root Street Eastbound						Root Street Westbound						Normal Avenue Northbound						Normal 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	
3:15 PM	0	2	40	6	1	48	0	3	36	5	0	44	0	5	6	1	0	12	0	0	3	1	0	4	108
3:30 PM	0	3	50	6	1	59	0	5	23	1	1	29	0	3	3	2	0	8	0	0	4	1	0	5	101
3:45 PM	1	2	33	7	0	43	0	0	24	4	2	28	0	3	4	1	0	8	0	1	4	1	0	6	85
4:00 PM	0	1	33	4	2	38	0	1	57	2	0	60	0	2	3	0	2	5	0	3	5	4	0	12	115
<b>Total</b>	<b>1</b>	<b>8</b>	<b>156</b>	<b>23</b>	<b>4</b>	<b>188</b>	<b>0</b>	<b>9</b>	<b>140</b>	<b>12</b>	<b>3</b>	<b>161</b>	<b>0</b>	<b>13</b>	<b>16</b>	<b>4</b>	<b>2</b>	<b>33</b>	<b>0</b>	<b>4</b>	<b>16</b>	<b>7</b>	<b>0</b>	<b>27</b>	<b>409</b>
Approach %	0.5	4.3	83.0	12.2	-	-	0.0	5.6	87.0	7.5	-	-	0.0	39.4	48.5	12.1	-	-	0.0	14.8	59.3	25.9	-	-	-
Total %	0.2	2.0	38.1	5.6	-	46.0	0.0	2.2	34.2	2.9	-	39.4	0.0	3.2	3.9	1.0	-	8.1	0.0	1.0	3.9	1.7	-	6.6	-
PHF	0.250	0.667	0.780	0.821	-	0.797	0.000	0.450	0.614	0.600	-	0.671	0.000	0.650	0.667	0.500	-	0.688	0.000	0.333	0.800	0.438	-	0.563	0.889
Lights	1	6	149	22	-	178	0	9	121	10	-	140	0	13	16	4	-	33	0	3	15	6	-	24	375
% Lights	100.0	75.0	95.5	95.7	-	94.7	-	100.0	86.4	83.3	-	87.0	-	100.0	100.0	100.0	-	100.0	-	75.0	93.8	85.7	-	88.9	91.7
Buses	0	0	4	0	-	4	0	0	9	2	-	11	0	0	0	0	-	0	0	0	0	0	-	0	15
% Buses	0.0	0.0	2.6	0.0	-	2.1	-	0.0	6.4	16.7	-	6.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	3.7
Single-Unit Trucks	0	1	2	1	-	4	0	0	9	0	-	9	0	0	0	0	-	0	0	0	0	0	-	0	13
% Single-Unit Trucks	0.0	12.5	1.3	4.3	-	2.1	-	0.0	6.4	0.0	-	5.6	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	3.2
Articulated Trucks	0	0	1	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	0	1	0	1	-	2	4
% Articulated Trucks	0.0	0.0	0.6	0.0	-	0.5	-	0.0	0.7	0.0	-	0.6	-	0.0	0.0	0.0	-	0.0	-	25.0	0.0	14.3	-	7.4	1.0
Bicycles on Road	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	2
% Bicycles on Road	0.0	12.5	0.0	0.0	-	0.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	6.3	0.0	-	3.7	0.5
Pedestrians	-	-	-	-	4	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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

Count Name: Root Street with Wallace Street  
 Site Code:  
 Start Date: 04/27/2021  
 Page No: 1

### Turning Movement Data

Start Time	Root Street Eastbound						Root Street Westbound						Wallace Street Northbound						Wallace Street 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	
6:00 AM	0	5	26	1	2	32	0	0	22	2	0	24	0	1	4	0	1	5	0	3	1	2	0	6	67
6:15 AM	0	3	16	0	1	19	0	0	26	5	0	31	0	5	12	1	0	18	0	3	1	2	0	6	74
6:30 AM	0	7	14	0	0	21	0	0	35	1	0	36	0	2	9	0	2	11	0	5	3	3	0	11	79
6:45 AM	0	7	23	3	0	33	0	1	34	1	2	36	0	3	20	1	0	24	0	5	6	4	0	15	108
Hourly Total	0	22	79	4	3	105	0	1	117	9	2	127	0	11	45	2	3	58	0	16	11	11	0	38	328
7:00 AM	0	8	26	0	0	34	0	0	22	4	0	26	0	2	12	4	1	18	0	4	4	4	0	12	90
7:15 AM	0	5	18	1	2	24	0	0	21	7	0	28	0	5	33	3	1	41	0	1	18	2	0	21	114
7:30 AM	0	11	17	0	1	28	0	0	28	5	2	33	0	6	24	3	2	33	0	0	21	8	1	29	123
7:45 AM	0	4	24	4	0	32	0	2	29	3	0	34	0	5	15	3	0	23	0	4	19	5	1	28	117
Hourly Total	0	28	85	5	3	118	0	2	100	19	2	121	0	18	84	13	4	115	0	9	62	19	2	90	444
8:00 AM	0	5	13	5	0	23	0	0	34	4	0	38	0	0	15	1	1	16	0	4	10	3	0	17	94
8:15 AM	0	5	18	6	0	29	0	1	32	5	0	38	0	3	18	1	2	22	0	7	10	7	0	24	113
8:30 AM	0	10	13	0	1	23	0	0	17	7	0	24	0	1	16	2	3	19	0	5	10	8	0	23	89
8:45 AM	0	7	21	1	0	29	0	2	29	3	1	34	0	6	21	4	2	31	0	7	6	11	0	24	118
Hourly Total	0	27	65	12	1	104	0	3	112	19	1	134	0	10	70	8	8	88	0	23	36	29	0	88	414
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	4	45	6	2	55	0	1	28	3	3	32	0	4	13	1	4	18	0	6	36	15	0	57	162
3:15 PM	0	6	40	3	0	49	0	0	31	7	0	38	0	4	17	4	0	25	0	7	25	16	0	48	160
3:30 PM	0	9	47	5	0	61	0	0	23	4	0	27	0	5	18	1	1	24	0	11	30	20	0	61	173
3:45 PM	0	8	28	10	2	46	0	3	23	5	1	31	0	5	23	4	1	32	0	6	23	17	0	46	155
Hourly Total	0	27	160	24	4	211	0	4	105	19	4	128	0	18	71	10	6	99	0	30	114	68	0	212	650
4:00 PM	0	8	33	4	3	45	0	5	51	9	1	65	0	3	20	2	1	25	0	5	28	17	0	50	185
4:15 PM	0	10	25	5	0	40	0	1	35	7	0	43	0	5	13	3	1	21	0	8	25	12	0	45	149
4:30 PM	0	8	28	1	1	37	0	5	28	5	0	38	0	2	19	3	1	24	0	11	16	13	0	40	139
4:45 PM	0	8	30	5	1	43	0	1	26	6	0	33	0	4	12	1	2	17	0	4	27	12	1	43	136
Hourly Total	0	34	116	15	5	165	0	12	140	27	1	179	0	14	64	9	5	87	0	28	96	54	1	178	609
5:00 PM	0	10	28	5	2	43	0	1	31	6	3	38	2	6	15	4	10	27	0	10	26	17	1	53	161
5:15 PM	0	12	27	6	1	45	0	0	31	3	0	34	0	8	17	2	1	27	0	6	19	19	1	44	150
5:30 PM	1	4	21	8	1	34	0	4	20	3	2	27	0	8	21	3	6	32	0	7	19	8	1	34	127
5:45 PM	0	4	23	4	2	31	0	0	29	5	3	34	0	4	25	2	4	31	0	10	18	12	0	40	136
Hourly Total	1	30	99	23	6	153	0	5	111	17	8	133	2	26	78	11	21	117	0	33	82	56	3	171	574
Grand Total	1	168	604	83	22	856	0	27	685	110	18	822	2	97	412	53	47	564	0	139	401	237	6	777	3019
Approach %	0.1	19.6	70.6	9.7	-	-	0.0	3.3	83.3	13.4	-	-	0.4	17.2	73.0	9.4	-	-	0.0	17.9	51.6	30.5	-	-	-
Total %	0.0	5.6	20.0	2.7	-	28.4	0.0	0.9	22.7	3.6	-	27.2	0.1	3.2	13.6	1.8	-	18.7	0.0	4.6	13.3	7.9	-	25.7	-
Lights	1	131	542	81	-	755	0	26	603	95	-	724	1	96	398	50	-	545	0	109	386	204	-	699	2723

% Lights	100.0	78.0	89.7	97.6	-	88.2	-	96.3	88.0	86.4	-	88.1	50.0	99.0	96.6	94.3	-	96.6	-	78.4	96.3	86.1	-	90.0	90.2
Buses	0	32	25	0	-	57	0	0	30	10	-	40	0	0	1	1	-	2	0	28	2	24	-	54	153
% Buses	0.0	19.0	4.1	0.0	-	6.7	-	0.0	4.4	9.1	-	4.9	0.0	0.0	0.2	1.9	-	0.4	-	20.1	0.5	10.1	-	6.9	5.1
Single-Unit Trucks	0	1	26	2	-	29	0	0	34	2	-	36	0	1	6	1	-	8	0	1	6	4	-	11	84
% Single-Unit Trucks	0.0	0.6	4.3	2.4	-	3.4	-	0.0	5.0	1.8	-	4.4	0.0	1.0	1.5	1.9	-	1.4	-	0.7	1.5	1.7	-	1.4	2.8
Articulated Trucks	0	2	6	0	-	8	0	0	17	0	-	17	0	0	1	0	-	1	0	1	3	4	-	8	34
% Articulated Trucks	0.0	1.2	1.0	0.0	-	0.9	-	0.0	2.5	0.0	-	2.1	0.0	0.0	0.2	0.0	-	0.2	-	0.7	0.7	1.7	-	1.0	1.1
Bicycles on Road	0	2	5	0	-	7	0	1	1	3	-	5	1	0	6	1	-	8	0	0	4	1	-	5	25
% Bicycles on Road	0.0	1.2	0.8	0.0	-	0.8	-	3.7	0.1	2.7	-	0.6	50.0	0.0	1.5	1.9	-	1.4	-	0.0	1.0	0.4	-	0.6	0.8
Pedestrians	-	-	-	-	22	-	-	-	-	-	18	-	-	-	-	-	47	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Root Street with Wallace Street  
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Start Date: 04/27/2021  
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### Turning Movement Peak Hour Data (7:15 AM)

Start Time	Root Street Eastbound						Root Street Westbound						Wallace Street Northbound						Wallace Street 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	
7:15 AM	0	5	18	1	2	24	0	0	21	7	0	28	0	5	33	3	1	41	0	1	18	2	0	21	114
7:30 AM	0	11	17	0	1	28	0	0	28	5	2	33	0	6	24	3	2	33	0	0	21	8	1	29	123
7:45 AM	0	4	24	4	0	32	0	2	29	3	0	34	0	5	15	3	0	23	0	4	19	5	1	28	117
8:00 AM	0	5	13	5	0	23	0	0	34	4	0	38	0	0	15	1	1	16	0	4	10	3	0	17	94
<b>Total</b>	0	25	72	10	3	107	0	2	112	19	2	133	0	16	87	10	4	113	0	9	68	18	2	95	448
Approach %	0.0	23.4	67.3	9.3	-	-	0.0	1.5	84.2	14.3	-	-	0.0	14.2	77.0	8.8	-	-	0.0	9.5	71.6	18.9	-	-	-
Total %	0.0	5.6	16.1	2.2	-	23.9	0.0	0.4	25.0	4.2	-	29.7	0.0	3.6	19.4	2.2	-	25.2	0.0	2.0	15.2	4.0	-	21.2	-
PHF	0.000	0.568	0.750	0.500	-	0.836	0.000	0.250	0.824	0.679	-	0.875	0.000	0.667	0.659	0.833	-	0.689	0.000	0.563	0.810	0.563	-	0.819	0.911
Lights	0	23	55	9	-	87	0	2	98	18	-	118	0	16	85	10	-	111	0	3	61	12	-	76	392
% Lights	-	92.0	76.4	90.0	-	81.3	-	100.0	87.5	94.7	-	88.7	-	100.0	97.7	100.0	-	98.2	-	33.3	89.7	66.7	-	80.0	87.5
Buses	0	2	6	0	-	8	0	0	5	0	-	5	0	0	0	0	-	0	0	6	1	5	-	12	25
% Buses	-	8.0	8.3	0.0	-	7.5	-	0.0	4.5	0.0	-	3.8	-	0.0	0.0	0.0	-	0.0	-	66.7	1.5	27.8	-	12.6	5.6
Single-Unit Trucks	0	0	9	1	-	10	0	0	6	0	-	6	0	0	1	0	-	1	0	0	2	1	-	3	20
% Single-Unit Trucks	-	0.0	12.5	10.0	-	9.3	-	0.0	5.4	0.0	-	4.5	-	0.0	1.1	0.0	-	0.9	-	0.0	2.9	5.6	-	3.2	4.5
Articulated Trucks	0	0	1	0	-	1	0	0	3	0	-	3	0	0	1	0	-	1	0	0	3	0	-	3	8
% Articulated Trucks	-	0.0	1.4	0.0	-	0.9	-	0.0	2.7	0.0	-	2.3	-	0.0	1.1	0.0	-	0.9	-	0.0	4.4	0.0	-	3.2	1.8
Bicycles on Road	0	0	1	0	-	1	0	0	0	1	-	1	0	0	0	0	-	0	0	0	1	0	-	1	3
% Bicycles on Road	-	0.0	1.4	0.0	-	0.9	-	0.0	0.0	5.3	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	1.5	0.0	-	1.1	0.7
Pedestrians	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	4	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-





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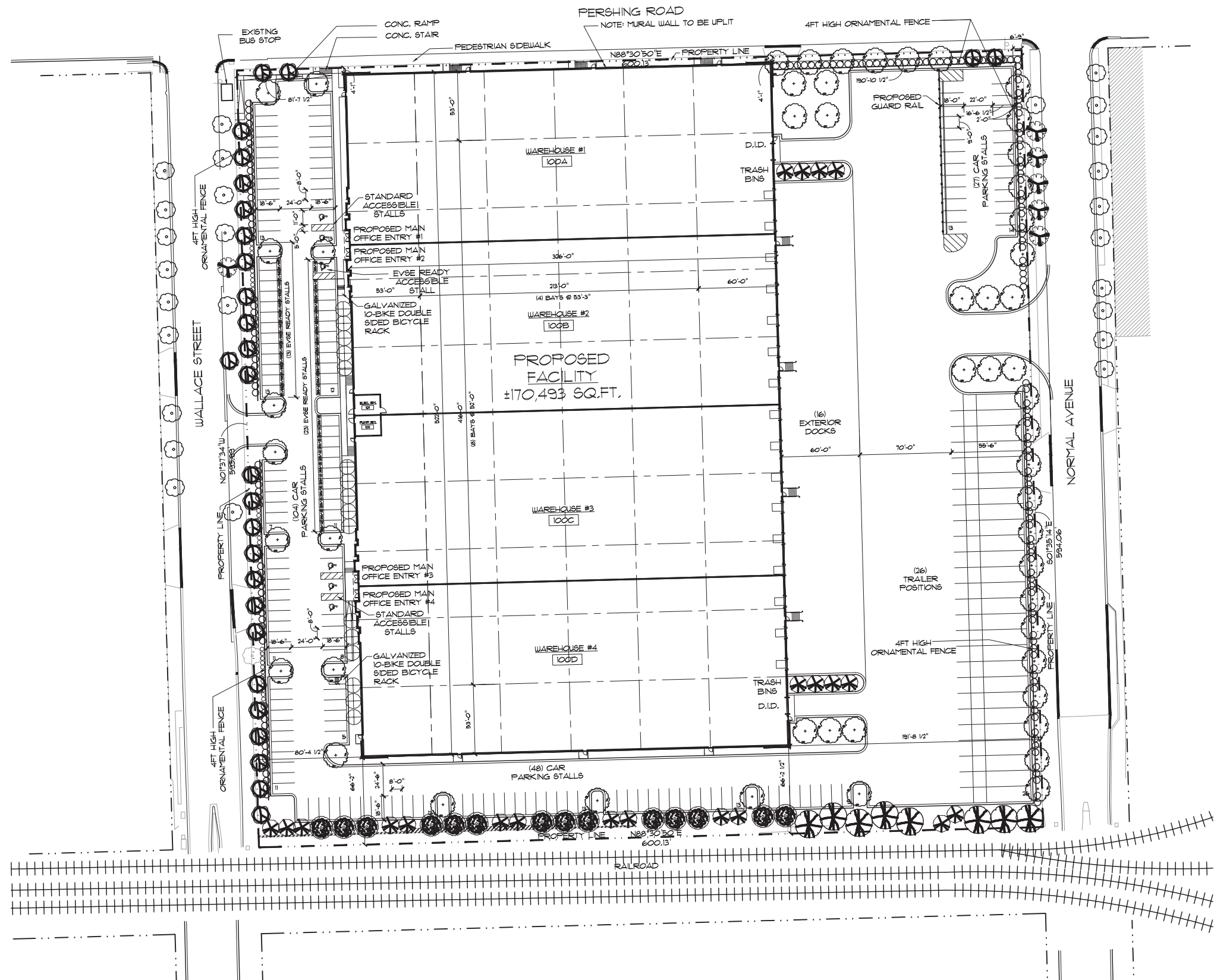
### Turning Movement Peak Hour Data (3:15 PM)

Start Time	Root Street Eastbound						Root Street Westbound						Wallace Street Northbound						Wallace Street 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	
3:15 PM	0	6	40	3	0	49	0	0	31	7	0	38	0	4	17	4	0	25	0	7	25	16	0	48	160
3:30 PM	0	9	47	5	0	61	0	0	23	4	0	27	0	5	18	1	1	24	0	11	30	20	0	61	173
3:45 PM	0	8	28	10	2	46	0	3	23	5	1	31	0	5	23	4	1	32	0	6	23	17	0	46	155
4:00 PM	0	8	33	4	3	45	0	5	51	9	1	65	0	3	20	2	1	25	0	5	28	17	0	50	185
Total	0	31	148	22	5	201	0	8	128	25	2	161	0	17	78	11	3	106	0	29	106	70	0	205	673
Approach %	0.0	15.4	73.6	10.9	-	-	0.0	5.0	79.5	15.5	-	-	0.0	16.0	73.6	10.4	-	-	0.0	14.1	51.7	34.1	-	-	-
Total %	0.0	4.6	22.0	3.3	-	29.9	0.0	1.2	19.0	3.7	-	23.9	0.0	2.5	11.6	1.6	-	15.8	0.0	4.3	15.8	10.4	-	30.5	-
PHF	0.000	0.861	0.787	0.550	-	0.824	0.000	0.400	0.627	0.694	-	0.619	0.000	0.850	0.848	0.688	-	0.828	0.000	0.659	0.883	0.875	-	0.840	0.909
Lights	0	21	139	22	-	182	0	8	110	22	-	140	0	16	75	9	-	100	0	28	102	63	-	193	615
% Lights	-	67.7	93.9	100.0	-	90.5	-	100.0	85.9	88.0	-	87.0	-	94.1	96.2	81.8	-	94.3	-	96.6	96.2	90.0	-	94.1	91.4
Buses	0	9	3	0	-	12	0	0	6	3	-	9	0	0	1	0	-	1	0	1	1	4	-	6	28
% Buses	-	29.0	2.0	0.0	-	6.0	-	0.0	4.7	12.0	-	5.6	-	0.0	1.3	0.0	-	0.9	-	3.4	0.9	5.7	-	2.9	4.2
Single-Unit Trucks	0	0	3	0	-	3	0	0	8	0	-	8	0	1	0	1	-	2	0	0	0	2	-	2	15
% Single-Unit Trucks	-	0.0	2.0	0.0	-	1.5	-	0.0	6.3	0.0	-	5.0	-	5.9	0.0	9.1	-	1.9	-	0.0	0.0	2.9	-	1.0	2.2
Articulated Trucks	0	1	1	0	-	2	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	1	-	1	7
% Articulated Trucks	-	3.2	0.7	0.0	-	1.0	-	0.0	3.1	0.0	-	2.5	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	1.4	-	0.5	1.0
Bicycles on Road	0	0	2	0	-	2	0	0	0	0	-	0	0	0	2	1	-	3	0	0	3	0	-	3	8
% Bicycles on Road	-	0.0	1.4	0.0	-	1.0	-	0.0	0.0	0.0	-	0.0	-	0.0	2.6	9.1	-	2.8	-	0.0	2.8	0.0	-	1.5	1.2
Pedestrians	-	-	-	-	5	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

# Preliminary Site Plan

SITE/ BUILDING DATA:	
SITE DATA	QUANTITY
SITE AREA:	356,370 SQ.FT.
	8.18 ACRES
F.A.R.	.48
BUILDING DATA	
BUILDING DATA	QUANTITY
BUILDING AREA (GROSS)	170,493 SQ.FT.
CLEAR HEIGHT:	36 FEET
EXTERIOR DOCKS:	16 DOCKS
FUTURE DOCKS:	11 DOCKS
DRIVE IN DOORS:	2 DOORS
STANDARD CAR PARKING:	143 CARS
EYE READY STALLS:	36 CARS
TOTAL CAR PARKING:	179 CARS

- GENERAL NOTES:**
- FOR ADDITIONAL INFORMATION SEE CIVIL ENGINEERING DRAWINGS.
  - DIMENSION AND PROPERTY LINES SHOWN ARE FOR COORDINATION ONLY. REFER TO CIVIL DRAWINGS FOR DIMENSIONAL CONTROL PLANS.
  - BUILDING AND SITE LAYOUT TO BE VERIFIED BY LICENSED SURVEYOR AND WRITTEN VERIFICATION TO BE FORWARDED TO OWNER.
  - GENERAL CONTRACTOR TO VERIFY ALL SITE CONDITIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE AWARD OF CONTRACTS.
  - REFER TO CIVIL ENGINEERING DRAWINGS FOR SITE GRADES, STORM DRAINAGE, UTILITIES, DIMENSIONS AND BEARING ANGLES.
  - ALL EXTERIOR CONCRETE TO BE 4,000 PSI, MIN. WITH AIR ENTRAINMENT, UNLESS NOTED OTHERWISE TO BE GREATER.
  - SEE CIVIL ENGINEERING DRAWINGS FOR ALL PAVED AREAS.
  - ALL SIDEWALK AND PARKING LOT SLOPES AND GRADES TO BE VERIFIED WITH CIVIL ENGINEERING DRAWINGS. ARCHITECT IS NOT RESPONSIBLE FOR NON-COMPLIANCE (PER ANSI THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20, THE CROSS SLOPE OF A WALKING SURFACE SHALL NOT BE STEEPER THAN 1:48).
  - ALL DRIVE APPROACHES SHALL BE INSTALLED PER CITY AND STATE STANDARDS.
  - GENERAL CONTRACTOR TO INSTALL SIGNAGE FOR HANDICAP PARKING PER CITY AND STATE STANDARDS.
  - PARKING STALLS SHOWN FOR REFERENCE ONLY. SEE CIVIL DRAWINGS FOR DETAILS.
  - PROVIDE DEPRESSED CONCRETE GUTTER AT DRIVEWAYS WITH TWO #6 BARS AND 1/2" EXPANSION JOINT AT CENTER OF DRIVEWAY, UNLESS NOTED OTHERWISE, SEE CIVIL DUGS.
  - CONCRETE WALKS, STOOPS AND PATIO SLABS TO BE A MINIMUM 5" THICK ON 6" COMPACTED STONE W/BROOM FINISH. CONTROL JOINT SPACING SHALL BE 5'-0" O.C. MAX. PROVIDE THREE #6x10" LONG REINFORCING BARS AT UTILITY CROSSINGS, UNLESS NOTED OTHERWISE ON CIVIL.
  - GENERAL CONTRACTOR TO PROVIDE A MIN. OF 6" TOP SOIL IN PLANTING AREAS, UNLESS NOTED OTHERWISE.
  - ALL SIGNAGE AND LOCATION SIGNAGE TO BE VERIFY W/OWNER.
  - ALL SIGNAGE TO BE PERMITTED SEPARATELY.
  - FIRE DEPARTMENT "KNOXBOX" KEYBOX TO BE PROVIDED & INSTALLED 55"-65" ABOVE GRADE. LOCATION TO BE VERIFIED BY FIRE DEPT. & COORDINATED W/OWNER & G.C..
  - STREET ADDRESS NUMBERS TO BE PROVIDED IN CONSPICUOUS LOCATION. STREET NUMBERS TO HAVE 5" LETTERING HEIGHT, AND BE IN A COLOR THAT IS CONTRASTING FROM THE BUILDING. SCRIPT LETTERING SHALL NOT BE ALLOWED. VERIFY ADDRESS LOCATION AND SIZE WITH FIRE DEPARTMENT.



**Cornerstone Architects Ltd.**  
 1152 SPRING LAKE DRIVE  
 ITASCA, ILLINOIS 60143  
 PHONE 630.773.8363  
 FAX 630.773.8365  
 ARCHITECTS • ENGINEERS • INTERIOR DESIGNERS • LAND PLANNERS

**GENERAL NOTES:**

no.	date	revision description
-	5/20/2021	PD REVIEW
	5-18-2021	

drawn: JLO  
 checked: MJB

SPECULATIVE  
 1-STORY FACILITY  
 3940 S. NORMAL AVE.  
 CHICAGO, ILLINOIS 60609

SITE PLAN

job no.	sheet no.
20298	A100

PLAN NORTH  
 SCALE: 1" = 40'-0"  
 0 20 40 80 FEET  
 1 INCH = 40 FEET

## Level of Service Criteria

LEVEL OF SERVICE CRITERIA

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.	>80.0
Unsignalized Intersections		
Level of Service	Average Total Delay (SEC/VEH)	
A	0 - 10	
B	> 10 - 15	
C	> 15 - 25	
D	> 25 - 35	
E	> 35 - 50	
F	> 50	

Source: *Highway Capacity Manual*, 2010.

Capacity Analysis Summary Sheets  
Existing Weekday Morning Peak Hour Conditions

Lanes, Volumes, Timings  
1: Wallace Street & Pershing Road

05/06/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	559	43	60	556	34	33	139	49	29	103	35
Future Volume (vph)	39	559	43	60	556	34	33	139	49	29	103	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	16	12	12	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		0	160		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.989			0.991			0.970			0.972	
Flt Protected	0.950			0.950				0.993			0.991	
Satd. Flow (prot)	1491	2700	0	1535	2869	0	0	1661	0	0	1796	0
Flt Permitted	0.378			0.371				0.939			0.923	
Satd. Flow (perm)	591	2700	0	599	2869	0	0	1570	0	0	1673	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			15			23			22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2690			679			1667			676	
Travel Time (s)		61.1			15.4			37.9			15.4	
Confl. Peds. (#/hr)	4		1	1		4	5					5
Confl. Bikes (#/hr)			2						1			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	25%	0%	8%	16%	3%	12%	4%	27%	0%	3%	8%
Bus Blockages (#/hr)	0	0	0	4	4	4	4	4	4	0	0	0
Parking (#/hr)							0	0	0	0	0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	655	0	65	641	0	0	240	0	0	182	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (%)	61.5%	61.5%		61.5%	61.5%		38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)	36.0	36.0		36.0	36.0			21.0			21.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	



Lanes, Volumes, Timings  
 1: Wallace Street & Pershing Road

05/06/2021

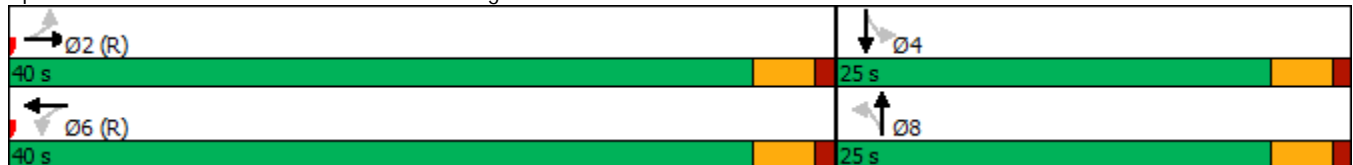


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.44		0.20	0.40			0.46				0.33
Control Delay	8.2	9.4		23.2	24.2			19.2				16.6
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	8.2	9.4		23.2	24.2			19.2				16.6
LOS	A	A		C	C			B				B
Approach Delay		9.3			24.1			19.2				16.6
Approach LOS		A			C			B				B
Queue Length 50th (ft)	7	70		26	140			66				47
Queue Length 95th (ft)	21	105		64	193			126				93
Internal Link Dist (ft)		2610			599			1587				596
Turn Bay Length (ft)	115			160								
Base Capacity (vph)	327	1504		331	1595			522				555
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.13	0.44		0.20	0.40			0.46				0.33

Intersection Summary

Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 65  
 Offset: 40 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.46  
 Intersection Signal Delay: 17.1  
 Intersection Capacity Utilization 46.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 1: Wallace Street & Pershing Road



## Lanes, Volumes, Timings

### 2: Normal Avenue & Pershing Road

05/06/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↖	
Traffic Volume (vph)	629	8	15	630	20	23
Future Volume (vph)	629	8	15	630	20	23
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	10	10	10	10	16	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	115		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.998				0.928	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	2693	0	1246	3059	1573	0
Flt Permitted			0.344		0.977	
Satd. Flow (perm)	2693	0	451	3059	1573	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3				25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	679			2104	1670	
Travel Time (s)	15.4			47.8	38.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	24%	13%	33%	15%	0%	22%
Bus Blockages (#/hr)	4	4	4	4	0	0
Parking (#/hr)					0	0
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	685	0	16	677	47	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phase	2		6	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	37.0		37.0	37.0	28.0	
Total Split (s)	37.0		37.0	37.0	28.0	
Total Split (%)	56.9%		56.9%	56.9%	43.1%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	Max	
Act Effect Green (s)	33.0		33.0	33.0	24.0	
Actuated g/C Ratio	0.51		0.51	0.51	0.37	

Lanes, Volumes, Timings  
 2: Normal Avenue & Pershing Road

05/06/2021

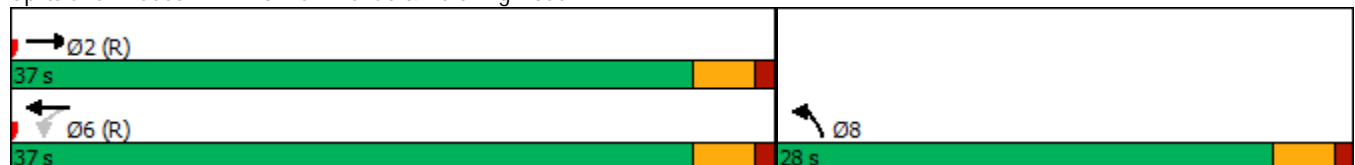


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.50		0.07	0.44	0.08	
Control Delay	7.8		9.3	11.2	8.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.8		9.3	11.2	8.7	
LOS	A		A	B	A	
Approach Delay	7.8			11.2	8.7	
Approach LOS	A			B	A	
Queue Length 50th (ft)	101		3	82	5	
Queue Length 95th (ft)	135		12	120	24	
Internal Link Dist (ft)	599			2024	1590	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1368		228	1553	596	
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	0.50		0.07	0.44	0.08	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	60 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.50
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization:	28.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: Normal Avenue & Pershing Road



HCM 6th AWSC  
3: Wallace Street & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	90	13	3	140	24	20	109	13	11	85	23
Future Vol, veh/h	31	90	13	3	140	24	20	109	13	11	85	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	10	22	8	0	13	0	0	3	0	0	9	35
Mvmt Flow	34	99	14	3	154	26	22	120	14	12	93	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.2	9.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	23%	2%	9%
Vol Thru, %	77%	67%	84%	71%
Vol Right, %	9%	10%	14%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	134	167	119
LT Vol	20	31	3	11
Through Vol	109	90	140	85
RT Vol	13	13	24	23
Lane Flow Rate	156	147	184	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.21	0.203	0.239	0.174
Departure Headway (Hd)	4.835	4.973	4.696	4.799
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	738	717	760	743
Service Time	2.892	3.034	2.754	2.86
HCM Lane V/C Ratio	0.211	0.205	0.242	0.176
HCM Control Delay	9.2	9.3	9.2	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.8	0.9	0.6

HCM 6th AWSC  
4: Normal Avenue & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	101	4	10	147	11	16	19	14	9	9	4
Future Vol, veh/h	9	101	4	10	147	11	16	19	14	9	9	4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	11	19	0	0	12	0	0	16	7	44	11	25
Mvmt Flow	10	117	5	12	171	13	19	22	16	10	10	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	8.5	7.9	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	8%	6%	41%
Vol Thru, %	39%	89%	88%	41%
Vol Right, %	29%	4%	7%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	114	168	22
LT Vol	16	9	10	9
Through Vol	19	101	147	9
RT Vol	14	4	11	4
Lane Flow Rate	57	133	195	26
Geometry Grp	1	1	1	1
Degree of Util (X)	0.072	0.165	0.229	0.039
Departure Headway (Hd)	4.561	4.486	4.22	5.427
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	802	854	661
Service Time	2.58	2.5	2.234	3.447
HCM Lane V/C Ratio	0.072	0.166	0.228	0.039
HCM Control Delay	7.9	8.4	8.5	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.9	0.1

Capacity Analysis Summary Sheets  
Existing Weekday Evening Peak Hour Conditions

Lanes, Volumes, Timings  
1: Wallace Street & Pershing Road

05/06/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	572	73	89	675	39	26	123	68	20	144	43
Future Volume (vph)	40	572	73	89	675	39	26	123	68	20	144	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	16	12	12	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		0	160		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.983			0.992			0.958			0.972	
Flt Protected	0.950			0.950				0.994			0.995	
Satd. Flow (prot)	1604	3069	0	1507	2880	0	0	1759	0	0	1814	0
Flt Permitted	0.289			0.325				0.947			0.959	
Satd. Flow (perm)	488	3069	0	516	2880	0	0	1676	0	0	1748	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			14			37			22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2690			679			1667			676	
Travel Time (s)		61.1			15.4			37.9			15.4	
Confl. Peds. (#/hr)							2		5	5		2
Confl. Bikes (#/hr)			2						1			2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	8%	5%	10%	16%	0%	8%	3%	0%	5%	3%	2%
Bus Blockages (#/hr)	0	0	0	4	4	4	4	4	4	0	0	0
Parking (#/hr)							0	0	0	0	0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	750	0	103	830	0	0	252	0	0	240	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (%)	61.5%	61.5%		61.5%	61.5%		38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)	36.0	36.0		36.0	36.0			21.0			21.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	



Lanes, Volumes, Timings  
 1: Wallace Street & Pershing Road

05/06/2021

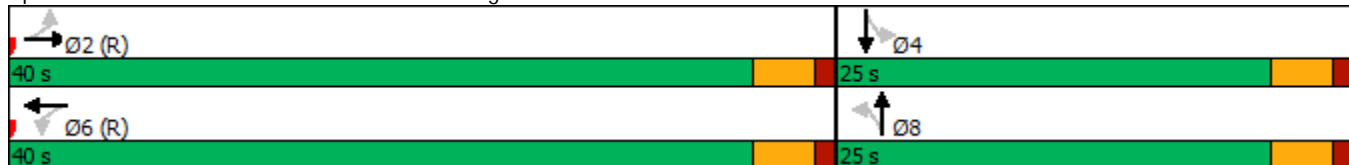


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.17	0.44		0.36	0.52			0.45				0.41
Control Delay	9.2	9.1		27.1	25.5			17.7				18.2
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	9.2	9.1		27.1	25.5			17.7				18.2
LOS	A	A		C	C			B				B
Approach Delay		9.1			25.7			17.7				18.2
Approach LOS		A			C			B				B
Queue Length 50th (ft)	8	78		43	185			65				66
Queue Length 95th (ft)	24	107		m80	230			117				115
Internal Link Dist (ft)		2610			599			1587				596
Turn Bay Length (ft)	115			160								
Base Capacity (vph)	270	1714		285	1601			566				579
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.17	0.44		0.36	0.52			0.45				0.41

Intersection Summary











Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 65  
 Offset: 40 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.52  
 Intersection Signal Delay: 18.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 51.2%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Wallace Street & Pershing Road



Lanes, Volumes, Timings  
2: Normal Avenue & Pershing Road

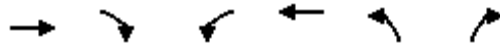
05/06/2021

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	647	13	26	774	29	18
Future Volume (vph)	647	13	26	774	29	18
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	10	10	10	10	16	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	115		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor					0.99	
Frt	0.997				0.949	
Flt Protected			0.950		0.970	
Satd. Flow (prot)	3090	0	1167	3059	1733	0
Flt Permitted			0.315		0.970	
Satd. Flow (perm)	3090	0	387	3059	1733	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4				20	
Link Speed (mph)	30			30	30	
Link Distance (ft)	679			2104	1670	
Travel Time (s)	15.4			47.8	38.0	
Confl. Peds. (#/hr)						5
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	0%	42%	15%	0%	6%
Bus Blockages (#/hr)	4	4	4	4	0	0
Parking (#/hr)					0	0
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	742	0	29	870	53	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phase	2		6	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	37.0		37.0	37.0	28.0	
Total Split (s)	37.0		37.0	37.0	28.0	
Total Split (%)	56.9%		56.9%	56.9%	43.1%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	Max	
Act Effect Green (s)	33.0		33.0	33.0	24.0	
Actuated g/C Ratio	0.51		0.51	0.51	0.37	

# Lanes, Volumes, Timings

## 2: Normal Avenue & Pershing Road

05/06/2021

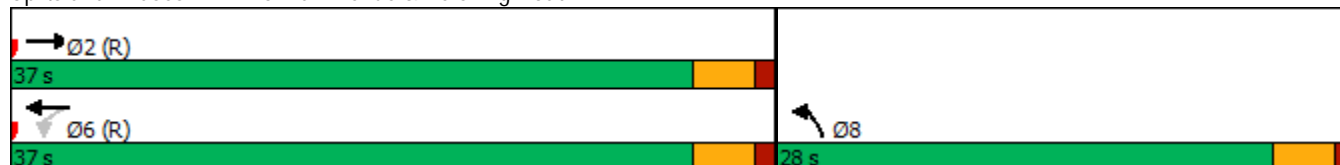


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.47		0.15	0.56	0.08	
Control Delay	7.5		10.9	12.8	9.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.5		10.9	12.8	9.9	
LOS	A		B	B	A	
Approach Delay	7.5			12.7	9.9	
Approach LOS	A			B	A	
Queue Length 50th (ft)	75		6	115	8	
Queue Length 95th (ft)	104		20	162	28	
Internal Link Dist (ft)	599			2024	1590	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1570		196	1553	652	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.47		0.15	0.56	0.08	

### Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	60 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	10.3
Intersection LOS:	B
Intersection Capacity Utilization	43.3%
ICU Level of Service	A
Analysis Period (min)	15

### Splits and Phases: 2: Normal Avenue & Pershing Road



HCM 6th AWSC  
3: Wallace Street & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	163	24	9	141	28	19	86	12	32	117	77
Future Vol, veh/h	34	163	24	9	141	28	19	86	12	32	117	77
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	32	5	0	0	14	11	5	1	8	3	1	10
Mvmt Flow	37	179	26	10	155	31	21	95	13	35	129	85
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	10.4	10.1	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	15%	5%	14%
Vol Thru, %	74%	74%	79%	52%
Vol Right, %	10%	11%	16%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	221	178	226
LT Vol	19	34	9	32
Through Vol	86	163	141	117
RT Vol	12	24	28	77
Lane Flow Rate	129	243	196	248
Geometry Grp	1	1	1	1
Degree of Util (X)	0.2	0.388	0.286	0.361
Departure Headway (Hd)	5.605	5.758	5.271	5.23
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	639	624	681	688
Service Time	3.646	3.794	3.309	3.264
HCM Lane V/C Ratio	0.202	0.389	0.288	0.36
HCM Control Delay	10.1	12.4	10.4	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.7	1.8	1.2	1.6

HCM 6th AWSC  
4: Normal Avenue & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	172	25	10	156	13	14	18	4	4	18	8
Future Vol, veh/h	10	172	25	10	156	13	14	18	4	4	18	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	10	5	4	0	14	15	0	0	0	25	0	13
Mvmt Flow	11	193	28	11	175	15	16	20	4	4	20	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0




















Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	8.7	8.2	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	5%	6%	13%
Vol Thru, %	50%	83%	87%	60%
Vol Right, %	11%	12%	7%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	207	179	30
LT Vol	14	10	10	4
Through Vol	18	172	156	18
RT Vol	4	25	13	8
Lane Flow Rate	40	233	201	34
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.285	0.24	0.049
Departure Headway (Hd)	4.918	4.405	4.303	5.209
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	728	819	837	688
Service Time	2.948	2.421	2.32	3.238
HCM Lane V/C Ratio	0.055	0.284	0.24	0.049
HCM Control Delay	8.2	9.2	8.7	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.2	0.9	0.2

Capacity Analysis Summary Sheets  
Total Projected Weekday Morning Peak Hour Conditions

Lanes, Volumes, Timings  
1: Wallace Street & Pershing Road

05/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	584	78	92	574	35	39	143	54	30	106	36
Future Volume (vph)	40	584	78	92	574	35	39	143	54	30	106	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	16	12	12	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		0	160		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.982			0.991			0.969			0.972	
Flt Protected	0.950			0.950				0.992			0.991	
Satd. Flow (prot)	1491	2704	0	1579	2846	0	0	1677	0	0	1762	0
Flt Permitted	0.367			0.339				0.930			0.919	
Satd. Flow (perm)	574	2704	0	563	2846	0	0	1571	0	0	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			15			25			22	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2690			679			382			676	
Travel Time (s)		61.1			15.4			8.7			15.4	
Confl. Peds. (#/hr)	4		1	1		4	6					6
Confl. Bikes (#/hr)			2						1			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	25%	0%	5%	17%	3%	10%	3%	24%	0%	8%	3%
Bus Blockages (#/hr)	0	0	0	4	4	4	4	4	4	0	0	0
Parking (#/hr)							0	0	0	0	0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	720	0	100	662	0	0	256	0	0	187	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (%)	61.5%	61.5%		61.5%	61.5%		38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)	36.0	36.0		36.0	36.0			21.0			21.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	

Lanes, Volumes, Timings  
 1: Wallace Street & Pershing Road

05/06/2021

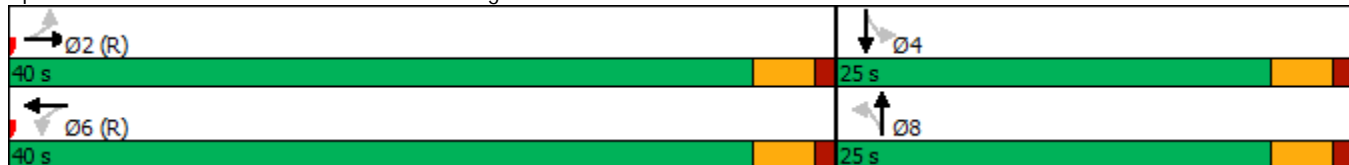


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.14	0.48		0.32	0.42			0.49				0.35
Control Delay	8.4	9.6		26.6	24.4			19.7				16.9
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	8.4	9.6		26.6	24.4			19.7				16.9
LOS	A	A		C	C			B				B
Approach Delay		9.5			24.7			19.7				16.9
Approach LOS		A			C			B				B
Queue Length 50th (ft)	7	77		42	147			72				49
Queue Length 95th (ft)	22	115		87	198			135				96
Internal Link Dist (ft)		2610			599			302				596
Turn Bay Length (ft)	115			160								
Base Capacity (vph)	317	1513		311	1582			524				542
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.14	0.48		0.32	0.42			0.49				0.35

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	40 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	17.4
Intersection LOS:	B
Intersection Capacity Utilization:	50.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: Wallace Street & Pershing Road





# Lanes, Volumes, Timings

## 2: Normal Avenue & Pershing Road

05/06/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Traffic Volume (vph)	652	16	27	679	22	25
Future Volume (vph)	652	16	27	679	22	25
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	10	10	10	10	16	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	115		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.929	
Flt Protected			0.950		0.977	
Satd. Flow (prot)	2681	0	1246	3059	1557	0
Flt Permitted			0.327		0.977	
Satd. Flow (perm)	2681	0	429	3059	1557	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5				27	
Link Speed (mph)	30			30	30	
Link Distance (ft)	679			2104	258	
Travel Time (s)	15.4			47.8	5.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	24%	31%	33%	15%	5%	20%
Bus Blockages (#/hr)	4	4	4	4	0	0
Parking (#/hr)					0	0
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	718	0	29	730	51	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phase	2		6	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	37.0		37.0	37.0	28.0	
Total Split (s)	37.0		37.0	37.0	28.0	
Total Split (%)	56.9%		56.9%	56.9%	43.1%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	Max	
Act Effect Green (s)	33.0		33.0	33.0	24.0	
Actuated g/C Ratio	0.51		0.51	0.51	0.37	

# Lanes, Volumes, Timings

## 2: Normal Avenue & Pershing Road

05/06/2021

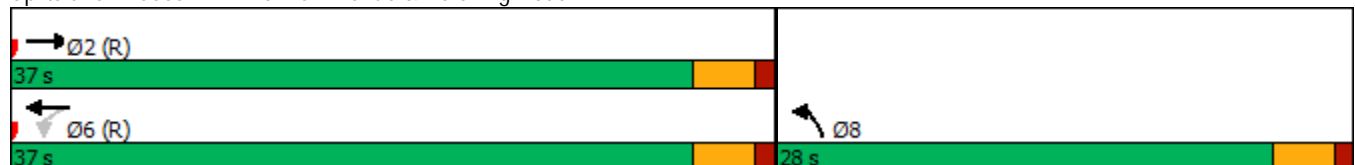


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.53		0.13	0.47	0.09	
Control Delay	8.1		10.4	11.6	8.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.1		10.4	11.6	8.7	
LOS	A		B	B	A	
Approach Delay	8.1			11.6	8.7	
Approach LOS	A			B	A	
Queue Length 50th (ft)	98		6	91	6	
Queue Length 95th (ft)	125		19	132	25	
Internal Link Dist (ft)	599			2024	178	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1363		217	1553	591	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.53		0.13	0.47	0.09	

### Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	60 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.53
Intersection Signal Delay:	9.9
Intersection LOS:	A
Intersection Capacity Utilization	33.3%
ICU Level of Service	A
Analysis Period (min)	15

### Splits and Phases: 2: Normal Avenue & Pershing Road



HCM 6th AWSC  
3: Wallace Street & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	96	13	3	144	32	21	112	13	12	88	26
Future Vol, veh/h	40	96	13	3	144	32	21	112	13	12	88	26
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	8	24	8	0	13	0	0	3	0	0	9	31
Mvmt Flow	44	105	14	3	158	35	23	123	14	13	97	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	9.5	9.4	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	27%	2%	10%
Vol Thru, %	77%	64%	80%	70%
Vol Right, %	9%	9%	18%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	149	179	126
LT Vol	21	40	3	12
Through Vol	112	96	144	88
RT Vol	13	13	32	26
Lane Flow Rate	160	164	197	138
Geometry Grp	1	1	1	1
Degree of Util (X)	0.219	0.228	0.259	0.188
Departure Headway (Hd)	4.924	5.01	4.736	4.876
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	724	711	751	730
Service Time	2.996	3.08	2.804	2.949
HCM Lane V/C Ratio	0.221	0.231	0.262	0.189
HCM Control Delay	9.4	9.6	9.5	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.9	1	0.7

HCM 6th AWSC  
4: Normal Avenue & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	105	4	10	159	14	16	20	14	9	9	4
Future Vol, veh/h	12	105	4	10	159	14	16	20	14	9	9	4
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	25	19	0	0	11	7	0	15	7	44	11	25
Mvmt Flow	14	122	5	12	185	16	19	23	16	10	10	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.7	8	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	10%	5%	41%
Vol Thru, %	40%	87%	87%	41%
Vol Right, %	28%	3%	8%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	121	183	22
LT Vol	16	12	10	9
Through Vol	20	105	159	9
RT Vol	14	4	14	4
Lane Flow Rate	58	141	213	26
Geometry Grp	1	1	1	1
Degree of Util (X)	0.075	0.186	0.25	0.039
Departure Headway (Hd)	4.635	4.751	4.234	5.502
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	757	849	652
Service Time	2.659	2.769	2.251	3.529
HCM Lane V/C Ratio	0.075	0.186	0.251	0.04
HCM Control Delay	8	8.9	8.7	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.7	1	0.1

HCM 6th TWSC  
5: Wallace Street & Site Access

05/06/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	9	227	15	64	212
Future Vol, veh/h	3	9	227	15	64	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	10	0	0	6
Mvmt Flow	3	9	239	16	67	223

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	604	247	0	0	255	0
Stage 1	247	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	465	797	-	-	1322	-
Stage 1	799	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	438	797	-	-	1322	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	661	1322
HCM Lane V/C Ratio	-	-	0.019	0.051
HCM Control Delay (s)	-	-	10.6	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2

HCM 6th TWSC  
6: Normal Avenue & Site Acces Drive

05/06/2021

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	6	45	23	20
Future Vol, veh/h	2	0	6	45	23	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	50	0	50	11	26	40
Mvmt Flow	2	0	6	47	24	21

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	94	35	45	0	0
Stage 1	35	-	-	-	-
Stage 2	59	-	-	-	-
Critical Hdwy	6.9	6.2	4.6	-	-
Critical Hdwy Stg 1	5.9	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-
Follow-up Hdwy	3.95	3.3	2.65	-	-
Pot Cap-1 Maneuver	801	1044	1304	-	-
Stage 1	877	-	-	-	-
Stage 2	854	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	797	1044	1304	-	-
Mov Cap-2 Maneuver	797	-	-	-	-
Stage 1	873	-	-	-	-
Stage 2	854	-	-	-	-



















Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1304	-	797	-	-
HCM Lane V/C Ratio	0.005	-	0.003	-	-
HCM Control Delay (s)	7.8	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Capacity Analysis Summary Sheets  
Total Projected Weekday Evening Peak Hour Conditions

Lanes, Volumes, Timings  
1: Wallace Street & Pershing Road

05/06/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	590	80	96	699	40	57	127	96	21	148	44
Future Volume (vph)	41	590	80	96	699	40	57	127	96	21	148	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	12	16	12	12	16	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	115		0	160		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	80			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00						0.99			1.00	
Frt		0.982			0.992			0.954			0.972	
Flt Protected	0.950			0.950				0.990			0.995	
Satd. Flow (prot)	1604	3066	0	1521	2880	0	0	1751	0	0	1814	0
Flt Permitted	0.277			0.312				0.902			0.951	
Satd. Flow (perm)	468	3066	0	499	2880	0	0	1595	0	0	1733	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			14			43			21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2690			679			382			676	
Travel Time (s)		61.1			15.4			8.7			15.4	
Confl. Peds. (#/hr)							2		6	6		2
Confl. Bikes (#/hr)			2						1			2
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	8%	5%	9%	16%	0%	4%	3%	0%	5%	3%	2%
Bus Blockages (#/hr)	0	0	0	4	4	4	4	4	4	0	0	0
Parking (#/hr)							0	0	0	0	0	0
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	779	0	112	860	0	0	326	0	0	247	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (s)	40.0	40.0		40.0	40.0		25.0	25.0		25.0	25.0	
Total Split (%)	61.5%	61.5%		61.5%	61.5%		38.5%	38.5%		38.5%	38.5%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
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			0.0			0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)	36.0	36.0		36.0	36.0			21.0			21.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	



Lanes, Volumes, Timings  
 1: Wallace Street & Pershing Road

05/06/2021



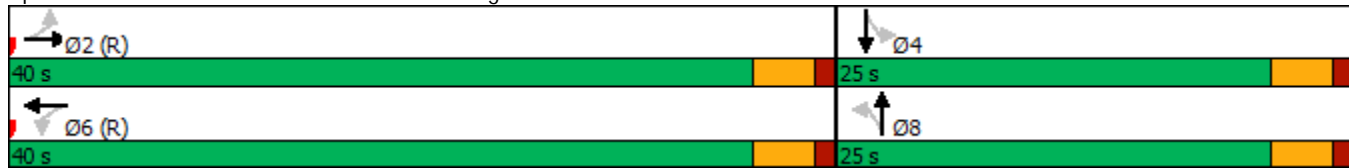
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.19	0.45		0.41	0.54			0.60				0.43
Control Delay	9.5	9.2		28.4	25.7			21.4				18.6
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay	9.5	9.2		28.4	25.7			21.4				18.6
LOS	A	A		C	C			C				B
Approach Delay		9.3			26.0			21.4				18.6
Approach LOS		A			C			C				B
Queue Length 50th (ft)	9	82		47	191			92				69
Queue Length 95th (ft)	24	113		m84	236			157				119
Internal Link Dist (ft)		2610			599			302				596
Turn Bay Length (ft)	115			160								
Base Capacity (vph)	259	1714		276	1601			544				574
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.19	0.45		0.41	0.54			0.60				0.43

Intersection Summary

Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 65  
 Offset: 40 (62%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 18.8  
 Intersection Capacity Utilization 62.5%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

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

Splits and Phases: 1: Wallace Street & Pershing Road



## Lanes, Volumes, Timings

### 2: Normal Avenue & Pershing Road

05/06/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	
Traffic Volume (vph)	693	14	28	801	34	30
Future Volume (vph)	693	14	28	801	34	30
Ideal Flow (vphpl)	1900	1900	1900	2000	1900	1900
Lane Width (ft)	10	10	10	10	16	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	115		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			80		25	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Ped Bike Factor					0.99	
Frt	0.997				0.936	
Flt Protected			0.950		0.974	
Satd. Flow (prot)	3114	0	1193	3059	1598	0
Flt Permitted			0.291		0.974	
Satd. Flow (perm)	3114	0	365	3059	1598	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	4				34	
Link Speed (mph)	30			30	30	
Link Distance (ft)	679			2104	258	
Travel Time (s)	15.4			47.8	5.9	
Confl. Peds. (#/hr)						6
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	7%	39%	15%	3%	17%
Bus Blockages (#/hr)	4	4	4	4	0	0
Parking (#/hr)					0	0
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	795	0	31	900	72	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Detector Phase	2		6	6	8	
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	37.0		37.0	37.0	28.0	
Total Split (s)	37.0		37.0	37.0	28.0	
Total Split (%)	56.9%		56.9%	56.9%	43.1%	
Yellow Time (s)	3.0		3.0	3.0	3.0	
All-Red Time (s)	1.0		1.0	1.0	1.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	Max	
Act Effect Green (s)	33.0		33.0	33.0	24.0	
Actuated g/C Ratio	0.51		0.51	0.51	0.37	

Lanes, Volumes, Timings  
 2: Normal Avenue & Pershing Road

05/06/2021

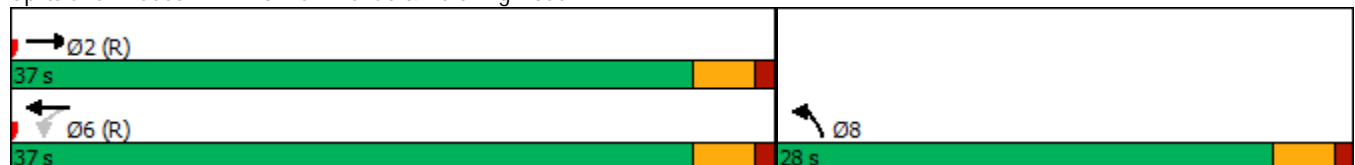


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.50		0.17	0.58	0.12	
Control Delay	8.5		11.5	13.1	9.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.5		11.5	13.1	9.0	
LOS	A		B	B	A	
Approach Delay	8.5			13.0	9.0	
Approach LOS	A			B	A	
Queue Length 50th (ft)	117		6	121	10	
Queue Length 95th (ft)	143		21	169	32	
Internal Link Dist (ft)	599			2024	178	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1582		185	1553	611	
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	0.50		0.17	0.58	0.12	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	60 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	10.9
Intersection LOS:	B
Intersection Capacity Utilization	44.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 2: Normal Avenue & Pershing Road



HCM 6th AWSC  
3: Wallace Street & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	37	168	25	9	147	30	20	89	12	39	121	87
Future Vol, veh/h	37	168	25	9	147	30	20	89	12	39	121	87
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	30	5	0	0	15	10	5	1	8	3	1	9
Mvmt Flow	41	185	27	10	162	33	22	98	13	43	133	96
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	10.8	10.3	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	16%	5%	16%
Vol Thru, %	74%	73%	79%	49%
Vol Right, %	10%	11%	16%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	230	186	247
LT Vol	20	37	9	39
Through Vol	89	168	147	121
RT Vol	12	25	30	87
Lane Flow Rate	133	253	204	271
Geometry Grp	1	1	1	1
Degree of Util (X)	0.212	0.41	0.306	0.4
Departure Headway (Hd)	5.731	5.844	5.392	5.311
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	625	614	664	676
Service Time	3.782	3.886	3.437	3.354
HCM Lane V/C Ratio	0.213	0.412	0.307	0.401
HCM Control Delay	10.3	12.9	10.8	11.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.8	2	1.3	1.9

HCM 6th AWSC  
4: Normal Avenue & Root Street

05/06/2021

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	183	26	10	162	13	14	19	4	7	19	10
Future Vol, veh/h	10	183	26	10	162	13	14	19	4	7	19	10
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	10	4	4	0	14	15	0	0	0	29	0	20
Mvmt Flow	11	206	29	11	182	15	16	21	4	8	21	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	8.8	8.3	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	38%	5%	5%	19%
Vol Thru, %	51%	84%	88%	53%
Vol Right, %	11%	12%	7%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	219	185	36
LT Vol	14	10	10	7
Through Vol	19	183	162	19
RT Vol	4	26	13	10
Lane Flow Rate	42	246	208	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.303	0.251	0.06
Departure Headway (Hd)	4.981	4.439	4.345	5.335
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	719	812	827	671
Service Time	3.013	2.46	2.366	3.369
HCM Lane V/C Ratio	0.058	0.303	0.252	0.06
HCM Control Delay	8.3	9.4	8.8	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.3	1	0.2

HCM 6th TWSC  
5: Wallace Street & Site Access

05/06/2021

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	R	T	R	L	T
Traffic Vol, veh/h	14	56	224	3	9	315
Future Vol, veh/h	14	56	224	3	9	315
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	3	0	0	5
Mvmt Flow	15	59	236	3	9	332

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	588	238	0	0	239
Stage 1	238	-	-	-	-
Stage 2	350	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	475	806	-	-	1340
Stage 1	806	-	-	-	-
Stage 2	718	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	471	806	-	-	1340
Mov Cap-2 Maneuver	471	-	-	-	-
Stage 1	806	-	-	-	-
Stage 2	712	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	706	1340
HCM Lane V/C Ratio	-	-	0.104	0.007
HCM Control Delay (s)	-	-	10.7	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

HCM 6th TWSC  
6: Normal Avenue & Site Acces Drive

05/06/2021

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	15	5	0	49	40	2
Future Vol, veh/h	15	5	0	49	40	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	33	40	0	2	28	50
Mvmt Flow	16	5	0	52	42	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	95	43	44	0	0
Stage 1	43	-	-	-	-
Stage 2	52	-	-	-	-
Critical Hdwy	6.73	6.6	4.1	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-
Follow-up Hdwy	3.797	3.66	2.2	-	-
Pot Cap-1 Maneuver	834	929	1577	-	-
Stage 1	906	-	-	-	-
Stage 2	897	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	834	929	1577	-	-
Mov Cap-2 Maneuver	834	-	-	-	-
Stage 1	906	-	-	-	-
Stage 2	897	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1577	-	856	-	-
HCM Lane V/C Ratio	-	-	0.025	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-