

# Traffic Impact Study Proposed Industrial Development

Chicago, Illinois



Prepared For:

**THE MISSNER GROUP**

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August 23, 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 1032 West 43<sup>rd</sup> Street 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 Racine Avenue with Exchange Avenue and 43<sup>rd</sup> Street and Morgan Street with Exchange Avenue and 43<sup>rd</sup> Street 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 130,354 square-foot multi-tenant industrial building. The development will provide a total of 276 parking spaces for employees located on the east and south of sides of the building and on the west side of the site and 26 truck loading bays on the west side of the building. Access to the site is proposed to be provided via two full movement access drives on 43<sup>rd</sup> Street and two full movement access drives on Exchange Avenue

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

- The street system has sufficient reserve capacity to accommodate the traffic projected to be generated by the proposed facility and no additional street improvements or traffic control modifications are required.
- 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.
- The proposed access system will be adequate in accommodating the traffic estimated to be generated by the development.
- Outbound movements should be under stop sign control.

# 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 1032 West 43<sup>rd</sup> Street in Chicago, Illinois. The site is located between 43<sup>rd</sup> Street and Exchange Avenue east of Racine Avenue. As proposed, the site will be developed with a multi-tenant industrial building with approximately 130,354 square feet of space. Access to the site is proposed to be provided via two full movement access drives on 43<sup>rd</sup> Street and two full movement access drives on Exchange Avenue.

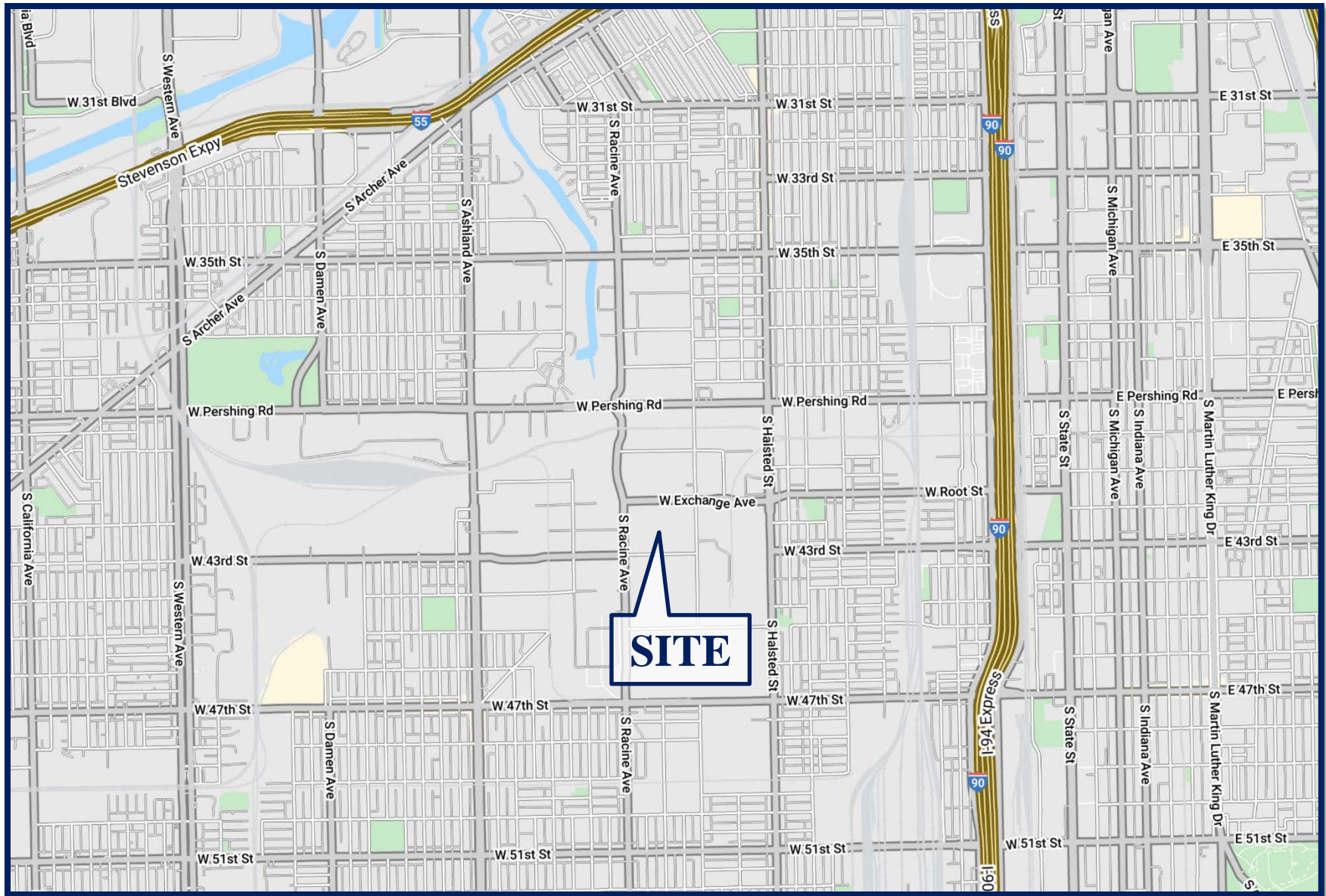
The purpose of this study was to examine existing traffic conditions, assess the impact that the proposed development will have on traffic conditions in the area, and determine if any improvements to the transportation system are required to accommodate the proposed development. **Figure 1** shows the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

*Proposed Industrial Development  
Chicago, Illinois*

**Figure 1**





**Aerial View of Site**

*Proposed Industrial Development  
Chicago, Illinois*

**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 Exchange Avenue to the north, Midwest Truck and Auto Parts to the east, 43<sup>rd</sup> Street to the south, and Luster Products to the west. Land uses within the vicinity of the site are primarily industrial and include Key Food Services, Marsco Glass Products, and multiple multi-tenant industrial buildings.

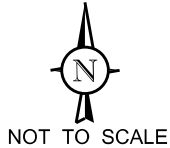
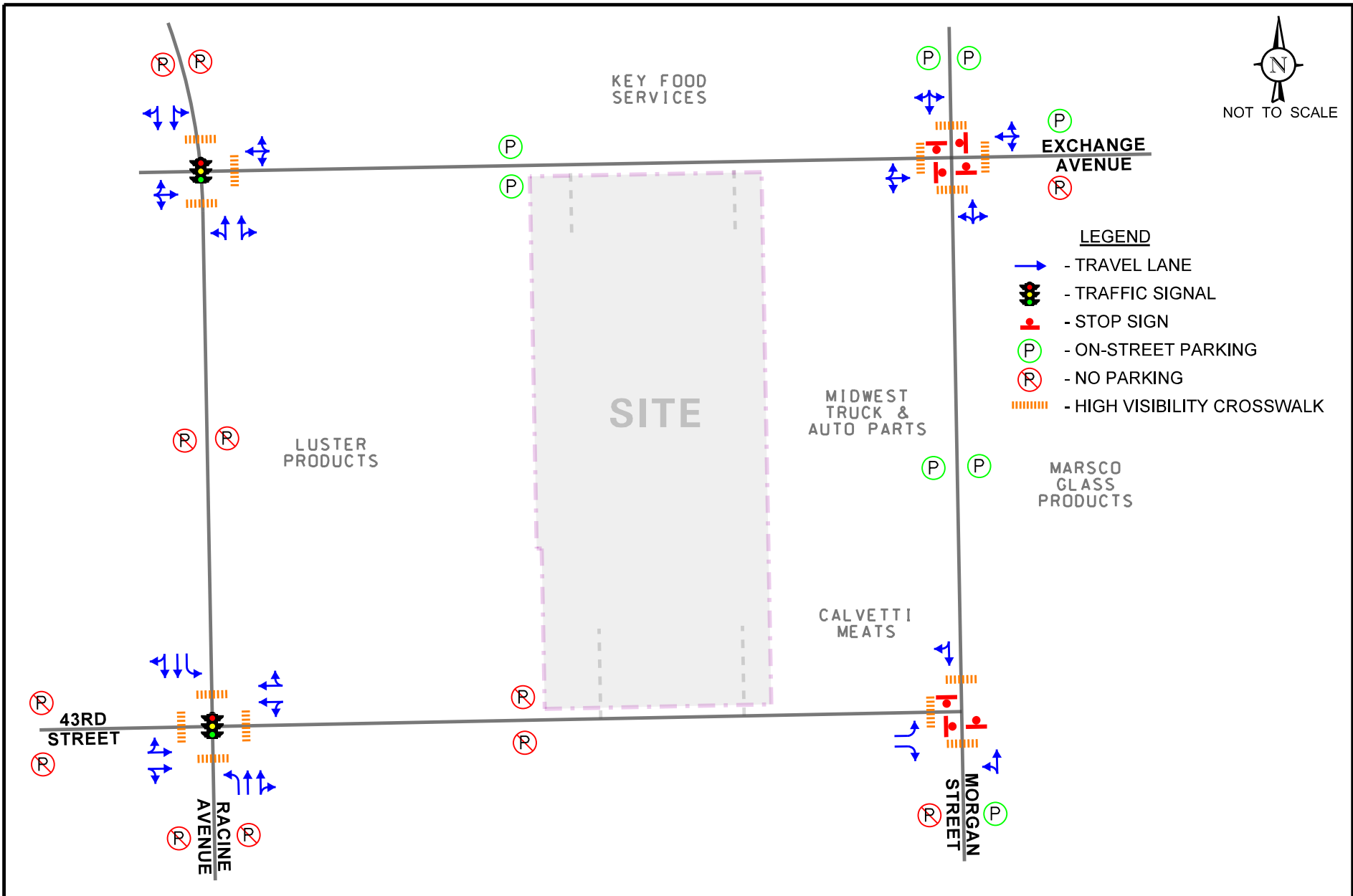
### Existing Street System Characteristics

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.

*Racine Avenue* is a north-south street that provides two lanes in each direction. Racine Avenue is designated as a minor collector street north of 43<sup>rd</sup> Street and a major collector street south of 43<sup>rd</sup> Street. At its signalized intersection with Exchange Avenue, Racine Avenue provides a shared through/left-turn lane and a shared through/right-turn lane on both approaches. The north, east and south legs of this intersection provide high visibility crosswalks with pedestrian signals. At its signalized intersection with 43<sup>rd</sup> Street, Racine Avenue 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 signals. Racine Avenue carries an Annual Average Daily Traffic of 3,700 vehicles (IDOT 2018) and parking is prohibited on both sides of the street.

*43<sup>rd</sup> Street* is an east-west street that extends west from Morgan Street and provides two lanes in each direction. 43<sup>rd</sup> Street is designated as a major collector west of Racine Avenue and a local street east of Racine Avenue. At its signalized intersection with Racine Avenue, 43<sup>rd</sup> Street provides a shared through/left-turn lane and a shared through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks with pedestrian signals. At its all-way stop sign controlled intersection with Morgan Street, 43<sup>rd</sup> Street terminates and provides an exclusive left-turn lane and an exclusive right-turn lane. All legs of this intersection provide high visibility crosswalks. 43<sup>rd</sup> Street carries an AADT of 8,200 vehicles (IDOT 2018) and parking is generally prohibited on both sides of the street.





1032 W 43rd Street  
Industrial  
Chicago, Illinois

Existing Street Characteristics

*Exchange Avenue* is an east-west, minor collector street that extends east from Racine Avenue and provides one lane in each direction. At its signalized intersection with Racine Avenue, Exchange Avenue is aligned opposite an access drive and provides a shared left-turn/through/right-turn lane on the westbound approach. The access drive provides one outbound lane. The north, east, and south legs of this intersection provide high visibility crosswalks with pedestrian signals. At its all-way stop sign controlled intersection with Morgan Street, Exchange Avenue provides a shared left-turn/through/right-turn lane on both approaches. All legs of this intersection provide high visibility crosswalks. Exchange Avenue carries an AADT of 1,750 vehicles (IDOT 2018) and parking is generally permitted on both sides of the street.

*Morgan Street* is a north-south, local street that provides one lane in each direction. At its all-way stop sign controlled intersection with Exchange Avenue, Morgan 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 43<sup>rd</sup> Street, Morgan Street provides a shared through/left-turn lane on the northbound approach and a shared through/right-turn lane on the southbound approach. All legs of this intersection provide high visibility crosswalks. Morgan Street carries an AADT of 2,300 vehicles (IDOT 2018) and parking is generally permitted on both sides of the street.

## 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 47<sup>th</sup> Red Line station located approximately one mile southeast 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 8 (Halsted)* runs along Halsted Street between 79<sup>th</sup> Street and Waveland Avenue. It operates daily, including holidays, from approximately 4:00 A.M. to 12:40 P.M. Notable stops include the Halsted Green Line Station, the Halsted Orange Line Station, and the UIC-Halsted Blue Line Station.

*Route 9 (Ashland)* provides daily service primarily along Ashland Avenue from 95<sup>th</sup> Street to the intersection of Clark Street and Belle Plaine Avenue (near Irving Park Road). On weekdays, it also provides service further south near the intersection of Vincennes Avenue and 104<sup>th</sup> Street. Overnight service, or Night Owl service, runs between 95<sup>th</sup> Street and North Avenue.

*Route X9 (Ashland Express)* provides weekday service from 6:00 A.M. to 9:00 A.M. and 3:00 P.M. to 6:00 P.M. The route has a limited number of stops along Ashland Avenue between 95<sup>th</sup> Street and Irving Park Road. Stops include the 63<sup>rd</sup> Street Green Line Station, Ashland Avenue Orange Line Station, Lake Street Green/Pink Line Station, Division/Milwaukee Blue Line Station, and the Sheridan Red Line Station.

*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 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.

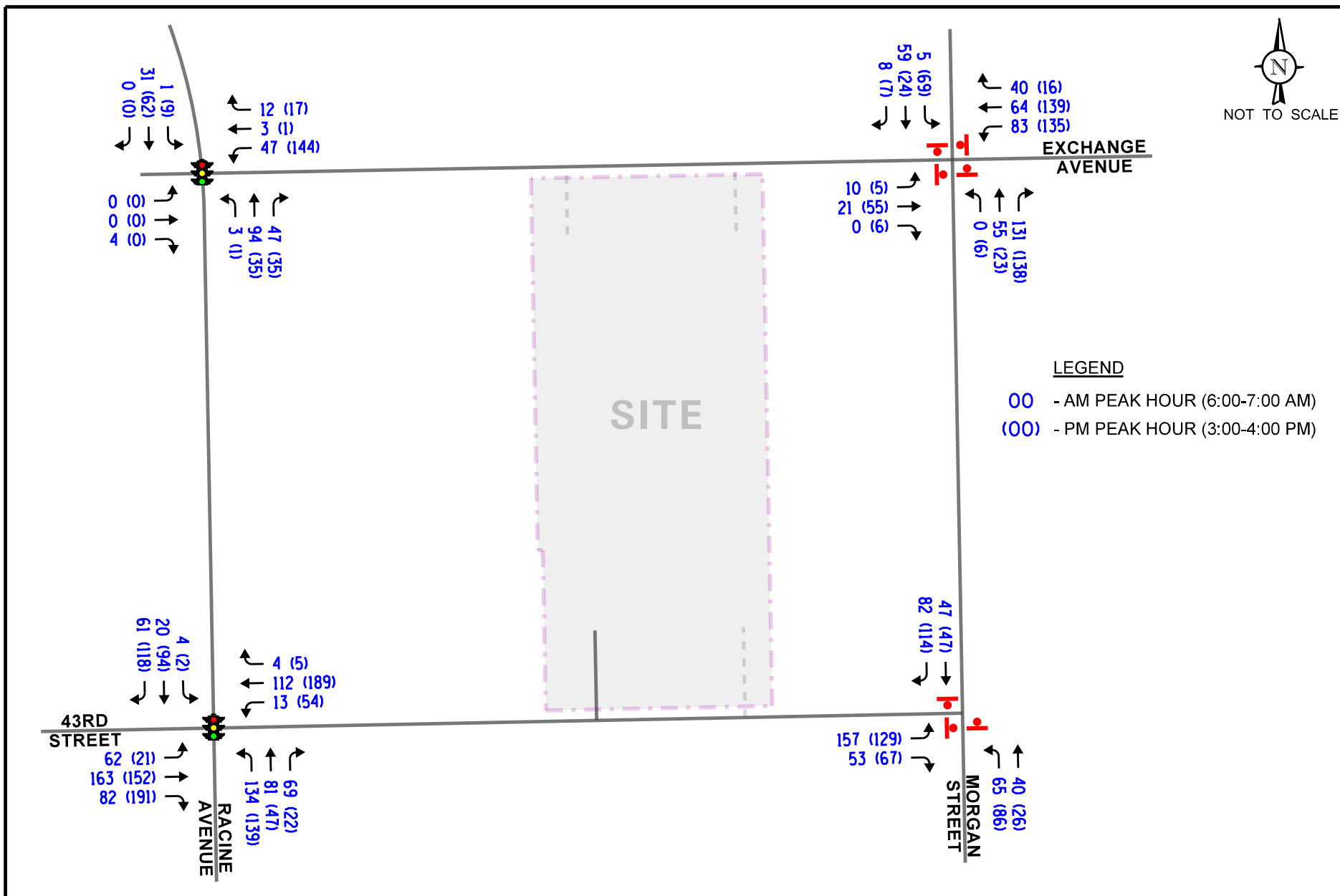
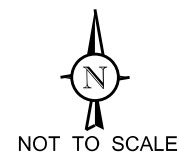
## Year 2021 Base Traffic Volumes

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, August 10, 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:

- Racine Avenue with 43<sup>rd</sup> Street
- Racine Avenue with Exchange Avenue
- 43<sup>rd</sup> Street with Morgan Street
- Exchange Avenue with Morgan Street

The results of the traffic counts indicated that the weekday morning peak hour of traffic occurs from 6:00 A.M. to 7:00 A.M. and the weekday evening peak hour of traffic occurs from 3:00 P.M. to 4:00 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 Racine Avenue, 43<sup>rd</sup> Street, and Morgan Street in 2018 increased by 1.5 percent to account for ambient growth. Based on the 2018 counts, the 2021 traffic counts were increased by 30 percent during the weekday morning peak hour and 15 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.



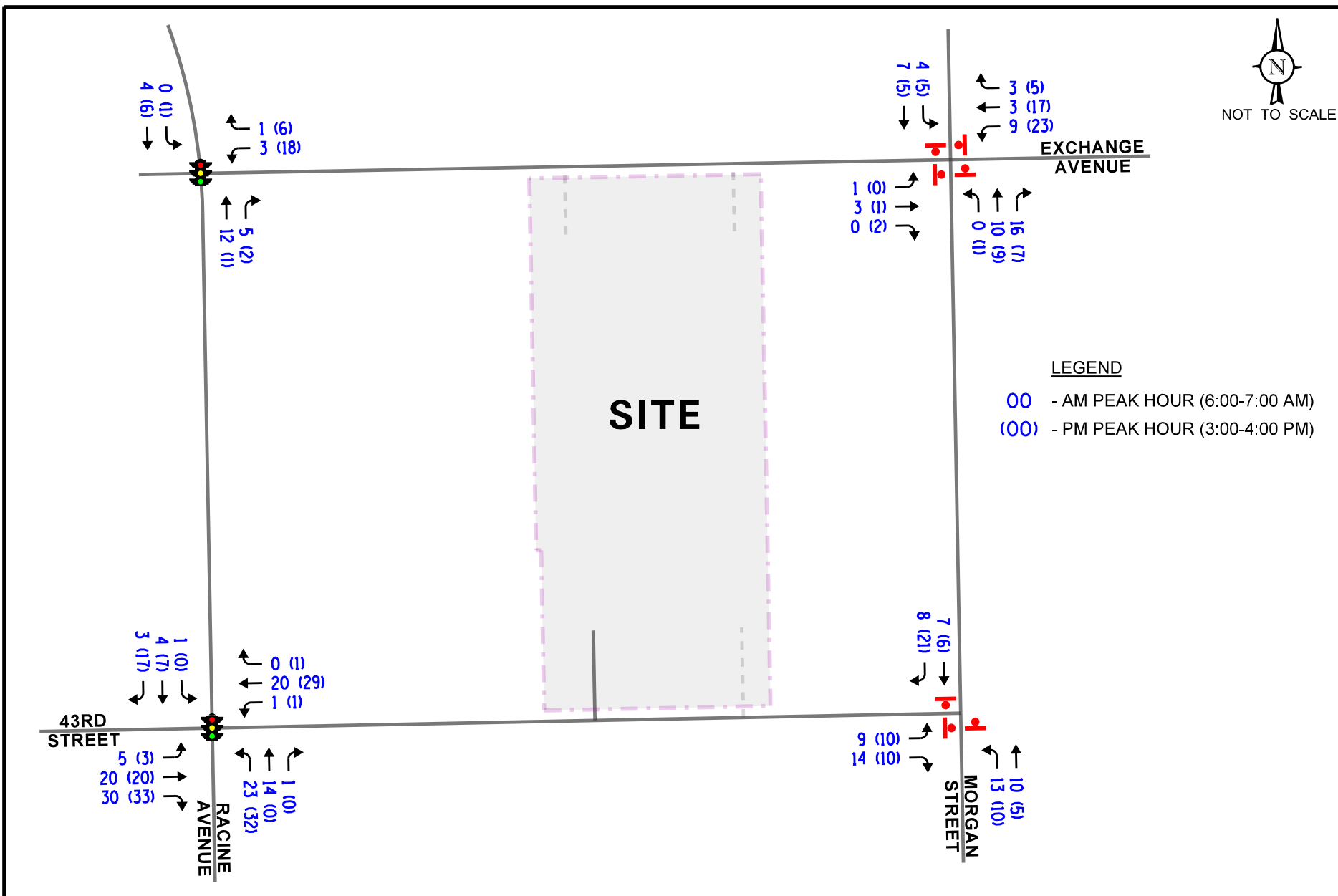
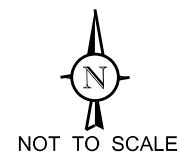
1032 W 43rd Street  
Industrial  
Chicago, Illinois

Year 2021 Base Traffic Volumes



Job No: 21-223

Figure: 4



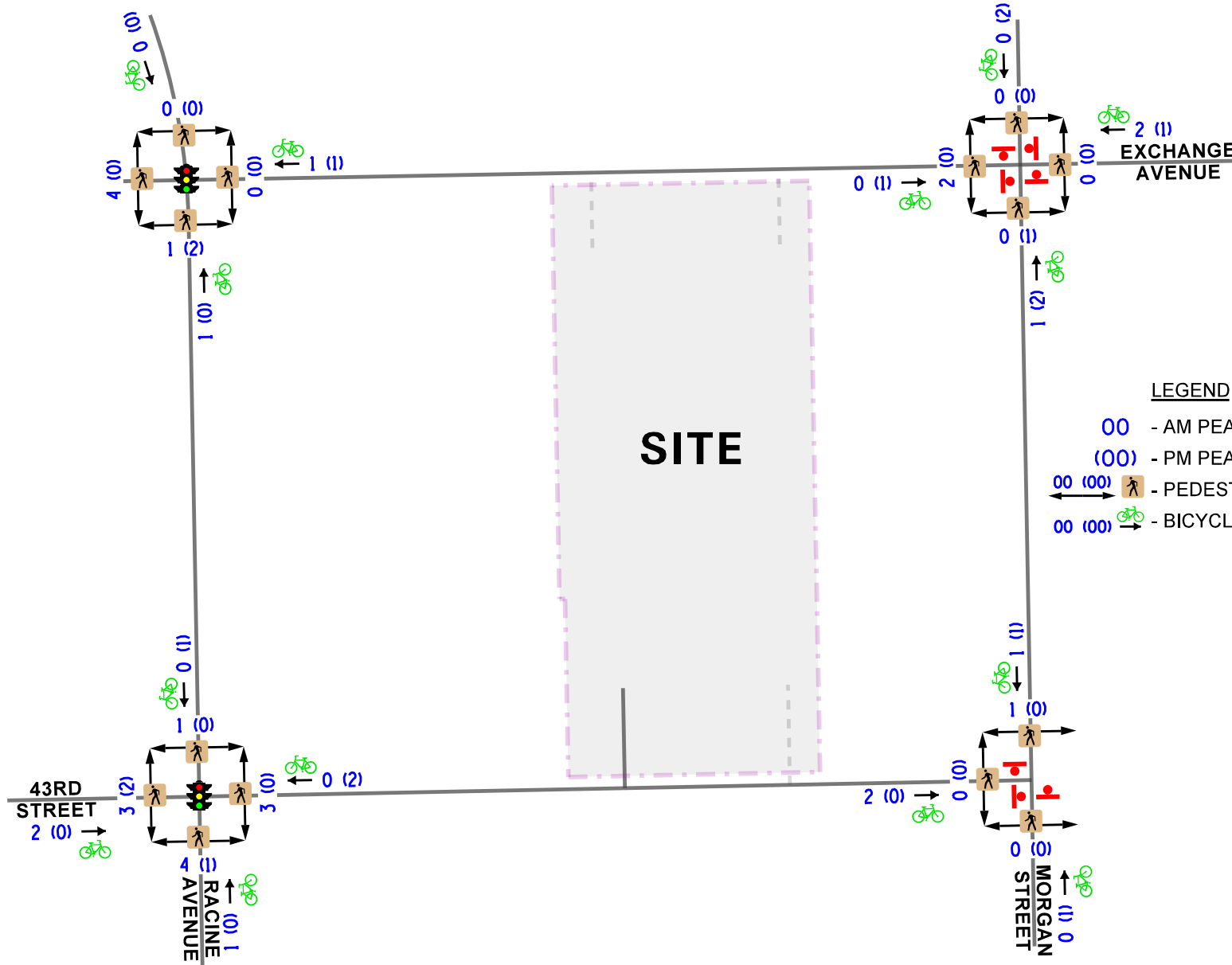
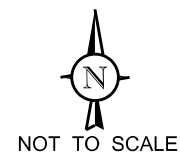
1032 W 43rd Street  
Industrial  
Chicago, Illinois

Year 2021 Base Truck Traffic Volumes



Job No: 21-223

Figure: 5



1032 W 43rd Street  
Industrial  
Chicago, Illinois

Existing Pedestrian and Bicycle Traffic Volumes

### 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

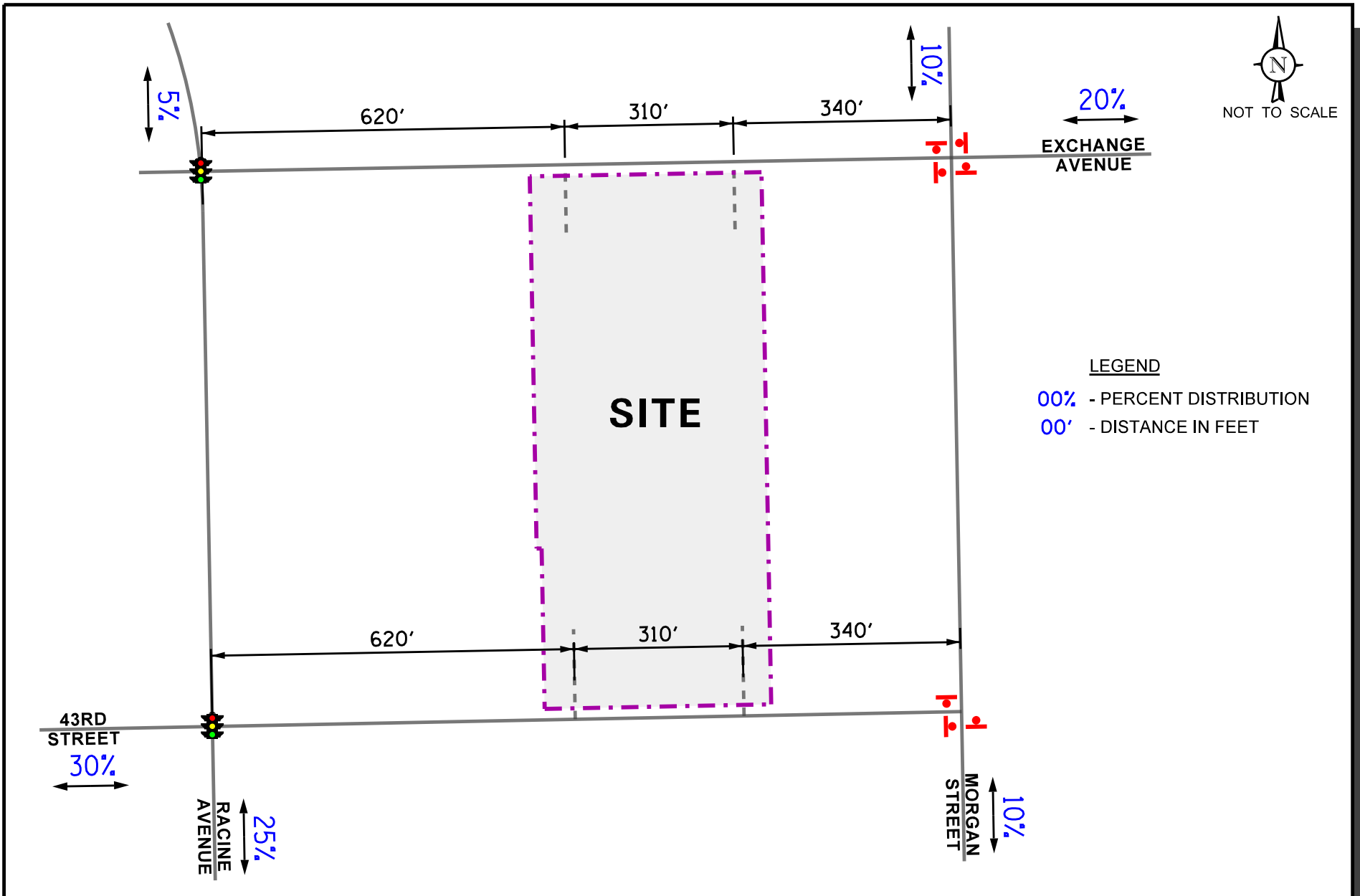
As proposed, the site will be developed with an approximately 130,354 square-foot multi-tenant industrial building. The development will provide a total of 276 parking spaces for employees located on the east and south of sides of the building and the west side of the site and 26 truck loading bays on the west side of the building. Access to the development is proposed to be provided as follows:

- A full movement access drive on the north side of 43<sup>rd</sup> Street located approximately 620 feet east of Racine Avenue that will serve the truck bays and the employee parking lots. This access drive will provide one inbound lane and one outbound lane wide enough to accommodate truck turning movements with outbound movements under stop sign control.
- A full movement access drive on the north side of 43<sup>rd</sup> Street located approximately 930 feet east of Racine Avenue that will serve the employee parking lots. 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 south side of Exchange Avenue located approximately 620 feet east of Racine Avenue that will serve the truck bays and the employee parking lots. This access drive will provide one inbound lane and one outbound lane wide enough to accommodate truck turning movements with outbound movements under stop sign control.
- A full movement access drive on the south side of Exchange Avenue located approximately 930 feet east of Racine Avenue that will serve the employee parking lots. 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 access drives on 43<sup>rd</sup> Street 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.



1032 W 43rd Street  
 Industrial  
 Chicago, Illinois

Estimated Directional Distribution





## 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	In	Out
<b>110</b>	<b>General Light Industrial (130,354 s.f.)</b>	<b>80</b>	<b>11</b>	<b>91</b>	<b>11</b>	<b>71</b>	<b>82</b>	<b>324</b>	<b>324</b>
	Passenger Vehicles (90%)	72	10	82	10	64	74	292	292
	Trucks (10%)	8	1	9	1	7	8	32	32

## 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

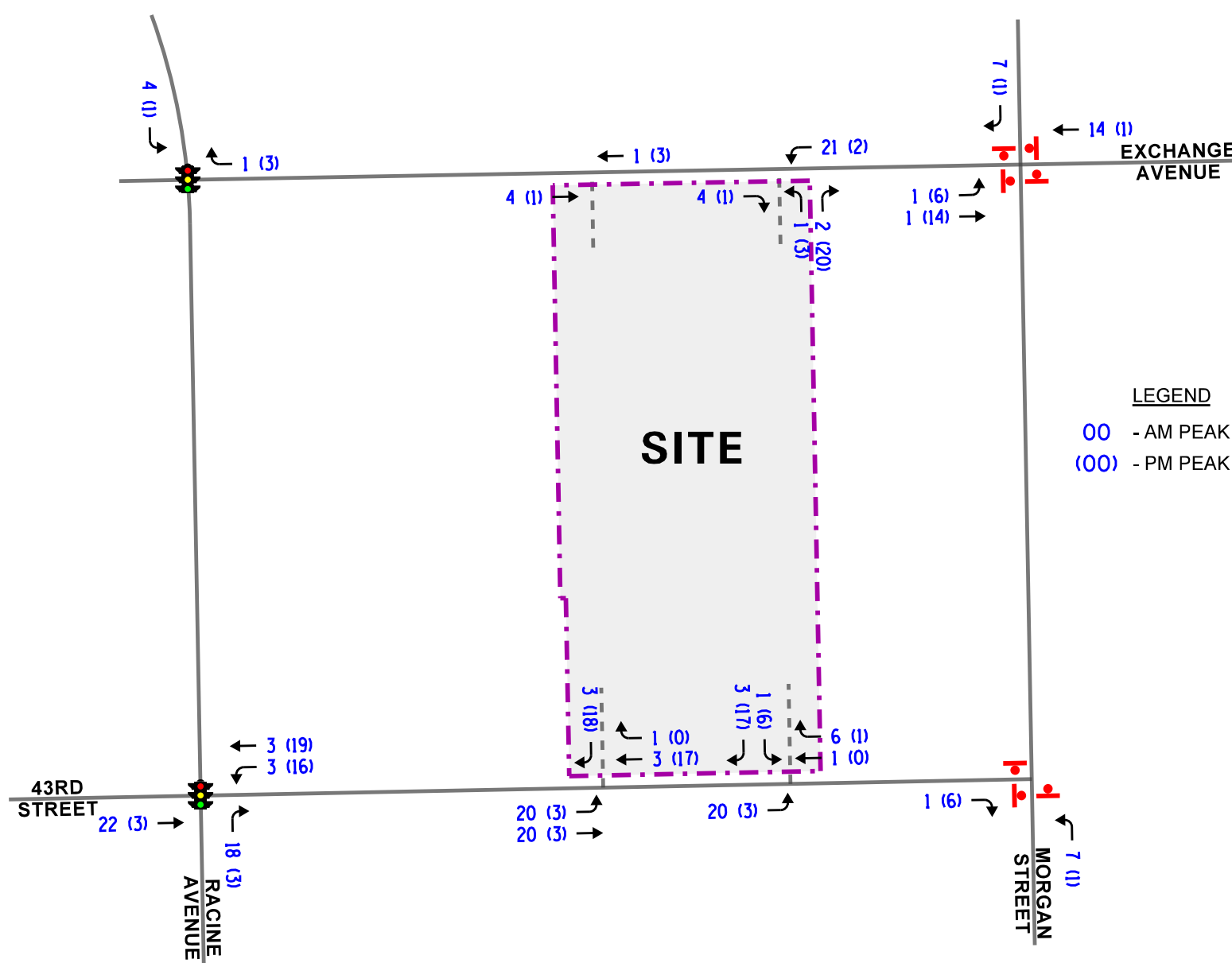
The estimated weekday morning and weekday evening peak hour traffic volumes that will be generated by the proposed development were assigned to the street system in accordance with the previously described directional distribution (Figure 7). **Figure 8** illustrates the traffic assignment of the new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



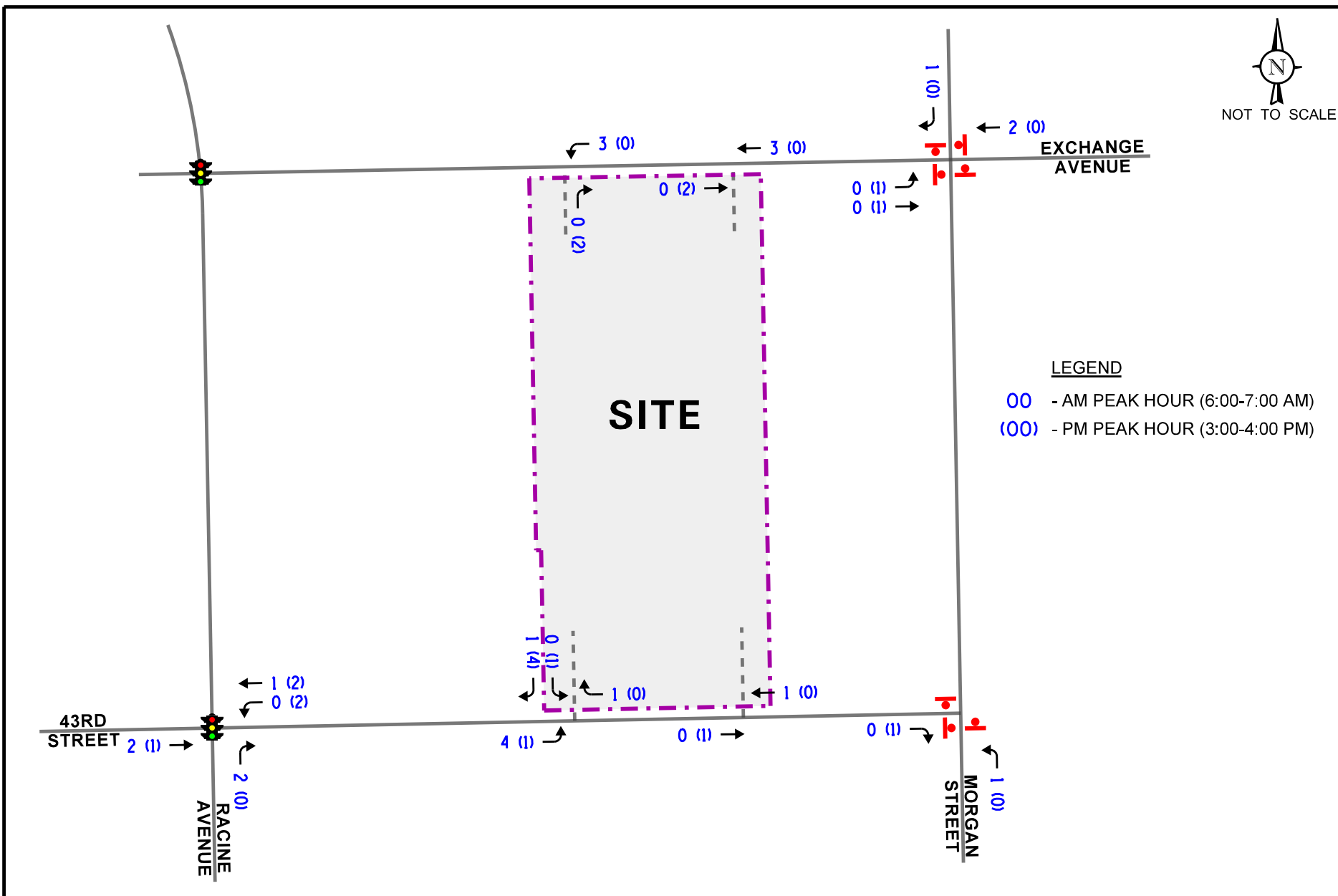
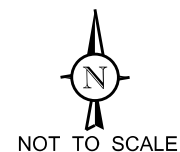
1032 W 43rd Street  
Industrial  
Chicago, Illinois

Estimated Site-Generated  
Passenger Vehicle Traffic Assingment



Job No: 21-223

Figure: 8



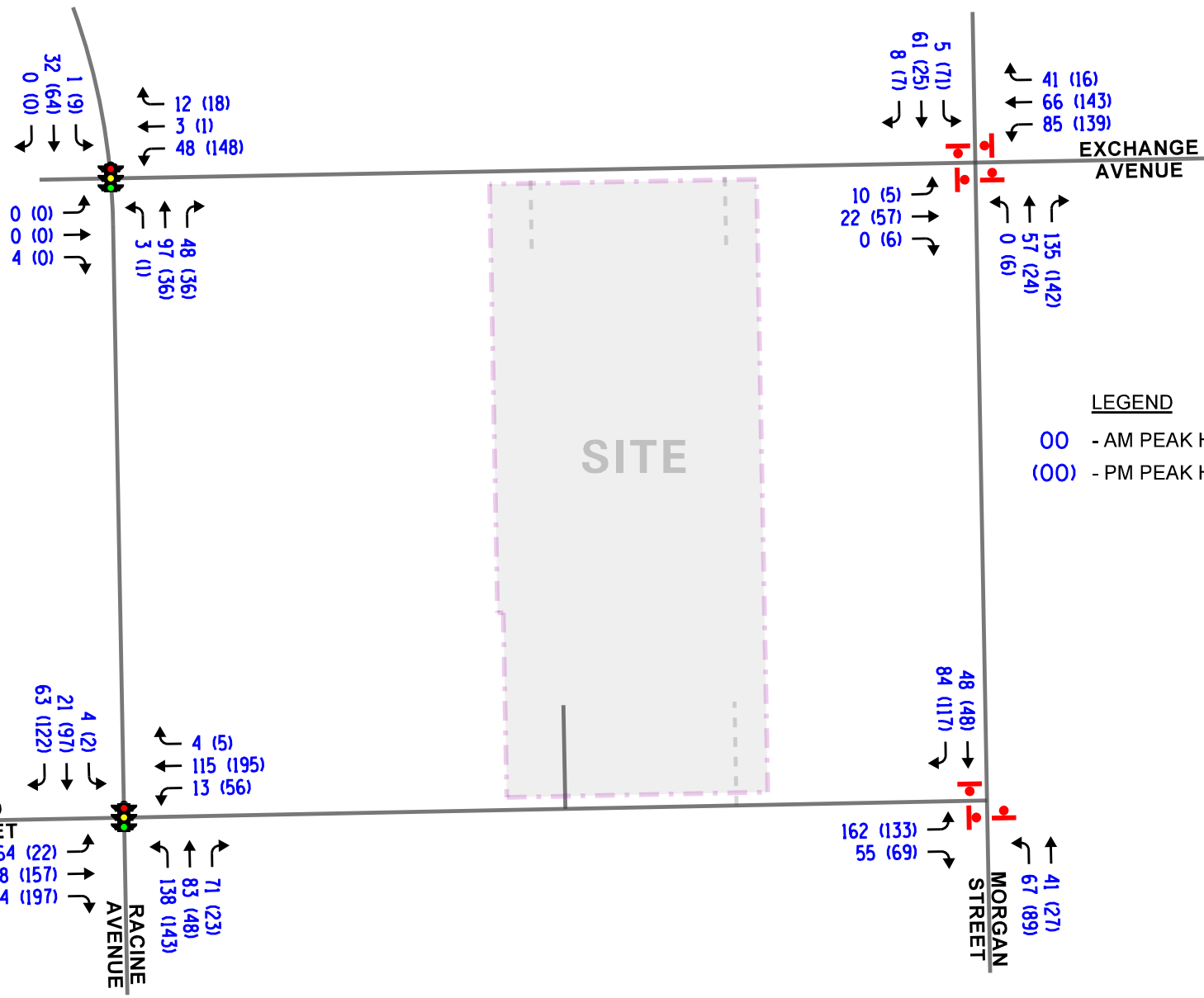
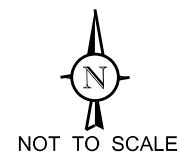
1032 W 43rd Street  
Industrial  
Chicago, Illinois

### Estimated Site-Generated Truck Traffic Assingment



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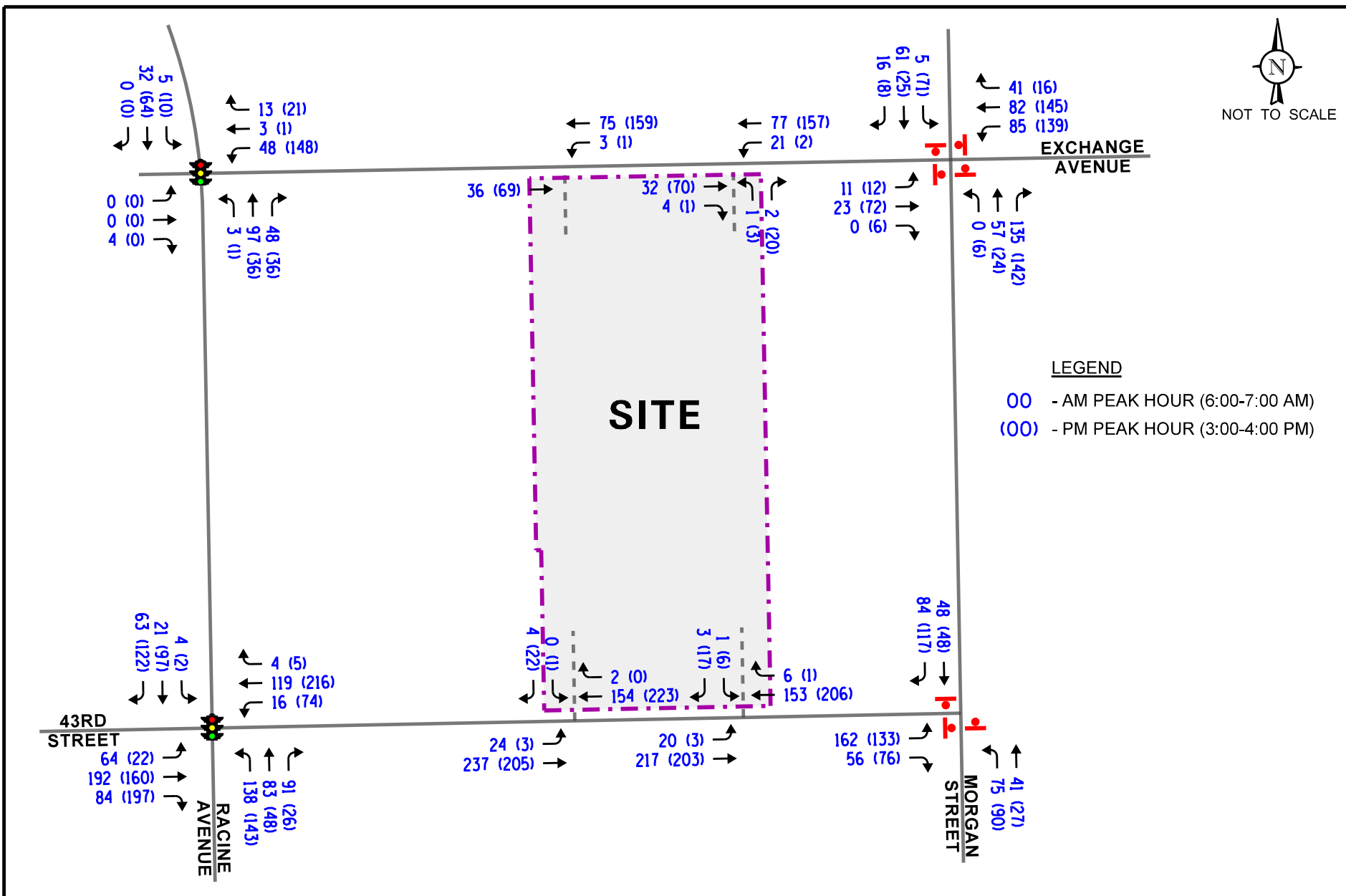
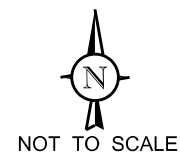
Figure: 9



**LEGEND**  
 00 - AM PEAK HOUR (6:00-7:00 AM)  
 (00) - PM PEAK HOUR (3:00-4:00 PM)

1032 W 43rd Street  
 Industrial  
 Chicago, Illinois

Year 2027 No-Build Traffic Volumes



1032 W 43rd Street  
Industrial  
Chicago, Illinois

Year 2027 Total Projected Traffic Volumes



## 5. Traffic Analysis and Recommendations

The following provides an evaluation conducted for the weekday morning and weekday evening peak hours. The analysis includes conducting capacity analyses to determine how well the 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 – RACINE AVENUE WITH 43<sup>RD</sup> 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	B 10.3	B 11.8	B 14.3	A 6.3	A 10.0	A 4.8	A 9.9
	Weekday Evening Peak Hour	A 9.6	B 13.2	B – 13.3		A – 3.9		A 9.1
Year 2027 Total Projected Conditions	Weekday Morning Peak Hour	B 11.3	B 11.9	B 14.5	A 5.7	A 10.0	A 4.8	B 10.2
	Weekday Evening Peak Hour	A 7.0	B 14.0	B – 13.5		A – 3.9		A 9.5
Letter denotes Level of Service Delay is measured in seconds.		L – Left-Turns T – Through			R – Right-Turns			

Table 3

CAPACITY ANALYSIS RESULTS – RACINE AVENUE WITH EXCHANGE AVENUE

	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 9.6	A 9.1		B 10.6		A 9.3
	Weekday Evening Peak Hour	--	B 13.9	A 5.1		B 10.9		B 11.1
Year 2027 Total Projected Conditions	Weekday Morning Peak Hour	--	A 9.5	A 9.5		B 10.6		A 9.5
	Weekday Evening Peak Hour	--	B 14.1	A 5.2		B 10.9		B 11.3
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>43<sup>rd</sup> Street with Morgan Street<sup>1</sup></b>				
• Overall	A	9.4	A	9.3
• Eastbound Approach	A	9.9	A	9.7
• Northbound Approach	A	9.2	A	9.3
• Southbound Approach	A	8.6	A	8.9
<b>Exchange Avenue with Morgan Street</b>				
• Overall	A	9.4	B	10.8
• Eastbound Approach	A	8.4	A	8.7
• Westbound Approach	A	9.7	B	12.4
• Northbound Approach	A	9.1	A	9.6
• Southbound Approach	B	10.1	A	9.5
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	A	9.4
• Eastbound Approach	A	10.0	A	9.8
• Northbound Approach	A	9.3	A	9.4
• Southbound Approach	A	8.6	A	9.0
<b>Root Street with Normal Avenue<sup>1</sup></b>				
• Overall	A	9.8	B	11.2
• Eastbound Approach	A	8.6	A	9.3
• Westbound Approach	B	10.1	B	12.9
• Northbound Approach	A	9.4	A	10.0
• Southbound Approach	B	10.3	A	9.8
<b>43<sup>rd</sup> Street with the proposed West Site Access Drive<sup>2</sup></b>				
• Eastbound Left Turn	A	7.8	A	8.1
• Southbound Approach	A	9.1	A	9.5
<b>43<sup>rd</sup> Street with the Proposed East Site Access Drive<sup>2</sup></b>				
• Eastbound Left Turn	A	7.6	A	7.6
• Southbound Approach	A	9.2	A	9.5
<b>Exchange Avenue Street with the proposed West Site Access Drive<sup>2</sup></b>				
• Westbound Left Turn	A	8.2	--	--
• Northbound Approach	--	--	A	9.7
<b>Exchange Avenue with the Proposed East Site Access Drive<sup>2</sup></b>				
• Westbound Left Turn	A	8.8	A	8.9
• Northbound Approach	A	7.3	A	7.3
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.

### *Racine Avenue with 43<sup>rd</sup> Street*

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

Under Year 2027 total projected conditions, the overall intersection is projected to operate at LOS B during the weekday morning peak hour and LOS A during the and weekday evening peak hour 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 B or better during both peak hours. It should be noted that the development is not projected to increase the volume of northbound or southbound left-turn movements at this intersections and separate left-turn phases are not warranted based on CDOT's planning guidelines. 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.

### *Racine Avenue with Exchange Avenue*

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 hour. 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 to operate 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.

### *43<sup>rd</sup> Street with Morgan 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 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 to operate at LOS A during both peak hours with increases in delay of less than one second. Furthermore, all the intersection approaches are projected to continue 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.

#### *Exchange Avenue with Morgan Street*

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 peak hour and LOS B during the weekday evening peak hour. 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 continue 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.

#### *43<sup>rd</sup> Street with the Proposed West Site Access Drive*

A proposed, a full movement access drive will be provided on 43<sup>rd</sup> Street located approximately 620 feet east of Racine Avenue that will serve the truck bays and the employee parking lots. This access drive will provide one inbound lane and one outbound lane wide enough to accommodate truck turning movements with outbound movements under stop sign control.

The results of the capacity analysis indicate that outbound movements from the access drive to 43<sup>rd</sup> Street are projected to operate at LOS A during both peak hours. Furthermore, the eastbound left-turn movements from 43<sup>rd</sup> 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.

#### *43<sup>rd</sup> Street with the Proposed East Site Access Drive*

A proposed, a full movement access drive will be provided on 43<sup>rd</sup> Street located approximately 930 feet east of Racine Avenue that will serve the employee parking lots. 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 43<sup>rd</sup> Street are projected to operate at LOS A during both peak hours. Furthermore, the eastbound left-turn movements from 43<sup>rd</sup> 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.

### *Exchange Avenue with the Proposed West Site Access Drive*

As proposed, a full movement access drive will be provided on Exchange Avenue located approximately 620 feet east of Racine Avenue that will serve the truck bays. This access drive will provide one inbound lane and one outbound lane wide enough to accommodate truck turning movements with outbound movements under stop sign control.

The results of the capacity analysis indicate that outbound movements from the access drive to Exchange Avenue are projected to operate at LOS A during both peak hours. Furthermore, the westbound left-turn movements from Exchange Avenue 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.

### *Exchange Avenue with the Proposed West Site Access Drive*

A proposed, a full movement access drive will be provided on Exchange Avenue located approximately 930 feet east of Racine Avenue that will serve the employee parking lots. 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 Exchange Avenue are projected to operate at LOS A during both peak hours. Furthermore, the westbound left-turn movements from Exchange Avenue 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.

## 6. Conclusion

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

- The street system has sufficient reserve capacity to accommodate the traffic projected to be generated by the proposed facility and no additional street improvements or traffic control modifications are required.
- 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.
- The proposed access system will be adequate in accommodating the traffic estimated to be generated by the development.
- Outbound movements at the access drives should be under stop sign control.

# Appendix

Traffic Count Summary Sheets  
Preliminary Site Plan  
ITE Trip Generation Worksheets  
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: Exchange Avenue with Morgan Street  
Site Code:  
Start Date: 08/10/2021  
Page No: 1

### Turning Movement Data

Start Time	Exchange Avenue Eastbound						Exchange Avenue Westbound						Morgan Street Northbound						Morgan 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	2	4	0	1	6	0	16	14	8	0	38	0	0	14	26	0	40	0	1	17	1	0	19	103
6:15 AM	0	1	7	0	0	8	0	16	18	15	0	49	0	0	3	29	0	32	0	0	5	3	0	8	97
6:30 AM	0	1	2	0	0	3	0	18	6	3	0	27	0	0	12	21	0	33	0	2	9	1	0	12	75
6:45 AM	0	4	3	0	1	7	0	15	11	6	0	32	0	0	14	25	0	39	0	1	14	1	0	16	94
Hourly Total	0	8	16	0	2	24	0	65	49	32	0	146	0	0	43	101	0	144	0	4	45	6	0	55	369
7:00 AM	0	0	1	0	1	1	0	19	11	7	0	37	0	0	13	13	0	26	0	2	12	4	0	18	82
7:15 AM	0	2	2	1	0	5	0	9	11	7	0	27	0	4	16	12	0	32	0	3	11	0	1	14	78
7:30 AM	0	4	2	0	0	6	0	16	8	5	0	29	0	1	22	18	0	41	0	4	10	3	0	17	93
7:45 AM	0	1	6	0	0	7	0	20	9	11	0	40	0	4	10	24	0	38	0	3	20	2	0	25	110
Hourly Total	0	7	11	1	1	19	0	64	39	30	0	133	0	9	61	67	0	137	0	12	53	9	1	74	363
8:00 AM	0	2	2	0	0	4	0	18	10	6	0	34	0	3	18	13	0	34	0	3	6	1	0	10	82
8:15 AM	0	0	1	0	0	1	0	15	10	14	0	39	0	0	13	13	0	26	0	2	10	2	0	14	80
8:30 AM	0	1	4	1	0	6	0	9	11	15	0	35	0	1	13	10	0	24	0	2	10	1	0	13	78
8:45 AM	0	2	2	0	0	4	0	14	13	8	0	35	0	1	13	16	1	30	0	4	9	2	0	15	84
Hourly Total	0	5	9	1	0	15	0	56	44	43	0	143	0	5	57	52	1	114	0	11	35	6	0	52	324
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	2	11	2	0	15	0	26	39	5	0	70	0	1	7	31	0	39	0	10	2	3	0	15	139
3:15 PM	0	1	12	2	0	15	0	37	24	3	0	64	0	0	6	29	0	35	0	15	5	2	0	22	136
3:30 PM	0	1	16	1	0	18	0	25	34	1	0	60	0	3	3	37	0	43	0	21	9	1	0	31	152
3:45 PM	0	0	9	1	0	10	1	28	25	5	0	59	0	1	5	24	1	30	0	15	6	0	0	21	120
Hourly Total	0	4	48	6	0	58	1	116	122	14	0	253	0	5	21	121	1	147	0	61	22	6	0	89	547
4:00 PM	0	1	17	0	0	18	1	39	27	3	0	70	0	1	0	30	0	31	0	19	3	1	2	23	142
4:15 PM	0	1	10	2	0	13	0	39	24	1	0	64	0	2	2	28	0	32	0	16	2	0	0	18	127
4:30 PM	0	1	7	0	0	8	0	33	27	2	0	62	0	0	2	30	0	32	0	14	6	2	0	22	124
4:45 PM	0	2	9	2	0	13	0	33	23	4	0	60	0	0	5	30	0	35	0	10	3	0	0	13	121
Hourly Total	0	5	43	4	0	52	1	144	101	10	0	256	0	3	9	118	0	130	0	59	14	3	2	76	514
5:00 PM	0	2	5	0	0	7	0	20	27	1	0	48	0	1	3	33	0	37	0	30	11	1	0	42	134
5:15 PM	0	0	13	0	0	13	0	27	20	3	0	50	0	0	1	17	0	18	0	11	4	1	0	16	97
5:30 PM	0	0	12	1	0	13	0	28	20	2	0	50	0	0	2	25	0	27	0	15	5	1	0	21	111
5:45 PM	0	2	9	0	0	11	0	23	18	3	1	44	0	0	0	20	0	20	0	10	0	0	0	10	85
Hourly Total	0	4	39	1	0	44	0	98	85	9	1	192	0	1	6	95	0	102	0	66	20	3	0	89	427
Grand Total	0	33	166	13	3	212	2	543	440	138	1	1123	0	23	197	554	2	774	0	213	189	33	3	435	2544
Approach %	0.0	15.6	78.3	6.1	-	-	0.2	48.4	39.2	12.3	-	-	0.0	3.0	25.5	71.6	-	-	0.0	49.0	43.4	7.6	-	-	-
Total %	0.0	1.3	6.5	0.5	-	8.3	0.1	21.3	17.3	5.4	-	44.1	0.0	0.9	7.7	21.8	-	30.4	0.0	8.4	7.4	1.3	-	17.1	-
Lights	0	28	145	9	-	182	2	480	399	123	-	1004	0	14	146	493	-	653	0	192	163	28	-	383	2222

% Lights	-	84.8	87.3	69.2	-	85.8	100.0	88.4	90.7	89.1	-	89.4	-	60.9	74.1	89.0	-	84.4	-	90.1	86.2	84.8	-	88.0	87.3
Buses	0	0	1	0	-	1	0	8	5	0	-	13	0	0	0	13	-	13	0	1	0	0	-	1	28
% Buses	-	0.0	0.6	0.0	-	0.5	0.0	1.5	1.1	0.0	-	1.2	-	0.0	0.0	2.3	-	1.7	-	0.5	0.0	0.0	-	0.2	1.1
Single-Unit Trucks	0	2	5	1	-	8	0	32	18	10	-	60	0	2	30	27	-	59	0	9	18	3	-	30	157
% Single-Unit Trucks	-	6.1	3.0	7.7	-	3.8	0.0	5.9	4.1	7.2	-	5.3	-	8.7	15.2	4.9	-	7.6	-	4.2	9.5	9.1	-	6.9	6.2
Articulated Trucks	0	3	12	2	-	17	0	19	14	3	-	36	0	7	17	15	-	39	0	7	7	2	-	16	108
% Articulated Trucks	-	9.1	7.2	15.4	-	8.0	0.0	3.5	3.2	2.2	-	3.2	-	30.4	8.6	2.7	-	5.0	-	3.3	3.7	6.1	-	3.7	4.2
Bicycles on Road	0	0	3	1	-	4	0	4	4	2	-	10	0	0	4	6	-	10	0	4	1	0	-	5	29
% Bicycles on Road	-	0.0	1.8	7.7	-	1.9	0.0	0.7	0.9	1.4	-	0.9	-	0.0	2.0	1.1	-	1.3	-	1.9	0.5	0.0	-	1.1	1.1
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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Count Name: Exchange Avenue with Morgan Street  
 Site Code:  
 Start Date: 08/10/2021  
 Page No: 3

### Turning Movement Peak Hour Data (6:00 AM)

Start Time	Exchange Avenue Eastbound						Exchange Avenue Westbound						Morgan Street Northbound						Morgan 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	2	4	0	1	6	0	16	14	8	0	38	0	0	14	26	0	40	0	1	17	1	0	19	103
6:15 AM	0	1	7	0	0	8	0	16	18	15	0	49	0	0	3	29	0	32	0	0	5	3	0	8	97
6:30 AM	0	1	2	0	0	3	0	18	6	3	0	27	0	0	12	21	0	33	0	2	9	1	0	12	75
6:45 AM	0	4	3	0	1	7	0	15	11	6	0	32	0	0	14	25	0	39	0	1	14	1	0	16	94
<b>Total</b>	<b>0</b>	<b>8</b>	<b>16</b>	<b>0</b>	<b>2</b>	<b>24</b>	<b>0</b>	<b>65</b>	<b>49</b>	<b>32</b>	<b>0</b>	<b>146</b>	<b>0</b>	<b>0</b>	<b>43</b>	<b>101</b>	<b>0</b>	<b>144</b>	<b>0</b>	<b>4</b>	<b>45</b>	<b>6</b>	<b>0</b>	<b>55</b>	<b>369</b>
Approach %	0.0	33.3	66.7	0.0	-	-	0.0	44.5	33.6	21.9	-	-	0.0	0.0	29.9	70.1	-	-	0.0	7.3	81.8	10.9	-	-	-
Total %	0.0	2.2	4.3	0.0	-	6.5	0.0	17.6	13.3	8.7	-	39.6	0.0	0.0	11.7	27.4	-	39.0	0.0	1.1	12.2	1.6	-	14.9	-
PHF	0.000	0.500	0.571	0.000	-	0.750	0.000	0.903	0.681	0.533	-	0.745	0.000	0.000	0.768	0.871	-	0.900	0.000	0.500	0.662	0.500	-	0.724	0.896
Lights	0	7	14	0	-	21	0	57	47	29	-	133	0	0	34	89	-	123	0	1	40	6	-	47	324
% Lights	-	87.5	87.5	-	-	87.5	-	87.7	95.9	90.6	-	91.1	-	-	79.1	88.1	-	85.4	-	25.0	88.9	100.0	-	85.5	87.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	1	-	1	0	0	0	0	-	0	1
% Buses	-	0.0	0.0	-	-	0.0	-	0.0	0.0	0.0	-	0.0	-	-	0.0	1.0	-	0.7	-	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	1	1	0	-	2	0	6	2	2	-	10	0	0	5	7	-	12	0	1	4	0	-	5	29
% Single-Unit Trucks	-	12.5	6.3	-	-	8.3	-	9.2	4.1	6.3	-	6.8	-	-	11.6	6.9	-	8.3	-	25.0	8.9	0.0	-	9.1	7.9
Articulated Trucks	0	0	1	0	-	1	0	1	0	0	-	1	0	0	3	4	-	7	0	2	1	0	-	3	12
% Articulated Trucks	-	0.0	6.3	-	-	4.2	-	1.5	0.0	0.0	-	0.7	-	-	7.0	4.0	-	4.9	-	50.0	2.2	0.0	-	5.5	3.3
Bicycles on Road	0	0	0	0	-	0	0	1	0	1	-	2	0	0	1	0	-	1	0	0	0	0	-	0	3
% Bicycles on Road	-	0.0	0.0	-	-	0.0	-	1.5	0.0	3.1	-	1.4	-	-	2.3	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	0.8
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Count Name: Exchange Avenue with Morgan Street  
Site Code:  
Start Date: 08/10/2021  
Page No: 4

### Turning Movement Peak Hour Data (3:00 PM)

Start Time	Exchange Avenue Eastbound						Exchange Avenue Westbound						Morgan Street Northbound						Morgan 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	
3:00 PM	0	2	11	2	0	15	0	26	39	5	0	70	0	1	7	31	0	39	0	10	2	3	0	15	139
3:15 PM	0	1	12	2	0	15	0	37	24	3	0	64	0	0	6	29	0	35	0	15	5	2	0	22	136
3:30 PM	0	1	16	1	0	18	0	25	34	1	0	60	0	3	3	37	0	43	0	21	9	1	0	31	152
3:45 PM	0	0	9	1	0	10	1	28	25	5	0	59	0	1	5	24	1	30	0	15	6	0	0	21	120
Total	0	4	48	6	0	58	1	116	122	14	0	253	0	5	21	121	1	147	0	61	22	6	0	89	547
Approach %	0.0	6.9	82.8	10.3	-	-	0.4	45.8	48.2	5.5	-	-	0.0	3.4	14.3	82.3	-	-	0.0	68.5	24.7	6.7	-	-	-
Total %	0.0	0.7	8.8	1.1	-	10.6	0.2	21.2	22.3	2.6	-	46.3	0.0	0.9	3.8	22.1	-	26.9	0.0	11.2	4.0	1.1	-	16.3	-
PHF	0.000	0.500	0.750	0.750	-	0.806	0.250	0.784	0.782	0.700	-	0.904	0.000	0.417	0.750	0.818	-	0.855	0.000	0.726	0.611	0.500	-	0.718	0.900
Lights	0	4	47	3	-	54	1	96	106	10	-	213	0	4	12	114	-	130	0	56	17	6	-	79	476
% Lights	-	100.0	97.9	50.0	-	93.1	100.0	82.8	86.9	71.4	-	84.2	-	80.0	57.1	94.2	-	88.4	-	91.8	77.3	100.0	-	88.8	87.0
Buses	0	0	0	0	-	0	0	3	3	0	-	6	0	0	0	0	-	0	0	0	0	0	-	0	6
% Buses	-	0.0	0.0	0.0	-	0.0	0.0	2.6	2.5	0.0	-	2.4	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	1.1
Single-Unit Trucks	0	0	0	1	-	1	0	8	8	3	-	19	0	1	3	3	-	7	0	1	1	0	-	2	29
% Single-Unit Trucks	-	0.0	0.0	16.7	-	1.7	0.0	6.9	6.6	21.4	-	7.5	-	20.0	14.3	2.5	-	4.8	-	1.6	4.5	0.0	-	2.2	5.3
Articulated Trucks	0	0	1	1	-	2	0	9	4	1	-	14	0	0	5	3	-	8	0	3	3	0	-	6	30
% Articulated Trucks	-	0.0	2.1	16.7	-	3.4	0.0	7.8	3.3	7.1	-	5.5	-	0.0	23.8	2.5	-	5.4	-	4.9	13.6	0.0	-	6.7	5.5
Bicycles on Road	0	0	0	1	-	1	0	0	1	0	-	1	0	0	1	1	-	2	0	1	1	0	-	2	6
% Bicycles on Road	-	0.0	0.0	16.7	-	1.7	0.0	0.0	0.8	0.0	-	0.4	-	0.0	4.8	0.8	-	1.4	-	1.6	4.5	0.0	-	2.2	1.1
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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

Count Name: Exchange Avenue with Racine Avenue  
 Site Code:  
 Start Date: 08/10/2021  
 Page No: 1

### Turning Movement Data

Start Time	Access Drive Eastbound						Exchange Avenue Westbound						Racine Avenue Northbound						Racine 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	0	0	0	0	0	0	9	1	3	0	13	0	0	17	9	0	26	0	1	5	0	0	6	45
6:15 AM	0	0	0	1	0	1	0	12	0	6	0	18	0	1	30	14	1	45	0	0	6	0	0	6	70
6:30 AM	0	0	0	1	3	1	0	5	1	1	0	7	0	1	13	4	0	18	0	0	6	0	0	6	32
6:45 AM	0	0	0	1	1	1	0	10	0	0	0	10	0	0	12	10	0	22	0	0	7	0	0	7	40
Hourly Total	0	0	0	3	4	3	0	36	2	10	0	48	0	2	72	37	1	111	0	1	24	0	0	25	187
7:00 AM	0	0	0	0	0	0	0	10	0	2	0	12	0	0	3	3	0	6	0	0	6	0	0	6	24
7:15 AM	0	0	0	0	0	0	0	11	0	1	0	12	0	0	7	3	1	10	0	2	7	0	0	9	31
7:30 AM	0	0	0	0	4	0	0	7	0	2	0	9	0	0	16	8	0	24	0	0	11	1	0	12	45
7:45 AM	0	0	0	0	0	0	0	11	1	3	0	15	0	1	15	10	0	26	0	1	7	0	0	8	49
Hourly Total	0	0	0	0	4	0	0	39	1	8	0	48	0	1	41	24	1	66	0	3	31	1	0	35	149
8:00 AM	0	0	0	0	0	0	0	8	0	3	0	11	0	1	16	3	0	20	0	0	7	0	0	7	38
8:15 AM	0	0	0	0	0	0	0	8	0	2	0	10	0	0	16	5	0	21	0	2	8	0	0	10	41
8:30 AM	0	0	0	0	0	0	0	10	0	4	0	14	0	0	12	4	0	16	0	2	5	0	0	7	37
8:45 AM	0	0	0	0	0	0	0	10	0	4	0	14	0	1	20	3	0	24	0	2	7	1	0	10	48
Hourly Total	0	0	0	0	0	0	0	36	0	13	0	49	0	2	64	15	0	81	0	6	27	1	0	34	164
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	0	0	0	0	0	0	47	0	3	0	50	0	0	8	6	2	14	0	2	26	0	0	28	92
3:15 PM	0	0	0	0	0	0	0	25	1	4	0	30	0	0	5	8	0	13	0	2	6	0	0	8	51
3:30 PM	0	0	0	0	0	0	0	33	0	5	0	38	0	0	9	11	0	20	0	3	12	0	0	15	73
3:45 PM	0	0	0	0	0	0	0	21	0	3	0	24	0	1	8	5	0	14	0	1	10	0	0	11	49
Hourly Total	0	0	0	0	0	0	0	126	1	15	0	142	0	1	30	30	2	61	0	8	54	0	0	62	265
4:00 PM	0	0	0	1	0	1	0	34	0	1	0	35	0	0	12	7	0	19	1	5	13	0	0	19	74
4:15 PM	0	0	1	3	0	4	0	21	0	6	0	27	0	0	11	6	0	17	0	3	11	0	0	14	62
4:30 PM	0	0	0	2	0	2	0	28	0	2	0	30	0	0	6	4	0	10	0	3	15	0	0	18	60
4:45 PM	0	0	0	0	1	0	0	19	0	2	0	21	1	0	6	7	0	14	0	6	9	0	0	15	50
Hourly Total	0	0	1	6	1	7	0	102	0	11	0	113	1	0	35	24	0	60	1	17	48	0	0	66	246
5:00 PM	0	0	0	0	1	0	0	34	0	3	0	37	0	0	7	3	1	10	0	3	18	0	0	21	68
5:15 PM	0	0	0	0	0	0	0	18	0	0	0	18	0	0	3	5	0	8	0	6	4	0	0	10	36
5:30 PM	0	0	0	0	0	0	0	23	0	1	0	24	0	0	6	8	0	14	0	6	12	0	0	18	56
5:45 PM	0	0	0	0	0	0	0	17	0	1	0	18	0	0	9	6	0	15	0	2	6	0	0	8	41
Hourly Total	0	0	0	0	1	0	0	92	0	5	0	97	0	0	25	22	1	47	0	17	40	0	0	57	201
Grand Total	0	0	1	9	10	10	0	431	4	62	0	497	1	6	267	152	5	426	1	52	224	2	0	279	1212
Approach %	0.0	0.0	10.0	90.0	-	-	0.0	86.7	0.8	12.5	-	-	0.2	1.4	62.7	35.7	-	-	0.4	18.6	80.3	0.7	-	-	-
Total %	0.0	0.0	0.1	0.7	-	0.8	0.0	35.6	0.3	5.1	-	41.0	0.1	0.5	22.0	12.5	-	35.1	0.1	4.3	18.5	0.2	-	23.0	-
Lights	0	0	1	9	-	10	0	389	4	46	-	439	1	4	233	131	-	369	1	39	196	1	-	237	1055

% Lights	-	-	100.0	100.0	-	100.0	-	90.3	100.0	74.2	-	88.3	100.0	66.7	87.3	86.2	-	86.6	100.0	75.0	87.5	50.0	-	84.9	87.0
Buses	0	0	0	0	-	0	0	4	0	1	-	5	0	0	1	1	-	2	0	0	0	0	-	0	7
% Buses	-	-	0.0	0.0	-	0.0	-	0.9	0.0	1.6	-	1.0	0.0	0.0	0.4	0.7	-	0.5	0.0	0.0	0.0	0.0	-	0.0	0.6
Single-Unit Trucks	0	0	0	0	-	0	0	21	0	5	-	26	0	0	16	6	-	22	0	4	12	0	-	16	64
% Single-Unit Trucks	-	-	0.0	0.0	-	0.0	-	4.9	0.0	8.1	-	5.2	0.0	0.0	6.0	3.9	-	5.2	0.0	7.7	5.4	0.0	-	5.7	5.3
Articulated Trucks	0	0	0	0	-	0	0	15	0	9	-	24	0	2	14	12	-	28	0	7	15	1	-	23	75
% Articulated Trucks	-	-	0.0	0.0	-	0.0	-	3.5	0.0	14.5	-	4.8	0.0	33.3	5.2	7.9	-	6.6	0.0	13.5	6.7	50.0	-	8.2	6.2
Bicycles on Road	0	0	0	0	-	0	0	2	0	1	-	3	0	0	3	2	-	5	0	2	1	0	-	3	11
% Bicycles on Road	-	-	0.0	0.0	-	0.0	-	0.5	0.0	1.6	-	0.6	0.0	0.0	1.1	1.3	-	1.2	0.0	3.8	0.4	0.0	-	1.1	0.9
Pedestrians	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	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: Exchange Avenue with Racine Avenue  
Site Code:  
Start Date: 08/10/2021  
Page No: 3

### Turning Movement Peak Hour Data (6:00 AM)

Start Time	Access Drive Eastbound						Exchange Avenue Westbound						Racine Avenue Northbound						Racine 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	0	0	0	0	0	0	9	1	3	0	13	0	0	17	9	0	26	0	1	5	0	0	6	45
6:15 AM	0	0	0	1	0	1	0	12	0	6	0	18	0	1	30	14	1	45	0	0	6	0	0	6	70
6:30 AM	0	0	0	1	3	1	0	5	1	1	0	7	0	1	13	4	0	18	0	0	6	0	0	6	32
6:45 AM	0	0	0	1	1	1	0	10	0	0	0	10	0	0	12	10	0	22	0	0	7	0	0	7	40
Total	0	0	0	3	4	3	0	36	2	10	0	48	0	2	72	37	1	111	0	1	24	0	0	25	187
Approach %	0.0	0.0	0.0	100.0	-	-	0.0	75.0	4.2	20.8	-	-	0.0	1.8	64.9	33.3	-	-	0.0	4.0	96.0	0.0	-	-	-
Total %	0.0	0.0	0.0	1.6	-	1.6	0.0	19.3	1.1	5.3	-	25.7	0.0	1.1	38.5	19.8	-	59.4	0.0	0.5	12.8	0.0	-	13.4	-
PHF	0.000	0.000	0.000	0.750	-	0.750	0.000	0.750	0.500	0.417	-	0.667	0.000	0.500	0.600	0.661	-	0.617	0.000	0.250	0.857	0.000	-	0.893	0.668
Lights	0	0	0	3	-	3	0	34	2	8	-	44	0	2	63	32	-	97	0	1	21	0	-	22	166
% Lights	-	-	-	100.0	-	100.0	-	94.4	100.0	80.0	-	91.7	-	100.0	87.5	86.5	-	87.4	-	100.0	87.5	-	-	88.0	88.8
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Buses	-	-	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	0	0	0	-	0	0	1	0	1	-	2	0	0	4	2	-	6	0	0	1	0	-	1	9
% Single-Unit Trucks	-	-	-	0.0	-	0.0	-	2.8	0.0	10.0	-	4.2	-	0.0	5.6	5.4	-	5.4	-	0.0	4.2	-	-	4.0	4.8
Articulated Trucks	0	0	0	0	-	0	0	1	0	0	-	1	0	0	5	2	-	7	0	0	2	0	-	2	10
% Articulated Trucks	-	-	-	0.0	-	0.0	-	2.8	0.0	0.0	-	2.1	-	0.0	6.9	5.4	-	6.3	-	0.0	8.3	-	-	8.0	5.3
Bicycles on Road	0	0	0	0	-	0	0	0	0	1	-	1	0	0	0	1	-	1	0	0	0	0	-	0	2
% Bicycles on Road	-	-	-	0.0	-	0.0	-	0.0	0.0	10.0	-	2.1	-	0.0	0.0	2.7	-	0.9	-	0.0	0.0	-	-	0.0	1.1
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	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: Exchange Avenue with Racine Avenue  
 Site Code:  
 Start Date: 08/10/2021  
 Page No: 4

### Turning Movement Peak Hour Data (3:00 PM)

Start Time	Access Drive Eastbound						Exchange Avenue Westbound						Racine Avenue Northbound						Racine 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	
3:00 PM	0	0	0	0	0	0	0	47	0	3	0	50	0	0	8	6	2	14	0	2	26	0	0	28	92
3:15 PM	0	0	0	0	0	0	0	25	1	4	0	30	0	0	5	8	0	13	0	2	6	0	0	8	51
3:30 PM	0	0	0	0	0	0	0	33	0	5	0	38	0	0	9	11	0	20	0	3	12	0	0	15	73
3:45 PM	0	0	0	0	0	0	0	21	0	3	0	24	0	1	8	5	0	14	0	1	10	0	0	11	49
Total	0	0	0	0	0	0	0	126	1	15	0	142	0	1	30	30	2	61	0	8	54	0	0	62	265
Approach %	0.0	0.0	0.0	0.0	-	-	0.0	88.7	0.7	10.6	-	-	0.0	1.6	49.2	49.2	-	-	0.0	12.9	87.1	0.0	-	-	-
Total %	0.0	0.0	0.0	0.0	-	0.0	0.0	47.5	0.4	5.7	-	53.6	0.0	0.4	11.3	11.3	-	23.0	0.0	3.0	20.4	0.0	-	23.4	-
PHF	0.000	0.000	0.000	0.000	-	0.000	0.000	0.670	0.250	0.750	-	0.710	0.000	0.250	0.833	0.682	-	0.763	0.000	0.667	0.519	0.000	-	0.554	0.720
Lights	0	0	0	0	-	0	0	109	1	10	-	120	0	1	29	28	-	58	0	7	49	0	-	56	234
% Lights	-	-	-	-	-	-	-	86.5	100.0	66.7	-	84.5	-	100.0	96.7	93.3	-	95.1	-	87.5	90.7	-	-	90.3	88.3
Buses	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	0	-	0	0	0	0	0	-	0	3
% Buses	-	-	-	-	-	-	-	2.4	0.0	0.0	-	2.1	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	0.0	1.1
Single-Unit Trucks	0	0	0	0	-	0	0	7	0	2	-	9	0	0	1	0	-	1	0	1	2	0	-	3	13
% Single-Unit Trucks	-	-	-	-	-	-	-	5.6	0.0	13.3	-	6.3	-	0.0	3.3	0.0	-	1.6	-	12.5	3.7	-	-	4.8	4.9
Articulated Trucks	0	0	0	0	-	0	0	6	0	3	-	9	0	0	0	2	-	2	0	0	3	0	-	3	14
% Articulated Trucks	-	-	-	-	-	-	-	4.8	0.0	20.0	-	6.3	-	0.0	0.0	6.7	-	3.3	-	0.0	5.6	-	-	4.8	5.3
Bicycles on Road	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
% Bicycles on Road	-	-	-	-	-	-	-	0.8	0.0	0.0	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	0.0	0.4
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	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: Morgan Street with 43rd Street  
 Site Code:  
 Start Date: 08/10/2021  
 Page No: 1

### Turning Movement Data

Start Time	43rd Street Eastbound						Access Drive Westbound						Morgan Street Northbound						Morgan 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	36	0	16	0	52	0	0	0	0	0	0	0	4	7	0	0	11	0	3	13	15	0	31	94
6:15 AM	0	29	1	10	0	40	0	0	0	0	0	0	0	15	7	0	0	22	0	0	5	17	0	22	84
6:30 AM	0	23	0	8	0	31	0	0	0	1	0	1	0	16	7	0	0	23	1	1	9	13	0	24	79
6:45 AM	0	34	0	7	0	41	0	0	0	0	0	0	0	15	9	1	0	25	0	1	4	18	1	23	89
Hourly Total	0	122	1	41	0	164	0	0	0	1	0	1	0	50	30	1	0	81	1	5	31	63	1	100	346
7:00 AM	0	18	1	1	0	20	0	0	0	0	0	0	0	9	8	0	0	17	0	0	8	18	0	26	63
7:15 AM	0	22	0	12	0	34	0	0	1	0	0	1	0	7	12	1	0	20	0	0	6	12	0	18	73
7:30 AM	0	38	1	7	0	46	0	0	0	0	0	0	0	6	7	0	0	13	0	0	9	17	0	26	85
7:45 AM	0	32	0	6	0	38	0	0	0	0	0	0	0	7	5	0	0	12	0	0	14	21	0	35	85
Hourly Total	0	110	2	26	0	138	0	0	1	0	0	1	0	29	32	1	0	62	0	0	37	68	0	105	306
8:00 AM	0	26	0	12	1	38	0	0	0	0	0	0	0	9	5	0	0	14	0	0	5	16	0	21	73
8:15 AM	0	32	0	6	0	38	0	0	0	0	0	0	0	12	6	0	0	18	0	0	7	10	0	17	73
8:30 AM	0	15	1	13	0	29	0	0	0	0	0	0	0	2	8	0	0	10	0	0	7	15	0	22	61
8:45 AM	0	26	0	7	0	33	0	0	1	0	0	1	0	10	4	2	0	16	0	0	7	15	0	22	72
Hourly Total	0	99	1	38	1	138	0	0	1	0	0	1	0	33	23	2	0	58	0	0	26	56	0	82	279
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	27	0	11	0	38	0	0	0	0	0	0	0	28	9	0	0	37	0	0	9	25	0	34	109
3:15 PM	0	27	0	14	0	41	0	0	3	0	0	3	0	15	5	0	0	20	0	0	9	32	0	41	105
3:30 PM	0	37	0	19	0	56	0	6	5	0	0	11	0	14	5	0	0	19	0	0	12	23	0	35	121
3:45 PM	0	21	0	14	0	35	0	0	1	1	0	2	0	10	4	0	0	14	0	0	11	20	0	31	82
Hourly Total	0	112	0	58	0	170	0	6	9	1	0	16	0	67	23	0	0	90	0	0	41	100	0	141	417
4:00 PM	0	19	0	17	0	36	0	1	0	0	0	1	0	12	6	0	0	18	0	0	8	36	0	44	99
4:15 PM	0	27	0	9	0	36	0	0	0	0	1	0	0	7	6	0	0	13	0	0	9	33	0	42	91
4:30 PM	0	23	0	11	0	34	0	0	0	0	0	0	0	21	10	0	0	31	0	0	6	29	0	35	100
4:45 PM	0	30	0	7	0	37	0	0	0	0	0	0	0	4	3	0	1	7	0	0	11	26	0	37	81
Hourly Total	0	99	0	44	0	143	0	1	0	0	1	1	0	44	25	0	1	69	0	0	34	124	0	158	371
5:00 PM	0	16	0	11	0	27	0	0	0	1	0	1	0	10	6	0	0	16	0	0	17	37	0	54	98
5:15 PM	0	14	0	8	0	22	0	0	1	0	0	1	0	6	4	0	0	10	0	0	7	25	0	32	65
5:30 PM	0	20	0	6	0	26	0	0	0	0	0	0	0	8	5	0	0	13	0	0	11	27	0	38	77
5:45 PM	0	16	0	7	0	23	0	0	0	0	0	0	0	10	3	0	0	13	0	0	7	17	0	24	60
Hourly Total	0	66	0	32	0	98	0	0	1	1	0	2	0	34	18	0	0	52	0	0	42	106	0	148	300
Grand Total	0	608	4	239	1	851	0	7	12	3	1	22	0	257	151	4	1	412	1	5	211	517	1	734	2019
Approach %	0.0	71.4	0.5	28.1	-	-	0.0	31.8	54.5	13.6	-	-	0.0	62.4	36.7	1.0	-	-	0.1	0.7	28.7	70.4	-	-	-
Total %	0.0	30.1	0.2	11.8	-	42.1	0.0	0.3	0.6	0.1	-	1.1	0.0	12.7	7.5	0.2	-	20.4	0.0	0.2	10.5	25.6	-	36.4	-
Lights	0	542	4	189	-	735	0	7	12	2	-	21	0	202	119	3	-	324	1	4	188	455	-	648	1728

% Lights	-	89.1	100.0	79.1	-	86.4	-	100.0	100.0	66.7	-	95.5	-	78.6	78.8	75.0	-	78.6	100.0	80.0	89.1	88.0	-	88.3	85.6
Buses	0	13	0	0	-	13	0	0	0	0	-	0	0	3	0	0	-	3	0	0	0	8	-	8	24
% Buses	-	2.1	0.0	0.0	-	1.5	-	0.0	0.0	0.0	-	0.0	-	1.2	0.0	0.0	-	0.7	0.0	0.0	0.0	1.5	-	1.1	1.2
Single-Unit Trucks	0	25	0	18	-	43	0	0	0	1	-	1	0	24	16	1	-	41	0	1	12	33	-	46	131
% Single-Unit Trucks	-	4.1	0.0	7.5	-	5.1	-	0.0	0.0	33.3	-	4.5	-	9.3	10.6	25.0	-	10.0	0.0	20.0	5.7	6.4	-	6.3	6.5
Articulated Trucks	0	24	0	30	-	54	0	0	0	0	-	0	0	27	15	0	-	42	0	0	9	17	-	26	122
% Articulated Trucks	-	3.9	0.0	12.6	-	6.3	-	0.0	0.0	0.0	-	0.0	-	10.5	9.9	0.0	-	10.2	0.0	0.0	4.3	3.3	-	3.5	6.0
Bicycles on Road	0	4	0	2	-	6	0	0	0	0	-	0	0	1	1	0	-	2	0	0	2	4	-	6	14
% Bicycles on Road	-	0.7	0.0	0.8	-	0.7	-	0.0	0.0	0.0	-	0.0	-	0.4	0.7	0.0	-	0.5	0.0	0.0	0.9	0.8	-	0.8	0.7
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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

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

Count Name: Morgan Street with 43rd Street  
Site Code:  
Start Date: 08/10/2021  
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### Turning Movement Peak Hour Data (6:00 AM)

Start Time	43rd Street Eastbound						Access Drive Westbound						Morgan Street Northbound						Morgan 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	36	0	16	0	52	0	0	0	0	0	0	0	4	7	0	0	11	0	3	13	15	0	31	94
6:15 AM	0	29	1	10	0	40	0	0	0	0	0	0	0	15	7	0	0	22	0	0	5	17	0	22	84
6:30 AM	0	23	0	8	0	31	0	0	0	1	0	1	0	16	7	0	0	23	1	1	9	13	0	24	79
6:45 AM	0	34	0	7	0	41	0	0	0	0	0	0	0	15	9	1	0	25	0	1	4	18	1	23	89
Total	0	122	1	41	0	164	0	0	0	1	0	1	0	50	30	1	0	81	1	5	31	63	1	100	346
Approach %	0.0	74.4	0.6	25.0	-	-	0.0	0.0	0.0	100.0	-	-	0.0	61.7	37.0	1.2	-	-	1.0	5.0	31.0	63.0	-	-	-
Total %	0.0	35.3	0.3	11.8	-	47.4	0.0	0.0	0.0	0.3	-	0.3	0.0	14.5	8.7	0.3	-	23.4	0.3	1.4	9.0	18.2	-	28.9	-
PHF	0.000	0.847	0.250	0.641	-	0.788	0.000	0.000	0.000	0.250	-	0.250	0.000	0.781	0.833	0.250	-	0.810	0.250	0.417	0.596	0.875	-	0.806	0.920
Lights	0	113	1	29	-	143	0	0	0	0	-	0	0	40	23	1	-	64	1	4	26	57	-	88	295
% Lights	-	92.6	100.0	70.7	-	87.2	-	-	-	0.0	-	0.0	-	80.0	76.7	100.0	-	79.0	100.0	80.0	83.9	90.5	-	88.0	85.3
Buses	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1
% Buses	-	0.8	0.0	0.0	-	0.6	-	-	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.3
Single-Unit Trucks	0	5	0	3	-	8	0	0	0	1	-	1	0	3	2	0	-	5	0	1	4	5	-	10	24
% Single-Unit Trucks	-	4.1	0.0	7.3	-	4.9	-	-	-	100.0	-	100.0	-	6.0	6.7	0.0	-	6.2	0.0	20.0	12.9	7.9	-	10.0	6.9
Articulated Trucks	0	2	0	8	-	10	0	0	0	0	-	0	0	7	5	0	-	12	0	0	0	1	-	1	23
% Articulated Trucks	-	1.6	0.0	19.5	-	6.1	-	-	-	0.0	-	0.0	-	14.0	16.7	0.0	-	14.8	0.0	0.0	0.0	1.6	-	1.0	6.6
Bicycles on Road	0	1	0	1	-	2	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	3
% Bicycles on Road	-	0.8	0.0	2.4	-	1.2	-	-	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	3.2	0.0	-	1.0	0.9
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Count Name: Morgan Street with 43rd Street  
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### Turning Movement Peak Hour Data (3:00 PM)

Start Time	43rd Street Eastbound						Access Drive Westbound						Morgan Street Northbound						Morgan 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	
3:00 PM	0	27	0	11	0	38	0	0	0	0	0	0	0	28	9	0	0	37	0	0	9	25	0	34	109
3:15 PM	0	27	0	14	0	41	0	0	3	0	0	3	0	15	5	0	0	20	0	0	9	32	0	41	105
3:30 PM	0	37	0	19	0	56	0	6	5	0	0	11	0	14	5	0	0	19	0	0	12	23	0	35	121
3:45 PM	0	21	0	14	0	35	0	0	1	1	0	2	0	10	4	0	0	14	0	0	11	20	0	31	82
Total	0	112	0	58	0	170	0	6	9	1	0	16	0	67	23	0	0	90	0	0	41	100	0	141	417
Approach %	0.0	65.9	0.0	34.1	-	-	0.0	37.5	56.3	6.3	-	-	0.0	74.4	25.6	0.0	-	-	0.0	0.0	29.1	70.9	-	-	-
Total %	0.0	26.9	0.0	13.9	-	40.8	0.0	1.4	2.2	0.2	-	3.8	0.0	16.1	5.5	0.0	-	21.6	0.0	0.0	9.8	24.0	-	33.8	-
PHF	0.000	0.757	0.000	0.763	-	0.759	0.000	0.250	0.450	0.250	-	0.364	0.000	0.598	0.639	0.000	-	0.608	0.000	0.000	0.854	0.781	-	0.860	0.862
Lights	0	103	0	49	-	152	0	6	9	1	-	16	0	57	19	0	-	76	0	0	36	81	-	117	361
% Lights	-	92.0	-	84.5	-	89.4	-	100.0	100.0	100.0	-	100.0	-	85.1	82.6	-	-	84.4	-	-	87.8	81.0	-	83.0	86.6
Buses	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	3	-	3	4
% Buses	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	1.5	0.0	-	-	1.1	-	-	0.0	3.0	-	2.1	1.0
Single-Unit Trucks	0	2	0	4	-	6	0	0	0	0	-	0	0	5	3	0	-	8	0	0	1	7	-	8	22
% Single-Unit Trucks	-	1.8	-	6.9	-	3.5	-	0.0	0.0	0.0	-	0.0	-	7.5	13.0	-	-	8.9	-	-	2.4	7.0	-	5.7	5.3
Articulated Trucks	0	7	0	5	-	12	0	0	0	0	-	0	0	3	1	0	-	4	0	0	4	8	-	12	28
% Articulated Trucks	-	6.3	-	8.6	-	7.1	-	0.0	0.0	0.0	-	0.0	-	4.5	4.3	-	-	4.4	-	-	9.8	8.0	-	8.5	6.7
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	1	-	1	2
% Bicycles on Road	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	-	1.5	0.0	-	-	1.1	-	-	0.0	1.0	-	0.7	0.5
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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

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

Count Name: Racine Avenue with 43rd Street  
Site Code:  
Start Date: 08/10/2021  
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### Turning Movement Data

Start Time	43rd Street Eastbound						43rd Street Westbound						Racine Avenue Northbound						Racine 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	11	33	14	0	58	0	1	23	0	1	24	0	22	16	7	1	45	0	0	2	13	0	15	142
6:15 AM	0	27	31	17	2	75	0	3	19	1	0	23	0	24	20	12	0	56	1	1	6	18	0	26	180
6:30 AM	0	7	26	16	1	49	0	3	21	0	2	24	0	24	14	19	2	57	0	0	2	5	1	7	137
6:45 AM	0	4	35	17	0	56	0	3	23	2	0	28	0	33	12	15	1	60	0	1	5	11	0	17	161
Hourly Total	0	49	125	64	3	238	0	10	86	3	3	99	0	103	62	53	4	218	1	2	15	47	1	65	620
7:00 AM	0	3	13	22	0	38	0	0	23	0	0	23	0	21	3	9	0	33	0	0	6	10	0	16	110
7:15 AM	0	2	27	22	0	51	0	2	19	0	0	21	0	16	13	10	0	39	0	1	9	12	1	22	133
7:30 AM	0	6	27	17	0	50	0	2	20	0	1	22	0	32	20	22	0	74	0	0	9	7	0	16	162
7:45 AM	0	3	34	19	0	56	0	4	20	0	0	24	0	27	18	10	1	55	0	1	7	8	0	16	151
Hourly Total	0	14	101	80	0	195	0	8	82	0	1	90	0	96	54	51	1	201	0	2	31	37	1	70	556
8:00 AM	0	10	34	18	0	62	0	3	16	0	1	19	0	17	8	2	1	27	0	0	9	7	0	16	124
8:15 AM	0	6	28	12	0	46	0	1	20	1	0	22	0	24	15	13	0	52	0	0	9	6	0	15	135
8:30 AM	0	5	20	15	0	40	0	4	12	0	0	16	0	31	14	7	0	52	0	1	5	11	0	17	125
8:45 AM	0	7	24	13	0	44	0	1	23	0	0	24	0	19	16	8	0	43	0	0	4	10	0	14	125
Hourly Total	0	28	106	58	0	192	0	9	71	1	1	81	0	91	53	30	1	174	0	1	27	34	0	62	509
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	4	33	45	1	82	0	8	49	2	0	59	0	26	9	6	0	41	0	0	28	44	0	72	254
3:15 PM	0	6	29	36	1	71	0	24	56	1	0	81	0	24	7	4	0	35	0	1	14	16	0	31	218
3:30 PM	0	5	40	43	0	88	0	6	38	1	0	45	0	45	15	5	1	65	0	1	21	27	0	49	247
3:45 PM	0	3	30	42	0	75	0	9	22	1	0	32	0	26	10	4	0	40	0	0	19	17	0	36	183
Hourly Total	0	18	132	166	2	316	0	47	165	5	0	217	0	121	41	19	1	181	0	2	82	104	0	188	902
4:00 PM	0	8	32	32	0	72	0	11	40	0	0	51	0	39	13	3	0	55	0	0	21	35	0	56	234
4:15 PM	0	5	21	34	0	60	0	13	25	0	0	38	0	34	8	7	0	49	0	0	15	19	0	34	181
4:30 PM	0	4	30	37	0	71	0	12	49	0	0	61	0	38	10	1	1	49	0	0	15	32	0	47	228
4:45 PM	0	1	30	30	1	61	0	9	15	0	0	24	0	18	11	7	0	36	0	0	8	18	0	26	147
Hourly Total	0	18	113	133	1	264	0	45	129	0	0	174	0	129	42	18	1	189	0	0	59	104	0	163	790
5:00 PM	0	4	15	36	1	55	0	11	37	1	0	49	0	25	6	5	1	36	0	1	20	32	0	53	193
5:15 PM	0	3	21	37	0	61	0	5	26	0	0	31	0	27	7	2	0	36	0	0	6	22	0	28	156
5:30 PM	0	1	24	27	0	52	0	7	27	0	0	34	0	31	11	3	0	45	0	0	12	21	0	33	164
5:45 PM	0	7	15	20	0	42	0	2	25	0	0	27	0	18	8	4	0	30	0	0	7	12	0	19	118
Hourly Total	0	15	75	120	1	210	0	25	115	1	0	141	0	101	32	14	1	147	0	1	45	87	0	133	631
Grand Total	0	142	652	621	7	1415	0	144	648	10	5	802	0	641	284	185	9	1110	1	8	259	413	2	681	4008
Approach %	0.0	10.0	46.1	43.9	-	-	0.0	18.0	80.8	1.2	-	-	0.0	57.7	25.6	16.7	-	-	0.1	1.2	38.0	60.6	-	-	-
Total %	0.0	3.5	16.3	15.5	-	35.3	0.0	3.6	16.2	0.2	-	20.0	0.0	16.0	7.1	4.6	-	27.7	0.0	0.2	6.5	10.3	-	17.0	-
Lights	0	118	547	489	-	1154	0	137	540	8	-	685	0	518	253	175	-	946	0	7	234	368	-	609	3394

% Lights	-	83.1	83.9	78.7	-	81.6	-	95.1	83.3	80.0	-	85.4	-	80.8	89.1	94.6	-	85.2	0.0	87.5	90.3	89.1	-	89.4	84.7
Buses	0	1	13	15	-	29	0	0	11	0	-	11	0	5	1	0	-	6	0	0	0	3	-	3	49
% Buses	-	0.7	2.0	2.4	-	2.0	-	0.0	1.7	0.0	-	1.4	-	0.8	0.4	0.0	-	0.5	0.0	0.0	0.0	0.7	-	0.4	1.2
Single-Unit Trucks	0	8	42	55	-	105	0	2	52	1	-	55	0	36	14	2	-	52	0	0	8	29	-	37	249
% Single-Unit Trucks	-	5.6	6.4	8.9	-	7.4	-	1.4	8.0	10.0	-	6.9	-	5.6	4.9	1.1	-	4.7	0.0	0.0	3.1	7.0	-	5.4	6.2
Articulated Trucks	0	12	47	60	-	119	0	5	42	0	-	47	0	82	16	3	-	101	1	1	17	12	-	31	298
% Articulated Trucks	-	8.5	7.2	9.7	-	8.4	-	3.5	6.5	0.0	-	5.9	-	12.8	5.6	1.6	-	9.1	100.0	12.5	6.6	2.9	-	4.6	7.4
Bicycles on Road	0	3	3	2	-	8	0	0	3	1	-	4	0	0	0	5	-	5	0	0	0	1	-	1	18
% Bicycles on Road	-	2.1	0.5	0.3	-	0.6	-	0.0	0.5	10.0	-	0.5	-	0.0	0.0	2.7	-	0.5	0.0	0.0	0.0	0.2	-	0.1	0.4
Pedestrians	-	-	-	-	7	-	-	-	-	5	-	-	-	-	-	-	9	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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### Turning Movement Peak Hour Data (6:00 AM)

Start Time	43rd Street Eastbound						43rd Street Westbound						Racine Avenue Northbound						Racine 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	11	33	14	0	58	0	1	23	0	1	24	0	22	16	7	1	45	0	0	2	13	0	15	142
6:15 AM	0	27	31	17	2	75	0	3	19	1	0	23	0	24	20	12	0	56	1	1	6	18	0	26	180
6:30 AM	0	7	26	16	1	49	0	3	21	0	2	24	0	24	14	19	2	57	0	0	2	5	1	7	137
6:45 AM	0	4	35	17	0	56	0	3	23	2	0	28	0	33	12	15	1	60	0	1	5	11	0	17	161
<b>Total</b>	0	49	125	64	3	238	0	10	86	3	3	99	0	103	62	53	4	218	1	2	15	47	1	65	620
Approach %	0.0	20.6	52.5	26.9	-	-	0.0	10.1	86.9	3.0	-	-	0.0	47.2	28.4	24.3	-	-	1.5	3.1	23.1	72.3	-	-	-
Total %	0.0	7.9	20.2	10.3	-	38.4	0.0	1.6	13.9	0.5	-	16.0	0.0	16.6	10.0	8.5	-	35.2	0.2	0.3	2.4	7.6	-	10.5	-
PHF	0.000	0.454	0.893	0.941	-	0.793	0.000	0.833	0.935	0.375	-	0.884	0.000	0.780	0.775	0.697	-	0.908	0.250	0.500	0.625	0.653	-	0.625	0.861
Lights	0	44	110	40	-	194	0	9	71	3	-	83	0	85	51	51	-	187	0	2	12	45	-	59	523
% Lights	-	89.8	88.0	62.5	-	81.5	-	90.0	82.6	100.0	-	83.8	-	82.5	82.3	96.2	-	85.8	0.0	100.0	80.0	95.7	-	90.8	84.4
Buses	0	0	1	3	-	4	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	4
% Buses	-	0.0	0.8	4.7	-	1.7	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.6
Single-Unit Trucks	0	1	7	11	-	19	0	0	7	0	-	7	0	5	6	0	-	11	0	0	1	2	-	3	40
% Single-Unit Trucks	-	2.0	5.6	17.2	-	8.0	-	0.0	8.1	0.0	-	7.1	-	4.9	9.7	0.0	-	5.0	0.0	0.0	6.7	4.3	-	4.6	6.5
Articulated Trucks	0	3	7	9	-	19	0	1	8	0	-	9	0	13	5	1	-	19	1	0	2	0	-	3	50
% Articulated Trucks	-	6.1	5.6	14.1	-	8.0	-	10.0	9.3	0.0	-	9.1	-	12.6	8.1	1.9	-	8.7	100.0	0.0	13.3	0.0	-	4.6	8.1
Bicycles on Road	0	1	0	1	-	2	0	0	0	0	-	0	0	0	0	1	-	1	0	0	0	0	-	0	3
% Bicycles on Road	-	2.0	0.0	1.6	-	0.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	1.9	-	0.5	0.0	0.0	0.0	0.0	-	0.0	0.5
Pedestrians	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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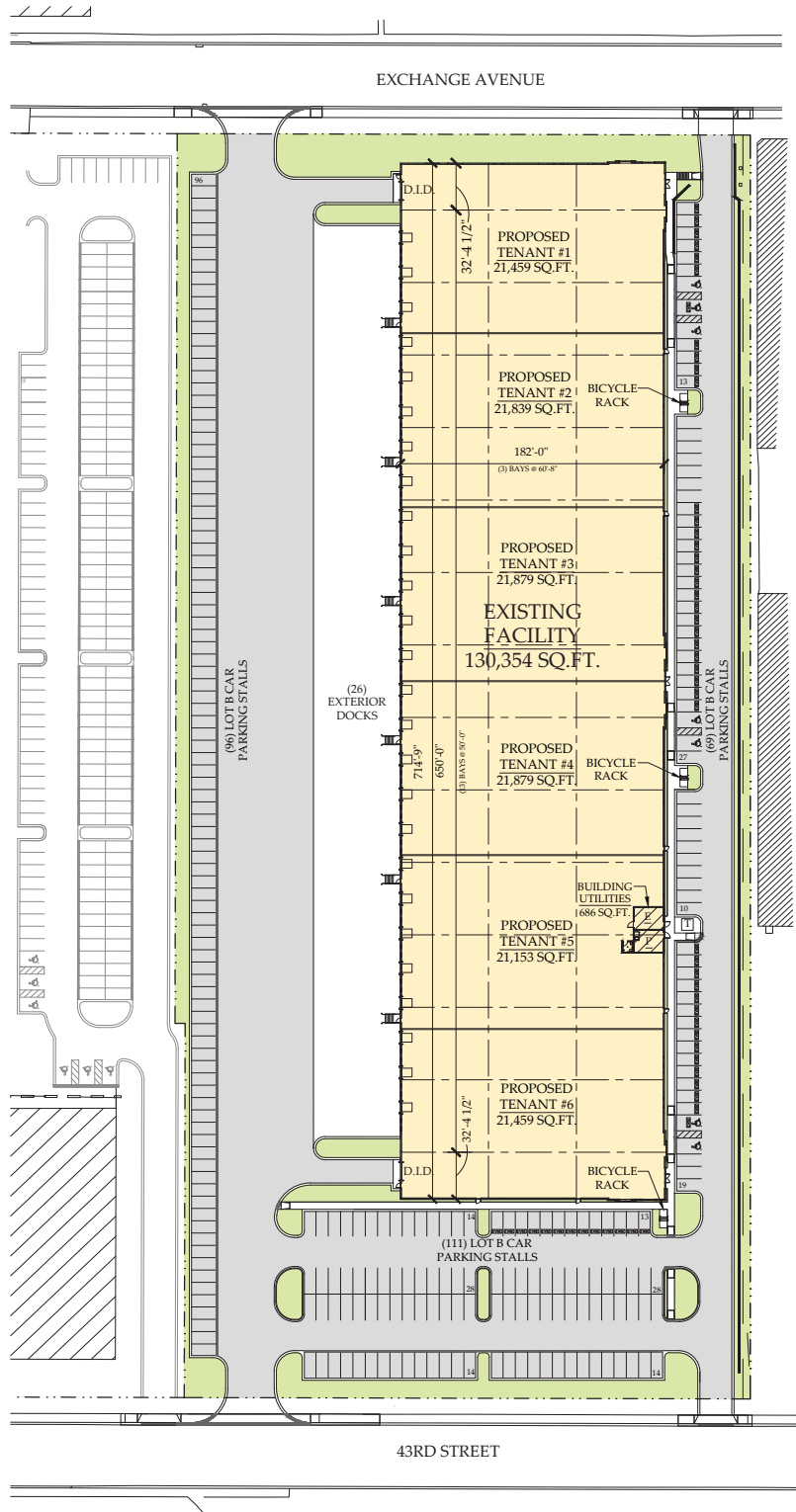
Count Name: Racine Avenue with 43rd Street  
Site Code:  
Start Date: 08/10/2021  
Page No: 4

### Turning Movement Peak Hour Data (3:00 PM)

Start Time	43rd Street Eastbound						43rd Street Westbound						Racine Avenue Northbound						Racine 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	
3:00 PM	0	4	33	45	1	82	0	8	49	2	0	59	0	26	9	6	0	41	0	0	28	44	0	72	254
3:15 PM	0	6	29	36	1	71	0	24	56	1	0	81	0	24	7	4	0	35	0	1	14	16	0	31	218
3:30 PM	0	5	40	43	0	88	0	6	38	1	0	45	0	45	15	5	1	65	0	1	21	27	0	49	247
3:45 PM	0	3	30	42	0	75	0	9	22	1	0	32	0	26	10	4	0	40	0	0	19	17	0	36	183
Total	0	18	132	166	2	316	0	47	165	5	0	217	0	121	41	19	1	181	0	2	82	104	0	188	902
Approach %	0.0	5.7	41.8	52.5	-	-	0.0	21.7	76.0	2.3	-	-	0.0	66.9	22.7	10.5	-	-	0.0	1.1	43.6	55.3	-	-	-
Total %	0.0	2.0	14.6	18.4	-	35.0	0.0	5.2	18.3	0.6	-	24.1	0.0	13.4	4.5	2.1	-	20.1	0.0	0.2	9.1	11.5	-	20.8	-
PHF	0.000	0.750	0.825	0.922	-	0.898	0.000	0.490	0.737	0.625	-	0.670	0.000	0.672	0.683	0.792	-	0.696	0.000	0.500	0.732	0.591	-	0.653	0.888
Lights	0	15	115	137	-	267	0	46	139	3	-	188	0	93	41	19	-	153	0	2	76	88	-	166	774
% Lights	-	83.3	87.1	82.5	-	84.5	-	97.9	84.2	60.0	-	86.6	-	76.9	100.0	100.0	-	84.5	-	100.0	92.7	84.6	-	88.3	85.8
Buses	0	0	0	1	-	1	0	0	4	0	-	4	0	0	0	0	-	0	0	0	0	2	-	2	7
% Buses	-	0.0	0.0	0.6	-	0.3	-	0.0	2.4	0.0	-	1.8	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	1.9	-	1.1	0.8
Single-Unit Trucks	0	1	5	11	-	17	0	0	11	1	-	12	0	10	0	0	-	10	0	0	1	9	-	10	49
% Single-Unit Trucks	-	5.6	3.8	6.6	-	5.4	-	0.0	6.7	20.0	-	5.5	-	8.3	0.0	0.0	-	5.5	-	0.0	1.2	8.7	-	5.3	5.4
Articulated Trucks	0	2	12	17	-	31	0	1	10	0	-	11	0	18	0	0	-	18	0	0	5	4	-	9	69
% Articulated Trucks	-	11.1	9.1	10.2	-	9.8	-	2.1	6.1	0.0	-	5.1	-	14.9	0.0	0.0	-	9.9	-	0.0	6.1	3.8	-	4.8	7.6
Bicycles on Road	0	0	0	0	-	0	0	0	1	1	-	2	0	0	0	0	-	0	0	0	0	1	-	1	3
% Bicycles on Road	-	0.0	0.0	0.0	-	0.0	-	0.0	0.6	20.0	-	0.9	-	0.0	0.0	0.0	-	0.0	-	0.0	0.0	1.0	-	0.5	0.3
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

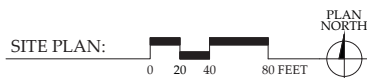


# Preliminary Site Plan



**DATA:**

SITE AREA:	±343,580 SQ.FT.
	±7.88 ACRES
BUILDING AREA (GROSS):	±130,354 SQ.FT.
EXTERIOR DOCKS:	26 DOCKS
DRIVE-IN-DOORS:	2 DOORS
CAR PARKING:	276 CARS
CLEAR HEIGHT:	32 FEET
F.A.R.:	.38



**EXISTING FACILITY (PLAN #20)**

1032 WEST 43RD STREET, CHICAGO, ILLINOIS

JULY 20, 2021 #19515

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# ITE Trip Generation Worksheets

# General Light Industrial (110)

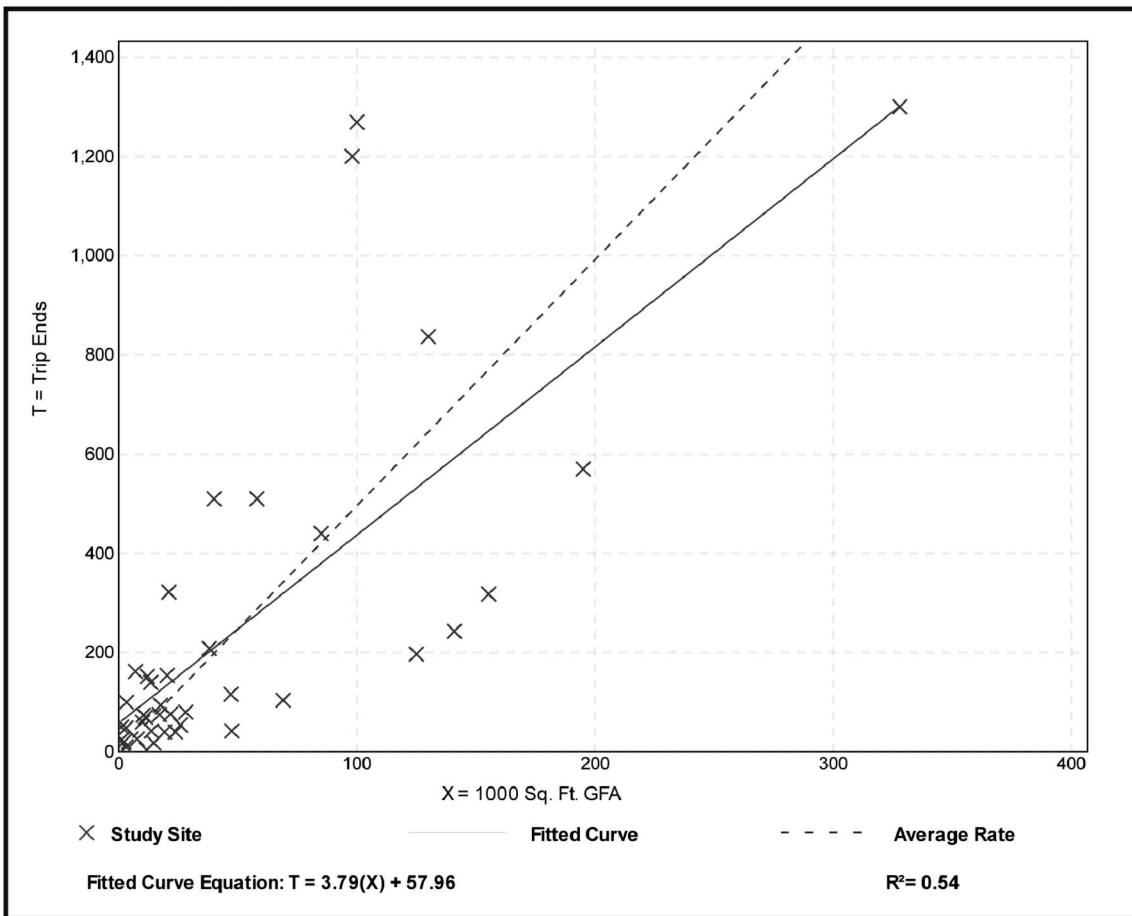
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 40  
1000 Sq. Ft. GFA: 49  
Directional Distribution: 50% entering, 50% exiting

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

Average Rate	Range of Rates	Standard Deviation
4.96	0.34 - 43.86	4.20

## Data Plot and Equation



# General Light Industrial (110)

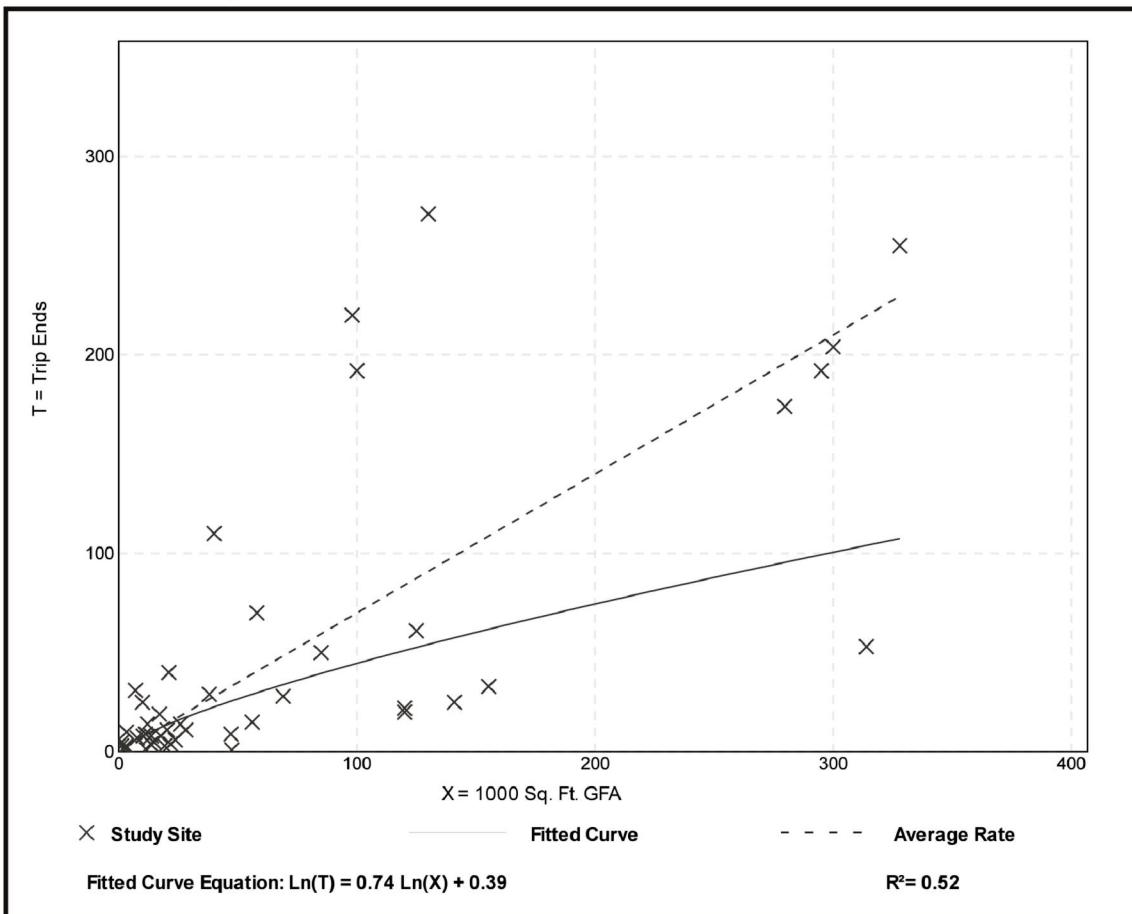
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 45  
 1000 Sq. Ft. GFA: 73  
 Directional Distribution: 88% entering, 12% exiting

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

Average Rate	Range of Rates	Standard Deviation
0.70	0.02 - 4.46	0.65

## Data Plot and Equation



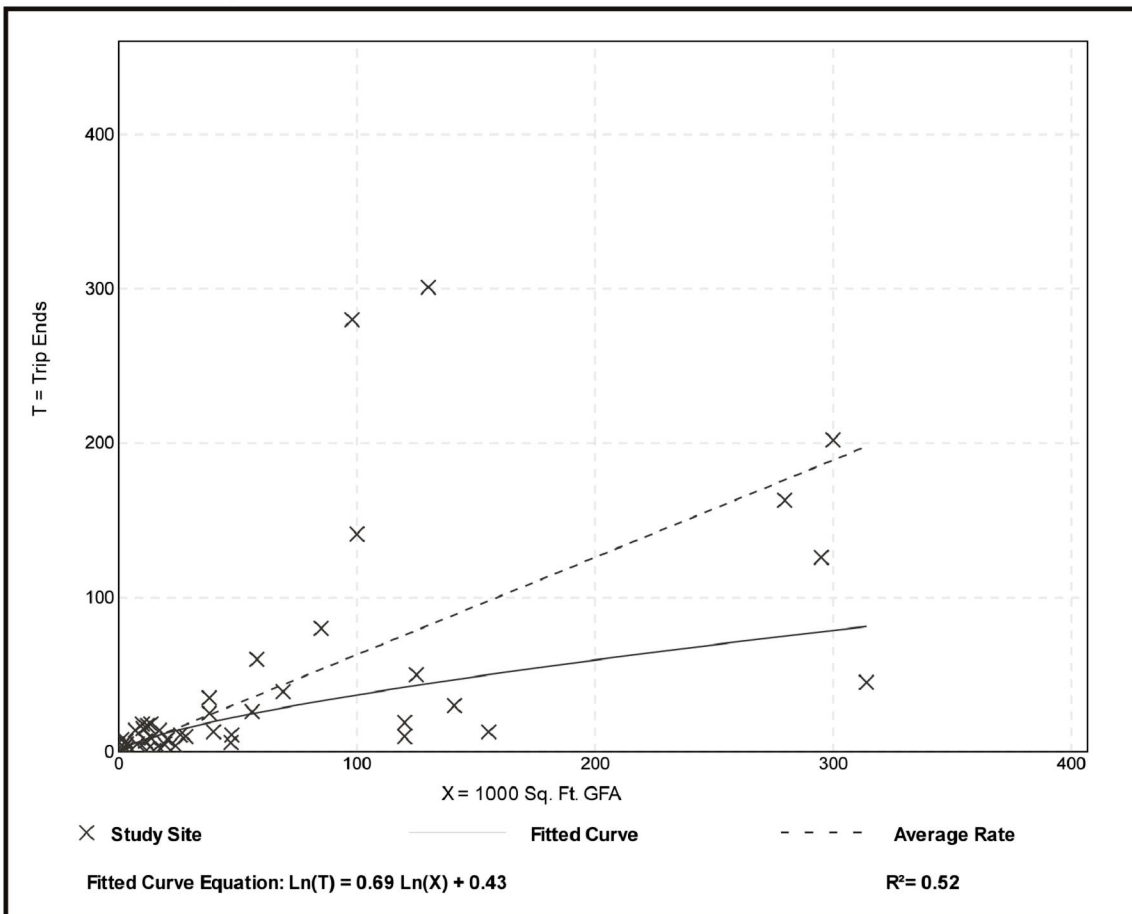
# General Light Industrial (110)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**  
**Setting/Location: General Urban/Suburban**  
 Number of Studies: 44  
 1000 Sq. Ft. GFA: 67  
 Directional Distribution: 13% entering, 87% exiting

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

Average Rate	Range of Rates	Standard Deviation
0.63	0.07 - 7.02	0.68

## Data Plot and Equation



## Level of Service Criteria

LEVEL OF SERVICE CRITERIA

<b>Signalized Intersections</b>		
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
<b>Unsignalized Intersections</b>		
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  
2021 Base Weekday Morning Peak Hour Conditions

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	163	82	13	112	4	134	81	69	4	20	61
Future Volume (vph)	62	163	82	13	112	4	134	81	69	4	20	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	10	10	12	10	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	85		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			120			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00		1.00	0.99		1.00	0.99	
Frt		0.960			0.995			0.931			0.887	
Flt Protected		0.990			0.995		0.950			0.950		
Satd. Flow (prot)	0	2802	0	0	2967	0	1440	2840	0	1348	2719	0
Flt Permitted		0.859			0.909		0.693			0.642		
Satd. Flow (perm)	0	2431	0	0	2710	0	1047	2840	0	908	2719	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95			5			80			71	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1283			1289			793			971	
Travel Time (s)		29.2			29.3			18.0			22.1	
Confl. Peds. (#/hr)	1		4	4		1	3		3	3		3
Confl. Bikes (#/hr)			2						1			
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 (%)	8%	12%	37%	8%	18%	0%	17%	17%	1%	25%	20%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	357	0	0	150	0	156	174	0	5	94	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		27.0			27.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio		0.42			0.42		0.45	0.45		0.45	0.45	

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

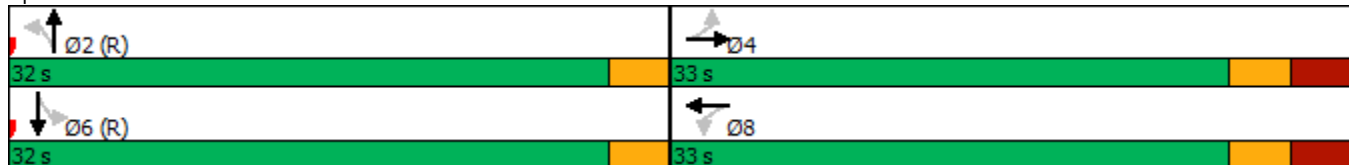


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.34			0.13		0.33	0.13		0.01	0.08	
Control Delay		10.3			11.8		14.3	6.3		10.0	4.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		10.3			11.8		14.3	6.3		10.0	4.8	
LOS		B			B		B	A		A	A	
Approach Delay		10.3			11.8			10.1			5.1	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		34			17		38	10		1	0	
Queue Length 95th (ft)		57			32		74	24		6	11	
Internal Link Dist (ft)		1203			1209			713			891	
Turn Bay Length (ft)							85			100		
Base Capacity (vph)		1065			1128		467	1311		405	1252	
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		0.34			0.13		0.33	0.13		0.01	0.08	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.34
Intersection Signal Delay:	9.9
Intersection LOS:	A
Intersection Capacity Utilization:	40.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 43rd Street & Racine Avenue



## Lanes, Volumes, Timings

### 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	0	4	47	3	12	3	94	47	1	31	0
Future Volume (vph)	0	0	4	47	3	12	3	94	47	1	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	10	12	12	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			0.99				
Frt		0.865			0.974			0.951				
Flt Protected					0.963			0.999			0.999	
Satd. Flow (prot)	0	1621	0	0	1709	0	0	2836	0	0	2986	0
Flt Permitted					0.841			0.953			0.952	
Satd. Flow (perm)	0	1621	0	0	1490	0	0	2705	0	0	2846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		927			18			70				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1287			971			935	
Travel Time (s)		14.7			29.3			22.1			21.3	
Confl. Peds. (#/hr)			1	1			4					4
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	8%	0%	13%	11%	0%	13%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)				0	0	0						
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	92	0	0	214	0	0	47	0
Turn Type		NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (%)	40.0%	40.0%		9.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Yellow Time (s)	3.5	3.5		3.0	3.0		3.0	3.0		3.5	3.5	
All-Red Time (s)	1.0	1.0		0.0	0.0		0.0	0.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			3.0			3.0			4.5	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		21.5			29.0			30.0			28.5	
Actuated g/C Ratio		0.33			0.45			0.46			0.44	

Lanes, Volumes, Timings  
 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021

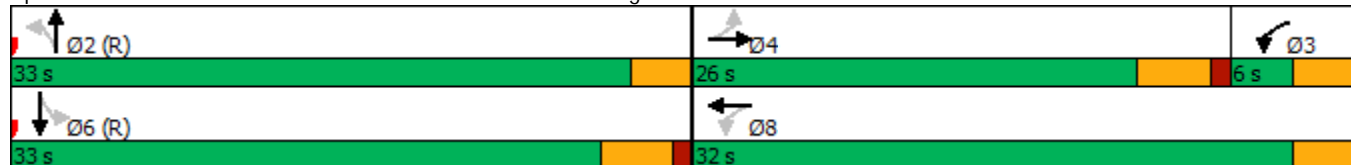


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01			0.13			0.17				0.04
Control Delay		0.0			9.6			9.1				10.6
Queue Delay		0.0			0.0			0.0				0.0
Total Delay		0.0			9.6			9.1				10.6
LOS		A			A			A				B
Approach Delay					9.6			9.1				10.6
Approach LOS					A			A				B
Queue Length 50th (ft)		0			16			17				5
Queue Length 95th (ft)		0			27			22				10
Internal Link Dist (ft)		567			1207			891				855
Turn Bay Length (ft)												
Base Capacity (vph)		1156			684			1286				1247
Starvation Cap Reductn		0			0			0				0
Spillback Cap Reductn		0			0			0				0
Storage Cap Reductn		0			0			0				0
Reduced v/c Ratio		0.01			0.13			0.17				0.04

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	21 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.17
Intersection Signal Delay:	9.3
Intersection LOS:	A
Intersection Capacity Utilization:	31.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: Racine Avenue & Access Drive/Exchange Avenue



Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷		↶	↷	
Traffic Vol, veh/h	157	53	65	40	47	82
Future Vol, veh/h	157	53	65	40	47	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	26	20	25	15	10
Mvmt Flow	171	58	71	43	51	89
Number of Lanes	1	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.9	9.2	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	62%	100%	0%	0%
Vol Thru, %	38%	0%	0%	36%
Vol Right, %	0%	0%	100%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	157	53	129
LT Vol	65	157	0	0
Through Vol	40	0	0	47
RT Vol	0	0	53	82
Lane Flow Rate	114	171	58	140
Geometry Grp	2	7	7	2
Degree of Util (X)	0.163	0.271	0.078	0.177
Departure Headway (Hd)	5.148	5.714	4.849	4.543
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	628	737	789
Service Time	3.179	3.453	2.588	2.571
HCM Lane V/C Ratio	0.164	0.272	0.079	0.177
HCM Control Delay	9.2	10.6	8	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.6	1.1	0.3	0.6

HCM 6th AWSC  
4: Morgan Street & Exchange Avenue

08/23/2021

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	10	21	0	83	64	40	0	55	131	5	59	8
Future Vol, veh/h	10	21	0	83	64	40	0	55	131	5	59	8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	10	14	0	11	5	8	0	18	12	80	12	0
Mvmt Flow	11	23	0	92	71	44	0	61	146	6	66	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	8.4	9.7	9.1	10.1
HCM LOS	A	A	A	B



















Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	32%	44%	7%
Vol Thru, %	30%	68%	34%	82%
Vol Right, %	70%	0%	21%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	186	31	187	72
LT Vol	0	10	83	5
Through Vol	55	21	64	59
RT Vol	131	0	40	8
Lane Flow Rate	207	34	208	80
Geometry Grp	1	1	1	1
Degree of Util (X)	0.259	0.049	0.277	0.135
Departure Headway (Hd)	4.508	5.119	4.807	6.057
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	796	696	746	591
Service Time	2.546	3.172	2.847	4.104
HCM Lane V/C Ratio	0.26	0.049	0.279	0.135
HCM Control Delay	9.1	8.4	9.7	10.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	1	0.2	1.1	0.5

Capacity Analysis Summary Sheets  
2021 Base Weekday Evening Peak Hour Conditions



Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	152	191	54	189	5	139	47	22	2	94	118
Future Volume (vph)	21	152	191	54	189	5	139	47	22	2	94	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	10	10	12	10	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	85		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			120			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00		1.00				0.99	
Frt		0.921			0.997			0.952			0.917	
Flt Protected		0.997			0.989		0.950			0.950		
Satd. Flow (prot)	0	2764	0	0	3064	0	1370	3208	0	1685	2763	0
Flt Permitted		0.925			0.798		0.603			0.704		
Satd. Flow (perm)	0	2564	0	0	2472	0	868	3208	0	1248	2763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		215			4			25			133	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1283			1289			793			971	
Travel Time (s)		29.2			29.3			18.0			22.1	
Confl. Peds. (#/hr)			1	1			2					2
Confl. Bikes (#/hr)						2						1
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	14%	13%	17%	2%	15%	20%	23%	0%	0%	0%	7%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	410	0	0	279	0	156	78	0	2	239	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		27.0			27.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio		0.42			0.42		0.45	0.45		0.45	0.45	

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

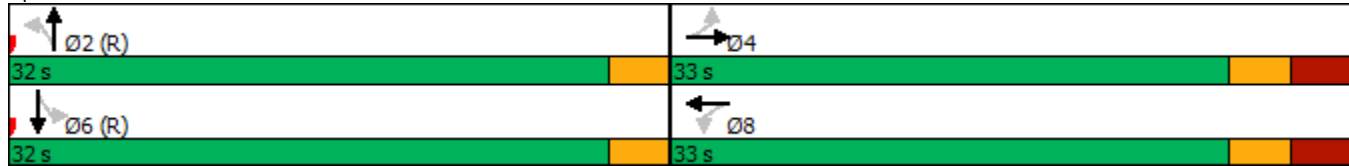


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.34			0.27		0.40	0.05		0.00	0.18	
Control Delay		6.8			13.2		16.1	7.8		9.0	3.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		6.8			13.2		16.1	7.8		9.0	3.8	
LOS		A			B		B	A		A	A	
Approach Delay		6.8			13.2			13.3			3.9	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)		24			36		40	5		0	0	
Queue Length 95th (ft)		51			60		84	16		m2	2	
Internal Link Dist (ft)		1203			1209			713			891	
Turn Bay Length (ft)							85			100		
Base Capacity (vph)		1190			1029		387	1445		556	1306	
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		0.34			0.27		0.40	0.05		0.00	0.18	

Intersection Summary

Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 65  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 9.1      Intersection LOS: A  
 Intersection Capacity Utilization 63.8%      ICU Level of Service B  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: 43rd Street & Racine Avenue



## Lanes, Volumes, Timings

### 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	0	0	144	1	17	1	35	35	9	62	0
Future Volume (vph)	0	0	0	144	1	17	1	35	35	9	62	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	10	12	12	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor					1.00							
Frt					0.986			0.926				
Flt Protected					0.957			0.999			0.993	
Satd. Flow (prot)	0	1900	0	0	1584	0	0	2984	0	0	3038	0
Flt Permitted					0.761			0.954			0.929	
Satd. Flow (perm)	0	1900	0	0	1256	0	0	2850	0	0	2842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12			49				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			1287			971			935	
Travel Time (s)		14.7			29.3			22.1			21.3	
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	13%	0%	35%	0%	3%	6%	11%	10%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)				0	0	0						
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	225	0	0	99	0	0	99	0
Turn Type				pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (%)	40.0%	40.0%		9.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Yellow Time (s)	3.5	3.5		3.0	3.0		3.0	3.0		3.5	3.5	
All-Red Time (s)	1.0	1.0		0.0	0.0		0.0	0.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			3.0			3.0			4.5	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)					29.0			30.0			28.5	
Actuated g/C Ratio					0.45			0.46			0.44	

# Lanes, Volumes, Timings

## 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021

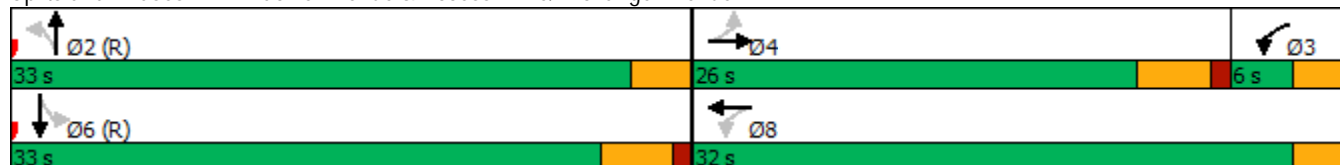


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio					0.39			0.07				0.08
Control Delay					13.9			5.1				10.9
Queue Delay					0.0			0.0				0.0
Total Delay					13.9			5.1				10.9
LOS					B			A				B
Approach Delay					13.9			5.1				10.9
Approach LOS					B			A				B
Queue Length 50th (ft)					51			3				11
Queue Length 95th (ft)					72			8				18
Internal Link Dist (ft)		567			1207			891				855
Turn Bay Length (ft)												
Base Capacity (vph)					582			1341				1246
Starvation Cap Reductn					0			0				0
Spillback Cap Reductn					0			0				0
Storage Cap Reductn					0			0				0
Reduced v/c Ratio					0.39			0.07				0.08

### Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	21 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.39
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization:	29.2%
ICU Level of Service:	A
Analysis Period (min):	15

### Splits and Phases: 2: Racine Avenue & Access Drive/Exchange Avenue



Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	129	67	86	26	47	114
Future Vol, veh/h	129	67	86	26	47	114
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	8	15	12	19	13	18
Mvmt Flow	150	78	100	30	55	133
Number of Lanes	1	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.7	9.3	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	77%	100%	0%	0%
Vol Thru, %	23%	0%	0%	29%
Vol Right, %	0%	0%	100%	71%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	129	67	161
LT Vol	86	129	0	0
Through Vol	26	0	0	47
RT Vol	0	0	67	114
Lane Flow Rate	130	150	78	187
Geometry Grp	2	7	7	2
Degree of Util (X)	0.184	0.245	0.104	0.233
Departure Headway (Hd)	5.08	5.88	4.792	4.472
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	609	745	801
Service Time	3.119	3.629	2.541	2.505
HCM Lane V/C Ratio	0.184	0.246	0.105	0.233
HCM Control Delay	9.3	10.5	8.1	8.9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.7	1	0.3	0.9

HCM 6th AWSC  
4: Morgan Street & Exchange Avenue

08/23/2021

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	55	6	135	139	16	6	23	138	69	24	7
Future Vol, veh/h	5	55	6	135	139	16	6	23	138	69	24	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	2	33	17	12	31	17	39	5	7	21	0
Mvmt Flow	6	61	7	150	154	18	7	26	153	77	27	8
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	12.4	9.6	9.5
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	8%	47%	69%
Vol Thru, %	14%	83%	48%	24%
Vol Right, %	83%	9%	6%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	66	290	100
LT Vol	6	5	135	69
Through Vol	23	55	139	24
RT Vol	138	6	16	7
Lane Flow Rate	186	73	322	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.103	0.455	0.166
Departure Headway (Hd)	4.869	5.034	5.078	5.375
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	703	702	661
Service Time	2.946	3.129	3.149	3.46
HCM Lane V/C Ratio	0.254	0.104	0.459	0.168
HCM Control Delay	9.6	8.7	12.4	9.5
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	1	0.3	2.4	0.6

Capacity Analysis Summary Sheets  
2027 Projected Weekday Morning Peak Hour Conditions

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Traffic Volume (vph)	64	192	84	16	119	4	138	83	91	4	21	63
Future Volume (vph)	64	192	84	16	119	4	138	83	91	4	21	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	10	10	12	10	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	85		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			120			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00			1.00		1.00	0.99		1.00	0.99	
Frt		0.963			0.995			0.922			0.887	
Flt Protected		0.991			0.994		0.950			0.950		
Satd. Flow (prot)	0	2824	0	0	2973	0	1440	2809	0	1348	2724	0
Flt Permitted		0.861			0.894		0.691			0.624		
Satd. Flow (perm)	0	2453	0	0	2673	0	1044	2809	0	883	2724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84			5			106			73	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1283			621			793			971	
Travel Time (s)		29.2			14.1			18.0			22.1	
Confl. Peds. (#/hr)	1		4	4		1	3		3	3		3
Confl. Bikes (#/hr)			2						1			
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 (%)	8%	12%	37%	6%	18%	0%	17%	17%	3%	25%	19%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	395	0	0	162	0	160	203	0	5	97	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		27.0			27.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio		0.42			0.42		0.45	0.45		0.45	0.45	



Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

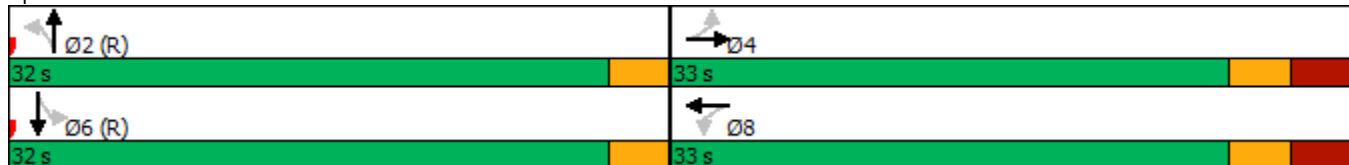


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.37			0.15		0.34	0.15		0.01	0.08	
Control Delay		11.3			11.9		14.5	5.7		10.0	4.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		11.3			11.9		14.5	5.7		10.0	4.8	
LOS		B			B		B	A		A	A	
Approach Delay		11.3			11.9			9.6			5.1	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		41			19		39	11		1	0	
Queue Length 95th (ft)		67			34		76	25		6	12	
Internal Link Dist (ft)		1203			541			713			891	
Turn Bay Length (ft)							85			100		
Base Capacity (vph)		1068			1113		465	1311		393	1255	
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		0.37			0.15		0.34	0.15		0.01	0.08	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.37
Intersection Signal Delay:	10.2
Intersection LOS:	B
Intersection Capacity Utilization:	63.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: 43rd Street & Racine Avenue



## Lanes, Volumes, Timings

### 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	0	4	48	3	13	3	97	48	5	32	0
Future Volume (vph)	0	0	4	48	3	13	3	97	48	5	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	10	12	12	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			0.99				
Frt		0.865			0.973			0.951				
Flt Protected					0.963			0.999			0.994	
Satd. Flow (prot)	0	1621	0	0	1706	0	0	2861	0	0	3008	0
Flt Permitted					0.840			0.953			0.928	
Satd. Flow (perm)	0	1621	0	0	1487	0	0	2729	0	0	2808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		923			19			72				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		647			585			971			935	
Travel Time (s)		14.7			13.3			22.1			21.3	
Confl. Peds. (#/hr)			1	1			4					4
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	6%	0%	8%	0%	12%	10%	0%	13%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)				0	0	0						
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	95	0	0	221	0	0	55	0
Turn Type		NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (%)	40.0%	40.0%		9.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Yellow Time (s)	3.5	3.5		3.0	3.0		3.0	3.0		3.5	3.5	
All-Red Time (s)	1.0	1.0		0.0	0.0		0.0	0.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			3.0			3.0			4.5	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		21.5			29.0			30.0			28.5	
Actuated g/C Ratio		0.33			0.45			0.46			0.44	

# Lanes, Volumes, Timings

## 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021

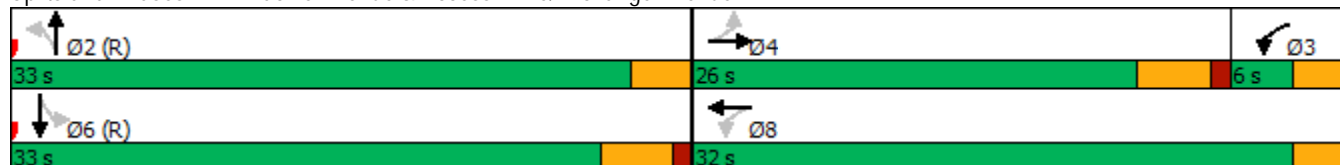


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.01			0.14			0.17				0.04
Control Delay		0.0			9.5			9.5				10.6
Queue Delay		0.0			0.0			0.0				0.0
Total Delay		0.0			9.5			9.5				10.6
LOS		A			A			A				B
Approach Delay					9.5			9.5				10.6
Approach LOS					A			A				B
Queue Length 50th (ft)		0			17			19				6
Queue Length 95th (ft)		0			28			23				11
Internal Link Dist (ft)		567			505			891				855
Turn Bay Length (ft)												
Base Capacity (vph)		1153			684			1298				1231
Starvation Cap Reductn		0			0			0				0
Spillback Cap Reductn		0			0			0				0
Storage Cap Reductn		0			0			0				0
Reduced v/c Ratio		0.01			0.14			0.17				0.04

### Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	21 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.17
Intersection Signal Delay:	9.5
Intersection LOS:	A
Intersection Capacity Utilization:	31.7%
ICU Level of Service:	A
Analysis Period (min):	15

### Splits and Phases: 2: Racine Avenue & Access Drive/Exchange Avenue



HCM 6th AWSC  
3: 43rd Street & Morgan Street

08/23/2021

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	162	56	75	41	48	84
Future Vol, veh/h	162	56	75	41	48	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	25	19	24	15	10
Mvmt Flow	176	61	82	45	52	91
Number of Lanes	1	1	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10	9.3	8.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	EBLn2	SBLn1
Vol Left, %	65%	100%	0%	0%
Vol Thru, %	35%	0%	0%	36%
Vol Right, %	0%	0%	100%	64%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	162	56	132
LT Vol	75	162	0	0
Through Vol	41	0	0	48
RT Vol	0	0	56	84
Lane Flow Rate	126	176	61	143
Geometry Grp	2	7	7	2
Degree of Util (X)	0.181	0.281	0.082	0.183
Departure Headway (Hd)	5.164	5.753	4.871	4.581
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	695	623	733	782
Service Time	3.198	3.497	2.615	2.613
HCM Lane V/C Ratio	0.181	0.283	0.083	0.183
HCM Control Delay	9.3	10.7	8.1	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.7	1.1	0.3	0.7

HCM 6th AWSC  
4: Morgan Street & Exchange Avenue

08/23/2021

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	23	0	85	82	41	0	57	135	5	61	16
Future Vol, veh/h	11	23	0	85	82	41	0	57	135	5	61	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	9	13	0	11	6	7	0	18	12	80	11	6
Mvmt Flow	12	26	0	94	91	46	0	63	150	6	68	18
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	8.6	10.1	9.4	10.3
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	32%	41%	6%
Vol Thru, %	30%	68%	39%	74%
Vol Right, %	70%	0%	20%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	192	34	208	82
LT Vol	0	11	85	5
Through Vol	57	23	82	61
RT Vol	135	0	41	16
Lane Flow Rate	213	38	231	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.273	0.054	0.313	0.154
Departure Headway (Hd)	4.6	5.193	4.869	6.091
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	685	735	587
Service Time	2.646	3.26	2.917	4.15
HCM Lane V/C Ratio	0.273	0.055	0.314	0.155
HCM Control Delay	9.4	8.6	10.1	10.3
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	1.1	0.2	1.3	0.5

Capacity Analysis Summary Sheets  
2027 Projected Weekday Evening Peak Hour Conditions

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	161	197	74	216	5	143	48	26	2	97	122
Future Volume (vph)	22	161	197	74	216	5	143	48	26	2	97	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	10	10	12	10	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	85		0	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			120			120		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99			1.00		1.00				0.99	
Frt		0.922			0.997			0.948			0.916	
Flt Protected		0.997			0.988		0.950			0.950		
Satd. Flow (prot)	0	2768	0	0	3059	0	1370	3194	0	1685	2747	0
Flt Permitted		0.921			0.760		0.599			0.700		
Satd. Flow (perm)	0	2557	0	0	2353	0	862	3194	0	1241	2747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		221			3			29			137	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1283			621			793			971	
Travel Time (s)		29.2			14.1			18.0			22.1	
Confl. Peds. (#/hr)			1	1			2					2
Confl. Bikes (#/hr)						2						1
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	14%	13%	17%	4%	15%	20%	23%	0%	0%	0%	7%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	427	0	0	332	0	161	83	0	2	246	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (s)	33.0	33.0		33.0	33.0		32.0	32.0		32.0	32.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0			6.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)		27.0			27.0		29.0	29.0		29.0	29.0	
Actuated g/C Ratio		0.42			0.42		0.45	0.45		0.45	0.45	

Lanes, Volumes, Timings  
1: 43rd Street & Racine Avenue

08/23/2021



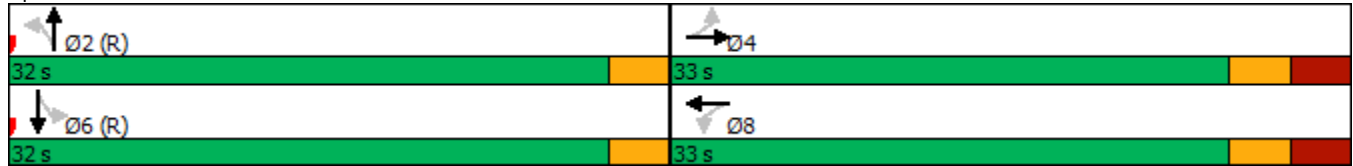
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.36			0.34		0.42	0.06		0.00	0.19	
Control Delay		7.0			14.0		16.5	7.5		9.0	3.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		7.0			14.0		16.5	7.5		9.0	3.9	
LOS		A			B		B	A		A	A	
Approach Delay		7.0			14.0			13.5			3.9	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)		26			44		41	5		0	0	
Queue Length 95th (ft)		52			72		87	16		m1	2	
Internal Link Dist (ft)		1203			541			713			891	
Turn Bay Length (ft)							85			100		
Base Capacity (vph)		1191			979		384	1441		553	1301	
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		0.36			0.34		0.42	0.06		0.00	0.19	

Intersection Summary

Area Type: Other  
 Cycle Length: 65  
 Actuated Cycle Length: 65  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 65  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.42  
 Intersection Signal Delay: 9.5  
 Intersection Capacity Utilization 65.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

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

Splits and Phases: 1: 43rd Street & Racine Avenue





## Lanes, Volumes, Timings

### 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	0	0	0	148	1	21	1	36	36	10	64	0
Future Volume (vph)	0	0	0	148	1	21	1	36	36	10	64	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	10	12	12	10	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor					1.00							
Frt					0.983			0.926				
Flt Protected					0.958						0.993	
Satd. Flow (prot)	0	1900	0	0	1586	0	0	2987	0	0	3066	0
Flt Permitted					0.763			0.954			0.927	
Satd. Flow (perm)	0	1900	0	0	1260	0	0	2850	0	0	2862	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					14			50				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		647			585			971				935
Travel Time (s)		14.7			13.3			22.1				21.3
Confl. Peds. (#/hr)			2	2								
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	13%	0%	29%	0%	3%	6%	10%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)				0	0	0						
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	236	0	0	101	0	0	103	0
Turn Type				pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (s)	26.0	26.0		6.0	32.0		33.0	33.0		33.0	33.0	
Total Split (%)	40.0%	40.0%		9.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Yellow Time (s)	3.5	3.5		3.0	3.0		3.0	3.0		3.5	3.5	
All-Red Time (s)	1.0	1.0		0.0	0.0		0.0	0.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.5			3.0			3.0			4.5	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Act Effect Green (s)					29.0			30.0			28.5	
Actuated g/C Ratio					0.45			0.46			0.44	

# Lanes, Volumes, Timings

## 2: Racine Avenue & Access Drive/Exchange Avenue

08/23/2021

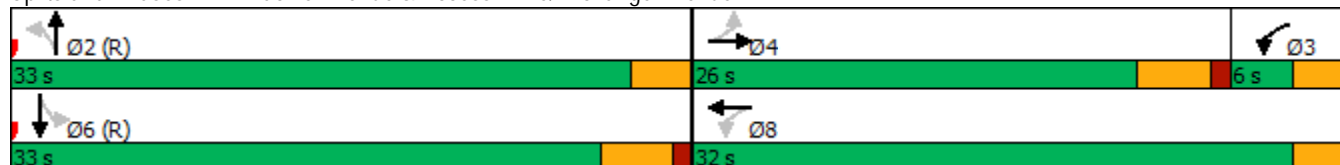


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio					0.40			0.08			0.08	
Control Delay					14.1			5.2			10.9	
Queue Delay					0.0			0.0			0.0	
Total Delay					14.1			5.2			10.9	
LOS					B			A			B	
Approach Delay					14.1			5.2			10.9	
Approach LOS					B			A			B	
Queue Length 50th (ft)					54			3			12	
Queue Length 95th (ft)					74			8			19	
Internal Link Dist (ft)		567			505			891			855	
Turn Bay Length (ft)												
Base Capacity (vph)					584			1342			1254	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.40			0.08			0.08	

### Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	21 (32%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	11.3
Intersection LOS:	B
Intersection Capacity Utilization:	29.8%
ICU Level of Service:	A
Analysis Period (min):	15

### Splits and Phases: 2: Racine Avenue & Access Drive/Exchange Avenue



HCM 6th TWSC  
5: 43rd Street & West Site Access Drive

08/23/2021

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	4	205	223	0	1	22
Future Vol, veh/h	4	205	223	0	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	25	10	14	0	100	18
Mvmt Flow	4	216	235	0	1	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	235	0	0	351	118
Stage 1	-	-	-	235	-
Stage 2	-	-	-	116	-
Critical Hdwy	4.6	-	-	8.8	7.26
Critical Hdwy Stg 1	-	-	-	7.8	-
Critical Hdwy Stg 2	-	-	-	7.8	-
Follow-up Hdwy	2.45	-	-	4.5	3.48
Pot Cap-1 Maneuver	1178	-	-	419	863
Stage 1	-	-	-	555	-
Stage 2	-	-	-	668	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1178	-	-	417	863
Mov Cap-2 Maneuver	-	-	-	417	-
Stage 1	-	-	-	553	-
Stage 2	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1178	-	-	-	825
HCM Lane V/C Ratio	0.004	-	-	-	0.029
HCM Control Delay (s)	8.1	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC  
6: 43rd Street & East Site Access Drive

08/23/2021

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	3	203	206	1	6	17
Future Vol, veh/h	3	203	206	1	6	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	10	16	0	0	0
Mvmt Flow	3	214	217	1	6	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	218	0	0	331	109
Stage 1	-	-	-	218	-
Stage 2	-	-	-	113	-
Critical Hdwy	4.1	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1364	-	-	644	930
Stage 1	-	-	-	803	-
Stage 2	-	-	-	905	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1364	-	-	643	930
Mov Cap-2 Maneuver	-	-	-	643	-
Stage 1	-	-	-	801	-
Stage 2	-	-	-	905	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	833
HCM Lane V/C Ratio	0.002	-	-	-	0.029
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC  
7: West Site Access & Exchange Avenue

08/23/2021

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	0	0	159	0	2
Future Vol, veh/h	69	0	0	159	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	4	0	0	12	0	100
Mvmt Flow	73	0	0	167	0	2

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	73	0	240
Stage 1	-	-	-	-	73
Stage 2	-	-	-	-	167
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1540	-	753
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	867
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1540	-	753
Mov Cap-2 Maneuver	-	-	-	-	753
Stage 1	-	-	-	-	955
Stage 2	-	-	-	-	867

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	773	-	-	1540	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s)	9.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC  
8: East Site Access Drive & Exchange Avenue

08/23/2021

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	1	2	156	3	20
Future Vol, veh/h	70	1	2	156	3	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	0	0	12	0	0
Mvmt Flow	74	1	2	164	3	21

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	75	0	243
Stage 1	-	-	-	-	75
Stage 2	-	-	-	-	168
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1537	-	750
Stage 1	-	-	-	-	953
Stage 2	-	-	-	-	867
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1537	-	749
Mov Cap-2 Maneuver	-	-	-	-	749
Stage 1	-	-	-	-	953
Stage 2	-	-	-	-	866

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	952	-	-	1537	-
HCM Lane V/C Ratio	0.025	-	-	0.001	-
HCM Control Delay (s)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-