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TRAFFIC IMPACT STUDY:

5501 WEST GRAND AVENUE
CHICAGO, ILLINOIS

EDI# 2083.001

Prepared By: Jeffrey T. Snape, PE, LEED-AP
Environmental Design International inc.

Prepared For:
Illinois Tool Works, Inc.

Date Prepared: February 7, 2024
Date Revised:

ENVIRONMENTAL DESIGN INTERNATIONAL INC., IL LICENSE NO. 184-001224-0010

EXECUTIVE SUMMARY

Environmental Design International inc. (EDI) was retained by Illinois Tool Works, Inc. to perform a Traffic Impact Study (TIS) for their redevelopment of the existing industrial buildings located at 5401-5501 W. Grand Avenue, Chicago. The purpose of this study is to determine the existing and anticipated traffic volumes and conditions, assess the impact of proposed development on the existing condition, and to determine any improvements that may be necessary in order to satisfy the requirements of the City of Chicago Air Quality Ordinance. Upon completion, this study is to be utilized to prepare an Air Quality Impact Study (AGIS).

Upon review of existing and projected future traffic conditions, development of the site at 5501 W. Grand Avenue is expected to have little to no adverse impact on the studied intersections, which are expected to operate at a similar Level of Service (LOS) as in the existing condition. The existing roadway network is sufficient to accommodate the proposed development. No off-site improvements are recommended.

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INTRODUCTION

Project Background

Illinois Tool Works, Inc. proposes to redevelop the existing building at 5501 W. Grand Avenue into a blending and bottling facility. The existing property is zoned as Planned Manufacturing. The main building at 5501 W. Grand Avenue is approximately 93,000 square feet and is currently vacant. Approximately half of the square footage will be redeveloped for use. No immediate or future improvements are currently planned for the building at 5401 W. Grand Avenue, which is also vacant. As such, the remainder of this study shall concern 5501 W. Grand Avenue.

The subject property is accessible via three full-access driveways to Grand Avenue. It is proposed that existing access shall be maintained in the proposed condition. **Exhibit 1** provides an aerial of the subject property and surrounding area.

Purpose of Report and Study Objectives

The following study analyzes the existing roadway network, including three nearby signalized intersections. Traffic counts were conducted so that existing traffic volumes and capacity at each intersection could be determined. Site trip generation was estimated for the proposed development utilizing the current edition of the ITE Trip Generation Manual and Owner estimates to determine impacts on the surrounding roadway network and intersections. The remainder of the report presents this data and the associated findings.

EXHIBIT 1: SITE LOCATION AERIAL

EXISTING CONDITIONS

Analysis of the existing transportation network is based upon review of aerial imagery, available GIS data and mapping, site visits, and traffic counts performed for this study.

Site Location & Description

5501 W. Grand Avenue is located on the south side of W. Grand Avenue between Central Avenue and Long Avenue. The site includes one building and three parking lots, two for passenger vehicles and one designated for truck traffic. Each of the three parking lots is accessible by a dedicated full-access entrance, providing three access points to 5501 W. Grand Avenue in total. The truck parking lot includes nine (9) loading docks located on the west side of the subject building.

The site is bordered to the west by a City of Chicago Police Department and Circuit Court. To the north is the Charles Allen Prosser Career Academy High School. To the east is the Noble - ITW David Speer Academy. To the south is a rail line owned by the Northeast Illinois Regional Commuter Rail Corporation, or Metra. In addition to the above schools, Dr. Jorge Prieto Math and Science is located on Central Avenue approximately 800 feet north of Grand Avenue.

Existing Roadway Network

All studied roadways are under the jurisdiction of the City of Chicago.

West Grand Avenue is a two-way, two-lane, northwest-southeast street under a 30 miles per hour (MPH) speed limit that runs along the north frontage of the subject property. For the extent of the site, the street is also signed for a 20 MPH school zone speed limit “on school days when children are present.” The roadway is a Major Collector with one lane of travel in each direction, a center striped median, and dedicated bicycle lanes in each direction adjacent the curb line and separated from the vehicle lanes by a striped median. There is no parking allowed between Central Avenue and Long Avenue.

Central Avenue is a two-way, four-lane, north-south street under a 30 MPH speed limit. The roadway is a Minor Arterial with two lanes of travel in each direction. Central Avenue intersects with W. Grand Avenue under signalized control west of the subject property. At the intersection, W. Grand Avenue has one thru lane, one left turn lane, and one right turn lane with sharrow pavement markings on both

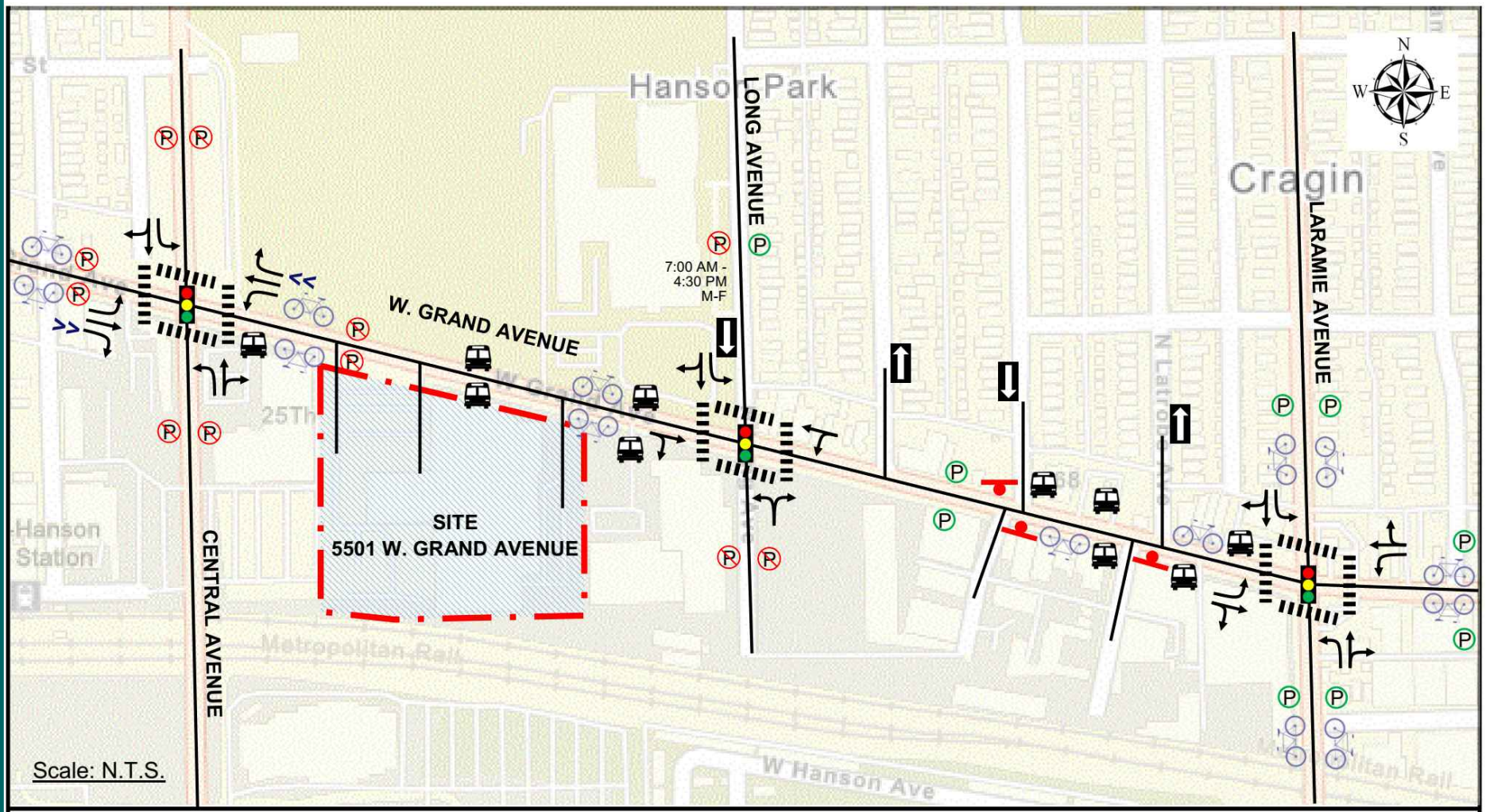
the east and west sides of the intersection. Central Avenue has two thru lanes and one left turn lane on both the north and south sides of the intersection. There are signalized pedestrian crossings at all quadrants and crosswalks over all street approaches.

Long Avenue is a north-south local street located east of the subject property. The south leg of Long Avenue is a two-lane, two-way road with off-street parking on either side that ends in a cul-de-sac one block south at the Metra rail line. The north leg of Long Avenue is a two-lane, one-way road with southbound only traffic. On the north leg, parking is allowed on the east and west sides of the road; however, the west side is signed “No Parking” during school days between 7am and 4:30pm. Long Avenue intersections W. Grand Avenue under signalized control. The west leg of W. Grand Avenue has one shared thru-right lane, and the east leg has one shared thru-left lane. The north leg of Long Avenue has one shared thru-right lane and one dedicated left turn lane. The south leg of Long Avenue has one shared left-right turn lane. There are signalized pedestrian crossings at all quadrants and crosswalks over all street approaches.

Laramie Road is a two-lane, two-way north-south street located 0.25 miles east of Long Avenue. Laramie Road is a Major Collector and intersects W. Grand Avenue under signalized control. All approaches at the intersection have shared thru-right lanes, dedicated left turn lanes, and separated striped bicycle lanes. The north leg of Laramie Road has a 30 MPH speed limit and the south leg has a 20 MPH speed limit. There are signalized pedestrian crossings at all quadrants and crosswalks over all street approaches.

There are three **Minor Streets** that intersect W. Grand Avenue between Long Avenue and Laramie Road. Each is a one-lane, one-way local street with parking on both sides of the street. From west to east starting at Long Avenue, Lorel Avenue is one-way northbound, Lockwood Avenue is one-way southbound under one-way stop control, and Latrobe Avenue is one-way northbound. These streets are not considered significant to the study.

Exhibit 2 provides a summary of the existing roadway network.



LEGEND

- SIGNALIZED INTERSECTION
- TRAVEL LANE
- BUS STOP
- BICYCLE LANE
- ON-STREET PARKING
- NO PARKING
- HIGH VISIBILITY CROSSWALK
- SHARROW
- ONE-WAY
- STOP SIGN

Environmental Design International inc.

EXHIBIT 2
EXISTING ROADWAY CHARACTERISTICS
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024

Public Transportation

The roadway network shown above is served by the following CTA bus routes:

Route 65 Grand: provides bus service along Grand Avenue from Nordica Avenue to Navy Pier. Key stops include those serving the CTA Red line and Blue Line, and Metra stations at Western Avenue and Cicero Avenue. Within the area of interest are eastbound stops on W. Grand Avenue at Central Avenue, Long Avenue (EB only), Lockwood Avenue (WB only), Latrobe Avenue, Laramie Avenue, and EB and WB stops at 5501 W. Grand Avenue directly in front of the subject property, and a WB only stop in front of 5401 W. Grand Avenue.

Route 73 Armitage: provides bus service from Grand Avenue at Latrobe Avenue east along Armitage Avenue to the Chicago History Museum at Clark and LaSalle. Key stops include those serving the CTA Purple and Brown Lines and Blue Line, and Union Station. Within the area of interest are stops on W. Grand Avenue at Latrobe Avenue and Laramie Avenue.

Route 57 Laramie: provides bus service from Grant Avenue at Latrobe Avenue east to Laramie Avenue and the south. Key stops include those serving the Green Line, Blue Line, and Clark High School. Within the study area are stops at Latrobe Avenue and Laramie Avenue.

There are no CTA Rapid Transit or Pulse Lines within the study area.

Alternate Modes of Transportation

Pedestrian Accommodations: sidewalks are provided on both sides of W. Grand Avenue at the subject property and along the entire study area. High visibility crosswalk striping is also present at most intersections within the study area.

Bicycle Accommodations: dedicated bicycle lanes are provided along W. Grand Avenue for the entire study area from west of Central Avenue to east of Laramie Avenue. There are also dedicated bicycle lanes along both sides of Laramie Avenue north and south of Grand Avenue. Adjacent the subject property at 5501 W. Grand Avenue, the bicycle lanes are separated from traffic by striped medians. At the intersection with Central Avenue, sharrow pavement markings are present in the EB and WB Grand Avenue right turn lanes.

Existing Traffic Volumes

Full vehicle, pedestrian, and bicycle counts with turning movements and vehicle classification were conducted at the following intersections:

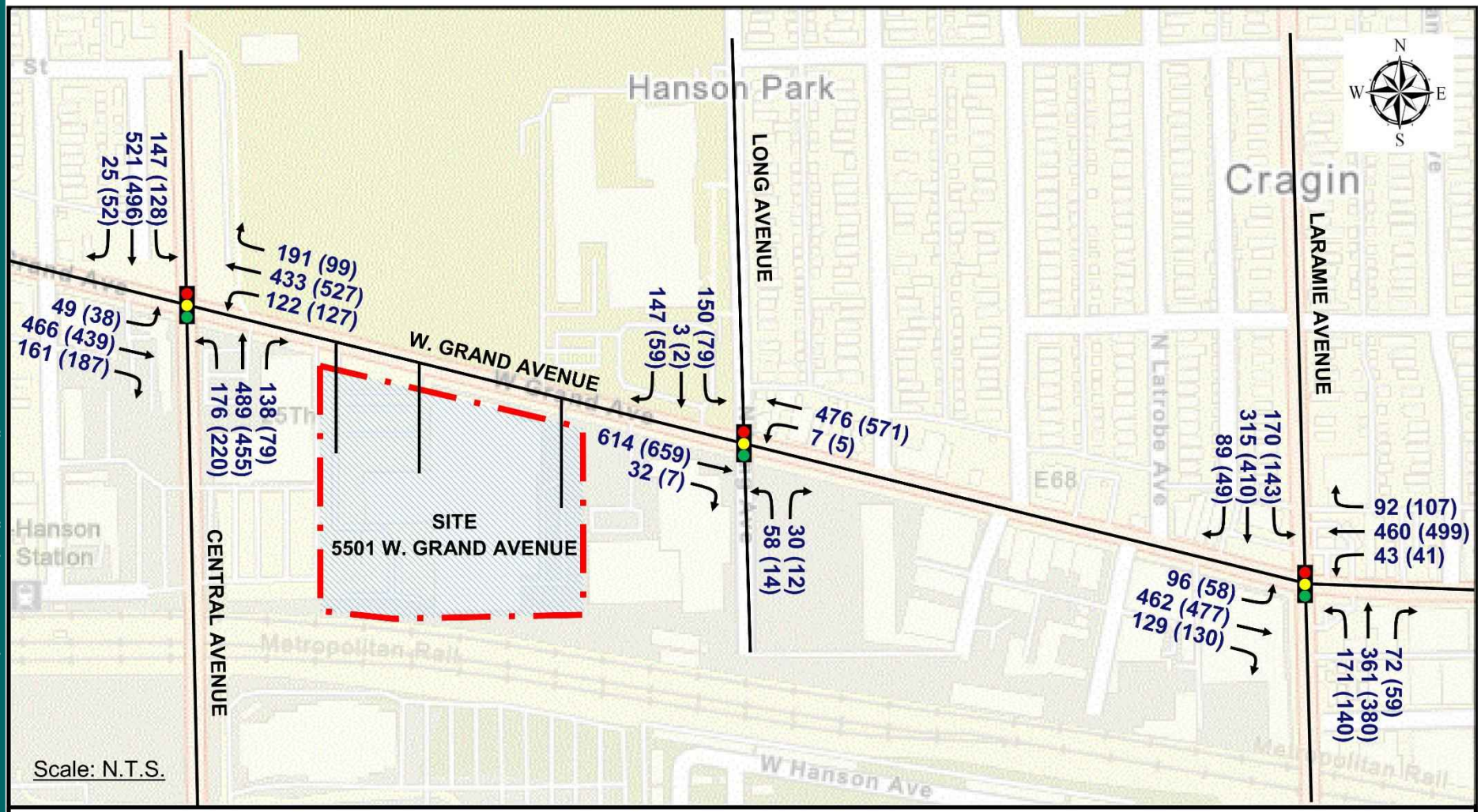
1. W. Grand Avenue at Central Avenue
2. W. Grand Avenue at Long Avenue
3. W. Grand Avenue at Laramie Avenue

A memorandum detailing the scope of the Traffic Impact Study and proposed study area was sent to CDOT on August 22, 2022. CDOT provided concurrence of the study area via email response on September 26, 2023 (see **Appendix 1**).

Traffic counts were performed to obtain the peak morning and evening volumes. Given the presence of several schools within the study limits, counts were conducted from 6:00 AM to 9:00 AM, and from 3:00 PM to 6:00 PM. Counts were conducted between Tuesday, December 12, 2023 and Wednesday, December 20, 2023, to capture the typical weekday peak traffic while local schools were in session. The peak hours occurred between:

- Morning: 7:30 AM to 8:30 AM
- Evening: 3:15 PM to 5:45 PM (varied by intersection)

Existing vehicular traffic volumes are summaries on **Exhibit 3**, while pedestrian and bicycle traffic is summarized on **Exhibit 4**. See **Appendix 2** for raw traffic count data.



LEGEND

00 AM WEEKDAY PEAK HOUR, 7:30 AM - 8:30 AM

(00) PM WEEKDAY PEAK HOUR, (3:45 PM - 4:45 PM @ CENTRAL, 4:45 PM - 5:45 PM @ LONG, 3:15 PM - 4:15 PM @ LARAMIE)

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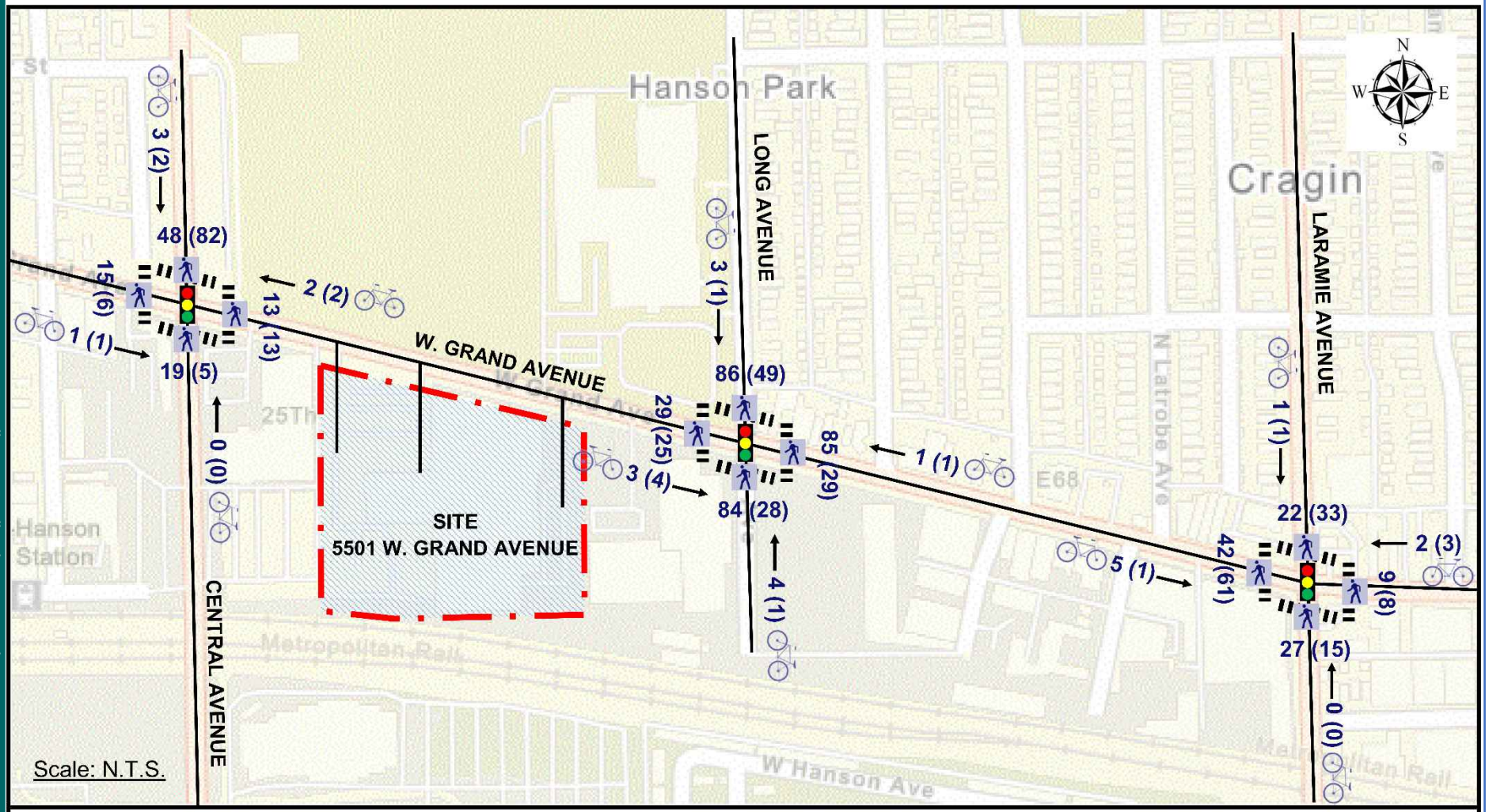
EXHIBIT 3
EXISTING VEHICULAR TRAFFIC VOLUMES (2023)
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024



LEGEND

00 AM WEEKDAY PEAK HOUR, 7:30 AM - 8:30 AM

(00) PM WEEKDAY PEAK HOUR, (3:45 PM - 4:45 PM @ CENTRAL, 4:45 PM - 5:45 PM @ LONG, 3:15 PM - 4:15 PM @ LARAMIE)

0 (0) PEDESTRIAN VOLUME

← 0 (0) BICYCLE VOLUME

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EXHIBIT 4
EXISTING PEDESTRIAN & BICYCLE TRAFFIC VOLUMES (2023)
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024

PROPOSED DEVELOPMENT

To determine the impact of the proposed development, projected traffic volumes, classifications, and directional distribution if traffic was determined.

Proposed Site Plan

The existing building at 5501 W. Grand Avenue is proposed to be redeveloped for use as a mixing and bottling facility. The existing building is approximately 93,000 square feet and approximately half of the square footage will be converted for use with no immediate plans for expansion. There are no planned modifications to site access points or parking facilities.

Project Phasing and Estimate Time Schedule

The facility is proposed to be in-use in 2024. There are no phasing plans as the facility at 5501 W. Grand Avenue is proposed to be fully operational, while no plans are currently in place to utilize the buildings at 5401 W. Grand Avenue. The existing property is not currently in use.

Proposed Lane Use and Intensity

Based on information provided by the Owner, Illinois Tool Works, Inc., projected total traffic volumes (ingress and egress), are as follows:

- 20-25 employees per day
- 5-10 single unit (SU)trucks per day
- 12-15 multi-unit (MU) trucks per day

Employees will use the two drive entrances to passenger car parking lots, and both SU and MU vehicles will utilize the westernmost access point to the truck parking lot and loading dock. The total number of 161 parking stalls is greater than the anticipated need.

Site Access Locations

The existing site access and parking facilities are proposed to remain in their current configuration. Access points are detailed on **Exhibit 5** and below:

- One full access driveway west of the building to a passenger car parking lot with 99 parking stalls for employee use.
- One full access driveway east of the building to the front entrance and a passenger car parking lot with 62 parking stalls, including 4 handicap accessible stalls.
- One full access driveway along the west property line to a truck parking lot with nine (9) loading docks located on the west wall of 5501 W. Grand Avenue.

The primary pedestrian entrance is located on the east side of the building, near the easternmost access drive.

EXHIBIT 5: SITE AERIAL & ACCESS LOCATIONS

FUTURE TRAFFIC

Non-Site Traffic from Developments within Study Area

There are no known proposed developments within the study area.

Background Traffic Growth

For purposes of this study, the CDOT standard growth rate of 0.5% for vehicular traffic and 2% for pedestrian and bicycle traffic was utilized. The future background traffic volumes, or “no build” traffic volumes, for the projected year of development of 2024 are presented in **Exhibit 6**.

Projected Site Traffic

Proposed traffic generated by the subject property was estimated from the ITE Trip Generation Manual, 11th edition and from estimates and information provided by the Owner. For the purposes of evaluating the site, it is assumed that the previously mentioned 25 employees will arrive during the morning peak hour and will depart during the evening peak hour. Single unit and multi-unit trucks are anticipated to arrive and depart evenly over the course of normal business hours (one SU vehicle per hour and two MU vehicles inbound and outbound per hour). The facility will have no customers, and no visitors are anticipated. Some employee trips may be made by alternative modes of transportation, such as by public transportation, bicycle, or walking; however, to provide a more conservative analysis, no reduction was made to estimated vehicle traffic generated.

The estimated site traffic was compared to data from the ITE Trip Generation Manual, 11th edition and a site classification of 140 – Industrial, Manufacturing (see **Appendix 3**). Due to the nature of the facility as a blending and bottling plant, the number of employees is anticipated to be lower than traditional manufacturing. ITE Trip Generation tables were therefore based upon the total number of employees, rather than the square footage of the facility.

A comparison of the site generated traffic from the two methods, owner estimates and ITE Lane Use 140, is summarized in **Table 1**.

Table 1: Projected Peak Hour Site Generated Traffic

Land Use	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily, 24-Hr Two-Way Trips
	In	Out	Total	In	Out	Total	
Current Lane Use (Vacant)	0	0	0	0	0	0	0
Mixing & Bottling Facility (Owner's Est.)							
Passenger Vehicles	25	0	25	0	25	25	50
Trucks	3	3	6	3	3	6	12
Total	28	3	31	3	28	31	62
ITE Lane-Use Code 140 (Manufacturing)							
Passenger Vehicles	8	2	10	4	5	9	52
Trucks	0	0	0	0	1	1	9
Total	8	2	10	4	6	10	63

Given that owner estimates of projected *peak hour* site traffic exceed those from the ITE Trip Generation Manual, the owner estimates shall be used for all future analysis to provide a more conservative estimate of the impact of the development.

Trip Distribution

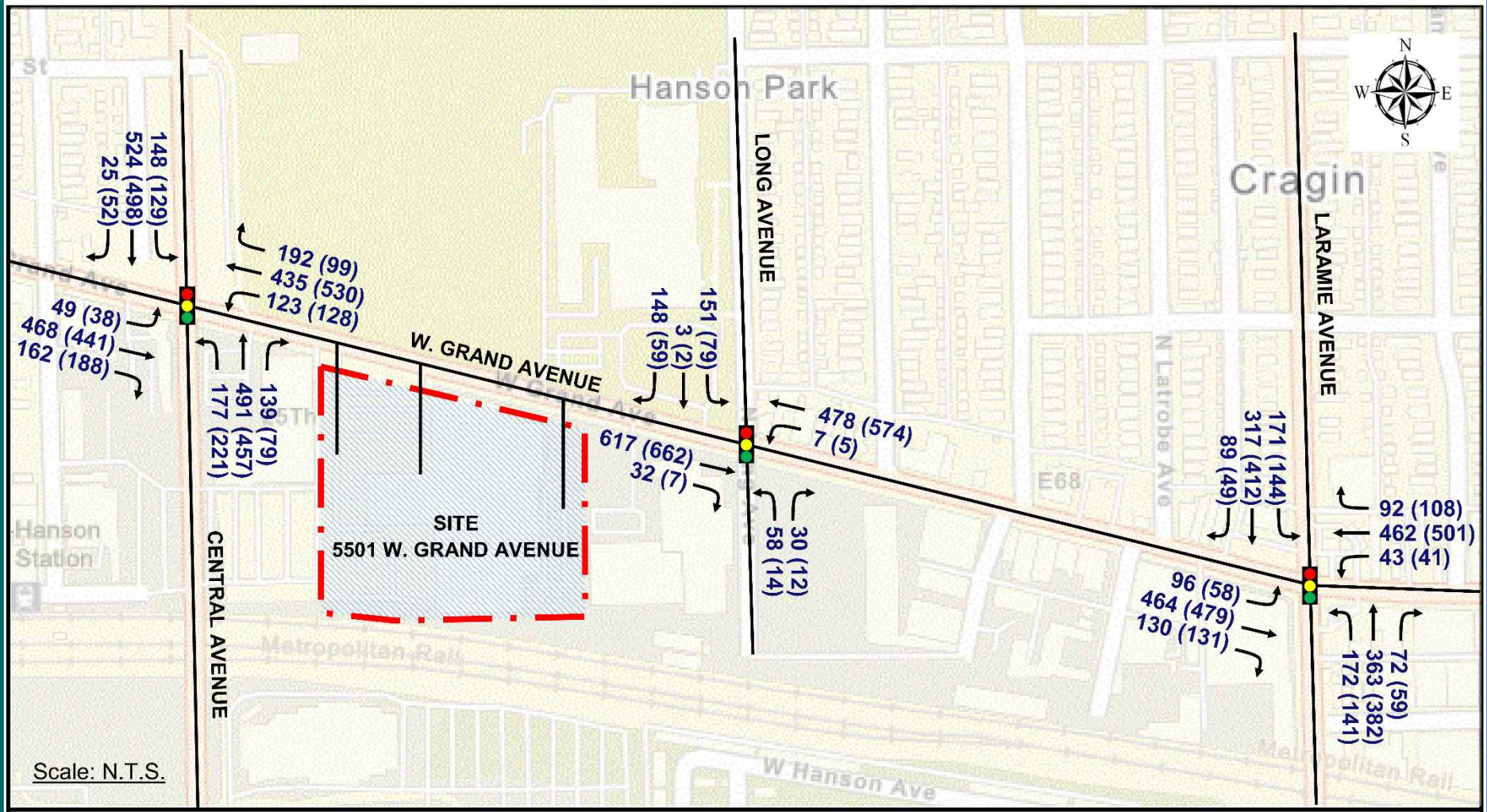
The direction of travel that employees and truck deliveries will approach and depart from the site are estimated from existing travel patterns as determined by the traffic counts (see **Appendix 2**). The directional distribution of traffic is summarized in **Table 2**, below, and **Exhibit 7**.

Table 2: Distribution of Traffic

Route	Toward / From	Estimated Trip Distribution
W. Grand Avenue	Central Avenue	50%
W. Grand Avenue	Long Avenue	50%*
W. Grand Avenue	Laramie Avenue	50%

*Long Ave. is local traffic only. All traffic west of the site is projected to pass through Long Ave. from/to Laramie Ave.

Exhibit 8 presents the facility generated traffic after assignment to the street network according to the above trip distribution.



LEGEND

00 AM WEEKDAY PEAK HOUR, 7:30 AM - 8:30 AM

(00) PM WEEKDAY PEAK HOUR, (3:45 PM - 4:45 PM @ CENTRAL, 4:45 PM - 5:45 PM @ LONG, 3:15 PM - 4:15 PM @ LARAMIE)

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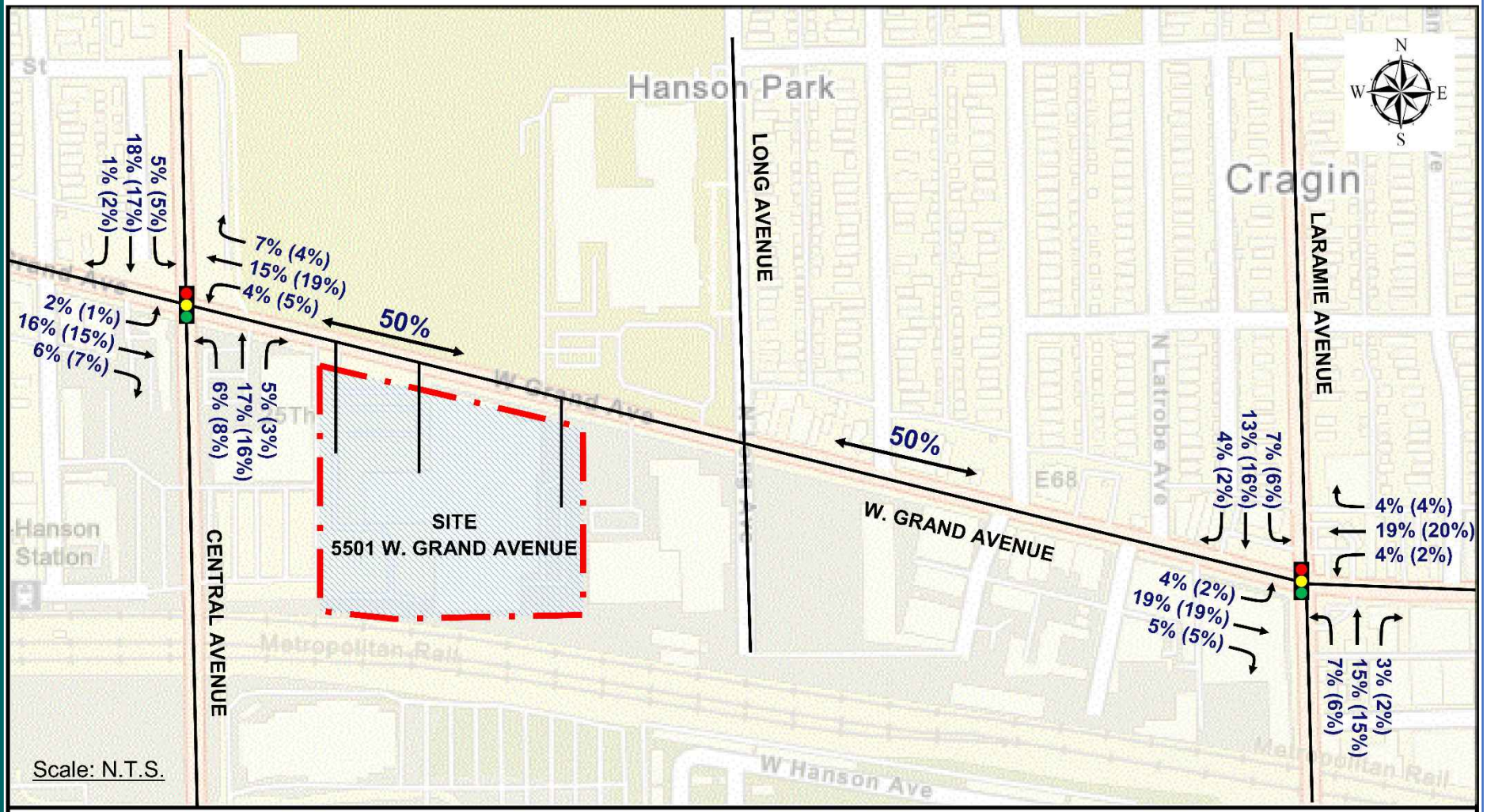
EXHIBIT 6
PROJECTED BACKGROUND (NO BUILD)
TRAFFIC VOLUMES (2024)
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024



LEGEND

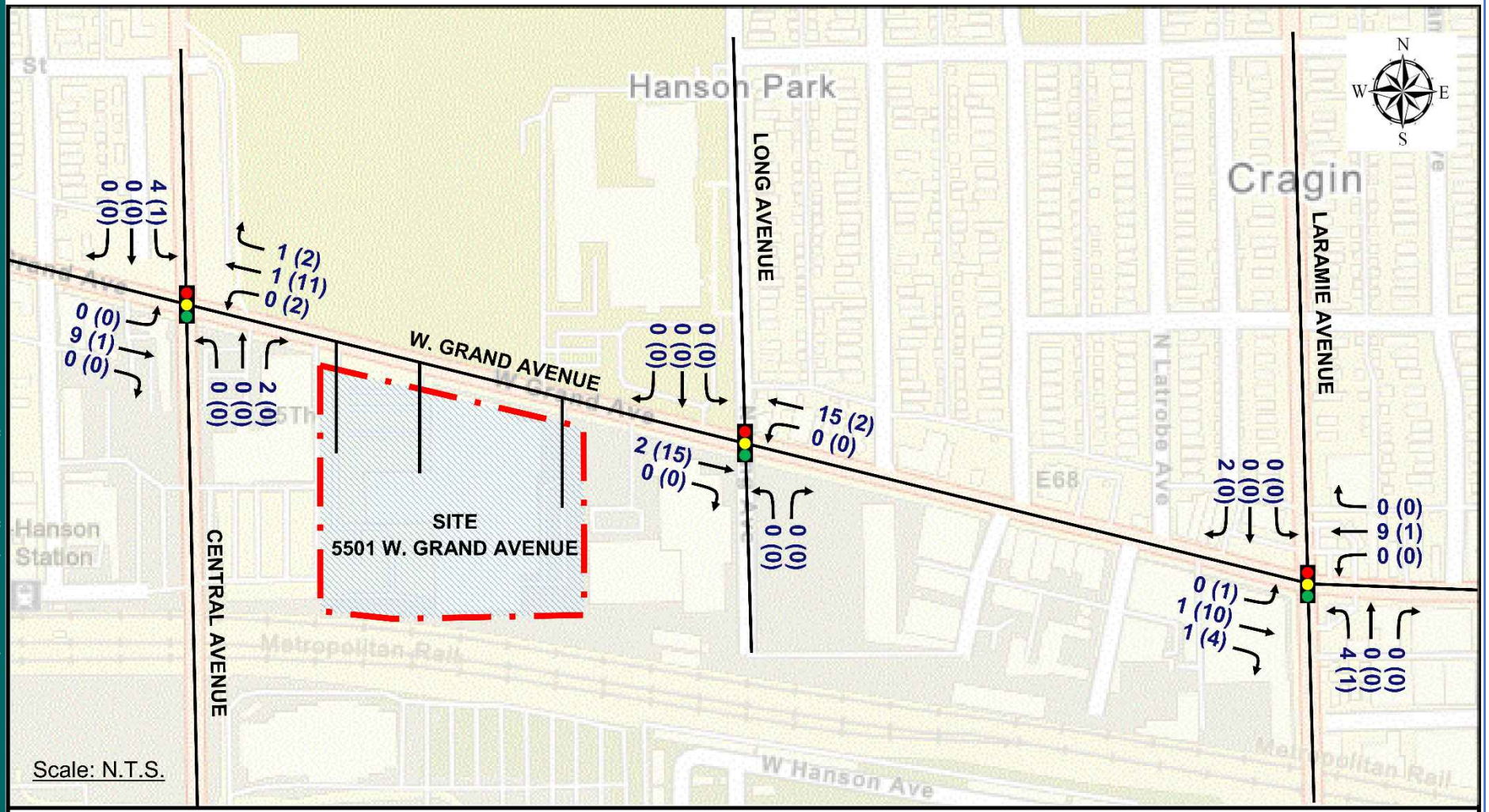
00% % MAINLINE DISTRIBUTION OF TRAFFIC

00% (00%)
00% (00%)
00% (00%)
% INTERSECTION DISTRIBUTION OF TRAFFIC, AM (PM)

Environmental Design International inc.

EXHIBIT 7
DIRECTIONAL DISTRIBUTION OF TRAFFIC
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024



LEGEND

00 AM WEEKDAY PEAK HOUR, 7:30 AM - 8:30 AM

(00) PM WEEKDAY PEAK HOUR, (3:45 PM - 4:45 PM @ CENTRAL, 4:45 PM - 5:45 PM @ LONG, 3:15 PM - 4:15 PM @ LARAMIE)

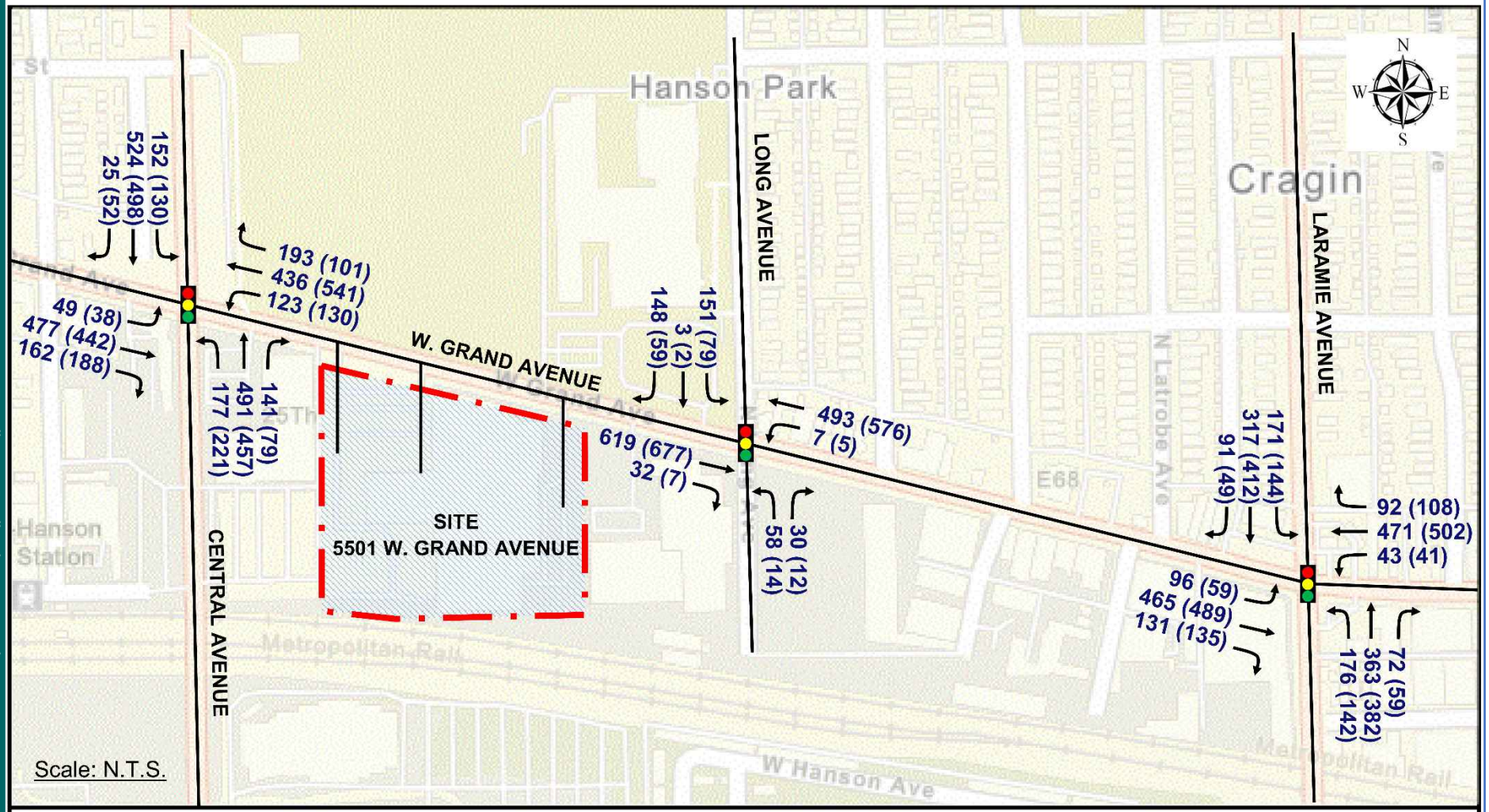
Environmental Design International inc.

EXHIBIT 8
SITE GENERATED TRAFFIC (2024)
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024

Total Future Traffic Volume

The projected future traffic generated by the facility (Exhibit 8), and the projected future background traffic for the full build start date of 2024 (Exhibit 6) are combined on **Exhibit 9** to present the total anticipated traffic over the roadways and intersections within the study area. Additional analyses will compare the 2024 No-Build (Exhibit 6) and the 2024 Total Projected Traffic (Exhibit 9) to determine the effect of the proposed development on the area.



LEGEND

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(00) PM WEEKDAY PEAK HOUR, (3:45 PM - 4:45 PM @ CENTRAL, 4:45 PM - 5:45 PM @ LONG, 3:15 PM - 4:15 PM @ LARAMIE)

Environmental Design International inc.

EXHIBIT 9
TOTAL PROJECTED TRAFFIC
(SITE & BACKGROUND) (2024)
5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC.
EDI #2083.001
FEBRUARY 2024

TRAFFIC ANALYSIS

To evaluate the effect of the site development on the surrounding traffic network, capacity analyses were completed for the three major intersections within the project study limits:

- W. Grand Avenue at Central Avenue
- W. Grand Avenue at Long Avenue
- W. Grand Avenue at Laramie Avenue

Capacity calculations analyzed the weekday morning and evening peak travel hours. Analysis was performed for the following conditions:

- Existing 2023 Background Traffic – existing peak traffic based on current traffic counts.
- Future 2024 No-Build Traffic – projected background traffic at the time of operation, excluding site generated traffic.
- Future 2024 Projected Traffic – total future traffic at the time of operation, including background and site generated traffic.

Analyses were performed using Synchro Studio 11, released by Cubic Transportation Systems and based on the methodologies of the *Highway Capacity Manual, (HCM), 6th Edition*. Results and comparisons are presented in **Tables 3-5**, below.

Table 3: Capacity Analysis Results – W. Grand Avenue at Central Avenue

	Approach	2023 Existing Background Traffic		2024 No Build Future Traffic		2024 Total Projected Traffic	
		LOS	Delay	LOS	Delay	LOS	Delay
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	C	25.0	C	27.9	C	28.8
	W. Grand Ave. Westbound	B	19.0	C	20.4	C	20.4
	Central Ave. Northbound	C	21.4	C	20.9	C	21.0
	Central Ave. Southbound	C	21.2	C	21.5	C	21.6
	Overall	C	21.6	C	22.5	C	22.8
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	C	21.4	C	21.5	C	21.6
	W. Grand Ave. Westbound	C	24.2	C	24.5	C	25.3
	Central Ave. Northbound	C	25.1	C	25.4	C	25.4
	Central Ave. Southbound	C	21.6	C	21.7	C	21.7
	Overall	C	23.2	C	23.4	C	23.6

Table 4: Capacity Analysis Results – W. Grand Avenue at Long Avenue

	Approach	2023 Existing Background Traffic		2024 No Build Future Traffic		2024 Total Projected Traffic	
		LOS	Delay	LOS	Delay	LOS	Delay
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	B	16.2	B	16.3	B	16.4
	W. Grand Ave. Westbound	B	11.7	B	11.8	B	12.1
	Long Ave. Northbound	B	12.3	B	12.3	B	12.3
	Long Ave. Southbound	B	13.1	B	13.2	B	13.2
	Overall	B	13.9	B	14.0	B	14.2
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	B	13.0	B	13.0	B	12.9
	W. Grand Ave. Westbound	B	11.5	B	11.5	B	11.0
	Long Ave. Northbound	A	8.2	A	8.2	A	8.3
	Long Ave. Southbound	B	12.8	B	12.8	B	13.1
	Overall	B	12.3	B	12.3	B	12.0

Table 5: Capacity Analysis Results – W. Grand Avenue at Laramie Avenue

	Approach	2023 Existing Background Traffic		2024 No Build Future Traffic		2024 Total Projected Traffic	
		LOS	Delay	LOS	Delay	LOS	Delay
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	D	37.8	D	38.3	D	39.7
	W. Grand Ave. Westbound	C	26.2	C	26.3	C	27.2
	Laramie Ave. Northbound	C	31.8	C	32.3	C	32.5
	Laramie Ave. Southbound	C	30.1	C	30.5	C	30.7
	Overall	C	31.7	C	32.1	C	32.8
Weekday Morning Peak Hour	W. Grand Ave. Eastbound	D	38.3	D	38.8	D	41.1
	W. Grand Ave. Westbound	C	33.3	C	33.9	C	33.2
	Laramie Ave. Northbound	C	30.2	C	30.6	C	30.9
	Laramie Ave. Southbound	C	33.4	C	33.7	C	34.0
	Overall	C	33.9	C	34.4	C	35.0

Findings and Recommendations

Full analysis of individual movements is available in **Appendix 4**. Below is a summary of each intersection's models, how the intersection will operate under the proposed development conditions, and any traffic control or geometric improvements recommended to accommodate the increase in traffic from development.

W. Grand Avenue at Central Avenue

In the present-day condition, the overall intersection operates at a Level of Service (LOS) of C for both the weekday morning peak hour and the evening peak hour. All approaches operate at an LOS of C or better.

In the proposed, future development condition, the existing Level of Service is maintained for both the weekday morning peak hour (LOS of C) and the evening peak hour (LOS of C). In addition, each approach retains an LOS of C or greater. Compared to the 2024 No Build scenario, the largest increase in delay is 0.9 seconds to a single approach (eastbound W. Grand Avenue in the AM Peak) and 0.3 seconds for the overall intersection (AM Peak).

Development activities are not found to have an appreciable effect on the operation of the intersection and no improvements are necessary to accommodate the proposed future use of the property.

W. Grand Avenue at Long Avenue

In the present-day condition, the overall intersection operates at a Level of Service (LOS) of B for both the weekday morning peak hour and the evening peak hour. All approaches operate at an LOS of B or better.

In the proposed, future development condition, the existing Level of Service is maintained for both the weekday morning peak hour (LOS of B) and the evening peak hour (LOS of B). In addition, each approach retains an LOS of B or greater. Compared to the 2024 No Build scenario, the largest increase in delay is 0.3 seconds to a single approach (westbound W. Grand Avenue in the AM Peak) and 0.2 seconds for the overall intersection (AM Peak).

Development activities are not found to have an appreciable effect on the operation of the intersection and no improvements are necessary to accommodate the proposed future use of the property.

W. Grand Avenue at Laramie Avenue

In the present-day condition, the overall intersection operates at a Level of Service (LOS) of C for both the weekday morning peak hour and the evening peak hour. The eastbound approach of W. Grand Avenue has an LOS of D, while all other approaches operate at an LOS of C.

In the proposed, future development condition, the existing Level of Service is maintained for both the weekday morning peak hour (LOS of C) and the evening peak hour (LOS of C). In addition, each approach retains the same LOS as in the 2023 Existing Traffic Condition. Compared to the 2024 No Build scenario, the largest increase in delay is 2.3 seconds to a single approach (eastbound W. Grand Avenue in the PM Peak) and 0.7 seconds for the overall intersection (AM Peak).

Development activities are not found to have an appreciable effect on the operation of the intersection and no improvements are necessary to accommodate the proposed future use of the property.

CONCLUSION

- The existing street network, including intersections within the study area, is sufficient to accommodate both the existing traffic and the proposed traffic that will be generated by the site redevelopment.
- The existing parking lots, including the truck parking and loading dock zone, are sufficient for all anticipated traffic, including truck traffic.
- Proposed site redevelopment will not result in a decrease in the level of service of intersections or approaches for any of the three nearby signalized intersections.

APPENDICES

Appendix 1 – CDOT Concurrence of Traffic Study Area & Trip Generation

Appendix 2 – Raw Traffic County Summary Data

Appendix 3 – ITE Trip Generation, Land Use 140 – Industrial, Manufacturing

Appendix 4 – Capacity Analysis Results

APPENDIX 1

CDOT Concurrence of Traffic Study Area & Trip Generation

Jeffrey Snape

From: CDOTPRC <CDOTPRC@cityofchicago.org>
Sent: Wednesday, October 11, 2023 10:53 AM
To: Jeffrey Snape
Cc: Dorn, Andrew; Chris Downes; Garth Daley
Subject: Re: 5501-GrandAve_ITW-TIS-Scope_230822

Hi Jeffrey,

The trip generation is acceptable. However, you should add the 24 hour table to illustrate a full day of truck arrival and departure. We can post the draft traffic study on the Air Quality review site once we receive the draft traffic study.

Thanks,

Kevin

Plan Review Committee
Chicago Department of Transportation
2 N. LaSalle St. Suite 950
Chicago, IL 60602
Ph. 312-744-4996
Please consider the environment before printing this email.

From: Jeffrey Snape <jsnape@envdesigni.com>
Sent: Tuesday, October 10, 2023 12:03 PM
To: CDOTPRC <CDOTPRC@cityofchicago.org>
Cc: Dorn, Andrew <adorn@itw.com>; Chris Downes <cdownes@burnhamnationwide.com>; Garth Daley <gdaley@envdesigni.com>
Subject: RE: 5501-GrandAve_ITW-TIS-Scope_230822

Kevin,

Please find attached our trip generation assumptions, per your email below. We appreciate your expedient review and approval.

Thank you very much, and please reach out to me directly if you have any questions.

Jeffrey T. Snape, PE, LEED-AP
Senior Project Manager, Civil Engineering | jsnape@envdesigni.com
direct office 815.730.3444
www.envdesigni.com

Environmental Design International inc.
Joliet Office
3230 Executive Drive
Joliet, IL 60431-8401
Office: (815) 730-3444 Facsimile: (815) 730-6703

From: CDOTPRC <CDOTPRC@cityofchicago.org>
Sent: Tuesday, September 26, 2023 10:30 AM
To: Jeffrey Snape <jsnape@envdesigni.com>
Subject: Re: 5501-GrandAve_ITW-TIS-Scope_230822

Hi Jeffrey,

Please go ahead with the scope of the traffic study. The first thing that we will review is the trip generation assumption for the project. Once we approve that, then the draft traffic study can be posted on the Air Quality projects website https://www.chicago.gov/city/en/sites/air-quality-zoning/home/current-projects.html. This will then allow the public to provide comments within 60 days. Once the comment period is over, CDOT will then provide approval of the traffic study.

Please send over the TIS as soon as it is ready.

Thank you,

Kevin McGuinness

Plan Review Committee
Chicago Department of Transportation
2 N. LaSalle St. Suite 950
Chicago, IL 60602
Ph. 312-744-4996

From: Jeffrey Snape <jsnape@envdesigni.com>
Sent: Tuesday, August 22, 2023 4:32 PM
To: CDOTPRC <CDOTPRC@cityofchicago.org>
Subject: 5501-GrandAve_ITW-TIS-Scope_230822

Please find attached our submittal for scope and study area concurrence for the a proposed Traffic Impact Study at the above location. Please contact me with any questions or if additional information is required.

Thank you,

Jeffrey T. Snape, PE, LEED-AP
Senior Project Manager, Civil Engineering | jsnape@envdesigni.com

Environmental Design International inc.
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33 W. Monroe St., Suite 1825
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3230 Executive Drive
Joliet, IL 60431-8401

phone: 815-730-3444
fax: 815-730-6703

October 10, 2023

Mr. Kevin McGuinness
Plan Review Committee
Chicago Department of Transportation
2 N. LaSalle St. Suite 950
Chicago, IL 60602
CDOTPRC@cityofchicago.org

RE: Traffic Impact Study – Trip Generation Concurrence
5501 W. Grand Avenue
Illinois Tool Works, Inc. (ITW)
EDI Project #2083.001

Dear Mr. McGuinness:

Pursuant to your email dated September 26, 2023, please find below the **trip generation assumptions** for the above development **for CDOT concurrence**.

Proposed Site Plan

The existing building at 5501 W. Grand Avenue is to be redeveloped for use as a mixing and bottling facility. The existing building is approximately 93,000 square feet and approximately half of the square footage will be converted for use with no immediate plans for expansion. The neighboring building at 5401 W. Grand Avenue will not be redeveloped at this time and there are no future plans to develop 5401 W. Grand Avenue for use. There are no planned modifications to site access points or parking facilities.

Proposed Lane Use and Intensity

Based on information provided by the Owner, Illinois Tool Works, Inc., projected total traffic volumes (ingress and egress), are as follows:

- 20-25 employees per day
- 5-10 single unit (SU) trucks per day
- 12-15 multi-unit (MU) trucks per day

Employees will use the two access drive entrances to passenger car parking lots, and both SU and MU vehicles will utilize the westernmost access point to the truck parking lot and loading dock.

Projected Site Traffic

Proposed traffic generated by the subject property was estimated from the ITE Trip Generation Manual, 11th edition and from estimates and information provided by the Owner. For the purposes of evaluating the site, it is assumed that all the previously mentioned 25 employees will arrive during the morning

peak hour and will depart during the evening peak hour. Single unit and multi-unit trucks are anticipated to arrive and depart evenly over the course of normal business hours (one SU vehicle inbound and outbound per hour and two MU vehicles inbound and outbound per hour). The facility will have no customers, and no visitors are anticipated. Some employee trips may be made by alternative modes of transportation, such as by public transportation, bicycle, or walking, or may be more evenly spaced throughout the day; however, to provide a more conservative analysis, no reduction was made to estimated vehicle traffic and all traffic is projected to occur during the background peak hours.

The estimated site traffic was compared to data from the ITE Trip Generation Manual, 11th edition and a site classification of 140 – Industrial, Manufacturing. Due to the nature of the facility as a blending and bottling plant, and owner projections, the number of employees is anticipated to be lower than traditional manufacturing. ITE Trip Generation tables were therefore based upon the total number of employees, rather than the square footage of the facility.

A comparison of the site generated traffic from the two methods (owner estimates and ITE Lane Use 140) is summarized in **Table 1**.

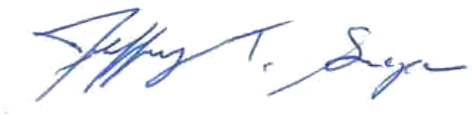
Table 1: Projected Peak Hour Site Generated Traffic

Land Use	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Daily Two-Way Trips
	In	Out	Total	In	Out	Total	
Current Lane Use (Vacant)	0	0	0	0	0	0	0
Mixing & Bottling Facility (Owner's Est.)							
Passenger Vehicles	25	0	25	0	25	25	50
Trucks	3	3	6	3	3	6	50
Total	28	3	31	3	28	31	100
ITE Lane-Use Code 140 (Manufacturing)							
Passenger Vehicles	8	2	10	4	5	9	52
Trucks	0	0	0	0	1	1	9
Total	8	2	10	4	6	10	63

Given that owner estimates of projected peak hour site traffic exceed those from the ITE Trip Generation Manual, the owner estimates shall be used for all future analysis to provide a more conservative estimate of the impact of the development.

If you have any questions, please contact me at 815-730-3444 or via email at jsnape@envdesigni.com.

Respectfully,
Environmental Design International inc.



Jeffrey T. Snape, PE, LEED-AP
Senior Project Manager

Environmental Design International inc.
Chicago & Joliet

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fax: 312-345-0529
web: www.envdesigni.com

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Joliet, IL 60431-8401

phone: 815-730-3444
fax: 815-730-6703

August 22, 2023

Chicago Department of Transportation
Plan Review Committee
CDOTPRC@cityofchicago.org

RE: Traffic Impact Study Scope Concurrence
5501 W. Grand Avenue
Illinois Tool Works, Inc. (ITW)
EDI Project #2083.001

To Whom it May Concern:

Illinois Tool Works Inc. (ITW) is in the process of redeveloping the vacant building located at 5501 W. Grand Avenue, Chicago, IL. The existing building is vacant, and the proposed site will be developed into an industrial facility.

Environmental Design International inc. (EDI) has been contracted by ITW to prepare a Traffic Impact Study and an Air Quality Impact Study for the redevelopment. The purpose of this memorandum is to request concurrence regarding the scope and study area for the Traffic Impact Study.

Project Contact information

Applicant Contact:
Andrew Dorn, P.E.
Illinois Tool Works, Inc.
P: 224-661-7625
E: adorn@itw.com

Traffic Consultant:
Jeffrey T. Snape, P.E., LEED-AP
Environmental Design International inc.
P: 815-730-3444
E: jsnape@envdesigni.com

Air Quality Study Consultant:
Scott Dileto, CHMM
Environmental Design International inc.
P: 312.345.8683
E: sdileto@envdesigni.com

Chicago Department of Planning and Development Information

DPD Project Manager: TBD
Plan Commission Date: January 2024 (anticipated)

Reason for Review

Review and approval of a Traffic Impact Study (TIS) as necessary for the submission and approval of an Air Quality Impact Study (AQIS).

Project Narrative:

Facility & Existing Parking

The existing building is approximately 140,000 square feet and has three full-access driveways to Grand Avenue:

- One full access driveway west of the building to a passenger car parking lot with 99 parking stalls for employee use.
- One full access driveway east of the building to the front entrance and a passenger car parking lot with 62 parking stalls, including 4 handicap accessible stalls for employee and visitor use (not anticipated).
- One full access driveway along the west property line to a truck parking lot with nine (9) loading docks located on the west wall of 5501 W. Grand Avenue.

Proposed Traffic

Based upon current operation estimates, the facility is estimated to have the following daily traffic:

- 5-10 single unit truck (box truck) deliveries per day
- 12-15 multi-unit trucks (semi-trucks) inbound and outbound per day
- 20-25 employees per day

Proposed traffic is anticipated to have either no effect or a minor effect on the surrounding area.

Location

The property is located on the south side of Grand Avenue, which is classified as a Major Collector and has a 2022 AADT of 15,800. The only site access is from Grand Avenue. The closest intersection to the west is approximately 600 feet west at Central Avenue, which is a Minor Arterial with a 2022 AADT of 14,200. The nearest intersection to the east is approximately 750 feet east at Long Avenue, a local road with no existing traffic count data. The nearest significant route to the east is Laramie Avenue 0.4 miles away, a Major Collector with a 2022 AADT of 11,900. All three intersections are signalized. Central Avenue and Laramie Avenue have grade separated crossings with the railroad tracks immediately south of the site, while Long Avenue does not cross the tracks, but comes to a dead end 500 feet south of Grand Avenue.

Significant Sites

Significant sites in the vicinity (within ¼ mile) include three Chicago Public School facilities:

- Dr. Jorge Prieto Math and Science
    - K-8, located on Central Avenue approximately 800 feet north Grand Avenue
- Noble - ITW David Speer Academy
    - Grades 9-12, located at the southeast corner of Grand Avenue and Long Avenue
- Charles Allen Prosser Career Academy High School
    - Grades 9-12, located across Grand Avenue from the site, at the northwest corner of Grand Avenue and Long Avenue.

Also of significance is the presence of Hanson Park, located north of the site and providing sports fields for the surrounding schools and community. Hanson Park has dedicated parking facilities from Central Avenue, approximately 560 feet north of Grand Avenue. There are also four additional schools within a ½ mile radius of the site - Belmont-Cragin Elementary School, Northwest Middle School, Christopher House Charter School, and Hanson Park Elementary School. The four schools are greater than ¼ mile from the site and accessible from either Long Avenue or Laramie Avenue.

See attached exhibits for further details.

Proposed Scope and Study Area

Given the anticipated traffic impact, the presence of significant sites within a ¼ mile of the site, and the existing network of arterial and collector routes, we propose that the Traffic Impact Study include traffic counts, capacity analyses, and a review of potential impacts to the following intersections and road segments:

- Grand Avenue at Central Avenue
- Grand Avenue at Long Avenue
- Grand Avenue from Central Avenue to Long Avenue
- Grand Avenue at Laramie Avenue
- Grand Avenue from Long Avenue to Laramie Avenue

Given the presence of schools in the project area, it is proposed that traffic counts be conducted on a weekday from 6:00 AM – 9:00 AM and from 2:00 PM – 6:00 PM in order to capture morning and evening peak traffic. Traffic counts will be conducted with Miovision traffic counting cameras and will include vehicle classification, pedestrian and bicycle traffic, and turning movements at all intersections.

We ask that you provide concurrence of the above as soon as possible so that we may schedule traffic counts.

If you have any questions, please contact me at 815-730-3444 or via email at jsnape@envdesigni.com.

Respectfully,
Environmental Design International inc.

Jeffrey T. Snape, PE, LEED-AP
Senior Project Manager

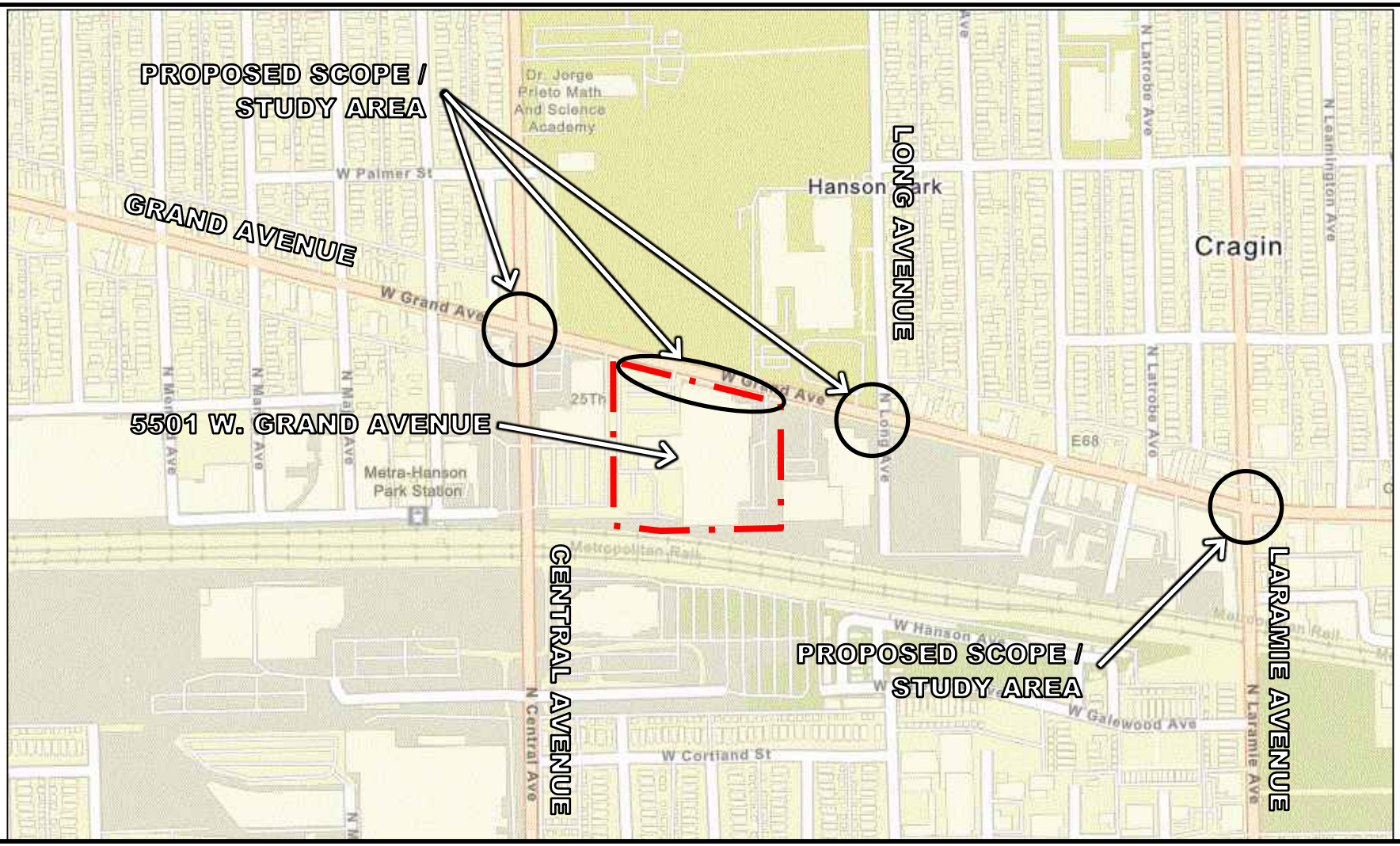


EXHIBIT 1: PROJECT LOCATION & PROPOSED SCOPE

5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC., TRAFFIC IMPACT STUDY

Scale: N.T.S.

EDI Environmental Design International inc.	**August 2023**	**2083.001**	**ITW**

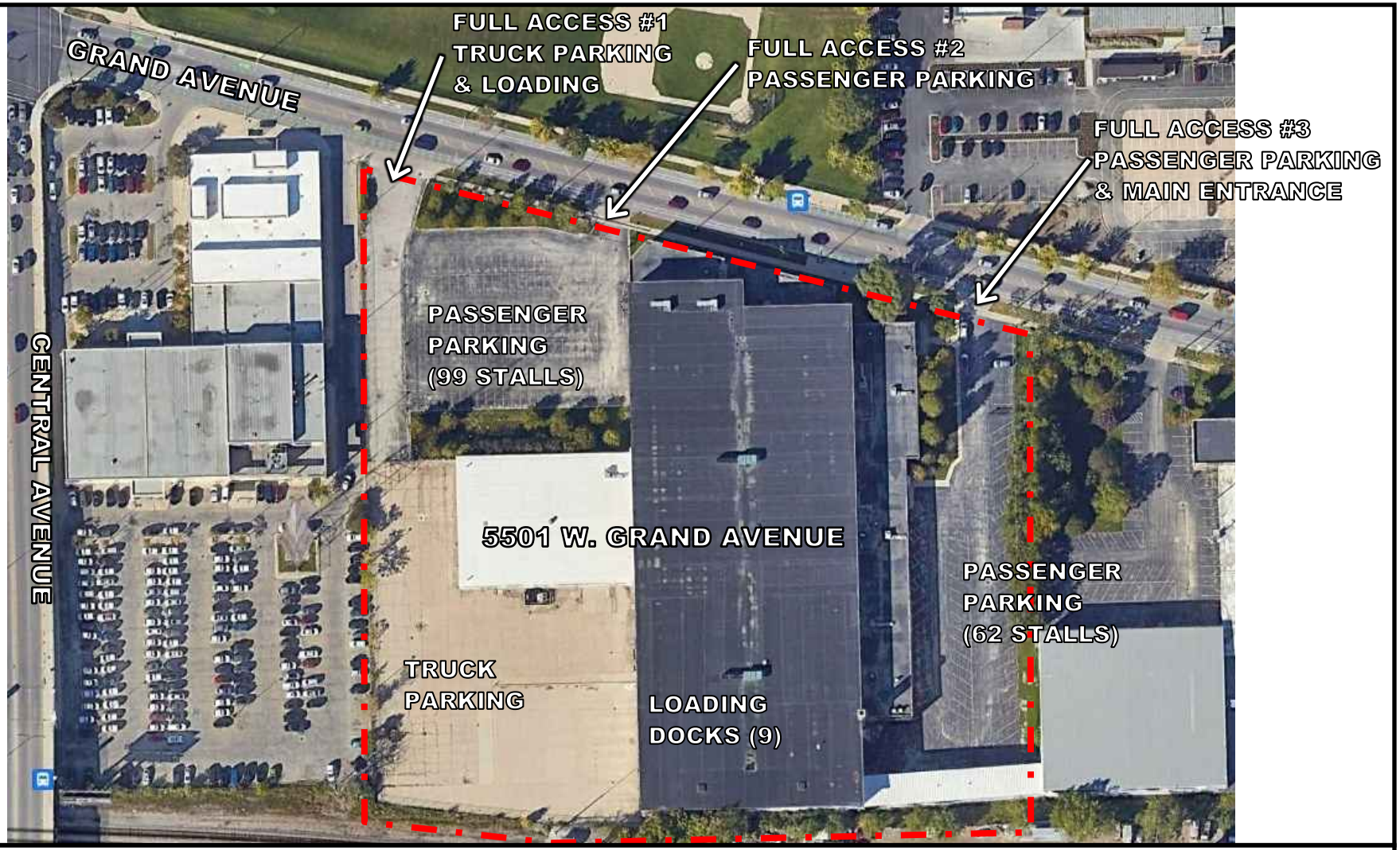


EXHIBIT 2: SITE ACCESS EXHIBIT

5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC., TRAFFIC IMPACT STUDY

Scale: N.T.S.

EDI Environmental Design International inc.	**August 2023**	**2083.001**	**ITW**

EXHIBIT 3: FUNCTIONAL CLASSIFICATION, IDOT IROADS

5501 W. GRAND AVENUE

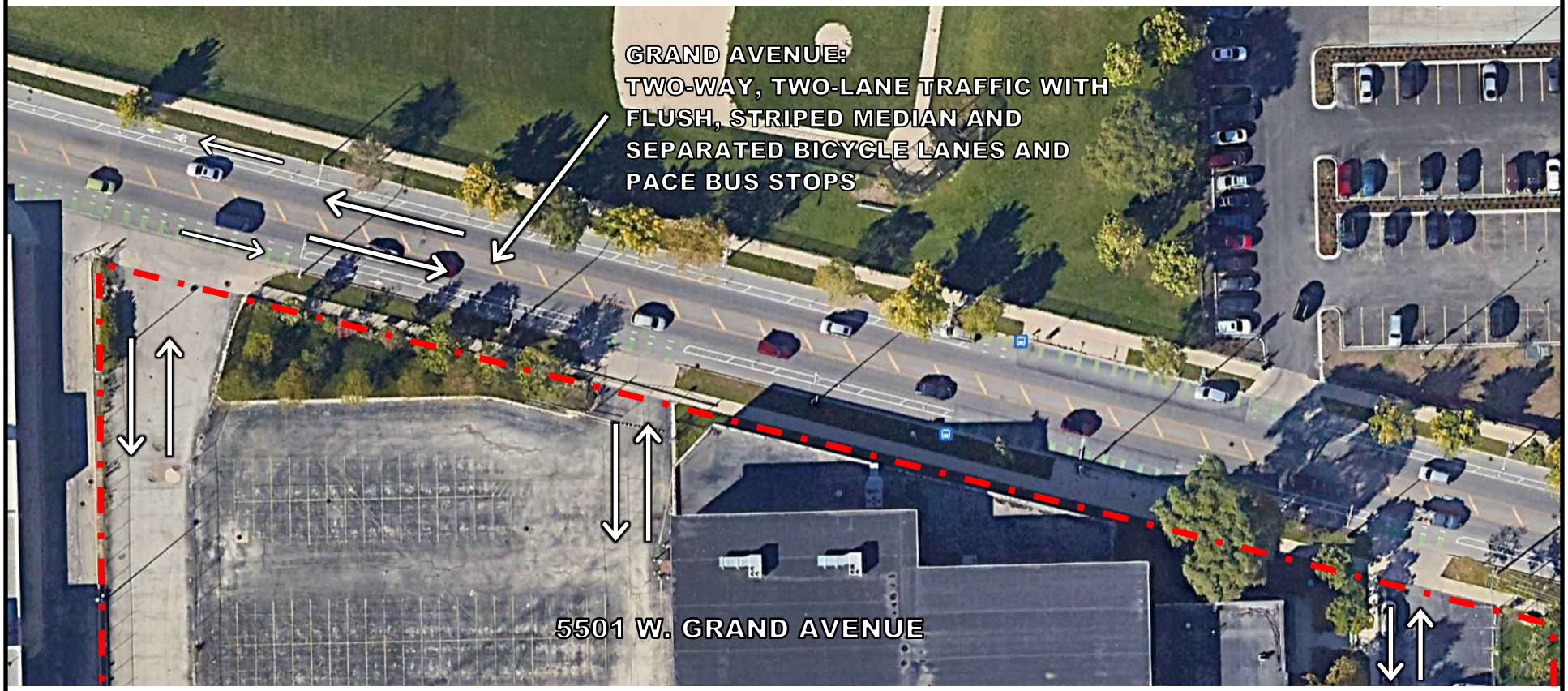
ILLINOIS TOOL WORKS, INC., TRAFFIC IMPACT STUDY

1:25,112

0 0.2 0.4 0.8 mi

0 0.325 0.65 1.3 km

Environmental Design International inc.	**August 2023**	**2083.001**	**ITW**



N
W E
S

EXHIBIT 4: GRAND AVENUE GEOMETRY

5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC., TRAFFIC IMPACT STUDY

Scale: N.T.S.

EDI Environmental Design International inc.	**August 2023**	**2083.001**	**ITW**

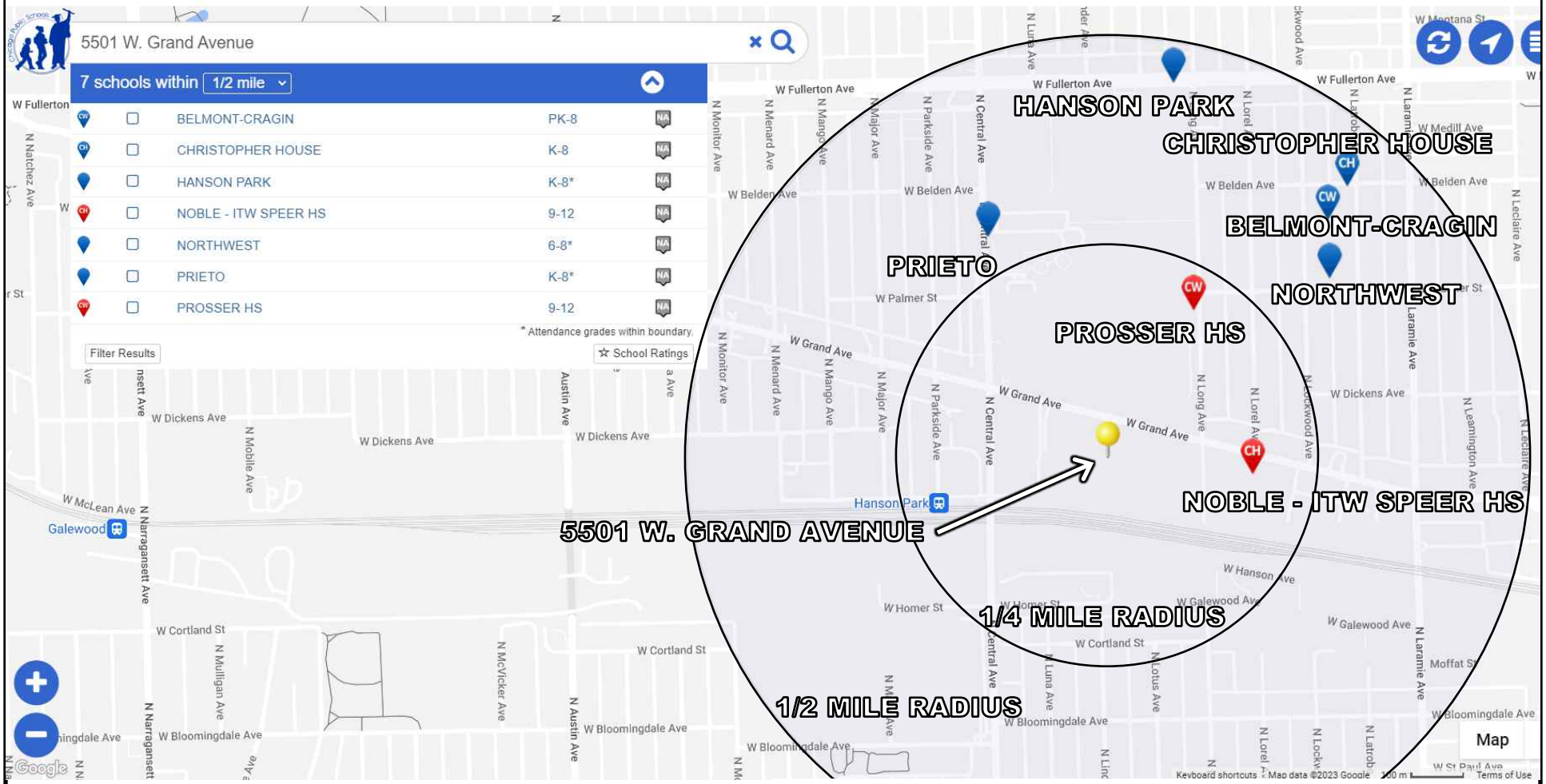


EXHIBIT 5: CHICAGO PUBLIC SCHOOLS WITHIN 1/2 MILE, 1/4 MILE

5501 W. GRAND AVENUE

ILLINOIS TOOL WORKS, INC., TRAFFIC IMPACT STUDY

Scale: N.T.S.

Environmental Design International inc.	August 2023	2083.001	ITW

APPENDIX 2

Raw Traffic County Summary Data

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/19/2023

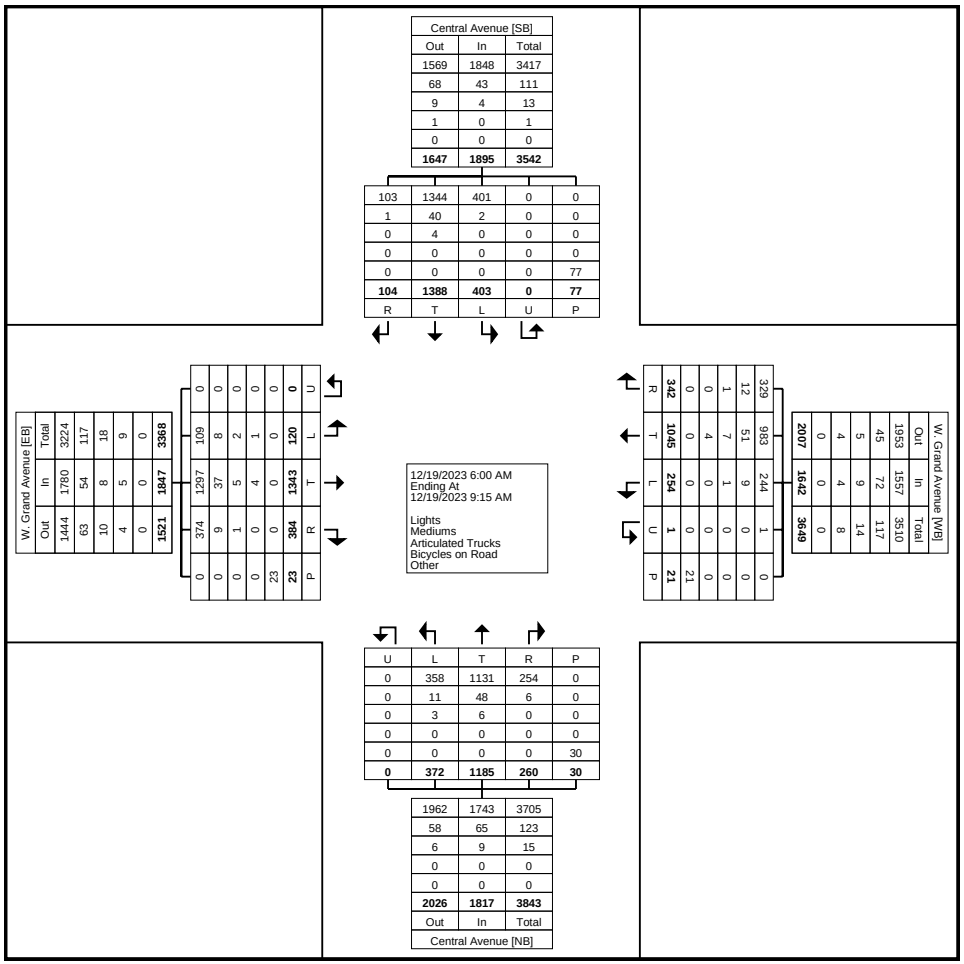
Turning Movement Data

Start Time	Central Avenue Southbound						W. Grand Avenue Westbound						Central Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	5	90	22	0	3	117	6	50	12	0	2	68	7	66	13	0	0	86	14	90	2	0	0	106	377
6:15 AM	1	99	23	0	1	123	14	61	7	0	1	82	4	72	16	0	1	92	30	104	9	0	0	143	440
6:30 AM	13	110	35	0	0	158	16	77	12	1	0	106	8	80	22	0	2	110	23	92	8	0	2	123	497
6:45 AM	14	114	39	0	0	167	15	71	14	0	0	100	14	81	32	0	0	127	24	105	17	0	0	146	540
Hourly Total	33	413	119	0	4	565	51	259	45	1	3	356	33	299	83	0	3	415	91	391	36	0	2	518	1854
7:00 AM	11	144	38	0	4	193	19	70	13	0	1	102	8	111	19	0	1	138	21	120	9	0	2	150	583
7:15 AM	10	138	36	0	3	184	14	80	16	0	1	110	14	115	22	0	1	151	37	123	8	0	1	168	613
7:30 AM	9	144	59	0	9	212	45	110	22	0	0	177	33	138	39	0	7	210	28	138	9	0	6	175	774
7:45 AM	8	145	38	0	19	191	51	119	34	0	2	204	54	124	39	0	4	217	39	119	9	0	4	167	779
Hourly Total	38	571	171	0	35	780	129	379	85	0	4	593	109	488	119	0	13	716	125	500	35	0	13	660	2749
8:00 AM	5	137	20	0	11	162	60	107	29	0	2	196	22	114	41	0	6	177	45	101	12	0	3	158	693
8:15 AM	3	95	30	0	12	128	35	97	37	0	9	169	29	113	57	0	2	199	49	108	19	0	2	176	672
8:30 AM	7	69	25	0	11	101	33	122	29	0	2	184	42	86	41	0	5	169	51	128	14	0	3	193	647
8:45 AM	18	102	38	0	4	158	34	81	29	0	1	144	25	83	31	0	1	139	23	115	4	0	0	142	583
Hourly Total	33	403	113	0	38	549	162	407	124	0	14	693	118	396	170	0	14	684	168	452	49	0	8	669	2595
9:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	3
Grand Total	104	1388	403	0	77	1895	342	1045	254	1	21	1642	260	1185	372	0	30	1817	384	1343	120	0	23	1847	7201
Approach %	5.5	73.2	21.3	0.0	-	-	20.8	63.6	15.5	0.1	-	-	14.3	65.2	20.5	0.0	-	-	20.8	72.7	6.5	0.0	-	-	-
Total %	1.4	19.3	5.6	0.0	-	26.3	4.7	14.5	3.5	0.0	-	22.8	3.6	16.5	5.2	0.0	-	25.2	5.3	18.7	1.7	0.0	-	25.6	-
Lights	103	1344	401	0	-	1848	329	983	244	1	-	1557	254	1131	358	0	-	1743	374	1297	109	0	-	1780	6928
% Lights	99.0	96.8	99.5	-	-	97.5	96.2	94.1	96.1	100.0	-	94.8	97.7	95.4	96.2	-	-	95.9	97.4	96.6	90.8	-	-	96.4	96.2
Mediums	1	40	2	0	-	43	12	51	9	0	-	72	6	48	11	0	-	65	9	37	8	0	-	54	234
% Mediums	1.0	2.9	0.5	-	-	2.3	3.5	4.9	3.5	0.0	-	4.4	2.3	4.1	3.0	-	-	3.6	2.3	2.8	6.7	-	-	2.9	3.2
Articulated Trucks	0	4	0	0	-	4	1	7	1	0	-	9	0	6	3	0	-	9	1	5	2	0	-	8	30
% Articulated Trucks	0.0	0.3	0.0	-	-	0.2	0.3	0.7	0.4	0.0	-	0.5	0.0	0.5	0.8	-	-	0.5	0.3	0.4	1.7	-	-	0.4	0.4
Bicycles on Road	0	0	0	0	-	0	0	4	0	0	-	4	0	0	0	0	-	0	0	4	1	0	-	5	9
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	0.0	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.3	0.8	-	-	0.3	0.1
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	3.9	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	4.3	-	-
Pedestrians	-	-	-	-	74	-	-	-	-	-	21	-	-	-	-	-	30	-	-	-	-	-	22	-	-
% Pedestrians	-	-	-	-	96.1	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	95.7	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/19/2023



Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/19/2023

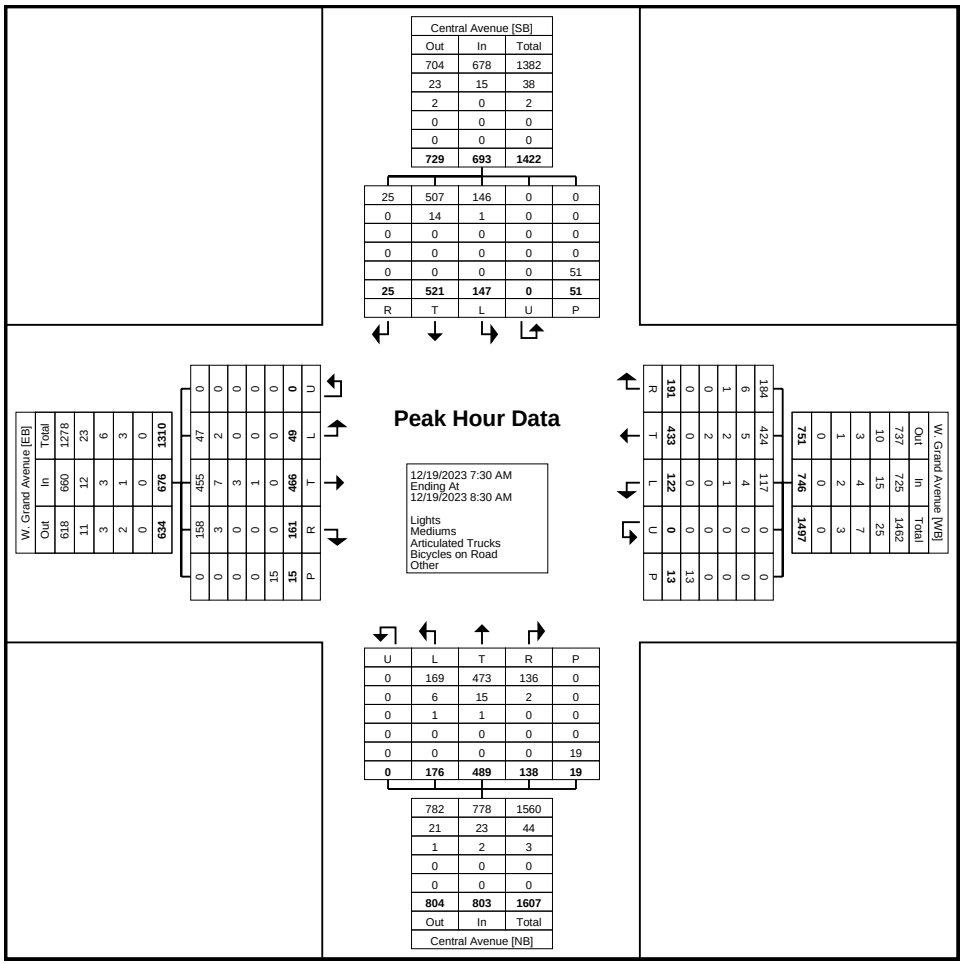
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Central Avenue Southbound						W. Grand Avenue Westbound						Central Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:30 AM	9	144	59	0	9	212	45	110	22	0	0	177	33	138	39	0	7	210	28	138	9	0	6	175	774
7:45 AM	8	145	38	0	19	191	51	119	34	0	2	204	54	124	39	0	4	217	39	119	9	0	4	167	779
8:00 AM	5	137	20	0	11	162	60	107	29	0	2	196	22	114	41	0	6	177	45	101	12	0	3	158	693
8:15 AM	3	95	30	0	12	128	35	97	37	0	9	169	29	113	57	0	2	199	49	108	19	0	2	176	672
Total	25	521	147	0	51	693	191	433	122	0	13	746	138	489	176	0	19	803	161	466	49	0	15	676	2918
Approach %	3.6	75.2	21.2	0.0	-	-	25.6	58.0	16.4	0.0	-	-	17.2	60.9	21.9	0.0	-	-	23.8	68.9	7.2	0.0	-	-	-
Total %	0.9	17.9	5.0	0.0	-	23.7	6.5	14.8	4.2	0.0	-	25.6	4.7	16.8	6.0	0.0	-	27.5	5.5	16.0	1.7	0.0	-	23.2	-
PHF	0.694	0.898	0.623	0.000	-	0.817	0.796	0.910	0.824	0.000	-	0.914	0.639	0.886	0.772	0.000	-	0.925	0.821	0.844	0.645	0.000	-	0.960	0.936
Lights	25	507	146	0	-	678	184	424	117	0	-	725	136	473	169	0	-	778	158	455	47	0	-	660	2841
% Lights	100.0	97.3	99.3	-	-	97.8	96.3	97.9	95.9	-	-	97.2	98.6	96.7	96.0	-	-	96.9	98.1	97.6	95.9	-	-	97.6	97.4
Mediums	0	14	1	0	-	15	6	5	4	0	-	15	2	15	6	0	-	23	3	7	2	0	-	12	65
% Mediums	0.0	2.7	0.7	-	-	2.2	3.1	1.2	3.3	-	-	2.0	1.4	3.1	3.4	-	-	2.9	1.9	1.5	4.1	-	-	1.8	2.2
Articulated Trucks	0	0	0	0	-	0	1	2	1	0	-	4	0	1	1	0	-	2	0	3	0	0	-	3	9
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.5	0.5	0.8	-	-	0.5	0.0	0.2	0.6	-	-	0.2	0.0	0.6	0.0	-	-	0.4	0.3
Bicycles on Road	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	3
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.5	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	5.9	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	48	-	-	-	-	-	13	-	-	-	-	-	19	-	-	-	-	-	15	-	-
% Pedestrians	-	-	-	-	94.1	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/19/2023



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

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/18/2023

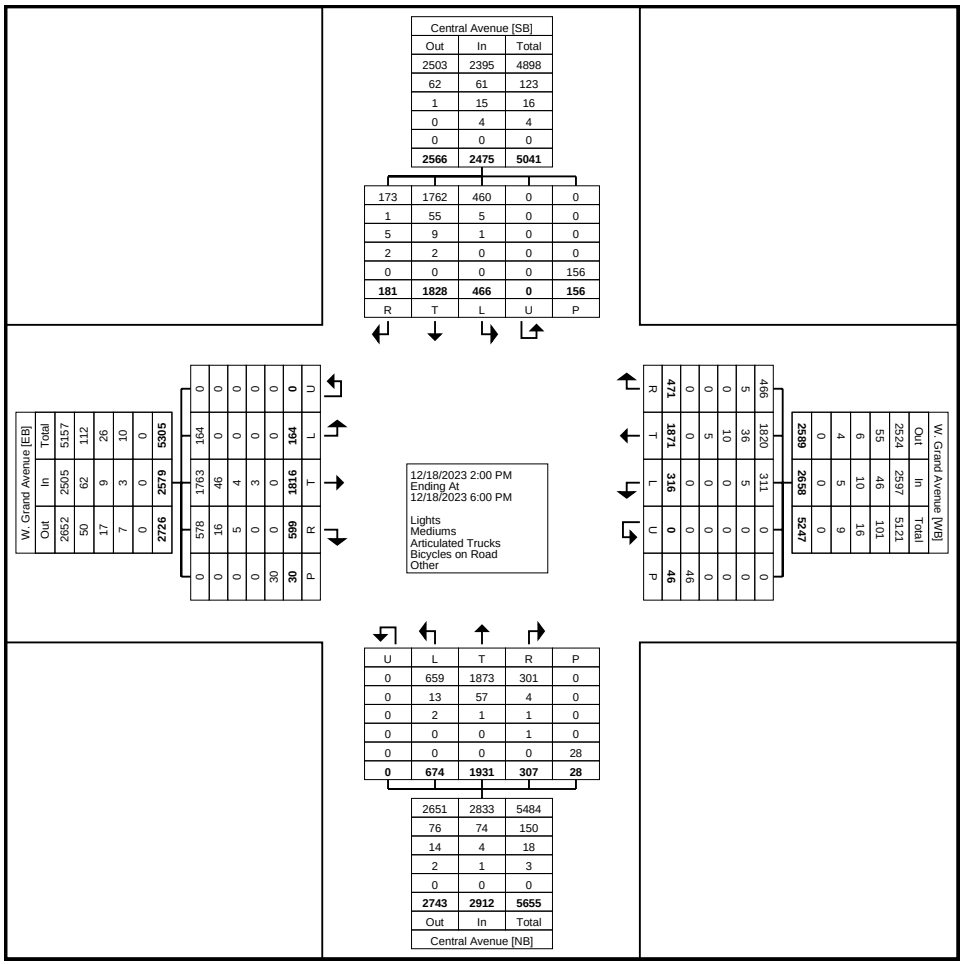
Turning Movement Data

Start Time	Central Avenue Southbound						W. Grand Avenue Westbound						Central Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
2:00 PM	14	100	29	0	13	143	29	103	15	0	6	147	10	101	34	0	3	145	27	101	8	0	2	136	571
2:15 PM	10	107	23	0	4	140	20	124	12	0	2	156	15	103	29	0	6	147	42	113	7	0	6	162	605
2:30 PM	9	117	32	0	5	158	31	98	16	0	3	145	13	100	23	0	0	136	29	121	10	0	2	160	599
2:45 PM	14	103	21	0	6	138	20	111	9	0	2	140	21	122	33	0	1	176	28	113	15	0	1	156	610
Hourly Total	47	427	105	0	28	579	100	436	52	0	13	588	59	426	119	0	10	604	126	448	40	0	11	614	2385
3:00 PM	13	115	30	0	6	158	36	112	19	0	1	167	20	122	30	0	1	172	34	115	17	0	1	166	663
3:15 PM	5	98	24	0	15	127	42	106	18	0	5	166	25	146	44	0	5	215	35	122	13	0	4	170	678
3:30 PM	7	89	25	0	5	121	31	113	20	0	2	164	37	118	64	0	4	219	55	125	17	0	1	197	701
3:45 PM	13	116	24	0	41	153	15	109	30	0	9	154	31	103	66	0	1	200	76	121	8	0	6	205	712
Hourly Total	38	418	103	0	67	559	124	440	87	0	17	651	113	489	204	0	11	806	200	483	55	0	12	738	2754
4:00 PM	10	131	38	0	29	179	32	136	49	0	3	217	27	96	53	0	4	176	43	108	7	0	1	158	730
4:15 PM	14	129	37	0	5	180	22	142	25	0	1	189	11	121	61	0	0	193	37	92	9	0	0	138	700
4:30 PM	15	120	29	0	7	164	30	140	23	0	0	193	10	135	40	0	0	185	31	118	14	0	0	163	705
4:45 PM	11	121	42	0	3	174	36	116	24	0	1	176	19	130	41	0	1	190	30	118	8	0	1	156	696
Hourly Total	50	501	146	0	44	697	120	534	121	0	5	775	67	482	195	0	5	744	141	436	38	0	2	615	2831
5:00 PM	8	111	32	0	5	151	31	129	18	0	3	178	18	137	41	0	2	196	44	103	11	0	2	158	683
5:15 PM	14	136	31	0	5	181	33	120	15	0	6	168	15	128	42	0	0	185	24	119	7	0	3	150	684
5:30 PM	8	123	23	0	7	154	29	110	12	0	2	151	20	135	32	0	0	187	35	102	6	0	0	143	635
5:45 PM	16	112	26	0	0	154	34	102	11	0	0	147	15	134	41	0	0	190	29	125	7	0	0	161	652
Hourly Total	46	482	112	0	17	640	127	461	56	0	11	644	68	534	156	0	2	758	132	449	31	0	5	612	2654
Grand Total	181	1828	466	0	156	2475	471	1871	316	0	46	2658	307	1931	674	0	28	2912	599	1816	164	0	30	2579	10624
Approach %	7.3	73.9	18.8	0.0	-	-	17.7	70.4	11.9	0.0	-	-	10.5	66.3	23.1	0.0	-	-	23.2	70.4	6.4	0.0	-	-	-
Total %	1.7	17.2	4.4	0.0	-	23.3	4.4	17.6	3.0	0.0	-	25.0	2.9	18.2	6.3	0.0	-	27.4	5.6	17.1	1.5	0.0	-	24.3	-
Lights	173	1762	460	0	-	2395	466	1820	311	0	-	2597	301	1873	659	0	-	2833	578	1763	164	0	-	2505	10330
% Lights	95.6	96.4	98.7	-	-	96.8	98.9	97.3	98.4	-	-	97.7	98.0	97.0	97.8	-	-	97.3	96.5	97.1	100.0	-	-	97.1	97.2
Mediums	1	55	5	0	-	61	5	36	5	0	-	46	4	57	13	0	-	74	16	46	0	0	-	62	243
% Mediums	0.6	3.0	1.1	-	-	2.5	1.1	1.9	1.6	-	-	1.7	1.3	3.0	1.9	-	-	2.5	2.7	2.5	0.0	-	-	2.4	2.3
Articulated Trucks	5	9	1	0	-	15	0	10	0	0	-	10	1	1	2	0	-	4	5	4	0	0	-	9	38
% Articulated Trucks	2.8	0.5	0.2	-	-	0.6	0.0	0.5	0.0	-	-	0.4	0.3	0.1	0.3	-	-	0.1	0.8	0.2	0.0	-	-	0.3	0.4
Bicycles on Road	2	2	0	0	-	4	0	5	0	0	-	5	1	0	0	0	-	1	0	3	0	0	-	3	13
% Bicycles on Road	1.1	0.1	0.0	-	-	0.2	0.0	0.3	0.0	-	-	0.2	0.3	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	1.3	-	-	-	-	-	2.2	-	-	-	-	-	7.1	-	-	-	-	-	6.7	-	-
Pedestrians	-	-	-	-	154	-	-	-	-	-	45	-	-	-	-	-	26	-	-	-	-	-	28	-	-
% Pedestrians	-	-	-	-	98.7	-	-	-	-	-	97.8	-	-	-	-	-	92.9	-	-	-	-	-	93.3	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/18/2023



Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/18/2023

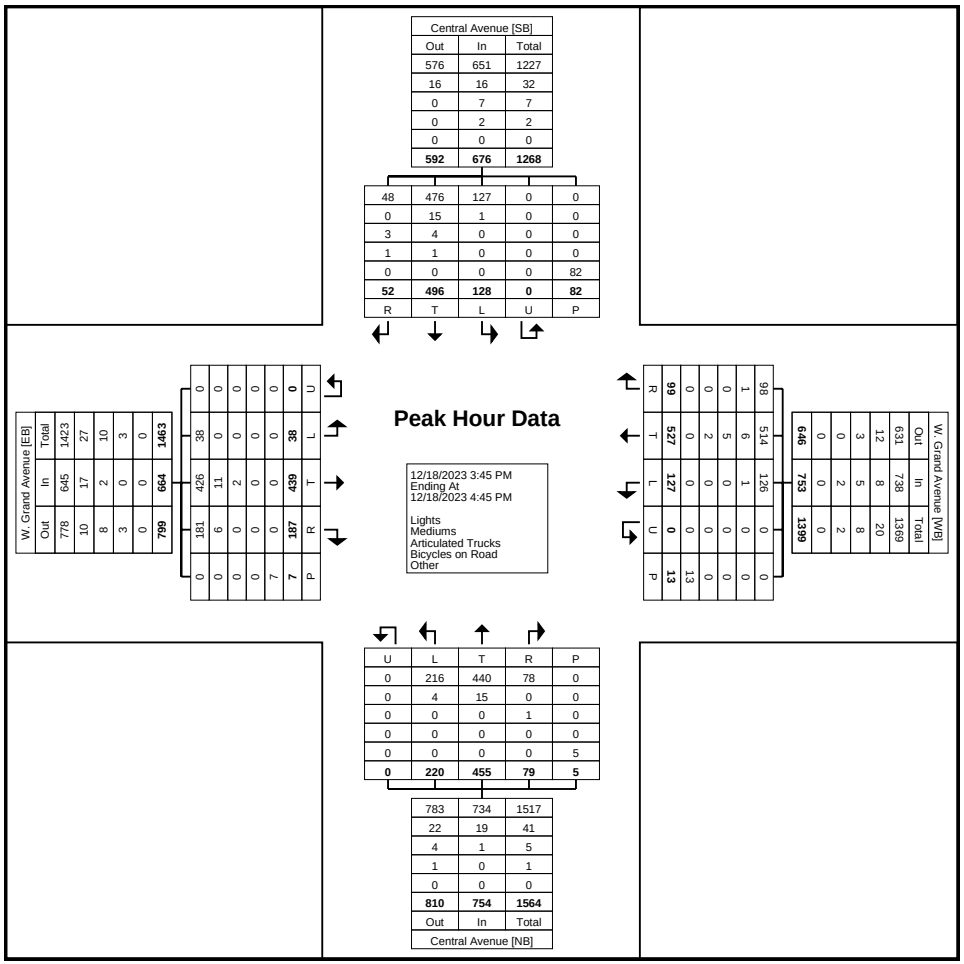
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Central Avenue Southbound						W. Grand Avenue Westbound						Central Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
3:45 PM	13	116	24	0	41	153	15	109	30	0	9	154	31	103	66	0	1	200	76	121	8	0	6	205	712
4:00 PM	10	131	38	0	29	179	32	136	49	0	3	217	27	96	53	0	4	176	43	108	7	0	1	158	730
4:15 PM	14	129	37	0	5	180	22	142	25	0	1	189	11	121	61	0	0	193	37	92	9	0	0	138	700
4:30 PM	15	120	29	0	7	164	30	140	23	0	0	193	10	135	40	0	0	185	31	118	14	0	0	163	705
Total	52	496	128	0	82	676	99	527	127	0	13	753	79	455	220	0	5	754	187	439	38	0	7	664	2847
Approach %	7.7	73.4	18.9	0.0	-	-	13.1	70.0	16.9	0.0	-	-	10.5	60.3	29.2	0.0	-	-	28.2	66.1	5.7	0.0	-	-	-
Total %	1.8	17.4	4.5	0.0	-	23.7	3.5	18.5	4.5	0.0	-	26.4	2.8	16.0	7.7	0.0	-	26.5	6.6	15.4	1.3	0.0	-	23.3	-
PHF	0.867	0.947	0.842	0.000	-	0.939	0.773	0.928	0.648	0.000	-	0.868	0.637	0.843	0.833	0.000	-	0.943	0.615	0.907	0.679	0.000	-	0.810	0.975
Lights	48	476	127	0	-	651	98	514	126	0	-	738	78	440	216	0	-	734	181	426	38	0	-	645	2768
% Lights	92.3	96.0	99.2	-	-	96.3	99.0	97.5	99.2	-	-	98.0	98.7	96.7	98.2	-	-	97.3	96.8	97.0	100.0	-	-	97.1	97.2
Mediums	0	15	1	0	-	16	1	6	1	0	-	8	0	15	4	0	-	19	6	11	0	0	-	17	60
% Mediums	0.0	3.0	0.8	-	-	2.4	1.0	1.1	0.8	-	-	1.1	0.0	3.3	1.8	-	-	2.5	3.2	2.5	0.0	-	-	2.6	2.1
Articulated Trucks	3	4	0	0	-	7	0	5	0	0	-	5	1	0	0	0	-	1	0	2	0	0	-	2	15
% Articulated Trucks	5.8	0.8	0.0	-	-	1.0	0.0	0.9	0.0	-	-	0.7	1.3	0.0	0.0	-	-	0.1	0.0	0.5	0.0	-	-	0.3	0.5
Bicycles on Road	1	1	0	0	-	2	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Bicycles on Road	1.9	0.2	0.0	-	-	0.3	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	14.3	-	-
Pedestrians	-	-	-	-	82	-	-	-	-	-	13	-	-	-	-	-	5	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	85.7	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Central Avenue
Site Code: 2083.001.1
Start Date: 12/18/2023



Turning Movement Peak Hour Data Plot (3:45 PM)

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/13/2023

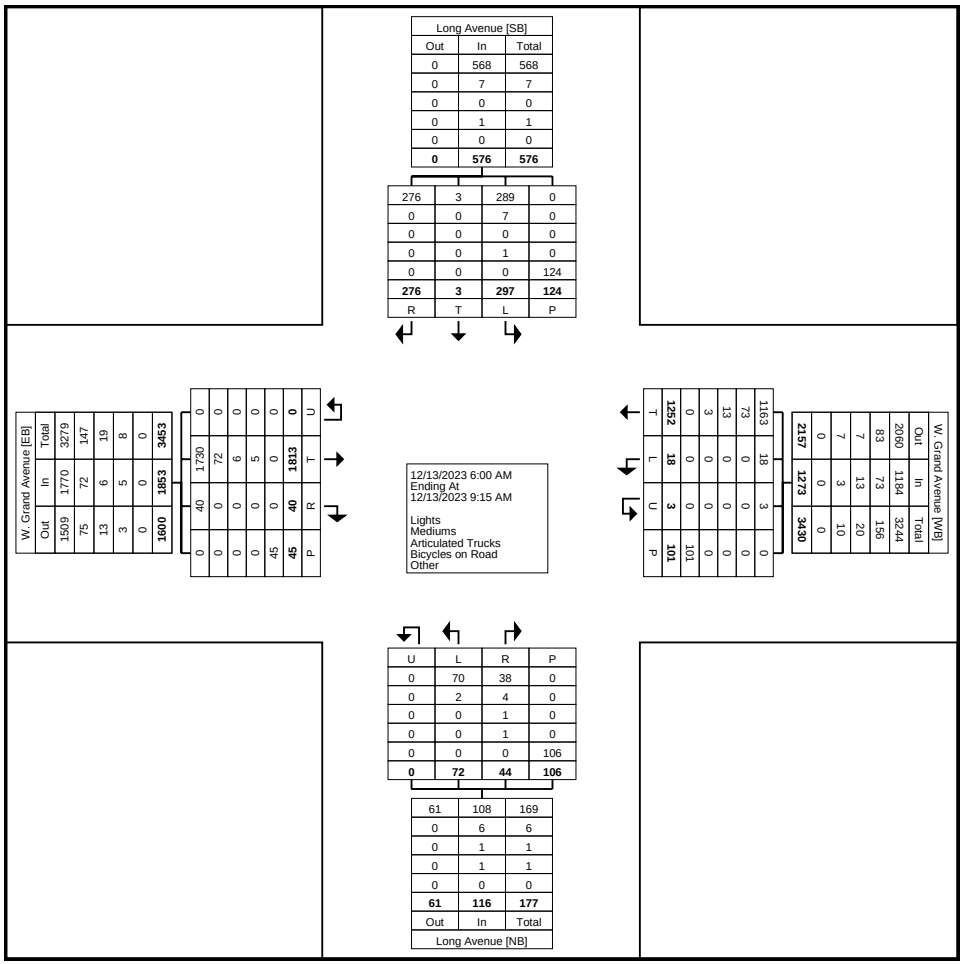
Turning Movement Data

Start Time	Long Avenue Southbound					W. Grand Avenue Westbound					Long Avenue Northbound					W. Grand Avenue Eastbound					
	Right	Thru	Left	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
6:00 AM	5	0	8	0	13	68	0	0	0	68	0	0	0	0	0	1	121	0	1	122	203
6:15 AM	6	0	5	1	11	75	2	0	0	77	1	2	0	1	3	0	144	0	0	144	235
6:30 AM	7	0	7	5	14	73	0	0	0	73	1	0	0	1	1	0	162	0	1	162	250
6:45 AM	9	0	8	1	17	101	0	0	0	101	3	1	0	5	4	0	166	0	3	166	288
Hourly Total	27	0	28	7	55	317	2	0	0	319	5	3	0	7	8	1	593	0	5	594	976
7:00 AM	12	0	13	1	25	95	1	0	1	96	3	0	0	0	3	0	144	0	0	144	268
7:15 AM	17	0	22	5	39	121	3	2	7	126	1	7	0	4	8	2	167	0	1	169	342
7:30 AM	30	1	36	14	67	122	3	0	14	125	8	15	0	28	23	8	192	0	6	200	415
7:45 AM	38	2	28	29	68	104	2	0	53	106	12	29	0	42	41	16	138	0	14	154	369
Hourly Total	97	3	99	49	199	442	9	2	75	453	24	51	0	74	75	26	641	0	21	667	1394
8:00 AM	34	0	37	24	71	113	1	0	8	114	8	14	0	12	22	6	154	0	4	160	367
8:15 AM	45	0	49	22	94	137	1	0	10	138	2	0	0	6	2	2	130	0	5	132	366
8:30 AM	37	0	46	12	83	130	1	0	1	131	2	2	0	4	4	2	130	0	10	132	350
8:45 AM	36	0	38	10	74	112	4	1	7	117	3	2	0	3	5	3	165	0	0	168	364
Hourly Total	152	0	170	68	322	492	7	1	26	500	15	18	0	25	33	13	579	0	19	592	1447
9:00 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	276	3	297	124	576	1252	18	3	101	1273	44	72	0	106	116	40	1813	0	45	1853	3818
Approach %	47.9	0.5	51.6	-	-	98.4	1.4	0.2	-	-	37.9	62.1	0.0	-	-	2.2	97.8	0.0	-	-	-
Total %	7.2	0.1	7.8	-	15.1	32.8	0.5	0.1	-	33.3	1.2	1.9	0.0	-	3.0	1.0	47.5	0.0	-	48.5	-
Lights	276	3	289	-	568	1163	18	3	-	1184	38	70	0	-	108	40	1730	0	-	1770	3630
% Lights	100.0	100.0	97.3	-	98.6	92.9	100.0	100.0	-	93.0	86.4	97.2	-	-	93.1	100.0	95.4	-	-	95.5	95.1
Mediums	0	0	7	-	7	73	0	0	-	73	4	2	0	-	6	0	72	0	-	72	158
% Mediums	0.0	0.0	2.4	-	1.2	5.8	0.0	0.0	-	5.7	9.1	2.8	-	-	5.2	0.0	4.0	-	-	3.9	4.1
Articulated Trucks	0	0	0	-	0	13	0	0	-	13	1	0	0	-	1	0	6	0	-	6	20
% Articulated Trucks	0.0	0.0	0.0	-	0.0	1.0	0.0	0.0	-	1.0	2.3	0.0	-	-	0.9	0.0	0.3	-	-	0.3	0.5
Bicycles on Road	0	0	1	-	1	3	0	0	-	3	1	0	0	-	1	0	5	0	-	5	10
% Bicycles on Road	0.0	0.0	0.3	-	0.2	0.2	0.0	0.0	-	0.2	2.3	0.0	-	-	0.9	0.0	0.3	-	-	0.3	0.3
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	1	-	-	-	-	6	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	3.2	-	-	-	-	1.0	-	-	-	-	5.7	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	120	-	-	-	-	100	-	-	-	-	100	-	-	-	-	45	-	-
% Pedestrians	-	-	-	96.8	-	-	-	-	99.0	-	-	-	-	94.3	-	-	-	-	100.0	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/13/2023



Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/13/2023

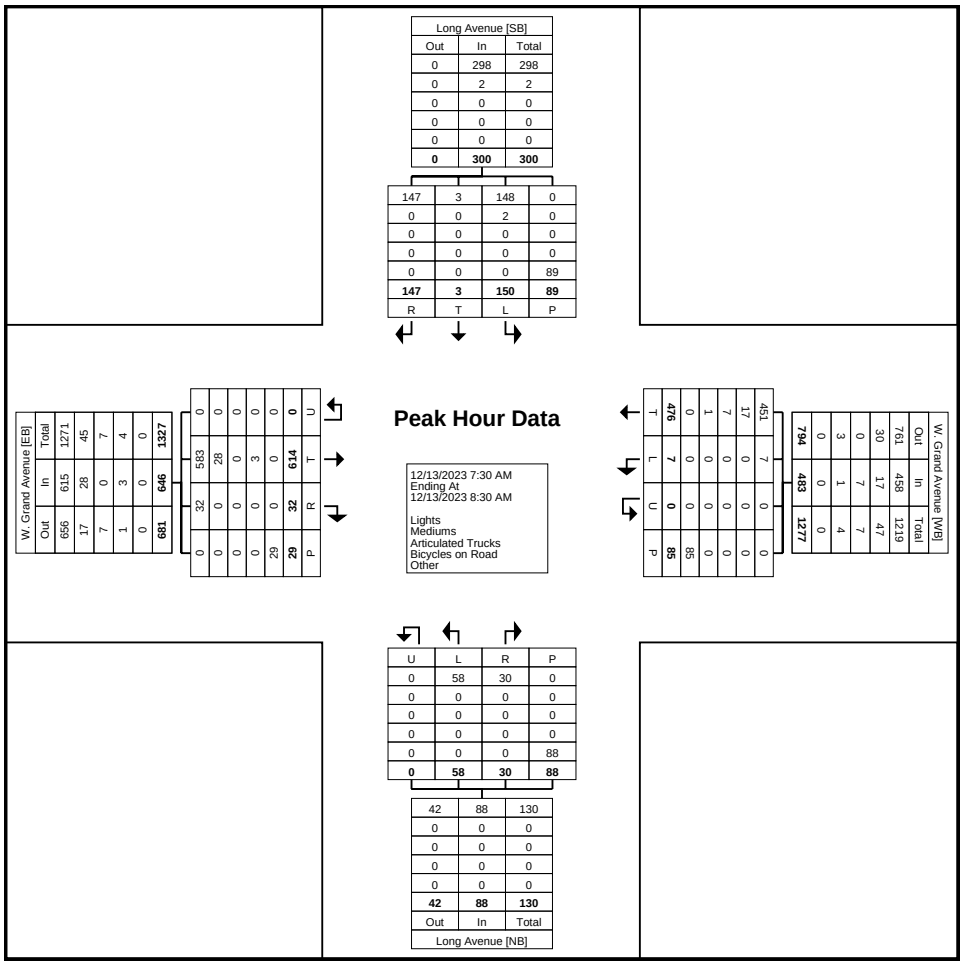
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Long Avenue Southbound					W. Grand Avenue Westbound					Long Avenue Northbound					W. Grand Avenue Eastbound					
	Right	Thru	Left	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
7:30 AM	30	1	36	14	67	122	3	0	14	125	8	15	0	28	23	8	192	0	6	200	415
7:45 AM	38	2	28	29	68	104	2	0	53	106	12	29	0	42	41	16	138	0	14	154	369
8:00 AM	34	0	37	24	71	113	1	0	8	114	8	14	0	12	22	6	154	0	4	160	367
8:15 AM	45	0	49	22	94	137	1	0	10	138	2	0	0	6	2	2	130	0	5	132	366
Total	147	3	150	89	300	476	7	0	85	483	30	58	0	88	88	32	614	0	29	646	1517
Approach %	49.0	1.0	50.0	-	-	98.6	1.4	0.0	-	-	34.1	65.9	0.0	-	-	5.0	95.0	0.0	-	-	-
Total %	9.7	0.2	9.9	-	19.8	31.4	0.5	0.0	-	31.8	2.0	3.8	0.0	-	5.8	2.1	40.5	0.0	-	42.6	-
PHF	0.817	0.375	0.765	-	0.798	0.869	0.583	0.000	-	0.875	0.625	0.500	0.000	-	0.537	0.500	0.799	0.000	-	0.808	0.914
Lights	147	3	148	-	298	451	7	0	-	458	30	58	0	-	88	32	583	0	-	615	1459
% Lights	100.0	100.0	98.7	-	99.3	94.7	100.0	-	-	94.8	100.0	100.0	-	-	100.0	100.0	95.0	-	-	95.2	96.2
Mediums	0	0	2	-	2	17	0	0	-	17	0	0	0	-	0	0	28	0	-	28	47
% Mediums	0.0	0.0	1.3	-	0.7	3.6	0.0	-	-	3.5	0.0	0.0	-	-	0.0	0.0	4.6	-	-	4.3	3.1
Articulated Trucks	0	0	0	-	0	7	0	0	-	7	0	0	0	-	0	0	0	0	-	0	7
% Articulated Trucks	0.0	0.0	0.0	-	0.0	1.5	0.0	-	-	1.4	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	0	3	0	-	3	4
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.2	0.0	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.3
Bicycles on Crosswalk	-	-	-	3	-	-	-	-	0	-	-	-	-	4	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	3.4	-	-	-	-	0.0	-	-	-	-	4.5	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	86	-	-	-	-	85	-	-	-	-	84	-	-	-	-	29	-	-
% Pedestrians	-	-	-	96.6	-	-	-	-	100.0	-	-	-	-	95.5	-	-	-	-	100.0	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/13/2023



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

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/12/2023

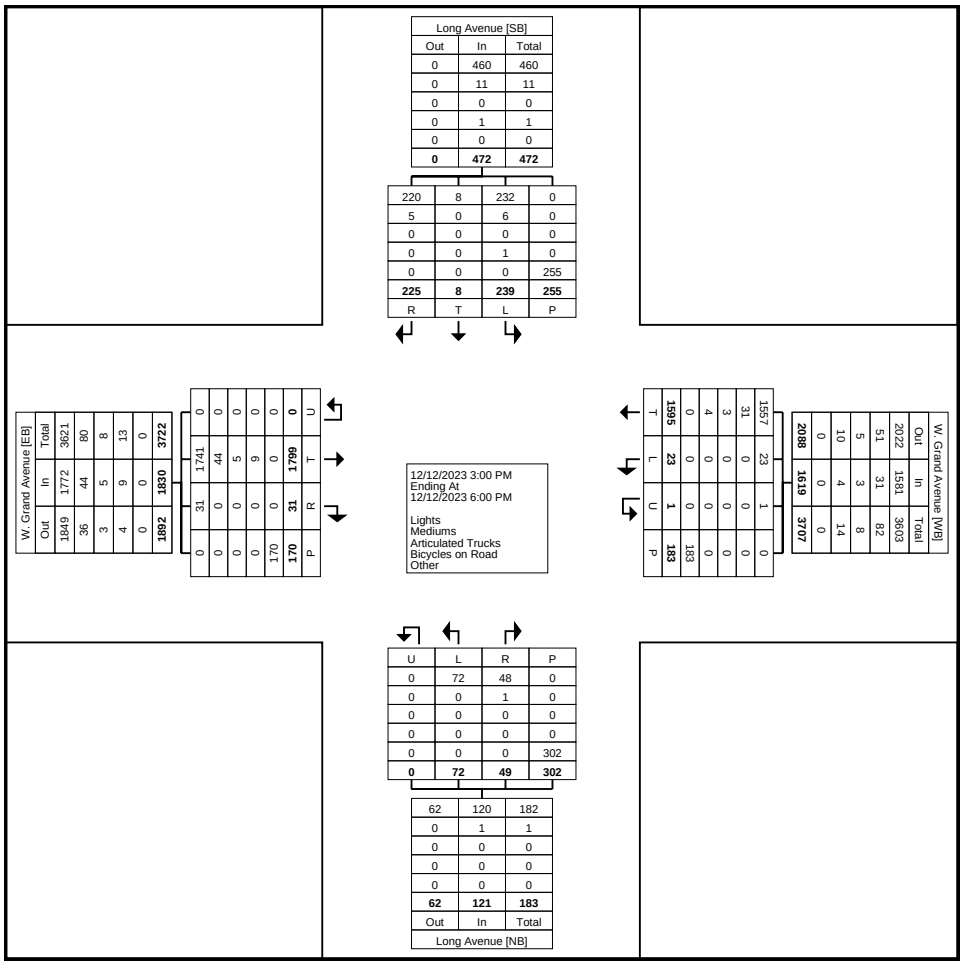
Turning Movement Data

Start Time	Long Avenue Southbound					W. Grand Avenue Westbound					Long Avenue Northbound					W. Grand Avenue Eastbound					
	Right	Thru	Left	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
3:00 PM	15	1	16	4	32	140	0	1	2	141	0	9	0	0	9	3	163	0	2	166	348
3:15 PM	12	0	7	3	19	161	3	0	2	164	1	2	0	3	3	4	134	0	0	138	324
3:30 PM	17	1	22	10	40	165	6	0	3	171	3	3	0	8	6	8	152	0	4	160	377
3:45 PM	25	0	15	98	40	75	3	0	114	78	6	24	0	198	30	2	111	0	111	113	261
Hourly Total	69	2	60	115	131	541	12	1	121	554	10	38	0	209	48	17	560	0	117	577	1310
4:00 PM	40	1	32	44	73	92	3	0	14	95	13	9	0	28	22	3	150	0	11	153	343
4:15 PM	28	3	32	22	63	121	1	0	5	122	9	5	0	18	14	1	153	0	12	154	353
4:30 PM	17	0	19	18	36	119	1	0	13	120	2	5	0	16	7	3	125	0	2	128	291
4:45 PM	15	0	17	20	32	135	2	0	13	137	5	5	0	17	10	3	159	0	12	162	341
Hourly Total	100	4	100	104	204	467	7	0	45	474	29	24	0	79	53	10	587	0	37	597	1328
5:00 PM	17	0	28	13	45	135	1	0	5	136	2	4	0	6	6	3	172	0	4	175	362
5:15 PM	12	2	16	12	30	156	2	0	5	158	3	3	0	4	6	1	170	0	8	171	365
5:30 PM	15	0	18	4	33	145	0	0	6	145	2	2	0	2	4	0	158	0	1	158	340
5:45 PM	12	0	17	7	29	151	1	0	1	152	3	1	0	2	4	0	152	0	3	152	337
Hourly Total	56	2	79	36	137	587	4	0	17	591	10	10	0	14	20	4	652	0	16	656	1404
Grand Total	225	8	239	255	472	1595	23	1	183	1619	49	72	0	302	121	31	1799	0	170	1830	4042
Approach %	47.7	1.7	50.6	-	-	98.5	1.4	0.1	-	-	40.5	59.5	0.0	-	-	1.7	98.3	0.0	-	-	-
Total %	5.6	0.2	5.9	-	11.7	39.5	0.6	0.0	-	40.1	1.2	1.8	0.0	-	3.0	0.8	44.5	0.0	-	45.3	-
Lights	220	8	232	-	460	1557	23	1	-	1581	48	72	0	-	120	31	1741	0	-	1772	3933
% Lights	97.8	100.0	97.1	-	97.5	97.6	100.0	100.0	-	97.7	98.0	100.0	-	-	99.2	100.0	96.8	-	-	96.8	97.3
Mediums	5	0	6	-	11	31	0	0	-	31	1	0	0	-	1	0	44	0	-	44	87
% Mediums	2.2	0.0	2.5	-	2.3	1.9	0.0	0.0	-	1.9	2.0	0.0	-	-	0.8	0.0	2.4	-	-	2.4	2.2
Articulated Trucks	0	0	0	-	0	3	0	0	-	3	0	0	0	-	0	0	5	0	-	5	8
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.2	0.0	0.0	-	0.2	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.2
Bicycles on Road	0	0	1	-	1	4	0	0	-	4	0	0	0	-	0	0	9	0	-	9	14
% Bicycles on Road	0.0	0.0	0.4	-	0.2	0.3	0.0	0.0	-	0.2	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.3
Bicycles on Crosswalk	-	-	-	3	-	-	-	-	2	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	1.2	-	-	-	-	1.1	-	-	-	-	0.3	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	252	-	-	-	-	181	-	-	-	-	301	-	-	-	-	170	-	-
% Pedestrians	-	-	-	98.8	-	-	-	-	98.9	-	-	-	-	99.7	-	-	-	-	100.0	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/12/2023



Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/12/2023

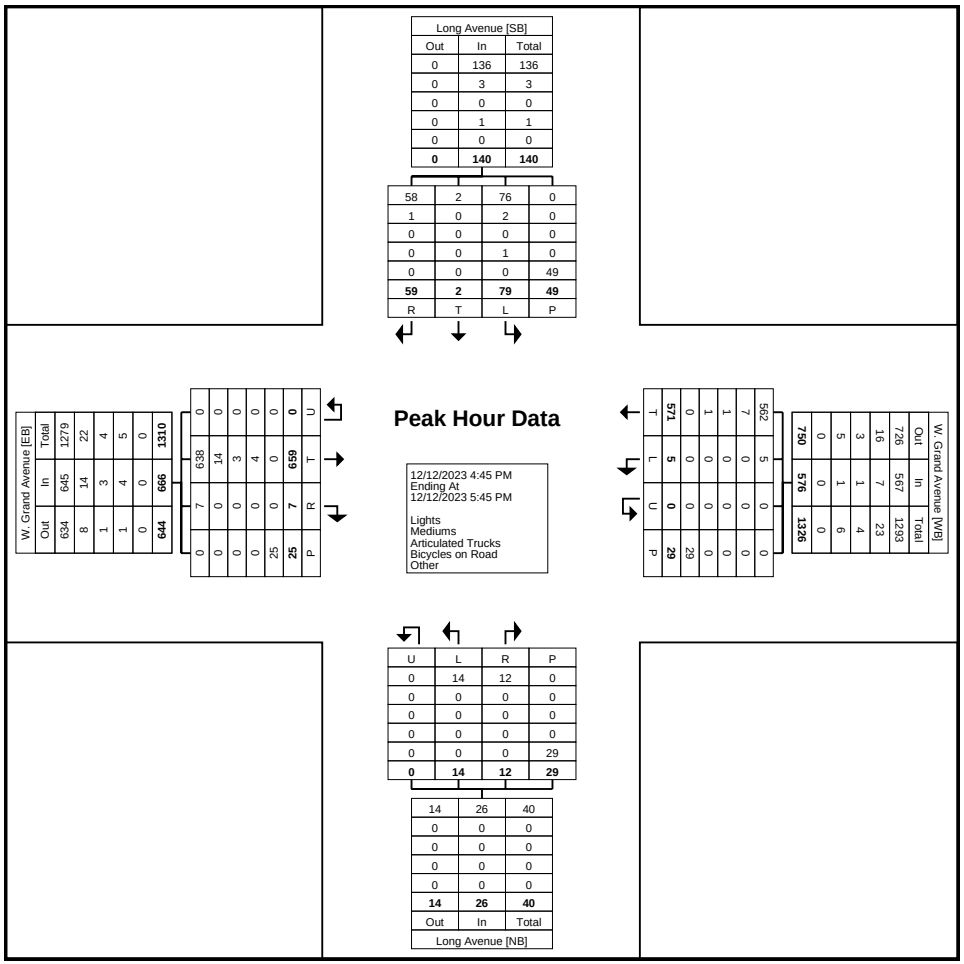
Turning Movement Peak Hour Data (4:45 PM)

Start Time	Long Avenue Southbound					W. Grand Avenue Westbound					Long Avenue Northbound					W. Grand Avenue Eastbound					
	Right	Thru	Left	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Int. Total
4:45 PM	15	0	17	20	32	135	2	0	13	137	5	5	0	17	10	3	159	0	12	162	341
5:00 PM	17	0	28	13	45	135	1	0	5	136	2	4	0	6	6	3	172	0	4	175	362
5:15 PM	12	2	16	12	30	156	2	0	5	158	3	3	0	4	6	1	170	0	8	171	365
5:30 PM	15	0	18	4	33	145	0	0	6	145	2	2	0	2	4	0	158	0	1	158	340
Total	59	2	79	49	140	571	5	0	29	576	12	14	0	29	26	7	659	0	25	666	1408
Approach %	42.1	1.4	56.4	-	-	99.1	0.9	0.0	-	-	46.2	53.8	0.0	-	-	1.1	98.9	0.0	-	-	-
Total %	4.2	0.1	5.6	-	9.9	40.6	0.4	0.0	-	40.9	0.9	1.0	0.0	-	1.8	0.5	46.8	0.0	-	47.3	-
PHF	0.868	0.250	0.705	-	0.778	0.915	0.625	0.000	-	0.911	0.600	0.700	0.000	-	0.650	0.583	0.958	0.000	-	0.951	0.964
Lights	58	2	76	-	136	562	5	0	-	567	12	14	0	-	26	7	638	0	-	645	1374
% Lights	98.3	100.0	96.2	-	97.1	98.4	100.0	-	-	98.4	100.0	100.0	-	-	100.0	100.0	96.8	-	-	96.8	97.6
Mediums	1	0	2	-	3	7	0	0	-	7	0	0	0	-	0	0	14	0	-	14	24
% Mediums	1.7	0.0	2.5	-	2.1	1.2	0.0	-	-	1.2	0.0	0.0	-	-	0.0	0.0	2.1	-	-	2.1	1.7
Articulated Trucks	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	0	3	0	-	3	4
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.2	0.0	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.3
Bicycles on Road	0	0	1	-	1	1	0	0	-	1	0	0	0	-	0	0	4	0	-	4	6
% Bicycles on Road	0.0	0.0	1.3	-	0.7	0.2	0.0	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.6	-	-	0.6	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	3.4	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	49	-	-	-	-	29	-	-	-	-	28	-	-	-	-	25	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	96.6	-	-	-	-	100.0	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Long Avenue
Site Code: 2083.001.2
Start Date: 12/12/2023



Turning Movement Peak Hour Data Plot (4:45 PM)

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/20/2023

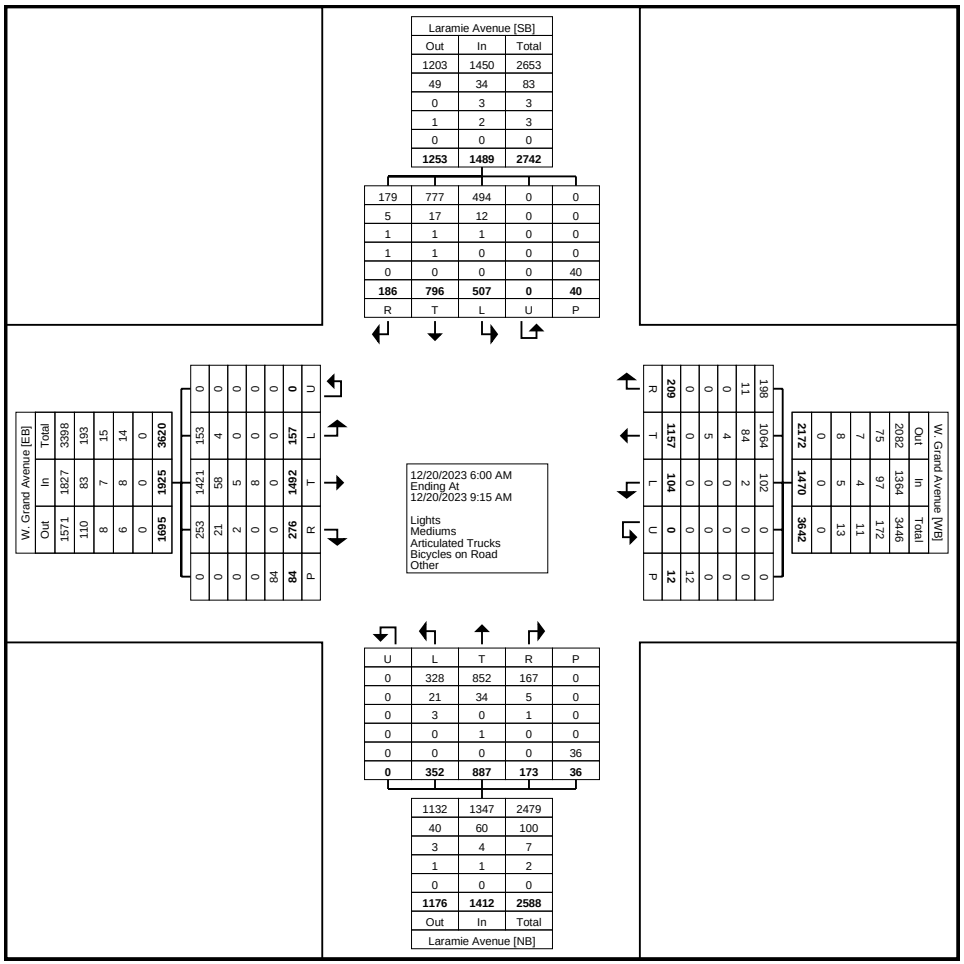
Turning Movement Data

Start Time	Laramie Avenue Southbound						W. Grand Avenue Westbound						Laramie Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	8	49	29	0	0	86	13	55	6	0	0	74	7	37	14	0	0	58	11	112	3	0	1	126	344
6:15 AM	15	35	44	0	1	94	14	67	6	0	1	87	5	30	10	0	1	45	13	114	6	0	5	133	359
6:30 AM	9	52	40	0	0	101	12	63	9	0	1	84	12	64	11	0	3	87	14	124	5	0	7	143	415
6:45 AM	10	50	44	0	2	104	8	78	7	0	1	93	12	60	11	0	1	83	16	135	5	0	5	156	436
Hourly Total	42	186	157	0	3	385	47	263	28	0	3	338	36	191	46	0	5	273	54	485	19	0	18	558	1554
7:00 AM	16	62	46	0	0	124	16	106	5	0	0	127	21	93	20	0	1	134	19	150	8	0	7	177	562
7:15 AM	16	69	44	0	4	129	17	108	4	0	0	129	18	91	26	0	1	135	11	149	2	0	11	162	555
7:30 AM	17	76	40	0	1	133	19	134	6	0	0	159	25	100	36	0	5	161	20	119	20	0	11	159	612
7:45 AM	31	90	45	0	9	166	25	116	10	0	4	151	12	79	55	0	15	146	41	95	26	0	17	162	625
Hourly Total	80	297	175	0	14	552	77	464	25	0	4	566	76	363	137	0	22	576	91	513	56	0	46	660	2354
8:00 AM	20	62	35	0	5	117	26	110	16	0	1	152	19	98	46	0	4	163	36	127	28	0	13	191	623
8:15 AM	21	87	50	0	8	158	22	100	11	0	4	133	16	84	34	0	3	134	32	121	22	0	2	175	600
8:30 AM	13	73	45	0	0	131	15	116	10	0	0	141	14	76	50	0	0	140	33	110	13	0	1	156	568
8:45 AM	10	91	45	0	10	146	22	104	14	0	0	140	12	75	39	0	2	126	30	136	19	0	4	185	597
Hourly Total	64	313	175	0	23	552	85	430	51	0	5	566	61	333	169	0	9	563	131	494	82	0	20	707	2388
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	186	796	507	0	40	1489	209	1157	104	0	12	1470	173	887	352	0	36	1412	276	1492	157	0	84	1925	6296
Approach %	12.5	53.5	34.0	0.0	-	-	14.2	78.7	7.1	0.0	-	-	12.3	62.8	24.9	0.0	-	-	14.3	77.5	8.2	0.0	-	-	-
Total %	3.0	12.6	8.1	0.0	-	23.6	3.3	18.4	1.7	0.0	-	23.3	2.7	14.1	5.6	0.0	-	22.4	4.4	23.7	2.5	0.0	-	30.6	-
Lights	179	777	494	0	-	1450	198	1064	102	0	-	1364	167	852	328	0	-	1347	253	1421	153	0	-	1827	5988
% Lights	96.2	97.6	97.4	-	-	97.4	94.7	92.0	98.1	-	-	92.8	96.5	96.1	93.2	-	-	95.4	91.7	95.2	97.5	-	-	94.9	95.1
Mediums	5	17	12	0	-	34	11	84	2	0	-	97	5	34	21	0	-	60	21	58	4	0	-	83	274
% Mediums	2.7	2.1	2.4	-	-	2.3	5.3	7.3	1.9	-	-	6.6	2.9	3.8	6.0	-	-	4.2	7.6	3.9	2.5	-	-	4.3	4.4
Articulated Trucks	1	1	1	0	-	3	0	4	0	0	-	4	1	0	3	0	-	4	2	5	0	0	-	7	18
% Articulated Trucks	0.5	0.1	0.2	-	-	0.2	0.0	0.3	0.0	-	-	0.3	0.6	0.0	0.9	-	-	0.3	0.7	0.3	0.0	-	-	0.4	0.3
Bicycles on Road	1	1	0	0	-	2	0	5	0	0	-	5	0	1	0	0	-	1	0	8	0	0	-	8	16
% Bicycles on Road	0.5	0.1	0.0	-	-	0.1	0.0	0.4	0.0	-	-	0.3	0.0	0.1	0.0	-	-	0.1	0.0	0.5	0.0	-	-	0.4	0.3
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	4	-	-
% Bicycles on Crosswalk	-	-	-	-	5.0	-	-	-	-	-	0.0	-	-	-	-	-	13.9	-	-	-	-	-	4.8	-	-
Pedestrians	-	-	-	-	38	-	-	-	-	-	12	-	-	-	-	-	31	-	-	-	-	-	80	-	-
% Pedestrians	-	-	-	-	95.0	-	-	-	-	-	100.0	-	-	-	-	-	86.1	-	-	-	-	-	95.2	-	-

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/20/2023



Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/20/2023

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Laramie Avenue Southbound						W. Grand Avenue Westbound						Laramie Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:30 AM	17	76	40	0	1	133	19	134	6	0	0	159	25	100	36	0	5	161	20	119	20	0	11	159	612
7:45 AM	31	90	45	0	9	166	25	116	10	0	4	151	12	79	55	0	15	146	41	95	26	0	17	162	625
8:00 AM	20	62	35	0	5	117	26	110	16	0	1	152	19	98	46	0	4	163	36	127	28	0	13	191	623
8:15 AM	21	87	50	0	8	158	22	100	11	0	4	133	16	84	34	0	3	134	32	121	22	0	2	175	600
Total	89	315	170	0	23	574	92	460	43	0	9	595	72	361	171	0	27	604	129	462	96	0	43	687	2460
Approach %	15.5	54.9	29.6	0.0	-	-	15.5	77.3	7.2	0.0	-	-	11.9	59.8	28.3	0.0	-	-	18.8	67.2	14.0	0.0	-	-	-
Total %	3.6	12.8	6.9	0.0	-	23.3	3.7	18.7	1.7	0.0	-	24.2	2.9	14.7	7.0	0.0	-	24.6	5.2	18.8	3.9	0.0	-	27.9	-
PHF	0.718	0.875	0.850	0.000	-	0.864	0.885	0.858	0.672	0.000	-	0.936	0.720	0.903	0.777	0.000	-	0.926	0.787	0.909	0.857	0.000	-	0.899	0.984
Lights	86	305	167	0	-	558	90	435	42	0	-	567	69	350	159	0	-	578	120	438	94	0	-	652	2355
% Lights	96.6	96.8	98.2	-	-	97.2	97.8	94.6	97.7	-	-	95.3	95.8	97.0	93.0	-	-	95.7	93.0	94.8	97.9	-	-	94.9	95.7
Mediums	2	9	3	0	-	14	2	21	1	0	-	24	2	11	11	0	-	24	8	19	2	0	-	29	91
% Mediums	2.2	2.9	1.8	-	-	2.4	2.2	4.6	2.3	-	-	4.0	2.8	3.0	6.4	-	-	4.0	6.2	4.1	2.1	-	-	4.2	3.7
Articulated Trucks	1	1	0	0	-	2	0	2	0	0	-	2	1	0	1	0	-	2	1	1	0	0	-	2	8
% Articulated Trucks	1.1	0.3	0.0	-	-	0.3	0.0	0.4	0.0	-	-	0.3	1.4	0.0	0.6	-	-	0.3	0.8	0.2	0.0	-	-	0.3	0.3
Bicycles on Road	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	0	0	4	0	0	-	4	6
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.9	0.0	-	-	0.6	0.2
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	4.3	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	2.3	-	-
Pedestrians	-	-	-	-	22	-	-	-	-	-	9	-	-	-	-	-	27	-	-	-	-	-	42	-	-
% Pedestrians	-	-	-	-	95.7	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	97.7	-	-

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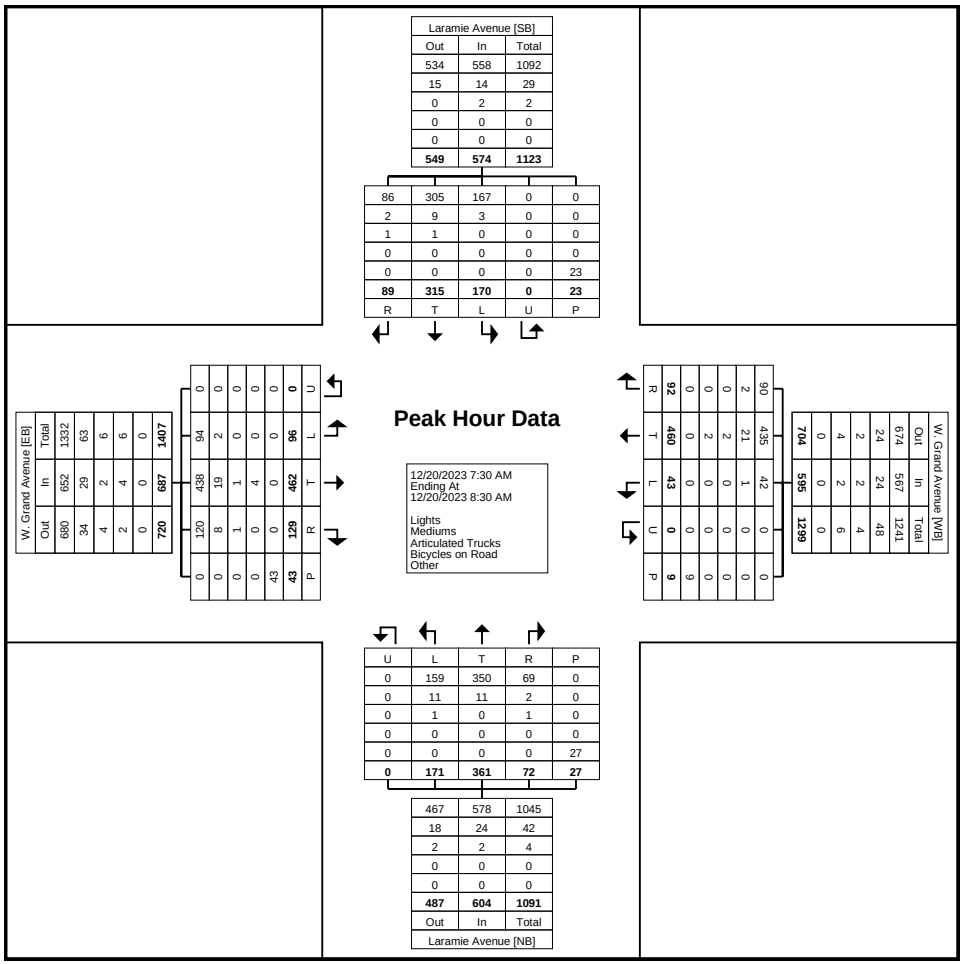
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/20/2023



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

Environmental Design International inc.
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Chicago, Illinois, United States 60603
815-730-3444 jsnape@envdesigni.com

Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/19/2023

Turning Movement Data

Start Time	Laramie Avenue Southbound						W. Grand Avenue Westbound						Laramie Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
2:00 PM	14	78	30	0	6	122	31	120	10	0	0	161	14	90	17	0	0	121	18	107	8	0	3	133	537
2:15 PM	12	69	31	0	1	112	23	126	8	0	1	157	16	84	23	0	1	123	19	118	8	0	2	145	537
2:30 PM	11	74	21	0	12	106	30	129	14	0	4	173	21	85	25	0	1	131	25	124	8	0	6	157	567
2:45 PM	8	74	30	0	8	112	28	122	14	0	2	164	15	83	28	0	4	126	23	108	15	0	8	146	548
Hourly Total	45	295	112	0	27	452	112	497	46	0	7	655	66	342	93	0	6	501	85	457	39	0	19	581	2189
3:00 PM	15	80	25	0	3	120	24	127	16	0	1	167	14	79	29	0	2	122	28	101	16	0	5	145	554
3:15 PM	13	96	22	0	2	131	26	133	10	0	0	169	20	100	33	0	1	153	22	117	13	0	4	152	605
3:30 PM	12	110	40	0	6	162	24	131	7	0	4	162	10	92	35	0	6	137	27	114	11	0	16	152	613
3:45 PM	8	88	37	0	13	133	25	135	13	0	3	173	10	84	36	0	2	130	43	117	16	0	8	176	612
Hourly Total	48	374	124	0	24	546	99	526	46	0	8	671	54	355	133	0	11	542	120	449	56	0	33	625	2384
4:00 PM	16	116	44	0	12	176	32	100	11	0	2	143	19	104	36	0	6	159	38	129	18	0	33	185	663
4:15 PM	7	88	22	0	5	117	23	138	8	0	5	169	17	82	27	0	2	126	33	119	14	0	10	166	578
4:30 PM	11	77	31	0	6	119	29	122	12	0	2	163	15	95	12	0	2	122	25	127	9	0	9	161	565
4:45 PM	15	81	26	0	4	122	31	131	13	0	4	175	17	82	31	0	3	130	14	134	11	0	3	159	586
Hourly Total	49	362	123	0	27	534	115	491	44	0	13	650	68	363	106	0	13	537	110	509	52	0	55	671	2392
5:00 PM	5	76	36	0	4	117	26	143	12	0	1	181	10	88	35	0	2	133	24	129	8	0	5	161	592
5:15 PM	15	86	37	0	1	138	27	116	14	0	0	157	10	107	27	0	1	144	34	119	19	0	8	172	611
5:30 PM	14	77	35	0	6	126	20	132	17	0	2	169	8	81	30	0	2	119	32	142	5	0	6	179	593
5:45 PM	11	68	25	0	2	104	14	132	6	0	1	152	13	76	17	0	3	106	22	130	13	0	2	165	527
Hourly Total	45	307	133	0	13	485	87	523	49	0	4	659	41	352	109	0	8	502	112	520	45	0	21	677	2323
Grand Total	187	1338	492	0	91	2017	413	2037	185	0	32	2635	229	1412	441	0	38	2082	427	1935	192	0	128	2554	9288
Approach %	9.3	66.3	24.4	0.0	-	-	15.7	77.3	7.0	0.0	-	-	11.0	67.8	21.2	0.0	-	-	16.7	75.8	7.5	0.0	-	-	-
Total %	2.0	14.4	5.3	0.0	-	21.7	4.4	21.9	2.0	0.0	-	28.4	2.5	15.2	4.7	0.0	-	22.4	4.6	20.8	2.1	0.0	-	27.5	-
Lights	181	1298	478	0	-	1957	403	1955	178	0	-	2536	225	1393	410	0	-	2028	400	1845	188	0	-	2433	8954
% Lights	96.8	97.0	97.2	-	-	97.0	97.6	96.0	96.2	-	-	96.2	98.3	98.7	93.0	-	-	97.4	93.7	95.3	97.9	-	-	95.3	96.4
Mediums	6	36	11	0	-	53	6	66	7	0	-	79	4	19	28	0	-	51	27	81	4	0	-	112	295
% Mediums	3.2	2.7	2.2	-	-	2.6	1.5	3.2	3.8	-	-	3.0	1.7	1.3	6.3	-	-	2.4	6.3	4.2	2.1	-	-	4.4	3.2
Articulated Trucks	0	0	3	0	-	3	1	4	0	0	-	5	0	0	2	0	-	2	0	2	0	0	-	2	12
% Articulated Trucks	0.0	0.0	0.6	-	-	0.1	0.2	0.2	0.0	-	-	0.2	0.0	0.0	0.5	-	-	0.1	0.0	0.1	0.0	-	-	0.1	0.1
Bicycles on Road	0	4	0	0	-	4	3	12	0	0	-	15	0	0	1	0	-	1	0	7	0	0	-	7	27
% Bicycles on Road	0.0	0.3	0.0	-	-	0.2	0.7	0.6	0.0	-	-	0.6	0.0	0.0	0.2	-	-	0.0	0.0	0.4	0.0	-	-	0.3	0.3
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	3.3	-	-	-	-	-	18.8	-	-	-	-	-	10.5	-	-	-	-	-	0.8	-	-
Pedestrians	-	-	-	-	88	-	-	-	-	-	26	-	-	-	-	-	34	-	-	-	-	-	127	-	-
% Pedestrians	-	-	-	-	96.7	-	-	-	-	-	81.3	-	-	-	-	-	89.5	-	-	-	-	-	99.2	-	-

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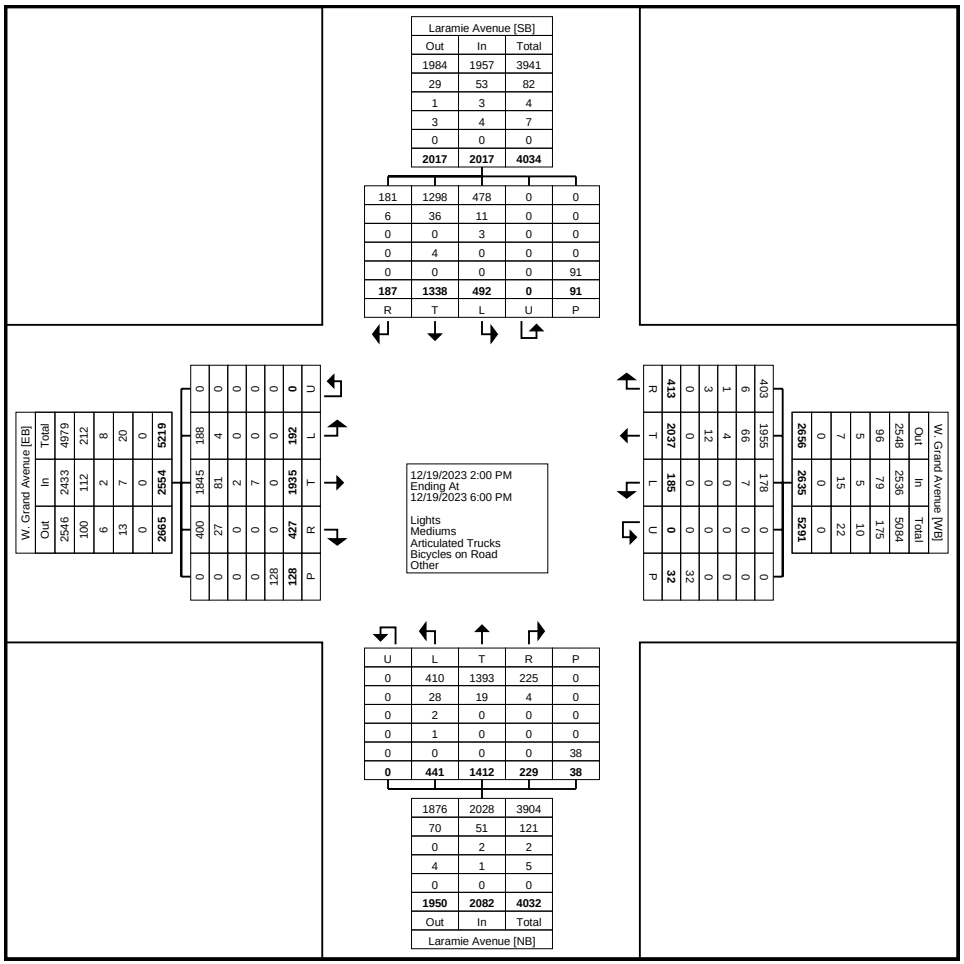

Turning Movement Data Plot

Environmental Design International inc.
33 West Monroe Street, Suite 1825

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Count Name: Grand Avenue at Laramie Avenue
Site Code: 2083.001.3
Start Date: 12/19/2023

Turning Movement Peak Hour Data (3:15 PM)

Start Time	Laramie Avenue Southbound						W. Grand Avenue Westbound						Laramie Avenue Northbound						W. Grand Avenue Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
3:15 PM	13	96	22	0	2	131	26	133	10	0	0	169	20	100	33	0	1	153	22	117	13	0	4	152	605
3:30 PM	12	110	40	0	6	162	24	131	7	0	4	162	10	92	35	0	6	137	27	114	11	0	16	152	613
3:45 PM	8	88	37	0	13	133	25	135	13	0	3	173	10	84	36	0	2	130	43	117	16	0	8	176	612
4:00 PM	16	116	44	0	12	176	32	100	11	0	2	143	19	104	36	0	6	159	38	129	18	0	33	185	663
Total	49	410	143	0	33	602	107	499	41	0	9	647	59	380	140	0	15	579	130	477	58	0	61	665	2493
Approach %	8.1	68.1	23.8	0.0	-	-	16.5	77.1	6.3	0.0	-	-	10.2	65.6	24.2	0.0	-	-	19.5	71.7	8.7	0.0	-	-	-
Total %	2.0	16.4	5.7	0.0	-	24.1	4.3	20.0	1.6	0.0	-	26.0	2.4	15.2	5.6	0.0	-	23.2	5.2	19.1	2.3	0.0	-	26.7	-
PHF	0.766	0.884	0.813	0.000	-	0.855	0.836	0.924	0.788	0.000	-	0.935	0.738	0.913	0.972	0.000	-	0.910	0.756	0.924	0.806	0.000	-	0.899	0.940
Lights	49	396	138	0	-	583	106	479	39	0	-	624	59	372	129	0	-	560	124	461	56	0	-	641	2408
% Lights	100.0	96.6	96.5	-	-	96.8	99.1	96.0	95.1	-	-	96.4	100.0	97.9	92.1	-	-	96.7	95.4	96.6	96.6	-	-	96.4	96.6
Mediums	0	13	5	0	-	18	1	18	2	0	-	21	0	8	10	0	-	18	6	15	2	0	-	23	80
% Mediums	0.0	3.2	3.5	-	-	3.0	0.9	3.6	4.9	-	-	3.2	0.0	2.1	7.1	-	-	3.1	4.6	3.1	3.4	-	-	3.5	3.2
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.7	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	1	0	0	-	1	0	2	0	0	-	2	0	0	0	0	-	0	0	1	0	0	-	1	4
% Bicycles on Road	0.0	0.2	0.0	-	-	0.2	0.0	0.4	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	-	0.2	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	11.1	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	33	-	-	-	-	-	8	-	-	-	-	-	15	-	-	-	-	-	61	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	88.9	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

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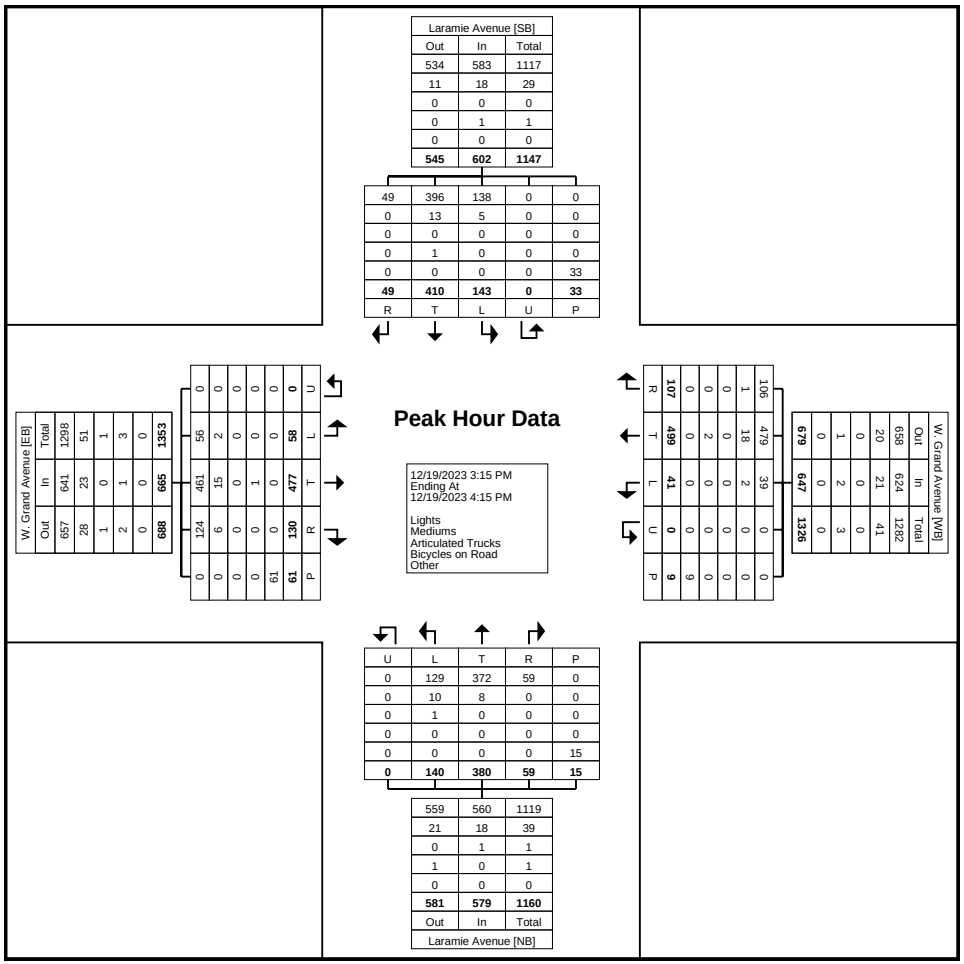


Turning Movement Peak Hour Data Plot (3:15 PM)

APPENDIX 3

ITE Trip Generation, Land Use 140 – Industrial, Manufacturing

Manufacturing
(140)

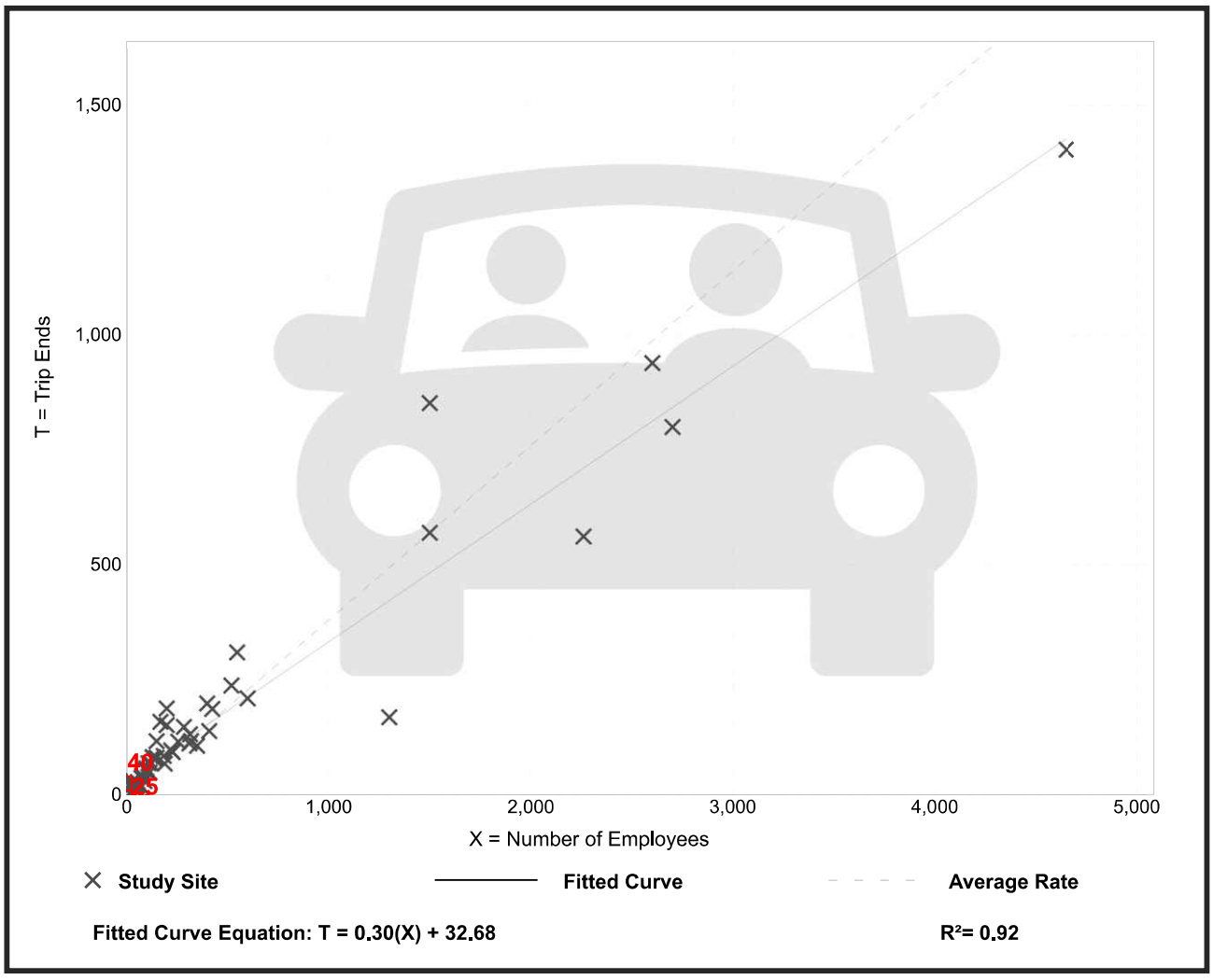
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 54
Avg. Num. of Employees: 459
Directional Distribution: 83% entering, 17% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.38	0.13 - 1.27	0.15

Data Plot and Equation



Manufacturing
(140)

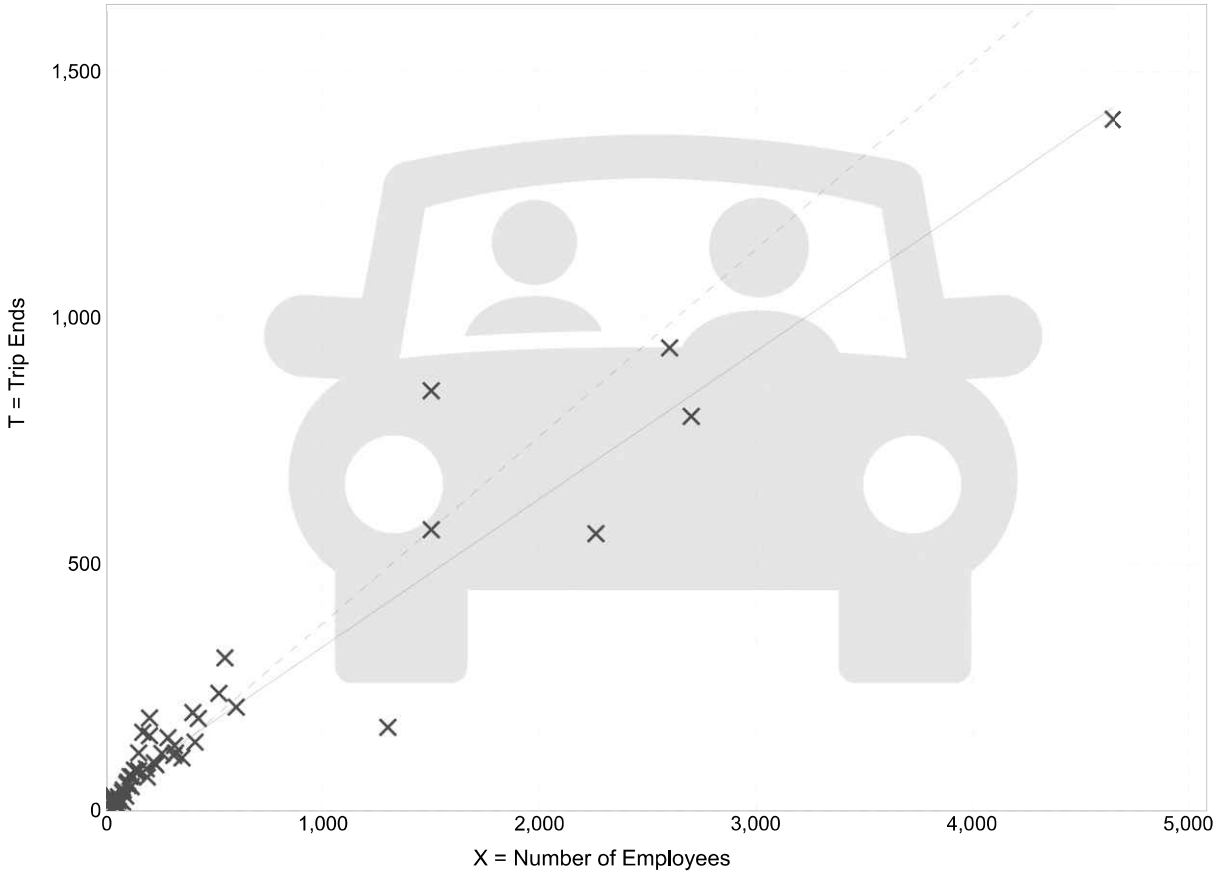
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 54
Avg. Num. of Employees: 459
Directional Distribution: 83% entering, 17% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.38	0.13 - 1.27	0.15

Data Plot and Equation



Fitted Curve Equation: T = 0.30(X) + 32.68

R^2= 0.92

Manufacturing
(140)

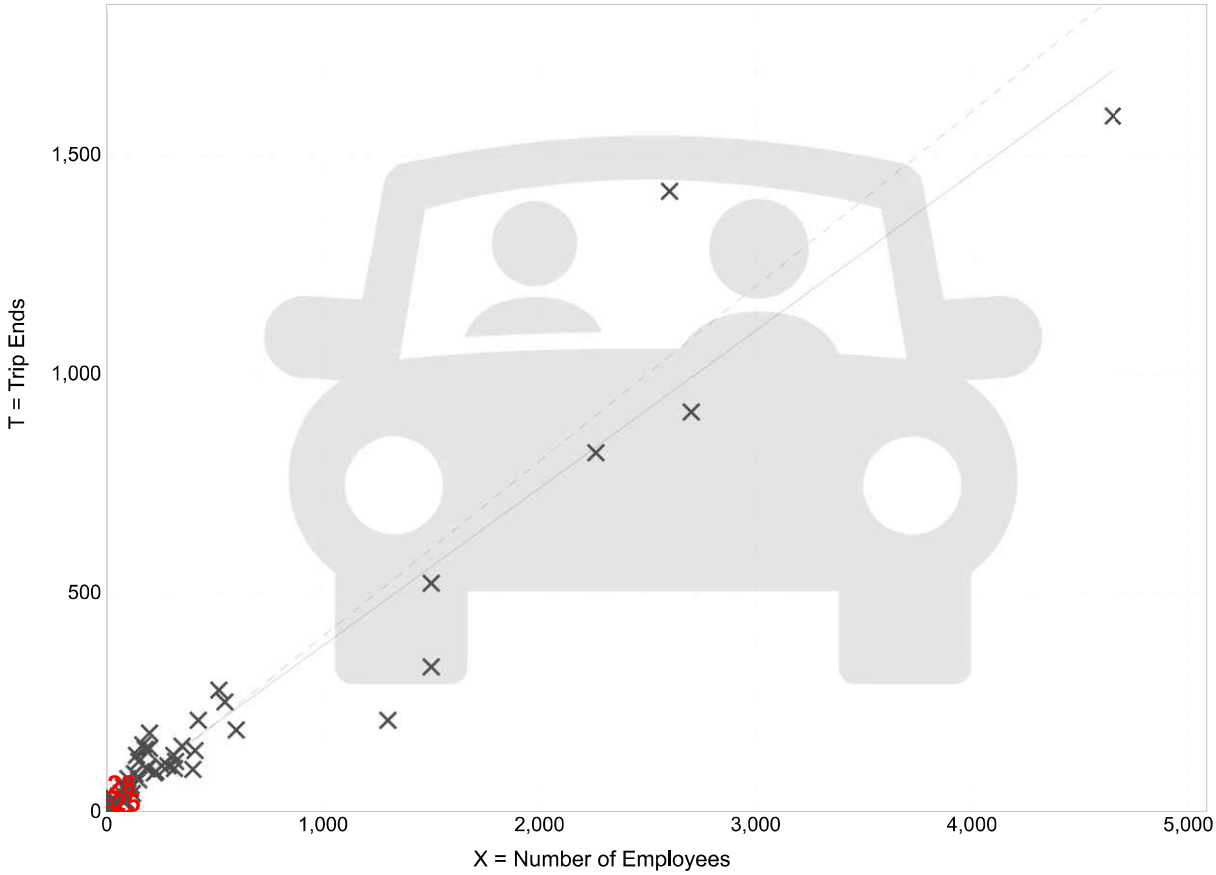
Vehicle Trip Ends vs: **Employees**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 55
Avg. Num. of Employees: 454
Directional Distribution: 39% entering, 61% exiting

Vehicle Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.40	0.16 - 1.18	0.15

Data Plot and Equation



Fitted Curve Equation: T = 0.36(X) + 18.55

R^2= 0.92

Manufacturing
(140)

Truck Trip Ends vs: **Employees**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 18
Avg. Num. of Employees: 107
Directional Distribution: 45% entering, 55% exiting

Truck Trip Generation per Employee

Average Rate	Range of Rates	Standard Deviation
0.04	0.00 - 0.25	0.07

Data Plot and Equation

Fitted Curve Equation: Not Given

R^2= ****

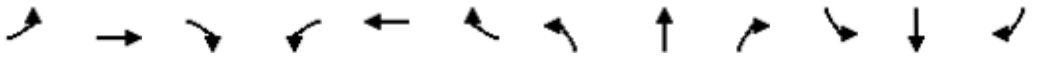
APPENDIX 4

Capacity Analysis Results

2023 Existing Background Traffic

AM Peak

PM Peak

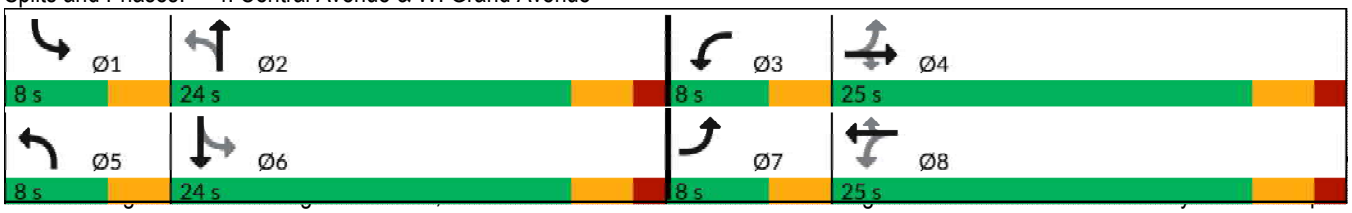


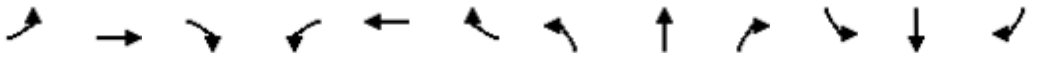
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	466	161	122	433	191	176	489	138	147	521	25
Future Volume (vph)	49	466	161	122	433	191	176	489	138	147	521	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98		0.96	0.99		0.93	0.98	0.99		0.99	0.99	
Frt			0.850			0.850		0.967			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1668	1818	1546	1728	3341	0	1685	3458	0
Flt Permitted	0.298			0.216			0.314			0.248		
Satd. Flow (perm)	537	1818	1459	377	1818	1445	565	3341	0	437	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175			208		57			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	48		19	19		48	15		13	13		15
Confl. Bikes (#/hr)						3			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	1%	1%	1%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	507	175	133	471	208	191	532	150	160	566	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	507	175	133	471	208	191	682	0	160	593	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	24.9	19.7	19.7	25.5	21.2	21.2	21.8	16.6		21.8	16.6	
Actuated g/C Ratio	0.43	0.34	0.34	0.44	0.37	0.37	0.38	0.29		0.38	0.29	
v/c Ratio	0.15	0.81	0.28	0.46	0.70	0.31	0.59	0.67		0.56	0.59	
Control Delay (s/veh)	10.7	33.4	4.6	16.1	26.2	4.4	21.0	21.5		21.1	21.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.7	33.4	4.6	16.1	26.2	4.4	21.0	21.5		21.1	21.2	
LOS	B	C	A	B	C	A	C	C		C	C	
Approach Delay (s/veh)		25.0			19.0			21.4			21.2	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 57.5			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay (s/veh): 21.6		Intersection LOS: C	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue



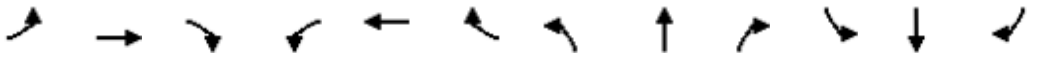


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	614	32	7	476	0	58	0	30	150	3	147
Future Volume (vph)	0	614	32	7	476	0	58	0	30	150	3	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.92		0.87	0.93	
Frt		0.993						0.954			0.853	
Flt Protected					0.999			0.968		0.950		
Satd. Flow (prot)	0	1809	0	0	1737	0	0	1658	0	1805	1508	0
Flt Permitted					0.990			0.743		0.695		
Satd. Flow (perm)	0	1809	0	0	1721	0	0	1241	0	1158	1508	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7						33			160	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	86		84	84		86	29		85	85		29
Confl. Bikes (#/hr)			4			3			1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	667	35	8	517	0	63	0	33	163	3	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	702	0	0	525	0	0	96	0	163	163	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		21.9			21.9			12.5		12.5	12.5	
Actuated g/C Ratio		0.50			0.50			0.28		0.28	0.28	
v/c Ratio		0.77			0.61			0.25		0.49	0.30	
Control Delay (s/veh)		16.1			11.7			12.2		21.1	5.0	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		16.1			11.7			12.2		21.1	5.0	
LOS		B			B			B		C	A	
Approach Delay (s/veh)		16.2			11.7			12.3			13.1	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 13.9		Intersection LOS: B	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Long Avenue & W. Grand Avenue

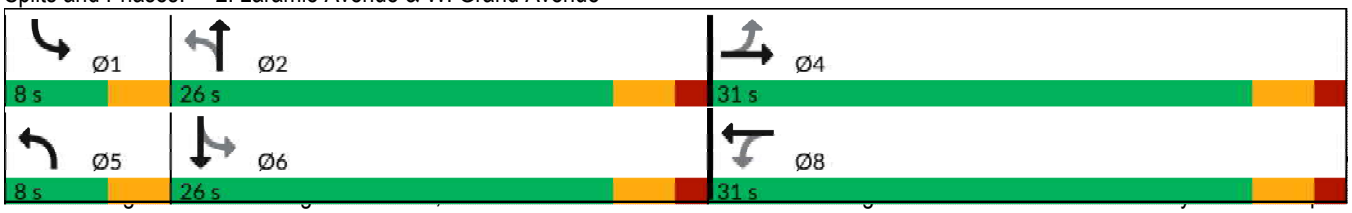


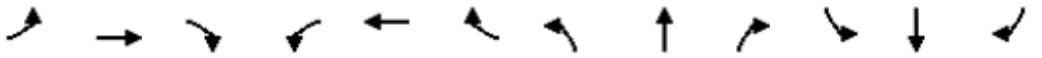
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	462	129	43	460	92	171	361	72	170	315	89
Future Volume (vph)	96	462	129	43	460	92	171	361	72	170	315	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.98		0.98	0.99		0.96	0.99		0.99	0.97	
Frt		0.967			0.975			0.975			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1746	0	1745	1834	0	1728	1715	0	1685	1673	0
Flt Permitted	0.194			0.163			0.272			0.232		
Satd. Flow (perm)	341	1746	0	296	1834	0	480	1715	0	409	1673	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			19			16			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	22		27	27		22	42		9	9		42
Confl. Bikes (#/hr)						1			2			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	104	502	140	47	500	100	186	392	78	185	342	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	642	0	47	600	0	186	470	0	185	439	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	31.0	31.0		31.0	31.0		8.0	26.0		8.0	26.0	
Total Split (%)	47.7%	47.7%		47.7%	47.7%		12.3%	40.0%		12.3%	40.0%	
Maximum Green (s)	26.5	26.5		26.5	26.5		5.0	21.5		5.0	21.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	24.6	24.6		24.6	24.6		25.9	19.3		25.9	19.3	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.42	0.32		0.42	0.32	
v/c Ratio	0.75	0.89		0.39	0.80		0.60	0.85		0.66	0.80	
Control Delay (s/veh)	55.3	34.9		25.6	26.2		20.6	36.2		25.1	32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	55.3	34.9		25.6	26.2		20.6	36.2		25.1	32.2	
LOS	E	C		C	C		C	D		C	C	
Approach Delay (s/veh)		37.8			26.2			31.8			30.1	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 61.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay (s/veh): 31.7		Intersection LOS: C	
Intersection Capacity Utilization 87.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Laramie Avenue & W. Grand Avenue



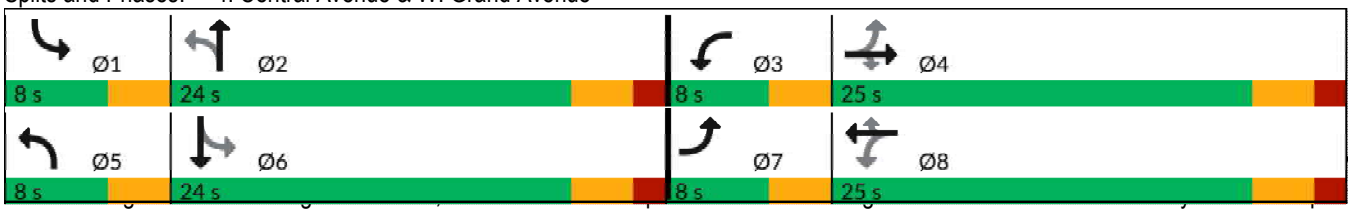


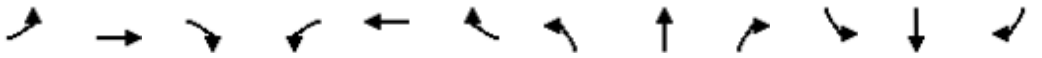
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	439	187	127	527	99	220	455	79	128	496	52
Future Volume (vph)	38	439	187	127	527	99	220	455	79	128	496	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97		0.98	0.99		0.89	0.99	0.99		0.99	0.99	
Frt			0.850			0.850		0.978			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1685	1818	1561	1745	3385	0	1685	3380	0
Flt Permitted	0.212			0.241			0.273			0.347		
Satd. Flow (perm)	381	1818	1481	427	1818	1405	499	3385	0	610	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203			126		31			18	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	82		5	5		82	6		13	13		6
Confl. Bikes (#/hr)						2			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	1%	6%
Adj. Flow (vph)	41	477	203	138	573	108	239	495	86	139	539	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	477	203	138	573	108	239	581	0	139	596	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	25.9	20.6	20.6	27.1	23.7	23.7	23.1	17.8		22.4	15.8	
Actuated g/C Ratio	0.43	0.35	0.35	0.45	0.40	0.40	0.39	0.30		0.38	0.26	
v/c Ratio	0.14	0.76	0.31	0.46	0.79	0.17	0.79	0.56		0.43	0.65	
Control Delay (s/veh)	10.6	29.5	4.5	15.5	30.1	3.7	36.9	20.2		16.0	22.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.6	29.5	4.5	15.5	30.1	3.7	36.9	20.2		16.0	22.9	
LOS	B	C	A	B	C	A	D	C		B	C	
Approach Delay (s/veh)		21.4			24.2			25.1			21.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.7			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 23.2		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue



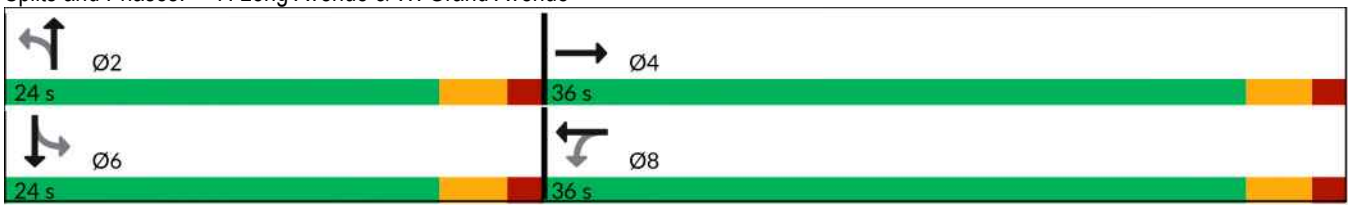


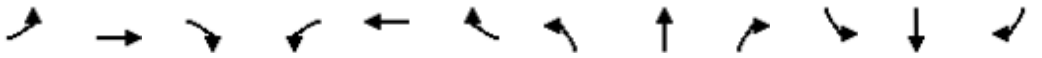
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	659	7	5	571	0	14	0	12	79	2	59
Future Volume (vph)	0	659	7	5	571	0	14	0	12	79	2	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.94		0.95	0.93	
Frt		0.999						0.937			0.855	
Flt Protected								0.974		0.950		
Satd. Flow (prot)	0	1833	0	0	1739	0	0	1679	0	1805	1522	0
Flt Permitted					0.995			0.858		0.739		
Satd. Flow (perm)	0	1833	0	0	1730	0	0	1449	0	1339	1522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						27			64	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	49		28	28		49	25		29	29		25
Confl. Bikes (#/hr)			1			1			1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	716	8	5	621	0	15	0	13	86	2	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	724	0	0	626	0	0	28	0	86	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		21.3			21.3			9.9		9.9	9.9	
Actuated g/C Ratio		0.52			0.52			0.24		0.24	0.24	
v/c Ratio		0.75			0.68			0.07		0.26	0.15	
Control Delay (s/veh)		13.0			11.4			8.2		17.3	6.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		13.0			11.4			8.2		17.3	6.7	
LOS		B			B			A		B	A	
Approach Delay (s/veh)		13.0			11.5			8.2			12.8	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 40.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.3		Intersection LOS: B	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Long Avenue & W. Grand Avenue



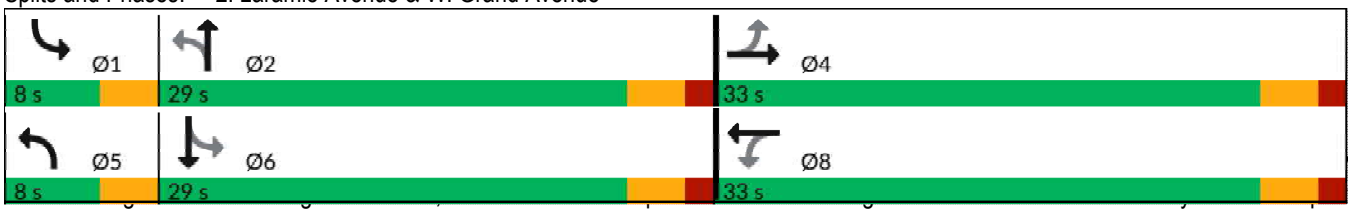


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	477	130	41	499	107	140	380	59	143	410	49
Future Volume (vph)	58	477	130	41	499	107	140	380	59	143	410	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98		0.96	0.99		0.99	0.98	
Frt		0.968			0.974			0.980			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1756	0	1745	1823	0	1728	1727	0	1685	1718	0
Flt Permitted	0.150			0.150			0.212			0.238		
Satd. Flow (perm)	266	1756	0	276	1823	0	371	1727	0	420	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			19			12			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	33		15	15		33	61		8	8		61
Confl. Bikes (#/hr)						1			3			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	63	518	141	45	542	116	152	413	64	155	446	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	659	0	45	658	0	152	477	0	155	499	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	33.0	33.0		33.0	33.0		8.0	29.0		8.0	29.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		11.4%	41.4%		11.4%	41.4%	
Maximum Green (s)	28.5	28.5		28.5	28.5		5.0	24.5		5.0	24.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	26.6	26.6		26.6	26.6		28.5	21.9		28.5	21.9	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.43	0.33		0.43	0.33	
v/c Ratio	0.58	0.90		0.40	0.87		0.57	0.81		0.55	0.86	
Control Delay (s/veh)	43.3	37.8		27.9	33.6		20.3	33.3		19.1	37.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	43.3	37.8		27.9	33.6		20.3	33.3		19.1	37.8	
LOS	D	D		C	C		C	C		B	D	
Approach Delay (s/veh)		38.3			33.3			30.2			33.4	
Approach LOS		D			C			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 70	
Actuated Cycle Length: 65.7	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay (s/veh): 33.9	Intersection LOS: C
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	

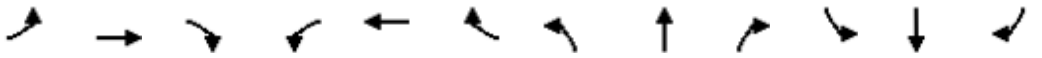
Splits and Phases: 2: Laramie Avenue & W. Grand Avenue



2024 No Build Background Traffic

AM Peak

PM Peak

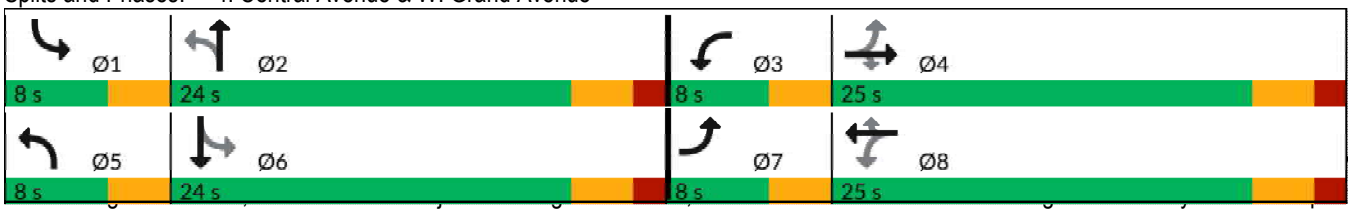


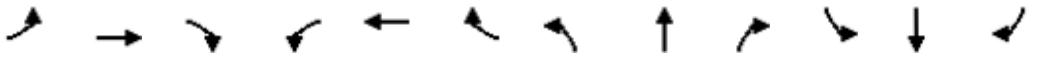
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	468	162	123	435	192	177	491	139	148	524	25
Future Volume (vph)	49	468	162	123	435	192	177	491	139	148	524	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98		0.96	0.99		0.93	0.98	0.98		0.99	0.99	
Frt			0.850			0.850		0.967			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1668	1818	1546	1728	3341	0	1685	3458	0
Flt Permitted	0.274			0.192			0.284			0.287		
Satd. Flow (perm)	494	1818	1459	335	1818	1445	511	3341	0	505	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			209		57			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	48		19	19		48	15		13	13		15
Confl. Bikes (#/hr)						3			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	1%	1%	1%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	509	176	134	473	209	192	534	151	161	570	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	509	176	134	473	209	192	685	0	161	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	24.5	19.3	19.3	25.1	20.8	20.8	24.0	18.7		23.1	16.4	
Actuated g/C Ratio	0.41	0.33	0.33	0.42	0.35	0.35	0.41	0.32		0.39	0.28	
v/c Ratio	0.16	0.85	0.29	0.51	0.73	0.32	0.61	0.62		0.53	0.61	
Control Delay (s/veh)	10.9	37.7	4.7	18.5	28.0	4.5	22.7	20.3		19.1	22.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.9	37.7	4.7	18.5	28.0	4.5	22.7	20.3		19.1	22.0	
LOS	B	D	A	B	C	A	C	C		B	C	
Approach Delay (s/veh)		27.9			20.4			20.9			21.5	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 22.5		Intersection LOS: C	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue



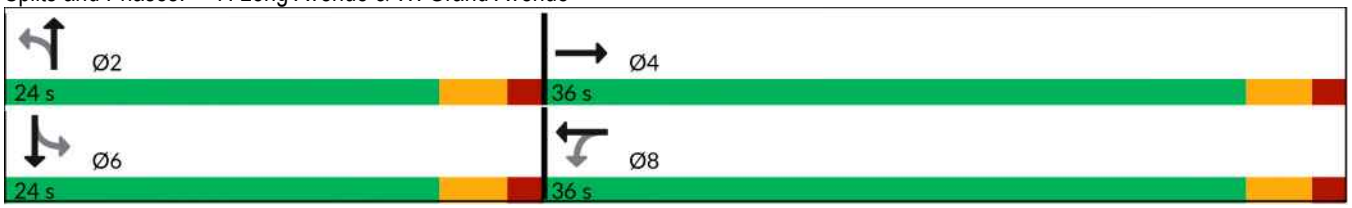


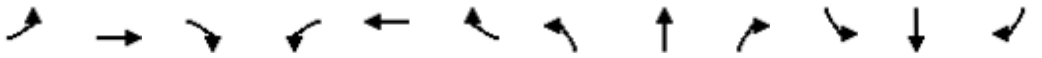
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	617	32	7	478	0	58	0	30	151	3	148
Future Volume (vph)	0	617	32	7	478	0	58	0	30	151	3	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.92		0.87	0.93	
Frt		0.993						0.954			0.853	
Flt Protected					0.999			0.968		0.950		
Satd. Flow (prot)	0	1809	0	0	1737	0	0	1658	0	1805	1508	0
Flt Permitted					0.990			0.742		0.695		
Satd. Flow (perm)	0	1809	0	0	1721	0	0	1239	0	1158	1508	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7						33			161	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	86		84	84		86	29		85	85		29
Confl. Bikes (#/hr)			4			3			1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	671	35	8	520	0	63	0	33	164	3	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	706	0	0	528	0	0	96	0	164	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		22.1			22.1			12.5		12.5	12.5	
Actuated g/C Ratio		0.50			0.50			0.28		0.28	0.28	
v/c Ratio		0.77			0.61			0.25		0.50	0.30	
Control Delay (s/veh)		16.3			11.7			12.3		21.3	5.0	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		16.3			11.7			12.3		21.3	5.0	
LOS		B			B			B		C	A	
Approach Delay (s/veh)		16.3			11.8			12.3			13.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 14.0		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Long Avenue & W. Grand Avenue



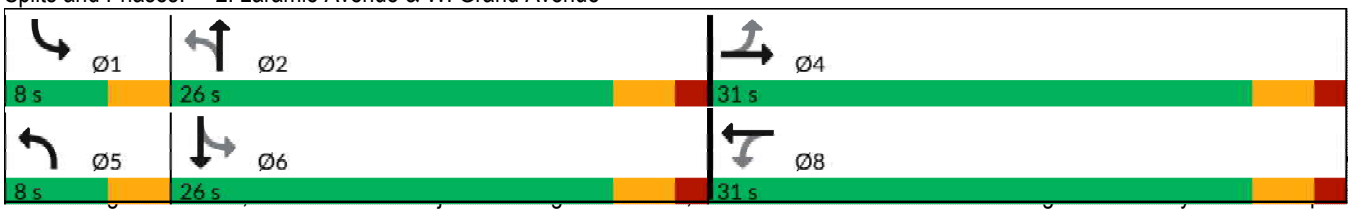


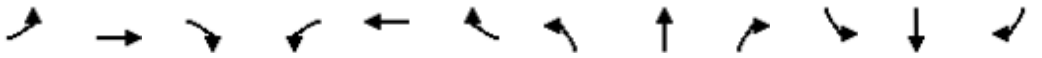
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	464	130	43	462	92	172	363	72	171	317	89
Future Volume (vph)	96	464	130	43	462	92	172	363	72	171	317	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.98		0.98	0.99		0.96	0.99		0.99	0.97	
Frt		0.967			0.975			0.975			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1746	0	1745	1834	0	1728	1715	0	1685	1674	0
Flt Permitted	0.192			0.162			0.269			0.228		
Satd. Flow (perm)	337	1746	0	294	1834	0	474	1715	0	402	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			19			16			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	22		27	27		22	42		9	9		42
Confl. Bikes (#/hr)						1			2			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	104	504	141	47	502	100	187	395	78	186	345	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	645	0	47	602	0	187	473	0	186	442	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	31.0	31.0		31.0	31.0		8.0	26.0		8.0	26.0	
Total Split (%)	47.7%	47.7%		47.7%	47.7%		12.3%	40.0%		12.3%	40.0%	
Maximum Green (s)	26.5	26.5		26.5	26.5		5.0	21.5		5.0	21.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		26.0	19.4		26.0	19.4	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.42	0.32		0.42	0.32	
v/c Ratio	0.77	0.89		0.39	0.80		0.61	0.85		0.67	0.81	
Control Delay (s/veh)	57.0	35.3		25.8	26.3		21.1	36.6		25.9	32.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	57.0	35.3		25.8	26.3		21.1	36.6		25.9	32.4	
LOS	E	D		C	C		C	D		C	C	
Approach Delay (s/veh)		38.3			26.3			32.3			30.5	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 61.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay (s/veh): 32.1		Intersection LOS: C	
Intersection Capacity Utilization 88.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Laramie Avenue & W. Grand Avenue



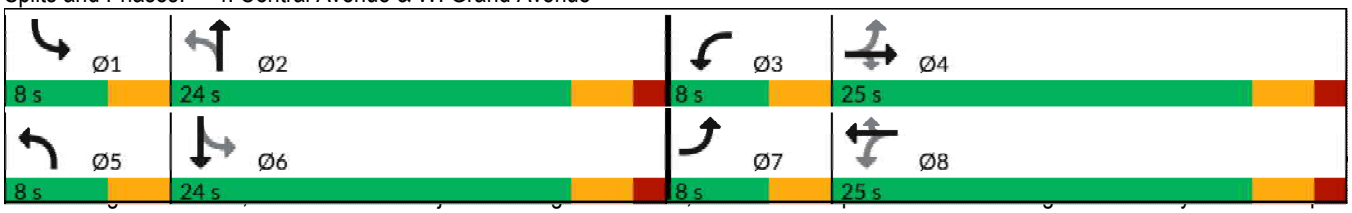


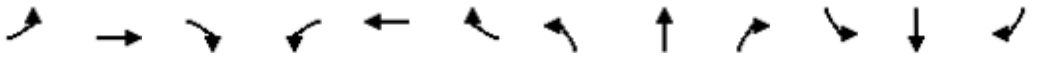
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	441	188	128	530	99	221	457	79	129	498	52
Future Volume (vph)	38	441	188	128	530	99	221	457	79	129	498	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97		0.98	0.99		0.89	0.99	0.99		0.99	0.99	
Frt			0.850			0.850		0.978			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1685	1818	1561	1745	3385	0	1685	3380	0
Flt Permitted	0.210			0.240			0.271			0.345		
Satd. Flow (perm)	377	1818	1481	425	1818	1405	496	3385	0	606	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			204			126		31			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	82		5	5		82	6		13	13		6
Confl. Bikes (#/hr)						2			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	1%	6%
Adj. Flow (vph)	41	479	204	139	576	108	240	497	86	140	541	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	479	204	139	576	108	240	583	0	140	598	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	26.0	20.6	20.6	27.2	23.8	23.8	23.2	17.8		22.4	15.8	
Actuated g/C Ratio	0.43	0.34	0.34	0.45	0.40	0.40	0.39	0.30		0.37	0.26	
v/c Ratio	0.14	0.76	0.31	0.46	0.79	0.17	0.80	0.56		0.44	0.66	
Control Delay (s/veh)	10.6	29.7	4.5	15.6	30.4	3.7	37.8	20.2		16.1	23.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.6	29.7	4.5	15.6	30.4	3.7	37.8	20.2		16.1	23.0	
LOS	B	C	A	B	C	A	D	C		B	C	
Approach Delay (s/veh)		21.5			24.5			25.4			21.7	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.8			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 23.4		Intersection LOS: C	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue



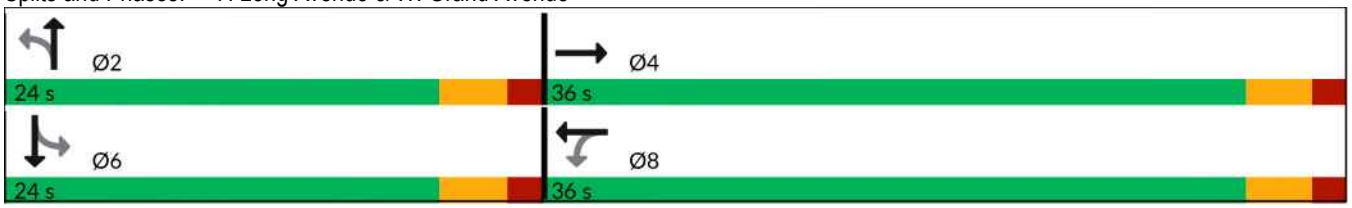


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	662	7	5	574	0	14	0	12	79	2	59
Future Volume (vph)	0	662	7	5	574	0	14	0	12	79	2	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.94		0.95	0.93	
Frt		0.999						0.937			0.855	
Flt Protected								0.974		0.950		
Satd. Flow (prot)	0	1833	0	0	1739	0	0	1679	0	1805	1522	0
Flt Permitted					0.995			0.858		0.739		
Satd. Flow (perm)	0	1833	0	0	1730	0	0	1449	0	1339	1522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						27			64	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	49		28	28		49	25		29	29		25
Confl. Bikes (#/hr)			1			1			1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	720	8	5	624	0	15	0	13	86	2	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	728	0	0	629	0	0	28	0	86	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		21.5			21.5			9.9		9.9	9.9	
Actuated g/C Ratio		0.53			0.53			0.24		0.24	0.24	
v/c Ratio		0.75			0.69			0.07		0.26	0.15	
Control Delay (s/veh)		13.0			11.4			8.2		17.4	6.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		13.0			11.4			8.2		17.4	6.7	
LOS		B			B			A		B	A	
Approach Delay (s/veh)		13.0			11.5			8.2			12.8	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 40.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.3		Intersection LOS: B	
Intersection Capacity Utilization 55.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Long Avenue & W. Grand Avenue

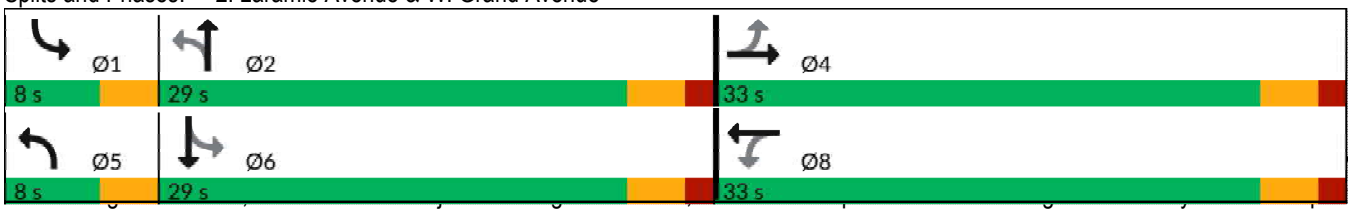


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	479	131	41	501	108	141	382	59	144	412	49
Future Volume (vph)	58	479	131	41	501	108	141	382	59	144	412	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98		0.96	0.99		0.99	0.98	
Frt		0.968			0.973			0.980			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1756	0	1745	1821	0	1728	1727	0	1685	1718	0
Flt Permitted	0.150			0.150			0.208			0.235		
Satd. Flow (perm)	266	1756	0	276	1821	0	364	1727	0	415	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			19			12			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	33		15	15		33	61		8	8		61
Confl. Bikes (#/hr)						1			3			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	63	521	142	45	545	117	153	415	64	157	448	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	663	0	45	662	0	153	479	0	157	501	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	33.0	33.0		33.0	33.0		8.0	29.0		8.0	29.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		11.4%	41.4%		11.4%	41.4%	
Maximum Green (s)	28.5	28.5		28.5	28.5		5.0	24.5		5.0	24.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	26.7	26.7		26.7	26.7		28.5	21.9		28.5	21.9	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.43	0.33		0.43	0.33	
v/c Ratio	0.58	0.91		0.40	0.88		0.58	0.82		0.56	0.86	
Control Delay (s/veh)	43.2	38.4		27.9	34.3		21.0	33.6		19.6	38.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	43.2	38.4		27.9	34.3		21.0	33.6		19.6	38.1	
LOS	D	D		C	C		C	C		B	D	
Approach Delay (s/veh)		38.8			33.9			30.6			33.7	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 65.9			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 34.4		Intersection LOS: C	
Intersection Capacity Utilization 88.5%		ICU Level of Service E	
Analysis Period (min) 15			

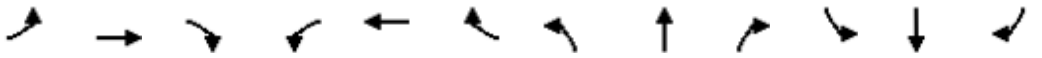
Splits and Phases: 2: Laramie Avenue & W. Grand Avenue



2024 Total Projected Traffic

AM Peak

PM Peak

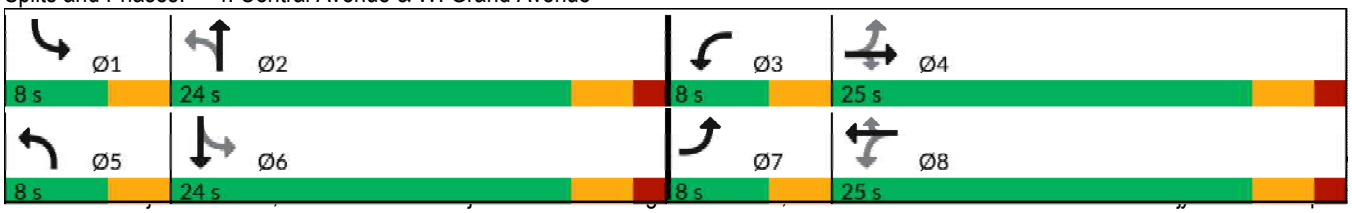


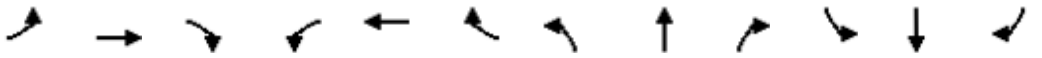
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	477	162	123	436	193	177	491	141	152	524	25
Future Volume (vph)	49	477	162	123	436	193	177	491	141	152	524	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98		0.96	0.99		0.93	0.98	0.98		0.99	0.99	
Frt			0.850			0.850		0.967			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1668	1818	1546	1728	3340	0	1685	3458	0
Flt Permitted	0.272			0.190			0.283			0.284		
Satd. Flow (perm)	490	1818	1459	332	1818	1445	509	3340	0	500	3458	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			210		58			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	48		19	19		48	15		13	13		15
Confl. Bikes (#/hr)						3			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	1%	1%	1%	1%	0%	0%	0%	0%	0%
Adj. Flow (vph)	53	518	176	134	474	210	192	534	153	165	570	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	518	176	134	474	210	192	687	0	165	597	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	24.7	19.5	19.5	25.3	21.0	21.0	24.0	18.7		23.1	16.4	
Actuated g/C Ratio	0.42	0.33	0.33	0.43	0.35	0.35	0.40	0.31		0.39	0.28	
v/c Ratio	0.16	0.87	0.29	0.52	0.73	0.32	0.61	0.62		0.55	0.62	
Control Delay (s/veh)	11.0	38.8	4.7	18.6	27.8	4.5	22.9	20.4		19.8	22.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	11.0	38.8	4.7	18.6	27.8	4.5	22.9	20.4		19.8	22.1	
LOS	B	D	A	B	C	A	C	C		B	C	
Approach Delay (s/veh)		28.8			20.4			21.0			21.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 22.8		Intersection LOS: C	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	619	32	7	493	0	58	0	30	151	3	148
Future Volume (vph)	0	619	32	7	493	0	58	0	30	151	3	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.92		0.87	0.93	
Frt		0.993						0.954			0.853	
Flt Protected					0.999			0.968		0.950		
Satd. Flow (prot)	0	1809	0	0	1737	0	0	1658	0	1805	1508	0
Flt Permitted					0.990			0.742		0.695		
Satd. Flow (perm)	0	1809	0	0	1721	0	0	1239	0	1158	1508	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7						33			161	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	86		84	84		86	29		85	85		29
Confl. Bikes (#/hr)			4			3			1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	673	35	8	536	0	63	0	33	164	3	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	708	0	0	544	0	0	96	0	164	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		22.2			22.2			12.5		12.5	12.5	
Actuated g/C Ratio		0.50			0.50			0.28		0.28	0.28	
v/c Ratio		0.77			0.63			0.25		0.50	0.30	
Control Delay (s/veh)		16.3			12.1			12.3		21.3	5.0	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		16.3			12.1			12.3		21.3	5.0	
LOS		B			B			B		C	A	
Approach Delay (s/veh)		16.4			12.1			12.3			13.2	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 44.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 14.2		Intersection LOS: B	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

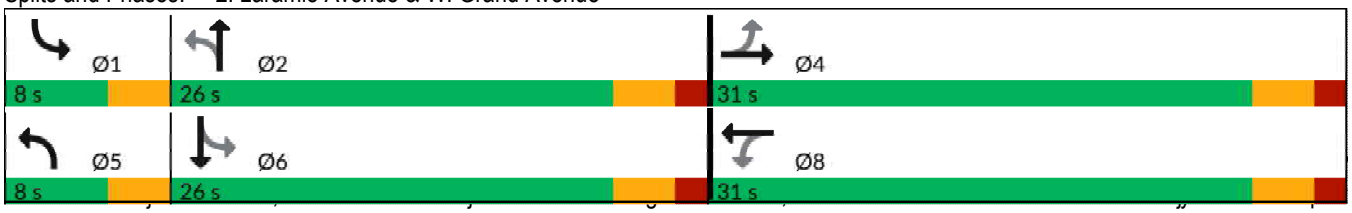
Splits and Phases: 7: Long Avenue & W. Grand Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	465	131	43	471	92	176	363	72	171	317	91
Future Volume (vph)	96	465	131	43	471	92	176	363	72	171	317	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98		0.98	0.99		0.97	0.99		0.99	0.97	
Frt		0.967			0.975			0.975			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1746	0	1745	1834	0	1728	1715	0	1685	1673	0
Flt Permitted	0.182			0.162			0.266			0.228		
Satd. Flow (perm)	320	1746	0	294	1834	0	469	1715	0	402	1673	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			18			16			24	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	22		27	27		22	42		9	9		42
Confl. Bikes (#/hr)						1			2			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	104	505	142	47	512	100	191	395	78	186	345	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	647	0	47	612	0	191	473	0	186	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	31.0	31.0		31.0	31.0		8.0	26.0		8.0	26.0	
Total Split (%)	47.7%	47.7%		47.7%	47.7%		12.3%	40.0%		12.3%	40.0%	
Maximum Green (s)	26.5	26.5		26.5	26.5		5.0	21.5		5.0	21.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		26.0	19.4		26.0	19.4	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.42	0.32		0.42	0.32	
v/c Ratio	0.81	0.90		0.39	0.81		0.63	0.85		0.67	0.81	
Control Delay (s/veh)	65.2	35.6		25.8	27.2		22.2	36.7		25.9	32.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	65.2	35.6		25.8	27.2		22.2	36.7		25.9	32.6	
LOS	E	D		C	C		C	D		C	C	
Approach Delay (s/veh)		39.7			27.2			32.5			30.7	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 61.3			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay (s/veh): 32.8		Intersection LOS: C	
Intersection Capacity Utilization 88.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Laramie Avenue & W. Grand Avenue

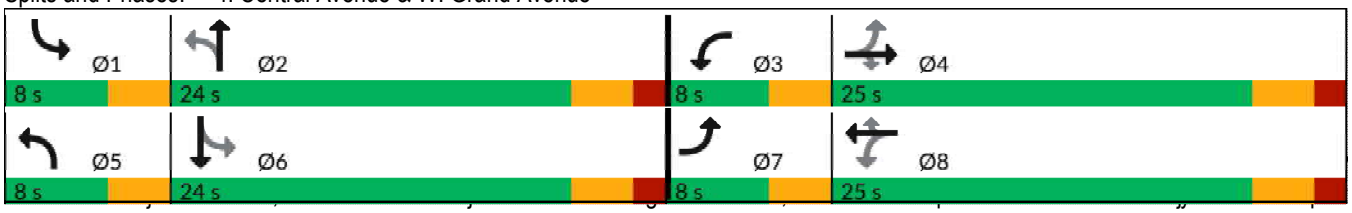


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	442	188	130	541	101	221	457	79	130	498	52
Future Volume (vph)	38	442	188	130	541	101	221	457	79	130	498	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	11	11	11	11	10	10	11	11
Storage Length (ft)	110		138	125		128	168		0	160		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	64			65			55			164		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.97		0.98	0.99		0.89	0.99	0.99		0.99	0.99	
Frt			0.850			0.850		0.978			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1818	1507	1685	1818	1561	1745	3385	0	1685	3380	0
Flt Permitted	0.196			0.239			0.271			0.345		
Satd. Flow (perm)	353	1818	1481	423	1818	1405	496	3385	0	606	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			204			126		31			17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		551			1379			505			579	
Travel Time (s)		12.5			31.3			11.5			13.2	
Confl. Peds. (#/hr)	82		5	5		82	6		13	13		6
Confl. Bikes (#/hr)						2			2			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	1%	0%	1%	6%
Adj. Flow (vph)	41	480	204	141	588	110	240	497	86	141	541	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	480	204	141	588	110	240	583	0	141	598	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	1.04	1.04	1.04	1.04	1.09	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	9.0	9.0	5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Minimum Split (s)	8.0	23.0	23.0	8.0	24.0	24.0	8.0	24.0		8.0	24.0	
Total Split (s)	8.0	25.0	25.0	8.0	25.0	25.0	8.0	24.0		8.0	24.0	
Total Split (%)	12.3%	38.5%	38.5%	12.3%	38.5%	38.5%	12.3%	36.9%		12.3%	36.9%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.0	19.5		5.0	19.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.5	1.5	0.0	1.5	1.5	0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	26.0	20.6	20.6	27.2	23.8	23.8	23.2	17.8		22.4	15.8	
Actuated g/C Ratio	0.43	0.34	0.34	0.45	0.40	0.40	0.39	0.30		0.37	0.26	
v/c Ratio	0.15	0.76	0.31	0.47	0.81	0.17	0.80	0.56		0.44	0.66	
Control Delay (s/veh)	10.7	29.8	4.5	15.9	31.5	3.8	37.8	20.2		16.2	23.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.7	29.8	4.5	15.9	31.5	3.8	37.8	20.2		16.2	23.0	
LOS	B	C	A	B	C	A	D	C		B	C	
Approach Delay (s/veh)		21.6			25.3			25.4			21.7	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 59.8			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay (s/veh): 23.6		Intersection LOS: C	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Central Avenue & W. Grand Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	677	7	5	576	0	14	0	12	79	2	59
Future Volume (vph)	0	677	7	5	576	0	14	0	12	79	2	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.94		0.95	0.93	
Frt		0.999						0.937			0.855	
Flt Protected								0.974		0.950		
Satd. Flow (prot)	0	1834	0	0	1739	0	0	1679	0	1805	1522	0
Flt Permitted					0.995			0.857		0.739		
Satd. Flow (perm)	0	1834	0	0	1730	0	0	1447	0	1339	1522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						27			64	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1379			1373			351			486	
Travel Time (s)		31.3			31.2			8.0			11.0	
Confl. Peds. (#/hr)	49		28	28		49	25		29	29		25
Confl. Bikes (#/hr)			1			1			1			4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	736	8	5	626	0	15	0	13	86	2	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	744	0	0	631	0	0	28	0	86	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2		1	2	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100		20	100		20	100		20	100	
Trailing Detector (ft)		0		0	0		0	0		0	0	
Detector 1 Position(ft)		0		0	0		0	0		0	0	
Detector 1 Size(ft)		6		20	6		20	6		20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases				8			2			6		
Detector Phase		4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		9.0		9.0	9.0		9.0	9.0		9.0	9.0	
Minimum Split (s)		23.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)		36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)		60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)		31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0		0.0	0.0	
Total Lost Time (s)		4.5			4.5			4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		22.5			22.5			9.9		9.9	9.9	
Actuated g/C Ratio		0.54			0.54			0.24		0.24	0.24	
v/c Ratio		0.75			0.67			0.07		0.27	0.16	
Control Delay (s/veh)		12.8			10.9			8.2		17.9	6.8	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		12.8			10.9			8.2		17.9	6.8	
LOS		B			B			A		B	A	
Approach Delay (s/veh)		12.9			11.0			8.3			13.1	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 41.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 56.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 7: Long Avenue & W. Grand Avenue

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	489	135	41	502	108	142	382	59	144	412	49
Future Volume (vph)	59	489	135	41	502	108	142	382	59	144	412	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	11	12	12	11	10	12	10	10	12
Storage Length (ft)	98		0	100		0	60		0	73		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	90			84			93			92		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98		0.96	0.99		0.99	0.98	
Frt		0.968			0.974			0.980			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1685	1755	0	1745	1823	0	1728	1727	0	1685	1718	0
Flt Permitted	0.147			0.147			0.207			0.234		
Satd. Flow (perm)	261	1755	0	270	1823	0	362	1727	0	413	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			19			12			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1373			428			416			473	
Travel Time (s)		31.2			9.7			9.5			10.8	
Confl. Peds. (#/hr)	33		15	15		33	61		8	8		61
Confl. Bikes (#/hr)						1			3			1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	1%	0%	1%	0%	0%	1%
Adj. Flow (vph)	64	532	147	45	546	117	154	415	64	157	448	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	679	0	45	663	0	154	479	0	157	501	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		10			10			10			10	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	1.00	1.04	1.00	1.00	1.04	1.09	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	9.0	9.0		9.0	9.0		5.0	9.0		5.0	9.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		8.0	24.0		8.0	24.0	
Total Split (s)	33.0	33.0		33.0	33.0		8.0	29.0		8.0	29.0	
Total Split (%)	47.1%	47.1%		47.1%	47.1%		11.4%	41.4%		11.4%	41.4%	
Maximum Green (s)	28.5	28.5		28.5	28.5		5.0	24.5		5.0	24.5	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		0.0	1.5		0.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		3.0	4.5		3.0	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	27.2	27.2		27.2	27.2		28.6	22.1		28.6	22.1	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.43	0.33		0.43	0.33	
v/c Ratio	0.60	0.92		0.40	0.87		0.59	0.82		0.57	0.86	
Control Delay (s/veh)	45.1	40.6		28.5	33.4		21.6	33.8		19.9	38.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.1	40.6		28.5	33.4		21.6	33.8		19.9	38.4	
LOS	D	D		C	C		C	C		B	D	
Approach Delay (s/veh)		41.1			33.2			30.9			34.0	
Approach LOS		D			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 66.4			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay (s/veh): 35.0		Intersection LOS: C	
Intersection Capacity Utilization 89.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 2: Laramie Avenue & W. Grand Avenue