

TRAFFIC IMPACT STUDY



ENGINEERING | SURVEYING | CONSTRUCTION

Project:

ISOFlex Packaging Warehouse Development

Location:

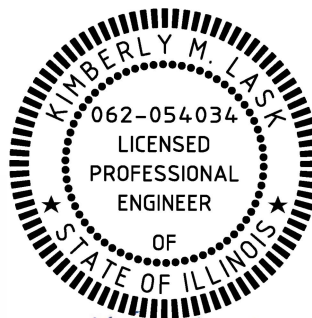
1650-1800 E. 95th Street
Chicago, Illinois

Prepared For:

ISOFlex Packaging
1650 East 95th Street
Chicago, Illinois 60617

Date:

September 18, 2023



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EXPIRES 11-30-23

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TABLE OF CONTENTS

1 – INTRODUCTION..... 1

2 – LAND USE..... 2

3 – EXISTING TRANSIT FACILITIES..... 2

4 – EXISTING ROADWAY NETWORK..... 2

5 – PEAK HOUR TRIP GENERATION AND DIRECTIONAL DISTRIBUTION 4

6 – TRIP ASSIGNMENT..... 7

7 – TOTAL PEAK HOUR TRAFFIC VOLUMES..... 7

8 – CAPACITY ANALYSIS 8

9 – RECOMMENDATIONS AND CONCLUSION 11

APPENDIX A - Figures A

APPENDIX B – Proposed Site Plan B

APPENDIX C – Traffic Counts..... C

APPENDIX D – AutoTurn Truck Movements D

APPENDIX E – Synchro Studio Capacity Analyses E

APPENDIX F – ITE Trip Generation Worksheets..... F



LIST OF FIGURES

FIGURE 1 – Site Location and Area Roadway Network

FIGURE 2 – Existing Street Characteristics

FIGURE 3 – Existing Traffic Volumes - 2023

FIGURE 4 – Estimated Directional Distribution

FIGURE 5 – Site Generated Traffic Volumes

FIGURE 6 – Future No-Build Traffic Volumes – 2028

FIGURE 7 – Future Total Traffic Volumes - 2028

LIST OF TABLES

TABLE 1 – Peak Hour Trip Generation

TABLE 2 – ISO Flex 24-Hour Trip Generation

TABLE 3 – Proposed Warehouse 24-Hour Trip Generation

TABLE 4 – Trip Distribution

TABLE 5 – Level of Service Criteria – Signalized and Unsignalized Intersections

TABLE 6 – Level of Service Summary – E. 95th Street and S. Stony Island Avenue (Signalized)

TABLE 7 – Level of Service Summary – E. 95th Street and Stony Island Plaza (Signalized)

TABLE 8 – Level of Service Summary – Access Driveways (Unsignalized)



1 – INTRODUCTION

Haeger Engineering LLC has conducted a Traffic Impact Study for the proposed ISOFlex Packaging Warehouse Development located at 1650 – 1800 E. 95th Street in Chicago, Illinois. The subject property is in Section 1, Township 37N, Range 14E. The total property area is 8.90 acres with the existing facility on 3.16 acres and the proposed development on 5.74 acres. The development area P.I.N.'s are 25-01-324-033, 25-01-324-037, 25-01-324-038, and 25-01-501-004. The location map and aerial photograph of the site vicinity are illustrated on *Figure 1* in *Appendix A*.

The proposed development consists of a 40,900 sq.ft. warehouse expansion to the existing building and 60,996 sq.ft. new warehouse building supported by a 110-space parking lot (50 existing spaces and 60 proposed spaces) with 12 new loading docks for daily operation. The buildings will contain general office space, open warehouse, and storage space. Access to the proposed development will be provided via two (2) driveways connecting to East 95th Street. The Traffic Impact Study was conducted to assess the impact the proposed development would have on traffic conditions in the area and improvements necessary to accommodate site-generated traffic safely and efficiently. The proposed site plan is illustrated in *Appendix B*.

STUDY PARAMETERS

The scope of this analysis includes the following:

- *Data Collection:* This preliminary phase of the analysis included a reconnaissance survey of the site and its environs to determine the physical and operational characteristics of the existing street network that would serve the proposed development. Traffic counts conducted at the intersections of E. 95th Street / S. Stony Island Avenue and E. 95th Street / Stony Island Plaza were used to determine existing weekday AM peak and PM peak street traffic flow volumes within the vicinity of the site. Public officials were contacted to obtain information regarding any planned or proposed street improvements and new developments as well as any concerns they may have relative to general traffic conditions in the subject area.
- *Land Uses:* Existing and proposed land uses near the development were evaluated.
- *Existing Roadway Network:* Traffic volumes (AM Peak / PM Peak), road geometrics, intersection geometrics, and traffic control devices were evaluated in the vicinity of the site. The influence area has been determined by the traffic generated from the site, the trip distribution of traffic, and the trip assignment of the traffic generated by the development over the surrounding area road network.
- *Peak-Hour Trip Generation Rates and Volumes:* A summary table was prepared listing each type of land use for the proposed development, the size or area for each type of land use, the average trip generation rates (AM Peak / PM Peak on adjacent street traffic) for each type of land use, and total number of trips generated.
- *Trip Distribution:* Both a figure and table are presented to show the directional distribution of site-generated traffic approaching and departing the site on the area road network.
- *Trip Assignment:* The technical analysis, methods, and assumptions used in the assignment are indicated. The trip distribution and subsequent assignment represent the most logically traveled routes.



- *Total Peak Hour Traffic Volumes:* The traffic volumes for access facilities, intersections, and the area road network within the area of influence are provided in a graphical format.
- *Capacity Analyses:* Capacity analyses were conducted at intersections and proposed access points. Consideration was given to the existing and projected levels of service and the adequacy of storage for projected queue lengths.
- *Traffic Control Measures:* The type and extent of traffic control measures were examined.
- *Future Traffic Characteristics:* Future development in the area was examined.
- *Conclusions and Recommendations:* These findings include all improvements for access facilities, intersections, and the area road network.

2 – LAND USE

The subject property is partially developed as ISOFlex Packaging. The remaining property is undeveloped. The property is bounded by Chicago, Rock Island, and Pacific Railroad to the North, E. 95th Street to the south, S. Stony Island Avenue to the west, and a commercial strip mall to the east. There is a mixture of land-uses in close proximity to the development including multi-family residential, offices, and commercial to the south, and commercial to the east.

3 – EXISTING TRANSIT FACILITIES

The following Chicago Transit Authority (CTA) bus routes have bus stops within ¼ mile of the proposed development:

- Route 100 (95th Street) – Bus stop adjacent to the development on E. 95th Street.
- Route 95 (95th Street) – Bus stop at Stony Island and E. 95th Street.
- Route 28 (Stony Island Avenue) – Bus stop at Stony Island and E. 95th Street.
- Route 15 (Jeffrey Blvd.) – Bus stop at Jeffrey and E. 95th Street.
- Route J14 (Jeffrey Blvd.) – Bus stop at Jeffrey and E. 95th Street.

The Metra Electric line can be accessed at one nearby station:

- 95th Street Chicago State University, 1 mile west of development

4 – EXISTING ROADWAY NETWORK

A field investigation was conducted along the adjacent segments of E. 95th Street, S. Stony Island Avenue, and Stony Island Plaza. The following information was obtained about the existing roadway network. See *Figure 2* for an exhibit illustrating the existing street characteristics.

E. 95th STREET (US ROUTE 12/20)

- An east-west Other Principal Arterial roadway providing two lanes in each direction that is under the jurisdiction of the Illinois Department of Transportation (IDOT).
- At its signalized intersection with S. Stony Island Avenue, E. 95th Avenue provides two through lanes and dual left-turn lanes at both east and west approaches.



- At its signalized intersection with Stony Island Plaza, E. 95th Avenue provides two through lanes and a dedicated right-turn lane for the west approach. The east approach contains two through lanes and a left-turn lane.
- E. 95th Street was resurfaced within the vicinity of the project in 2021.
- The posted speed limit is 35 mph.
- The annual average daily traffic volume on E. 95th Street east of S. Stony Island Ave, published by IDOT in 2021, is 27,600 vehicles per day (vpd).

S. STONY ISLAND AVENUE

- A north-south Other Principal Arterial roadway providing two lanes in each direction that is under the jurisdiction of the Illinois Department of Transportation (IDOT).
- At its signalized intersection with E. 95th Avenue, S. Stony Island Avenue provides three through lanes, and a left-turn lane for the north approach. The south approach contains two through lanes, a dedicated right-turn lane, and a left-turn lane.
- The posted speed limit is 35 mph.
- The annual average daily traffic volume on S. Stony Island Avenue north of E. 95th, published by IDOT in 2021, is 35,900 vehicles per day (vpd).

STONY ISLAND PLAZA

- A north-south private driveway.
- At its signalized T-intersection with E. 95th Street, Stony Island Plaza provides dual left-turn lanes and a right-turn lane at the south approach.
- Stony Island Plaza driveway serves retail businesses, fast food restaurants, a bank, and a gas station.

EXISTING ACCESS DRIVEWAYS

Access to the site is currently provided via three full-access driveways on E. 95th Street. See *Figure 1* for the locations of the existing driveways.

- Access 1: The centerline of Access 1 is located 160 ft east of the intersection of E. 95th Street and S. Stony Island Avenue. This driveway is used a few times per week by trucks to access the loading docks. Trailers are dropped off and unloaded over the course of a week. All maneuvering to back into the docks occurs onsite. This driveway is to remain with no changes proposed.
- Access 2: The centerline of Access 2 is located 450 ft east of Access 1. This driveway is used by trucks to access the loading docks at the east section of the building. All truck maneuvering to back into the docks occurs on E. 95th Street, disrupting E. 95th Street traffic. See the existing AutoTurn truck movements in Appendix D. This driveway is proposed to remain; however, it will be repurposed for visitor parking and facility emergency equipment maintenance access. Daily truck operations will no longer use this driveway which will eliminate safety concerns of existing daily operations.
- Access 3: Access 3 is located 300 ft east of Access 2 and just east of the E. 95th Street / Stony Island Plaza traffic signal. This driveway is used by employees to access the parking lot behind the building. This driveway will be removed with the improvements.



EXISTING TRAFFIC

Haeger Engineering conducted traffic counts at the intersection of E. 95th Street and S. Stony Island Avenue and at the intersection of E. 95th Street and Stony Island Plaza. The counts were conducted on Tuesday, August 29, 2023 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM.

The results indicate that the weekday AM peak hour street traffic occurred from 7:30 AM to 8:30 AM, the weekday PM peak hour street traffic occurred from 4:45 PM to 5:45 PM. *Figure 3* summarizes the existing weekday morning and weekday evening peak hour traffic volumes. The existing traffic count data can be found in *Appendix C*. *Figure 3* also provides the AADT 24-hour volume along E. 95th Street and S. Stony Island Avenue (year 2021), published by IDOT on their Getting Around Illinois Interactive Map.

5 – PEAK HOUR TRIP GENERATION AND DIRECTIONAL DISTRIBUTION

In order to accurately estimate the traffic that will be generated by the proposed use, data from the existing ISOFlex facility and data compiled by the Institute of Transportation Engineers (ITE) in the 11th Edition of the *Trip Generation Manual* were utilized. Trip generation for a proposed development depends on the size and characteristics of the anticipated land use. The volume of traffic generated by the ISOFlex facility is based on actual data from the existing facility and additional trips generated by the warehouse addition. Note that peak trips for ISOFlex occur at off-peak roadway travel times. ISOFlex warehouse has 2 shifts, 9:00 to 9:00, 7 days a week. Employees arrive at 8:30 AM for the first shift and leave at 9:30 PM. Second shift employees arrive at 8:30 PM and leave at 9:30 AM. For the purposes of this study, it was assumed that warehouse employees arrive and depart during the roadway peak hours. There are 6 office workers who work Monday through Friday from 9:00 AM to 5:00 PM. Trucks arrive and depart throughout the day with peak trips occurring between 12:00 PM and 2:00 PM. The remaining trucks arrive and depart 9:00 AM to noon and 2:00 PM to 5:00 PM.

The volume of traffic generated by the square footage of the proposed warehouse facility was used to determine anticipated traffic volumes. The ITE land use code that was consulted for the proposed warehouse is indicated in *Table 1* along with the estimated weekday AM and weekday PM peak hour traffic volumes.

Table 1 – Peak Hour Trip Generation

Land Use	ITE Code	Peak Hour Traffic Volumes				Weekday Daily Trips	
		AM Peak		PM Peak			
		In	Out	In	Out	In	Out
ISOFlex Warehouse with Expansion (125,012 sq.ft.)	---	31 cars	26 cars	25 cars	24 cars	58 cars	58 cars
		1 truck	1 truck	1 truck	1 truck	12 trucks	12 trucks
Proposed Warehouse (61,950 sq.ft.)	150	21 cars	11 cars	6 cars	21 cars	48 cars	47 cars
		1 truck	2 trucks	1 truck	2 trucks	20 trucks	21 trucks
Total		52 cars	37 cars	31 cars	45 cars	106 cars	105 cars
		2 trucks	3 trucks	2 trucks	3 trucks	32 trucks	33 trucks



It should be noted that 15% of ISOFlex employees use alternative modes of transportation or carpool, and the number of passenger vehicle trips will be reduced, however as a conservative analysis, no reductions were applied. **Table 2** and **Table 3** below summarize the trips projected to be generated by the development each hour throughout the day.

Table 2 – ISOFlex 24-Hour Trip Generation

ISOFlex Warehouse with Expansion	Cars			Trucks		
	Entering	Exiting	Total	Entering	Exiting	Total
12:00 - 1:00 AM	0	0	0	0	0	0
1:00 - 2:00 AM	0	0	0	0	0	0
2:00 - 3:00 AM	0	0	0	0	0	0
3:00 - 4:00 AM	0	0	0	0	0	0
4:00 - 5:00 AM	0	0	0	0	0	0
5:00 - 6:00 AM	0	0	0	0	0	0
6:00 - 7:00 AM	0	0	0	0	0	0
7:00 - 8:00 AM	0	0	0	1	1	2
8:00 - 9:00 AM	31	0	31	1	1	2
9:00 - 10:00 AM	1	25	26	1	1	2
10:00 - 11:00 AM	0	0	0	1	1	2
11:00 - 12:00 PM	0	0	0	1	1	2
12:00 - 1:00 PM	1	1	2	2	2	4
1:00 - 2:00 PM	0	0	0	2	2	4
2:00 - 3:00 PM	0	0	0	1	1	2
3:00 - 4:00 PM	1	1	2	1	1	2
4:00 - 5:00 PM	0	0	0	1	1	2
5:00 - 6:00 PM	0	6	6	0	0	0
6:00 - 7:00 PM	0	0	0	0	0	0
7:00 - 8:00 PM	0	0	0	0	0	0
8:00 - 9:00 PM	24	0	24	0	0	0
9:00 - 10:00 PM	0	25	25	0	0	0
10:00 - 11:00 PM	0	0	0	0	0	0
11:00 - 12:00 AM	0	0	0	0	0	0
Total Daily	58	58	116	12	12	24



Table 3 – Proposed Warehouse 24-Hour Trip Generation

Proposed Warehouse (61,950 sf)	Cars			Trucks		
	Entering	Exiting	Total	Entering	Exiting	Total
12:00 - 1:00 AM	0	0	0	0	0	0
1:00 - 2:00 AM	0	0	0	0	0	0
2:00 - 3:00 AM	0	0	0	0	0	0
3:00 - 4:00 AM	0	0	0	0	0	0
4:00 - 5:00 AM	0	0	0	0	0	0
5:00 - 6:00 AM	0	0	0	1	0	1
6:00 - 7:00 AM	2	0	2	2	1	3
7:00 - 8:00 AM	21	11	32	2	1	3
8:00 - 9:00 AM	5	1	6	2	1	3
9:00 - 10:00 AM	1	1	2	2	1	3
10:00 - 11:00 AM	1	1	2	1	1	2
11:00 - 12:00 PM	1	1	2	1	2	3
12:00 - 1:00 PM	3	3	6	3	2	5
1:00 - 2:00 PM	2	1	3	1	1	2
2:00 - 3:00 PM	2	1	3	2	2	4
3:00 - 4:00 PM	2	2	4	1	3	4
4:00 - 5:00 PM	2	4	6	1	2	3
5:00 - 6:00 PM	6	21	27	1	2	3
6:00 - 7:00 PM	0	0	0	0	1	1
7:00 - 8:00 PM	0	0	0	0	0	0
8:00 - 9:00 PM	0	0	0	0	0	0
9:00 - 10:00 PM	0	0	0	0	1	1
10:00 - 11:00 PM	0	0	0	0	0	0
11:00 - 12:00 AM	0	0	0	0	0	0
Total Daily	48	47	95	20	21	41

DIRECTIONAL DISTRIBUTION

The directional distribution of site-generated trips on the external street system is a function of several variables, including the operational characteristics of the adjacent roadways and the ease that drivers can travel over various sections of the street system without encountering major levels of congestion. The directions from which employees and patrons approach and depart the site were estimated based on the existing travel patterns as determined from the traffic count data. The estimated directional distribution of patron arrival and departure patterns are listed in *Table 4* and illustrated in *Figure 4*.



Table 4 – Trip Distribution

Route and Direction	To / From Percent
E. 95th St	
- East of Stony Island	20%
- West of Stony Island	15%
S. Stony Island Ave	
- North of E. 95 th	25%
- South of E. 95 th	40%

6 – TRIP ASSIGNMENT

The estimated weekday AM and weekday PM peak hour traffic volumes that will be generated from the proposed development were assigned to the street and access driveways serving the site as illustrated in *Figure 5*. The volumes assigned to the proposed access driveways are in accordance with the previously described directional trip distribution patterns. The existing access driveways were not evaluated since they have minimal use and will not generate additional trips. As indicated previously, 2 full access driveways on E. 95th Street are proposed.

- Access 3A: This access driveway is full access and replaces Access 3 that will be removed. The driveway will provide one inbound lane and one outbound lane. Exiting movements will be under stop sign control. A right-turn lane on E. 95th Street is proposed at this driveway to accommodate truck turning movements into the site. All truck traffic and ISOFlex employees will use this access driveway. All truck maneuvering to back into the docks will occur onsite. See *Appendix D* for the AutoTurn Truck Movements.
- Access 4: This access driveway is a full access driveway that will serve the proposed warehouse. The driveway will contain one inbound lane and one outbound lane which will be under stop sign control. Only passenger vehicles will use this driveway.

7 – TOTAL PEAK HOUR TRAFFIC VOLUMES

To evaluate the impact that site-generated traffic will have on area roadways, the total weekday AM and weekday PM peak hour traffic volumes at the study intersections were estimated for the year 2028. To develop future volumes on the existing roadway system, a growth rate of 0.5 percent per year was used to estimate the 2028 peak hour traffic volumes.

The future no-build traffic volumes are shown in *Figure 6*. *Figure 7* illustrates the site-generated traffic with 2028 traffic volumes to obtain the total peak hour traffic assignments.



8 – CAPACITY ANALYSIS

The traffic impact that the development will have on the adjacent external road system is dependent on its vehicular access and internal circulation plan. Analysis of intersection operations was conducted for the AM and PM peak hours using the methodology in the Transportation Research Board's *Highway Capacity Manual, 7th Edition*. Transportation analysis software, Synchro Studio 12, was used to calculate the levels of service (LOS) for individual movements, approaches, and for the intersection as a whole.

LOS is a qualitative measure of the traffic operations at an intersection or on a roadway segment. It is ranked from LOS A, which signifies little or no congestion and is the highest rank, to LOS F, which signifies congestion and jam conditions. LOS D is typically considered adequate for peak hour operations at intersections. The LOS for an intersection is based on the control delay per vehicle which is the portion of total delay attributed to traffic control measures such as stop signs and traffic signals. For a signalized intersection, the control delay is calculated for each lane group and then compiled for each approach and for the entire intersection. For an unsignalized intersection, LOS is calculated for those movements that must either stop for or yield to oncoming traffic and is based on average control delay for the particular movement. The criteria for LOS are shown in *Table 5*.

Table 5 – Level of Service Criteria – Signalized and Unsignalized Intersections

Level of Service	Signalized Intersection Delay (sec/veh)	Unsignalized Intersection Delay (sec/veh)	Description
A	≤10	≤10	Little to no delay to motorists
B	>10 and ≤20	>10 and ≤15	Relatively low delay to motorists
C	>20 and ≤35	>15 and ≤25	Average delays to motorists
D	>35 and ≤55	>25 and ≤35	Congestion becomes more noticeable. Delays are within an acceptable range.
E	>55 and ≤80	>35 and ≤50	High delays to motorists.
F	>80	>50	High delays to motorists. Arrival flow rates exceed the capacity of the intersection.

Levels of service were calculated at the intersections of E. 95th Street and S. Stony Island Avenue and E. 95th Street and Stony Island Plaza. for the following scenarios.

- Existing Conditions – Year 2023
- Future No Build – Year 2028
- Future with Project Traffic – Year 2028

A summary of the results for the E. 95th Street and S. Stony Island Avenue intersection is included in *Table 6*, the results for the E. 95th Street and Stony Island Plaza intersection are included in *Table 7*, and the results for the proposed access driveways are in Table 8. The Synchro Studio capacity analyses are included in *Appendix E*.



Table 6 – Level of Service Summary – E. 95th Street and S. Stony Island Avenue (Signalized)

Year	Peak Hour	Eastbound			Westbound			Northbound			Southbound			Overall
		L	T	R	L	T	R	L	T	R	L	T	R	
2023 Existing Conditions	Weekday AM	E 56.7	E 68.2	E 69.8	E 79.9	E 66.0	E 67.5	C 20.4	D 49.6	C 33.1	D 51.9	C 24.0	C 24.2	D 47.8
		E 64.3			E 74.0			D 43.5			C 26.0			
	Weekday PM	D 53.5	F 97.9	F 104.8	F 204.0	E 73.7	E 78.7	C 25.1	C 25.1	C 30.9	C 20.0	C 27.7	C 28.3	E 66.8
		F 92.0			F 153.9			C 27.0			C 27.6			
2028 No-Build	Weekday AM	E 57.1	E 69.8	E 71.5	F 84.9	E 67.4	E 69.0	C 20.7	E 55.9	C 34.0	E 58.9	C 24.2	C 24.4	D 50.9
		E 64.5			E 77.4			D 48.2			C 26.6			
	Weekday PM	D 53.7	F 105.0	F 112.4	F 220.6	E 76.9	F 82.6	C 26.1	C 25.4	C 31.7	C 20.3	C 28.1	C 28.8	E 70.7
		F 98.0			F 165.4			C 27.6			C 28.0			
2028 Total With Project	Weekday AM	E 57.8	E 72.3	E 74.2	F 91.7	E 69.9	E 72.0	C 20.4	E 55.9	D 35.5	E 71.6	C 23.8	C 24.0	D 52.5
		E 67.5			F 82.4			D 48.3			C 27.6			
	Weekday PM	D 54.4	F 125.9	F 134.4	F 252.3	F 85.7	F 92.7	C 26.9	C 25.7	C 33.5	C 20.7	C 28.4	C 29.2	E 79.4
		F 115.5			F 187.9			C 28.5			C 28.3			



Table 7 – Level of Service Summary – E. 95th Street and Stony Island Plaza (Signalized)

Year	Peak Hour	Eastbound			Westbound			Northbound			Overall
		L	T	R	L	T	R	L	T	R	
2023 Existing Conditions	Weekday AM	---	D 39.0	C 28.8	C 31.0	C 30.3	---	B 13.6	---	B 14.9	C 32.4
		D 38.8			C 30.3			B 14.5			
	Weekday PM	---	D 40.1	C 31.1	F 163.5	C 34.2	---	B 13.1	---	B 15.5	D 43.7
		D 39.5			E 56.7			B 14.5			
2028 No-Build	Weekday AM	---	D 38.4	C 28.0	C 30.6	C 29.7	---	B 14.2	---	B 15.5	C 31.9
		D 38.1			C 29.8			B 15.1			
	Weekday PM	---	D 39.4	C 30.4	F 175.9	C 33.7	---	B 13.7	---	B 16.2	D 44.4
		D 38.8			E 58.5			B 15.1			
2028 Total With Project	Weekday AM	---	D 37.3	C 26.8	C 30.0	C 28.6	---	B 15.1	---	B 16.5	C 31.2
		D 37.1			C 28.7			B 16.0			
	Weekday PM	---	D 37.4	C 28.1	F 190.6	C 32.5	---	B 15.4	---	B 18.4	D 44.6
		D 36.8			E 59.3			B 17.1			

Table 8 – Level of Service Summary – Access Driveways (Unsignalized)

Year	Scenario	Approach	Movement	Peak Hour Traffic			
				AM Peak		PM Peak	
				LOS	Delay	LOS	Delay
2028	Access 3A ISOFlex	EB	LT	B	10.9	B	12.8
		SB	LT / RT	C	22.9	D	33.2
2028	Access 4 Prop. Warehouse	EB	LT	B	10.2	B	12.2
		SB	LT / RT	C	18.0	D	29.3



E. 95th Street and S. Stony Island Avenue

Based on the results of the capacity analysis, the intersection currently operates at LOS D during the AM peak hour and LOS E during the PM peak hour. The intersection is projected to continue operating at the same LOS during the AM peak hour and PM peak hour under 2028 with project conditions. The proposed development will have minimal impact on the intersection operations.

The westbound approach operates at LOS F for many of the scenarios evaluated. Although there are dual left-turn lanes, the proximity to Stony Island Plaza restricts the left-turn storage length. Signal timing also contributes to the high westbound delays. Green time for westbound traffic is only 30 seconds out of a 150 second cycle length.

E. 95th Street and Stony Island Plaza

Based on the results of the capacity analysis, the intersection currently operates at LOS C during the AM peak hour and LOS D during the PM peak hour. The intersection is projected to continue operating at the same LOS during the AM peak hour and PM peak hour under 2028 with project conditions. All approaches will continue to operate at the same LOS.

E. 95th Street and Proposed Access 3A and 4

All movements at the proposed driveways will operate at LOS D or better. The highest delay will occur for traffic exiting the site during the PM peak hour. As stated previously and reflected in *Table 2* on page 5, peak PM traffic for ISOFlex does not coincide with the E. 95th Street peak. The PM peak hour for ISOFlex is from 9:00 PM to 10:00 PM, and it is anticipated that there will be little delay for outbound vehicles.

9 – RECOMMENDATIONS AND CONCLUSION

Several components are recommended to facilitate traffic on and off the site.

- Provide two full access driveways to E. 95th Street.
- Provide a right-turn lane at Access 3A to reduce conflicts and delays for westbound E. 95th Street.
- Provide sufficient storage to allow queuing of vehicles exiting the site.
- Provide sufficient space to allow truck maneuvering onsite.



APPENDIX A - Figures

FIGURE 1 – Site Location and Area Roadway Network

FIGURE 2 – Existing Street Characteristics

FIGURE 3 – Existing Traffic Volumes - 2023

FIGURE 4 – Estimated Directional Distribution

FIGURE 5 – Site Generated Traffic Volumes

FIGURE 6 – Future No-Build Traffic Volumes – 2028

FIGURE 7 – Future Total Traffic Volumes - 2028



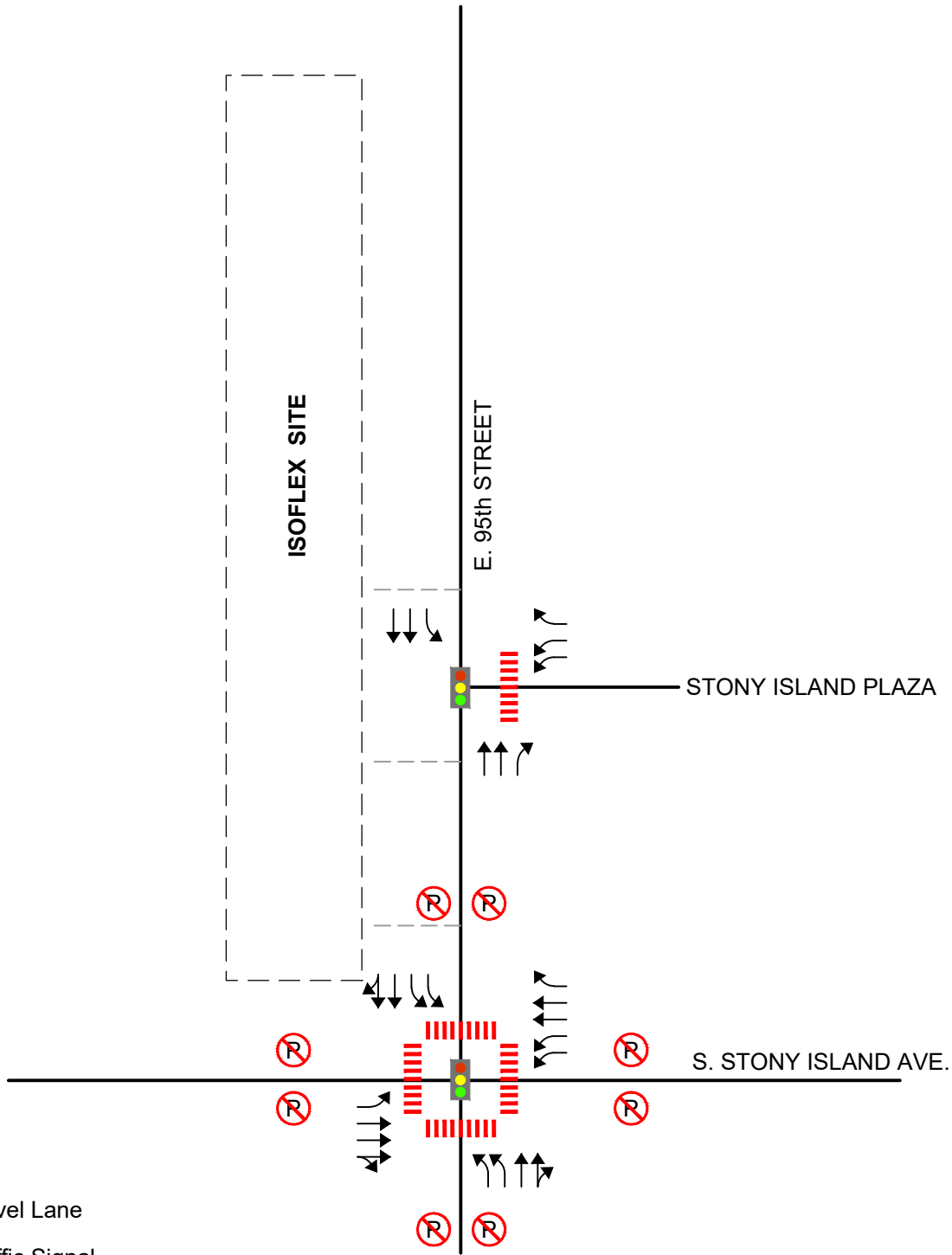
Scale: N.T.S.

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FIGURE 1- SITE LOCATION & AREA ROADWAY NETWORK

**ISOFLEX
PACKAGING**
CHICAGO, ILLINOIS

Project Manager: K M L
Engineer: K M L
Date: 09-18-2023
Project No. 22-240
Sheet 1 / 7



Scale: N.T.S.

LEGEND

- Travel Lane
- Traffic Signal
- ⊘ No Parking
- ||||| Crosswalk

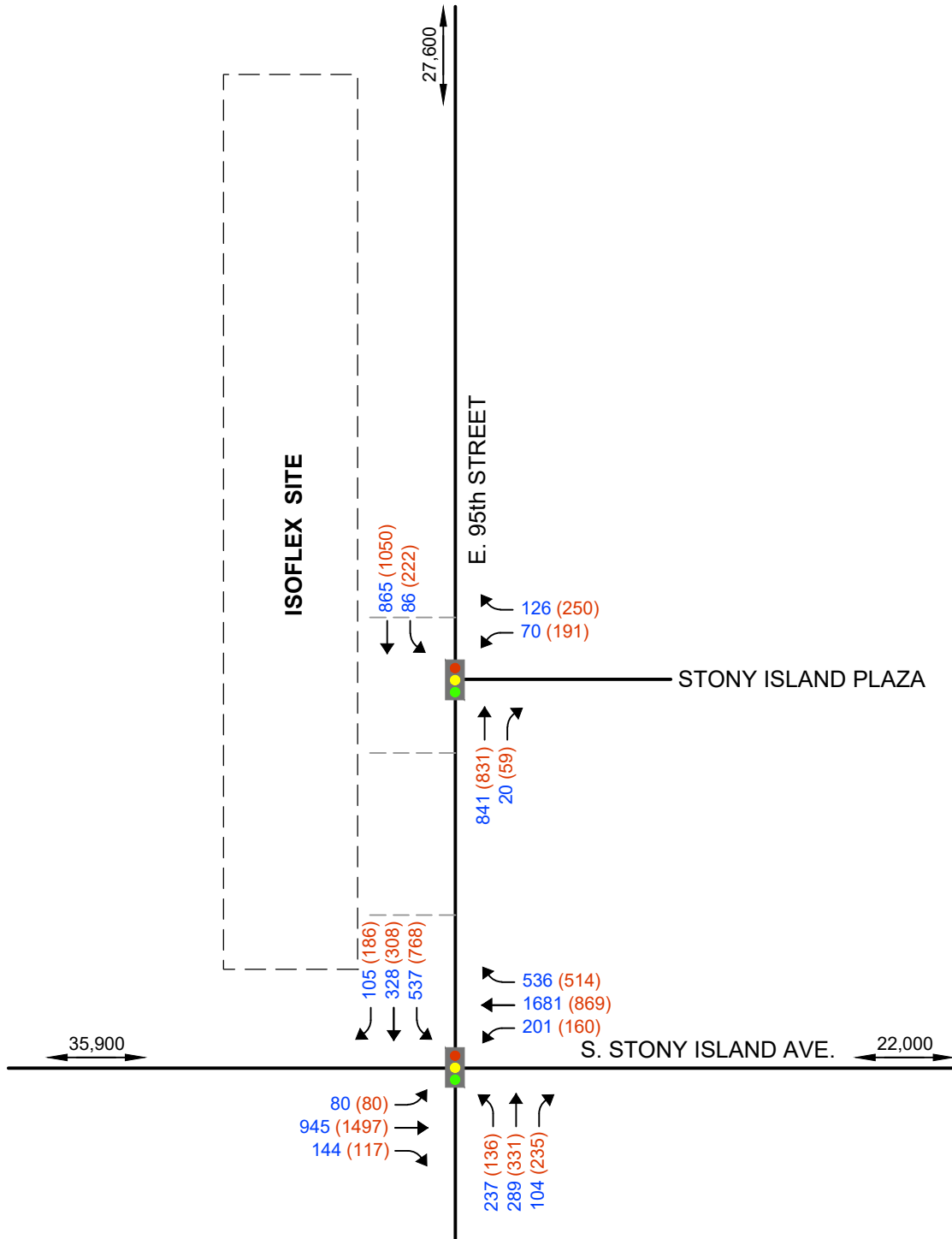
FIGURE 2- EXISTING STREET CHARACTERISTICS

HE HAEGER ENGINEERING
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 Illinois Professional Design Firm License No. 184-003152
 www.haegerengineering.com

**ISOFLEX
 PACKAGING**
 CHICAGO, ILLINOIS

Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet 2 / 7



LEGEND

- XX Weekday AM Peak Hour 7:30 AM - 8:30 AM
- (XX) Weekday PM Peak Hour 4:45 PM - 5:45 PM
- XXX IDOT's 2021 Average Daily Traffic (ADT)



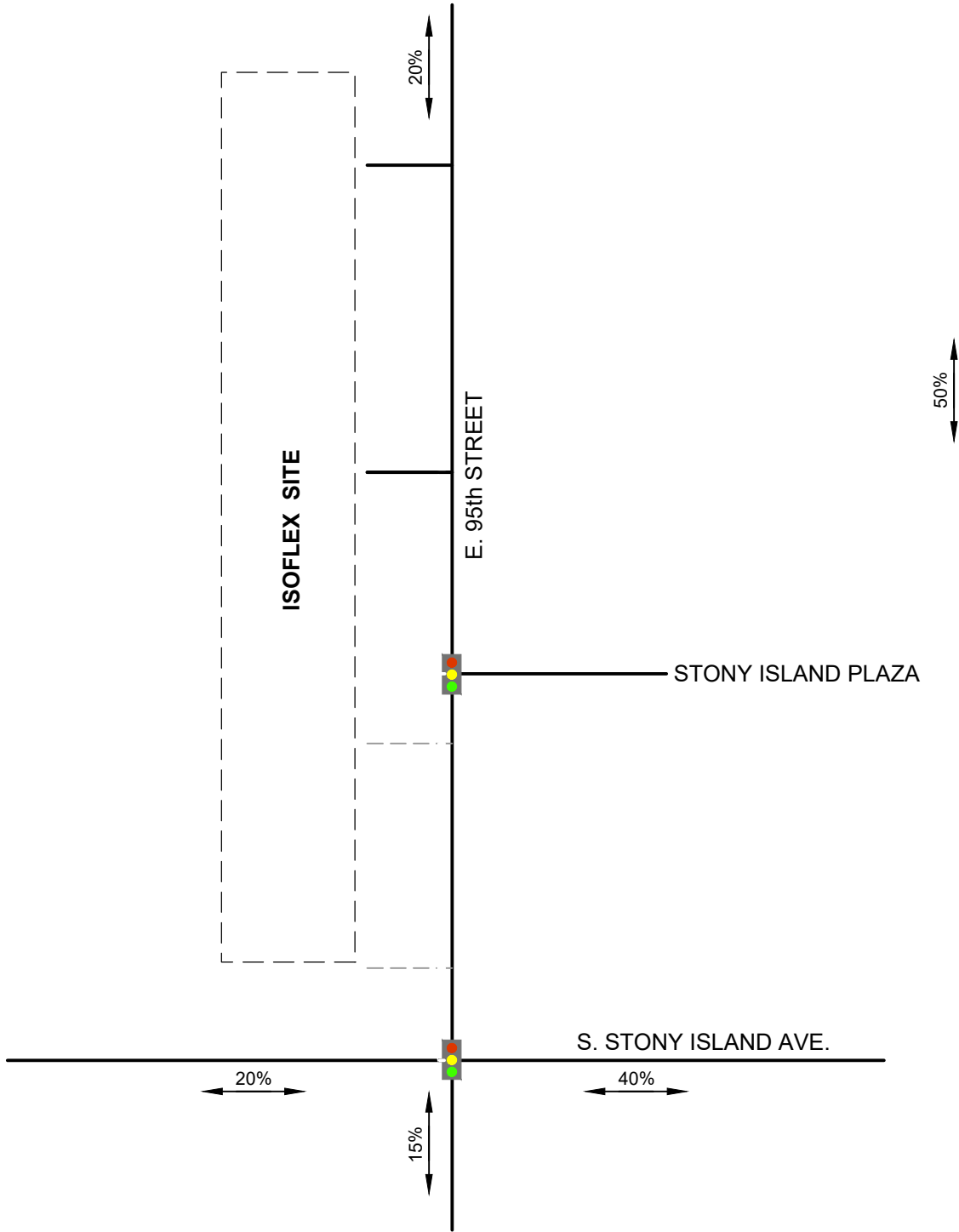
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 Illinois Professional Design Firm License No. 184-003152
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FIGURE 3- EXISTING TRAFFIC VOLUMES - 2023

ISOFLEX PACKAGING
 CHICAGO, ILLINOIS

Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet **3** / 7



LEGEND

← XXX → Percent Passenger Vehicle Distribution
 (XXX) Percent Truck Distribution

Scale: N.T.S.

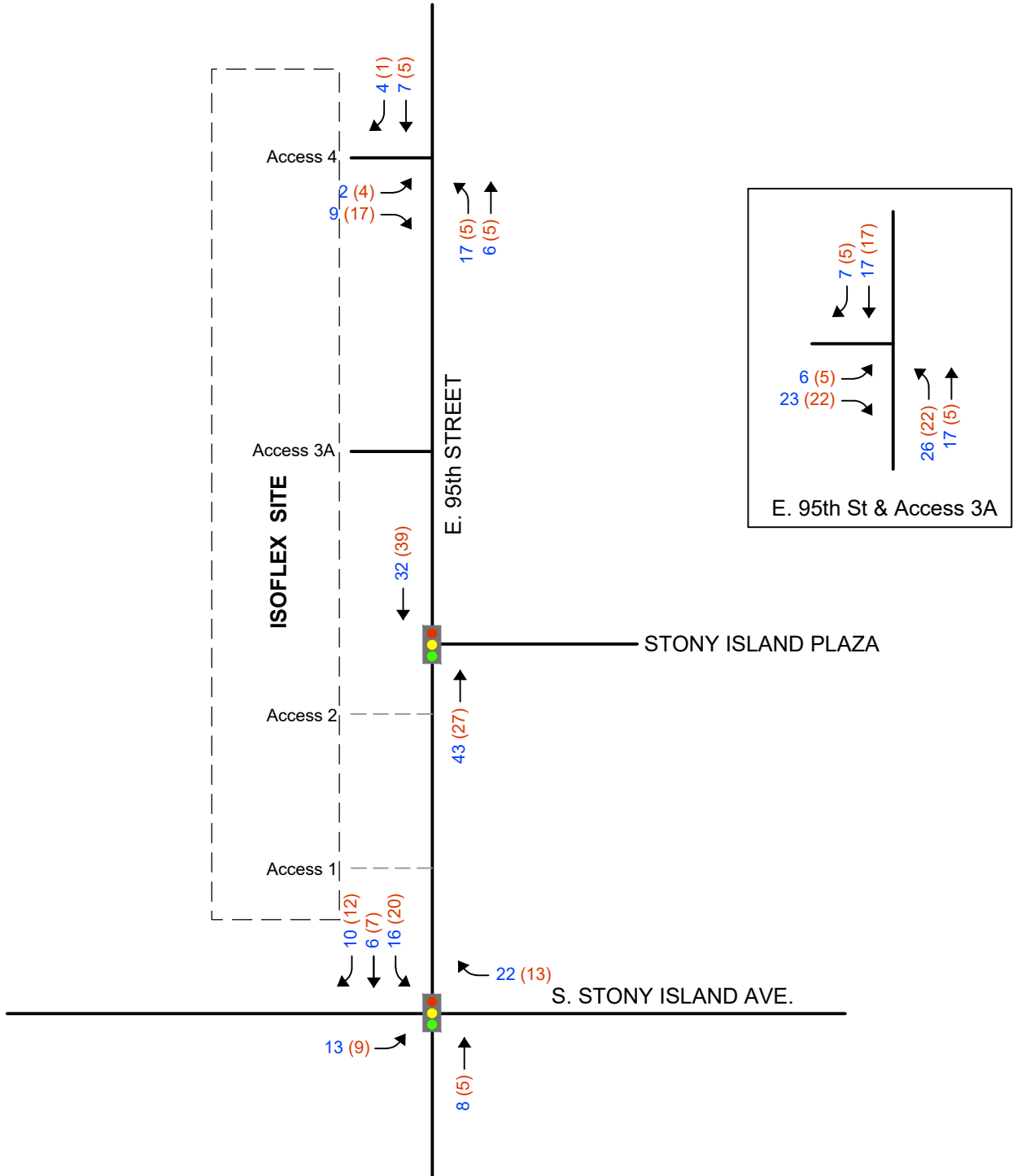
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FIGURE 4- ESTIMATED DIRECTIONAL DISTRIBUTION

ISOFLEX PACKAGING
 CHICAGO, ILLINOIS

Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet 4 / 7



LEGEND

- XX Weekday AM Peak Hour 7:30 AM - 8:30 AM
- (XX) Weekday PM Peak Hour 4:45 PM - 5:45 PM



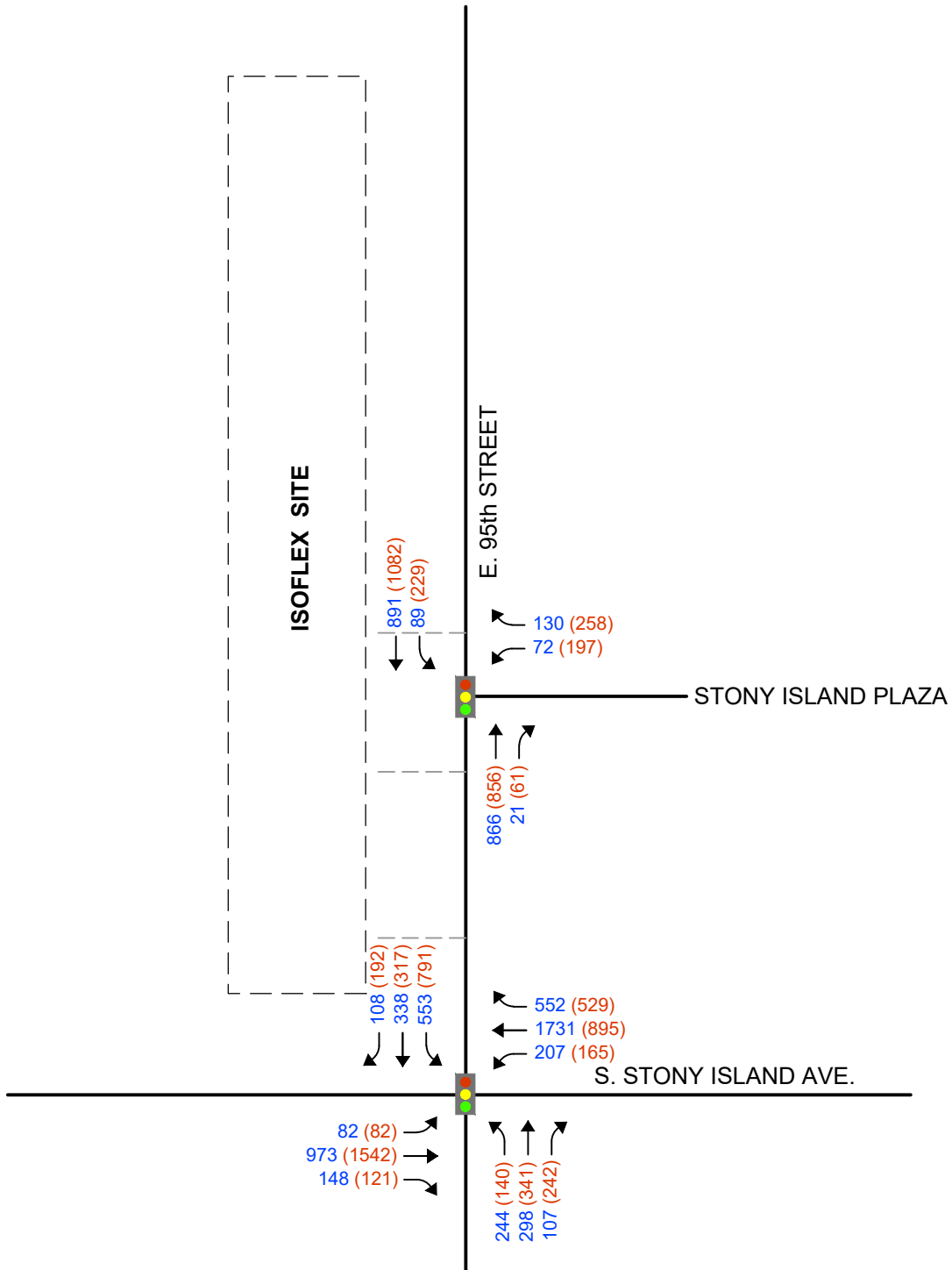
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FIGURE 5- SITE GENERATED TRAFFIC VOLUMES

ISOFLEX PACKAGING
 CHICAGO, ILLINOIS

Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet **5** / 7



LEGEND

- XX Weekday AM Peak Hour 7:30 AM - 8:30 AM
- (XX) Weekday PM Peak Hour 4:45 PM - 5:45 PM

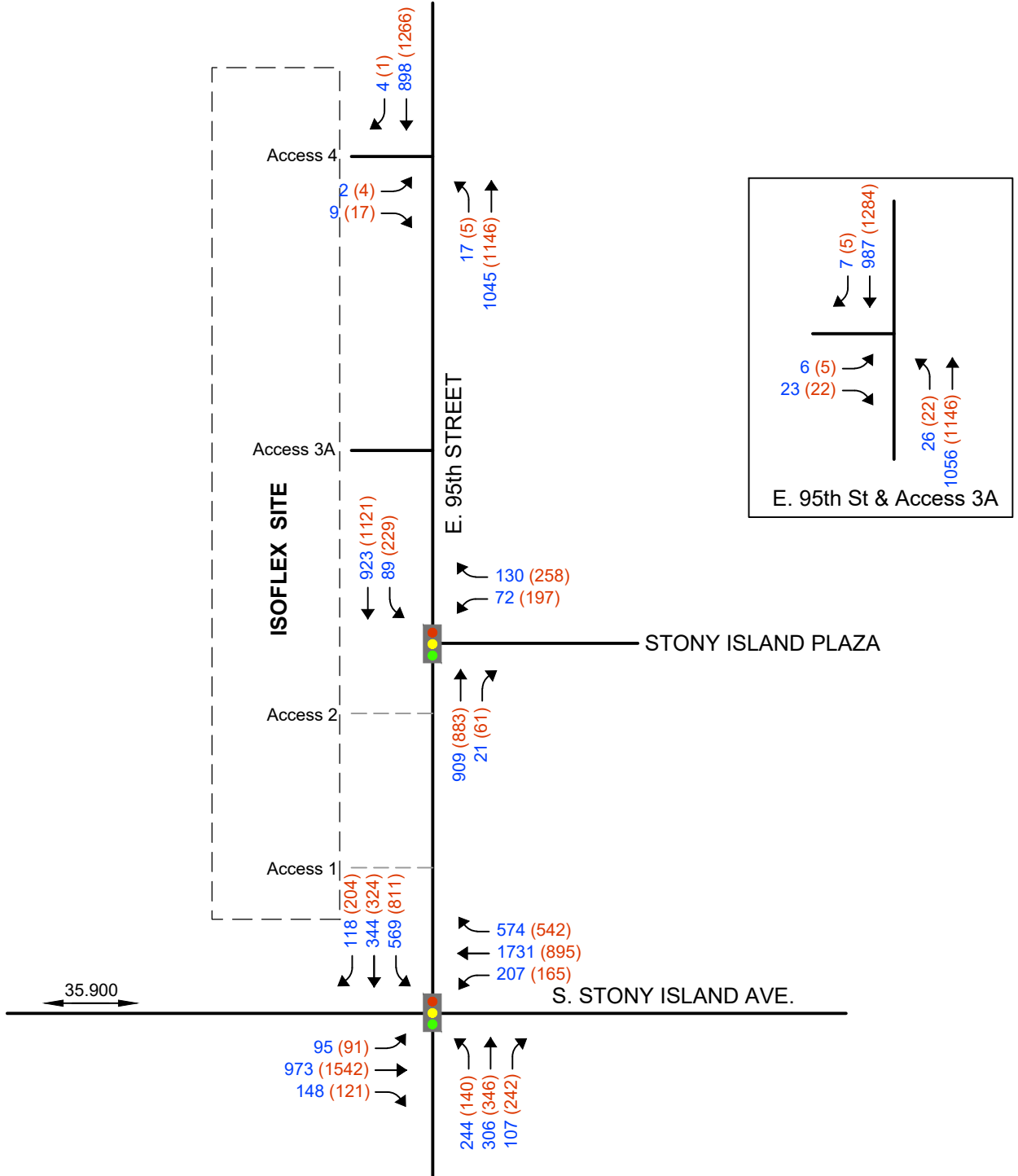


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FIGURE 6- FUTURE NO-BUILD TRAFFIC VOLUMES - 2028

ISOFLEX PACKAGING
 CHICAGO, ILLINOIS

Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet 6 / 7



LEGEND

- XX Weekday AM Peak Hour 7:30 AM - 8:30 AM
- (XX) Weekday PM Peak Hour 4:45 PM - 5:45 PM



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FIGURE 7- TOTAL TRAFFIC VOLUMES -2028

ISOFLEX PACKAGING
 CHICAGO, ILLINOIS

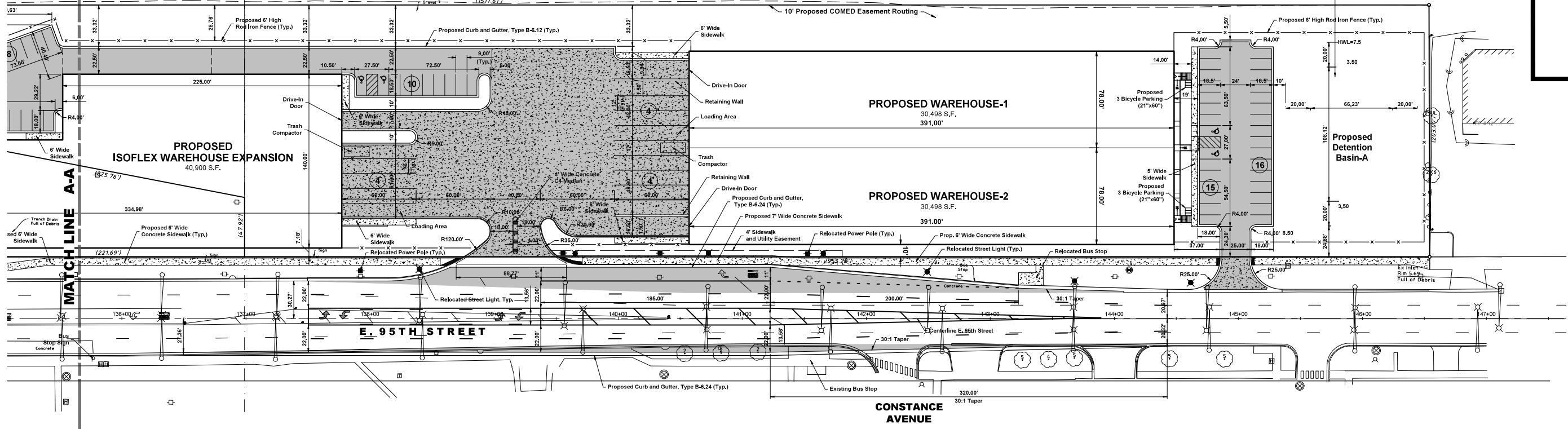
Project Manager: K M L
 Engineer: K M L
 Date: 09-18-2023
 Project No. 22-240
 Sheet 7 / 7



APPENDIX B – Proposed Site Plan

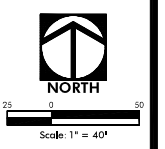
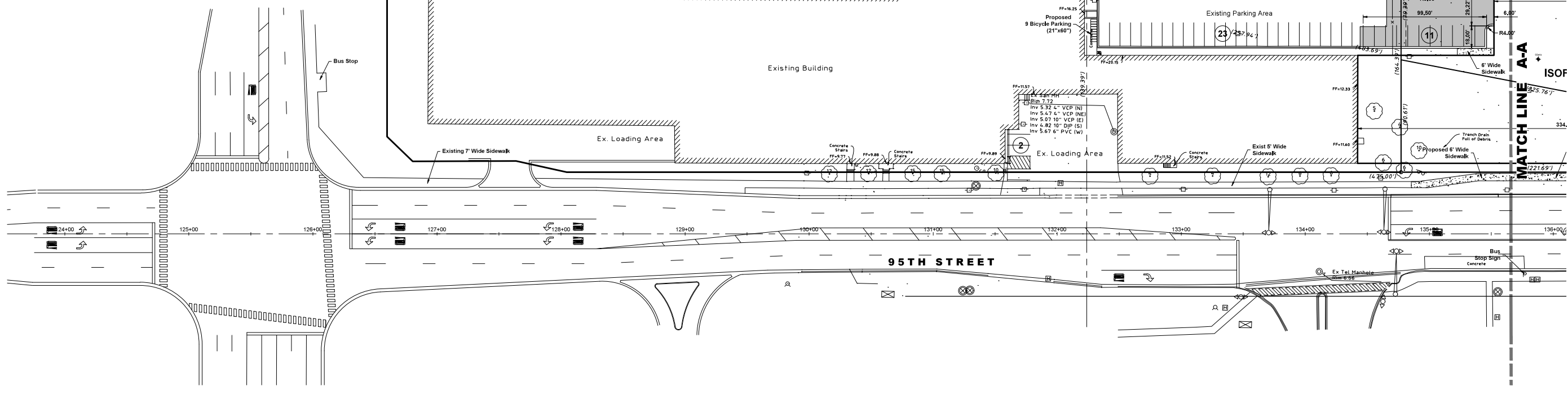
Building Area = 30,105.64 Sq. Feet

CHICAGO, ROCK ISLAND, AND PACIFIC RAILROAD



PAVING LEGEND

	BITUMINOUS PAVEMENT - STANDARD 1-1/2" Hot-Mix Asphalt (HMA) Surface Course, Mix D, NS0 2-1/4" Hot-Mix Asphalt (HMA) Binder Course, B-19-D, NS0 10" Aggregate Base Course, CA-6, Crushed
	BITUMINOUS PAVEMENT - HEAVY DUTY 1-1/2" Hot-Mix Asphalt (HMA) Surface Course, Mix D, NS0 2-1/4" Hot-Mix Asphalt (HMA) Binder Course, B-19-D, NS0 12" Aggregate Base Course, CA-6, Crushed
	CONCRETE DRIVEWAY APRON AND PAVEMENT 8" Portland Cement Concrete (CCMs) PV 2" Aggregate Base Course, CA-6, Gr 8 or Gr 9
	CONCRETE SIDEWALK - STANDARD 5" Portland Cement Concrete (CCMs) S 2" Aggregate Base Course, CA-6, Crushed
	CONCRETE SIDEWALK - THROUGH DRIVEWAYS 8" Portland Cement Concrete (CCMs) S 2" Aggregate Base Course, CA-6, Crushed



No.	Date	Revision
1	08-29-2023	Per CDDT
2	08-29-2023	Per CDDT

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GEOMETRIC AND PAVING PLAN
ISOFLEX PACKAGING
SITE IMPROVEMENT PLANS
CHICAGO, ILLINOIS

Project Manager: P L
Engineer: K M L
Date: 08-16-2023
Project No. 22-240
Sheet **C4.0** / 9

Plot Date: Sep 19, 2023 - 11:50am Plotted By: gk4
File Name: P:\2022\22240\Drawings\Final Engineering\22240 Final Engineering.dwg



APPENDIX C – Traffic Counts

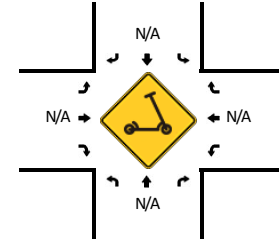
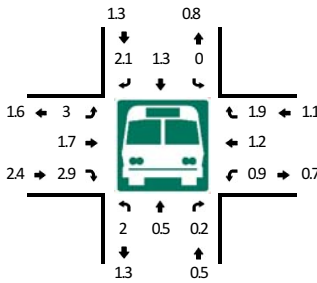
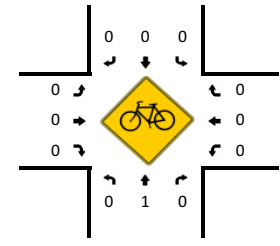
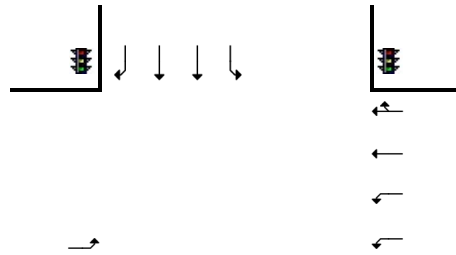
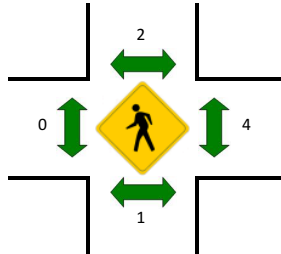
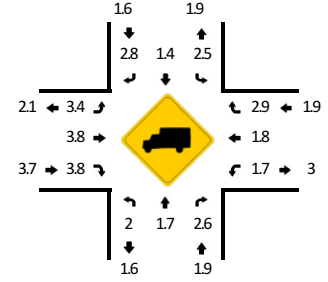
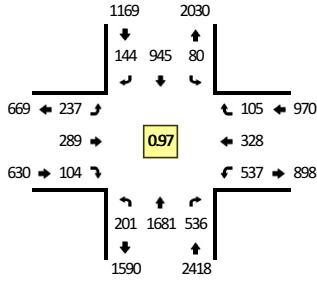
LOCATION: S Stony Island Ave -- E 95th St
CITY/STATE: Chicago, IL

QC JOB #: 16303901
DATE: Tue, Aug 29 2023

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM



TRUE DATA TO IMPROVE MOBILITY



15-Min Count Beginning At	S Stony Island Ave (Northbound)				S Stony Island Ave (Southbound)				E 95th St (Eastbound)				E 95th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	39	433	118	0	11	176	14	0	38	31	38	0	114	43	20	0	1075	
7:15 AM	44	496	110	1	10	234	27	3	41	42	32	0	110	67	23	0	1240	
7:30 AM	45	425	114	1	16	235	26	1	62	77	25	0	148	94	28	0	1297	
7:45 AM	50	439	144	1	17	261	36	1	61	85	26	0	126	73	20	0	1340	4952
8:00 AM	47	416	152	2	20	248	40	2	46	48	23	0	123	79	32	0	1278	5155
8:15 AM	55	401	126	0	20	201	42	3	68	79	30	0	140	82	25	0	1272	5187
8:30 AM	44	408	144	0	14	236	32	0	69	63	35	0	95	88	23	0	1251	5141
8:45 AM	60	385	136	1	25	189	37	3	36	64	30	0	134	85	28	1	1214	5015
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	200	1756	576	4	68	1044	144	4	244	340	104	0	504	292	80	0	5360	
Heavy Trucks	4	32	4		0	20	0		4	4	0		16	0	8		92	
Buses	4	8	4		0	4	4		4	4	4		8	12	0		56	
Pedestrians		4				4				0				12				20
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0			0
Scoters																		

Comments:

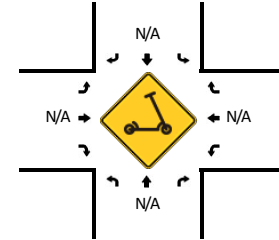
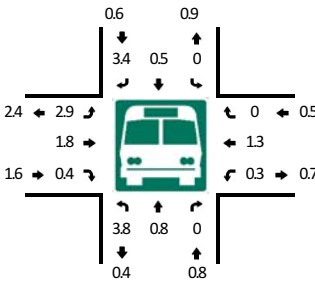
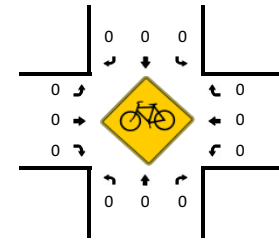
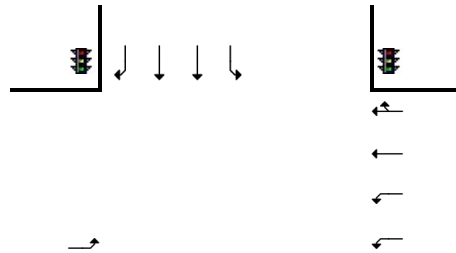
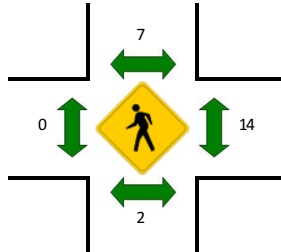
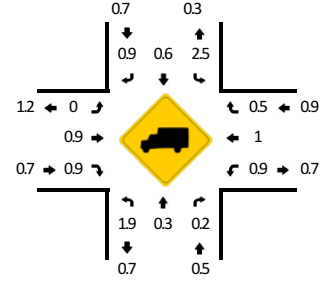
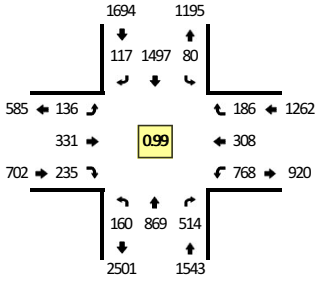
LOCATION: S Stony Island Ave -- E 95th St
CITY/STATE: Chicago, IL

QC JOB #: 16303902
DATE: Tue, Aug 29 2023

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:15 PM -- 5:30 PM



TRUE DATA TO IMPROVE MOBILITY



15-Min Count Beginning At	S Stony Island Ave (Northbound)				S Stony Island Ave (Southbound)				E 95th St (Eastbound)				E 95th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	60	220	143	0	18	362	20	1	33	83	48	0	184	104	45	0	1321	
4:15 PM	45	190	128	0	22	352	17	1	44	107	54	0	192	91	36	0	1279	
4:30 PM	37	224	117	0	20	383	21	3	40	95	56	0	158	92	33	0	1279	
4:45 PM	32	229	136	0	10	344	28	0	25	79	71	0	208	100	41	0	1303	5182
5:00 PM	40	189	114	1	28	384	49	3	40	82	59	1	182	63	60	0	1295	5156
5:15 PM	41	227	140	0	22	411	18	2	35	74	50	0	190	58	44	0	1312	5189
5:30 PM	46	224	124	0	15	358	22	0	35	96	55	0	188	87	41	0	1291	5201
5:45 PM	50	190	116	0	27	388	31	1	49	74	46	0	140	67	34	0	1213	5111
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	164	908	560	0	88	1644	72	8	140	296	200	0	760	232	176	0	5248	
Heavy Trucks	8	4	0	0	0	16	0	0	0	0	0	0	0	4	0	0	32	
Buses	4	4	0	0	0	0	4	0	4	4	0	0	0	4	0	0	24	
Pedestrians	0	8	0	0	0	0	0	0	0	0	0	0	0	16	0	0	24	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

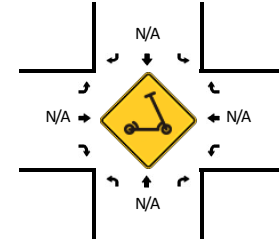
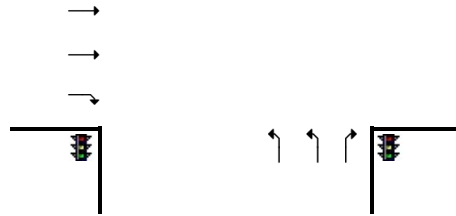
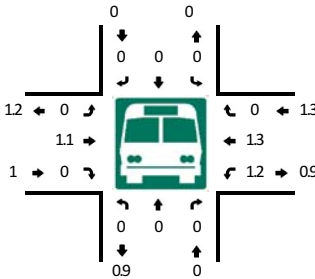
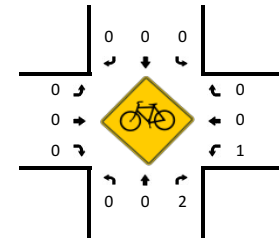
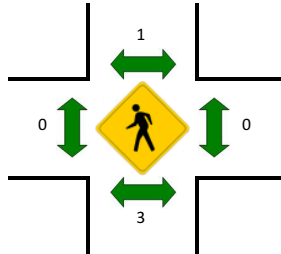
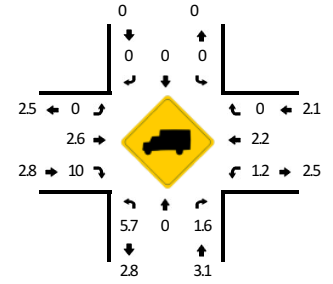
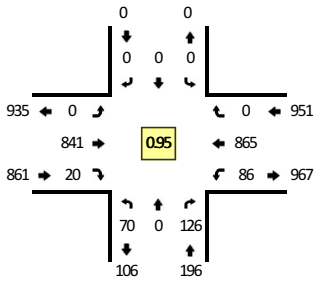
LOCATION: Stony Island Plaza -- E 95th St
CITY/STATE: Chicago, IL

QC JOB #: 16303903
DATE: Tue, Aug 29 2023

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM



TRUE DATA TO IMPROVE MOBILITY



15-Min Count Beginning At	Stony Island Plaza (Northbound)				Stony Island Plaza (Southbound)				E 95th St (Eastbound)				E 95th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	0	20	0	0	0	0	0	0	154	8	0	12	167	0	0	372	
7:15 AM	13	0	31	0	0	0	0	0	0	162	4	0	13	191	0	0	414	
7:30 AM	18	0	26	0	0	0	0	0	0	199	3	0	14	240	0	0	500	
7:45 AM	14	0	41	0	0	0	0	0	0	227	4	0	24	219	0	0	529	1815
8:00 AM	12	0	34	0	0	0	0	0	0	224	2	0	15	202	0	0	489	1932
8:15 AM	26	0	25	0	0	0	0	0	0	191	11	0	33	204	0	0	490	2008
8:30 AM	16	0	31	0	0	0	0	0	0	195	11	1	25	217	0	0	496	2004
8:45 AM	20	0	46	0	0	0	0	0	0	195	7	0	33	200	0	0	501	1976
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	56	0	164	0	0	0	0	0	0	908	16	0	96	876	0	0	2116	
Heavy Trucks	0	0	4	0	0	0	0	0	0	12	0	0	0	20	0	0	36	
Buses	0	0	0	0	0	0	0	0	0	16	0	0	0	20	0	0	36	
Pedestrians			4				0			0				0			4	
Bicycles	0	0	4		0	0	0		0	0	0		4	0	0		8	
Scoters																		

Comments:

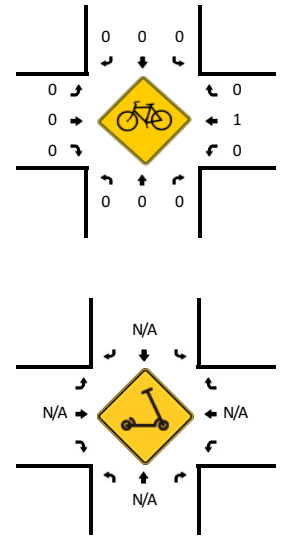
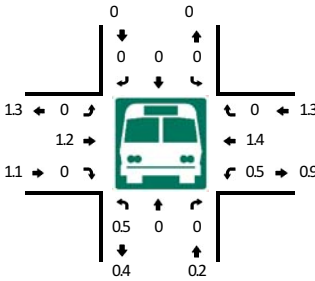
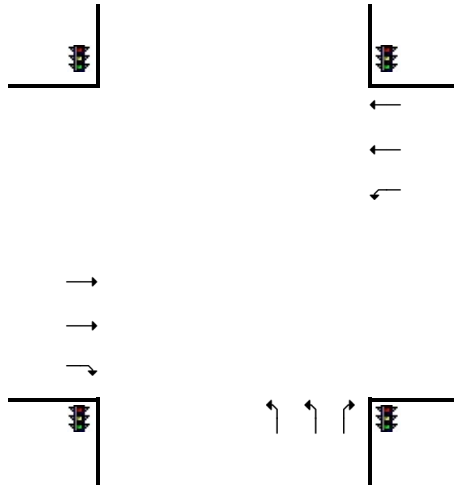
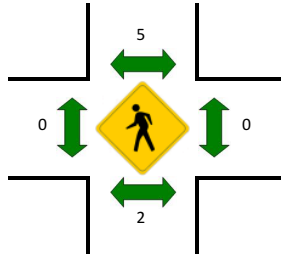
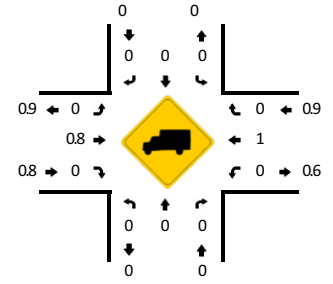
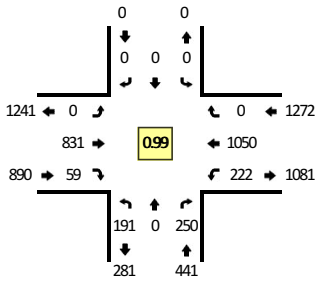
LOCATION: Stony Island Plaza -- E 95th St
CITY/STATE: Chicago, IL

QC JOB #: 16303904
DATE: Tue, Aug 29 2023

Peak-Hour: 4:00 PM -- 5:00 PM
 Peak 15-Min: 4:45 PM -- 5:00 PM



TRUE DATA TO IMPROVE MOBILITY

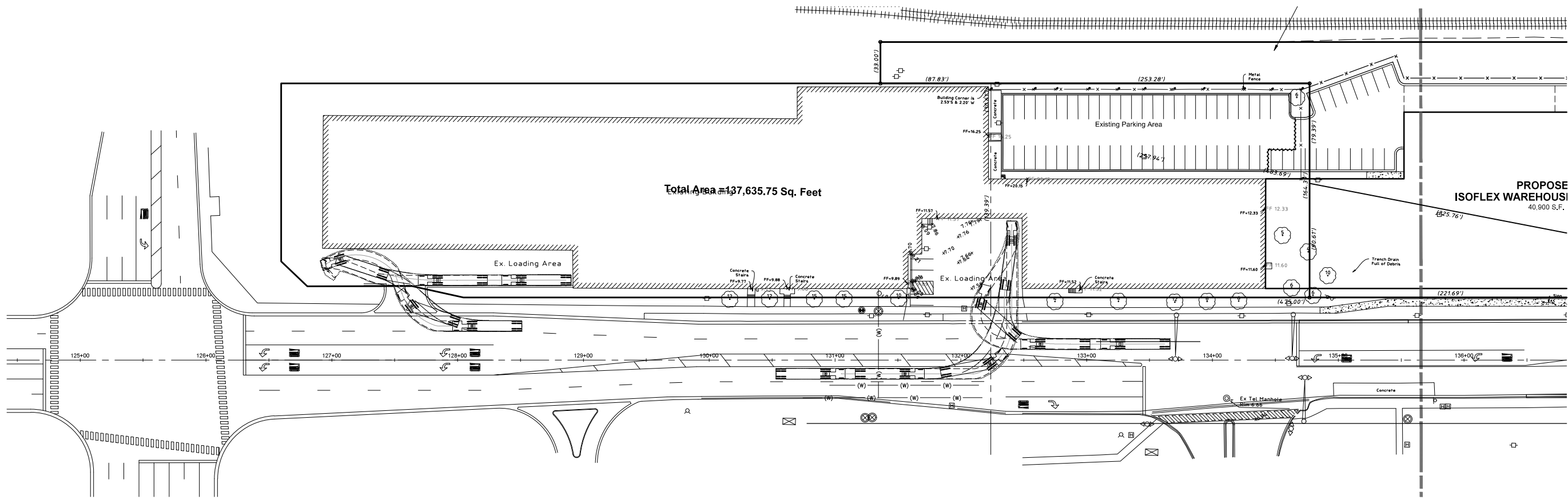


15-Min Count Beginning At	Stony Island Plaza (Northbound)				Stony Island Plaza (Southbound)				E 95th St (Eastbound)				E 95th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	47	0	50	0	0	0	0	0	0	221	16	0	42	268	0	0	644	
4:15 PM	48	0	65	0	0	0	0	0	0	212	18	0	56	244	0	0	643	
4:30 PM	43	0	70	0	0	0	0	0	0	202	11	0	51	279	0	0	656	
4:45 PM	53	0	65	0	0	0	0	0	0	196	14	0	73	259	0	0	660	2603
5:00 PM	58	0	74	0	0	0	0	0	0	178	11	0	44	237	0	0	602	2561
5:15 PM	58	0	52	0	0	0	0	0	0	200	13	0	54	260	0	0	637	2555
5:30 PM	49	0	49	0	0	0	0	0	0	206	14	0	42	215	0	0	575	2474
5:45 PM	43	0	57	0	0	0	0	0	0	162	19	0	47	212	0	0	540	2354
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	212	0	260	0	0	0	0	0	0	784	56	0	292	1036	0	0	2640	
Heavy Trucks	0	0	0	0	0	0	0	0	0	16	0	0	0	8	0	0	24	
Buses	0	0	0	0	0	0	0	0	0	8	0	0	0	4	0	0	12	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

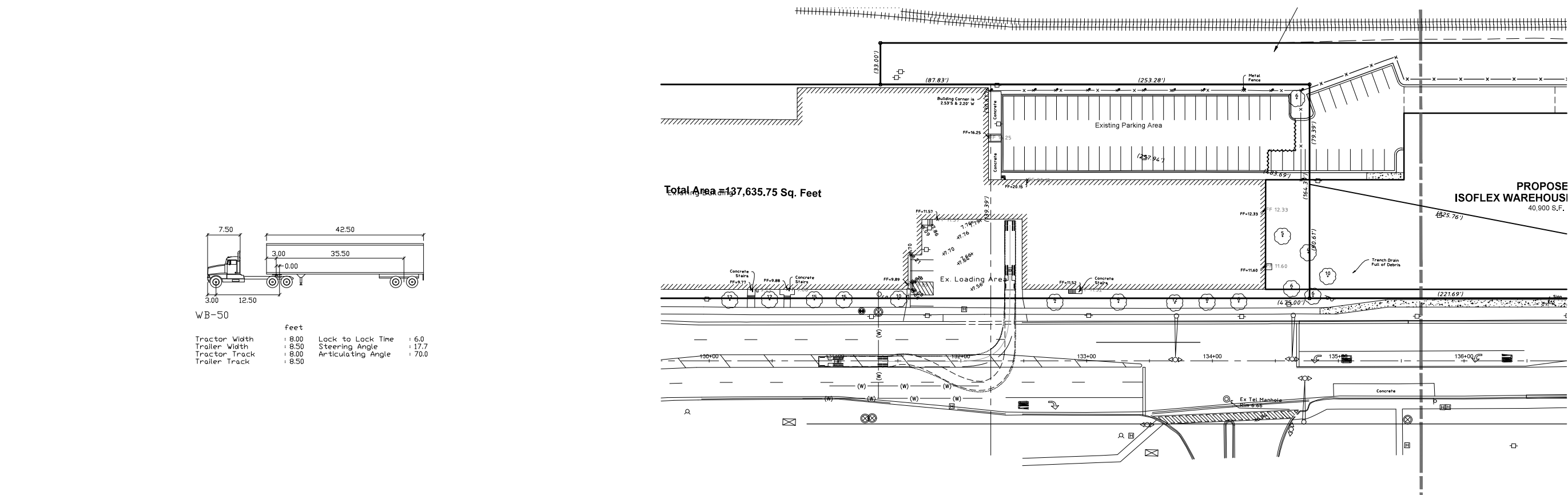


APPENDIX D – AutoTurn Truck Movements



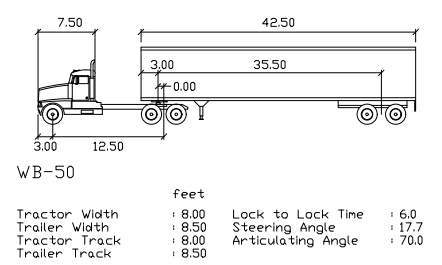
Total Area = 137,635.75 Sq. Feet

PROPOSE ISO FLEX WAREHOUSE
40,900 S.F.



Total Area = 137,635.75 Sq. Feet

PROPOSE ISO FLEX WAREHOUSE
40,900 S.F.



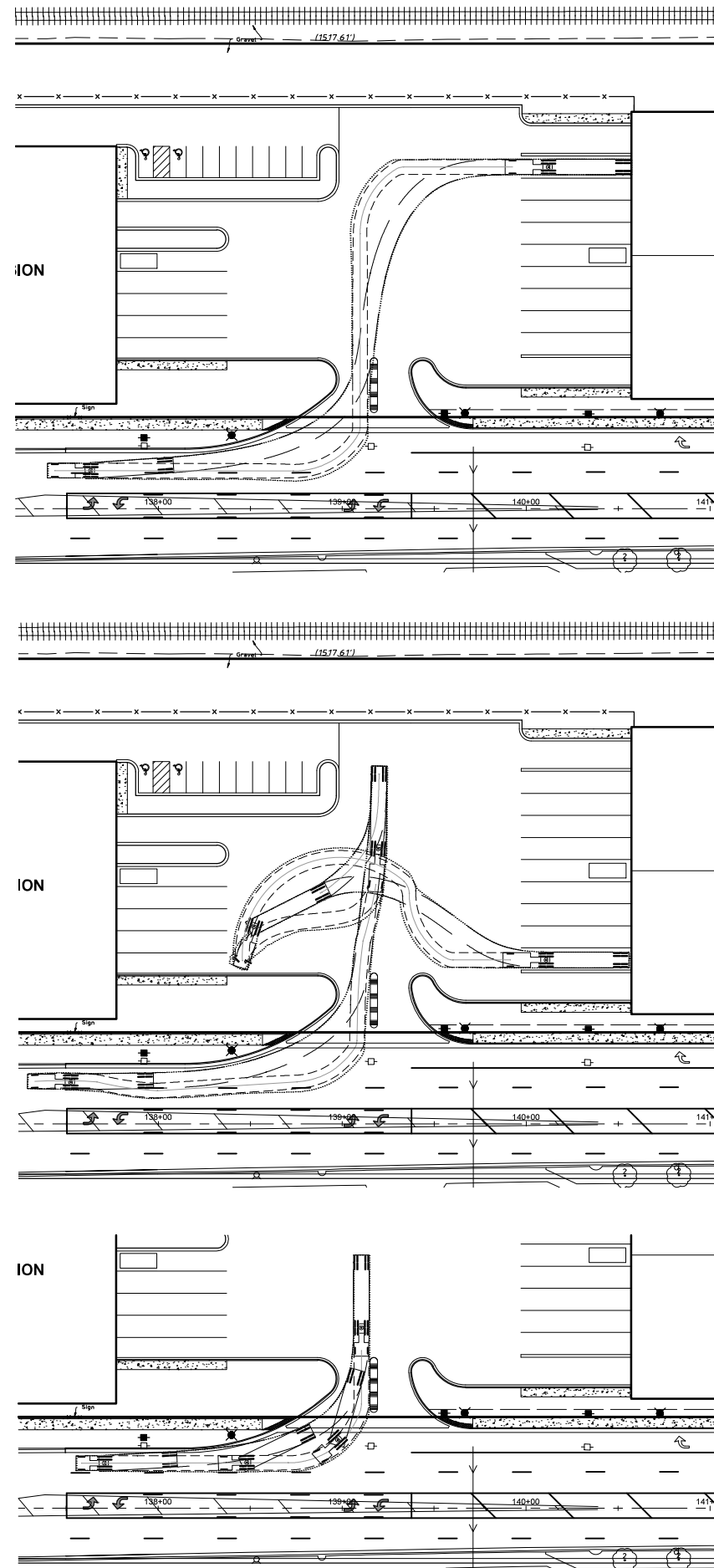
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**EXISTING TRUCK TURNING PLAN
EXHIBIT**
**ISO FLEX PACKAGING
SITE IMPROVEMENT PLANS**
CHICAGO, ILLINOIS

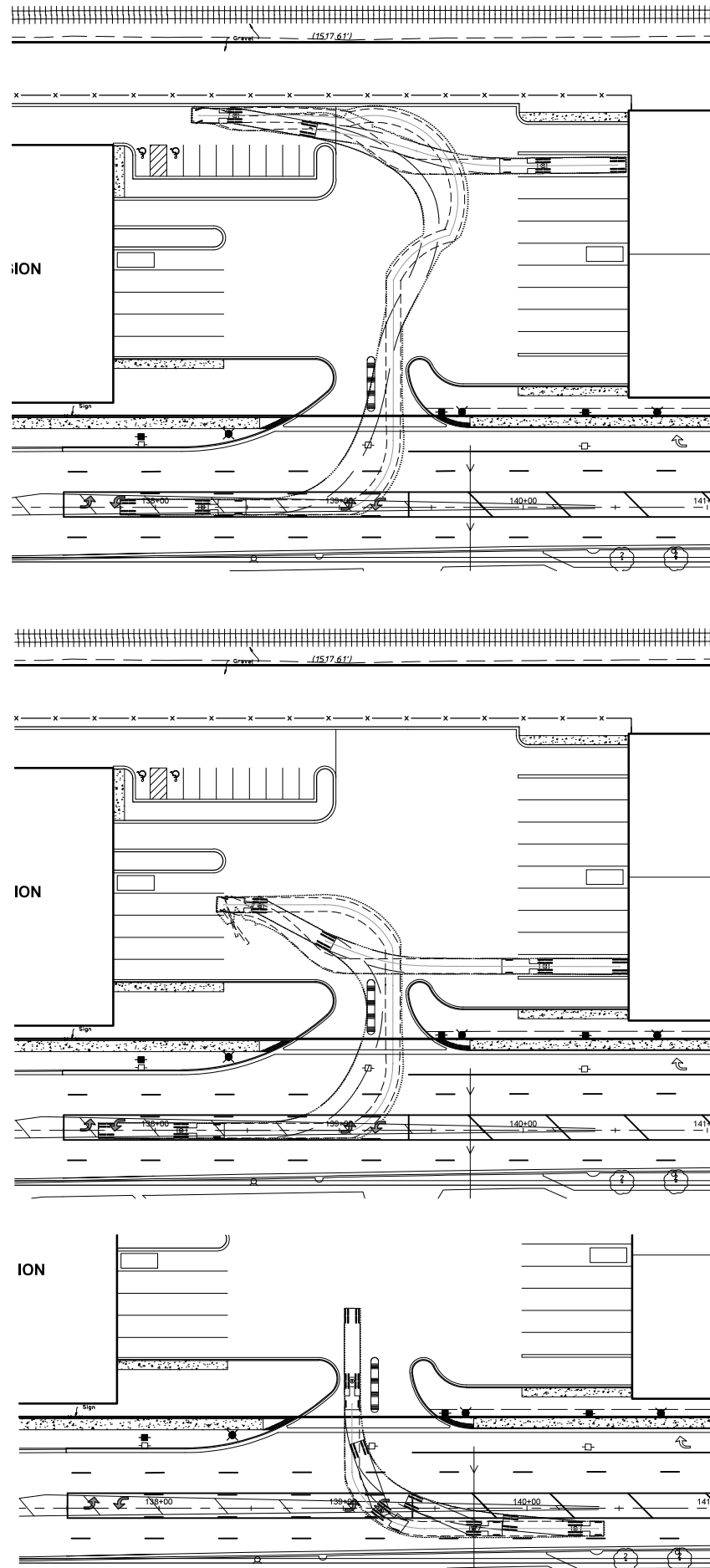
Project Manager: P L
Engineer: K M L
Date: 11-22-2022
Project No. 22-240
Sheet 1/1

Plot Date: Aug 22, 2023 - 12:14pm Plotted By: gkl
File Name: P:\2022\22240 Drawings\Final Engineering\22240 WB-50 TRUCK TURN @ I/O EIR\8817.dwg

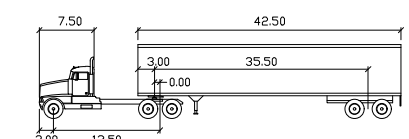
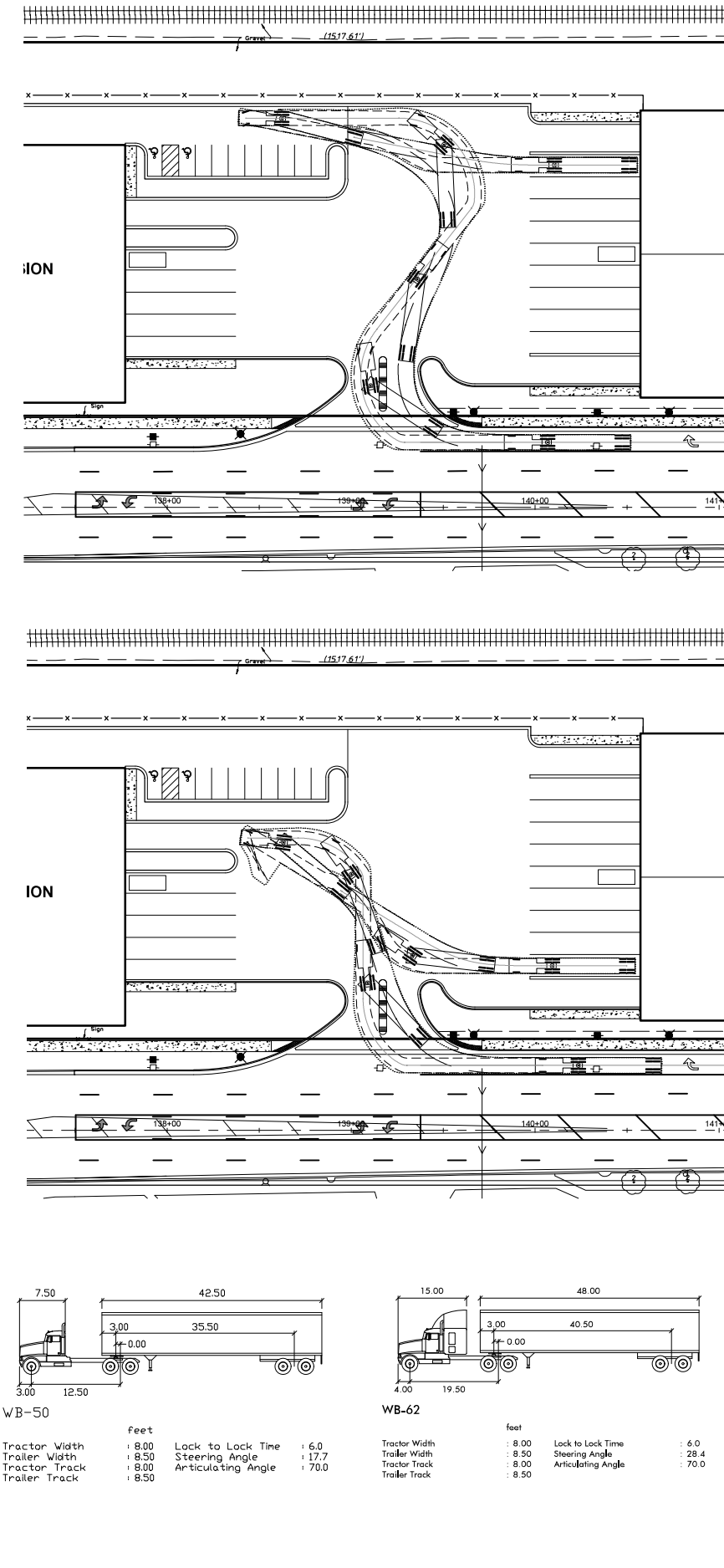
No.	Date	Revision
1	08-22-2023	Per CDOT



WB-50 GOING WB

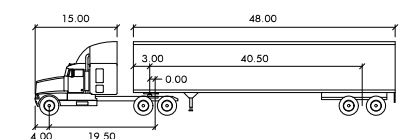


WB-50 GOING EB



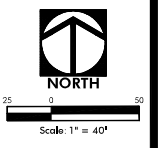
WB-50

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 17.7
Articulating Angle	: 70.0



WB-62

feet	
Tractor Width	: 8.00
Trailer Width	: 8.50
Tractor Track	: 8.00
Trailer Track	: 8.50
Lock to Lock Time	: 6.0
Steering Angle	: 28.4
Articulating Angle	: 70.0



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**TRUCK TURNING PLAN
 EXHIBIT
 ISOFLEX PACKAGING
 SITE IMPROVEMENT PLANS
 CHICAGO, ILLINOIS**

Project Manager: P L
 Engineer: K M L
 Date: 11-22-2022
 Project No. 22-240
 Sheet 1

Plot Date: Aug 17, 2023 - 12:02pm Plotted By: gbl
 File Name: P:\2022\22240\Drawings\Final Engineering\22240 Final Engineering.dwg



APPENDIX E – Synchro Studio Capacity Analyses



Capacity Analysis Existing AM and PM Peaks - 2023

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	289	104	537	328	105	201	1681	536	80	945	144
Future Volume (vph)	237	289	104	537	328	105	201	1681	536	80	945	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				0.99	0.99		1.00		0.99		1.00	
Fr't		0.960			0.964				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3261	0	3400	3345	0	3367	3539	1568	1719	4927	0
Flt Permitted	0.950			0.950			0.185			0.053		
Satd. Flow (perm)	3303	3261	0	3380	3345	0	655	3539	1545	96	4927	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			25				171			27
Link Speed (mph)		35			35			35				35
Link Distance (ft)		478			855			505				505
Travel Time (s)		9.3			16.7			9.8				9.8
Confl. Peds. (#/hr)				4		4	1		1	2		2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	7%	3%	3%	5%	4%	2%	3%	5%	3%	3%
Adj. Flow (vph)	244	298	107	554	338	108	207	1733	553	82	974	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	405	0	554	446	0	207	1733	553	82	1122	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)		24			24			24				4
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				10
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt		NA
Protected Phases	2	2		6	6		3	8		7		4
Permitted Phases							8		8		4	
Detector Phase	2	2		6	6		3	8	8	7		4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%		53.3%
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0		76.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag							Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None		None
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			

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023

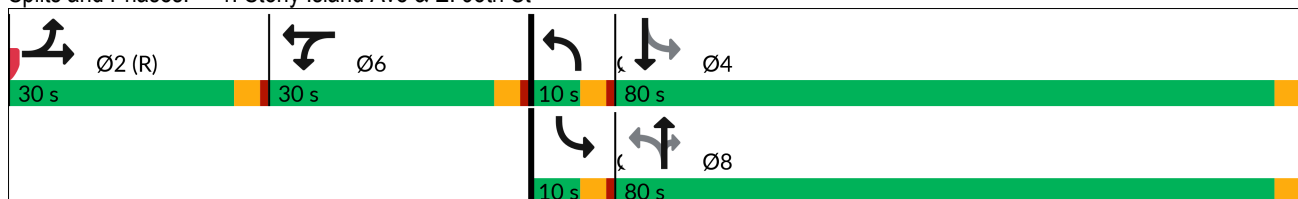


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0			
Act Effct Green (s)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.43	0.69		0.94	0.74		0.44	0.97	0.64	0.70	0.45	
Control Delay (s/veh)	58.0	60.7		85.8	63.9		17.8	50.5	21.7	52.6	23.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	58.0	60.7		85.8	63.9		17.8	50.5	21.7	52.6	23.6	
LOS	E	E		F	E		B	D	C	D	C	
Approach Delay (s/veh)		59.7			76.1			41.4			25.6	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	111	184		279	208		45	844	270	35	244	
Queue Length 95th (ft)	156	245		#392	272		65	#1029	403	#115	283	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	572	589		589	600		466	1793	867	117	2509	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.43	0.69		0.94	0.74		0.44	0.97	0.64	0.70	0.45	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay (s/veh): 46.5 Intersection LOS: D
 Intersection Capacity Utilization 90.9% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

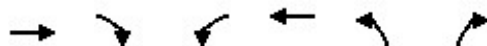
Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↘	↖
Traffic Volume (vph)	841	20	86	865	70	126
Future Volume (vph)	841	20	86	865	70	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					0.99	0.98
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3471	1615	1770	3438	3303	1583
Flt Permitted			0.133		0.950	
Satd. Flow (perm)	3471	1615	248	3438	3270	1555
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		18				133
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			1272	289	
Travel Time (s)	16.7			24.8	6.6	
Confl. Peds. (#/hr)					3	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	2%	5%	6%	2%
Adj. Flow (vph)	885	21	91	911	74	133
Shared Lane Traffic (%)						
Lane Group Flow (vph)	885	21	91	911	74	133
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0

Lanes, Volumes, Timings
2: Stony Island Plaza & E. 95th St

09/19/2023

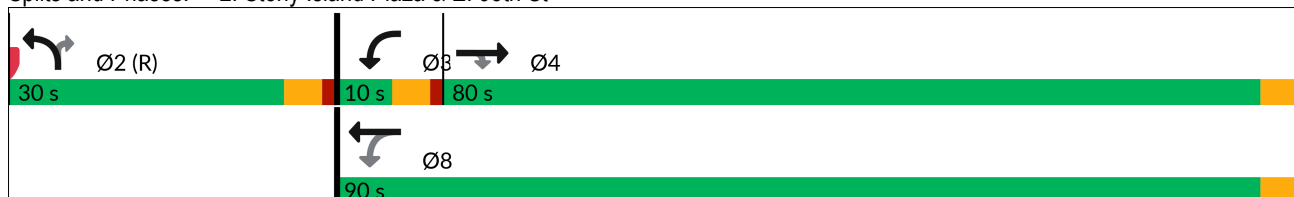


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	42.0	42.0	52.0	52.0	59.0	59.0
Actuated g/C Ratio	0.35	0.35	0.43	0.43	0.49	0.49
v/c Ratio	0.73	0.04	0.51	0.61	0.05	0.16
Control Delay (s/veh)	37.3	9.9	28.9	27.5	18.3	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	37.3	9.9	28.9	27.5	18.3	4.0
LOS	D	A	C	C	B	A
Approach Delay (s/veh)	36.6		27.7		9.1	
Approach LOS	D		C		A	
Queue Length 50th (ft)	312	2	41	281	14	0
Queue Length 95th (ft)	335	17	63	292	33	38
Internal Link Dist (ft)	775		1192		209	
Turn Bay Length (ft)	100		185			
Base Capacity (vph)	2183	1022	177	2449	1624	832
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.02	0.51	0.37	0.05	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay (s/veh):	29.7
Intersection LOS:	C
Intersection Capacity Utilization	54.3%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 2: Stony Island Plaza & E. 95th St



Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	331	235	768	308	186	160	869	514	80	1497	117
Future Volume (vph)	136	331	235	768	308	186	160	869	514	80	1497	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				0.98	0.98				0.98		1.00	
Fr't		0.938			0.943				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3314	0	3433	3291	0	3303	3574	1599	1736	5066	0
Flt Permitted	0.950			0.950			0.080			0.232		
Satd. Flow (perm)	3400	3314	0	3379	3291	0	278	3574	1572	424	5066	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			73				317			12
Link Speed (mph)		35			35			35				35
Link Distance (ft)		478			855			505				505
Travel Time (s)		9.3			16.7			9.8				9.8
Confl. Peds. (#/hr)				14		14	2		2	7		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	3%	3%	1%	2%	2%	1%	6%	1%	1%	4%	1%	3%
Adj. Flow (vph)	137	334	237	776	311	188	162	878	519	81	1512	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	137	571	0	776	499	0	162	878	519	81	1630	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)		24			24			24				4
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				10
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt		NA
Protected Phases	2	2		6	6		3	8		7		4
Permitted Phases							8		8		4	
Detector Phase	2	2		6	6		3	8	8	7		4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%		53.3%
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0		76.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag							Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None		None
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			

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023

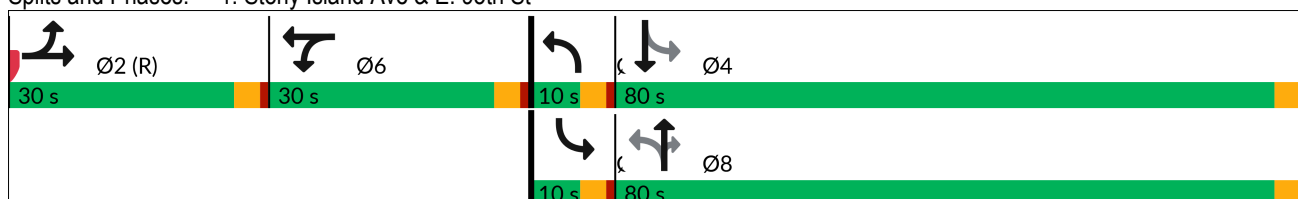


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0			
Act Effct Green (s)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.23	0.90		1.30	0.79		0.60	0.49	0.55	0.29	0.63	
Control Delay (s/veh)	54.6	70.7		196.0	60.6		23.9	25.3	11.2	17.1	28.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	54.6	70.7		196.0	60.6		23.9	25.3	11.2	17.1	28.1	
LOS	D	E		F	E		C	C	B	B	C	
Approach Delay (s/veh)		67.6			143.0			20.5				27.5
Approach LOS		E			F			C				C
Queue Length 50th (ft)	60	256		~500	214		35	289	123	34	412	
Queue Length 95th (ft)	93	#362		#629	283		53	347	228	61	463	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	589	635		595	630		272	1810	952	284	2572	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.23	0.90		1.30	0.79		0.60	0.49	0.55	0.29	0.63	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 58.9 Intersection LOS: E
 Intersection Capacity Utilization 88.1% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

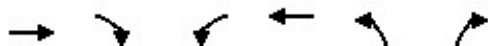
Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↗↖	↗
Traffic Volume (vph)	831	59	222	1050	191	250
Future Volume (vph)	831	59	222	1050	191	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					0.99	0.98
Fr't		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1599	1787	3539	3467	1583
Flt Permitted			0.136		0.950	
Satd. Flow (perm)	3539	1599	256	3539	3444	1558
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		55				251
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			1272	289	
Travel Time (s)	16.7			24.8	6.6	
Confl. Peds. (#/hr)					2	2
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	2%	1%	1%	2%	1%	2%
Adj. Flow (vph)	839	60	224	1061	193	253
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	60	224	1061	193	253
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0

Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023

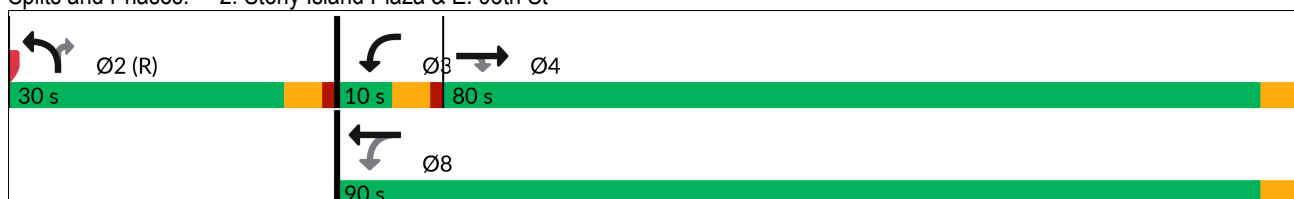


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	39.4	39.4	49.4	49.4	61.6	61.6
Actuated g/C Ratio	0.33	0.33	0.41	0.41	0.51	0.51
v/c Ratio	0.72	0.11	1.28	0.73	0.11	0.27
Control Delay (s/veh)	38.7	7.3	188.5	32.3	16.8	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.7	7.3	188.5	32.3	16.8	3.3
LOS	D	A	F	C	B	A
Approach Delay (s/veh)	36.6			59.5	9.2	
Approach LOS	D			E	A	
Queue Length 50th (ft)	300	3	~157	358	38	1
Queue Length 95th (ft)	323	29	#264	368	70	49
Internal Link Dist (ft)	775			1192	209	
Turn Bay Length (ft)	100		185			
Base Capacity (vph)	2226	1026	175	2521	1778	921
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.06	1.28	0.42	0.11	0.27

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay (s/veh): 43.1 Intersection LOS: D
 Intersection Capacity Utilization 61.5% ICU Level of Service B
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Stony Island Plaza & E. 95th St





Capacity Analysis Future AM and PM Peaks – 2028

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	237	289	104	537	328	105	201	1681	536	80	945	144
Future Volume (vph)	237	289	104	537	328	105	201	1681	536	80	945	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				0.99	0.99				0.99		1.00	
Fr't		0.960			0.964				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3261	0	3400	3345	0	3367	3539	1568	1719	4927	0
Flt Permitted	0.950			0.950			0.176			0.053		
Satd. Flow (perm)	3303	3261	0	3381	3345	0	624	3539	1545	96	4927	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			25				171			28
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		478			855			505			505	
Travel Time (s)		9.3			16.7			9.8			9.8	
Confl. Peds. (#/hr)				4		4	1		1	2		2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	6%	6%	7%	3%	3%	5%	4%	2%	3%	5%	3%	3%
Adj. Flow (vph)	252	307	110	570	348	111	213	1785	569	85	1003	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	417	0	570	459	0	213	1785	569	85	1156	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)		24			24			24			4	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			10	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases							8		8	4		
Detector Phase	2	2		6	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%	53.3%	
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0	76.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0			

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.44	0.71		0.97	0.77		0.47	1.00	0.66	0.73	0.46	
Control Delay (s/veh)	58.3	61.6		90.9	65.2		18.4	56.8	22.5	56.1	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	58.3	61.6		90.9	65.2		18.4	56.8	22.5	56.1	23.9	
LOS	E	E		F	E		B	E	C	E	C	
Approach Delay (s/veh)		60.4			79.4			46.0			26.1	
Approach LOS		E			E			D			C	
Queue Length 50th (ft)	115	191		289	216		47	896	286	36	254	
Queue Length 95th (ft)	161	253		#409	282		68	#1085	424	#121	294	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	572	589		589	600		450	1793	867	117	2510	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.44	0.71		0.97	0.77		0.47	1.00	0.66	0.73	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay (s/veh): 49.5

Intersection LOS: D

Intersection Capacity Utilization 93.2%

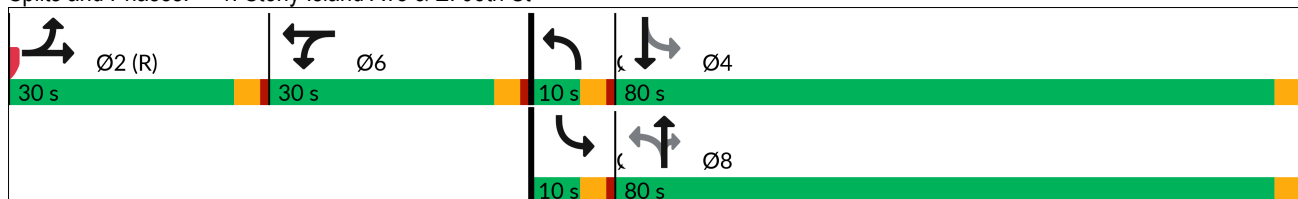
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings
2: Stony Island Plaza & E. 95th St

09/19/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	841	20	86	865	70	126
Future Volume (vph)	841	20	86	865	70	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					0.99	0.98
Fr _t		0.850				0.850
Fl _t Protected			0.950		0.950	
Satd. Flow (prot)	3471	1615	1770	3438	3303	1583
Fl _t Permitted			0.130		0.950	
Satd. Flow (perm)	3471	1615	242	3438	3270	1555
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		19				137
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			1272	289	
Travel Time (s)	16.7			24.8	6.6	
Confl. Peds. (#/hr)					3	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	4%	0%	2%	5%	6%	2%
Adj. Flow (vph)	912	22	93	938	76	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	912	22	93	938	76	137
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0

Lanes, Volumes, Timings
 2: Stony Island Plaza & E. 95th St

09/19/2023

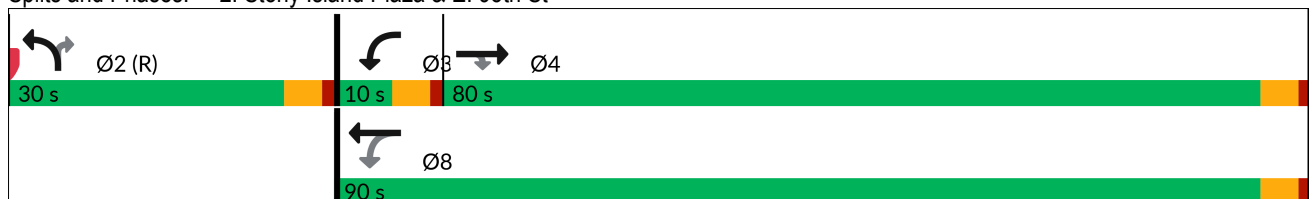


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	43.2	43.2	53.2	53.2	57.8	57.8
Actuated g/C Ratio	0.36	0.36	0.44	0.44	0.48	0.48
v/c Ratio	0.73	0.04	0.53	0.62	0.05	0.17
Control Delay (s/veh)	36.4	9.3	28.7	26.9	18.9	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.4	9.3	28.7	26.9	18.9	4.1
LOS	D	A	C	C	B	A
Approach Delay (s/veh)	35.8			27.0	9.4	
Approach LOS	D			C	A	
Queue Length 50th (ft)	321	2	42	287	15	0
Queue Length 95th (ft)	341	17	63	296	34	39
Internal Link Dist (ft)	775			1192	209	
Turn Bay Length (ft)		100	185			
Base Capacity (vph)	2183	1023	177	2449	1589	819
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.02	0.53	0.38	0.05	0.17

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay (s/veh): 29.1 Intersection LOS: C
 Intersection Capacity Utilization 55.1% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 2: Stony Island Plaza & E. 95th St



Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	331	235	768	308	186	160	869	514	80	1497	117
Future Volume (vph)	136	331	235	768	308	186	160	869	514	80	1497	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				0.98	0.98				0.98		1.00	
Fr't		0.938			0.943				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3400	3314	0	3433	3291	0	3303	3574	1599	1736	5066	0
Flt Permitted	0.950			0.950			0.073			0.222		
Satd. Flow (perm)	3400	3314	0	3380	3291	0	254	3574	1572	406	5066	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			73				317			12
Link Speed (mph)		35			35			35				35
Link Distance (ft)		478			855			505				505
Travel Time (s)		9.3			16.7			9.8				9.8
Confl. Peds. (#/hr)				14		14	2		2	7		7
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	3%	3%	1%	2%	2%	1%	6%	1%	1%	4%	1%	3%
Adj. Flow (vph)	141	344	244	799	320	194	166	904	535	83	1557	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	588	0	799	514	0	166	904	535	83	1679	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)		24			24			24				4
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				10
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt		NA
Protected Phases	2	2		6	6		3	8		7		4
Permitted Phases							8		8	4		
Detector Phase	2	2		6	6		3	8	8	7		4
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0		80.0
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%		53.3%
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0		76.0
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0		1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag							Lead	Lag	Lag	Lead		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0		3.0
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0			

Lanes, Volumes, Timings
 1: Stony Island Ave & E. 95th St

09/19/2023

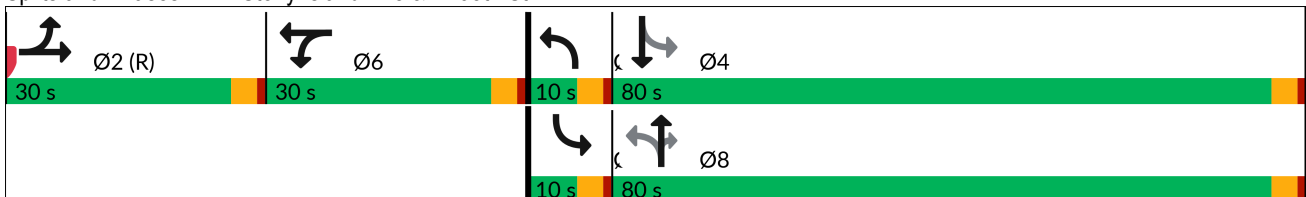


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0			
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0			
Act Effct Green (s)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.24	0.93		1.34	0.82		0.64	0.50	0.56	0.30	0.65	
Control Delay (s/veh)	54.7	75.2		211.1	62.4		26.7	25.6	11.9	17.4	28.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	54.7	75.2		211.1	62.4		26.7	25.6	11.9	17.4	28.6	
LOS	D	E		F	E		C	C	B	B	C	
Approach Delay (s/veh)		71.3			152.9			21.2			28.0	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	61	268		~524	223		36	301	136	35	431	
Queue Length 95th (ft)	95	#382		#655	293		55	360	245	61	482	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	589	633		595	630		260	1810	952	275	2572	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.24	0.93		1.34	0.82		0.64	0.50	0.56	0.30	0.65	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.34
 Intersection Signal Delay (s/veh): 62.1 Intersection LOS: E
 Intersection Capacity Utilization 90.3% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings
2: Stony Island Plaza & E. 95th St

09/19/2023

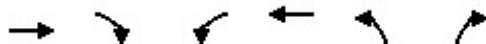


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	831	59	222	1050	191	250
Future Volume (vph)	831	59	222	1050	191	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					0.99	0.98
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1599	1787	3539	3467	1583
Flt Permitted			0.132		0.950	
Satd. Flow (perm)	3539	1599	248	3539	3444	1558
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		54				242
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			1272	289	
Travel Time (s)	16.7			24.8	6.6	
Confl. Peds. (#/hr)					2	2
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	103%	103%	103%	103%	103%	103%
Heavy Vehicles (%)	2%	1%	1%	2%	1%	2%
Adj. Flow (vph)	865	61	231	1092	199	260
Shared Lane Traffic (%)						
Lane Group Flow (vph)	865	61	231	1092	199	260
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0

Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023

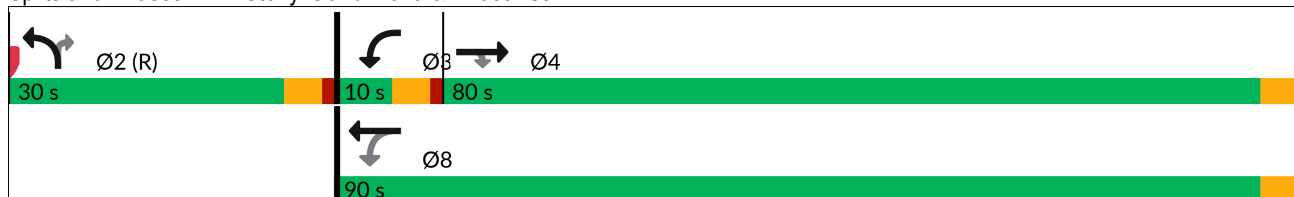


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	40.5	40.5	50.5	50.5	60.5	60.5
Actuated g/C Ratio	0.34	0.34	0.42	0.42	0.50	0.50
v/c Ratio	0.72	0.11	1.32	0.73	0.11	0.29
Control Delay (s/veh)	38.0	7.5	205.4	31.8	17.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.0	7.5	205.4	31.8	17.5	4.2
LOS	D	A	F	C	B	A
Approach Delay (s/veh)	36.0			62.1	9.9	
Approach LOS	D			E	A	
Queue Length 50th (ft)	307	4	~166	366	40	7
Queue Length 95th (ft)	330	29	#274	376	73	59
Internal Link Dist (ft)	775			1192	209	
Turn Bay Length (ft)		100	185			
Base Capacity (vph)	2226	1026	175	2521	1746	905
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.06	1.32	0.43	0.11	0.29

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.32
 Intersection Signal Delay (s/veh): 44.3 Intersection LOS: D
 Intersection Capacity Utilization 62.6% ICU Level of Service B
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Stony Island Plaza & E. 95th St





Capacity Analysis Future with Project AM and PM Peaks – 2028

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕		↖↗	↕	↗	↖	↕↖↗	
Traffic Volume (vph)	244	306	107	569	344	118	207	1731	574	95	973	148
Future Volume (vph)	244	306	107	569	344	118	207	1731	574	95	973	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				0.99	0.99				0.99		1.00	
Fr _t		0.961			0.962				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3265	0	3400	3336	0	3367	3539	1568	1719	4927	0
Flt Permitted	0.950			0.950			0.176			0.053		
Satd. Flow (perm)	3303	3265	0	3381	3336	0	624	3539	1545	96	4927	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			27				178		28	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		478			855			505			505	
Travel Time (s)		9.3			16.7			9.8			9.8	
Confl. Peds. (#/hr)				4		4	1		1	2		2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	7%	3%	3%	5%	4%	2%	3%	5%	3%	3%
Adj. Flow (vph)	252	315	110	587	355	122	213	1785	592	98	1003	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	425	0	587	477	0	213	1785	592	98	1156	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)		24			24			24			4	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			10	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases							8		8	4		
Detector Phase	2	2		6	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%	53.3%	
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0	76.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None	None	
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			

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023

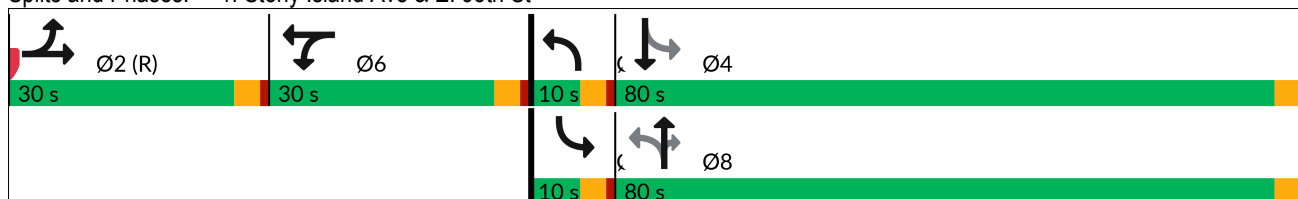


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0			
Act Effct Green (s)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.44	0.72		1.00	0.80		0.47	1.00	0.68	0.84	0.46	
Control Delay (s/veh)	58.3	62.5		97.4	66.7		18.4	56.8	23.3	74.5	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	58.3	62.5		97.4	66.7		18.4	56.8	23.3	74.5	23.9	
LOS	E	E		F	E		B	E	C	E	C	
Approach Delay (s/veh)		60.9			83.6			46.0			27.8	
Approach LOS		E			F			D			C	
Queue Length 50th (ft)	115	196		300	225		47	896	305	46	254	
Queue Length 95th (ft)	161	258		#427	293		68	#1085	450	#156	294	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	572	589		589	600		450	1793	870	117	2510	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.44	0.72		1.00	0.80		0.47	1.00	0.68	0.84	0.46	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay (s/veh): 50.9 Intersection LOS: D
 Intersection Capacity Utilization 94.6% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

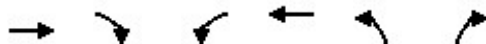
Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023

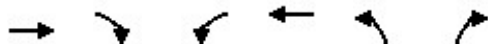


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	909	21	89	923	72	130
Future Volume (vph)	909	21	89	923	72	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					0.99	0.98
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3471	1615	1770	3438	3303	1583
Flt Permitted			0.126		0.950	
Satd. Flow (perm)	3471	1615	235	3438	3270	1555
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		18				137
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			426	289	
Travel Time (s)	16.7			8.3	6.6	
Confl. Peds. (#/hr)					3	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	2%	5%	6%	2%
Adj. Flow (vph)	957	22	94	972	76	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	957	22	94	972	76	137
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0

Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023

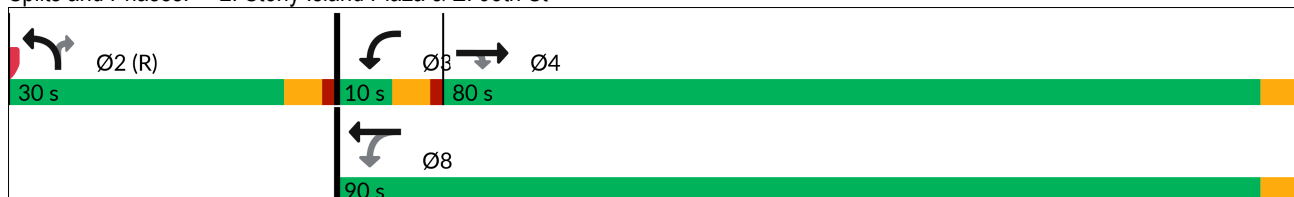


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	45.5	45.5	55.5	55.5	55.5	55.5
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.73	0.04	0.53	0.61	0.05	0.17
Control Delay (s/veh)	34.8	9.1	27.4	25.4	20.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.8	9.1	27.4	25.4	20.3	4.4
LOS	C	A	C	C	C	A
Approach Delay (s/veh)	34.3			25.6	10.1	
Approach LOS	C			C	B	
Queue Length 50th (ft)	330	2	40	288	16	0
Queue Length 95th (ft)	347	17	60	295	36	41
Internal Link Dist (ft)	775			346	209	
Turn Bay Length (ft)		100	185			
Base Capacity (vph)	2183	1022	178	2449	1527	792
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.02	0.53	0.40	0.05	0.17

Intersection Summary

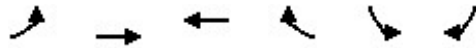
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay (s/veh):	27.9
Intersection LOS:	C
Intersection Capacity Utilization	56.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 2: Stony Island Plaza & E. 95th St



Lanes, Volumes, Timings
 8: E. 95th St & Prop. Warehouse

09/19/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓↓	
Traffic Volume (vph)	17	1045	898	4	2	9
Future Volume (vph)	17	1045	898	4	2	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr _t			0.999		0.887	
Fl _t Protected		0.999			0.992	
Satd. Flow (prot)	0	3470	3536	0	1639	0
Fl _t Permitted		0.999			0.992	
Satd. Flow (perm)	0	3470	3536	0	1639	0
Link Speed (mph)		35	30		30	
Link Distance (ft)		636	210		385	
Travel Time (s)		24.1	4.8		3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	2%	2%	2%	2%
Adj. Flow (vph)	18	1136	976	4	2	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1154	980	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.9%
	ICU Level of Service A
Analysis Period (min)	15

Lanes, Volumes, Timings
11: E. 95th St & ISOFlex

09/19/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗	↘	
Traffic Volume (vph)	26	1056	987	7	6	23
Future Volume (vph)	26	1056	987	7	6	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			185	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850	0.895	
Flt Protected		0.999			0.989	
Satd. Flow (prot)	0	3469	3438	1583	1649	0
Flt Permitted		0.999			0.989	
Satd. Flow (perm)	0	3469	3438	1583	1649	0
Link Speed (mph)		35	35		10	
Link Distance (ft)		426	636		375	
Travel Time (s)		11.4	12.7		3.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	5%	2%	2%	2%
Adj. Flow (vph)	28	1148	1073	8	7	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1176	1073	8	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.8%
ICU Level of Service	B
Analysis Period (min)	15

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	346	242	811	324	204	165	895	542	91	1542	121
Future Volume (vph)	140	346	242	811	324	204	165	895	542	91	1542	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	200		200	120		120	70		70
Storage Lanes	2		0	2		0	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor				1.00	0.99				0.99		1.00	
Fr't		0.938			0.942				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3182	0	3400	3249	0	3367	3539	1568	1719	4976	0
Flt Permitted	0.950			0.950			0.068			0.214		
Satd. Flow (perm)	3303	3182	0	3385	3249	0	241	3539	1545	387	4976	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			80				325			12
Link Speed (mph)		35			35			35				35
Link Distance (ft)		478			855			505				505
Travel Time (s)		9.3			16.7			9.8				9.8
Confl. Peds. (#/hr)				4		4	1		1	2		2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	7%	3%	3%	5%	4%	2%	3%	5%	3%	3%
Adj. Flow (vph)	144	357	249	836	334	210	170	923	559	94	1590	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	606	0	836	544	0	170	923	559	94	1715	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)		24			24			24				4
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				10
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA	Perm	pm+pt		NA
Protected Phases	2	2		6	6		3	8		7	4	
Permitted Phases							8		8	4		
Detector Phase	2	2		6	6		3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (s)	30.0	30.0		30.0	30.0		10.0	80.0	80.0	10.0	80.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		6.7%	53.3%	53.3%	6.7%	53.3%	
Maximum Green (s)	26.0	26.0		26.0	26.0		6.0	76.0	76.0	6.0	76.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	None		Max	Max	Max	None	None	
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			

Lanes, Volumes, Timings
1: Stony Island Ave & E. 95th St

09/19/2023

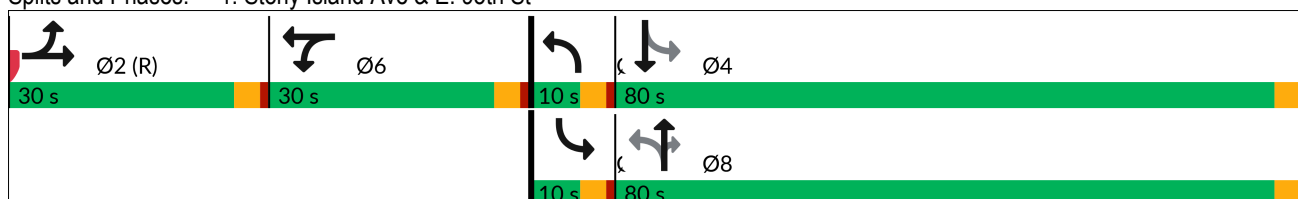


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0			
Act Effct Green (s)	26.0	26.0		26.0	26.0		82.0	76.0	76.0	82.0	76.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.55	0.51	0.51	0.55	0.51	
v/c Ratio	0.25	0.99		1.42	0.86		0.66	0.51	0.59	0.36	0.68	
Control Delay (s/veh)	55.0	88.7		241.8	66.0		29.3	26.0	12.7	18.5	29.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	55.0	88.7		241.8	66.0		29.3	26.0	12.7	18.5	29.3	
LOS	D	F		F	E		C	C	B	B	C	
Approach Delay (s/veh)		82.2			172.5			21.8				28.7
Approach LOS		F			F			C				C
Queue Length 50th (ft)	63	283		~565	238		37	310	152	40	449	
Queue Length 95th (ft)	97	#416		#697	#331		61	371	270	69	503	
Internal Link Dist (ft)		398			775			425			425	
Turn Bay Length (ft)	100			200			120		120	70		
Base Capacity (vph)	572	610		589	629		256	1793	943	264	2527	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.25	0.99		1.42	0.86		0.66	0.51	0.59	0.36	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.42
 Intersection Signal Delay (s/veh): 69.4 Intersection LOS: E
 Intersection Capacity Utilization 91.0% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Stony Island Ave & E. 95th St



Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (vph)	883	61	229	1121	197	258
Future Volume (vph)	883	61	229	1121	197	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		100	185		0	0
Storage Lanes		1	1		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor		0.96			0.99	0.98
Fr _t		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3471	1615	1770	3438	3303	1583
Flt Permitted			0.139		0.950	
Satd. Flow (perm)	3471	1551	259	3438	3270	1555
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		53				216
Link Speed (mph)	35			35	30	
Link Distance (ft)	855			426	289	
Travel Time (s)	16.7			8.3	6.6	
Confl. Peds. (#/hr)		6			3	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	0%	2%	5%	6%	2%
Adj. Flow (vph)	929	64	241	1180	207	272
Shared Lane Traffic (%)						
Lane Group Flow (vph)	929	64	241	1180	207	272
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			24	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (s)	80.0	80.0	10.0	90.0	30.0	30.0
Total Split (%)	66.7%	66.7%	8.3%	75.0%	25.0%	25.0%
Maximum Green (s)	75.5	75.5	5.5	85.5	25.5	25.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0

Lanes, Volumes, Timings

2: Stony Island Plaza & E. 95th St

09/19/2023

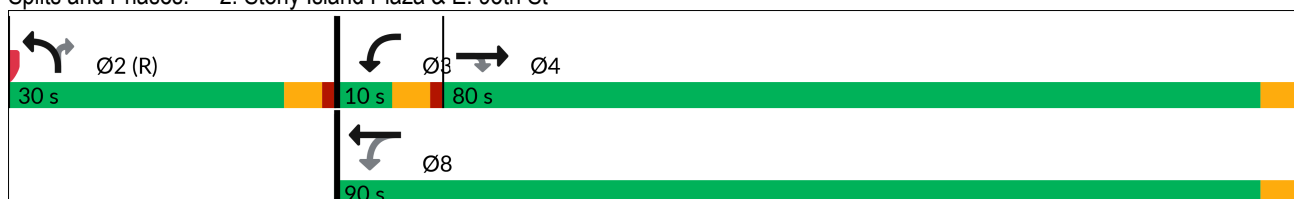


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	45.9	45.9	55.9	55.9	55.1	55.1
Actuated g/C Ratio	0.38	0.38	0.47	0.47	0.46	0.46
v/c Ratio	0.70	0.10	1.28	0.74	0.14	0.33
Control Delay (s/veh)	33.6	6.7	182.0	28.5	21.1	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.6	6.7	182.0	28.5	21.1	7.2
LOS	C	A	F	C	C	A
Approach Delay (s/veh)	31.8			54.6	13.2	
Approach LOS	C			D	B	
Queue Length 50th (ft)	318	5	~160	385	45	24
Queue Length 95th (ft)	320	28	#250	366	85	95
Internal Link Dist (ft)	775			346	209	
Turn Bay Length (ft)		100	185			
Base Capacity (vph)	2183	995	189	2449	1516	830
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.06	1.28	0.48	0.14	0.33

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.28
 Intersection Signal Delay (s/veh): 39.9 Intersection LOS: D
 Intersection Capacity Utilization 63.3% ICU Level of Service B
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Stony Island Plaza & E. 95th St



Lanes, Volumes, Timings
 8: E. 95th St & Prop. Warehouse

09/19/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↓↓	
Traffic Volume (vph)	5	1146	1266	1	4	17
Future Volume (vph)	5	1146	1266	1	4	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr _t					0.890	
Fl _t Protected					0.991	
Satd. Flow (prot)	0	3472	3539	0	1643	0
Fl _t Permitted					0.991	
Satd. Flow (perm)	0	3472	3539	0	1643	0
Link Speed (mph)		35	30		30	
Link Distance (ft)		636	210		385	
Travel Time (s)		24.1	4.8		3.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	4%	2%	2%	2%	2%
Adj. Flow (vph)	5	1246	1376	1	4	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1251	1377	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.2%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
11: E. 95th St & ISOFlex

09/19/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗	↘	
Traffic Volume (vph)	22	1146	1284	5	5	22
Future Volume (vph)	22	1146	1284	5	5	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			185	0	0
Storage Lanes	0			1	0	0
Taper Length (ft)	25				25	
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00
Frt				0.850	0.888	
Flt Protected		0.999			0.991	
Satd. Flow (prot)	0	3469	3438	1583	1639	0
Flt Permitted		0.999			0.991	
Satd. Flow (perm)	0	3469	3438	1583	1639	0
Link Speed (mph)		35	35		10	
Link Distance (ft)		426	636		375	
Travel Time (s)		11.4	12.7		3.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	5%	2%	2%	2%
Adj. Flow (vph)	24	1246	1396	5	5	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1270	1396	5	29	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	57.3%
ICU Level of Service	B
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↕		↕	
Traffic Vol, veh/h	17	1045	898	4	2	9
Future Vol, veh/h	17	1045	898	4	2	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	4	2	2	2	2
Mvmt Flow	18	1136	976	4	2	10
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	980	0	-	0	1583	490
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	605	-
Critical Hdwy	4.1	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.2	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	712	-	-	-	99	524
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	712	-	-	-	96	524
Mov Cap-2 Maneuver	-	-	-	-	96	-
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	508	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	0.53	0	18.01			
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	58	-	-	-	-	289
HCM Lane V/C Ratio	0.026	-	-	-	-	0.041
HCM Control Delay (s/veh)	10.2	0.4	-	-	-	18
HCM Lane LOS	B	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	26	1056	987	7	6	23
Future Vol, veh/h	26	1056	987	7	6	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	185	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	4	5	2	2	2
Mvmt Flow	28	1148	1073	8	7	25
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1080	0	-	0	1703	536
Stage 1	-	-	-	-	1073	-
Stage 2	-	-	-	-	630	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	641	-	-	-	83	489
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	641	-	-	-	77	489
Mov Cap-2 Maneuver	-	-	-	-	77	-
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	493	-
Approach	EB	WB	SB			
HCM Control Delay, s/v	0.26	0	22.9			
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	641	-	-	-	-	232
HCM Lane V/C Ratio	0.044	-	-	-	-	0.136
HCM Control Delay (s/veh)	10.9	-	-	-	-	22.9
HCM Lane LOS	B	-	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.5

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔↑	↔↑		↔↓	
Traffic Vol, veh/h	5	1146	1266	1	4	17
Future Vol, veh/h	5	1146	1266	1	4	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	4	2	2	2	2
Mvmt Flow	5	1246	1376	1	4	18

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	1377	0	0 2010 689
Stage 1	-	-	- 1377 -
Stage 2	-	-	- 634 -
Critical Hdwy	4.1	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.2	-	- 3.52 3.32
Pot Cap-1 Maneuver	504	-	- 51 388
Stage 1	-	-	- 199 -
Stage 2	-	-	- 491 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	504	-	- 50 388
Mov Cap-2 Maneuver	-	-	- 50 -
Stage 1	-	-	- 196 -
Stage 2	-	-	- 491 -

Approach

	EB	WB	SB
HCM Control Delay, s/v0.25		0	29.33
HCM LOS			D

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	16	-	-	-	171
HCM Lane V/C Ratio	0.011	-	-	-	0.134
HCM Control Delay (s/veh)	12.2	0.2	-	-	29.3
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↗	↘	
Traffic Vol, veh/h	22	1146	1284	5	5	22
Future Vol, veh/h	22	1146	1284	5	5	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	185	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	4	5	2	2	2
Mvmt Flow	24	1246	1396	5	5	24

Major/Minor

	Major1	Major2	Minor2
Conflicting Flow All	1401	0	0 2066 698
Stage 1	-	-	- 1396 -
Stage 2	-	-	- 671 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	483	-	- 47 383
Stage 1	-	-	- 195 -
Stage 2	-	-	- 470 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	483	-	- 43 383
Mov Cap-2 Maneuver	-	-	- 43 -
Stage 1	-	-	- 180 -
Stage 2	-	-	- 470 -

Approach

	EB	WB	SB
HCM Control Delay, s/v0.24		0	33.25
HCM LOS			D

Minor Lane/Major Mvmt

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	483	-	-	-	156
HCM Lane V/C Ratio	0.049	-	-	-	0.188
HCM Control Delay (s/veh)	12.8	-	-	-	33.2
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7



APPENDIX F – ITE Trip Generation Worksheets

Warehousing (150)

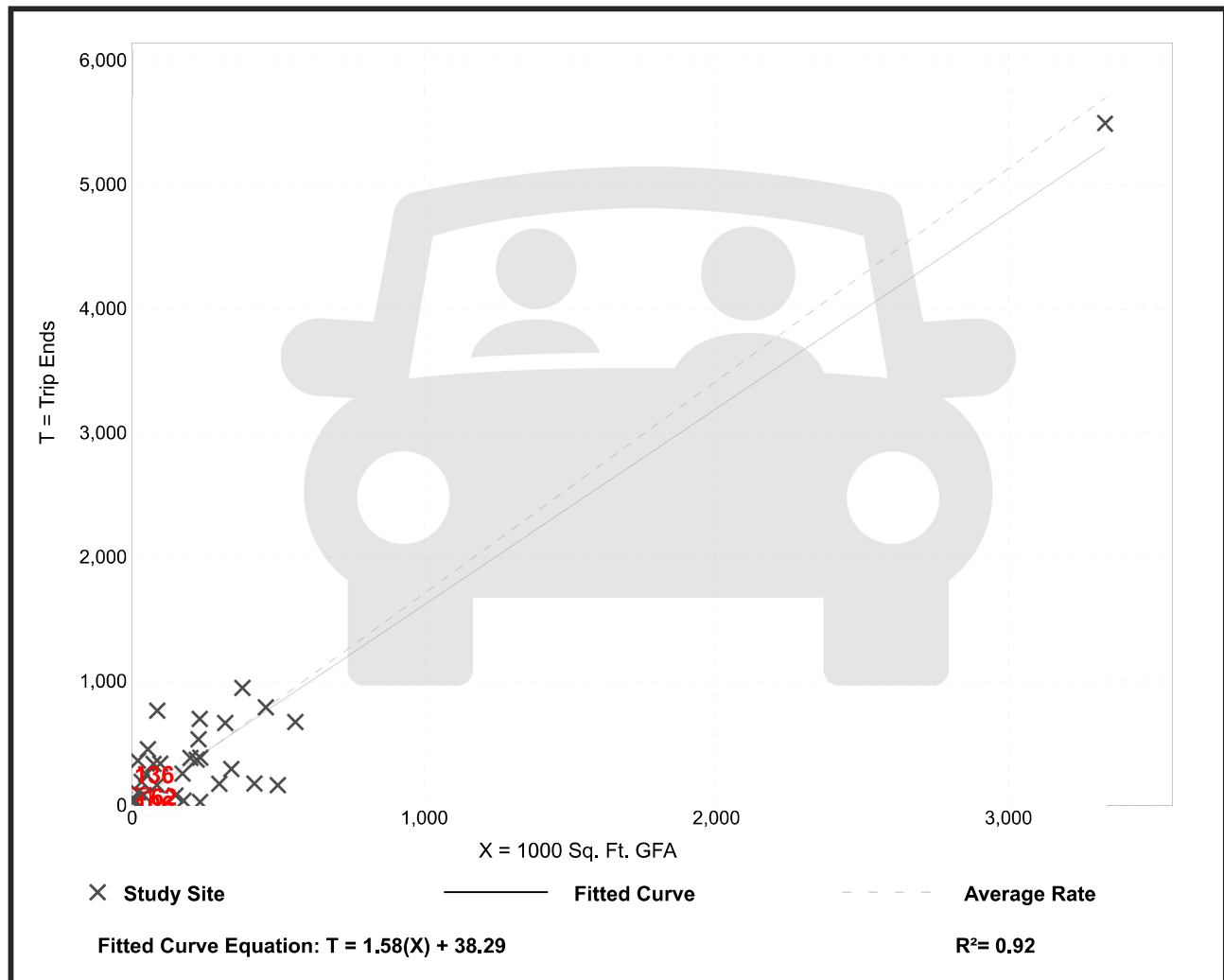
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 31
Avg. 1000 Sq. Ft. GFA: 292
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	0.15 - 16.93	1.48

Data Plot and Equation



Warehousing (150)

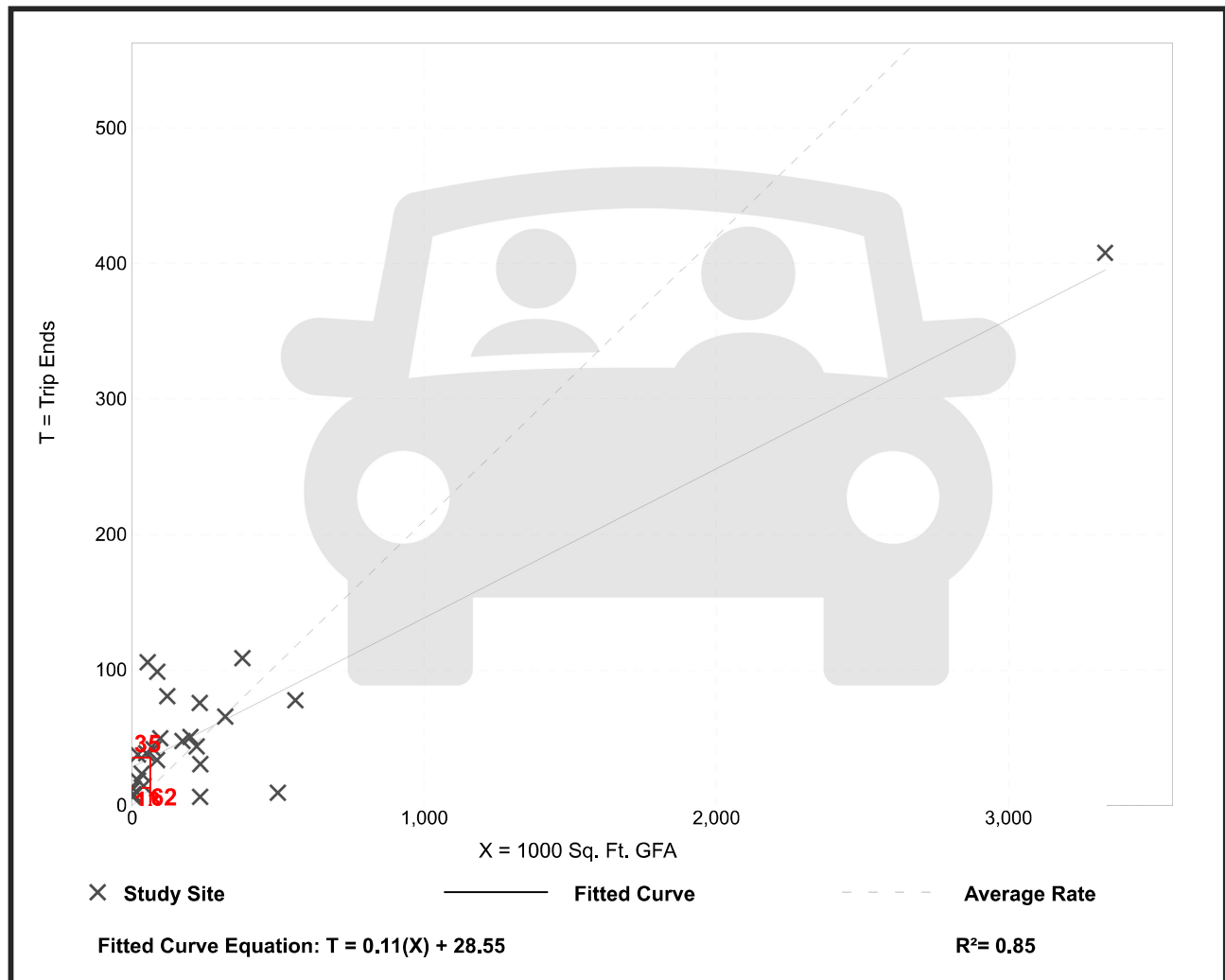
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GFA: 284
 Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.21	0.02 - 2.08	0.26

Data Plot and Equation



Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 27
 Avg. 1000 Sq. Ft. GFA: 284
 Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.23	0.02 - 1.80	0.23

Data Plot and Equation

