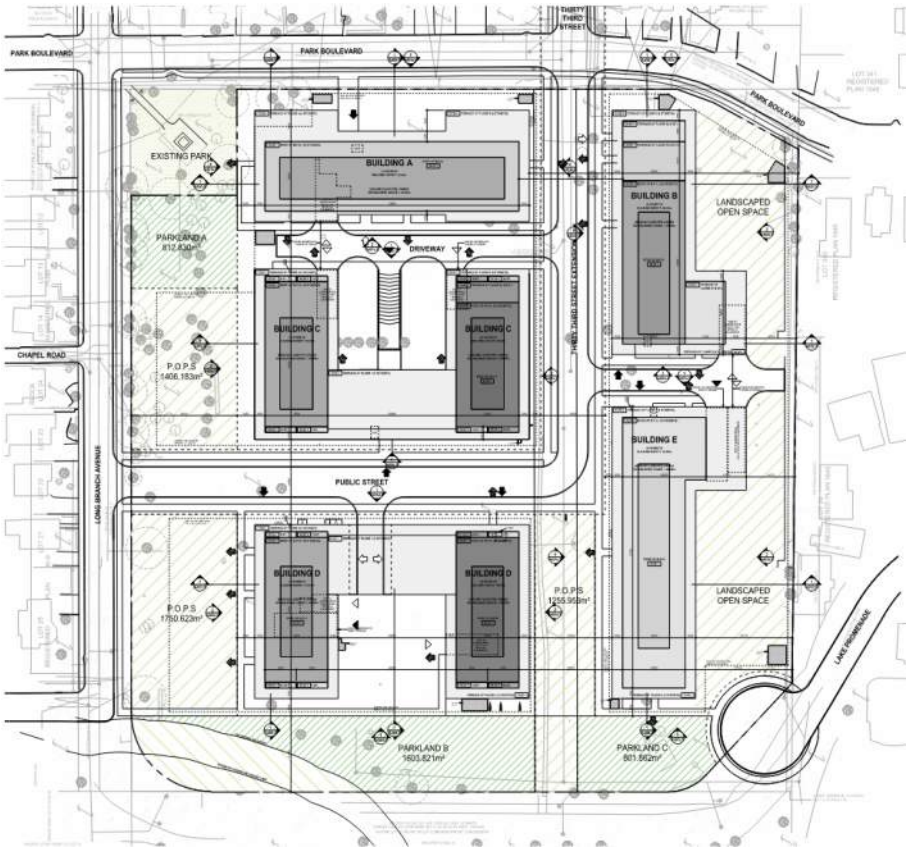
THE LAKE PROMENADE CO-TENANCY

PROPOSED RESIDENTIAL DEVELOPMENT AT 21 & 31 PARK BOULEVARD AND 220, 230 & 240 LAKE PROMENADE, CITY OF TORONTO

TRANSPORTATION IMPACT STUDY UPDATE

APRIL 14, 2025



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April 14, 2025

Mr. Jack Greenberg
The Lake Promenade Co-Tenancy
181 Eglinton Avenue East
Toronto, ON M4P 1J4

Subject: **Proposed Residential Development at 21 & 31 Park Boulevard and 220, 230 & 240 Lake Promenade, City of Toronto**
Transportation Impact Study Update

Dear Mr. Greenberg,

WSP Canada Inc. (WSP) is pleased to submit this Transportation Impact Study (TIS) Update for the proposed residential development located at 21 & 31 Park Boulevard and 220, 230 & 240 Lake Promenade in the City of Toronto.

Since the original TIS dated January 27, 2023, the applicant has worked with the City and stakeholders to arrive at an updated set of site plan that addresses transportation feedback received. The purpose of this TIS Update is to incorporate updated traffic data from 2024 and assess the influence of the proposed development on the broader neighbourhood study area, along with the closure of Lake Promenade south of the subject site for vehicular traffic.

Based on the enclosed study findings, the proposed development can be readily accommodated by the study area transportation network since the expanded study intersections continue to operate at acceptable levels of service. The findings also conclude that the closure of Lake Promenade south of the subject site and the associated traffic diversion to parallel streets is feasible and does not trigger any traffic issue.

It should be noted that an earlier version of this TIS Update was submitted to the City dated March 28, 2025. Since then, the City provided preliminary comments that have been addressed and responded to in this version. For ease of review, the updated sections of the TIS Update are highlighted in yellow relative to the March 28, 2025 version.

Sincerely,

Peter Yu, P.Eng., PMP
Senior Project Manager
Transportation Planning & Science

WSP ref.: 221-02855-00

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APPENDICES

1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by The Lake Promenade Co-Tenancy to prepare a Transportation Impact Study (TIS) Update for the proposed residential development located at 21 & 31 Park Boulevard and 220, 230 & 240 Lake Promenade in the City of Toronto (the site). The site location and study area are shown in **Figure 1-1**.

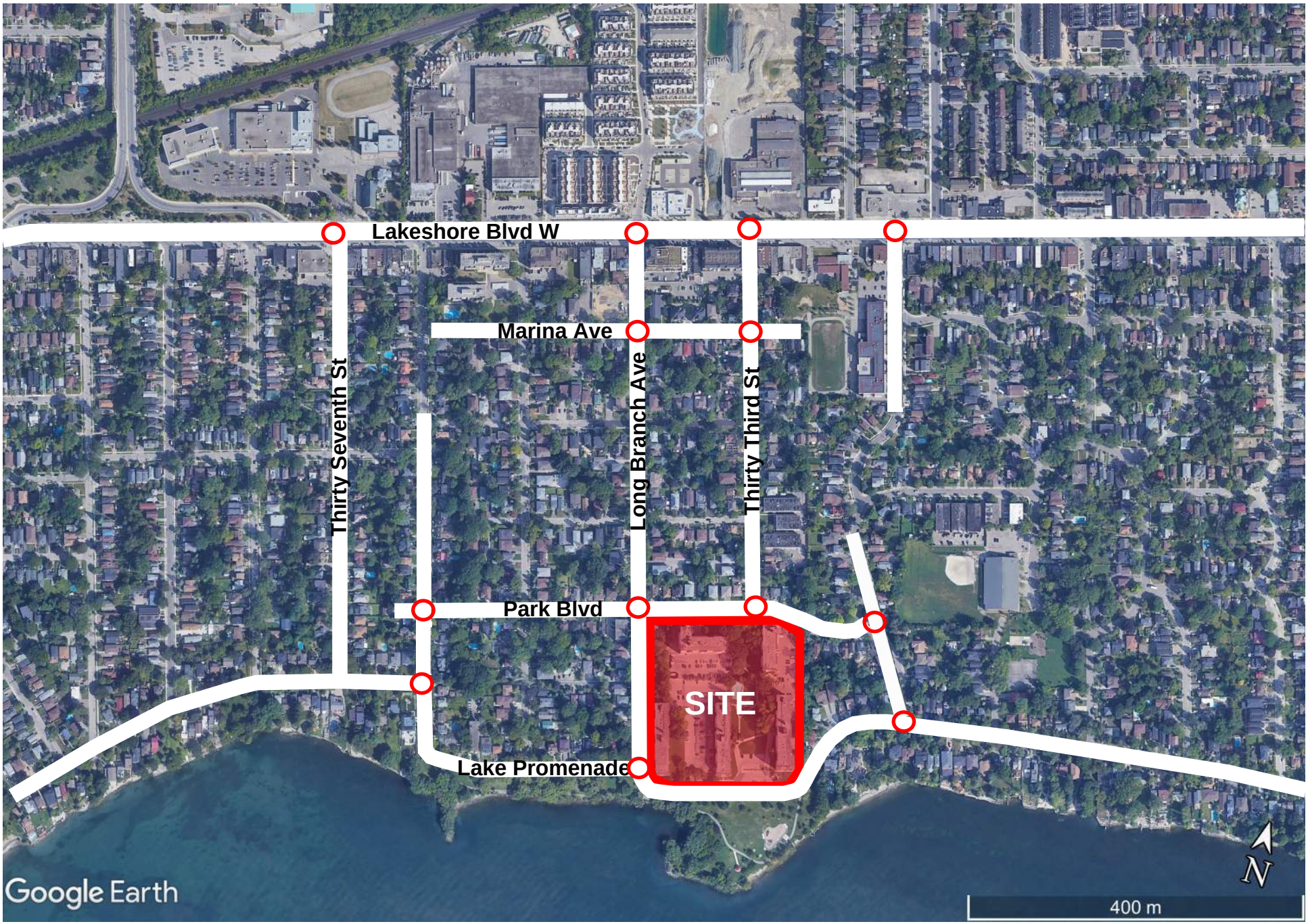
The subject lands are generally bounded by Park Boulevard to the north, Lake Promenade to the south, the properties at 11 Park Boulevard and 202 & 204 Lake Promenade to the east, and Long Branch Avenue to the west. The site is currently occupied by five mid-rise rental apartment buildings with 548 rental units.

The original January 27, 2023 TIS evaluated a total of 2,021 dwelling units (including 548 rental replacement units) and a vehicular parking supply of 1,307 spaces. In the updated development proposal, a total of 2,308 dwelling units (including 548 rental replacement units), 553.6 sq.m. of daycare, 222.4 sq.m. of ground floor retail and a vehicular parking supply of 1,189 spaces are proposed. The site plan of the updated development proposal is shown in **Figure 1-2**.

This TIS Update evaluates the influence of the updated development statistics on an expanded study area while also accounting for the proposed closure of Lake Promenade to vehicular traffic south of the subject site. The closure of the segment of Lake Promenade south of the subject site was identified through the workshop meetings held in 2023 and 2024 with the City and stakeholders as a means of improving active transportation safety and expanding the public park.

At the request of the public and the City, an expanded study area was evaluated. Through a Terms of Reference (ToR) with the City, the scope of the expanded study was confirmed. The ToR and the City's responses are documented in **Appendix A**. Based on the feedback received, our study approach and findings are documented herein. It should be noted that for streamline purposes, elements of the original TIS that are not affected by the above elements nor commented upon are not repeated again in this TIS. It should be noted that elements such as the site plan review and functional design of the public street will be completed in a subsequent SPA submission.

It should be noted that an earlier version of this TIS Update was submitted to the City dated March 28, 2025. Since then, the City provided preliminary comments that have been addressed and responded to in this version. For ease of review, the updated sections of the TIS Update are highlighted in yellow relative to the March 28, 2025 version.



Study Intersection

Figure 1-1

Site Location and Study Area

PARK BOULEVARD

PARK BOULEVARD

PROPERTY LINE

EXISTING PARK

PROPERTY LINE

PARKLAND A
812.830m²

DRIVEWAY

P.O.P.S
1402.159m²

PROPERTY LINE

LONG BRANCH AVENUE

CHAPEL ROAD

THIRTY THIRD STREET EXTENSION

LANDSCAPED OPEN SPACE

PROPERTY LINE

PUBLIC STREET

P.O.P.S
1692.635m²

P.O.P.S
1232.164m²

LANDSCAPED OPEN SPACE

LAKE PROMENADE

PARKLAND B
1603.821m²

PARKLAND C
801.862m²

PROPERTY LINE

KEY PLAN

SITE PLAN LEGEND

- PROPERTY LINE
- LINE OF UNDER GROUND GARAGE BELOW
- MAIN BUILDING ENTRANCE
- RETAIL ENTRANCE
- EXIT
- VEHICLE / LOADING ENTRANCE / EXIT
- FIRE HYDRANT
- SIAMESE CONNECTION
- MH MANHOLE COVER
- AD AREA DRAIN
- CB CATCH BASIN
- FD FLOOR DRAIN (PARKING SLAB)
- FD FLOOR DRAIN (INTERIOR)
- EXISTING LIGHT
- TYPICAL PARKING SPACE
- TYPICAL B.F. PARKING SPACE
- F.F.E. FINISH FLOOR ELEVATION
- ###.### EXISTING ELEVATION
- ###.### PROPOSED ELEVATION
- 00000 TOP OF ROOF
- BUILDING ENVELOPE
- FIRE ACCESS ROUTE HEAVY DUTY PAVING. ASSEMBLY TO BE DESIGNED TO MEET THE LOADS IMPOSED BY FIRE FIGHTING EQUIPMENT.
- GREEN ROOF
- TERRACE PAVERS

REVISION RECORD

ISSUE RECORD

BDP. Quadrangle

Quadrangle Architects Limited
The Well, 8 Spadina Avenue, Suite 2100, Toronto, ON M5V 0S8
t 416 598 1240 www.bdpquadrangle.com

220, 230 and 240 Lake Promenade & 21 and 31 Park Boulevard
Etobicoke. ON
for
Compten Management Inc.

13072 1:250 MK PS
PROJECT SCALE DRAWN REVIEWED

Ground Floor Plan

A201.S

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2 EXISTING CONDITIONS

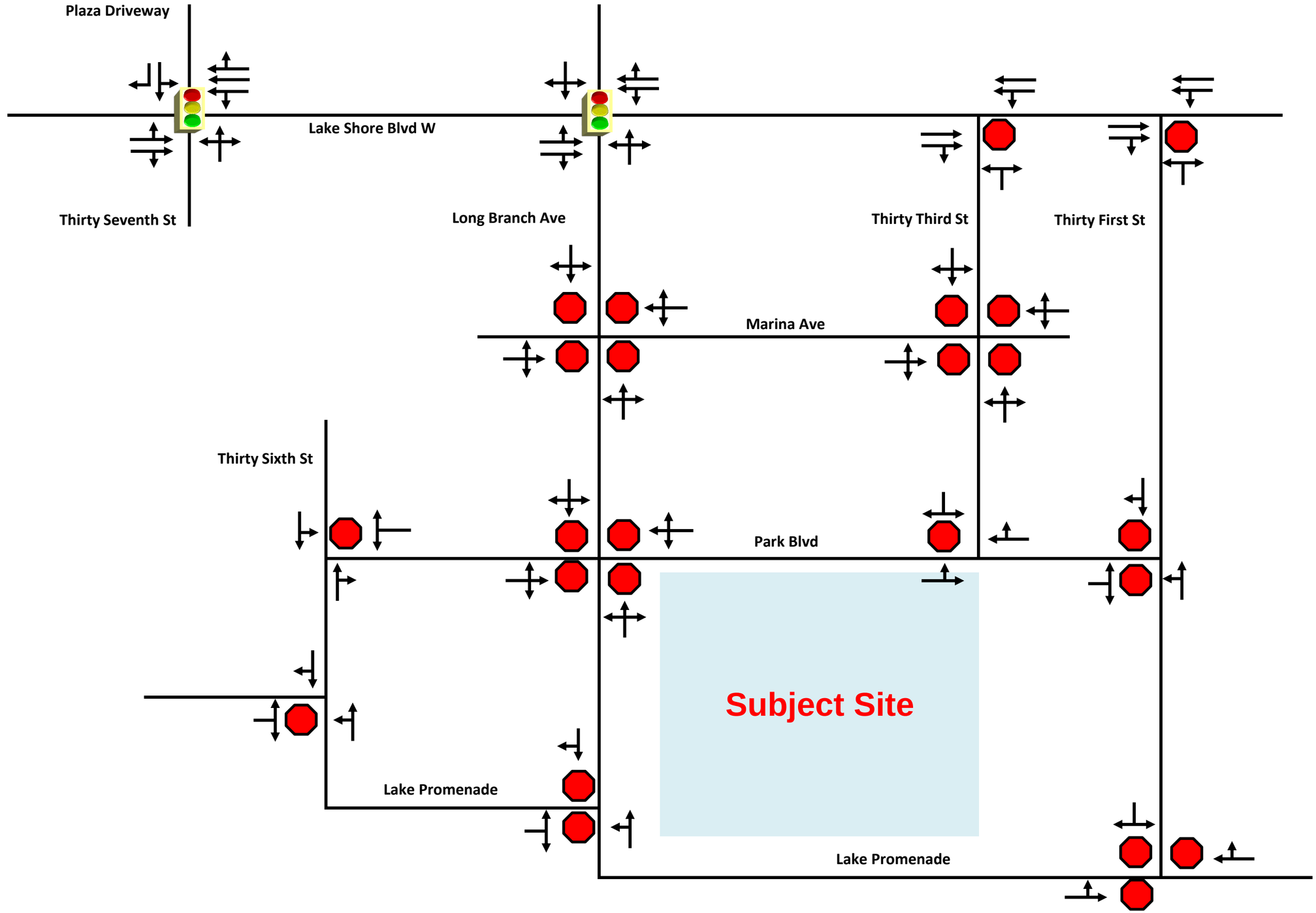
This section describes the existing road network, transportation context and traffic conditions in the study area.

2.1 EXPANDED STUDY AREA

Based on the ToR confirmed with the City (Appendix A), the magnitude of the development, and potential diversion related to the closure of Lake Promenade, the following 13 intersections have been evaluated in this study. In comparison, the original TIS evaluated 7 intersections, which were confirmed with the City previously. The expanded study area also accounts for intersections near the James S Bell Junior Middle School north-east of the subject site to account for school-related traffic patterns in the area.

- Lake Shore Boulevard West at Thirty Seventh Street (signalized);
- Lake Shore Boulevard West at Long Branch Avenue (signalized);
- Lake Shore Boulevard West at Thirty Third Street (unsignalized);
- Lake Shore Boulevard West at Thirty First Street (unsignalized);
- Long Branch Avenue at Marina Avenue (unsignalized);
- Long Branch Avenue at Park Boulevard (unsignalized);
- Long Branch Avenue at Lake Promenade (unsignalized);
- Thirty Sixth Street at Park Boulevard (unsignalized);
- Thirty Third Street at Marina Avenue (unsignalized);
- Thirty Third Street at Park Boulevard (unsignalized);
- Thirty First Street at Park Boulevard (unsignalized);
- Lake Promenade at Third Sixth Street (unsignalized); and
- Lake Promenade at Thirty First Street (unsignalized).

The lane configurations of the expanded existing study road network are illustrated in **Figure 2-1**. It should be noted that at the intersections Thirty First Street at Park Boulevard and Lake Promenade at Long Branch Avenue, there are approaches without stop signs. In reality the intersection operates more like an all-way stop controlled intersection due to the orientation of the current stop signs. For the purpose of this assessment, these intersections have been evaluated as all-way stop controlled intersections. It is recommended that the City consider adding a stop sign in the approach without a stop sign.



Legend

Traffic Signal | Stop Control | Lane Configurations

Figure 2-1

Existing Lane Configurations

2.2 TRAFFIC DATA

Table 2-1 summarizes the turning movement counts (TMC) collected for this TIS Update, as well as the source and date of the counts. Traffic data was collected during the weekday a.m. peak period between 7:00 a.m. and 9:00 a.m. and the p.m. peak period between 4:00 p.m. and 6:00 p.m. Details of the traffic data are provided in **Appendix B**.

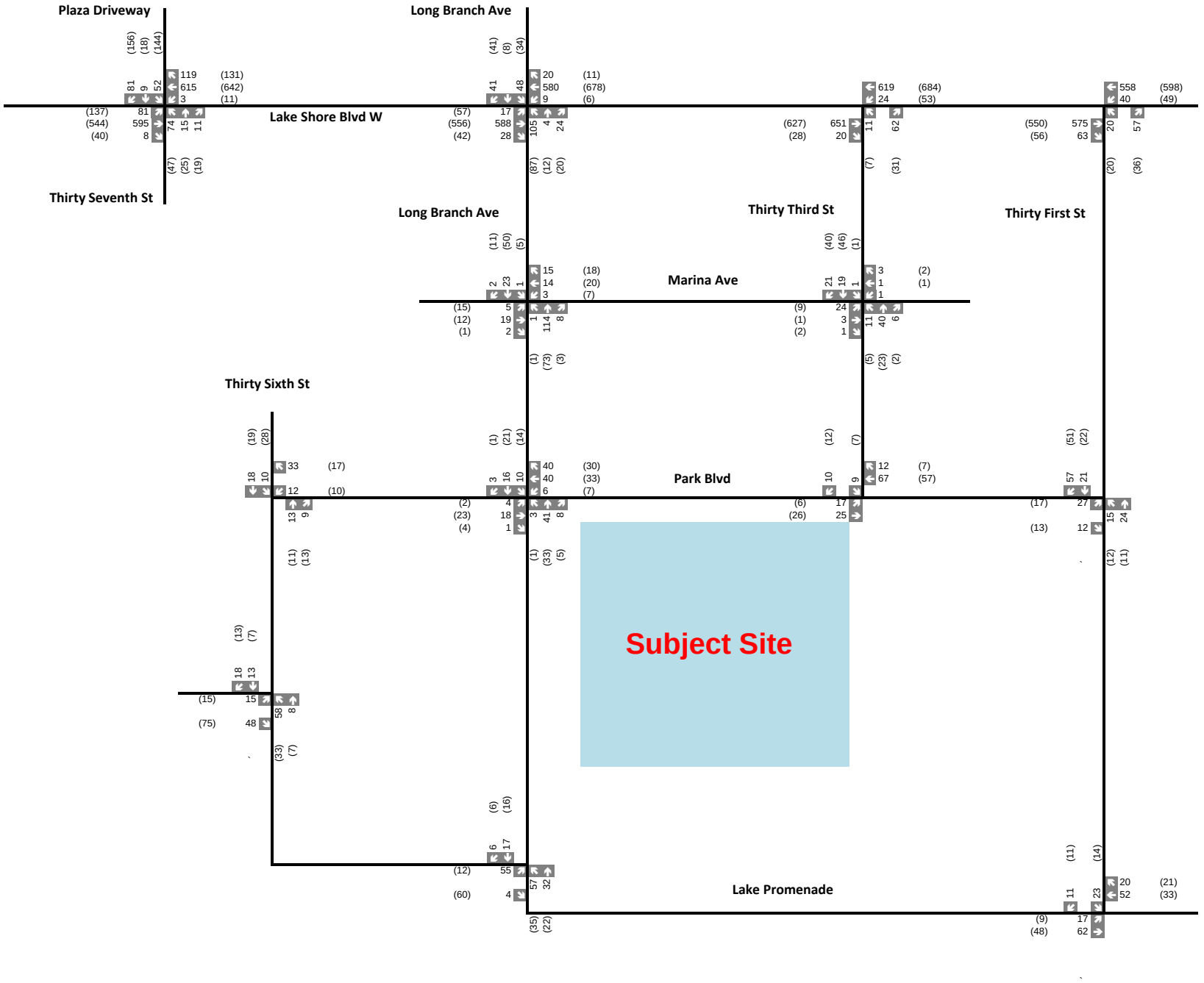
Table 2-1: Existing Traffic Data Information

Intersections	Date of the count	Source
Lake Shore Boulevard West at Thirty Seventh Street	Wednesday, November 13, 2024	Horizon Data Services Ltd
Lake Shore Boulevard West at Long Branch Avenue		
Lake Shore Boulevard West at Thirty Third Street		
Lake Shore Boulevard West at Thirty First Street		
Long Branch Avenue at Park Boulevard		
Park Boulevard at Thirty Third Street		
Park Boulevard at Thirty First Street		
Lake Promenade at Thirty First Street		
Lake Promenade at Long Branch Avenue		
Lake Promenade at Thirty Sixth Street		
Park Boulevard at Thirty Sixth Street		
Marina Avenue at Thirty Third Street		
Long Branch Avenue at Marina Avenue	Tuesday, November 19, 2024	

WSP commissioned Horizon Data Service Ltd to collect the existing weekday peak hour TMCs. The counts were conducted on a typical weekday with no special event in the vicinity that would influence the volumes to be atypical.

Previously, the intersection of Chapel Road and Long Branch Avenue was evaluated since the proposed public road intersects with this intersection in the future total. However, based on feedback received from the resident group, the public road is no longer aligned with Chapel Road given Chapel Road is a one-way narrow road that may not fit well with the proposed public road. Since the traffic volumes along Chapel Road are very low and it is a one-way road, this intersection is not part of this TIS Update since the public road no longer aligns with it.

The existing 2024 weekday morning and afternoon peak hour traffic volumes are illustrated in **Figure 2-2**.



Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 2-2

Existing Traffic Volumes

2.3 EXISTING TRAFFIC OPERATIONS

2.3.1 INTERSECTION CAPACITY ANALYSIS KEY PARAMETERS

METHODOLOGY

The Synchro model has been established based on the City of Toronto Guidelines for Using Synchro (referred to as the Synchro Guidelines hereafter). The Synchro 12 traffic analysis software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. Intersection capacity analysis provides an indication of traffic operations based on calculations of volume-to-capacity ratio (v/c) and delays for individual movements at an intersection. Level of Service (LOS) denoted by the letters 'A' through 'D', represent satisfactory traffic operations. LOS denoted by the letters 'E' and 'F' represent congested traffic conditions. The Level of Service definitions for signalized and unsignalized intersections are included in **Appendix C**.

MODEL ASSUMPTIONS

The existing conditions traffic analysis has been developed based on the Synchro 11 Guidelines.

The following key parameters were included in the Synchro model:

- The overall Peak Hour Factor (PHF) for each intersection was calculated based on the 15-minute data from the TMC.
- A lost time adjustment of -1 second was applied at the signalized intersections.
- A default ideal saturation flow rate of 1,900 vehicles per hour per lane was applied for all movements at the study intersections.
- The pedestrian and bicycle crossing volumes, as well as heavy vehicle percentages, were coded into the Synchro model.
- Bus blockages were incorporated where relevant based on the available scheduling information from the TTC.

In addition, signal timing plans at the signalized intersections obtained from the City of Toronto were used and are included in **Appendix B**.

2.3.2 EXISTING INTERSECTION CAPACITY ANALYSIS

Traffic operations were analyzed at the study intersections to determine the existing LOS during the weekday a.m. and p.m. peak hours. The results of the existing conditions assessment are summarized in **Table 2-2**. The signal timing plans provided by the City were not adjusted for the purpose of the existing conditions assessment. Detailed Synchro worksheets are provided in **Appendix D**.

As requested by City staff, a comprehensive intersection operations summary has been prepared reporting on the queues of movements with auxiliary turn lanes, and the respective v/c and LOS for all movements. The summary table is provided in **Appendix K** for reference. The LOS summary includes existing, future background and future total all in one table to assist with comparison of the level of change from each scenario.

In addition, the queues for movements with auxiliary turn lanes are presented in Appendix K. Synchro can generate 50th and 95th percentile queues for signalized intersections, and 95th percentile queues for unsignalized intersections. In addition to the auxiliary turn lanes, the queuing results at the Long Branch and Park Boulevard

intersection has been reported for the shared left-through-right turn movements as requested by the City. The excerpt from Appendix K is presented below. Indicating that under existing conditions, the 95th percentile queues for all approaches (ranging from 1m to 3m in the morning peak hour and 1m to 2m in the afternoon peak hour) are well within the available link distance ranging from 75m to 124m. The link distance is the spacing available before the downstream intersection.

Intersection (Movement)	Scenario	Storage Length (m)	AM Peak Hour					PM Peak Hour				
			LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)	LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)
Long Branch Ave & Park Blvd (Unsignalized)	Existing	-	A	7.5	-	-	-	A	7.3	-	-	-
	Future Background	-	A	8.9	-	-	-	A	8.2	-	-	-
	Future Total	-	B	10.7	-	-	-	A	9.1	-	-	-
EB-LTR	Existing	120	A	7.5	0.03	1	-	A	7.2	0.04	1	-
	Future Background	120	A	8.3	0.16	4	-	A	8.3	0.20	5	-
	Future Total	120	A	9.4	0.20	5	-	A	9.2	0.24	6	-
WB-LTR	Existing	124	A	7.5	0.12	3	-	A	7.3	0.09	2	-
	Future Background	124	A	9.2	0.35	10	-	A	8.1	0.21	5	-
	Future Total	124	B	11.8	0.48	18	-	A	9.2	0.27	8	-
NB-LTR	Existing	75	A	7.6	0.08	1	-	A	7.3	0.05	1	-
	Future Background	75	A	8.1	0.03	1	-	A	7.6	0.02	1	-
	Future Total	75	A	9.9	0.23	6	-	A	8.7	0.11	3	-
SB-LTR	Existing	90	A	7.6	0.04	1	-	A	7.5	0.05	1	-
	Future Background	90	A	8.3	0.05	1	-	A	8.1	0.06	1	-
	Future Total	90	A	9.5	0.13	3	-	A	9.3	0.19	5	-

Typically, there is correspondence between the queues of a movement relative to its v/c ration and LOS. As presented in Table 2-2, all of the movements at the study intersections are operating very well with no critical movement near capacity or with excessive delay. Therefore, there is no critical queues to report upon for the remaining shared-through-right turn movements. **Based on these findings, there is no queuing issues.**

Table 2-2: Existing Intersection Capacity Analysis

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	Overall LOS (Delay in Seconds)	Critical Movements (v/c)	Overall LOS (Delay in Seconds)	Critical Movements (v/c)
Signalized Intersections[1]				
Lake Shore Boulevard West at Thirty Seventh Street	B (10)	-	B (13)	-
Lake Shore Boulevard West at Long Branch Avenue	B (15)	-	B (12)	-
Unsignalized Intersections[2]				
Lake Shore Boulevard West at Thirty Third Street (TWSC)	B (13)	NB-LR (0.16)	B (13)	NB-LR (0.08)
Lake Shore Boulevard West at Thirty First Street (TWSC)	C (23)	NB-LR (0.31)	C (21)	NB-LR (0.20)
Long Branch Avenue at Marina Avenue (AWSC)	A (8)	-	A (8)	-
Marina Avenue at Thirty Third Street (AWSC)	A (8)	-	A (7)	-
Long Branch Avenue at Park Boulevard (AWSC)	A (8)	-	A (7)	-
Long Branch Avenue at Lake Promenade (AWSC) [3]	A (8)	-	A (7)	-
Thirty Third Street at Park Boulevard (TWSC)	A (10)	SB-LR (0.04)	A (9)	SB-LR (0.03)
Thirty First Street at Park Boulevard (AWSC) [3]	A (8)	-	A (7)	-
Lake Promenade at Thirty First Street (AWSC)	A (8)	-	A (7)	-
Park Boulevard at Thirty Sixth Street (TWSC)	A (9)	WB-LR (0.06)	A (9)	WB-LR (0.03)
Lake Promenade at Thirty Sixth Street (TWSC)	A (9)	EB-LR (0.09)	A (9)	EB-LR (0.10)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For two-way stop-controlled intersections, overall level of service is based on the delay associated with the critical movement. For all-way stop-controlled intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios at all-way-stop intersections are only listed for movements with LOS 'E' or 'F'.

3 For intersections with stop controls on two conflicting movements, with other movements uncontrolled, the intersections were treated as all-way stop-controlled for the purposes of this analysis.

As indicated in **Table 2-2**, all of the study intersections operate at acceptable levels of service (LOS) 'C' or better during the weekday a.m. and p.m. peak hours under existing conditions, and there are no critical movements that are approaching capacity. Overall, under the existing traffic conditions, there are no transportation constraints at the study intersections.

3 FUTURE BACKGROUND CONDITIONS

3.1 TIME FRAME

While it is recognized that the development will be built out over various phases, it was found through historical data review in section 3.3 that there is no positive general traffic growth within the study area. For the purpose of this evaluation, a 2035 full buildout horizon has been evaluated. Since all of the known background developments are assumed to be built out by this horizon and there is no general growth, there is no difference between different future horizon years.

3.2 PLANNED TRANSPORTATION NETWORK CHANGES

There are no planned roadway improvements along the boundary road network. Therefore, it is assumed that the future background lane configurations would remain the same as existing conditions. As identified by City staff, through the background development at 3471 Lake Share West, the traffic consultant recommends the restriction of the northbound left-turn movement at the intersection of Lake Shore West and 31st Street during the weekday morning peak hour. It should be noted that this change to turning prohibition does not affect the Subject Site since there are more convenient signalized intersections available for northbound left-turning vehicles from the development. The 3471 Lake Shore West TIS uses data dating back from 2019. As presented in existing, future background and future total assessment presented in WSP's TIS, which are based on fall 2024 counts, there is no operational or queuing issue related to the northbound left-turn at Lake Shore West and 31st Street.

Notwithstanding the above context, WSP has evaluated the scenario in this study where the northbound left-turn is restricted for the future background and future total conditions during the weekday morning peak hour. The background development traffic noted in Section 3.4 of this study account for the re-distribution of the existing northbound left-turns during the morning peak hour and re-routing it conservatively to the signalized intersection of Lake Shore West and Long Branch Avenue. In reality, motorists have the opportunity to turn elsewhere as well. For context, WSP counted 20 northbound left-turns during the morning peak hour under existing conditions. In theory, the prohibition of northbound left-turns at an unsignalized intersection reduces the northbound delay and queue, which is the intent of this change. Therefore, there would not be longer northbound queues extending back from the intersection of Lake Shore West and 31st Street to the downstream intersections of 31st Street / Ash Crescent and 31st Street / Birchlea Avenue, which are 74m and 310m downstream. As reported in Appendix K and shown below, the 95th percentile queue at Lake Shore West / 31st Street during the morning and afternoon peak hours ranges from 4m to 8m under future conditions, which is well within the link distance available.

Intersection (Movement)	Scenario	Storage Length (m)	AM Peak Hour					PM Peak Hour				
			LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)	LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)
Lake Shore Blvd & 31st St (Unsignalized)	Existing	-	C	22.7	-	-	-	C	20.8	-	-	-
	Future Background	-	B	14.1	-	-	-	C	22.6	-	-	-
	Future Total	-	C	15.5	-	-	-	C	24.9	-	-	-
EB-T	Existing	42	A	0.0	0.18	0	-	A	0.0	0.14	0	-
	Future Background	42	A	0.0	0.19	0	-	A	0.0	0.15	0	-
	Future Total	42	A	0.0	0.22	0	-	A	0.0	0.16	0	-
WB-T	Existing	30	A	0.0	0.26	2	-	A	0.0	0.24	2	-
	Future Background	30	A	0.0	0.28	2	-	A	0.0	0.26	2	-
	Future Total	30	A	0.0	0.29	2	-	A	0.0	0.28	2	-
NB-L	Existing	74	C	22.7	0.31	10	-	C	20.8	0.20	6	-
	Future Background	74	B	14.1	0.15	4	-	C	22.6	0.22	7	-
	Future Total	74	C	15.5	0.21	6	-	C	24.9	0.27	8	-

Therefore, the recommended northbound left-turn restriction by the 3471 Lake Shore West development has no operational bearings on the findings of this TIS or development application, and there is no need to conduct new counts at 31st Street with Ash Crescent and Birchlea Avenue.

It is also worth noting that the 3471 Lake Shore West background development did not evaluate these two intersections either even though it is directly adjacent to these two intersections and is the proponent of the turning restriction.

3.3 BACKGROUND CORRIDOR GENERAL TRAFFIC GROWTH

The annual corridor growth rates along Lake Shore Boulevard were reviewed by comparing the new surveyed 2024 volumes with the historical TMCs at its intersections with Thirty Seventh Street and Long Branch Avenue, obtained from the City's OpenData website. The calculated annual corridor growth rates are summarized in **Table 3-1**. and the detailed calculations are provided in **Appendix E**.

Table 3-1: General Growth Rate Review

Road	Intersection With	Years of TMC Compared	Calculated Growth Rates	
			A.M. Peak Hour	P.M. Peak Hour
Lake Shore Boulevard	Thirty Seventh Street	2015, 2019, 2024	-2.75%	-2.29%
	Long Branch Avenue	2016, 2020 (pre-pandemic), 2024	-1.20%	-1.84%
Average			**-1.97%**	**-2.07%**

As shown in **Table 3-1**, the historical TMCs at the study intersections suggest an overall negative growth rate along Lake Shore Boulevard West. Therefore, no corridor growth was applied to Lake Shore Boulevard West. No general growth was applied for the other roadways in the study network since they are local streets with limited connectivity that do not induce general through traffic. Traffic growth along these local roadways is accounted for separately through the consideration of the traffic generated by background developments as discussed in the following section. Given there is no positive general growth in the study area, the future horizon studied in this study is not an evaluation factor. As noted in Section 3.4, the study assumes all of the background developments will be built out by the future horizon evaluated.

3.4 TRAFFIC FROM BACKGROUND DEVELOPMENTS

Based on the review of the City's Development Application website and information provided by the City staff via the ToR, seven background developments in the vicinity of the study area have been included as part of this study and assumed to be all built out by 2035. Details of these background developments are summarized in **Table 3-2**.

Table 3-2: Background Developments

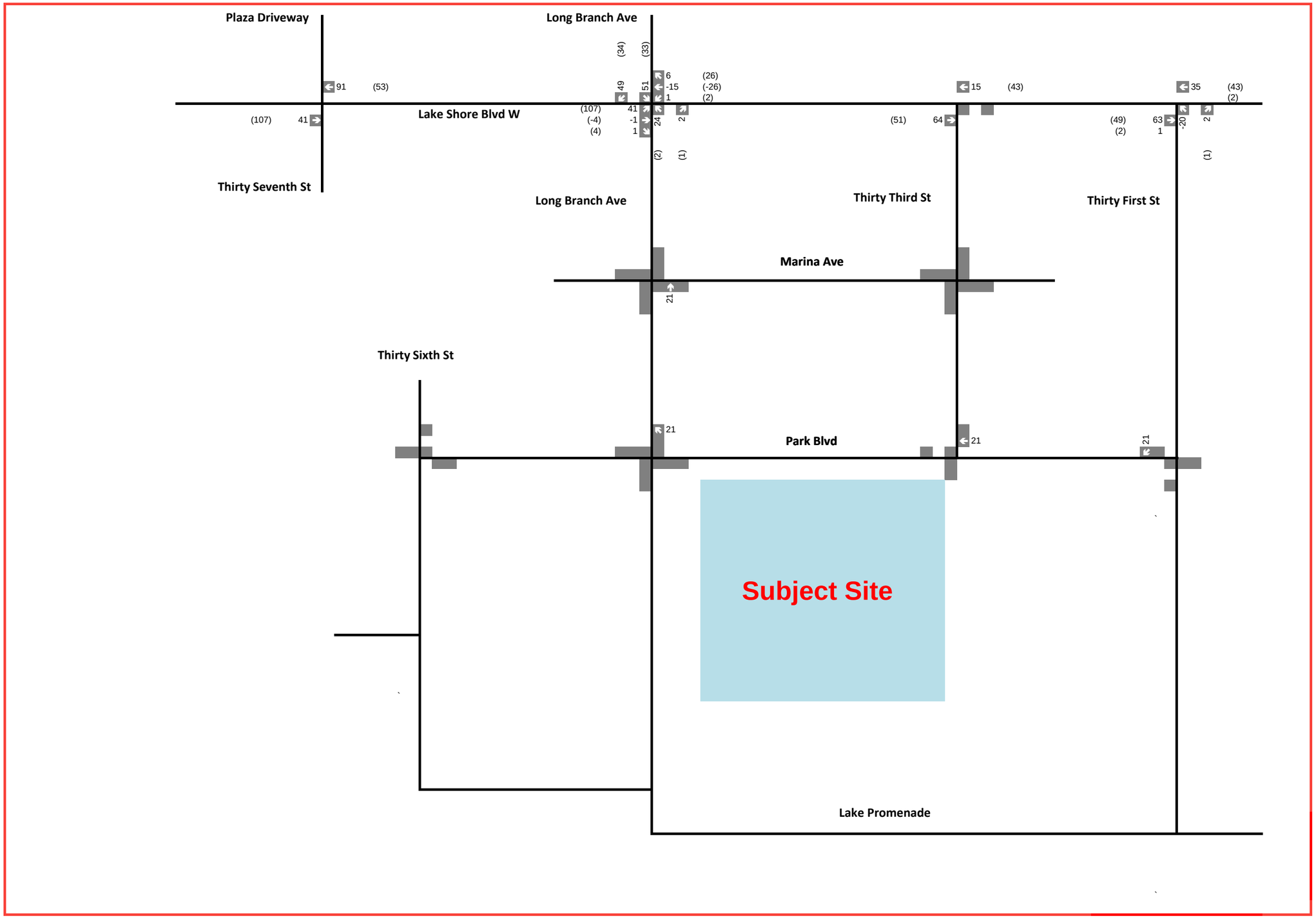
Number	Development	Statistics	Source
1	105 Thirty First Street	29 residential units 2,086 ft^2 of commercial GFA (two developments combined)	TIS Update August 2022 by Nextrans
2	3471 Lake Shore Boulevard West		
3	3526 Lake Shore Boulevard West	520 residential units 9,472 ft^2 of non-residential GFA	TIS by BA Group, November 2020
4	3199 Lake Shore Boulevard West	322,153 ft^2 of residential and non-residential campus GFA (expanded portion)	TIS by IBI Group, March 2021
5	3353-3359 Lake Shore Blvd West	60 residential units 3,272 ft^2 of retail GFA	TIS by Stantec, November 2019
6	3418 Lake Shore Boulevard West	83 residential units	TIS by WSP, September 2024[1]
7	62 & 68 Long Branch Ave and 28 Marina Avenue	28 residential units	City staff report, December 2017
8	3560, 3580 & 3600 Lake Shore Boulevard West	525 residential units 25,489 ft^2 of retail GFA	City staff report, November 2013

1. Site traffic assignment was extended within the study area by evenly distributing in all directions.

Vehicular trips generated by background developments 1 to 6 noted above were extracted directly from the site traffic figures provided in their respective TIS. As noted earlier, the background development volumes also account for the re-distribution of the 20 northbound left-turns at the Lake Shore West / 31st Street intersection during the weekday morning peak hour. The 20 movements are re-routed through Park Boulevard/31st Street, Park Boulevard / 33rd Street, Park Boulevard / Long Branch Avenue and Lake Shore West / Long Branch Avenue. This is to account for the northbound left-turn restriction proposed by the 3471 Lake Shore West background development. The influence of this change is carried through the future background and future total evaluations.

For developments 7 and 8, the traffic volumes were derived from first principles since the respective TIS' are not available. Trip generations were estimated based on the site statistics included in the City staff reports using the ITE Trip Generation Manual, 11th Edition, in conjunction with non-auto modal split adjustments, which were determined using the 2016 Transportation Tomorrow Survey (TTS) database. In addition, for development 8, pass-by trip reduction relevant to the proposed retail component was also incorporated, which was based on the ITE Trip Generation Manual, 11th Edition vehicle pass-by rates. The trips generated by developments 7 and 8 were then assigned to the network using the methodology documented in **Section 4.3.1**.

Figure 3-1 illustrates the traffic volumes generated by the 8 background developments. Trip generation details for developments 7 and 8, as well as the individual trip assignment figure for each background development are provided in **Appendix F** for reference.



Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 3-1

Background Development Traffic Volumes

3.5 FUTURE BACKGROUND TRAFFIC OPERATIONS

The 2035 future background volumes were derived by superimposing the background development volumes onto the existing traffic volumes. The resulting future background traffic volumes are illustrated in **Figure 3-2**. Based on the 2035 future background traffic volumes illustrated in **Figure 3-2**, the future background intersection capacity analysis results are summarized in **Table 3-3**. Detailed Synchro worksheets are provided in **Appendix G**. The existing signal timing splits and cycle lengths were maintained in the future background analysis to allow an "Apples to Apples" comparison. The expanded, comprehensive LOS summary table of all of the movements and queues of the auxiliary turn lanes are provided in **Appendix K.**

Table 3-3: 2035 Future Background Intersection Capacity Analysis

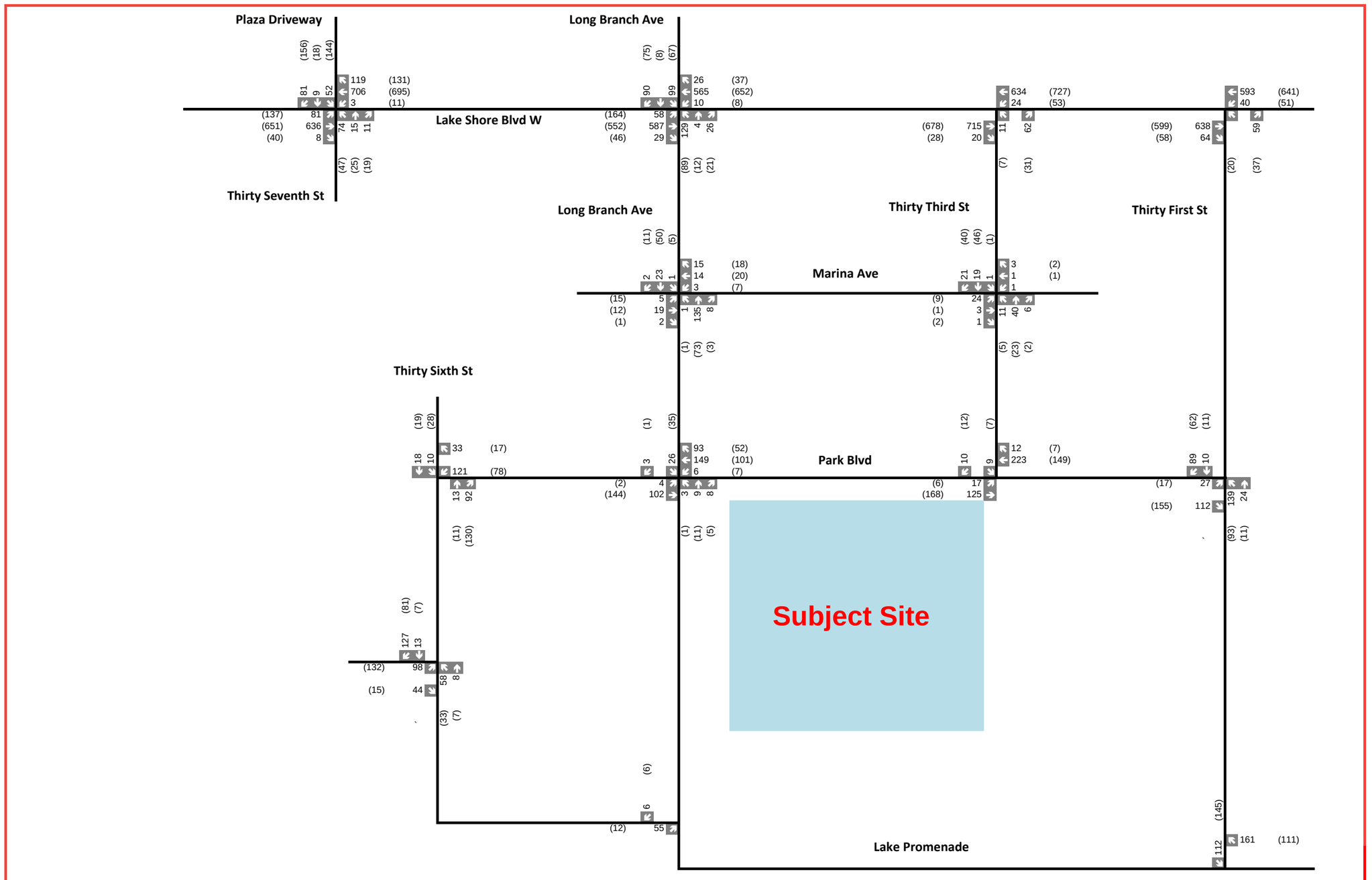
Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	Overall LOS (Delay in Seconds)	Critical Movements (v/c)	Overall LOS (Delay in Seconds)	Critical Movements (v/c)
Signalized Intersections[1]				
Lake Shore Boulevard West at Thirty Seventh Street	B (11)	-	B (17)	-
Lake Shore Boulevard West at Long Branch Avenue	B (16)	-	B (14)	-
Unsignalized Intersections[2]				
Lake Shore Boulevard West at Thirty Third Street (TWSC)	B (14)	NB-LR (0.18)	B (14)	NB-LR (0.09)
Lake Shore Boulevard West at Thirty First Street (TWSC)	B (14)	NB-R (0.15)	C (23)	NB-LR (0.22)
Long Branch Avenue at Marina Avenue (AWSC)	A (8)	-	A (8)	-
Marina Avenue at Thirty Third Street (AWSC)	A (8)	-	A (7)	-
Long Branch Avenue at Park Boulevard (AWSC)	A (9)	-	A (8)	-
Long Branch Avenue at Lake Promenade (AWSC) [3]	A (7)	-	A (7)	-
Thirty Third Street at Park Boulevard (TWSC)	B (13)	SB-LR (0.06)	B (10)	SB-LR (0.03)
Thirty First Street at Park Boulevard (AWSC) [3]	A (10)	-	A (8)	-
Lake Promenade at Thirty First Street (AWSC)	A (9)	-	A (8)	-
Park Boulevard at Thirty Sixth Street (TWSC)	B (10)	WB-LR (0.24)	B (10)	WB-LR (0.13)
Lake Promenade at Thirty Sixth Street (TWSC)	B (12)	EB-LR (0.26)	B (11)	EB-LR (0.20)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For two-way stop-controlled intersections, overall level of service is based on the delay associated with the critical movement. For all-way stop-controlled intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios at all-way-stop intersections are only listed for movements with LOS 'E' or 'F'.

3 For intersections with stop controls on two conflicting movements, with other movements uncontrolled, the intersections were treated as all-way stop-controlled for the purposes of this analysis.

As indicated in **Table 3-3**, all of the study intersections are projected to operate at an acceptable LOS 'D' or better during the weekday a.m. and p.m. peak hours under future background conditions with no capacity deficiencies. These results form the basis to which the influence of the site traffic will be compared against later in the future total conditions. As presented in Table 3-3 and Appendix K, the northbound left-turn restriction at Lake Shore West and 31st Street during the morning peak hour does not result in any operational or queuing issues under future background conditions.



Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 3-2

Future Background Traffic Volumes

4 SITE-GENERATED TRAFFIC

4.1 SITE ACCESSES

As shown in **Figure 1-2**, the proposed development will be served by a new public road that connects onto Park Boulevard (extension of Thirty Third Street) and onto Long Branch Avenue as a 'T' intersection south of Chapel Road. As noted earlier, Lake Promenade is proposed to be closed off from a vehicular traffic perspective in the segment south of the subject site. In essence this vehicular road closure would mean traffic along Lake Promenade would need to turn at Long Branch Avenue and 31st Street to access one of the east-west parallel routes. The traffic diversion associated with this closure is shown in **Figure 4-1** for both the weekday morning and afternoon peak hours. The future total lane configurations showing the public road arrangement and the Lake Promenade closure are shown in **Figure 4-2**.

4.2 SITE TRIP GENERATION

Consistent with the original TIS, vehicle trips generated by the proposed development were developed based on the site-specific trip generation rates, which were derived through traffic counts conducted at all of the existing site driveways. **Table 4-1** summarizes the trips generated by the existing residential development and the derived site-specific trip generation rates. This is the preferred method in transportation planning since the site-specific rates account for how residents and visitors travel to and from the site based on the local context. All of the 548 residential units were confirmed to be occupied at the time of the driveway counts used to derive the site-specific rates.

Table 4-1: Existing Site Trip Generation and Rates

Parameter	Occupied Units at the time of count	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		In	Out	Total	In	Out	Total
Existing Site-Generated Auto Trips	548	33	91	124	70	48	118
Trip Generation Rate (trips per unit)		0.06	0.17	0.23	0.13	0.09	0.22

Based on the site-specific trip generation rates above, the trips generated by the proposed development during the a.m. and p.m. peak hours are shown in **Table 4-2**. The net trips are calculated since the traffic generated by the 548 existing residential units are already accounted for in the turning movement counts.

Table 4-2: Proposed Development Trip Generation

Land Use	Basis/Parameter	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		In	Out	Total	In	Out	Total
Total Residential Proposed (2,308 units)	Trip Generation Rates (trips per unit)	0.06	0.17	0.23	0.13	0.09	0.22
	New Vehicle Trips	138	392	530	300	208	508
Residential Existing (548 units)	Existing Vehicle Trips Being Displaced	-33	-91	-124	-70	-48	-118
Net Vehicle Trips Added to Network		**105**	**301**	**406**	**230**	**160**	**390**

As shown in **Table 4-2**, the proposed development is forecast to generate 530 two-way auto trips during the a.m. peak hour and 508 two-way auto trips during the p.m. peak hour. When accounting for the trips already generated by the existing residential uses on site (548 units), the net two-way auto trips generated by the development are 406 trips during the a.m. peak hour and 390 trips during the p.m. peak hour.

It is important to note that the use of the auto trip generation rate derived from the existing residential uses on site is very conservative because the residential auto parking supply rate for the existing uses (1.29 space/unit) is almost three times higher than what is proposed for the overall development at 0.45 spaces/unit. Therefore, the existing 548 existing rental units have a higher auto trip generation pattern than that of the future proposed new residential uses.

For further context, in the previous TIS submission dated January 27, 2024, the proposed overall density was 2,021 units with an auto parking supply of 1,307 spaces (103 visitor and 1,204 residential). In comparison, even though the current development proposal features a slightly higher density of 2,308 units, the auto parking supply has in fact deceased by 9% to 1,189 spaces (117 visitor/retail spaces, 32 non-residential, and 1,040 residential). Therefore, the forecast number of auto trips generated by the development should in fact be slightly lower than the previous proposal.

There is also a daycare (553.6 sq.m.) and ground floor retail/coffee shop (222.4 sq.m.) proposed as part of the development. Based on this magnitude and the vehicular parking supply allocated for these non-residential uses (32 spaces), this component of the development will generate minimal number of auto trips. For example, the coffee shop will primarily serve those walking or cycling by the neighbourhood rather than an auto-based trip. Based on the very conservative trip generation approach outlined earlier for the residential component, no further trips have been added for the non-residential uses.

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

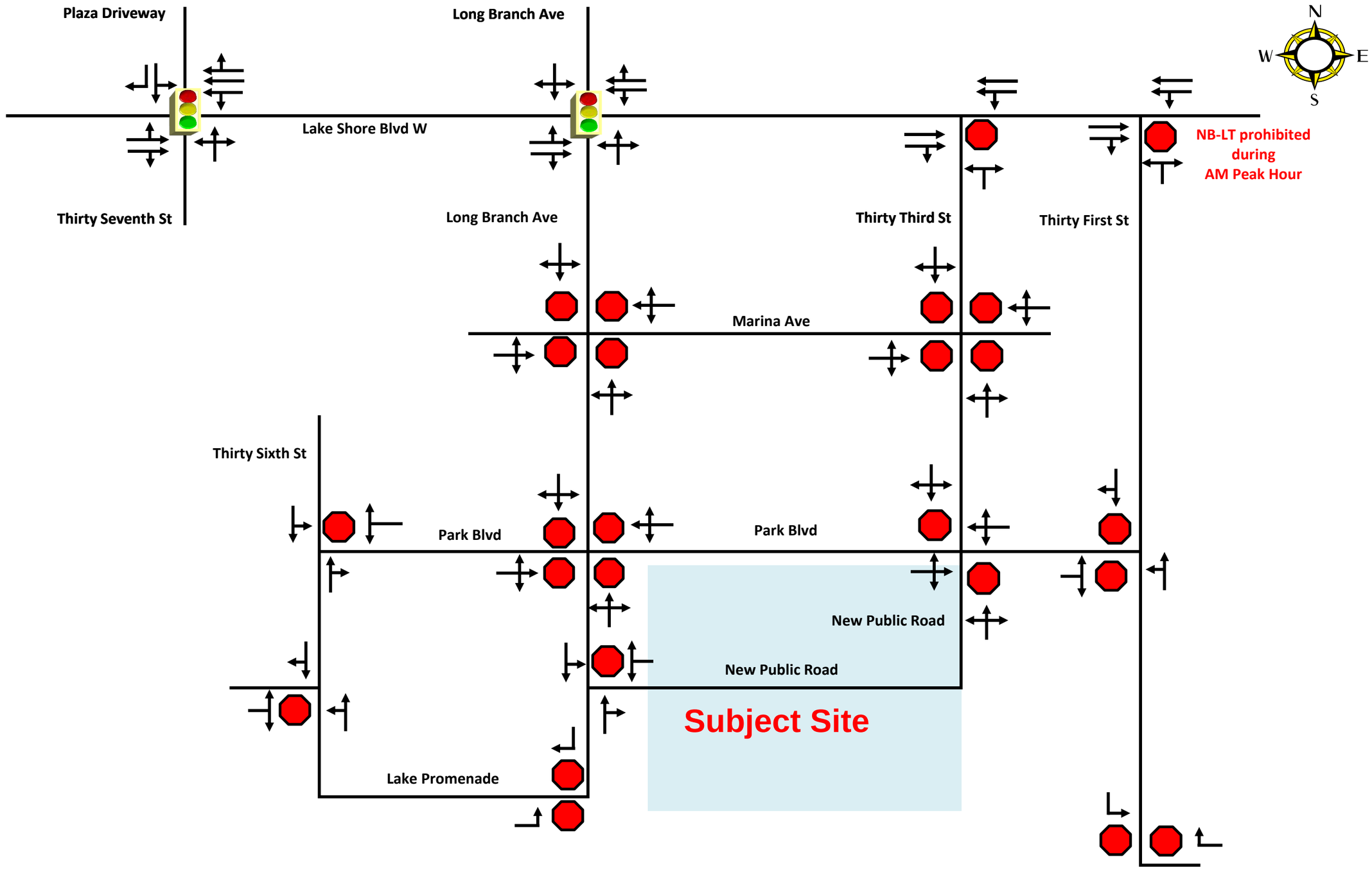
The projected trip distribution for vehicle trips was developed based on existing distribution patterns according to the 2016 TTS database for home-based trips in Zones 294, 295, and 296 (consistent with the original TIS). **Table 4-3** outlines the trip distribution in each direction. The associated TTS queries are provided in **Appendix H**.

Table 4-3: TTS Trip Distribution Summary

Direction	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
North	35.4%	30.5%	32.7%	34.6%
East	33.4%	51.9%	38.4%	31.6%
South	0.0%	0.0%	0.0%	0.0%
West	31.2%	17.6%	28.9%	33.8%

Based on the TTS distribution pattern in **Table 4-3**, the net site-generated auto traffic volumes were assigned to the study area road network based on factors such as site access location, closure of Lake Promenade, ease of turning movements, convenience of route, and intersection configurations. It should be noted that the traffic related to the existing 548 residential units are already accounted for in the boundary study intersections since all of the units were occupied at the time of the traffic counts. Since the proposed access arrangement will be different from the existing access arrangement, the inbound and outbound volumes at the existing site driveways were reassigned to the proposed public road intersections with Park Boulevard and Long Branch Avenue.

The net site-generated traffic assignment and the reassignment of existing site traffic volumes are illustrated in **Figure 4-3** and **Figure 4-4,** respectively.

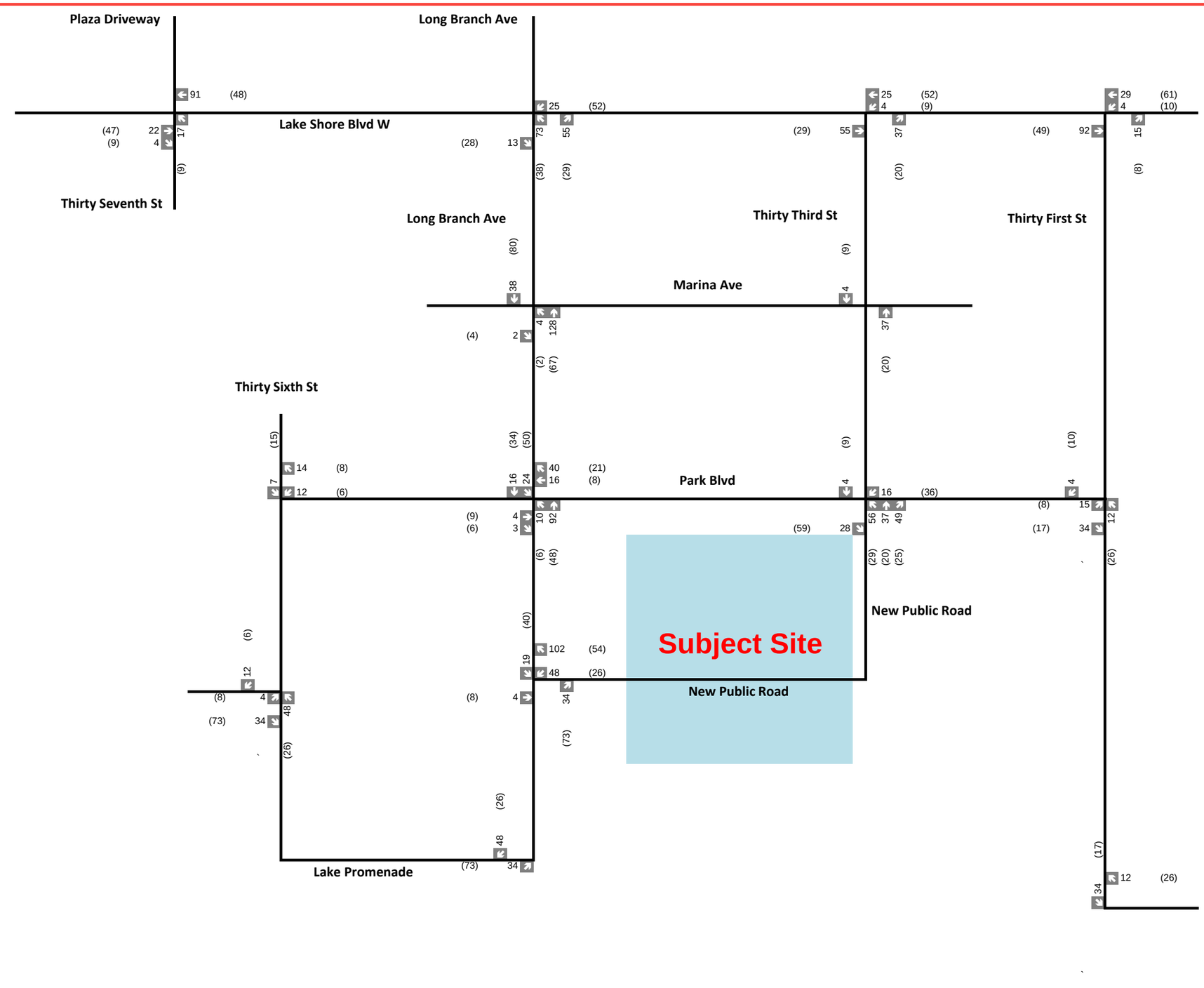


Legend

Traffic Signal | Stop Control | Lane Configurations

Figure 4-1

Future Total Lane Configurations



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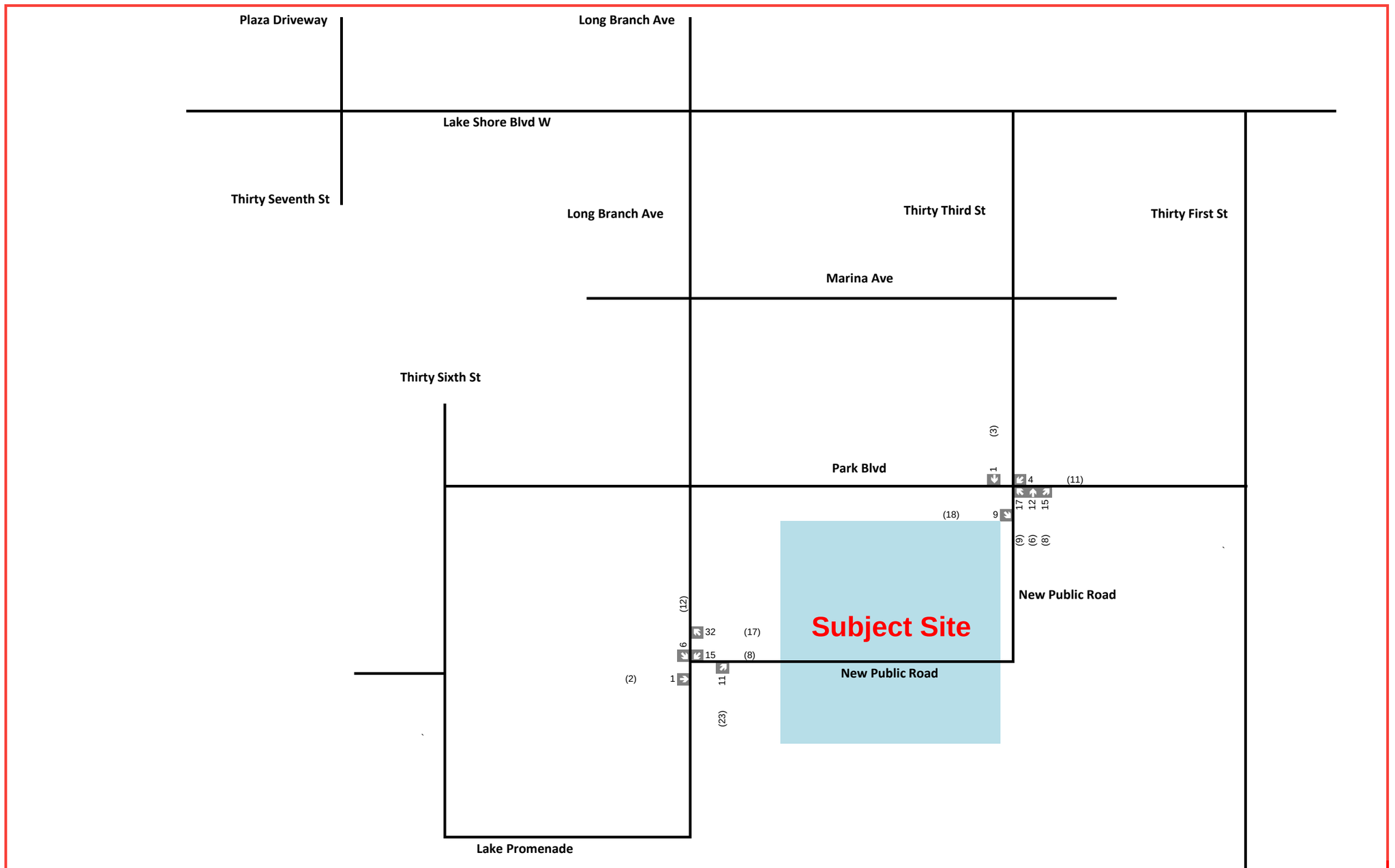
xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 4-2

Net Site-Generated Traffic Assignment



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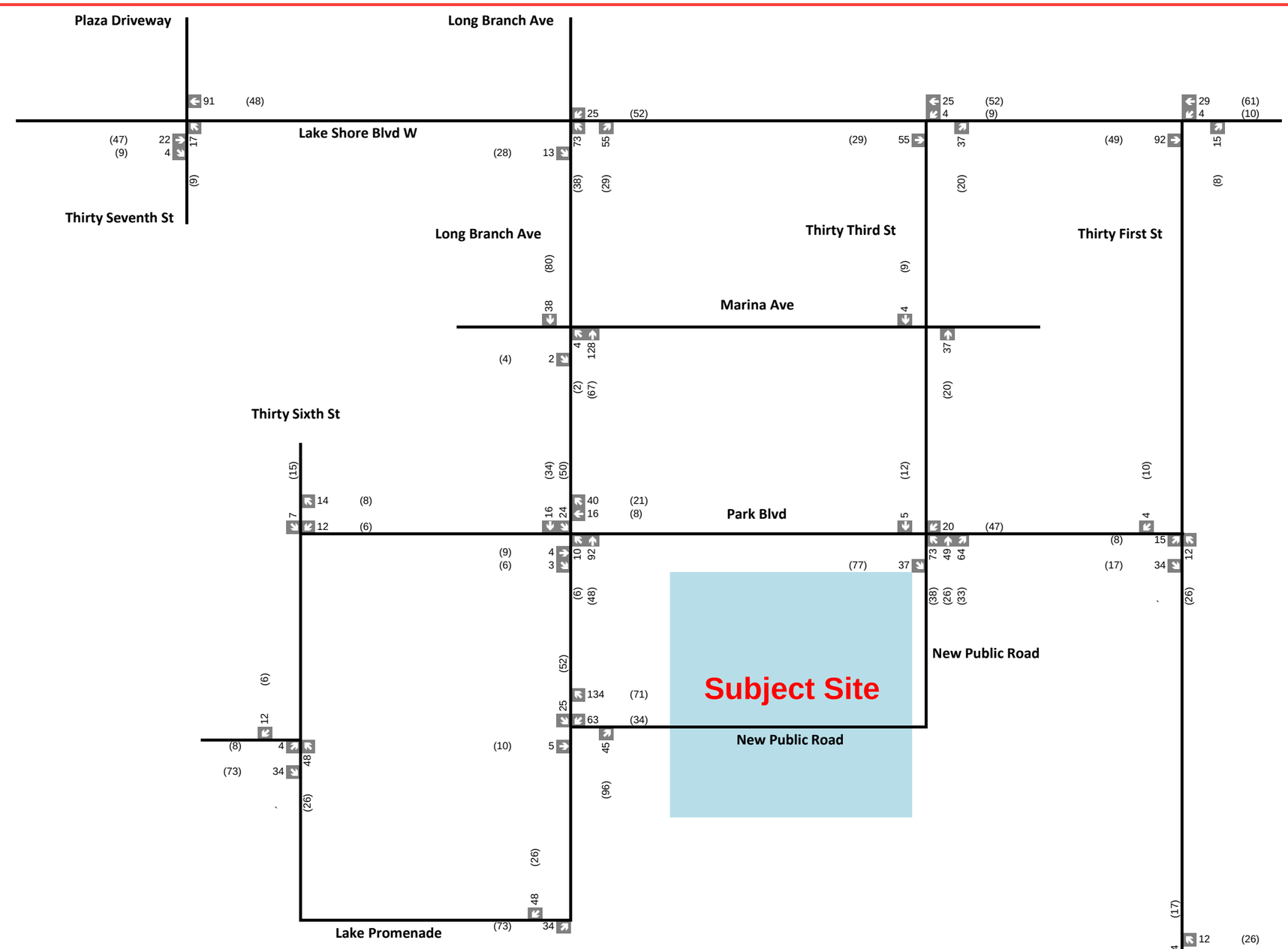
xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 4-3

Existing Site-Generated Traffic Re-Assignment at Accesses



Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 4-4

Resulting Site Traffic Assignment

5 FUTURE TOTAL TRAFFIC CONDITIONS

This section describes the future total traffic volumes forecasts plus the results of the future total intersection capacity analysis within the study area.

5.1 FUTURE TOTAL TRAFFIC OPERATIONS

The 2035 future total traffic forecasts corresponding to the weekday a.m. and p.m. peak hours were derived by superimposing the diversion volumes associated with the Lake Promenade vehicular closure south of the site as shown in Figure 4-1 and site-generated traffic volumes shown in Figures 4-3 and 4-4 onto the future background traffic volumes shown in Figure 3-2. The resulting 2035 future total traffic forecast is illustrated in **Figure 5-1.**

5.1.1 INTERSECTION CAPACITY ANALYSIS

Based on the 2035 future total traffic volumes illustrated in **Figure 5-1**, and the future total lane configurations shown in **Figure 4-2,** the future total intersection capacity analysis results are summarized in **Table 5-1**. Detailed Synchro worksheets are provided in **Appendix I**. All of the Synchro parameters and signal timings used are consistent with the existing and future background conditions to allow an "Apples to Apples" comparison.

Table 5-1: 2035 Future Total Intersection Operations

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	Overall LOS (Delay in Seconds)	Critical Movements (v/c)	Overall LOS (Delay in Seconds)	Critical Movements (v/c)
Signalized Intersections[1]				
Lake Shore Boulevard West at Thirty Seventh Street	B (13)	-	B (13)	-
Lake Shore Boulevard West at Long Branch Avenue	B (19)	-	B (18)	-
Unsignalized Intersections[2]				
Lake Shore Boulevard West at Thirty Third Street (TWSC)	B (15)	NB-LR (0.26)	B (14)	NB-LR (0.13)
Lake Shore Boulevard West at Thirty First Street (TWSC)	C (16)	NB-LR (0.21)	C (25)	NB-LR (0.27)
Long Branch Avenue at Marina Avenue (AWSC)	A (10)	-	A (8)	-
Marina Avenue at Thirty Third Street (AWSC)	A (8)	-	A (7)	-
Long Branch Avenue at Park Boulevard (AWSC)	B (11)	-	A (9)	-
Thirty Third Street / Future N-S Public Road at Park Boulevard (TWSC)	D (34)	NB-LTR (0.72)	C (16)	NB-LTR (0.27)
Long Branch Avenue at Future E-W Public Road (TWSC)	B (10)	WB-LR (0.24)	A (10)	WB-LR (0.14)
Long Branch Avenue at Lake Promenade (AWSC)[3]	A (7)	-	A (7)	-

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	Overall LOS (Delay in Seconds)	Critical Movements (v/c)	Overall LOS (Delay in Seconds)	Critical Movements (v/c)
Thirty First Street at Park Boulevard (AWSC)[3]	B (11)	-	A (8)	-
Lake Promenade at Thirty First Street (AWSC)	A (9)	-	A (8)	-
Park Boulevard at Thirty Sixth Street (TWSC)	B (11)	WB-LR (0.29)	B (10)	WB-LR (0.16)
Lake Promenade at Thirty Sixth Street (TWSC)	B (14)	EB-LR (0.36)	B (12)	EB-LR (0.31)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For two-way stop-controlled intersections, overall level of service is based on the delay associated with the critical movement. For all-way stop-controlled intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios at all-way-stop intersections are only listed for movements with LOS 'E' or 'F'.

3 For intersections with stop controls on two conflicting movements, with other movements uncontrolled, the intersections were treated as all-way stop-controlled for the purposes of this analysis.

As indicated in **Table 5-1**, all of the study intersections are projected to continue operating at an acceptable LOS 'D' or better during the weekday a.m. and p.m. peak hours under future total conditions without with no capacity constraints. The future total results are very similar to the future background conditions, with minimal change in delay experienced by motorists.

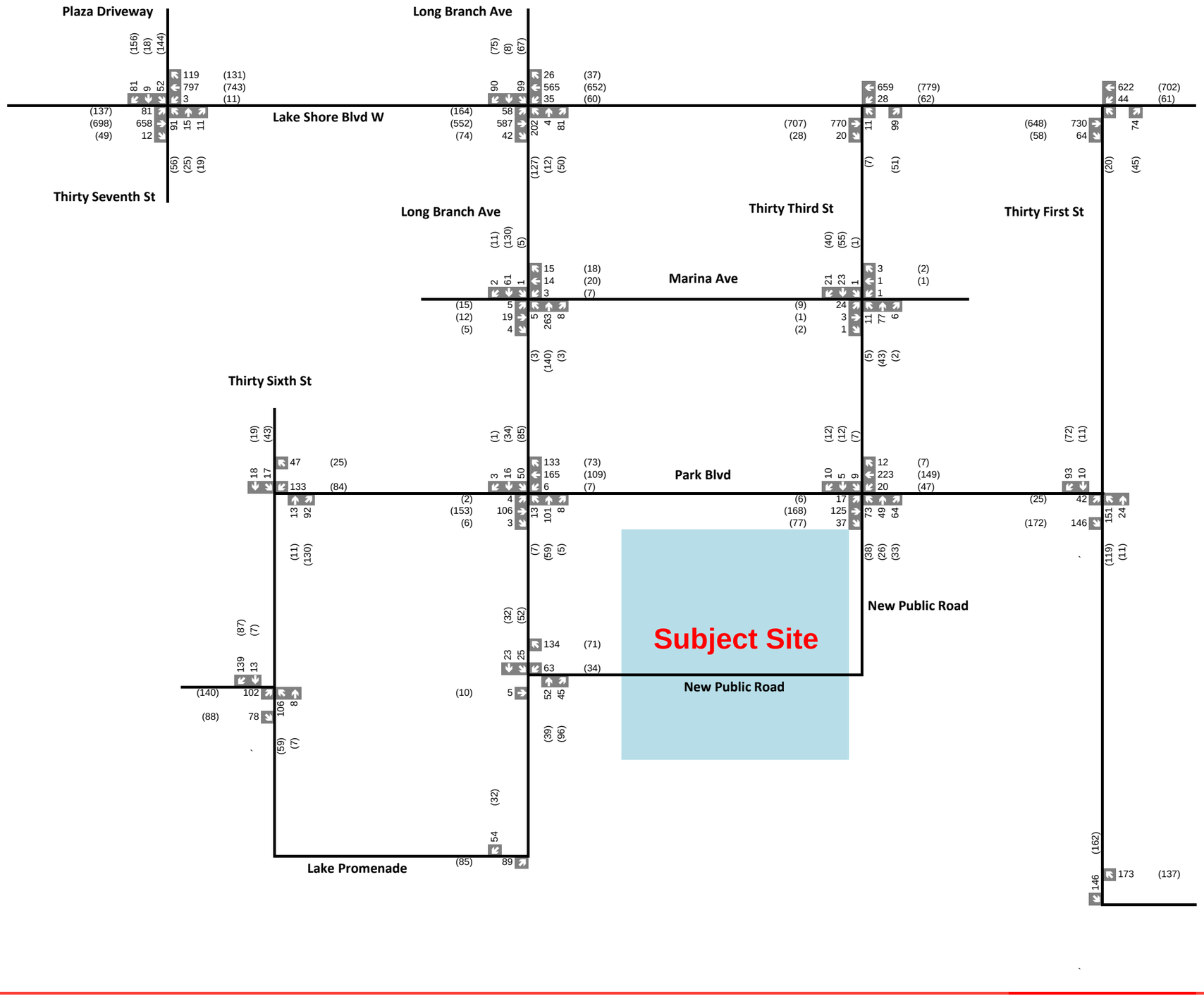
The proposed new public street intersections connecting to Park Boulevard and Long Branch Avenue are both forecast to operate very well with no issues, which means the site-generated traffic can be readily accommodated by the proposed public road as minor-street stop-controlled intersections.

In conclusion, the site-generated traffic will not trigger any capacity deficiencies within the study network, and the forecast 2035 future total traffic volumes (inclusive of the full buildout of the development) can be readily accommodated by the boundary road network as well as the proposed new public street.

Based on the full buildout findings, any intermediate phases i.e., 25% or 50% buildout of the development, can also be supported by the surrounding road network without the need for any improvements.

The findings also confirm that the closure of Lake Promenade from a vehicular perspective south of the subject site is feasible. The parallel routes through Park Boulevard can adequately accommodate the diverted trips that were previously using Lake Promenade.

As presented in Table 5-1 and Appendix K, the northbound left-turn restriction at Lake Shore West and 31st Street during the weekday morning peak hour does not result in any operational or queuing issues under future total conditions.



Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Figure 5-1

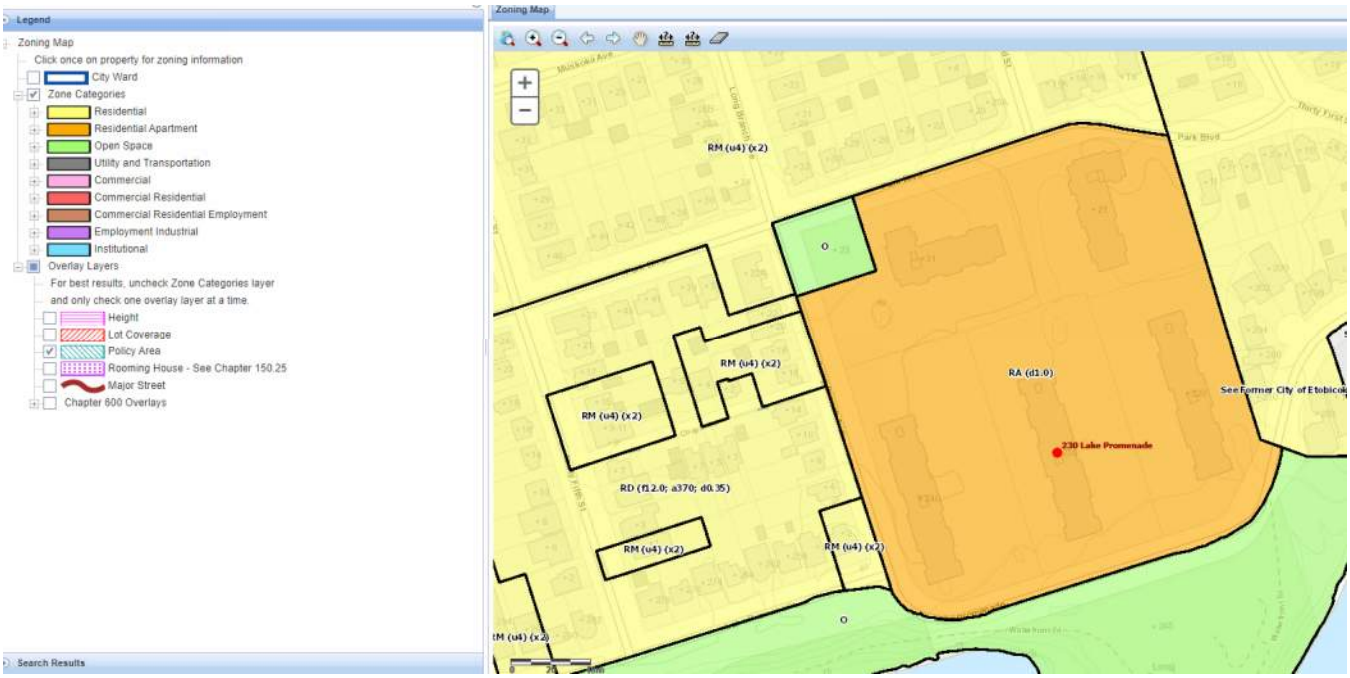
Future Total Traffic Volumes

6 PARKING ASSESSMENT

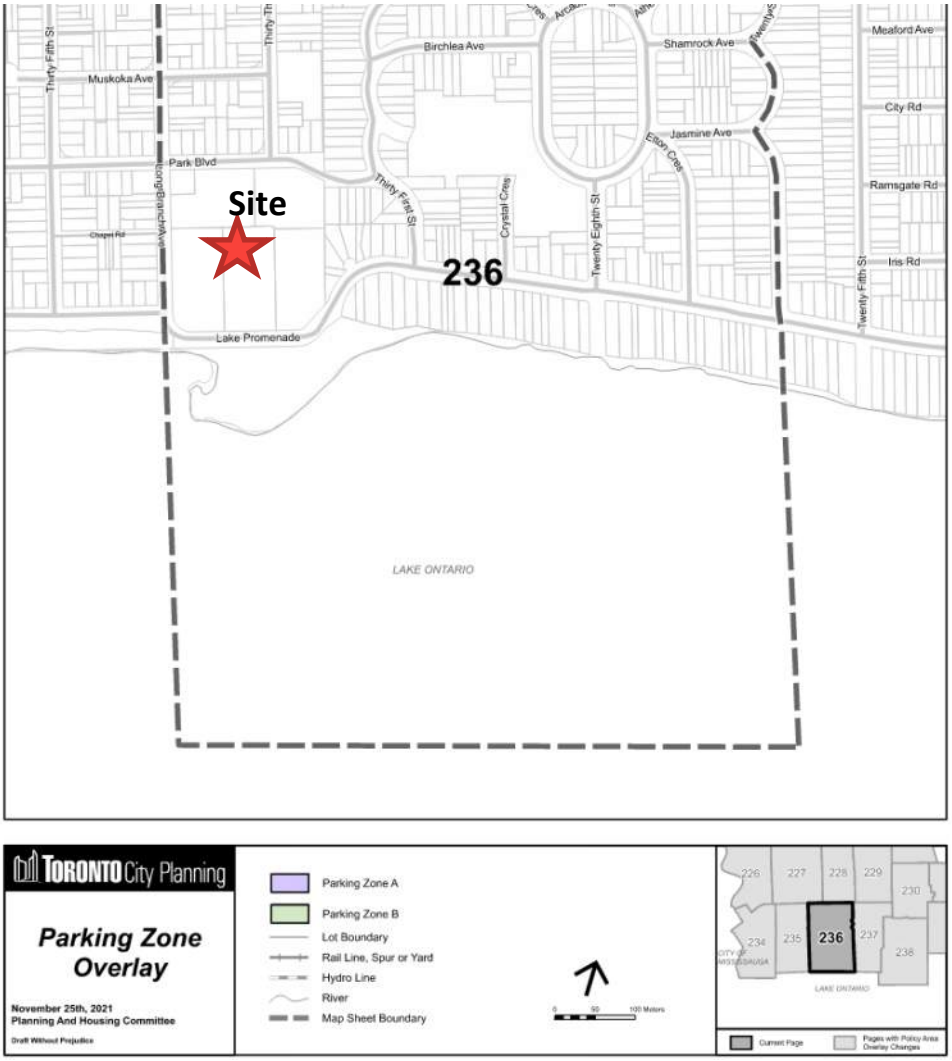
6.1 VEHICLE PAKING ASSESSMENT

6.1.1 BY-LAW VEHICLE PARKING REQUIREMENT

Currently, based on the City of Toronto's interactive By-law map, the site is zoned under By-law 569-2013 as "All Other Areas of the City".



Notwithstanding the vehicular parking requirements outlined in By-law 569-2013, the City has enacted By-laws 125-2022 and 89-2022, which remove the minimum parking requirements for residential parking. The City of Toronto adopted By-law 125-2022 on February 17, 2022, with respect to correcting the mapping errors contained in By-law 89-2022, which was adopted on February 3, 2022 to amend By-law 569-2013, the Zoning By-law. An appeal to By-laws 125-2022 and 89-2022 was received and has been resolved through an order issued by the Ontario Land Tribunal (OLT), and the decision was made under OLT-22-002960. Therefore, these By-laws were deemed to have come into force on the day each was passed. Based on the mapping of By-law 125-2022, the subject site is within grid 236 in Index Map D below and classified as "*all other areas of the City*".



Based on By-law 89-2022, the residential parking for *all other areas of the City* is based on a maximum allowance and there is no minimum rates. The maximum allowed rates for apartment residential parking based on this category are the former minimum parking rates outlined in By-law 569-2013, and the By-law 89-2022 maximum requirements are shown below.

Resident Requirement for a **Dwelling unit** in an: **Apartment Building**, Assisted Housing or a **Mixed Use Building**	**Parking spaces** must be provided: (A) in Parking Zone A (PZA) at a maximum rate of: (i) 0.3 for each bachelor **dwelling unit** up to 45 square metres and 1.0 for each bachelor **dwelling unit** greater than 45 square metres; and (ii) 0.5 for each one bedroom **dwelling unit**; and (iii) 0.8 for each two bedroom **dwelling unit**; and (iv) 1.0 for each three or more bedroom **dwelling unit**; and (B) in Parking Zone B (PZB) at a maximum rate of: (i) 0.7 for each bachelor **dwelling unit** up to 45 square metres and 1.0 for each bachelor **dwelling unit** greater than 45 square metres; and (ii) 0.8 for each one bedroom **dwelling unit**; and (iii) 0.9 for each two bedroom **dwelling unit**; and (iv) 1.1 for each three or more bedroom **dwelling unit**; and (C) in all other areas of the City, at a maximum rate of: (i) 0.8 for each bachelor **dwelling unit** up to 45 square metres and 1.0 for each bachelor **dwelling unit** greater than 45 square metres; and (ii) 0.9 for each one bedroom **dwelling unit**; and (iii) 1.0 for each two bedroom **dwelling unit**; and (iv) 1.2 for each three or more bedroom **dwelling unit**.

Based on By-law 89-2022, visitor parking is required for *all other areas of the City* at a minimum rate of two spaces plus 0.05 spaces per dwelling units and a maximum allowance is also in place, as shown below.

Land Use Category	**Parking Rate**
Visitor Requirement: For a **dwelling unit** in an **Apartment Building**, a **Mixed Use Building**, and/or a Multiple Dwelling Unit Building	**Parking spaces** must be provided: (A) in Parking Zone A (PZA) at a minimum rate of 2.0 plus 0.01 per **dwelling unit**; (B) in Parking Zone B (PZB) and in all other areas of the City, at a minimum rate of 2.0 plus 0.05 per **dwelling unit** and (C) at a maximum rate of 1.0 per **dwelling unit** for the first five (5) **dwelling units**; and (D) at a maximum rate of 0.1 per **dwelling unit** for the sixth and subsequent **dwelling units**.

The minimum and maximum required parking for the site based on this category is calculated in **Table 6-1**.

Table 6-1: By-law 89-2022 *All Other Areas of the City* Vehicle Parking Requirements

Land Use / Unit Type		**No. of Units**	**By-Law 89-2022 (All Other Areas)**			
			Min. Parking Rate	**Max. Parking Rate**	**Min. Parking Required[1]**	**Max. Parking Permitted[1]**
Apartment Resident	Bachelor	241	None	0.8 spaces per unit	0	192
	1 BD	1,227	None	0.9 spaces per unit	0	1,104
	2 BD	599	None	1.0 spaces per unit	0	599
	3 BD	241	None	1.2 spaces per unit	0	289
Apartment Visitor		2,308	2 spaces plus 0.05 spaces per unit	1.0 space per unit for the first five units, 0.1 spaces per unit for subsequent units	117	235
Daycare		553.6 m^2	None	3.5 space/100 m^2	0	19
Retail/Coffee Shop		222.4 m^2	None	6 space/100 m^2	0	13
Total					**117**	**2,451**

1 Rounded down to the nearest whole number, if there is a fraction as per By-law.

As shown in **Table 6-1**, a minimum of 117 visitor parking spaces are required and a maximum of 2,451 spaces are permitted for the proposed development, based on the latest By-laws 125-2022 and 89-2022 requirements. Since there is no minimum requirement, residential parking may be provided at a rate that is suitable for the development market and context at the applicant's discretion, as long as it is within the maximum allowance of 2,184 residential spaces.

ACCESSIBLE PARKING REQUIREMENTS

According to By-law 89-2022, the required amount of accessible parking spaces should be based on the number of effective parking spaces calculated using the rates from Table 200.15.10.5 in the By-law. The effective parking spaces for the proposed development are calculated in **Table 6-2**.

Table 6-2: By-law 89-2022 *All Other Areas of the City* Effective Parking Spaces

Land Use / Unit Type		No. of Units	By-Law 89-2022 (All Other Areas)	
			Effective Parking Rate	Effective Parking Spaces[1]
Apartment Resident	Bachelor	241	0.8 spaces per unit	192
	1 BD	1,227	0.9 spaces per unit	1,104
	2 BD	599	1.0 spaces per unit	599
	3 BD	241	1.2 spaces per unit	289
Apartment Visitor		2,308	0.1 spaces per unit	230
Daycare		553.6 m^2	1 space/100 m^2	5
Retail/Coffee Shop		222.4 m^2	2 space/100 m^2	4
Total				**2,423**

1 Rounded down to the nearest whole number, if there is a fraction.

Based on the derived 2,423 effective parking spaces, the accessible parking requirements are summarized in **Table 6-1**.

Table 6-1: By-law 89-2022 Accessible Parking Requirements

Effective Parking Spaces	By-law 89-2022 Accessible Parking Rates	Minimum Accessible Parking Required
2,423	A minimum of 5 accessible parking spaces plus 1 accessible parking space for every 50 effective parking spaces or part thereof in excess of 100 parking spaces	51 = ((2423 - 100) ÷ 50) + 5

As shown above, the proposed development is required to provide a total of 51 accessible parking spaces.

6.1.2 VEHICLE PARKING PROVISION AND APPROPRIATENESS

A total of 1,189 vehicle parking spaces are proposed for the development amongst which 117 spaces are allocated as visitor parking, which satisfies the minimum requirement from By-law 89-2022. Additionally, 32 non-residential spaces are proposed to serve the daycare and ground floor retail uses. The remaining 1,040 spaces are allocated for residential use (average rate of 0.45 spaces per unit). The proposed parking supply complies with the minimum and maximum By-law parking allowance. **Therefore, justification for the proposed parking supply is not required since it is in conformance with city minimum and maximum requirements.**

ACCESSIBLE PARKING PROVISION

A total of 64 accessible parking spaces are proposed for the development, which more than fulfills the minimum By-law requirement of 51 spaces.

6.2 BICYCLE PARKING ASSESSMENT

At its meeting of July 19 to 22, 2022, the City Council enacted By-law 0839-2022, which contains bicycle parking-related amends to Zoning By-law 569-2013. The proposed development is located in Bicycle Zone 2 and based on the bicycle parking requirements based on the harmonized By-law and Toronto Green Standard requirements, the required bicycle parking for the site is calculated in **Table 6-2**. Since the proposed non-residential uses are less than then 2,000 sq.m. IFA threshold as defined by the City, no bicycle parking is required for the daycare or retail uses.

Table 6-2: By-law 0839-2022 Bicycle Parking Requirements (Bicycle Zone 2)

Land Use	Bicycle Parking Rates		Units	Bicycle Parking Requirements		Total Required Bicycle Parking
	Short-Term (visitor)	Long-Term (Residents)		Short-Term (visitor)[1]	Long-Term (Residents)[1]	
Residential	0.07 spaces/Unit	0.68 spaces/Unit	2,308	162	1,570	1,732
Publicly Accessible Bike Parking				At least 10 additional publicly accessible, short-term bicycle parking spaces, at-grade on the site or within the public boulevard		10

1 Rounded up to the nearest whole number, if there is a fraction.

A total of 1,742 bicycle parking spaces, inclusive of 10 publicly accessible, 162 short-term and 1,570 long-term spaces are required. In comparison, 1,756 bicycle parking spaces are proposed including 182 short-term spaces and 1,574 long-term spaces. This supply more than satisfies the City's bicycle parking requirements.

In addition, according to By-law 0839-2022, bicycle maintenance facilities (repair stations) must be provided in a building that has uses for which five or more long-term bicycle parking spaces are required. Based on the proposed site plan, at least one bicycle repair station is proposed on the P1 level for each underground parking garage, totalling five stations, which satisfies the By-law requirement and adequate for serving the residents of the development.

7 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a general concept that includes various strategies that increase transportation system efficiency by managing the demand for travel. TDM treats mobility as a means to an end, rather than an end in itself, and emphasizes the movement of people and goods rather than motor vehicles. Generally speaking, TDM initiatives discourage single-occupant vehicle travel and encourage more efficient modes such as walking, cycling, ridesharing, public transit and teleworking, particularly under congested conditions. TDM elements are an essential part of any progressive transportation and traffic plan for a proposed development.

As per TGS Version 4 AQ 1.1, there is a requirement to reduce single-occupancy auto vehicle trips generated by a development by 25% through a variety of multi-modal infrastructure strategies and TDM measures. The baseline of this evaluation is the Do Nothing scenario where no TDM measure is proposed and the current TTS-derived modal split documented in **Section 4** for the study area continues to apply. By way of background, the existing study area has a non-auto modal split of 31% to 38% during the peak direction of travel during either the weekday morning or afternoon peak hours.

Different TDM measures are proposed as part of the development to satisfy the TGS AQ 1.1. The process of quantifying the impacts of various TDM measures is a relatively new aspect in the transportation planning industry and amongst different municipalities. Based on discussions with Transportation Planning staff at the City, WSP understands that BA Group had prepared a Housing Now Transportation Demand Management Framework for CreateTO dated November 2021. This study acknowledges the following:

"While research has been conducted regarding the general effectiveness of a TDM program, insufficient research is available on the effectiveness of individual TDM measures. As a result, the vehicular trip reduction that is associated with each TDM measure in the TDM Programming Framework is representative of a "theory-based approach".

The CreateTO TDM report went on to note that the perception of effectiveness are based upon experience in recommending and assessing TDM plans. The relevant excerpts from this study are documented in **Appendix J**. Through further discussions with Transportation Planning staff at the City, it was also understood that staff acknowledges that more guidance will be developed by the City through the development of a TDM Guideline to support the Toronto Green Standard. WSP has also completed research into what the City of Buffalo has implemented in terms of quantifying the effects of various TDM measures.

Based on this background, WSP has summarized the proposed package of TDM measures along with the associated costs in **Tabe 7-1.** The aspects of the TDM may be subject to future discussions with City staff.

Table 7-2 summarizes the expected level of influence each measure will have on the reduction of single occupant vehicle trips. The results demonstrate that the TDM measures proposed result in a SOV reduction of more than 25%.

Table 7-1: Proposed TDM Measure and Cost Summary

Action / Measure	Approximate Unit Cost	Total Estimated Costs
Provide on-site Bicycle Repair/Maintenance Stations at a convenient location. One easily accessible repair station is proposed on the P1 level of parking lot for each building	$1,500 per station	$1,500×5 = $7,500
Provide long-term and short-term bicycle parking that meets/exceeds the minimum TGS/By-law requirements	14 additional bicycle parking spaces are proposed beyond the By-law minimum	Included in construction costs
Contribute $50,000 to implement a Bike Share Station on-site or near the site	$50,000 per station	$50,000
PRESTO card distribution	$50 per unit to the first set of move in tenants/residents	$50×2,308 = $115,400
Information Session on Active Transportation and Transit when the building is at a meaningful occupancy (i.e. 85%)	Session could be held at the site complex with handouts printed of the available non-auto modes of transportation available. At $500 for the session (disbursements). 5 sessions are assumed for different phases of the development.	$2,500
TDM Display Screen	The average cost of displays is approximately $2,000 each. One will be provided in the common area of each building.	$2,000×5 = $10,000
Reduce vehicular parking supply (relative to By-law maximum requirements)	-	-
Unbundle the sales/rental of residential units from parking space sales/rental	-	Marketing strategy – no additional costs
Estimated Total TDM Investment		**$185,400**

Table 7-2: Influence of Proposed TDM Strategy and Associated SOV Reduction

TDM Measure	Details	Supporting Research	Influence on SOV Trip Generation
Providing bicycle repair stations on -site	Given the growing prominence of the cycling mode as a first mile and last mile solution to transit and other uses, a bicycle repair station will be proposed on site in an easily accessible location. Providing a repair station will be located in a designated and secure location with bicycle maintenance tools and supplies that could be used for emergency repair or maintenance. These tools and supplies include a bicycle tire pump, wrenches, chain tool, lubricants, hex keys, Allen wrenches, torx keys, screw drivers, etc. 5 repair stations are proposed as part of the development and will conveniently serve residents and visitors.	The BA Group TDM Framework report (Appendix J) notes that where a bicycle repair station is provided in a secure bicycle parking room for the use of long-term users, a SOV trip reduction of 1% can be realized. 1 bicycle repair station is proposed for each building that will be accessible to both residents and visitors.	**Reduction of 1%**
Bicycle Parking	Based on By-law 089-2022 and TGS, a minimum of 1,742 bicycle parking spaces is required for this development. The proposed bicycle parking supply is 1,756 spaces, which exceeds the minimum requirement by 14 spaces.	The BA Group TDM Framework report (Appendix J) notes that where the minimum By-law and TGS bicycle parking requirements and additional facilities are provided, a reduction of 1% in SOV trips can be realized. The available cycling infrastructure along Lake Shore Boulevard and other roadways in the area and the GO rail services at Long Branch GO provide a reasonable ground for some residents to adopt cycling or cycling in conjunction with transit as the main commute mode.	**Reduction of 1%**
Implementing bike-share station on-site	It is recommended to contribute $50,000 to the implementation of a standard bike-share station on-site or near the site, which typically has a minimum of 12 bicycle docking points (per Bike Share Toronto Planning Guidelines).	The BA Group TDM Framework report (Appendix J) notes that a SOV trip reduction of 2% can be realized if a Bike Share Toronto Station with at least 12 bicycle parking spaces is provided. Bike-share service will be a convenient first-mile/last-mile connection for residents of the site who commute via GO rail, or who were	**Reduction of 2%**

	Based on WSP's experiences with other projects in Etobicoke, a standard bike-share station is valued at $50,000 each and thus, the contribution of $50,000 equals to the full value of a bike-share station. A bike-share station can facilitate cycling in the area without the need to own a bicycle and the use cycling will be encouraged.	hesitant of using GO rail due to the lack of convenient means to connect to the station. In addition, the $50,000 contribution towards a bike-share station will accommodate a minimum of 15 bicycle docking stations. Therefore, contributing to/implementing a bike-share station is a particularly effective TDM measure given the site's context. A new bike share station in the community would be able to serve the residents and visitors of the subject site, as well as others in the neighbourhood. Based on this context, a reduction of 2% is applied.	
Providing PRESTO card transit incentive to residents and employees	A pre-loaded PRESTO card with a value of $50 will be provided to the first set of move-in units. This is a direct incentive for residents to try transit services and understand how transit can support their day-to-day needs. This is especially true with the current work from home and flex work trend that has been established because of the COVID-19 pandemic, where the traditional need to drive to work has reduced and many employers are offering permanent work from home arrangements.	$50 equates to approximately 15 rides – and with the PRESTO card, there is a 2-hour window for free unlimited travel/transfer. Based on the TTS query of the study area, 31% to 38% of the peak directional trips during the weekday a.m. and p.m. peak hours are made via transit. A conservative and reasonable assumption is that a 5% increase in the transit mode share as a result of the transit incentive and availability of transit-related information on site. Therefore, the a.m. and p.m. peak hour transit mode splits would increase to 22% and 25%. This represents a net increase of approximately 1% in transit mode split. The BA Group TDM Framework report (Appendix J) for providing a pre-loaded PRESTO card notes that a 1% reduction is to be anticipated with this type of TDM measure. Accordingly, a reduction of 1% has been applied.	**Reduction of 1%**
TDM and transit information screen	Each building of the proposed development incudes a centralized display that indicates real-time transit information, bicycle parking location, surrounding area alternative travel mode options, weather, etc. These assist residents and visitors with the use of non-auto modes and is particularly important during inclement weather.	Based on the BA Group TDM Framework report (Appendix J), a reduction of 1% is anticipated for providing these types of TDM and transit information screens.	**Reduction of 1%**

Reduced Auto Parking Supply Rate (relative to the By-law maximum requirement)	As noted in the auto parking section, the maximum amount of vehicle parking that may be provided is 2,451 spaces as per By-law 89-2022. In contrast, the auto provision for the proposed development is 1,189 spaces, which is 51% lower than the maximum By-law allowance.	It is important to note that this measure is not being relied on solely and is proposed in tandem with other TDM measures to direct residents and visitors to other modes of transportation. The academic research papers from *Sources 1 & 2* (listed in Appendix J based on proxy studies in North America) indicate there is a strong correlation between auto parking supply rate and auto trip generation. In more urban locations with transit readily available, the correlation has been shown to be almost a 1:1 relationship in terms of auto parking reduction and trip generation reduction. To be conservative, a 1:3 relationship has been applied. Meaning that since the auto residential parking rate has been reduced by 51%, it is reasonable to expect that a minimum there will be at least a 17% reduction in peak hour auto trip generation relative to the By-law allowance for vehicular parking supply.	**Reduction of 17%**
Unbundling Parking from Unit Sales/Rental & Strategic Parking Pricing	Unbundled spaces will be sold/rented separately from a unit rental at the market rate. This allows residents who do not need a vehicular parking space to reduce costs and invest the savings in other modes of transportation. Parking rental/purchase pricing must be determined at the start of the sales/rental program so that the price of the parking is reflective of the supply and the fact that there will be a cost to car ownership and driving to and from the site. This way, residents are aware of this aspect from the start. This measure is particularly effective when implemented with a reduced auto parking supply.	*Source 3* (the 2017 TDM Policy Guide from the City of Buffalo) indicates the % credit/estimated reduction each strategy will have on the estimated final vehicular travel demand. The City policy is based on a review of published literature, a survey of TDM policies and ordinances, and guidance from professional transportation experts. This well-established guide notes that unbundling of parking from unit sales or rental results in a reduction of up to 10%. In the BA Group TDM Framework report (Appendix J) prepared for the CreateTO, the report notes that a reduction of 2% to 6% in SOV trips is to be expected from unbundling of the sales/rental of auto parking spaces for all unit types depending on the cost of parking that will be transferred to the purchaser/renter. The BA Group TDM Framework report (Appendix J) also notes that research on parking pricing has found that generally, the price elasticity of vehicle trips as it relates to parking pricing is typically 0.1 to 0.2, meaning	**Reduction of 6%**

		a 10% increase in parking fees can reduce auto trips by 1 to 3%. Based on the combined application of unbundling and strategic pricing of the parking, a reduction of 6% in SOV trips can be expected.	
Travel Mode information package and Community Marketing Outreach	Promotional event (i.e., at the occupancy of the development) and education material tailored to the TDM opportunities and incentives available at the development (i.e., bike repair station, bicycle parking location, schedule, route information for TTC routes). This information will be kept up to date and made available in highly visible location and also distributed to new residents. It is convenient for these to be emailed on a regular basis as part of regular building newsletters or part of the welcome package.	*Source 3* (the 2017 TDM Policy Guide from the City of Buffalo Appendix J) indicate the % credit/estimated reduction each strategy will have on the estimated final vehicular travel demand. This well-established guide notes that promotion and outreach have an influence of up to 2%. Based on the BA Group TDM Framework report (Appendix J), a reduction of 2% is anticipated for providing this TDM measure. Accordingly, a 2% has been applied.	**Reduction of 2%**
Total SOV Reduction			**31%**

Source 1:
https://reader.elsevier.com/reader/sd/pii/S0169204616302687?token=4BACCE07EC00D1BA02093411512A12AD855187D3838F65D5D90E0C3A89115480CAF1C9DCF7A478494A4CAB39388142D0&originRegion=us-east-1&originCreation=20211114022007

Source 2:
http://www.montgomeryplanning.org/transportation/documents/TripGenerationAnalysisUsingURBEMIS.pdf

Source 3: https://www.buffalony.gov/DocumentCenter/View/5400/TDM-Policy-Guide---Adopted-2017-03-27?bidId= Provided in Appendix F for reference

Housing Now Transportation Demand Management Framework – City of Toronto by BA Group dated November 2021 prepared for CreateTO provided by City of Toronto transportation planning staff.

8 SUMMARY AND RECOMMENDATIONS

This TIS Update was completed for the proposed residential development located at 21 & 31 Park Boulevard and 220, 230 & 240 Lake Promenade in the City of Toronto. The updated development proposal involves redeveloping the existing land uses on the site into five high-rise rental buildings, consisting of a total of 2,308 dwelling units, 553.6 sq.m. of daycare, and 222.4 sq.m. A total of 1,189 parking spaces are proposed. Vehicle access to the site will be provided via a new public road that will span the site and connect onto Park Boulevard at Thirty Third Street and Long Branch Avenue. The development proposal also proposes to close the section of Lake Promenade south of the subject site to vehicular traffic. The findings of this TIS and recommendations are summarized below.

TRAFFIC OPERATIONS ASSESSMENT

Under existing conditions:

- Fall 2024 TMCs were surveyed at a set of expanded study intersections, which forms the existing 2024 traffic volumes. All study intersections operate at LOS 'C' or better during the weekday a.m. and p.m. peak hours under existing conditions with all movements operating within capacity.

Under future background conditions:

- The latest set of background development applications have been reviewed to develop the 2035 future background conditions. Based on historical traffic review, there is no general growth to apply.
- All of the study intersections are projected to operate at an acceptable LOS 'D' or better during the weekday a.m. and p.m. peak hours under future background conditions with no capacity deficiencies. This accounts for the northbound left-turn restriction during the weekday morning peak hour at the intersection of 31st Street and Lake Shore Boulevard as proposed by the 3471 Lake Shore West background development. The findings indicate there is no operational concerns from a capacity or queuing perspective at any of the study intersections.

Under future total conditions:

- The proposed development is anticipated to generate 406 net two-way auto trips during the a.m. peak hour and 390 net two-way auto trips during the p.m. peak hour. These trips are in addition to those generated by the existing apartment uses.
- Under future total conditions, all of the study intersections are projected to operate at an acceptable LOS 'D' or better during the weekday a.m. and p.m. peak hours under future total conditions with no capacity constraints. The future total results are very similar to the future background conditions, with minimal change in delay experienced by motorists. The findings confirm the site-generated traffic can be accommodated by the study road network and the proposed new public street**.** Moreover, the closure of Lake Promenade to vehicular traffic is feasible and does not result in traffic issues in the neighbourhood. The future total results account for the northbound left-turn restriction during the weekday morning peak hour at the intersection of 31st Street and Lake Shore Boulevard as proposed by the 3471 Lake Shore West background development. The findings indicate there is no operational concerns from a capacity or queuing perspective at any of the study intersections.

PARKING ASSESSMENT

Based on the City of Toronto By-law 89-2022, the site is required to provide a minimum of 117 visitor parking spaces and permitted to provide a maximum of 2,451 parking spaces. In comparison, a total of 1,189 parking spaces, including 117 visitor and 32 non-residential (daycare/retail) parking spaces, are proposed for the development, which satisfies the By-law requirement. The proposed 64 accessible parking spaces more than satisfies the minimum By-law requirement of 51 spaces.

The proposed bicycle parking supply of 1,756 bicycle parking spaces (182 short-term spaces and 1,574 long-term spaces) exceeds the City's bicycle parking requirement by 14 spaces.

TRANSPORTATION DEMAND MANAGEMENT

The proposed TDM measures for the development will promote sustainable travel modes and are estimated to reduced single-occupancy vehicle trips by 30% and satisfying the TGS Version 4 AQ 1.1 requirement.

APPENDIX

A TERMS OF REFERENCE

Yu, Peter

From: Tabassum Rafique <Tabassum.Rafique@toronto.ca>
Sent: November 4, 2024 1:11 PM
To: Yu, Peter; Luigi Nicolucci
Subject: RE: Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd

We have no concerns at this time regarding the intents of the updated study as noted below:

- To apply the latest post COVID-19 volumes
- To expand study area east, west and north to confirm whether the impact of the development can be accommodated.
- To confirm whether the closure of Lake Promenade E-W south of the site can be supported (i.e., diversion to Park Boulevard works).

As noted below, based on your report, we may ask for additional information.

Tabassum

From: Yu, Peter <Peter.Yu@wsp.com>
Sent: Monday, November 4, 2024 12:20 PM
To: Tabassum Rafique <Tabassum.Rafique@toronto.ca>; Luigi Nicolucci <Luigi.Nicolucci@toronto.ca>
Subject: [External Sender] RE: Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd

Noted, yes we will be proceeding with that option of design - Lake Promenade be closed off at the SW and SE corners of the site with a cul-de-sac at the SE corner.

We will proceed with the updated study area below.

Thank you

Peter

From: Tabassum Rafique <Tabassum.Rafique@toronto.ca>
Sent: November 4, 2024 12:03 PM
To: Yu, Peter <Peter.Yu@wsp.com>; Luigi Nicolucci <Luigi.Nicolucci@toronto.ca>
Subject: RE: Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd

Sorry, I meant Marina and 33rd as there were quite a few comments regarding Marina and 33rd in public meetings. Please confirm whether your study will be based on the alternative No.2.

Tabassum

From: Yu, Peter <Peter.Yu@wsp.com>
Sent: Monday, November 4, 2024 11:56 AM
To: Tabassum Rafique <Tabassum.Rafique@toronto.ca>; Luigi Nicolucci <Luigi.Nicolucci@toronto.ca>
Subject: [External Sender] RE: Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd

Hi Tabassum

Thanks for the quick reply, we can add the one you noted at 33rd/Muskoka Avenue – blue circle below.

We'll go ahead and organize the count for this week or next week on a typical weekday.

Peter

From: Tabassum Rafique <Tabassum.Rafique@toronto.ca>
Sent: November 4, 2024 11:52 AM

To: Yu, Peter <Peter.Yu@wsp.com>; Luigi Nicolucci <Luigi.Nicolucci@toronto.ca>
Subject: RE: Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd

Hi Peter

Will your study be based on the most recent proposed alignment of the new public street illustrated in the Alternate No. 2, attached above. I recommend that you include Muskoka and Thirty Third Street intersection given the increased traffic along Thirty Third because of closure of Lake promenade adjacent to the site.
Based on your report, we may ask for additional information.

Regards,

Tabassum Rafique, M.Sc. Civil Eng, P.Eng.
Supervisor, Transportation Review Unit
Development Review Division
City of Toronto
Etobicoke Civic Centre
399 The West Mall
Toronto, ON M9C 2Y2

416-338-5380
Tabassum.Rafique@toronto.ca

From: Yu, Peter <Peter.Yu@wsp.com>
Sent: Monday, November 4, 2024 9:50 AM
To: Tabassum Rafique <Tabassum.Rafique@toronto.ca>; Luigi Nicolucci <Luigi.Nicolucci@toronto.ca>
Subject: [External Sender] Study Area Confirmation - 220-240 Lake Promenade, 21-31 Park Blvd
Importance: High

Good morning Tabassum, Luigi,

Hope you're both well. Regarding the 220-240 Lake Promenade, 21-31 Park Blvd project, WSP is in the process of initiating an expanded study update as requested through the workshops held last year and this year. The last workshop in July 2024 was attended by Sam from your group. Sam agreed that an expanded study would be appropriate as next steps.

The intents of the updated study are:

- To apply the latest post COVID-19 volumes
- To expand study area east, west and north to confirm whether the impact of the development can be accommodated.
- To confirm whether the closure of Lake Promenade E-W south of the site can be supported (i.e., diversion to Park Boulevard works).

For context, the original TIS is attached and the original study area is shown below on the left. We are proposing the following new study area which captures the above plus allows us to review how the school period works near James S. Bell Junior Middle School.

Can you please confirm that the study area below is adequate?

Thank you very much

Peter

Peter Yu, P.Eng., PMP
Senior Project Manager
Transportation Planning and Science

25 York St, Toronto, ON M5J 2V5
Floor 7

T+ 1 289-982-4764
New Mobile : 416-508-3248
Vacation alert : I will be off every Friday for the remainder of 2024

APPENDIX

B TRAFFIC DATA

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch Ave From North					Lakeshore Blvd From East					Long Branch Ave From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	14	0	3	2	19	2	65	1	4	72	5	0	23	6	34	4	74	0	14	92	217
07:15 AM	8	1	3	7	19	1	76	0	3	80	2	1	19	2	24	3	88	3	8	102	225
07:30 AM	10	0	8	2	20	3	117	3	13	136	7	0	20	8	35	1	122	2	10	135	326
07:45 AM	16	0	11	6	33	1	136	1	10	148	5	2	20	15	42	2	136	1	17	156	379
Total	48	1	25	17	91	7	394	5	30	436	19	3	82	31	135	10	420	6	49	485	1147
08:00 AM	14	0	10	4	28	8	136	2	9	155	5	0	32	14	51	5	151	5	13	174	408
08:15 AM	11	0	13	10	34	4	156	1	16	177	6	4	25	15	50	6	172	3	23	204	465
08:30 AM	10	0	13	7	30	3	142	5	14	164	7	0	30	13	50	11	105	4	22	142	386
08:45 AM	6	0	12	13	31	5	146	1	16	168	6	0	18	14	38	6	160	5	10	181	418
Total	41	0	48	34	123	20	580	9	55	664	24	4	105	56	189	28	588	17	68	701	1677
04:00 PM	14	3	3	9	29	5	183	2	10	200	10	3	23	17	53	10	131	16	15	172	454
04:15 PM	6	1	11	14	32	1	163	2	33	199	3	3	19	19	44	13	131	15	23	182	457
04:30 PM	14	3	11	5	33	1	163	1	13	178	5	4	20	14	43	11	145	13	14	183	437
04:45 PM	7	1	9	9	26	4	169	1	16	190	2	2	25	15	44	8	149	13	19	189	449
Total	41	8	34	37	120	11	678	6	72	767	20	12	87	65	184	42	556	57	71	726	1797
05:00 PM	4	0	15	15	34	2	156	2	19	179	5	2	17	13	37	11	155	10	19	195	445
05:15 PM	14	1	10	13	38	5	112	4	14	135	5	2	26	14	47	15	138	12	16	181	401
05:30 PM	10	1	11	14	36	5	136	4	14	159	9	5	14	16	44	14	154	14	28	210	449
05:45 PM	7	1	6	8	22	5	141	8	17	171	6	2	25	22	55	15	154	11	8	188	436
Total	35	3	42	50	130	17	545	18	64	644	25	11	82	65	183	55	601	47	71	774	1731
06:00 PM	8	2	5	22	37	7	125	2	20	154	4	2	22	18	46	4	132	13	16	165	402
06:15 PM	9	0	11	8	28	2	128	2	21	153	4	2	14	22	42	10	147	14	13	184	407
06:30 PM	3	1	5	18	27	4	119	8	15	146	10	1	16	14	41	12	154	21	14	201	415
06:45 PM	10	0	12	21	43	6	115	3	13	137	12	2	13	16	43	10	125	21	15	171	394
Total	30	3	33	69	135	19	487	15	69	590	30	7	65	70	172	36	558	69	58	721	1618
Grand Total	195	15	182	207	599	74	2684	53	290	3101	118	37	421	287	863	171	2723	196	317	3407	7970
Apprch %	32.6	2.5	30.4	34.6		2.4	86.6	1.7	9.4		13.7	4.3	48.8	33.3		5	79.9	5.8	9.3		
Total %	2.4	0.2	2.3	2.6	7.5	0.9	33.7	0.7	3.6	38.9	1.5	0.5	5.3	3.6	10.8	2.1	34.2	2.5	4	42.7	
Cars	193	13	178	207	591	73	2603	51	290	3017	113	36	417	287	853	167	2647	193	317	3324	7785
% Cars	99	86.7	97.8	100	98.7	98.6	97	96.2	100	97.3	95.8	97.3	99	100	98.8	97.7	97.2	98.5	100	97.6	97.7
Trucks	1	1	2	0	4	1	32	1	0	34	1	1	1	0	3	1	28	2	0	31	72
% Trucks	0.5	6.7	1.1	0	0.7	1.4	1.2	1.9	0	1.1	0.8	2.7	0.2	0	0.3	0.6	1	1	0	0.9	0.9

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch Ave From North					Lakeshore Blvd From East					Long Branch Ave From South					Lakeshore Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	1	0	2	0	3	0	35	0	0	35	4	0	3	0	7	2	30	1	0	33	78
% Heavies	0.5	0	1.1	0	0.5	0	1.3	0	0	1.1	3.4	0	0.7	0	0.8	1.2	1.1	0.5	0	1	1
Cyclists	0	1	0	0	1	0	14	1	0	15	0	0	0	0	0	1	18	0	0	19	35
% Cyclists	0	6.7	0	0	0.2	0	0.5	1.9	0	0.5	0	0	0	0	0	0.6	0.7	0	0	0.6	0.4

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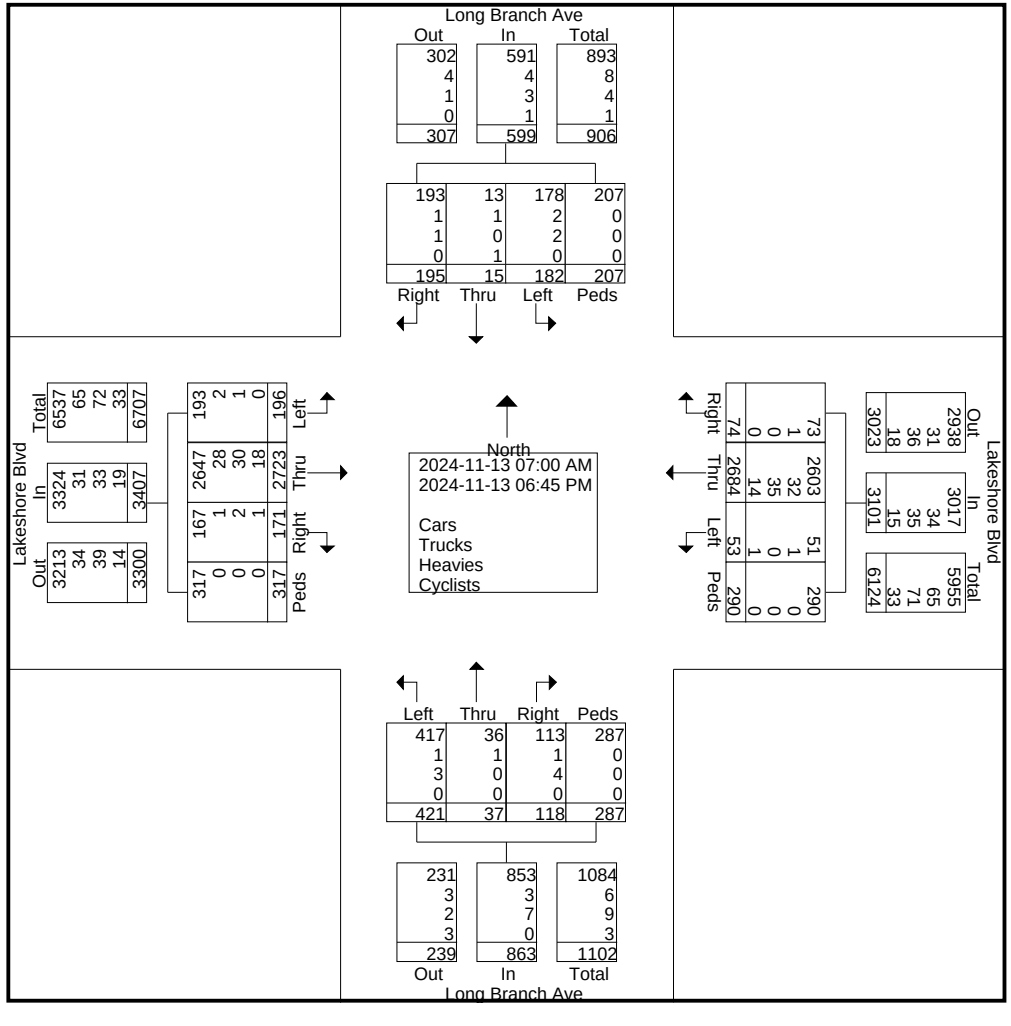
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

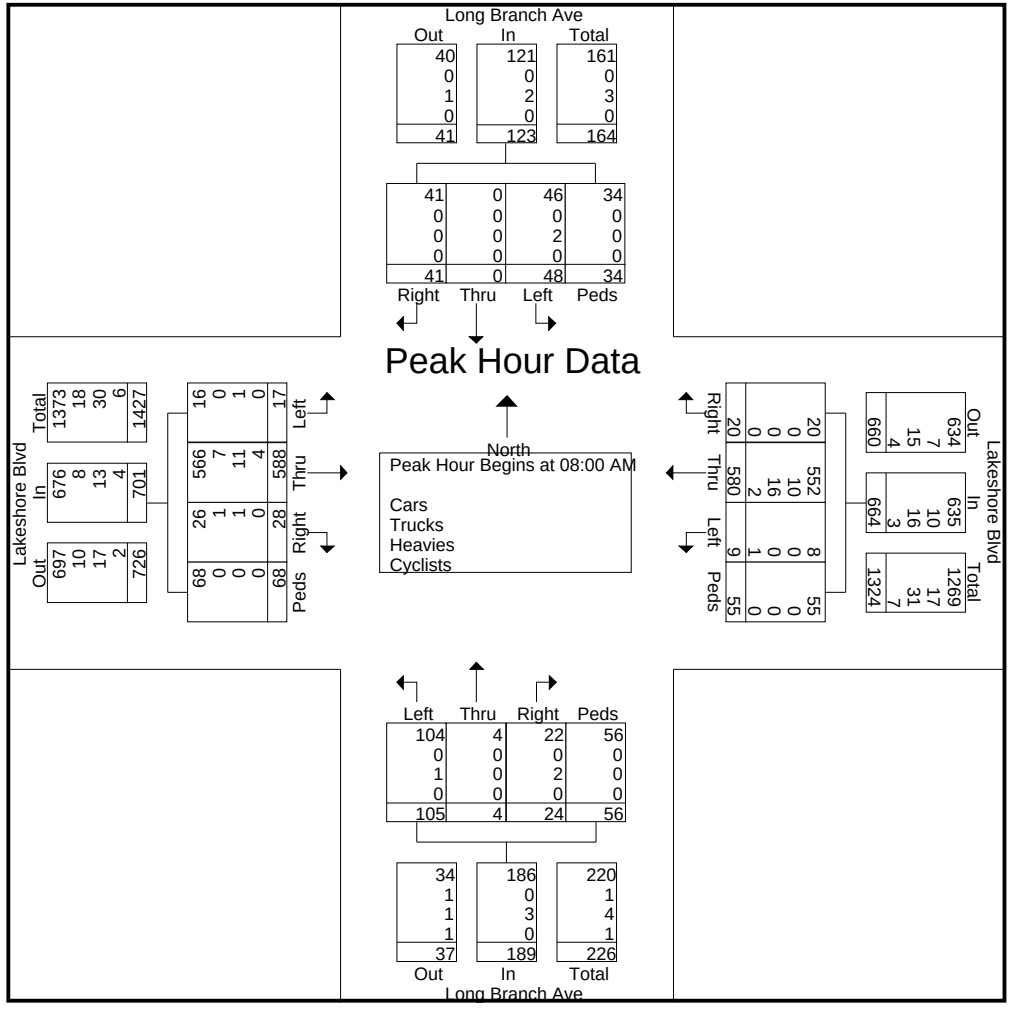
	Long Branch Ave From North					Lakeshore Blvd From East					Long Branch Ave From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**14**	0	10	4	28	**8**	136	2	9	155	5	0	**32**	14	**51**	5	151	**5**	13	174	408
08:15 AM	11	0	**13**	10	**34**	4	**156**	1	**16**	**177**	6	**4**	25	**15**	50	6	**172**	3	**23**	**204**	**465**
08:30 AM	10	0	13	7	30	3	142	**5**	14	164	**7**	0	30	13	50	**11**	105	4	22	142	386
08:45 AM	6	0	12	**13**	31	5	146	1	16	168	6	0	18	14	38	6	160	5	10	181	418
Total Volume	41	0	48	34	123	20	580	9	55	664	24	4	105	56	189	28	588	17	68	701	1677
% App. Total	33.3	0	39	27.6		3	87.3	1.4	8.3		12.7	2.1	55.6	29.6		4	83.9	2.4	9.7		
PHF	.732	.000	.923	.654	.904	.625	.929	.450	.859	.938	.857	.250	.820	.933	.926	.636	.855	.850	.739	.859	.902
Cars	41	0	46	34	121	20	552	8	55	635	22	4	104	56	186	26	566	16	68	676	1618
% Cars	100	0	95.8	100	98.4	100	95.2	88.9	100	95.6	91.7	100	99.0	100	98.4	92.9	96.3	94.1	100	96.4	96.5
Trucks	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	1	7	0	0	8	18
% Trucks	0	0	0	0	0	0	1.7	0	0	1.5	0	0	0	0	0	3.6	1.2	0	0	1.1	1.1
Heavies	0	0	2	0	2	0	16	0	0	16	2	0	1	0	3	1	11	1	0	13	34
% Heavies	0	0	4.2	0	1.6	0	2.8	0	0	2.4	8.3	0	1.0	0	1.6	3.6	1.9	5.9	0	1.9	2.0
Cyclists	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	4	0	0	4	7
% Cyclists	0	0	0	0	0	0	0.3	11.1	0	0.5	0	0	0	0	0	0	0.7	0	0	0.6	0.4

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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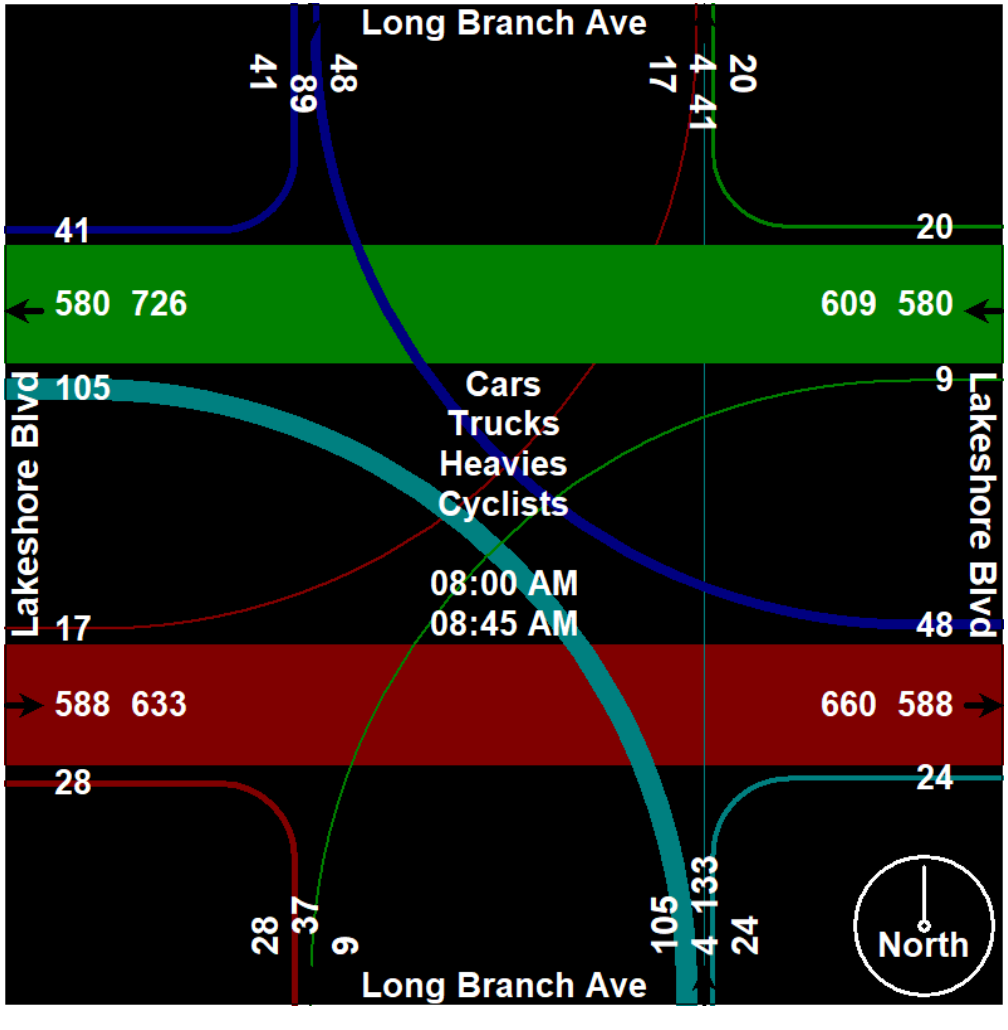
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	Long Branch Ave From North					Lakeshore Blvd From East					Long Branch Ave From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**14**	**3**	3	9	29	**5**	**183**	**2**	10	**200**	**10**	3	23	17	**53**	10	131	**16**	15	172	454
04:15 PM	6	1	**11**	**14**	32	1	163	2	**33**	199	3	3	19	**19**	44	**13**	131	15	**23**	182	**457**
04:30 PM	14	3	11	5	**33**	1	163	1	13	178	5	**4**	20	14	43	11	145	13	14	183	437
04:45 PM	7	1	9	9	26	4	169	1	16	190	2	2	**25**	15	44	8	**149**	13	19	**189**	449
Total Volume	41	8	34	37	120	11	678	6	72	767	20	12	87	65	184	42	556	57	71	726	1797
% App. Total	34.2	6.7	28.3	30.8		1.4	88.4	0.8	9.4		10.9	6.5	47.3	35.3		5.8	76.6	7.9	9.8		
PHF	.732	.667	.773	.661	.909	.550	.926	.750	.545	.959	.500	.750	.870	.855	.868	.808	.933	.891	.772	.960	.983
Cars	41	7	32	37	117	11	662	6	72	751	19	11	85	65	180	40	543	56	71	710	1758
% Cars	100	87.5	94.1	100	97.5	100	97.6	100	100	97.9	95.0	91.7	97.7	100	97.8	95.2	97.7	98.2	100	97.8	97.8
Trucks	0	0	2	0	2	0	7	0	0	7	1	1	1	0	3	0	4	1	0	5	17
% Trucks	0	0	5.9	0	1.7	0	1.0	0	0	0.9	5.0	8.3	1.1	0	1.6	0	0.7	1.8	0	0.7	0.9
Heavies	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	1	5	0	0	6	11
% Heavies	0	0	0	0	0	0	0.6	0	0	0.5	0	0	1.1	0	0.5	2.4	0.9	0	0	0.8	0.6
Cyclists	0	1	0	0	1	0	5	0	0	5	0	0	0	0	0	1	4	0	0	5	11
% Cyclists	0	12.5	0	0	0.8	0	0.7	0	0	0.7	0	0	0	0	0	2.4	0.7	0	0	0.7	0.6

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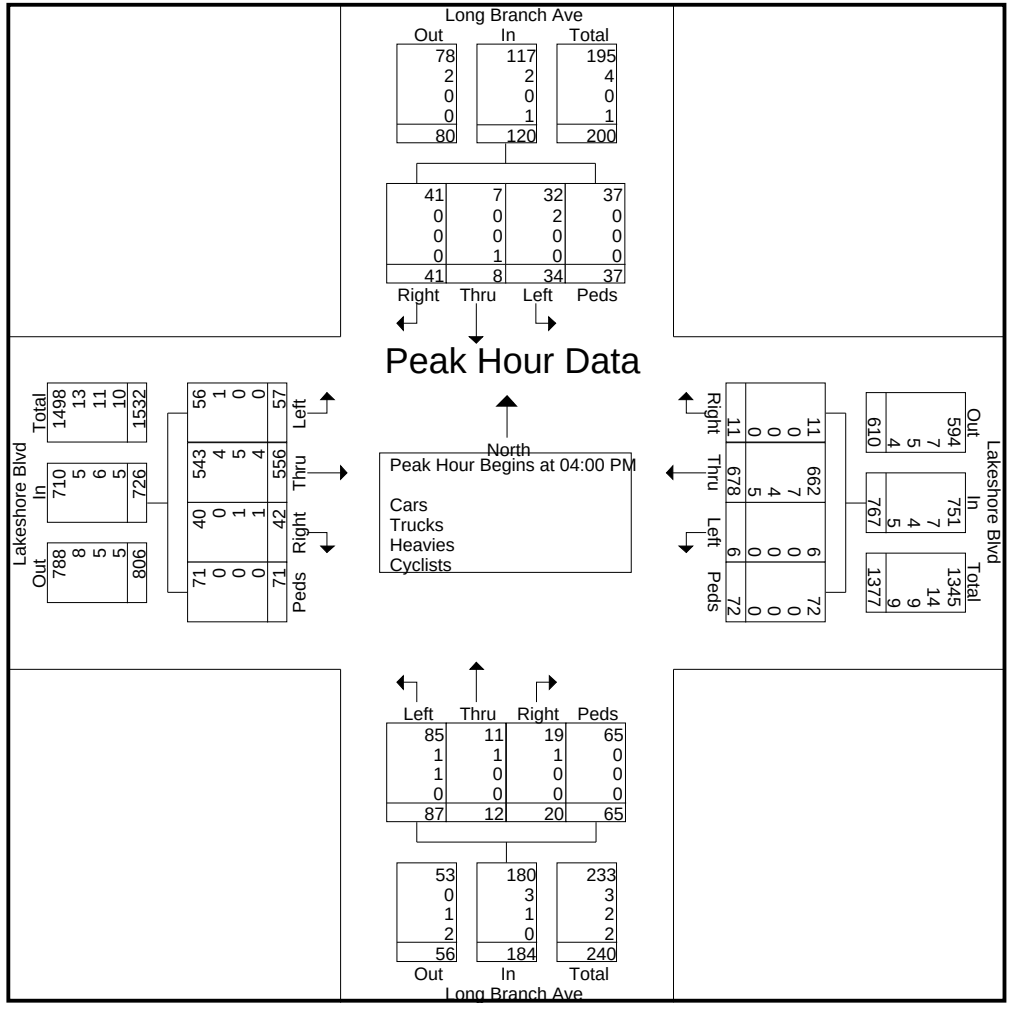
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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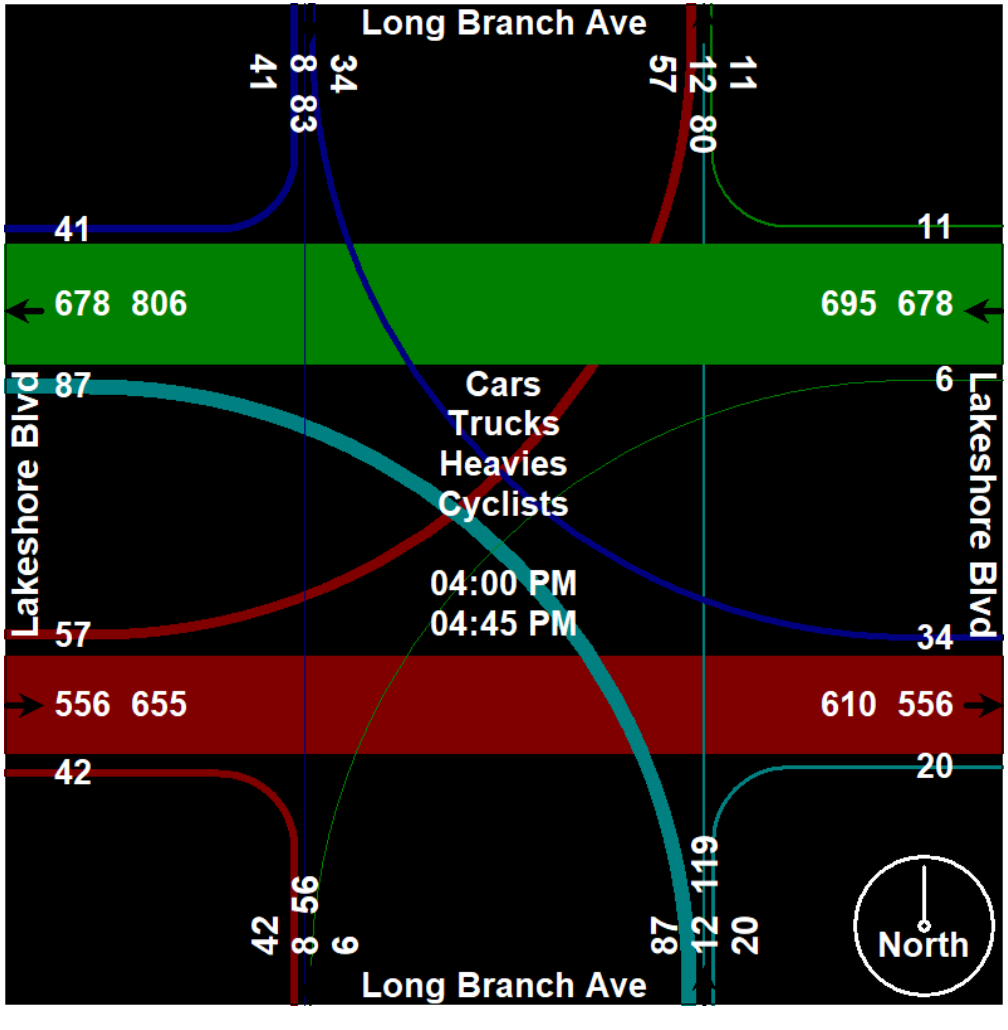
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	From North					Lakeshore Blvd From East					31st St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	62	4	3	69	2	0	1	5	8	4	86	0	5	95	172
07:15 AM	0	0	0	0	0	0	81	12	1	94	10	0	5	4	19	9	78	0	5	92	205
07:30 AM	0	0	0	0	0	0	107	10	3	120	15	0	8	8	31	7	114	0	3	124	275
07:45 AM	0	0	0	0	0	0	128	9	13	150	9	0	4	25	38	10	150	0	11	171	359
Total	0	0	0	0	0	0	378	35	20	433	36	0	18	42	96	30	428	0	24	482	1011
08:00 AM	0	0	0	0	0	0	127	14	7	148	15	0	9	17	41	18	143	0	10	171	360
08:15 AM	0	0	0	0	0	0	142	15	12	169	21	0	4	36	61	20	174	0	19	213	443
08:30 AM	0	0	0	0	0	0	144	8	8	160	12	0	3	15	30	14	103	0	14	131	321
08:45 AM	0	0	0	0	0	0	145	3	15	163	9	0	4	13	26	11	155	0	9	175	364
Total	0	0	0	0	0	0	558	40	42	640	57	0	20	81	158	63	575	0	52	690	1488
04:00 PM	0	0	0	0	0	0	175	9	25	209	11	0	3	18	32	8	129	0	6	143	384
04:15 PM	0	0	0	0	0	0	170	16	14	200	6	0	5	22	33	11	124	0	9	144	377
04:30 PM	0	0	0	0	0	0	144	6	5	155	4	0	3	9	16	11	147	0	4	162	333
04:45 PM	0	0	0	0	0	0	171	15	12	198	7	0	2	9	18	14	130	0	6	150	366
Total	0	0	0	0	0	0	660	46	56	762	28	0	13	58	99	44	530	0	25	599	1460
05:00 PM	0	0	0	0	0	0	152	13	14	179	8	0	4	19	31	21	139	0	6	166	376
05:15 PM	0	0	0	0	0	0	129	14	23	166	8	0	4	31	43	14	129	0	16	159	368
05:30 PM	0	0	0	0	0	0	152	10	17	179	4	0	3	26	33	10	149	0	13	172	384
05:45 PM	0	0	0	0	0	0	134	14	8	156	8	0	6	23	37	14	157	0	4	175	368
Total	0	0	0	0	0	0	567	51	62	680	28	0	17	99	144	59	574	0	39	672	1496
06:00 PM	0	0	0	0	0	0	169	12	24	205	17	0	5	25	47	18	108	0	9	135	387
06:15 PM	0	0	0	0	0	0	143	13	29	185	7	0	6	28	41	14	136	0	6	156	382
06:30 PM	0	0	0	0	0	0	122	9	27	158	12	0	7	11	30	15	148	0	3	166	354
06:45 PM	0	0	0	0	0	0	129	13	8	150	14	0	3	9	26	13	130	0	9	152	328
Total	0	0	0	0	0	0	563	47	88	698	50	0	21	73	144	60	522	0	27	609	1451
Grand Total	0	0	0	0	0	0	2726	219	268	3213	199	0	89	353	641	256	2629	0	167	3052	6906
Apprch %	0	0	0	0		0	84.8	6.8	8.3		31	0	13.9	55.1		8.4	86.1	0	5.5		
Total %	0	0	0	0	0	0	39.5	3.2	3.9	46.5	2.9	0	1.3	5.1	9.3	3.7	38.1	0	2.4	44.2	
Cars	0	0	0	0	0	0	2645	209	268	3122	185	0	87	353	625	248	2557	0	167	2972	6719
% Cars	0	0	0	0	0	0	97	95.4	100	97.2	93	0	97.8	100	97.5	96.9	97.3	0	100	97.4	97.3
Trucks	0	0	0	0	0	0	34	6	0	40	7	0	2	0	9	1	29	0	0	30	79
% Trucks	0	0	0	0	0	0	1.2	2.7	0	1.2	3.5	0	2.2	0	1.4	0.4	1.1	0	0	1	1.1

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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

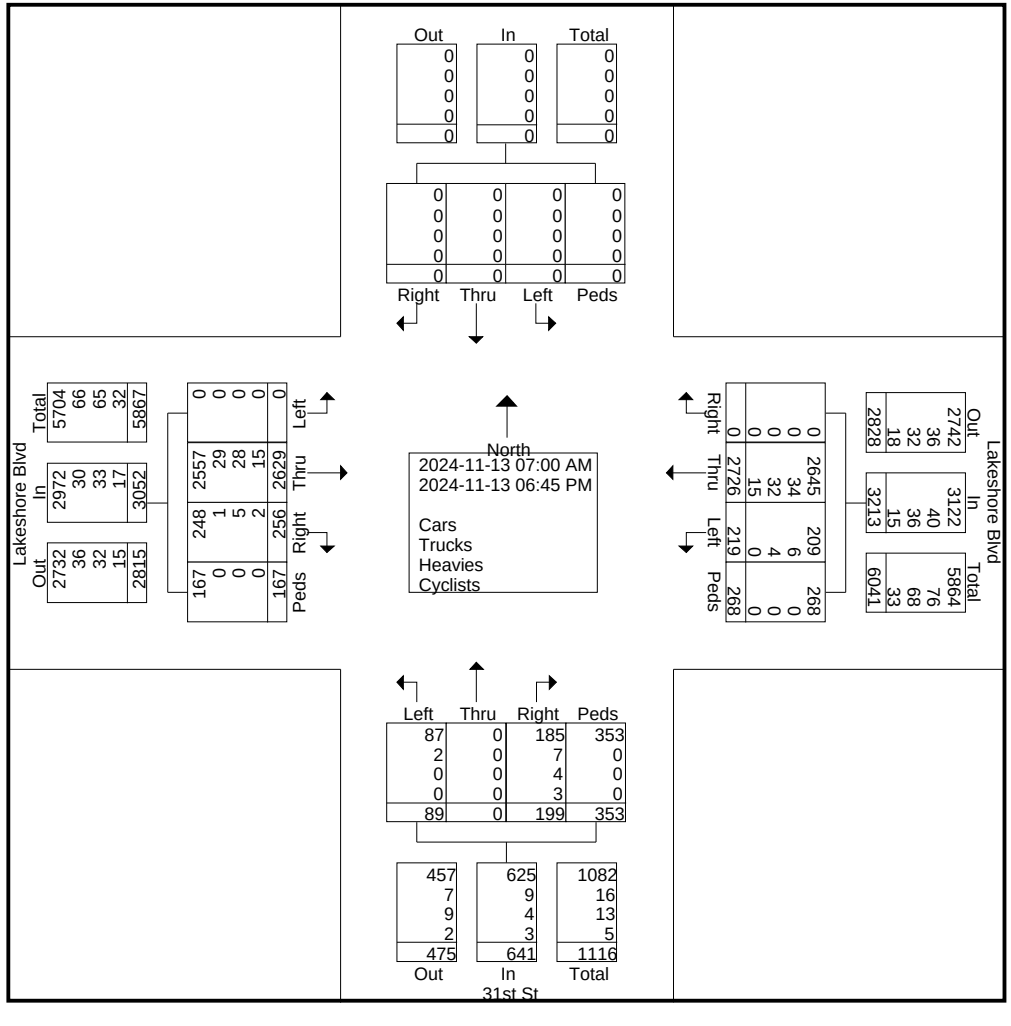
	From North					Lakeshore Blvd From East					31st St From South					Lakeshore Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	0	0	0	0	0	0	32	4	0	36	4	0	0	0	4	5	28	0	0	33	73
% Heavies	0	0	0	0	0	0	1.2	1.8	0	1.1	2	0	0	0	0.6	2	1.1	0	0	1.1	1.1
Cyclists	0	0	0	0	0	0	15	0	0	15	3	0	0	0	3	2	15	0	0	17	35
% Cyclists	0	0	0	0	0	0	0.6	0	0	0.5	1.5	0	0	0	0.5	0.8	0.6	0	0	0.6	0.5

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13

	From North					Lakeshore Blvd From East					31st St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	127	14	7	148	15	0	**9**	17	41	18	143	0	10	171	360
08:15 AM	0	0	0	0	0	0	142	**15**	12	**169**	**21**	0	4	**36**	**61**	**20**	**174**	0	**19**	**213**	**443**
08:30 AM	0	0	0	0	0	0	144	8	8	160	12	0	3	15	30	14	103	0	14	131	321
08:45 AM	0	0	0	0	0	0	**145**	3	**15**	163	9	0	4	13	26	11	155	0	9	175	364
Total Volume	0	0	0	0	0	0	558	40	42	640	57	0	20	81	158	63	575	0	52	690	1488
% App. Total	0	0	0	0		0	87.2	6.2	6.6		36.1	0	12.7	51.3		9.1	83.3	0	7.5		
PHF	.000	.000	.000	.000	.000	.000	.962	.667	.700	.947	.679	.000	.556	.563	.648	.788	.826	.000	.684	.810	.840
Cars	0	0	0	0	0	0	536	39	42	617	51	0	19	81	151	59	558	0	52	669	1437
% Cars	0	0	0	0	0	0	96.1	97.5	100	96.4	89.5	0	95.0	100	95.6	93.7	97.0	0	100	97.0	96.6
Trucks	0	0	0	0	0	0	7	1	0	8	2	0	1	0	3	1	6	0	0	7	18
% Trucks	0	0	0	0	0	0	1.3	2.5	0	1.3	3.5	0	5.0	0	1.9	1.6	1.0	0	0	1.0	1.2
Heavies	0	0	0	0	0	0	14	0	0	14	3	0	0	0	3	3	7	0	0	10	27
% Heavies	0	0	0	0	0	0	2.5	0	0	2.2	5.3	0	0	0	1.9	4.8	1.2	0	0	1.4	1.8
Cyclists	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	4	0	0	4	6
% Cyclists	0	0	0	0	0	0	0.2	0	0	0.2	1.8	0	0	0	0.6	0	0.7	0	0	0.6	0.4

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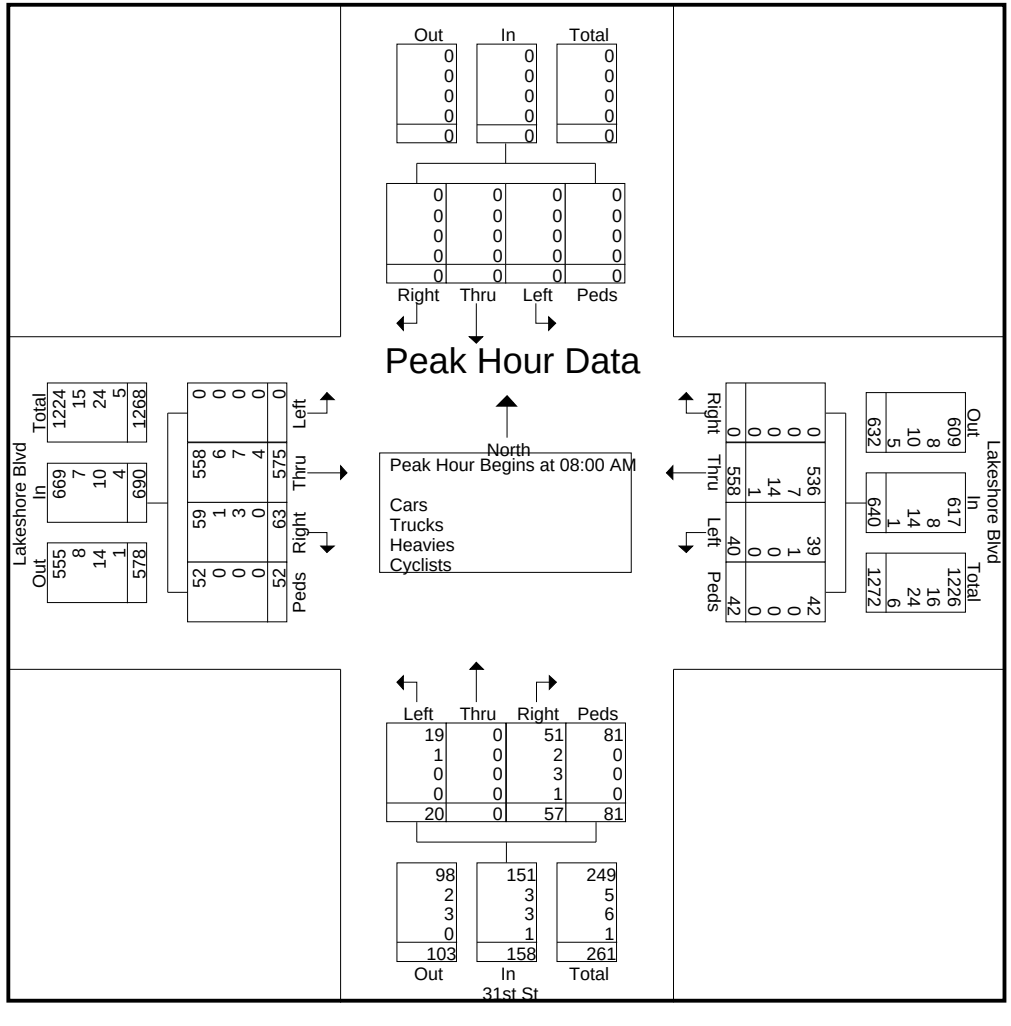
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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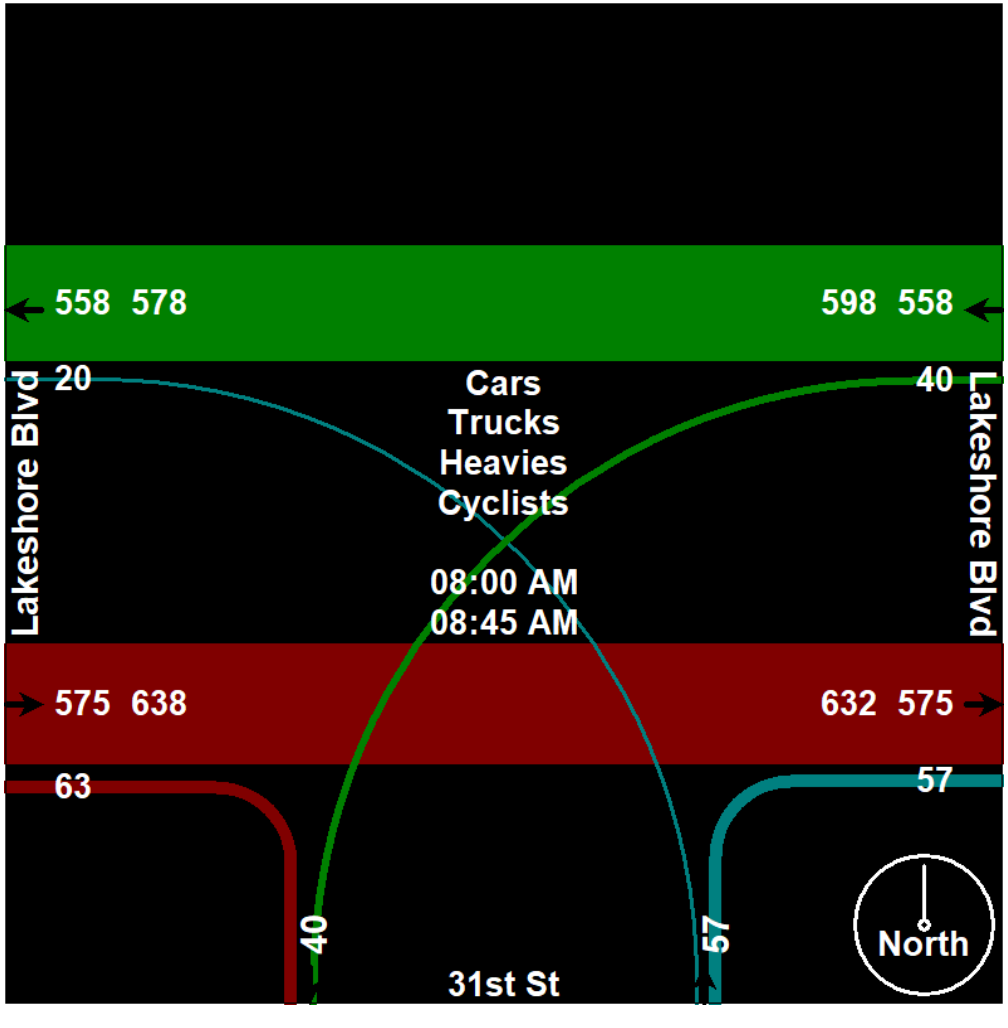
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

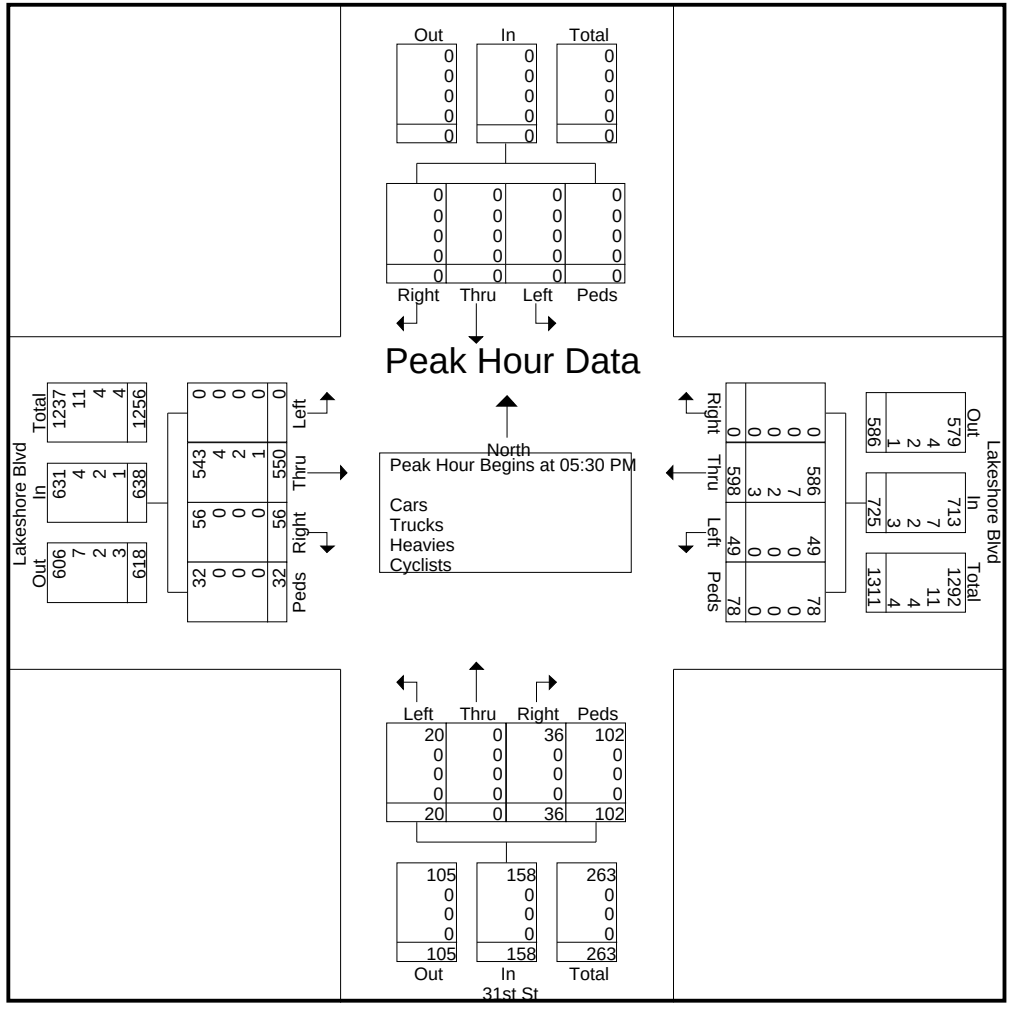
	From North					Lakeshore Blvd From East					31st St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	0	0	0	0	152	10	17	179	4	0	3	26	33	10	149	0	**13**	172	384
05:45 PM	0	0	0	0	0	0	134	**14**	8	156	8	0	**6**	23	37	14	**157**	0	4	**175**	368
06:00 PM	0	0	0	0	0	0	**169**	12	24	**205**	**17**	0	5	25	**47**	**18**	108	0	9	135	**387**
06:15 PM	0	0	0	0	0	0	143	13	**29**	185	7	0	6	**28**	41	14	136	0	6	156	382
Total Volume	0	0	0	0	0	0	598	49	78	725	36	0	20	102	158	56	550	0	32	638	1521
% App. Total	0	0	0	0		0	82.5	6.8	10.8		22.8	0	12.7	64.6		8.8	86.2	0	5		
PHF	.000	.000	.000	.000	.000	.000	.885	.875	.672	.884	.529	.000	.833	.911	.840	.778	.876	.000	.615	.911	.983
Cars	0	0	0	0	0	0	586	49	78	713	36	0	20	102	158	56	543	0	32	631	1502
% Cars	0	0	0	0	0	0	98.0	100	100	98.3	100	0	100	100	100	100	98.7	0	100	98.9	98.8
Trucks	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
% Trucks	0	0	0	0	0	0	1.2	0	0	1.0	0	0	0	0	0	0	0.7	0	0	0.6	0.7
Heavies	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
% Heavies	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.3	0.3
Cyclists	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	4
% Cyclists	0	0	0	0	0	0	0.5	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0.2	0.3

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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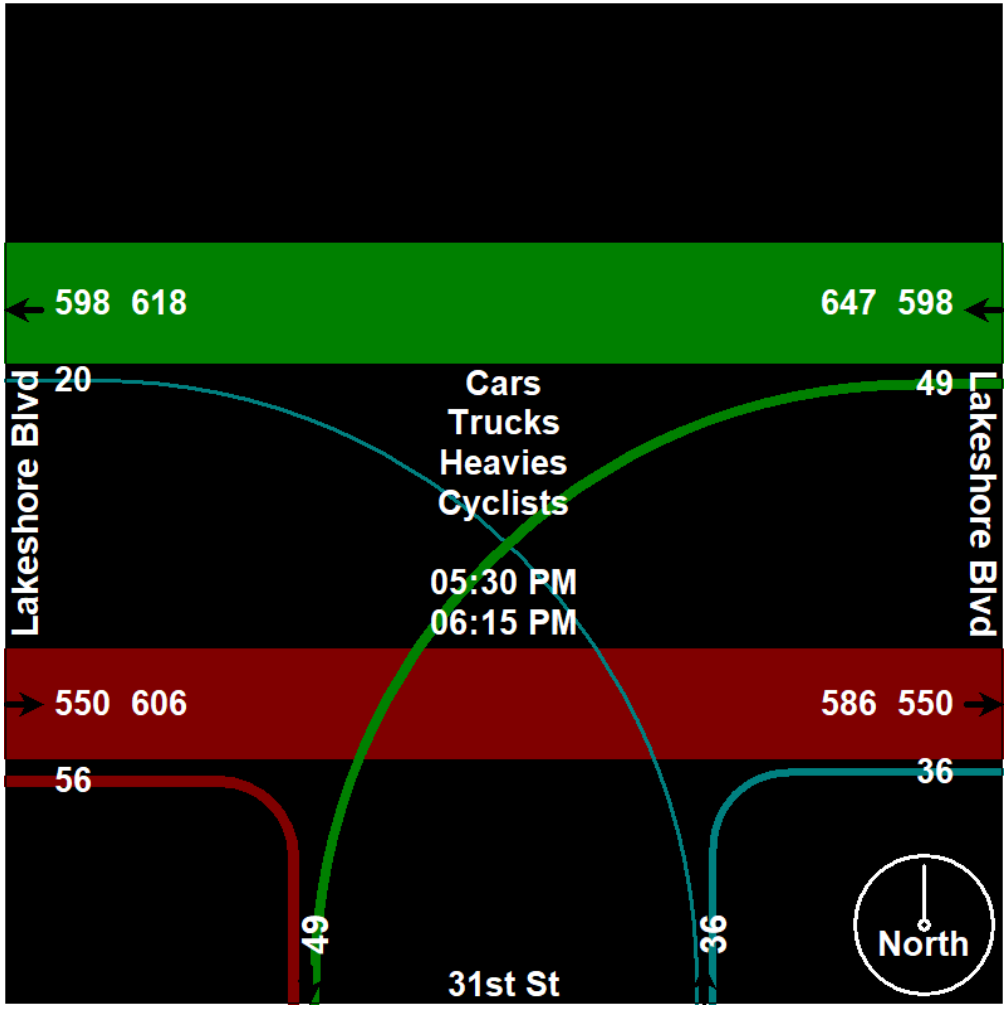
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	0	1	5	8	1	106	0	5	112	1	0	9	8	18	0	72	1	5	78	216
07:15 AM	1	0	0	11	12	2	106	0	1	109	1	0	12	4	17	0	94	4	6	104	242
07:30 AM	3	0	3	10	16	9	146	1	14	170	1	2	13	11	27	1	123	3	5	132	345
07:45 AM	9	0	5	13	27	15	156	0	2	173	3	3	20	12	38	2	138	9	13	162	400
Total	15	0	9	39	63	27	514	1	22	564	6	5	54	35	100	3	427	17	29	476	1203
08:00 AM	7	1	10	6	24	15	179	1	8	203	3	0	19	9	31	1	161	17	11	190	448
08:15 AM	17	1	6	10	34	24	173	0	13	210	5	2	19	14	40	0	157	17	11	185	469
08:30 AM	20	1	5	11	37	25	153	0	8	186	2	6	18	10	36	3	127	15	9	154	413
08:45 AM	37	6	31	12	86	55	110	2	32	199	1	7	18	28	54	4	150	32	15	201	540
Total	81	9	52	39	181	119	615	3	61	798	11	15	74	61	161	8	595	81	46	730	1870
04:00 PM	42	4	30	10	86	36	183	5	14	238	8	9	8	9	34	2	130	41	22	195	553
04:15 PM	47	5	41	18	111	29	156	4	19	208	5	10	10	12	37	10	135	40	11	196	552
04:30 PM	34	5	37	15	91	33	186	1	7	227	7	4	11	18	40	14	135	37	28	214	572
04:45 PM	38	4	33	19	94	31	163	2	36	232	6	2	8	30	46	7	137	25	25	194	566
Total	161	18	141	62	382	129	688	12	76	905	26	25	37	69	157	33	537	143	86	799	2243
05:00 PM	37	4	33	20	94	38	137	4	28	207	1	9	18	31	59	9	137	35	30	211	571
05:15 PM	36	6	36	7	85	29	153	0	14	196	6	7	12	16	41	7	146	24	23	200	522
05:30 PM	20	13	38	17	88	39	107	2	19	167	3	5	17	21	46	5	158	31	23	217	518
05:45 PM	34	8	34	13	89	33	135	6	13	187	4	5	19	19	47	6	146	20	23	195	518
Total	127	31	141	57	356	139	532	12	74	757	14	26	66	87	193	27	587	110	99	823	2129
06:00 PM	35	5	15	17	72	26	134	1	19	180	7	6	9	30	52	10	136	36	21	203	507
06:15 PM	37	3	37	8	85	33	135	1	20	189	3	4	10	17	34	7	149	34	26	216	524
06:30 PM	23	8	37	14	82	25	121	3	7	156	4	4	12	15	35	11	153	32	21	217	490
06:45 PM	33	4	35	15	87	23	109	0	17	149	2	3	10	23	38	5	138	34	18	195	469
Total	128	20	124	54	326	107	499	5	63	674	16	17	41	85	159	33	576	136	86	831	1990
Grand Total	512	78	467	251	1308	521	2848	33	296	3698	73	88	272	337	770	104	2722	487	346	3659	9435
Apprch %	39.1	6	35.7	19.2		14.1	77	0.9	8		9.5	11.4	35.3	43.8		2.8	74.4	13.3	9.5		
Total %	5.4	0.8	4.9	2.7	13.9	5.5	30.2	0.3	3.1	39.2	0.8	0.9	2.9	3.6	8.2	1.1	28.9	5.2	3.7	38.8	
Cars	508	77	461	251	1297	510	2764	32	296	3602	71	86	270	337	764	103	2643	484	346	3576	9239
% Cars	99.2	98.7	98.7	100	99.2	97.9	97.1	97	100	97.4	97.3	97.7	99.3	100	99.2	99	97.1	99.4	100	97.7	97.9
Trucks	1	0	1	0	2	2	37	0	0	39	0	0	2	0	2	1	35	1	0	37	80
% Trucks	0.2	0	0.2	0	0.2	0.4	1.3	0	0	1.1	0	0	0.7	0	0.3	1	1.3	0.2	0	1	0.8

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	2	0	4	0	6	7	34	0	0	41	2	0	0	0	2	0	32	2	0	34	83
% Heavies	0.4	0	0.9	0	0.5	1.3	1.2	0	0	1.1	2.7	0	0	0	0.3	0	1.2	0.4	0	0.9	0.9
Cyclists	1	1	1	0	3	2	13	1	0	16	0	2	0	0	2	0	12	0	0	12	33
% Cyclists	0.2	1.3	0.2	0	0.2	0.4	0.5	3	0	0.4	0	2.3	0	0	0.3	0	0.4	0	0	0.3	0.3

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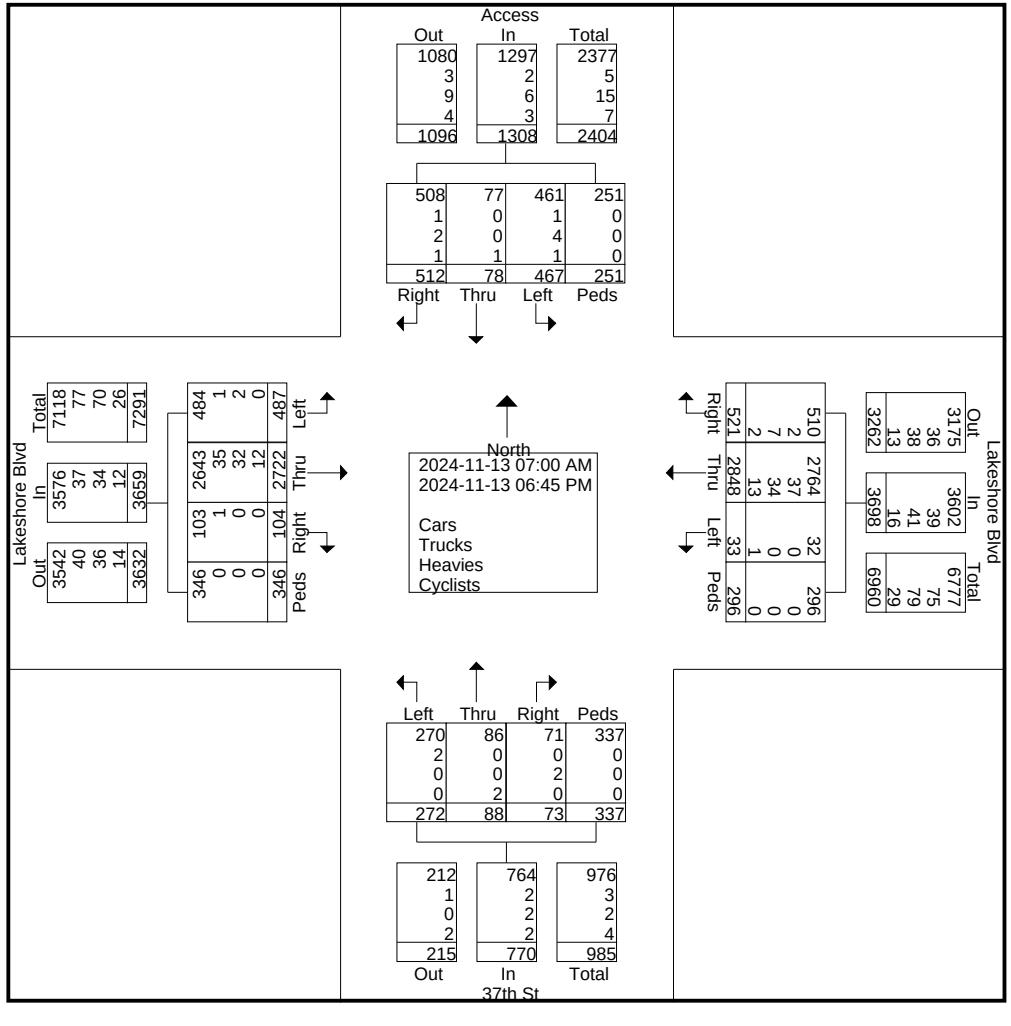
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

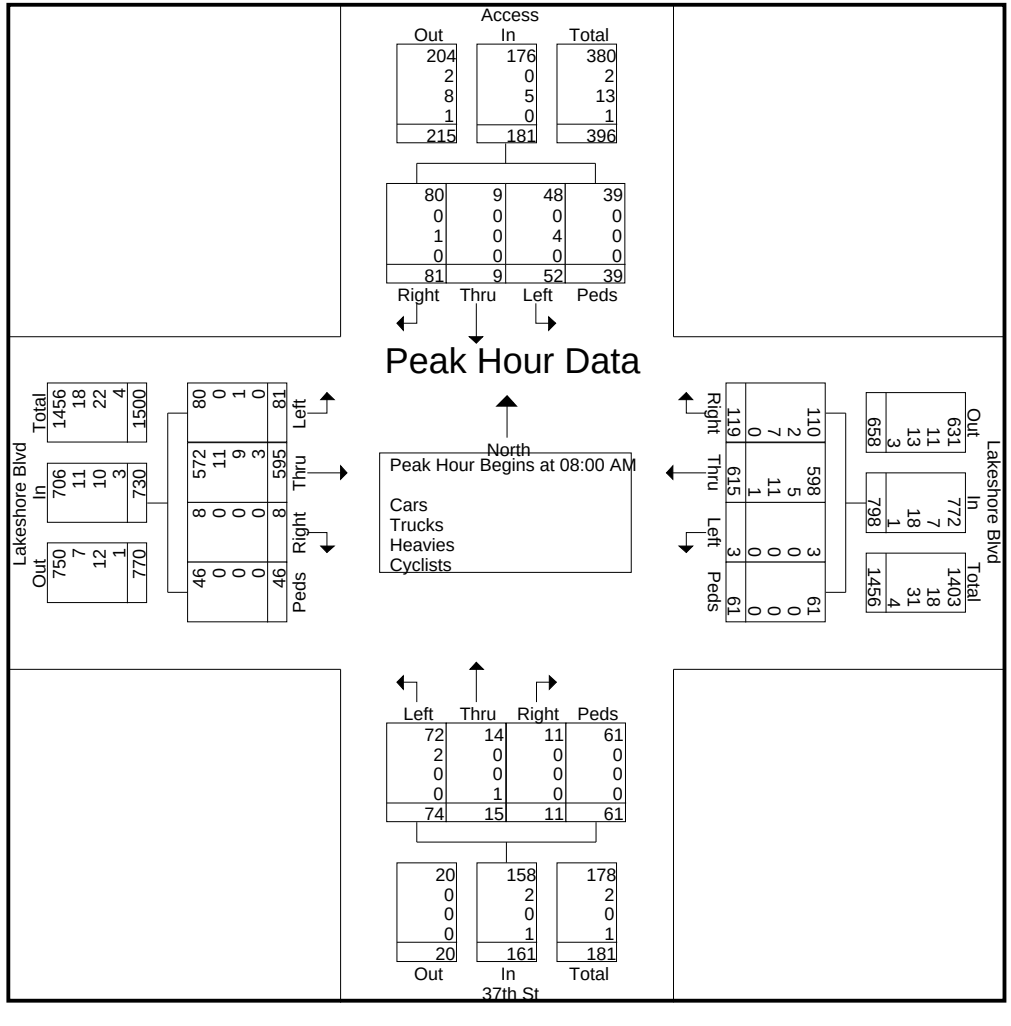
	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	7	1	10	6	24	15	**179**	1	8	203	3	0	**19**	9	31	1	**161**	17	11	190	448
08:15 AM	17	1	6	10	34	24	173	0	13	**210**	**5**	2	19	14	40	0	157	17	11	185	469
08:30 AM	20	1	5	11	37	25	153	0	8	186	2	6	18	10	36	3	127	15	9	154	413
08:45 AM	**37**	**6**	**31**	**12**	**86**	**55**	110	**2**	**32**	199	1	**7**	18	**28**	**54**	**4**	150	**32**	**15**	**201**	**540**
Total Volume	81	9	52	39	181	119	615	3	61	798	11	15	74	61	161	8	595	81	46	730	1870
% App. Total	44.8	5	28.7	21.5		14.9	77.1	0.4	7.6		6.8	9.3	46	37.9		1.1	81.5	11.1	6.3		
PHF	.547	.375	.419	.813	.526	.541	.859	.375	.477	.950	.550	.536	.974	.545	.745	.500	.924	.633	.767	.908	.866
Cars	80	9	48	39	176	110	598	3	61	772	11	14	72	61	158	8	572	80	46	706	1812
% Cars	98.8	100	92.3	100	97.2	92.4	97.2	100	100	96.7	100	93.3	97.3	100	98.1	100	96.1	98.8	100	96.7	96.9
Trucks	0	0	0	0	0	2	5	0	0	7	0	0	2	0	2	0	11	0	0	11	20
% Trucks	0	0	0	0	0	1.7	0.8	0	0	0.9	0	0	2.7	0	1.2	0	1.8	0	0	1.5	1.1
Heavies	1	0	4	0	5	7	11	0	0	18	0	0	0	0	0	0	9	1	0	10	33
% Heavies	1.2	0	7.7	0	2.8	5.9	1.8	0	0	2.3	0	0	0	0	0	0	1.5	1.2	0	1.4	1.8
Cyclists	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	5
% Cyclists	0	0	0	0	0	0	0.2	0	0	0.1	0	6.7	0	0	0.6	0	0.5	0	0	0.4	0.3

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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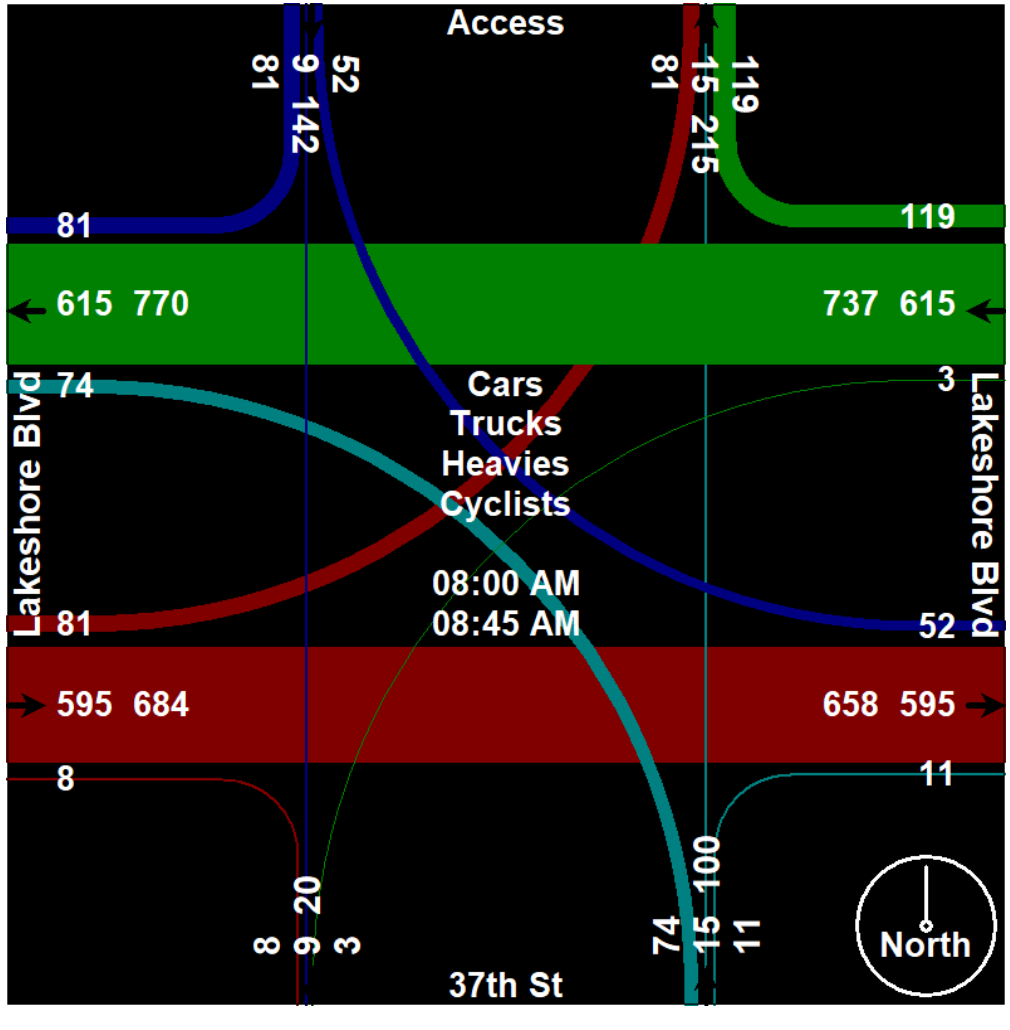
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

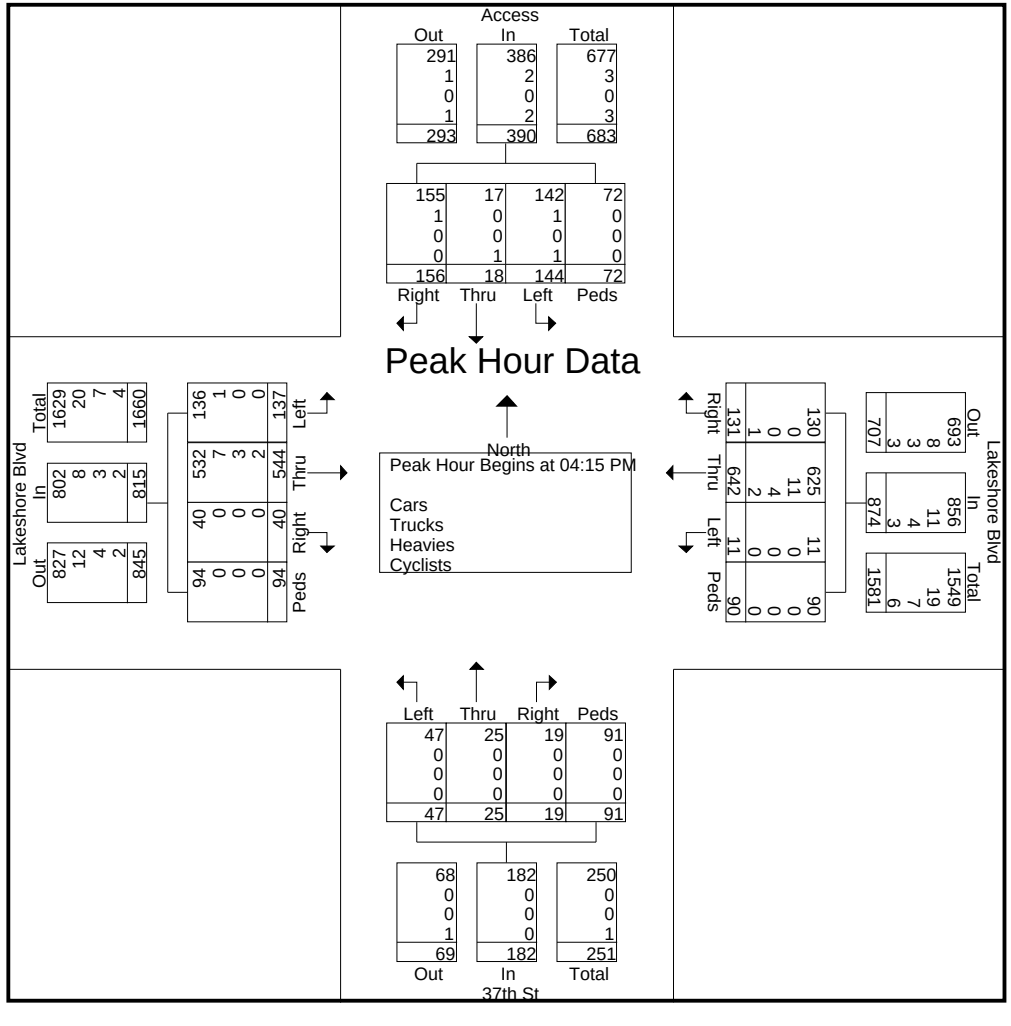
	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	**47**	**5**	**41**	18	**111**	29	156	**4**	19	208	5	**10**	10	12	37	10	135	**40**	11	196	552
04:30 PM	34	5	37	15	91	33	**186**	1	7	227	**7**	4	11	18	40	**14**	135	37	28	**214**	**572**
04:45 PM	38	4	33	19	94	31	163	2	**36**	**232**	6	2	8	30	46	7	**137**	25	25	194	566
05:00 PM	37	4	33	**20**	94	**38**	137	4	28	207	1	9	**18**	**31**	**59**	9	137	35	**30**	211	571
Total Volume	156	18	144	72	390	131	642	11	90	874	19	25	47	91	182	40	544	137	94	815	2261
% App. Total	40	4.6	36.9	18.5		15	73.5	1.3	10.3		10.4	13.7	25.8	50		4.9	66.7	16.8	11.5		
PHF	.830	.900	.878	.900	.878	.862	.863	.688	.625	.942	.679	.625	.653	.734	.771	.714	.993	.856	.783	.952	.988
Cars	155	17	142	72	386	130	625	11	90	856	19	25	47	91	182	40	532	136	94	802	2226
% Cars	99.4	94.4	98.6	100	99.0	99.2	97.4	100	100	97.9	100	100	100	100	100	100	97.8	99.3	100	98.4	98.5
Trucks	1	0	1	0	2	0	11	0	0	11	0	0	0	0	0	0	7	1	0	8	21
% Trucks	0.6	0	0.7	0	0.5	0	1.7	0	0	1.3	0	0	0	0	0	0	1.3	0.7	0	1.0	0.9
Heavies	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
% Heavies	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0.6	0	0	0.4	0.3
Cyclists	0	1	1	0	2	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	7
% Cyclists	0	5.6	0.7	0	0.5	0.8	0.3	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.2	0.3

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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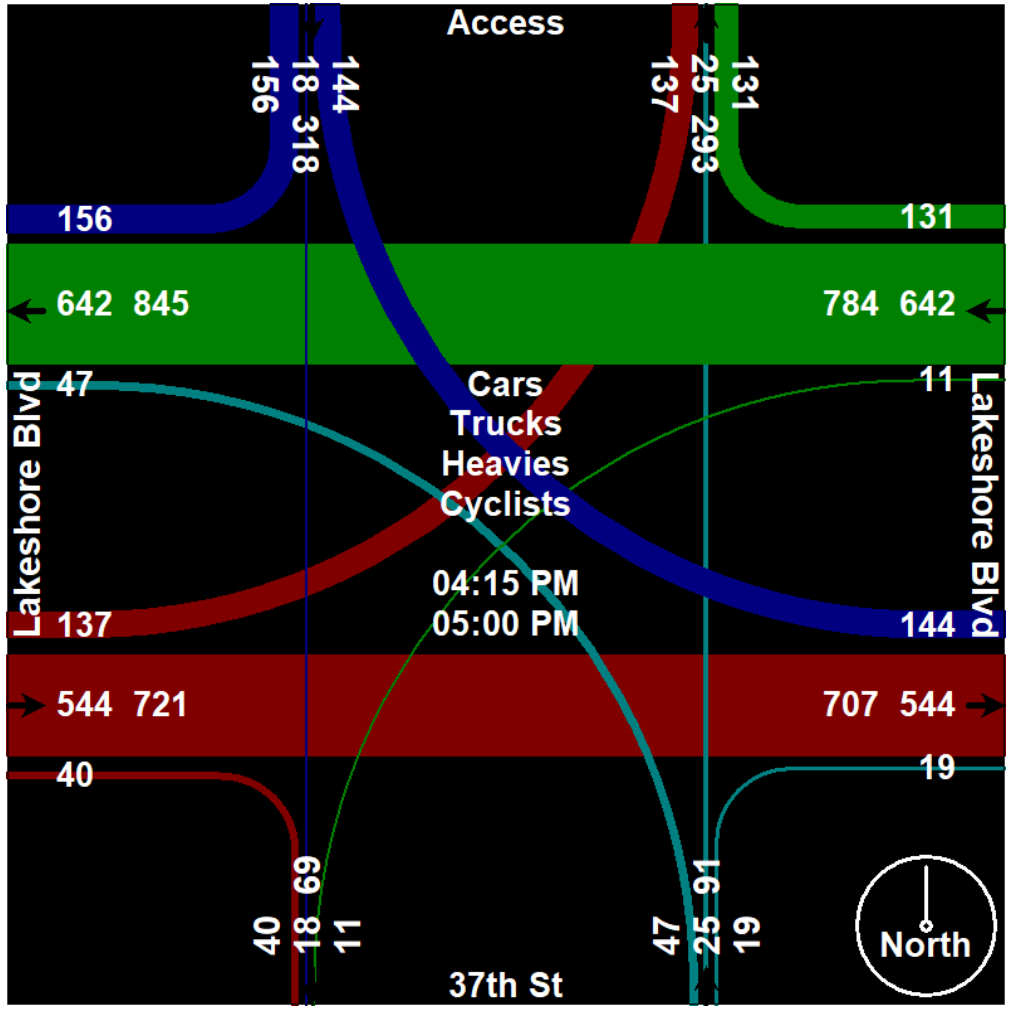
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Seventh Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	From North					Lakeshore Blvd From East					33rd St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	62	2	0	64	8	0	4	4	16	0	84	0	0	84	164
07:15 AM	0	0	0	0	0	0	83	4	0	87	7	0	1	3	11	5	92	0	0	97	195
07:30 AM	0	0	0	0	0	0	121	6	0	127	10	0	2	6	18	2	135	0	0	137	282
07:45 AM	0	0	0	0	0	0	139	6	0	145	12	0	2	14	28	1	149	0	0	150	323
Total	0	0	0	0	0	0	405	18	0	423	37	0	9	27	73	8	460	0	0	468	964
08:00 AM	0	0	0	0	0	0	146	5	0	151	20	0	1	10	31	8	164	0	0	172	354
08:15 AM	0	0	0	0	0	0	162	8	1	171	21	0	5	22	48	4	195	0	0	199	418
08:30 AM	0	0	0	0	0	0	152	6	0	158	7	0	2	11	20	2	122	0	0	124	302
08:45 AM	0	0	0	0	0	0	159	5	0	164	14	0	3	13	30	6	170	0	0	176	370
Total	0	0	0	0	0	0	619	24	1	644	62	0	11	56	129	20	651	0	0	671	1444
04:00 PM	0	0	0	0	0	0	182	14	0	196	5	0	1	7	13	6	143	0	0	149	358
04:15 PM	0	0	0	0	0	0	176	9	0	185	6	0	1	24	31	4	143	0	0	147	363
04:30 PM	0	0	0	0	0	0	173	10	0	183	7	0	1	14	22	6	161	0	0	167	372
04:45 PM	0	0	0	0	0	0	181	17	0	198	6	0	4	17	27	6	155	0	0	161	386
Total	0	0	0	0	0	0	712	50	0	762	24	0	7	62	93	22	602	0	0	624	1479
05:00 PM	0	0	0	0	0	0	154	17	1	172	12	0	1	19	32	12	168	0	0	180	384
05:15 PM	0	0	0	0	0	0	133	15	1	149	8	0	1	10	19	4	145	0	0	149	317
05:30 PM	0	0	0	0	0	0	159	17	1	177	9	0	2	12	23	13	165	0	0	178	378
05:45 PM	0	0	0	0	0	0	146	11	0	157	9	0	2	18	29	5	168	0	0	173	359
Total	0	0	0	0	0	0	592	60	3	655	38	0	6	59	103	34	646	0	0	680	1438
06:00 PM	0	0	0	0	0	0	158	21	0	179	7	0	2	11	20	9	132	0	0	141	340
06:15 PM	0	0	0	0	0	0	139	15	1	155	5	0	1	22	28	6	153	0	3	162	345
06:30 PM	0	0	0	0	0	0	124	11	1	136	10	0	2	20	32	7	166	0	1	174	342
06:45 PM	0	0	0	0	0	0	136	10	1	147	10	0	1	13	24	5	153	0	0	158	329
Total	0	0	0	0	0	0	557	57	3	617	32	0	6	66	104	27	604	0	4	635	1356
Grand Total	0	0	0	0	0	0	2885	209	7	3101	193	0	39	270	502	111	2963	0	4	3078	6681
Apprch %	0	0	0	0		0	93	6.7	0.2		38.4	0	7.8	53.8		3.6	96.3	0	0.1		
Total %	0	0	0	0	0	0	43.2	3.1	0.1	46.4	2.9	0	0.6	4	7.5	1.7	44.3	0	0.1	46.1	
Cars	0	0	0	0	0	0	2815	204	7	3026	184	0	37	270	491	105	2884	0	4	2993	6510
% Cars	0	0	0	0	0	0	97.6	97.6	100	97.6	95.3	0	94.9	100	97.8	94.6	97.3	0	100	97.2	97.4
Trucks	0	0	0	0	0	0	33	4	0	37	2	0	2	0	4	2	29	0	0	31	72
% Trucks	0	0	0	0	0	0	1.1	1.9	0	1.2	1	0	5.1	0	0.8	1.8	1	0	0	1	1.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	From North					Lakeshore Blvd From East					33rd St From South					Lakeshore Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	0	0	0	0	0	0	35	1	0	36	3	0	0	0	3	3	33	0	0	36	75
% Heavies	0	0	0	0	0	0	1.2	0.5	0	1.2	1.6	0	0	0	0.6	2.7	1.1	0	0	1.2	1.1
Cyclists	0	0	0	0	0	0	2	0	0	2	4	0	0	0	4	1	17	0	0	18	24
% Cyclists	0	0	0	0	0	0	0.1	0	0	0.1	2.1	0	0	0	0.8	0.9	0.6	0	0	0.6	0.4

Horizon Data Services Ltd

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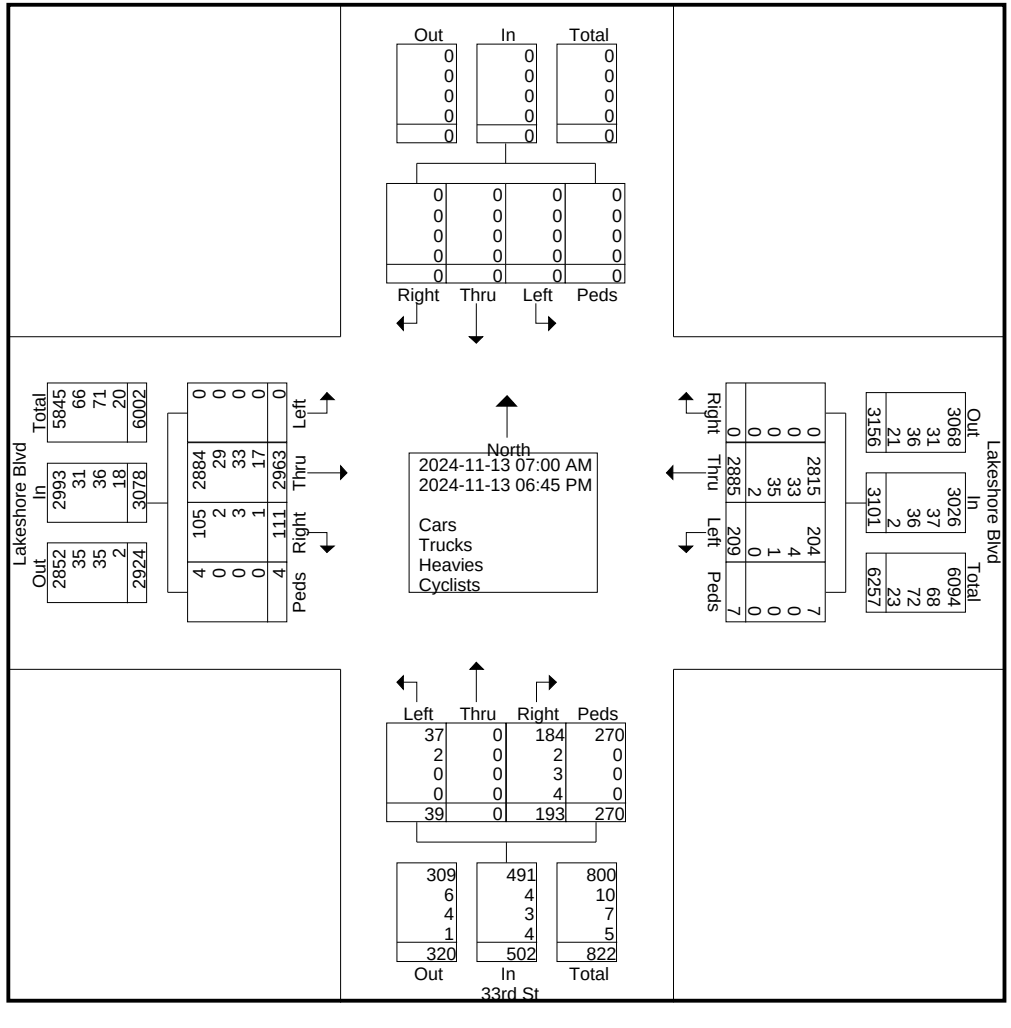
Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13

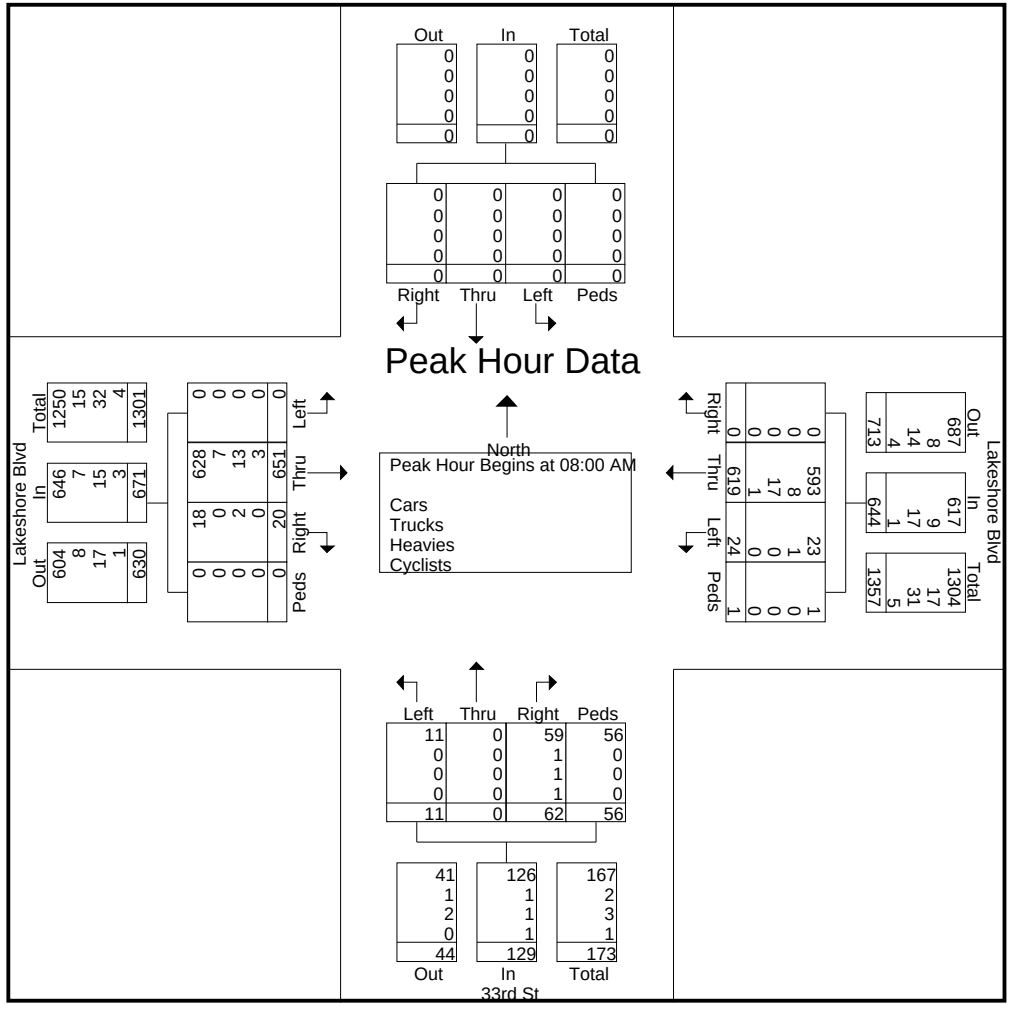
	From North					Lakeshore Blvd From East					33rd St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	146	5	0	151	20	0	1	10	31	**8**	164	0	0	172	354
08:15 AM	0	0	0	0	0	0	**162**	**8**	**1**	**171**	**21**	0	**5**	**22**	**48**	4	**195**	0	0	**199**	**418**
08:30 AM	0	0	0	0	0	0	152	6	0	158	7	0	2	11	20	2	122	0	0	124	302
08:45 AM	0	0	0	0	0	0	159	5	0	164	14	0	3	13	30	6	170	0	0	176	370
Total Volume	0	0	0	0	0	0	619	24	1	644	62	0	11	56	129	20	651	0	0	671	1444
% App. Total	0	0	0	0		0	96.1	3.7	0.2		48.1	0	8.5	43.4		3	97	0	0		
PHF	.000	.000	.000	.000	.000	.000	.955	.750	.250	.942	.738	.000	.550	.636	.672	.625	.835	.000	.000	.843	.864
Cars	0	0	0	0	0	0	593	23	1	617	59	0	11	56	126	18	628	0	0	646	1389
% Cars	0	0	0	0	0	0	95.8	95.8	100	95.8	95.2	0	100	100	97.7	90.0	96.5	0	0	96.3	96.2
Trucks	0	0	0	0	0	0	8	1	0	9	1	0	0	0	1	0	7	0	0	7	17
% Trucks	0	0	0	0	0	0	1.3	4.2	0	1.4	1.6	0	0	0	0.8	0	1.1	0	0	1.0	1.2
Heavies	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	2	13	0	0	15	33
% Heavies	0	0	0	0	0	0	2.7	0	0	2.6	1.6	0	0	0	0.8	10.0	2.0	0	0	2.2	2.3
Cyclists	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	3	0	0	3	5
% Cyclists	0	0	0	0	0	0	0.2	0	0	0.2	1.6	0	0	0	0.8	0	0.5	0	0	0.4	0.3

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5

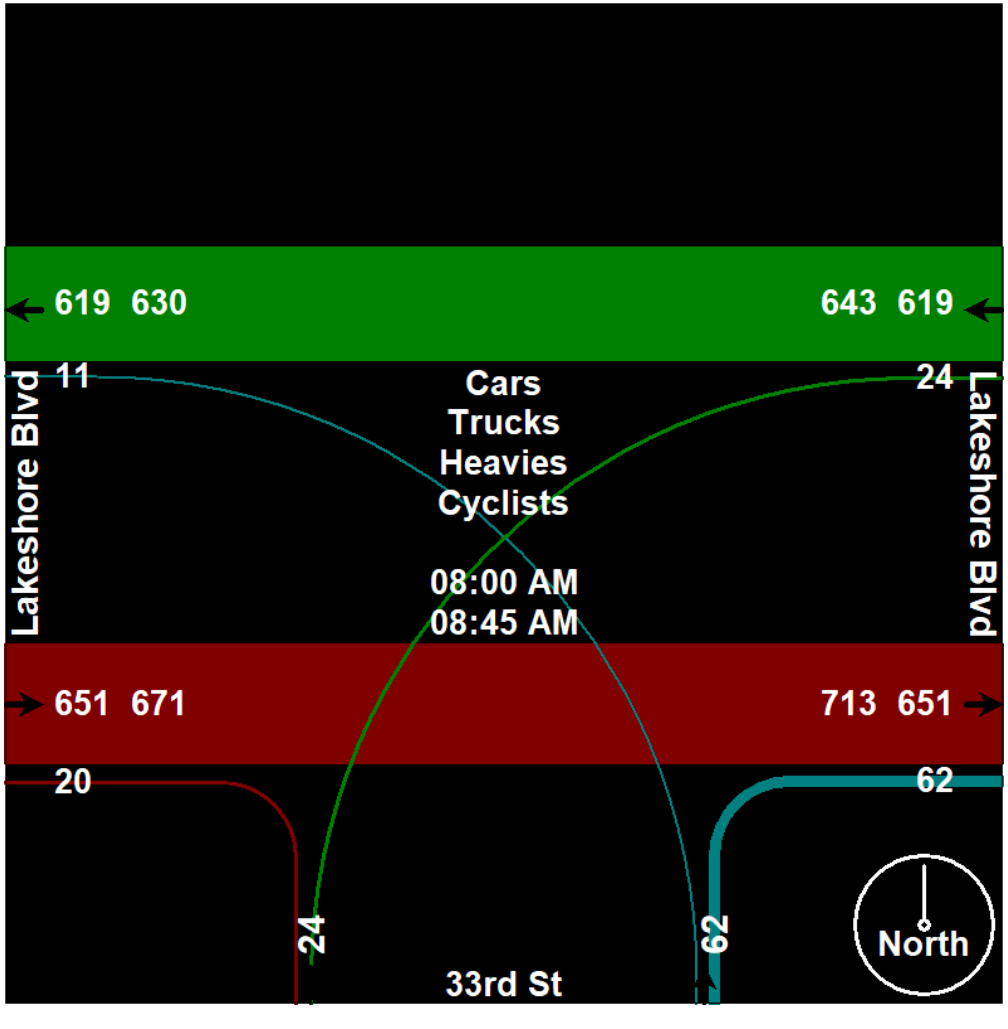


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13

	From North					Lakeshore Blvd From East					33rd St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	176	9	0	185	6	0	1	**24**	31	4	143	0	0	147	363
04:30 PM	0	0	0	0	0	0	173	10	0	183	7	0	1	14	22	6	161	0	0	167	372
04:45 PM	0	0	0	0	0	0	**181**	**17**	0	**198**	6	0	**4**	17	27	6	155	0	0	161	**386**
05:00 PM	0	0	0	0	0	0	154	17	**1**	172	**12**	0	1	19	**32**	**12**	**168**	0	0	**180**	384
Total Volume	0	0	0	0	0	0	684	53	1	738	31	0	7	74	112	28	627	0	0	655	1505
% App. Total	0	0	0	0		0	92.7	7.2	0.1		27.7	0	6.2	66.1		4.3	95.7	0	0		
PHF	.000	.000	.000	.000	.000	.000	.945	.779	.250	.932	.646	.000	.438	.771	.875	.583	.933	.000	.000	.910	.975
Cars	0	0	0	0	0	0	671	50	1	722	31	0	6	74	111	27	606	0	0	633	1466
% Cars	0	0	0	0	0	0	98.1	94.3	100	97.8	100	0	85.7	100	99.1	96.4	96.7	0	0	96.6	97.4
Trucks	0	0	0	0	0	0	7	2	0	9	0	0	1	0	1	0	9	0	0	9	19
% Trucks	0	0	0	0	0	0	1.0	3.8	0	1.2	0	0	14.3	0	0.9	0	1.4	0	0	1.4	1.3
Heavies	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	5	0	0	5	11
% Heavies	0	0	0	0	0	0	0.7	1.9	0	0.8	0	0	0	0	0	0	0.8	0	0	0.8	0.7
Cyclists	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	7	0	0	8	9
% Cyclists	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	3.6	1.1	0	0	1.2	0.6

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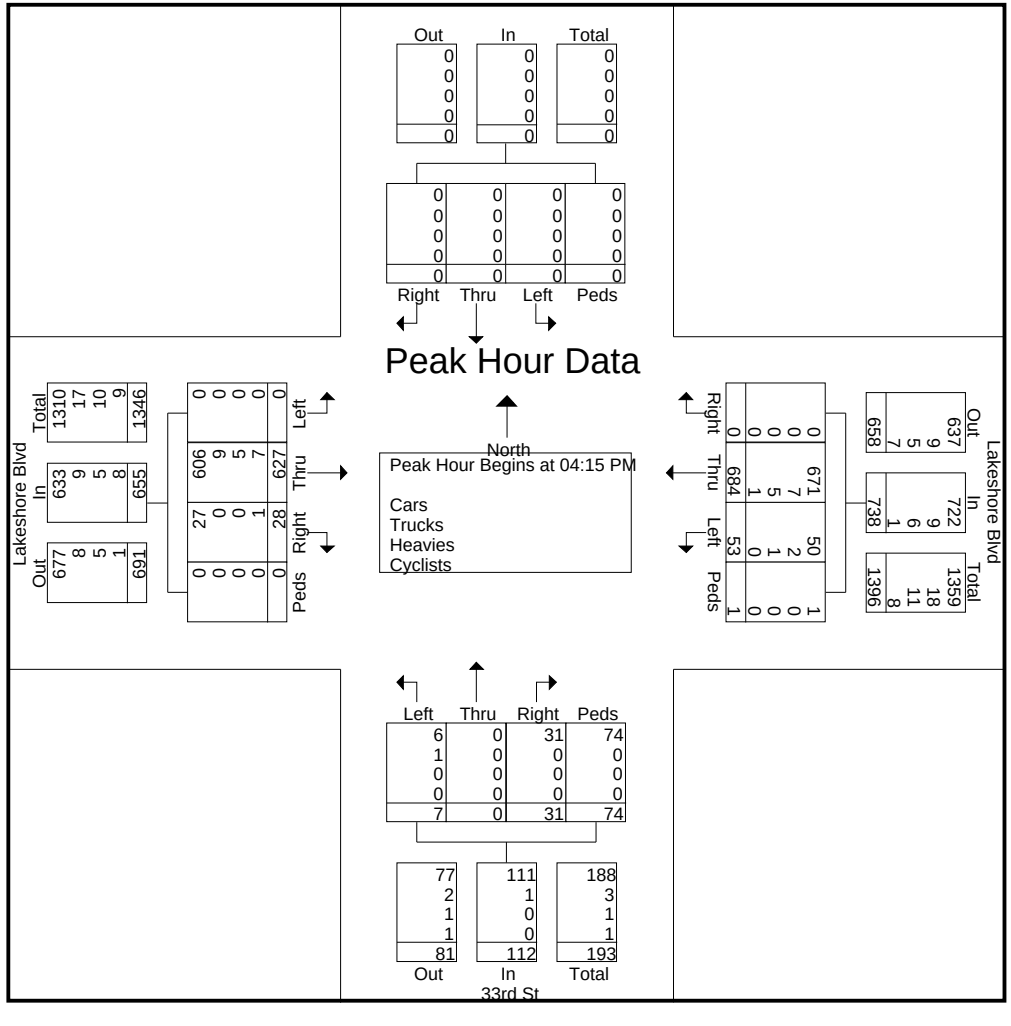
(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8

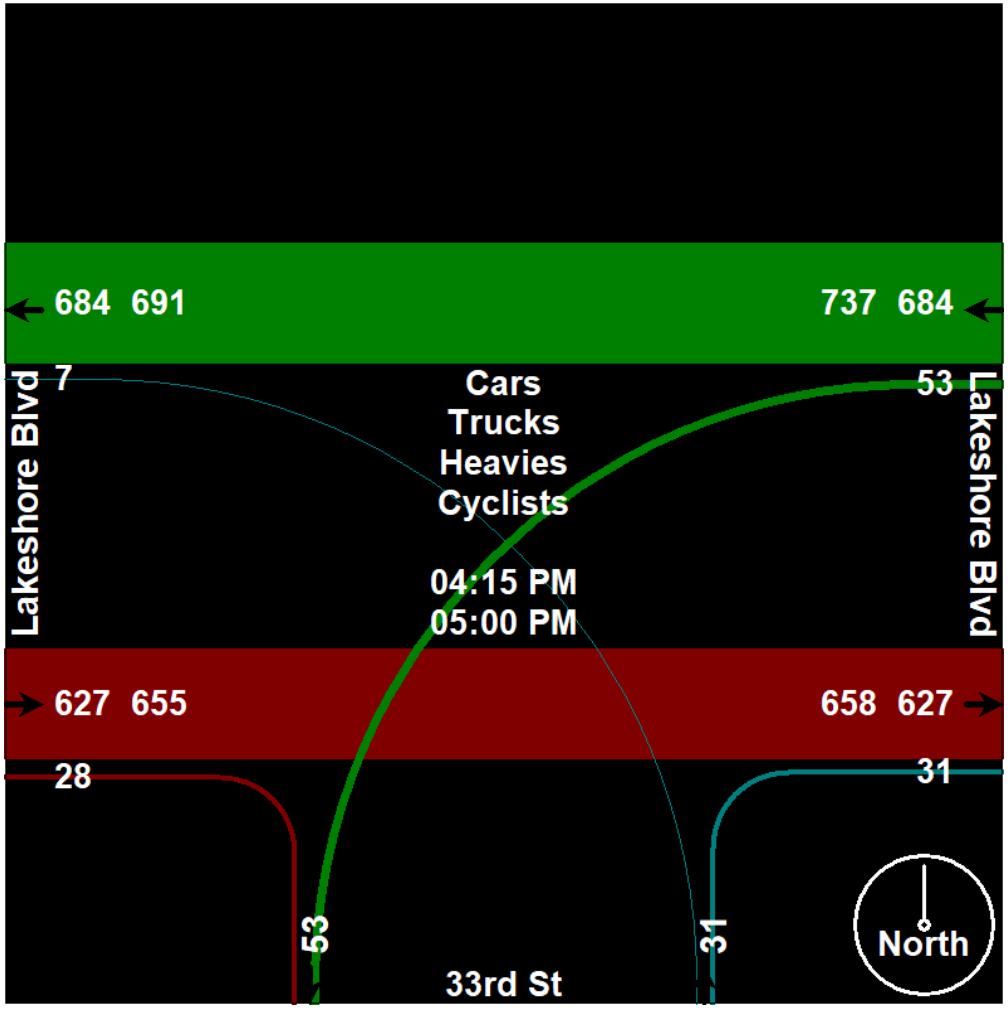


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lakeshore Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch Ave From North					Marina Ave From East					Long Branch Ave From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	2	0	2	4	2	0	0	2	4	0	19	0	0	19	0	0	1	4	5	32
07:15 AM	1	4	1	1	7	2	0	1	6	9	1	30	1	0	32	1	1	0	10	12	60
07:30 AM	0	4	0	2	6	10	2	0	5	17	1	14	0	0	15	0	3	3	6	12	50
07:45 AM	1	2	0	1	4	3	2	1	5	11	2	29	0	2	33	0	3	1	11	15	63
Total	2	12	1	6	21	17	4	2	18	41	4	92	1	2	99	1	7	5	31	44	205
08:00 AM	0	4	0	8	12	5	2	0	6	13	1	27	0	9	37	0	3	3	8	14	76
08:15 AM	1	8	0	5	14	4	7	1	8	20	5	33	0	10	48	0	10	0	6	16	98
08:30 AM	0	9	1	7	17	3	3	1	10	17	0	25	1	5	31	2	3	1	6	12	77
08:45 AM	0	3	1	3	7	3	6	0	4	13	1	16	0	2	19	1	1	0	2	4	43
Total	1	24	2	23	50	15	18	2	28	63	7	101	1	26	135	3	17	4	22	46	294
04:00 PM	2	8	2	3	15	2	2	1	9	14	2	17	1	3	23	1	2	1	6	10	62
04:15 PM	2	8	1	1	12	1	3	0	3	7	0	14	0	0	14	0	0	0	4	4	37
04:30 PM	0	9	4	2	15	3	7	0	3	13	1	21	1	2	25	1	3	2	9	15	68
04:45 PM	0	9	1	2	12	4	2	3	7	16	1	18	0	2	21	1	2	6	9	18	67
Total	4	34	8	8	54	10	14	4	22	50	4	70	2	7	83	3	7	9	28	47	234
05:00 PM	5	10	2	4	21	6	7	2	6	21	2	15	1	2	20	0	2	6	7	15	77
05:15 PM	4	10	2	2	18	3	8	2	13	26	0	19	0	5	24	0	2	2	12	16	84
05:30 PM	2	21	0	1	24	5	3	0	9	17	0	21	0	2	23	0	6	1	5	12	76
05:45 PM	1	7	0	1	9	4	4	0	5	13	1	18	3	2	24	1	0	0	1	2	48
Total	12	48	4	8	72	18	22	4	33	77	3	73	4	11	91	1	10	9	25	45	285
06:00 PM	4	12	1	0	17	6	3	0	6	15	0	20	0	3	23	3	1	0	9	13	68
06:15 PM	1	11	1	0	13	2	2	1	3	8	1	14	0	3	18	2	1	4	6	13	52
06:30 PM	1	14	2	3	20	4	2	2	8	16	1	16	1	1	19	2	1	0	1	4	59
06:45 PM	2	4	1	4	11	4	0	3	8	15	0	12	1	1	14	0	2	1	6	9	49
Total	8	41	5	7	61	16	7	6	25	54	2	62	2	8	74	7	5	5	22	39	228
Grand Total	27	159	20	52	258	76	65	18	126	285	20	398	10	54	482	15	46	32	128	221	1246
Apprch %	10.5	61.6	7.8	20.2		26.7	22.8	6.3	44.2		4.1	82.6	2.1	11.2		6.8	20.8	14.5	57.9		
Total %	2.2	12.8	1.6	4.2	20.7	6.1	5.2	1.4	10.1	22.9	1.6	31.9	0.8	4.3	38.7	1.2	3.7	2.6	10.3	17.7	
Cars	26	150	20	52	248	75	63	18	126	282	19	388	7	54	468	15	45	32	128	220	1218
% Cars	96.3	94.3	100	100	96.1	98.7	96.9	100	100	98.9	95	97.5	70	100	97.1	100	97.8	100	100	99.5	97.8
Trucks	0	4	0	0	4	1	0	0	0	1	0	7	1	0	8	0	1	0	0	1	14
% Trucks	0	2.5	0	0	1.6	1.3	0	0	0	0.4	0	1.8	10	0	1.7	0	2.2	0	0	0.5	1.1

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

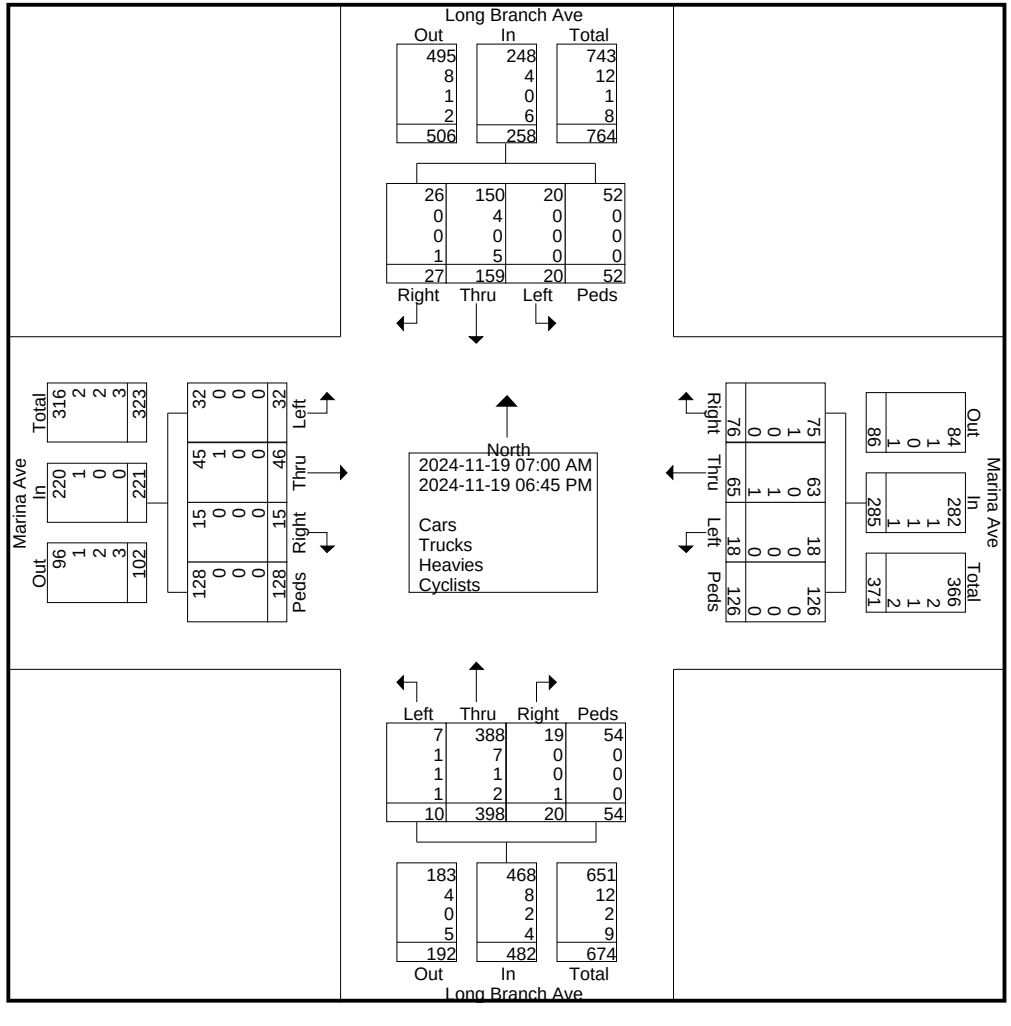
	Long Branch Ave From North					Marina Ave From East					Long Branch Ave From South					Marina Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	0	0	0	0	0	3
% Heavies	0	0	0	0	0	0	1.5	0	0	0.4	0	0.3	10	0	0.4	0	0	0	0	0	0.2
Cyclists	1	5	0	0	6	0	1	0	0	1	1	2	1	0	4	0	0	0	0	0	11
% Cyclists	3.7	3.1	0	0	2.3	0	1.5	0	0	0.4	5	0.5	10	0	0.8	0	0	0	0	0	0.9

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 3



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19

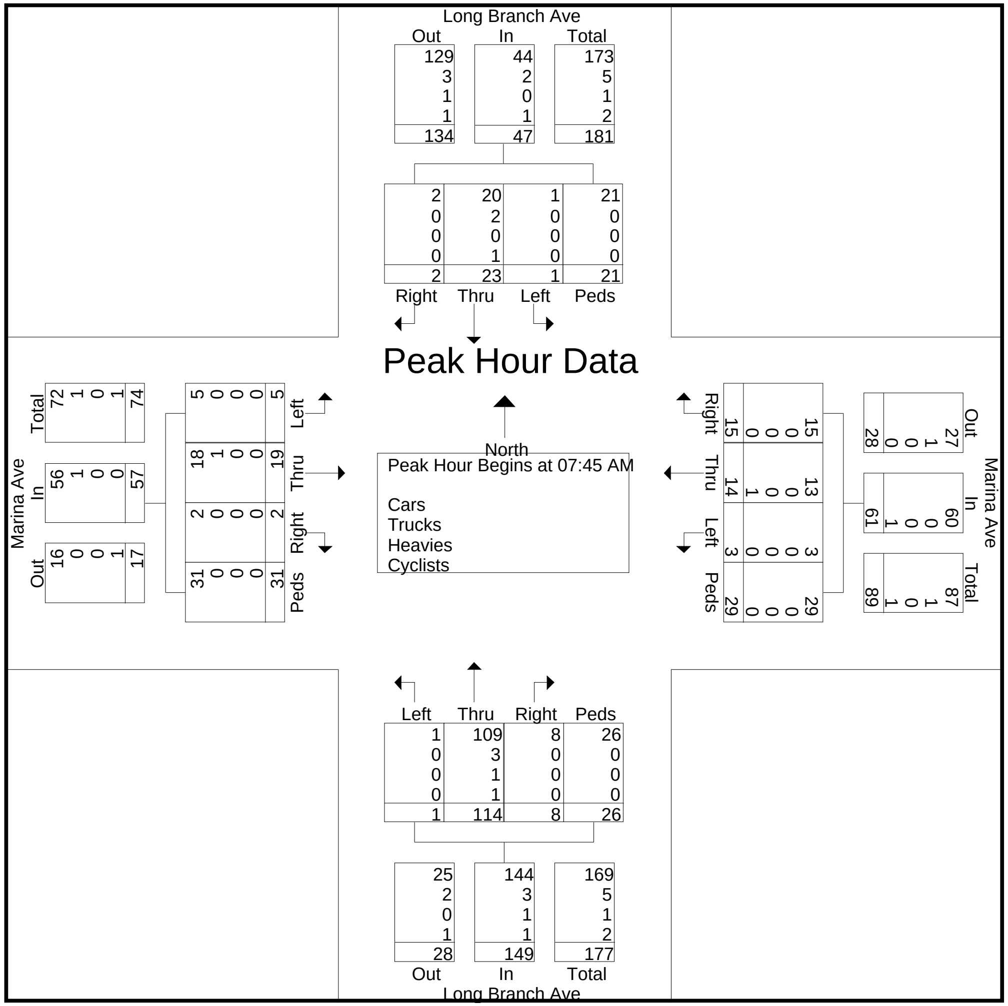
	Long Branch Ave From North					Marina Ave From East					Long Branch Ave From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**1**	2	0	1	4	3	2	**1**	5	11	2	29	0	2	33	0	3	1	**11**	15	63
08:00 AM	0	4	0	**8**	12	**5**	2	0	6	13	1	27	0	9	37	0	3	**3**	8	14	76
08:15 AM	1	8	0	5	14	4	**7**	1	8	**20**	**5**	**33**	0	**10**	**48**	0	**10**	0	6	**16**	**98**
08:30 AM	0	**9**	**1**	7	**17**	3	3	1	**10**	17	0	25	**1**	5	31	**2**	3	1	6	12	77
Total Volume	2	23	1	21	47	15	14	3	29	61	8	114	1	26	149	2	19	5	31	57	314
% App. Total	4.3	48.9	2.1	44.7		24.6	23	4.9	47.5		5.4	76.5	0.7	17.4		3.5	33.3	8.8	54.4		
PHF	.500	.639	.250	.656	.691	.750	.500	.750	.725	.763	.400	.864	.250	.650	.776	.250	.475	.417	.705	.891	.801
Cars	2	20	1	21	44	15	13	3	29	60	8	109	1	26	144	2	18	5	31	56	304
% Cars	100	87.0	100	100	93.6	100	92.9	100	100	98.4	100	95.6	100	100	96.6	100	94.7	100	100	98.2	96.8
Trucks	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	6
% Trucks	0	8.7	0	0	4.3	0	0	0	0	0	0	2.6	0	0	2.0	0	5.3	0	0	1.8	1.9
Heavies	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0.7	0	0	0	0	0	0.3
Cyclists	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	3
% Cyclists	0	4.3	0	0	2.1	0	7.1	0	0	1.6	0	0.9	0	0	0.7	0	0	0	0	0	1.0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 5



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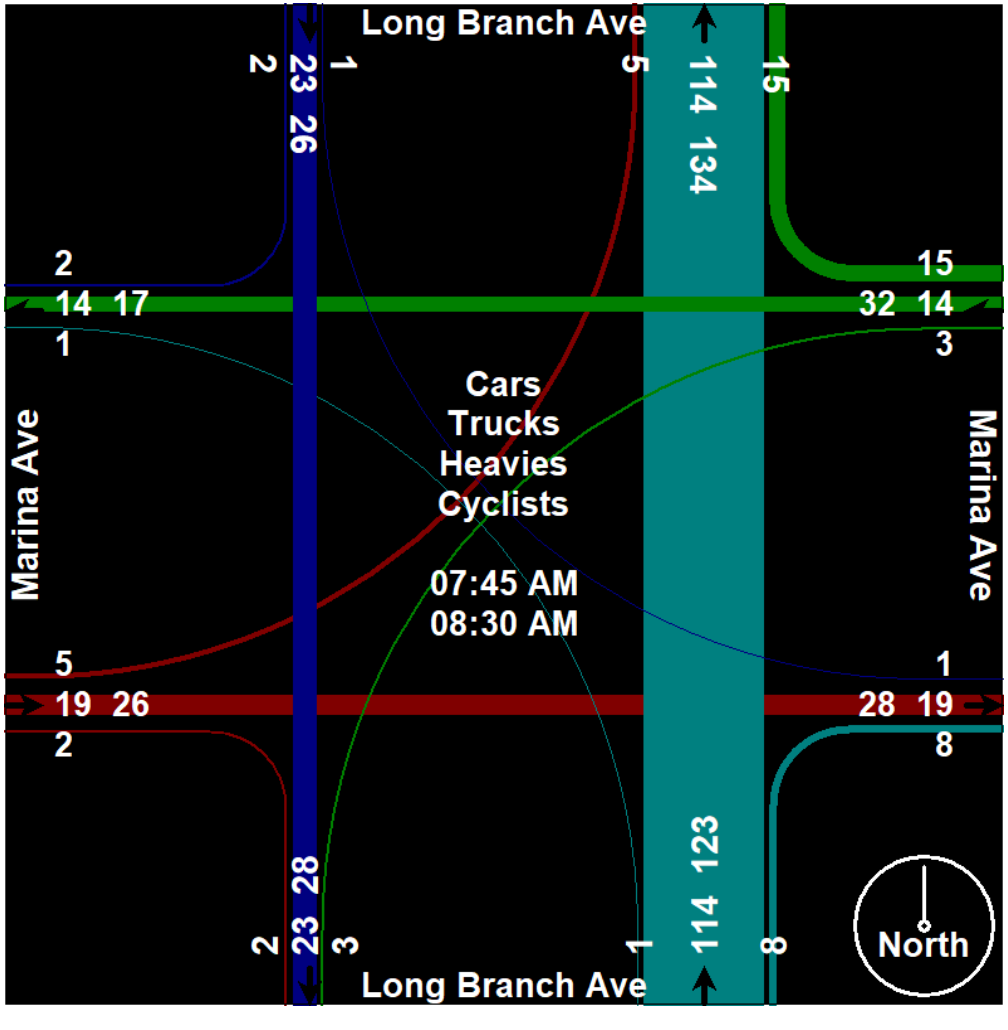
(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 6



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19

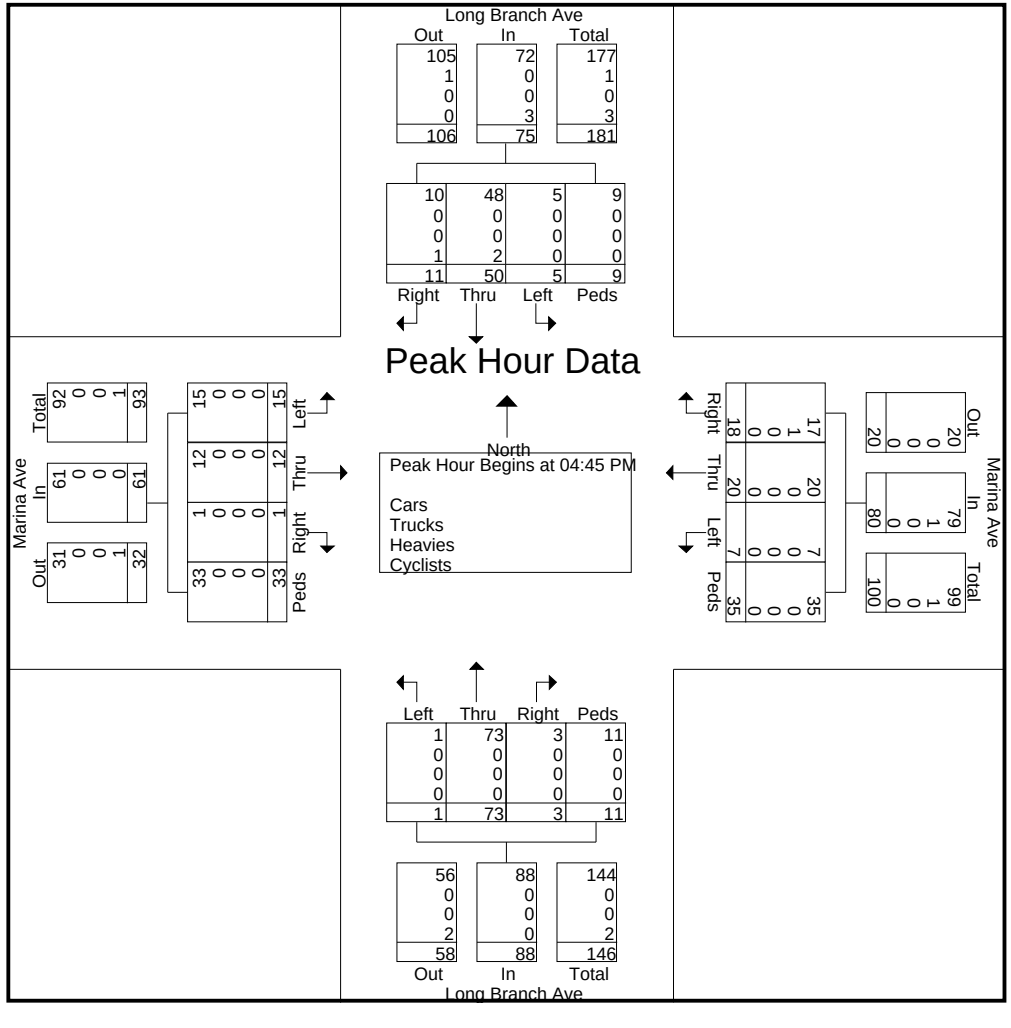
	Long Branch Ave From North					Marina Ave From East					Long Branch Ave From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	9	1	2	12	4	2	**3**	7	16	1	18	0	2	21	**1**	2	**6**	9	**18**	67
05:00 PM	**5**	10	**2**	**4**	21	**6**	7	2	6	21	**2**	15	**1**	2	20	0	2	6	7	15	77
05:15 PM	4	10	2	2	18	3	**8**	2	**13**	**26**	0	19	0	**5**	**24**	0	2	2	**12**	16	**84**
05:30 PM	2	**21**	0	1	**24**	5	3	0	9	17	0	**21**	0	2	23	0	**6**	1	5	12	76
Total Volume	11	50	5	9	75	18	20	7	35	80	3	73	1	11	88	1	12	15	33	61	304
% App. Total	14.7	66.7	6.7	12		22.5	25	8.8	43.8		3.4	83	1.1	12.5		1.6	19.7	24.6	54.1		
PHF	.550	.595	.625	.563	.781	.750	.625	.583	.673	.769	.375	.869	.250	.550	.917	.250	.500	.625	.688	.847	.905
Cars	10	48	5	9	72	17	20	7	35	79	3	73	1	11	88	1	12	15	33	61	300
% Cars	90.9	96.0	100	100	96.0	94.4	100	100	100	98.8	100	100	100	100	100	100	100	100	100	100	98.7
Trucks	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	5.6	0	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0.3
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% Cyclists	9.1	4.0	0	0	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 8

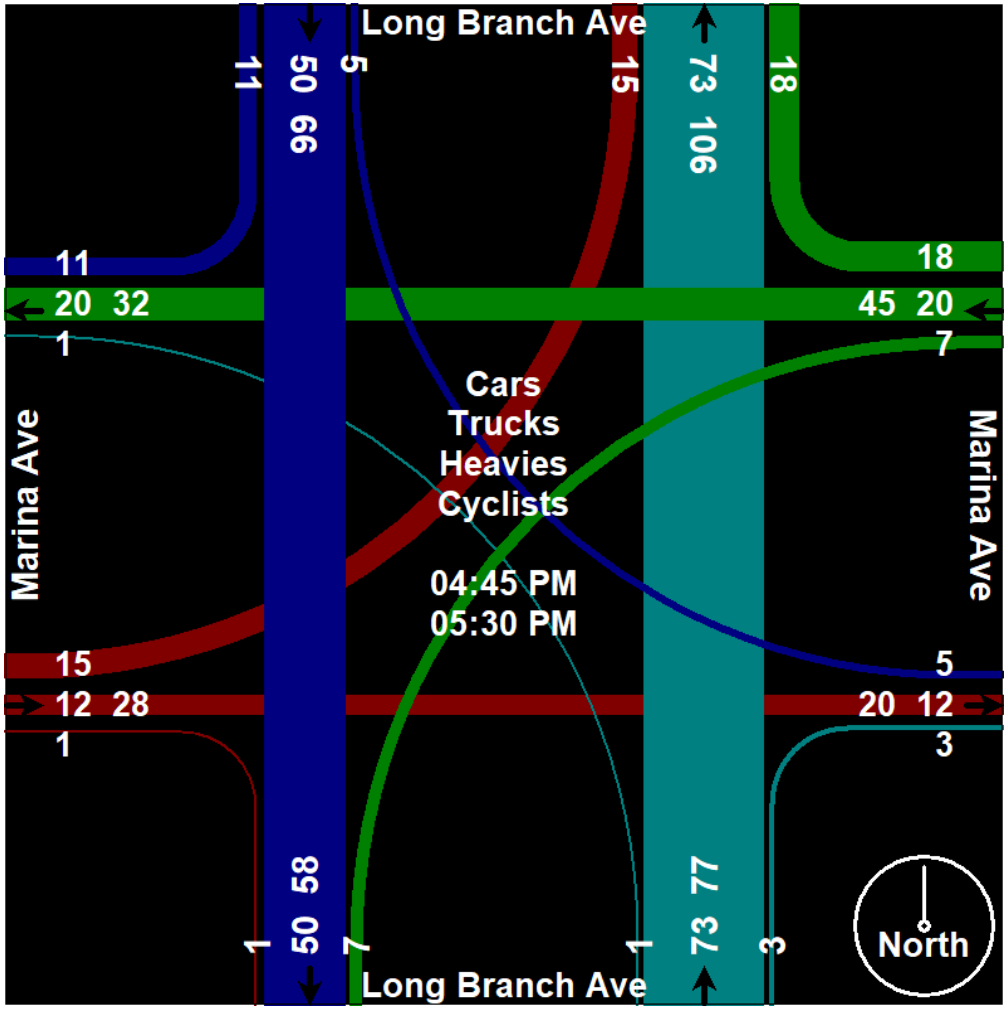


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Long Branch Avenue at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-19
Page No : 9



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch Ave From North					Park Blvd From East					Long Branch Ave From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	3	2	6	5	2	1	3	11	0	10	0	1	11	0	1	0	2	3	31
07:15 AM	1	1	0	0	2	4	5	0	2	11	0	5	0	1	6	0	4	1	1	6	25
07:30 AM	1	1	1	3	6	3	6	0	6	15	1	9	0	2	12	0	4	0	3	7	40
07:45 AM	1	2	2	1	6	11	8	2	2	23	0	9	1	2	12	0	3	0	6	9	50
Total	3	5	6	6	20	23	21	3	13	60	1	33	1	6	41	0	12	1	12	25	146
08:00 AM	1	4	2	0	7	9	4	1	1	15	5	13	1	3	22	1	5	0	3	9	53
08:15 AM	0	1	3	5	9	11	19	3	7	40	2	8	0	2	12	0	8	2	2	12	73
08:30 AM	1	9	3	0	13	9	9	0	4	22	1	11	1	5	18	0	2	2	2	6	59
08:45 AM	2	1	2	0	5	7	9	1	3	20	0	6	0	0	6	2	3	1	2	8	39
Total	4	15	10	5	34	36	41	5	15	97	8	38	2	10	58	3	18	5	9	35	224
04:00 PM	3	6	5	3	17	10	8	0	6	24	0	10	0	1	11	1	2	1	5	9	61
04:15 PM	0	5	1	2	8	11	12	0	14	37	0	3	0	3	6	1	5	0	1	7	58
04:30 PM	2	4	1	3	10	8	4	0	2	14	3	12	1	4	20	0	4	1	0	5	49
04:45 PM	1	1	4	4	10	4	9	2	8	23	0	11	0	1	12	3	7	1	4	15	60
Total	6	16	11	12	45	33	33	2	30	98	3	36	1	9	49	5	18	3	10	36	228
05:00 PM	0	7	4	0	11	12	13	2	2	29	2	4	0	4	10	0	7	0	1	8	58
05:15 PM	0	6	2	6	14	7	3	1	6	17	2	8	1	1	12	0	3	0	3	6	49
05:30 PM	0	7	4	1	12	7	8	2	13	30	1	10	0	2	13	1	6	1	3	11	66
05:45 PM	0	4	1	1	6	8	7	0	4	19	1	7	0	5	13	2	8	2	2	14	52
Total	0	24	11	8	43	34	31	5	25	95	6	29	1	12	48	3	24	3	9	39	225
06:00 PM	2	6	1	0	9	9	9	4	3	25	0	8	0	2	10	2	10	0	2	14	58
06:15 PM	0	2	1	0	3	2	6	3	2	13	0	9	0	0	9	2	9	1	0	12	37
06:30 PM	0	4	1	1	6	3	5	1	6	15	2	6	0	1	9	1	6	0	5	12	42
06:45 PM	0	4	5	3	12	6	7	0	7	20	0	8	0	4	12	1	9	0	0	10	54
Total	2	16	8	4	30	20	27	8	18	73	2	31	0	7	40	6	34	1	7	48	191
Grand Total	15	76	46	35	172	146	153	23	101	423	20	167	5	44	236	17	106	13	47	183	1014
Apprch %	8.7	44.2	26.7	20.3		34.5	36.2	5.4	23.9		8.5	70.8	2.1	18.6		9.3	57.9	7.1	25.7		
Total %	1.5	7.5	4.5	3.5	17	14.4	15.1	2.3	10	41.7	2	16.5	0.5	4.3	23.3	1.7	10.5	1.3	4.6	18	
Cars	14	71	45	35	165	141	145	21	101	408	12	164	5	44	225	17	100	12	47	176	974
% Cars	93.3	93.4	97.8	100	95.9	96.6	94.8	91.3	100	96.5	60	98.2	100	100	95.3	100	94.3	92.3	100	96.2	96.1
Trucks	1	1	0	0	2	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0	6
% Trucks	6.7	1.3	0	0	1.2	0.7	0.7	0	0	0.5	0	1.2	0	0	0.8	0	0	0	0	0	0.6

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Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch Ave From North					Park Blvd From East					Long Branch Ave From South					Park Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	0	2	0	0	2	3	3	0	0	6	3	0	0	0	3	0	1	0	0	1	12
% Heavies	0	2.6	0	0	1.2	2.1	2	0	0	1.4	15	0	0	0	1.3	0	0.9	0	0	0.5	1.2
Cyclists	0	2	1	0	3	1	4	2	0	7	5	1	0	0	6	0	5	1	0	6	22
% Cyclists	0	2.6	2.2	0	1.7	0.7	2.6	8.7	0	1.7	25	0.6	0	0	2.5	0	4.7	7.7	0	3.3	2.2

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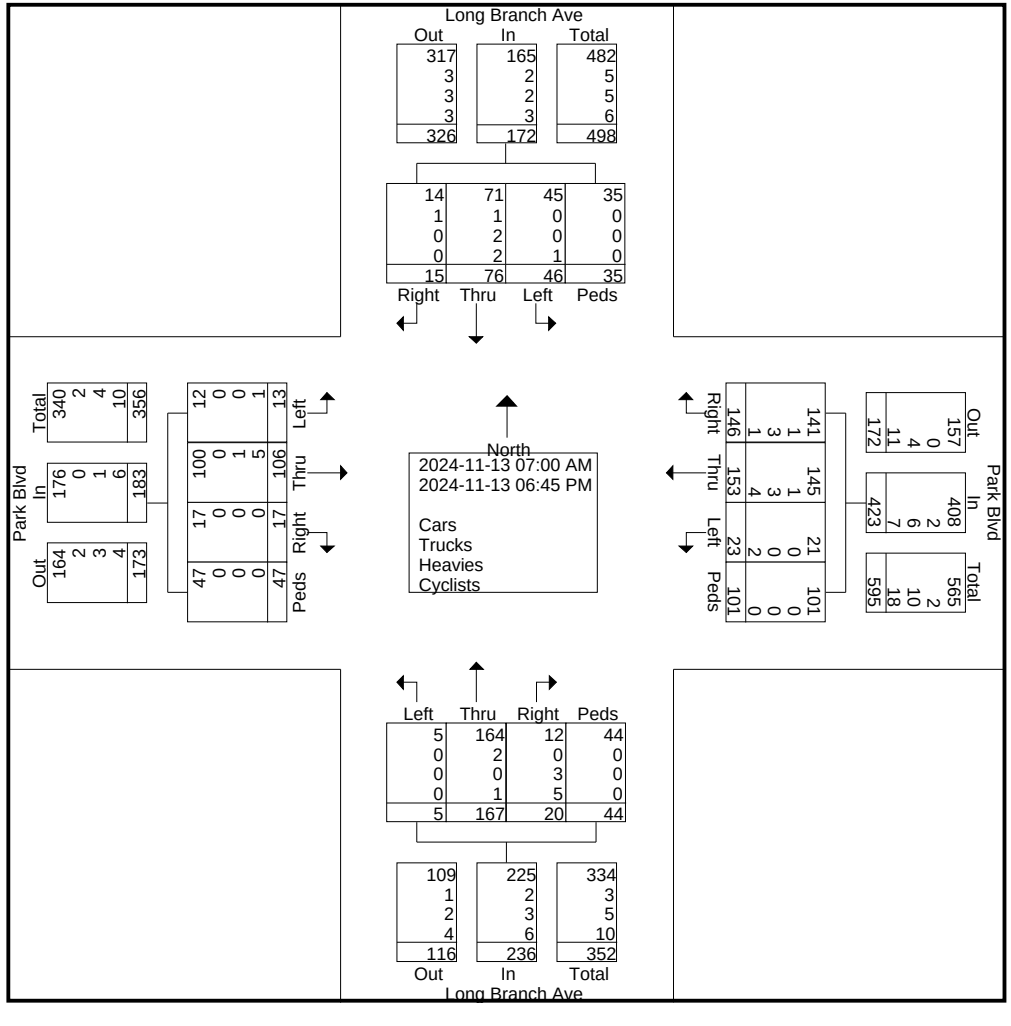
Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	Long Branch Ave From North					Park Blvd From East					Long Branch Ave From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**1**	2	2	1	6	**11**	8	2	2	23	0	9	**1**	2	12	0	3	0	**6**	9	50
08:00 AM	1	4	2	0	7	9	4	1	1	15	**5**	**13**	1	3	**22**	**1**	5	0	3	9	53
08:15 AM	0	1	**3**	**5**	9	11	**19**	**3**	**7**	**40**	2	8	0	2	12	0	**8**	**2**	2	**12**	**73**
08:30 AM	1	**9**	3	0	**13**	9	9	0	4	22	1	11	1	**5**	18	0	2	2	2	6	59
Total Volume	3	16	10	6	35	40	40	6	14	100	8	41	3	12	64	1	18	4	13	36	235
% App. Total	8.6	45.7	28.6	17.1		40	40	6	14		12.5	64.1	4.7	18.8		2.8	50	11.1	36.1		
PHF	.750	.444	.833	.300	.673	.909	.526	.500	.500	.625	.400	.788	.750	.600	.727	.250	.563	.500	.542	.750	.805
Cars	3	13	10	6	32	37	35	6	14	92	3	40	3	12	58	1	17	3	13	34	216
% Cars	100	81.3	100	100	91.4	92.5	87.5	100	100	92.0	37.5	97.6	100	100	90.6	100	94.4	75.0	100	94.4	91.9
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	6.3	0	0	2.9	0	0	0	0	0	0	2.4	0	0	1.6	0	0	0	0	0	0.9
Heavies	0	1	0	0	1	3	2	0	0	5	2	0	0	0	2	0	1	0	0	1	9
% Heavies	0	6.3	0	0	2.9	7.5	5.0	0	0	5.0	25.0	0	0	0	3.1	0	5.6	0	0	2.8	3.8
Cyclists	0	1	0	0	1	0	3	0	0	3	3	0	0	0	3	0	0	1	0	1	8
% Cyclists	0	6.3	0	0	2.9	0	7.5	0	0	3.0	37.5	0	0	0	4.7	0	0	25.0	0	2.8	3.4

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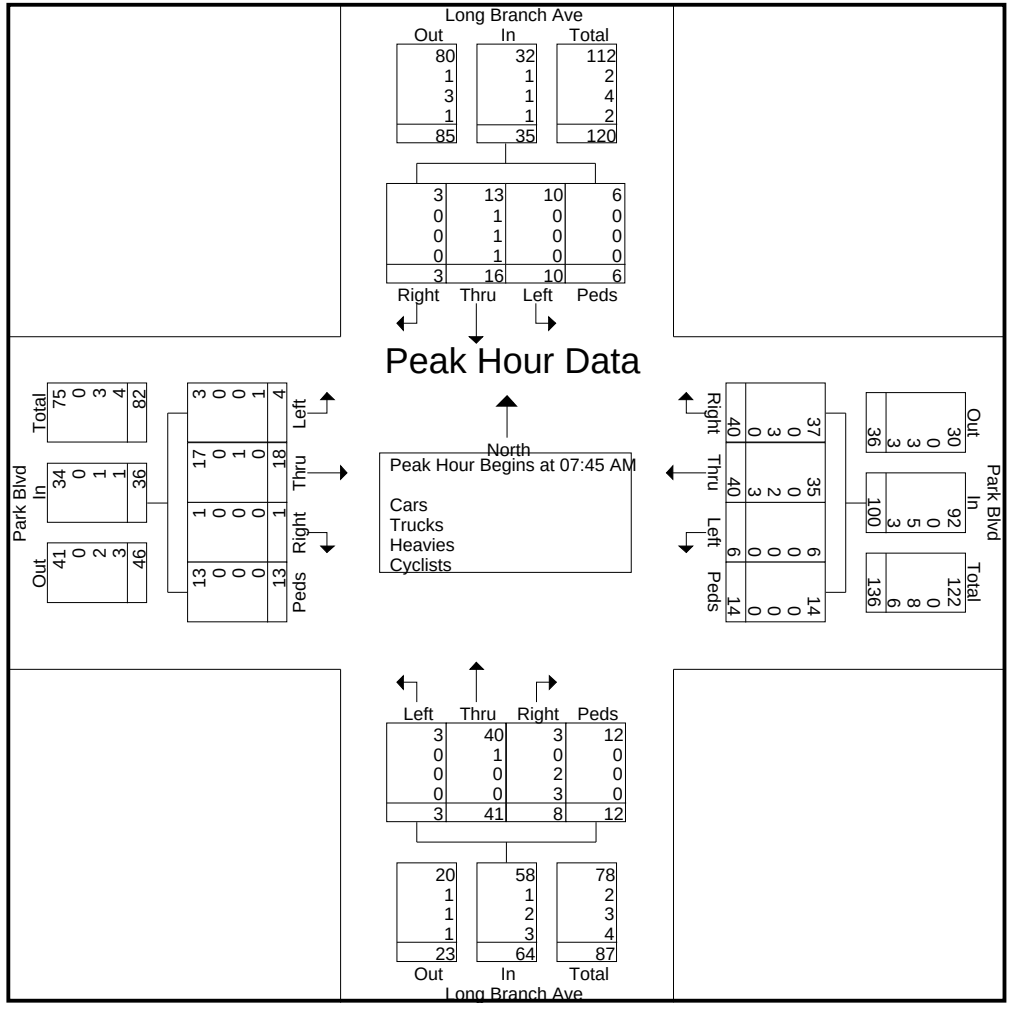
Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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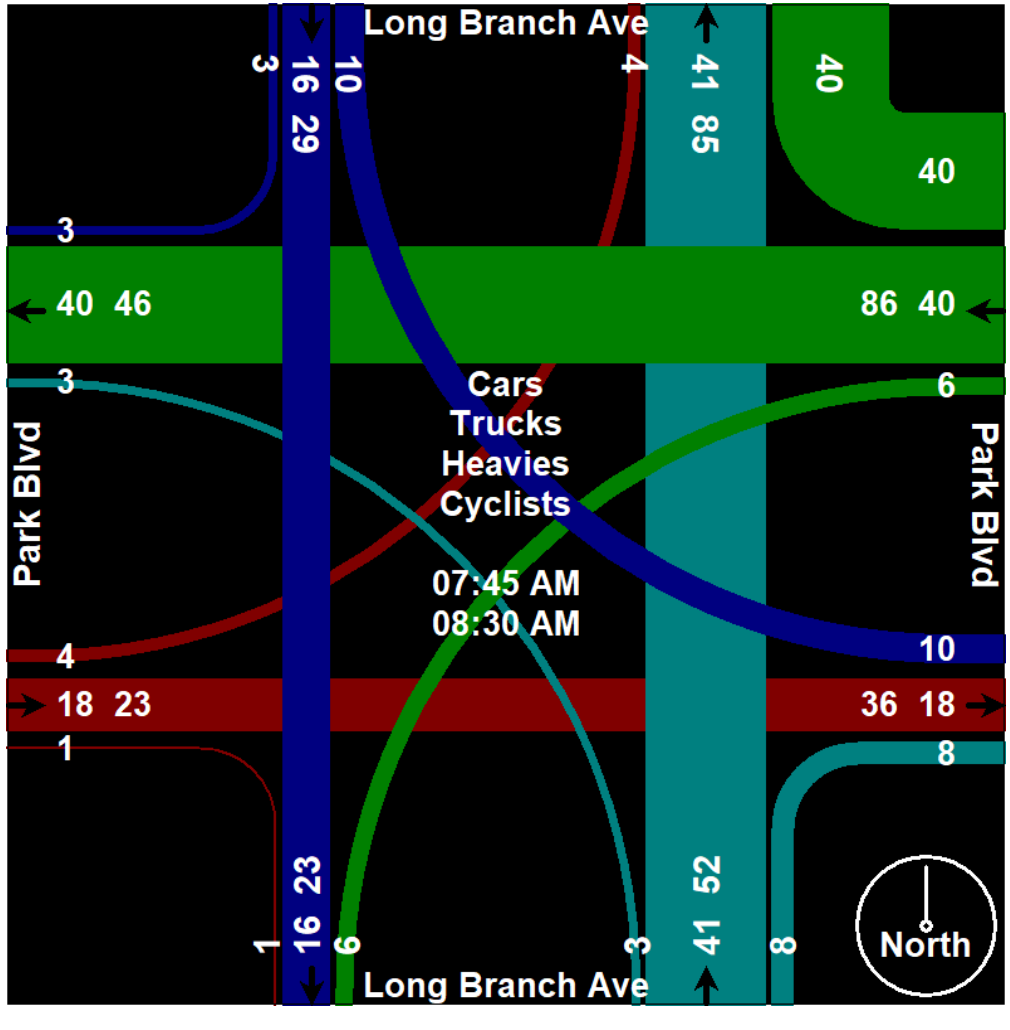
Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	Long Branch Ave From North					Park Blvd From East					Long Branch Ave From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**1**	1	**4**	4	10	4	9	**2**	8	23	0	**11**	0	1	12	**3**	**7**	**1**	**4**	**15**	60
05:00 PM	0	**7**	4	0	11	**12**	**13**	2	2	29	**2**	4	0	**4**	10	0	7	0	1	8	58
05:15 PM	0	6	2	**6**	**14**	7	3	1	6	17	2	8	**1**	1	12	0	3	0	3	6	49
05:30 PM	0	7	4	1	12	7	8	2	**13**	**30**	1	10	0	2	**13**	1	6	1	3	11	**66**
Total Volume	1	21	14	11	47	30	33	7	29	99	5	33	1	8	47	4	23	2	11	40	233
% App. Total	2.1	44.7	29.8	23.4		30.3	33.3	7.1	29.3		10.6	70.2	2.1	17		10	57.5	5	27.5		
PHF	.250	.750	.875	.458	.839	.625	.635	.875	.558	.825	.625	.750	.250	.500	.904	.333	.821	.500	.688	.667	.883
Cars	1	21	14	11	47	30	32	7	29	98	4	33	1	8	46	4	22	2	11	39	230
% Cars	100	100	100	100	100	100	97.0	100	100	99.0	80.0	100	100	100	97.9	100	95.7	100	100	97.5	98.7
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	3.0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	0.4
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2
% Cyclists	0	0	0	0	0	0	0	0	0	0	20.0	0	0	0	2.1	0	4.3	0	0	2.5	0.9

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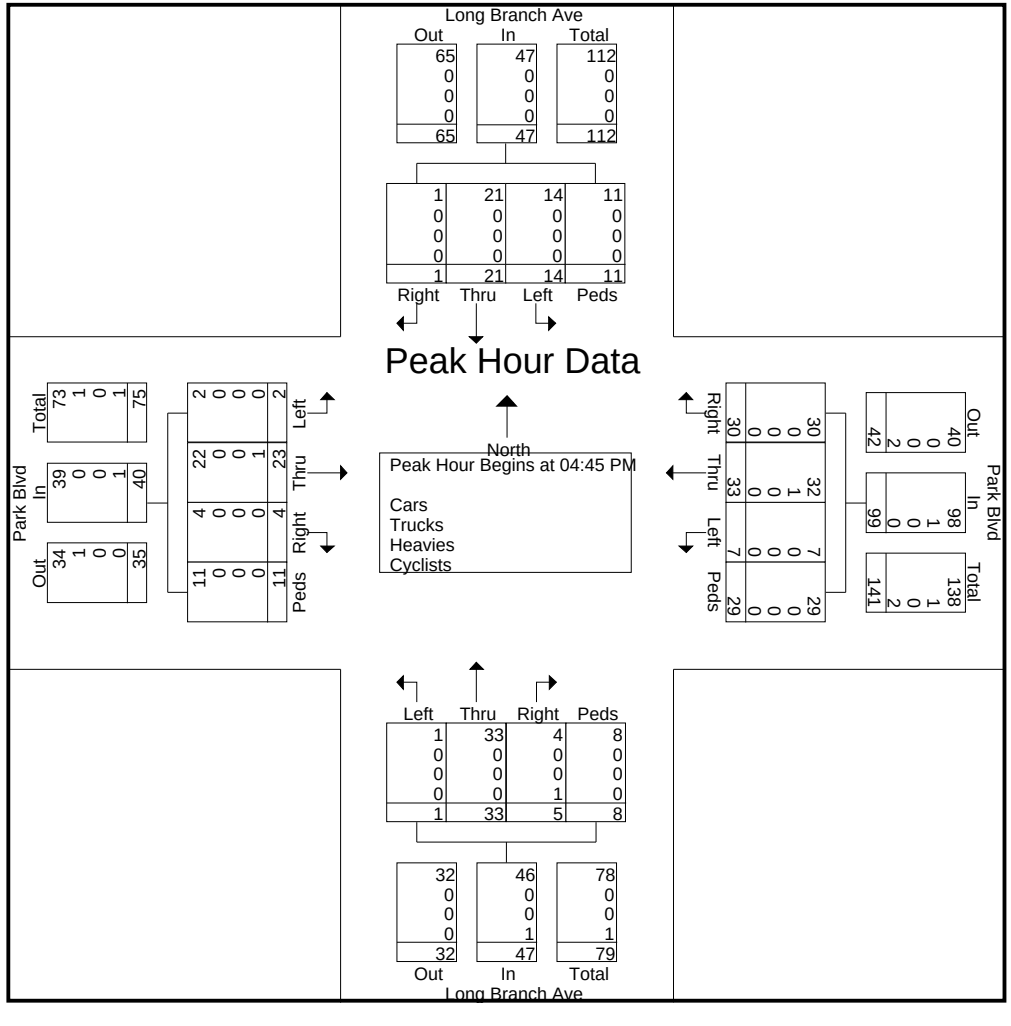
Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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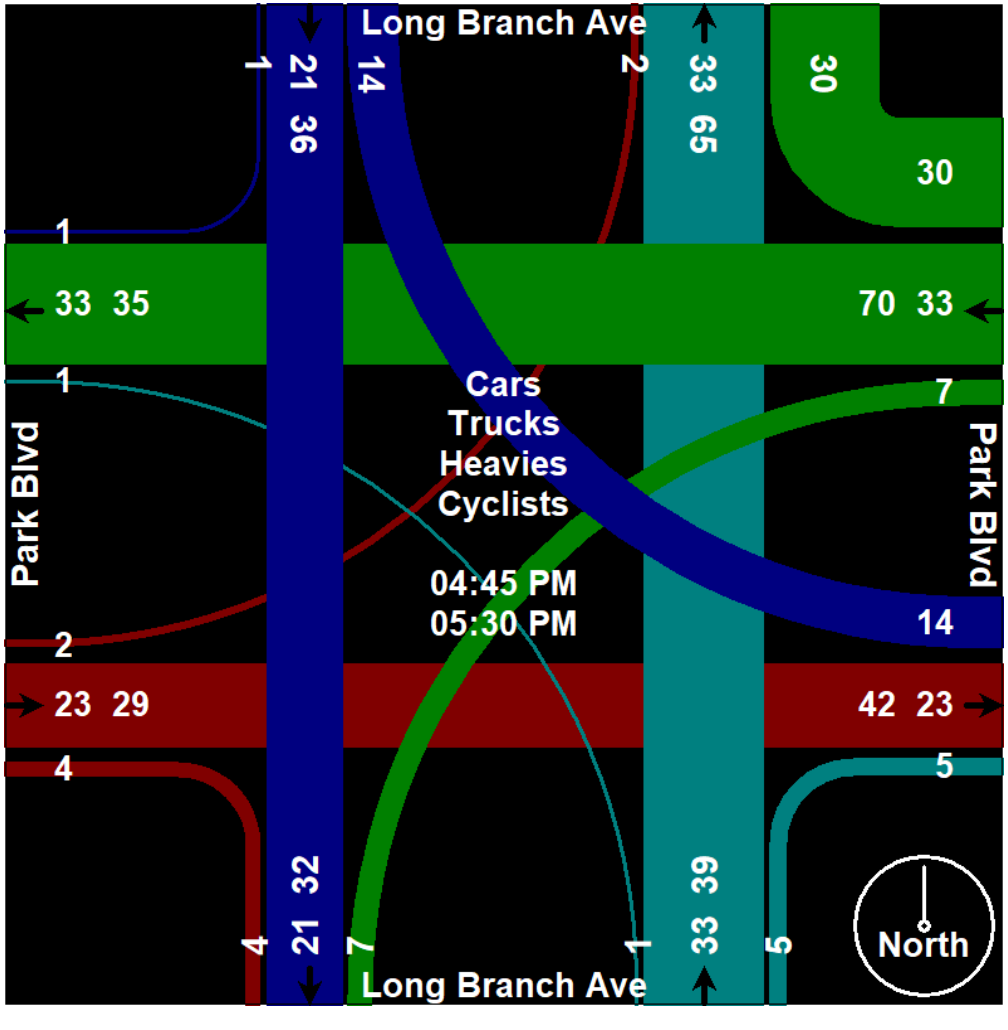
Your Traffic Count Specialist

File Name : Park Boulevard at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	31st St From North					From East					31st St From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	0	0	1	4	0	0	0	0	0	0	1	1	0	2	1	0	2	0	3	9
07:15 AM	6	2	0	0	8	0	0	0	0	0	0	5	4	0	9	3	0	7	0	10	27
07:30 AM	4	4	0	2	10	0	0	0	0	0	0	6	0	0	6	1	0	4	3	8	24
07:45 AM	15	0	0	0	15	0	0	0	0	0	0	5	3	1	9	0	0	4	0	4	28
Total	28	6	0	3	37	0	0	0	0	0	0	17	8	1	26	5	0	17	3	25	88
08:00 AM	7	7	0	1	15	0	0	0	0	0	0	5	3	0	8	1	0	9	1	11	34
08:15 AM	23	6	0	0	29	0	0	0	0	0	0	9	8	0	17	10	0	9	1	20	66
08:30 AM	12	8	0	0	20	0	0	0	0	0	0	5	1	0	6	1	0	5	0	6	32
08:45 AM	5	5	0	0	10	0	0	0	0	0	0	5	5	0	10	0	0	2	2	4	24
Total	47	26	0	1	74	0	0	0	0	0	0	24	17	0	41	12	0	25	4	41	156
04:00 PM	15	8	0	2	25	0	0	0	0	0	0	6	4	0	10	3	0	4	1	8	43
04:15 PM	21	1	0	0	22	0	0	0	0	0	0	4	3	0	7	2	0	2	1	5	34
04:30 PM	5	1	0	1	7	0	0	0	0	0	0	4	6	1	11	1	0	2	0	3	21
04:45 PM	9	7	0	0	16	0	0	0	0	0	0	1	2	0	3	4	0	3	0	7	26
Total	50	17	0	3	70	0	0	0	0	0	0	15	15	1	31	10	0	11	2	23	124
05:00 PM	13	6	0	0	19	0	0	0	0	0	0	4	5	0	9	3	0	7	0	10	38
05:15 PM	11	2	0	0	13	0	0	0	0	0	0	4	4	0	8	1	0	4	0	5	26
05:30 PM	16	9	0	0	25	0	0	0	0	0	0	2	2	2	6	4	0	1	0	5	36
05:45 PM	11	5	0	0	16	0	0	0	0	0	0	1	1	0	2	5	0	5	2	12	30
Total	51	22	0	0	73	0	0	0	0	0	0	11	12	2	25	13	0	17	2	32	130
06:00 PM	11	2	0	0	13	0	0	0	0	0	0	2	3	0	5	2	0	3	0	5	23
06:15 PM	9	3	0	1	13	0	0	0	0	0	0	1	3	0	4	1	0	3	0	4	21
06:30 PM	5	4	0	1	10	0	0	0	0	0	0	5	2	0	7	1	0	2	0	3	20
06:45 PM	6	2	0	0	8	0	0	0	0	0	0	1	2	0	3	4	0	7	3	14	25
Total	31	11	0	2	44	0	0	0	0	0	0	9	10	0	19	8	0	15	3	26	89
Grand Total	207	82	0	9	298	0	0	0	0	0	0	76	62	4	142	48	0	85	14	147	587
Apprch %	69.5	27.5	0	3		0	0	0	0		0	53.5	43.7	2.8		32.7	0	57.8	9.5		
Total %	35.3	14	0	1.5	50.8	0	0	0	0	0	0	12.9	10.6	0.7	24.2	8.2	0	14.5	2.4	25	
Cars	199	71	0	9	279	0	0	0	0	0	0	67	55	4	126	44	0	77	14	135	540
% Cars	96.1	86.6	0	100	93.6	0	0	0	0	0	0	88.2	88.7	100	88.7	91.7	0	90.6	100	91.8	92
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	2	0	2	5
% Trucks	0	1.2	0	0	0.3	0	0	0	0	0	0	0	3.2	0	1.4	0	0	2.4	0	1.4	0.9

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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

	31st St From North					From East					31st St From South					Park Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	3	6	0	0	9	0	0	0	0	0	0	4	1	0	5	0	0	1	0	1	15
% Heavies	1.4	7.3	0	0	3	0	0	0	0	0	0	5.3	1.6	0	3.5	0	0	1.2	0	0.7	2.6
Cyclists	5	4	0	0	9	0	0	0	0	0	0	5	4	0	9	4	0	5	0	9	27
% Cyclists	2.4	4.9	0	0	3	0	0	0	0	0	0	6.6	6.5	0	6.3	8.3	0	5.9	0	6.1	4.6

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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
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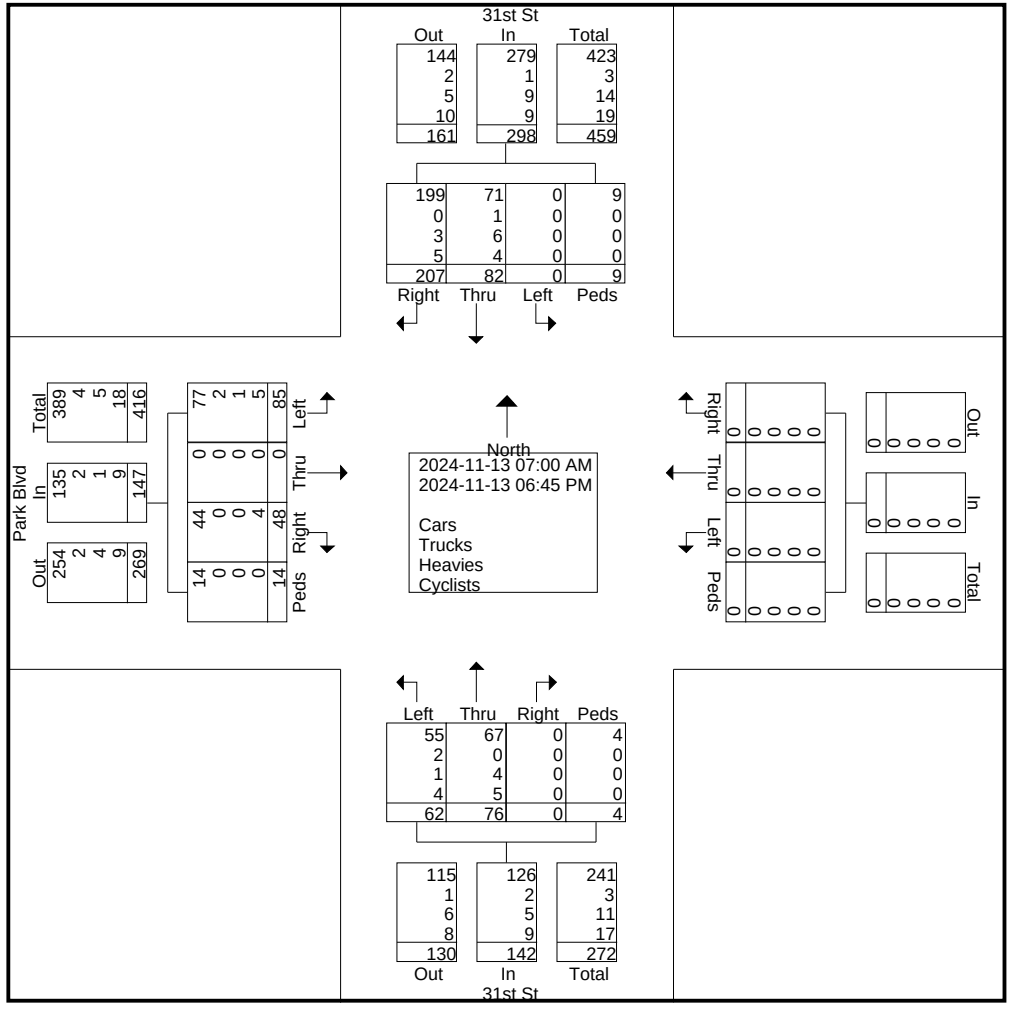

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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	31st St From North					From East					31st St From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	15	0	0	0	15	0	0	0	0	0	0	5	3	**1**	9	0	0	4	0	4	28
08:00 AM	7	7	0	**1**	15	0	0	0	0	0	0	5	3	0	8	1	0	**9**	**1**	11	34
08:15 AM	**23**	6	0	0	**29**	0	0	0	0	0	0	**9**	**8**	0	**17**	**10**	0	9	1	**20**	**66**
08:30 AM	12	**8**	0	0	20	0	0	0	0	0	0	5	1	0	6	1	0	5	0	6	32
Total Volume	57	21	0	1	79	0	0	0	0	0	0	24	15	1	40	12	0	27	2	41	160
% App. Total	72.2	26.6	0	1.3		0	0	0	0		0	60	37.5	2.5		29.3	0	65.9	4.9		
PHF	.620	.656	.000	.250	.681	.000	.000	.000	.000	.000	.000	.667	.469	.250	.588	.300	.000	.750	.500	.513	.606
Cars	55	20	0	1	76	0	0	0	0	0	0	21	13	1	35	12	0	25	2	39	150
% Cars	96.5	95.2	0	100	96.2	0	0	0	0	0	0	87.5	86.7	100	87.5	100	0	92.6	100	95.1	93.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.7	0	2.4	0.6
Heavies	1	1	0	0	2	0	0	0	0	0	0	2	1	0	3	0	0	1	0	1	6
% Heavies	1.8	4.8	0	0	2.5	0	0	0	0	0	0	8.3	6.7	0	7.5	0	0	3.7	0	2.4	3.8
Cyclists	1	0	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3
% Cyclists	1.8	0	0	0	1.3	0	0	0	0	0	0	4.2	6.7	0	5.0	0	0	0	0	0	1.9

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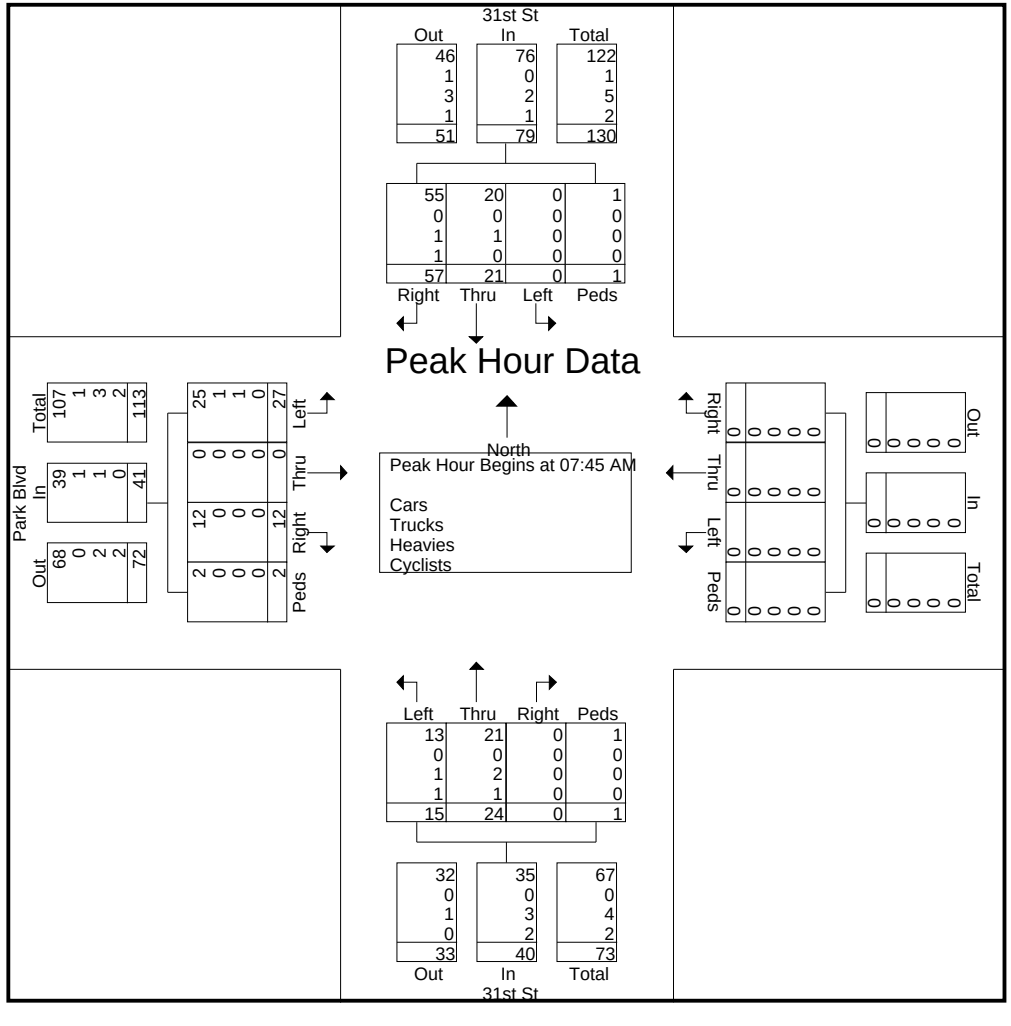
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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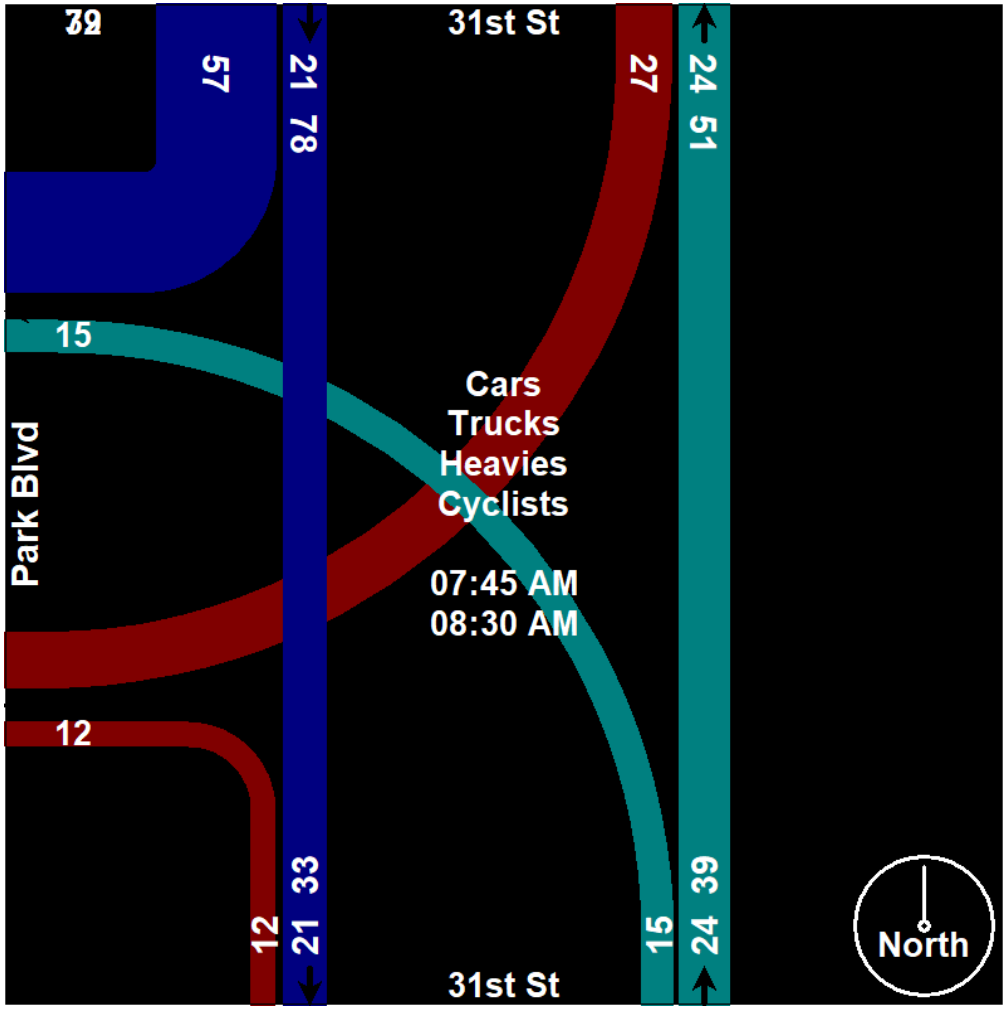
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	31st St From North					From East					31st St From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	13	6	0	0	19	0	0	0	0	0	0	**4**	**5**	0	**9**	3	0	**7**	0	10	**38**
05:15 PM	11	2	0	0	13	0	0	0	0	0	0	4	4	0	8	1	0	4	0	5	26
05:30 PM	**16**	**9**	0	0	**25**	0	0	0	0	0	0	2	2	**2**	6	4	0	1	0	5	36
05:45 PM	11	5	0	0	16	0	0	0	0	0	0	1	1	0	2	**5**	0	5	**2**	**12**	30
Total Volume	51	22	0	0	73	0	0	0	0	0	0	11	12	2	25	13	0	17	2	32	130
% App. Total	69.9	30.1	0	0		0	0	0	0		0	44	48	8		40.6	0	53.1	6.2		
PHF	.797	.611	.000	.000	.730	.000	.000	.000	.000	.000	.000	.688	.600	.250	.694	.650	.000	.607	.250	.667	.855
Cars	50	18	0	0	68	0	0	0	0	0	0	10	10	2	22	13	0	16	2	31	121
% Cars	98.0	81.8	0	0	93.2	0	0	0	0	0	0	90.9	83.3	100	88.0	100	0	94.1	100	96.9	93.1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	8.3	0	4.0	0	0	0	0	0	0.8
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	1	4	0	0	5	0	0	0	0	0	0	1	1	0	2	0	0	1	0	1	8
% Cyclists	2.0	18.2	0	0	6.8	0	0	0	0	0	0	9.1	8.3	0	8.0	0	0	5.9	0	3.1	6.2

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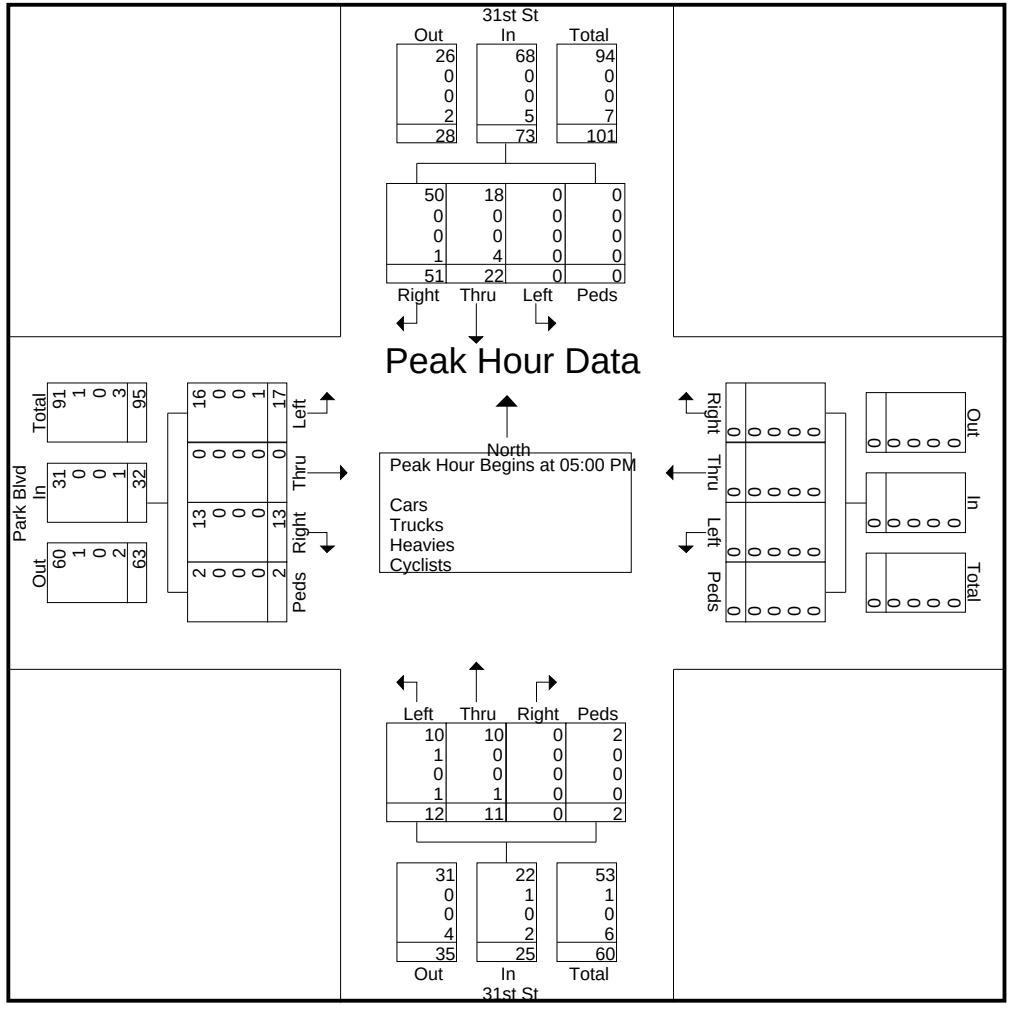
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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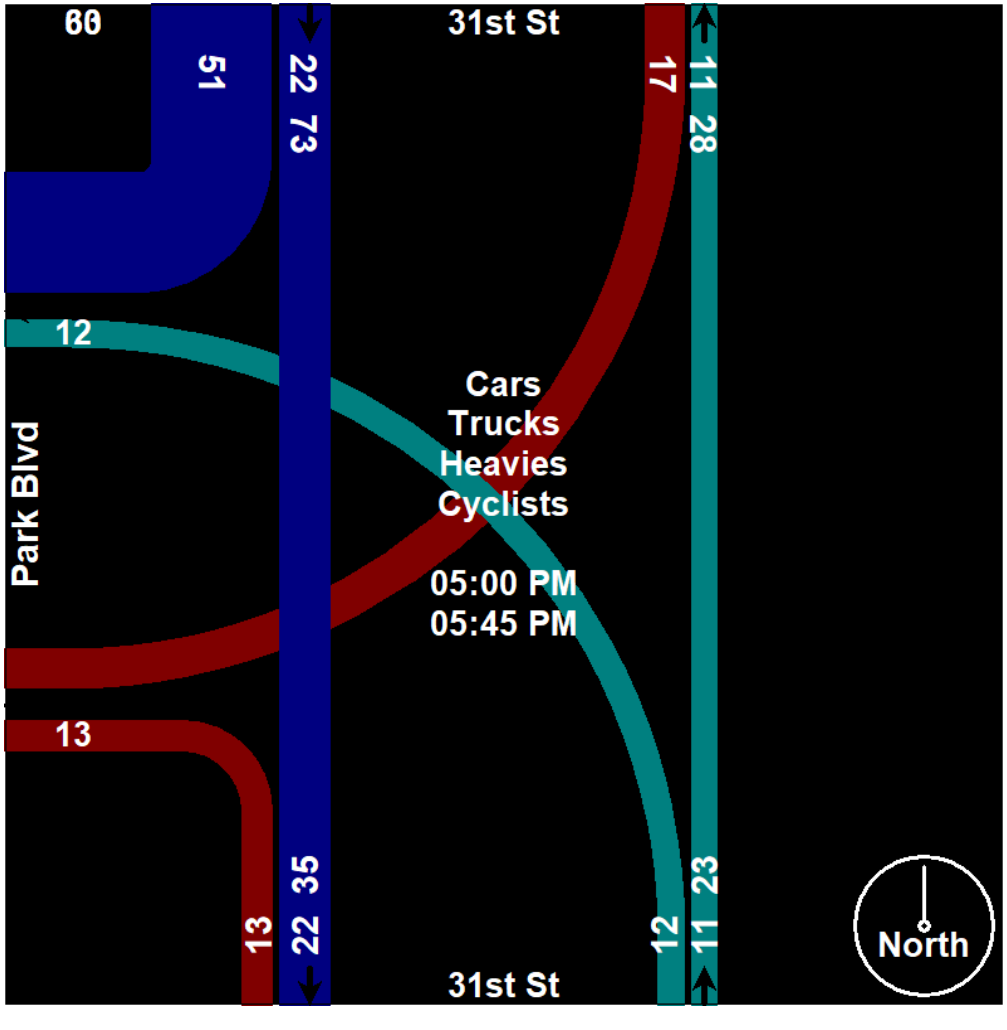
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	1	2	3	2	0	0	2	4	1	1	0	0	2	0	0	0	0	0	9
07:15 AM	0	1	3	0	4	3	0	4	0	7	2	4	0	1	7	0	0	0	0	0	18
07:30 AM	0	1	4	0	5	4	0	3	0	7	0	1	0	0	1	0	0	0	0	0	13
07:45 AM	0	5	0	3	8	8	0	1	0	9	1	4	0	0	5	0	0	0	0	0	22
Total	0	7	8	5	20	17	0	8	2	27	4	10	0	1	15	0	0	0	0	0	62
08:00 AM	0	7	3	0	10	5	0	3	0	8	2	2	0	2	6	0	0	0	0	0	24
08:15 AM	0	4	4	2	10	13	0	4	0	17	2	6	0	0	8	0	0	0	0	0	35
08:30 AM	0	2	1	0	3	7	0	1	0	8	3	2	0	0	5	0	0	0	0	0	16
08:45 AM	0	5	2	2	9	8	0	4	0	12	2	3	0	0	5	0	0	0	0	0	26
Total	0	18	10	4	32	33	0	12	0	45	9	13	0	2	24	0	0	0	0	0	101
04:00 PM	0	4	3	1	8	4	0	6	0	10	2	5	0	0	7	0	0	0	0	0	25
04:15 PM	0	3	2	0	5	11	0	4	1	16	1	1	0	0	2	0	0	0	0	0	23
04:30 PM	0	1	1	5	7	1	0	2	0	3	2	3	0	0	5	0	0	0	0	0	15
04:45 PM	0	6	8	1	15	4	0	5	0	9	3	2	0	1	6	0	0	0	0	0	30
Total	0	14	14	7	35	20	0	17	1	38	8	11	0	1	20	0	0	0	0	0	93
05:00 PM	0	2	3	4	9	10	0	0	0	10	1	6	0	0	7	0	0	0	0	0	26
05:15 PM	0	5	3	1	9	3	0	1	0	4	0	5	0	0	5	0	0	0	0	0	18
05:30 PM	0	4	6	4	14	5	0	0	0	5	1	1	0	0	2	0	0	0	0	0	21
05:45 PM	0	4	10	0	14	2	0	4	0	6	2	6	0	0	8	0	0	0	0	0	28
Total	0	15	22	9	46	20	0	5	0	25	4	18	0	0	22	0	0	0	0	0	93
06:00 PM	0	4	3	3	10	7	0	4	0	11	6	1	0	2	9	0	0	0	0	0	30
06:15 PM	0	3	7	0	10	7	0	1	0	8	2	2	0	0	4	0	0	0	0	0	22
06:30 PM	0	8	8	0	16	1	0	1	0	2	3	2	0	1	6	0	0	0	0	0	24
06:45 PM	0	5	5	1	11	6	0	1	0	7	2	1	0	1	4	0	0	0	0	0	22
Total	0	20	23	4	47	21	0	7	0	28	13	6	0	4	23	0	0	0	0	0	98
Grand Total	0	74	77	29	180	111	0	49	3	163	38	58	0	8	104	0	0	0	0	0	447
Apprch %	0	41.1	42.8	16.1		68.1	0	30.1	1.8		36.5	55.8	0	7.7		0	0	0	0		
Total %	0	16.6	17.2	6.5	40.3	24.8	0	11	0.7	36.5	8.5	13	0	1.8	23.3	0	0	0	0	0	
Cars	0	70	75	29	174	103	0	47	3	153	33	56	0	8	97	0	0	0	0	0	424
% Cars	0	94.6	97.4	100	96.7	92.8	0	95.9	100	93.9	86.8	96.6	0	100	93.3	0	0	0	0	0	94.9
Trucks	0	2	0	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% Trucks	0	2.7	0	0	1.1	1.8	0	0	0	1.2	0	0	0	0	0	0	0	0	0	0	0.9

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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	0	1	0	0	1	3	0	1	0	4	2	2	0	0	4	0	0	0	0	0	9
% Heavies	0	1.4	0	0	0.6	2.7	0	2	0	2.5	5.3	3.4	0	0	3.8	0	0	0	0	0	2
Cyclists	0	1	2	0	3	3	0	1	0	4	3	0	0	0	3	0	0	0	0	0	10
% Cyclists	0	1.4	2.6	0	1.7	2.7	0	2	0	2.5	7.9	0	0	0	2.9	0	0	0	0	0	2.2

Horizon Data Services Ltd

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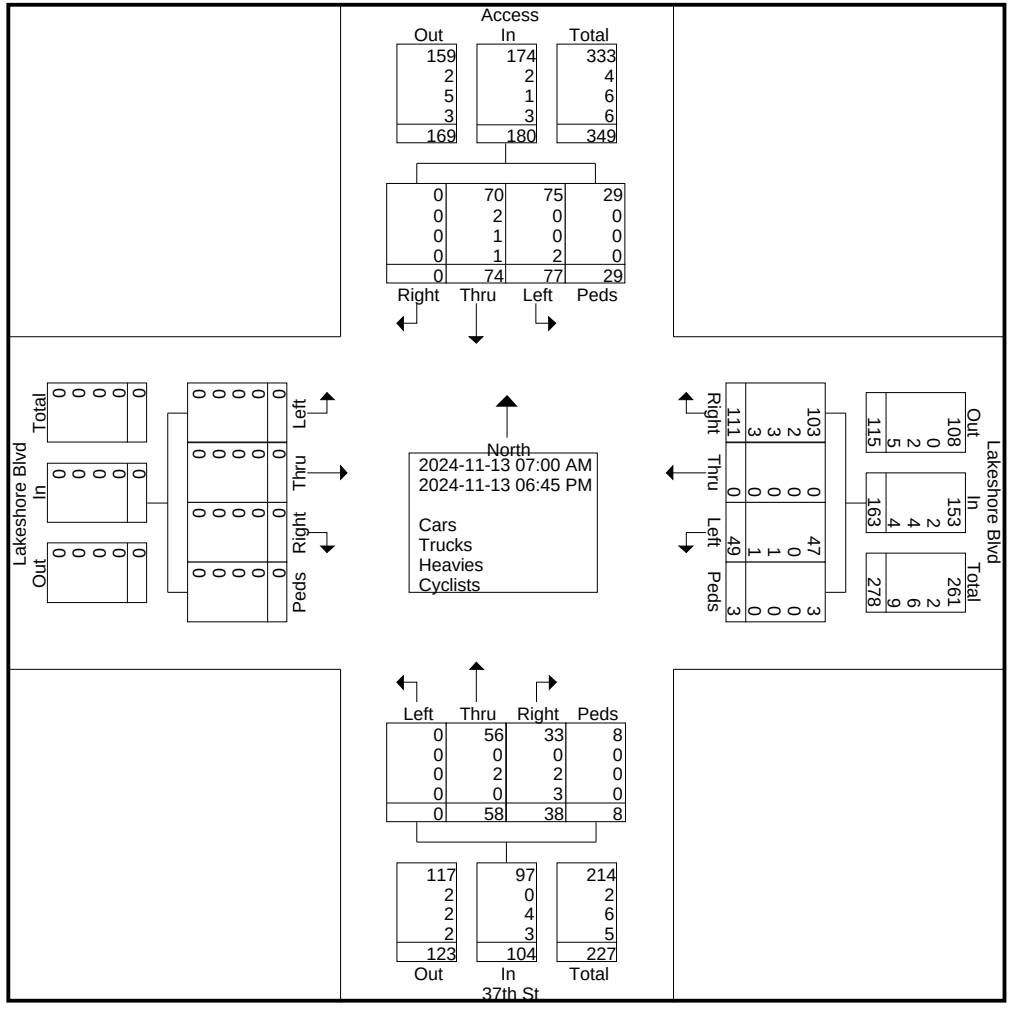
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**7**	3	0	**10**	5	0	3	0	8	2	2	0	**2**	6	0	0	0	0	0	24
08:15 AM	0	4	**4**	**2**	10	**13**	0	**4**	0	**17**	2	**6**	0	0	**8**	0	0	0	0	0	**35**
08:30 AM	0	2	1	0	3	7	0	1	0	8	**3**	2	0	0	5	0	0	0	0	0	16
08:45 AM	0	5	2	2	9	8	0	4	0	12	2	3	0	0	5	0	0	0	0	0	26
Total Volume	0	18	10	4	32	33	0	12	0	45	9	13	0	2	24	0	0	0	0	0	101
% App. Total	0	56.2	31.2	12.5		73.3	0	26.7	0		37.5	54.2	0	8.3		0	0	0	0		
PHF	.000	.643	.625	.500	.800	.635	.000	.750	.000	.662	.750	.542	.000	.250	.750	.000	.000	.000	.000	.000	.721
Cars	0	17	10	4	31	32	0	12	0	44	7	13	0	2	22	0	0	0	0	0	97
% Cars	0	94.4	100	100	96.9	97.0	0	100	0	97.8	77.8	100	0	100	91.7	0	0	0	0	0	96.0
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	5.6	0	0	3.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.0
Heavies	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
% Heavies	0	0	0	0	0	0	0	0	0	0	11.1	0	0	0	4.2	0	0	0	0	0	1.0
Cyclists	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
% Cyclists	0	0	0	0	0	3.0	0	0	0	2.2	11.1	0	0	0	4.2	0	0	0	0	0	2.0

Horizon Data Services Ltd

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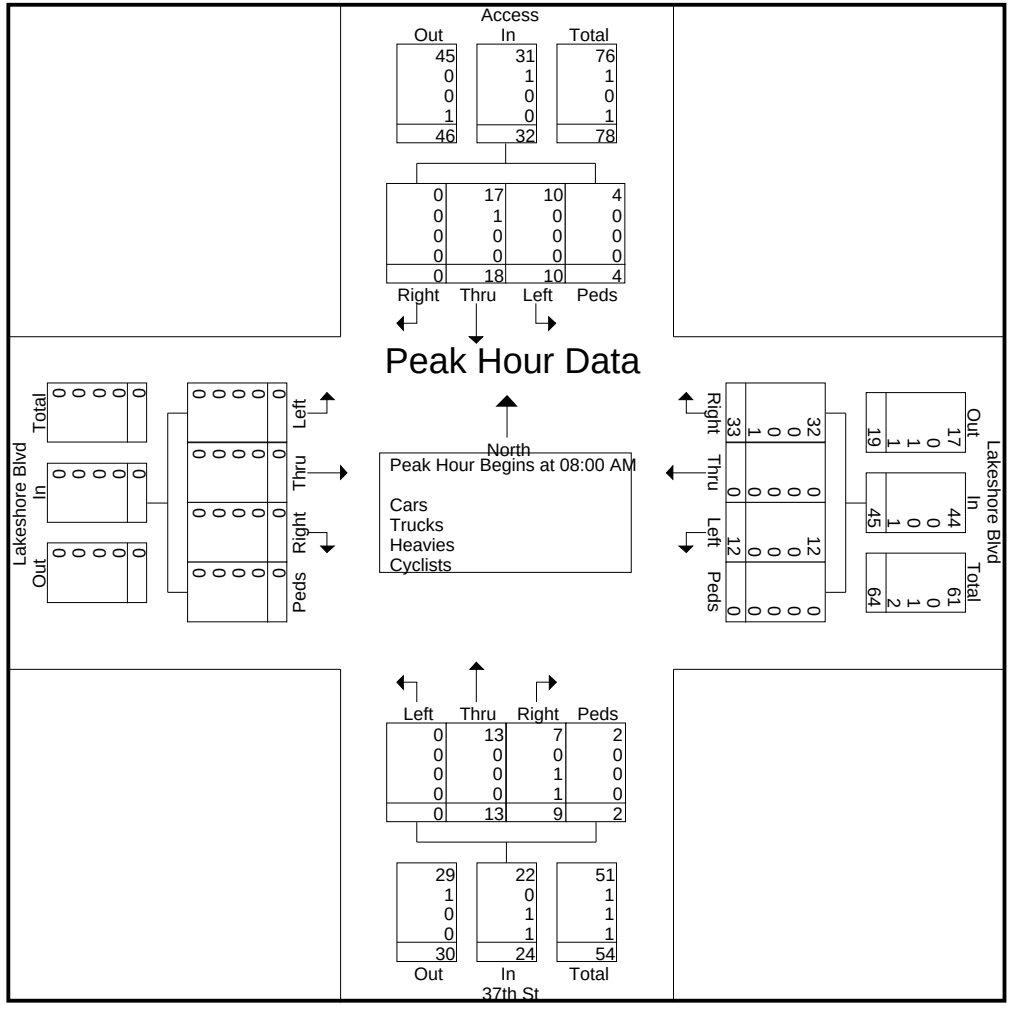
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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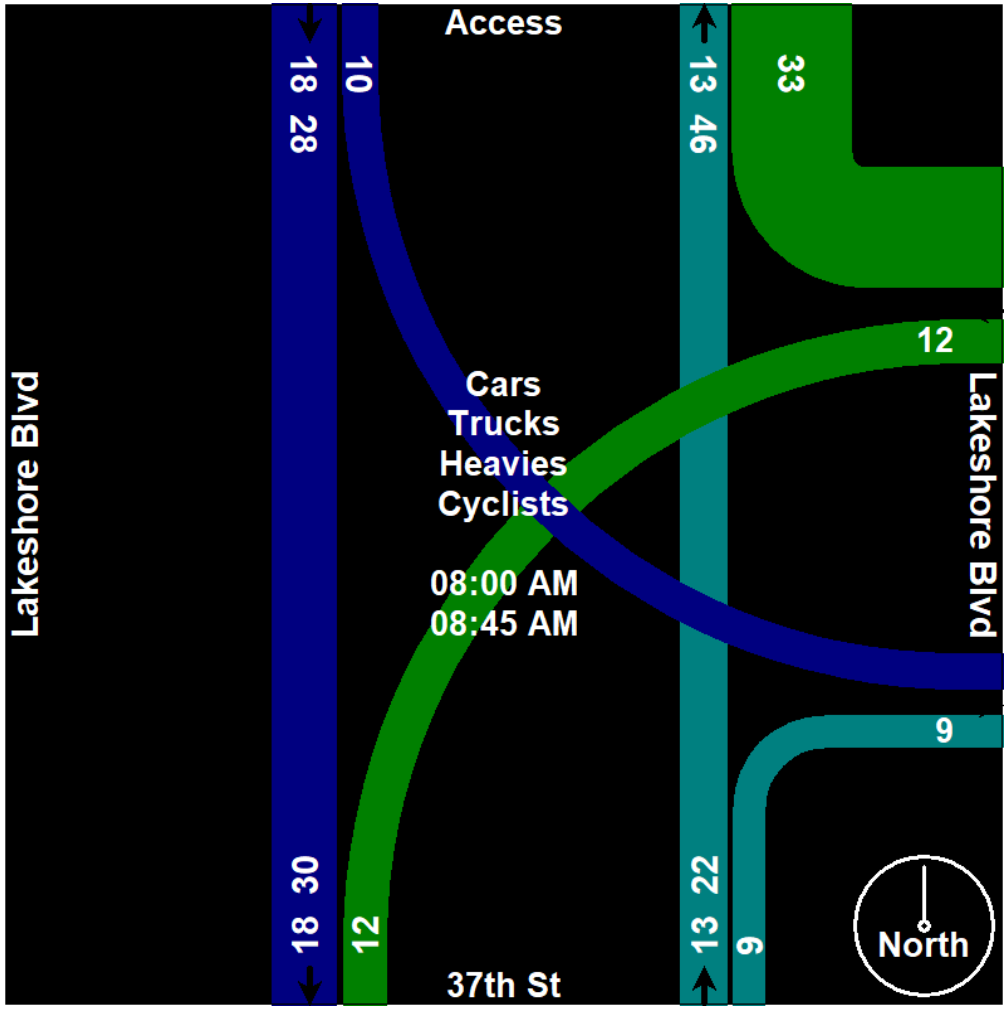
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	Access From North					Lakeshore Blvd From East					37th St From South					Lakeshore Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:45 PM																					
05:45 PM	0	4	**10**	0	14	2	0	**4**	0	6	2	**6**	0	0	8	0	0	0	0	0	28
06:00 PM	0	4	3	**3**	10	**7**	0	4	0	**11**	**6**	1	0	**2**	**9**	0	0	0	0	0	**30**
06:15 PM	0	3	7	0	10	7	0	1	0	8	2	2	0	0	4	0	0	0	0	0	22
06:30 PM	0	**8**	8	0	**16**	1	0	1	0	2	3	2	0	1	6	0	0	0	0	0	24
Total Volume	0	19	28	3	50	17	0	10	0	27	13	11	0	3	27	0	0	0	0	0	104
% App. Total	0	38	56	6		63	0	37	0		48.1	40.7	0	11.1		0	0	0	0		
PHF	.000	.594	.700	.250	.781	.607	.000	.625	.000	.614	.542	.458	.000	.375	.750	.000	.000	.000	.000	.000	.867
Cars	0	19	28	3	50	15	0	10	0	25	12	11	0	3	26	0	0	0	0	0	101
% Cars	0	100	100	100	100	88.2	0	100	0	92.6	92.3	100	0	100	96.3	0	0	0	0	0	97.1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	3
% Cyclists	0	0	0	0	0	11.8	0	0	0	7.4	7.7	0	0	0	3.7	0	0	0	0	0	2.9

Horizon Data Services Ltd

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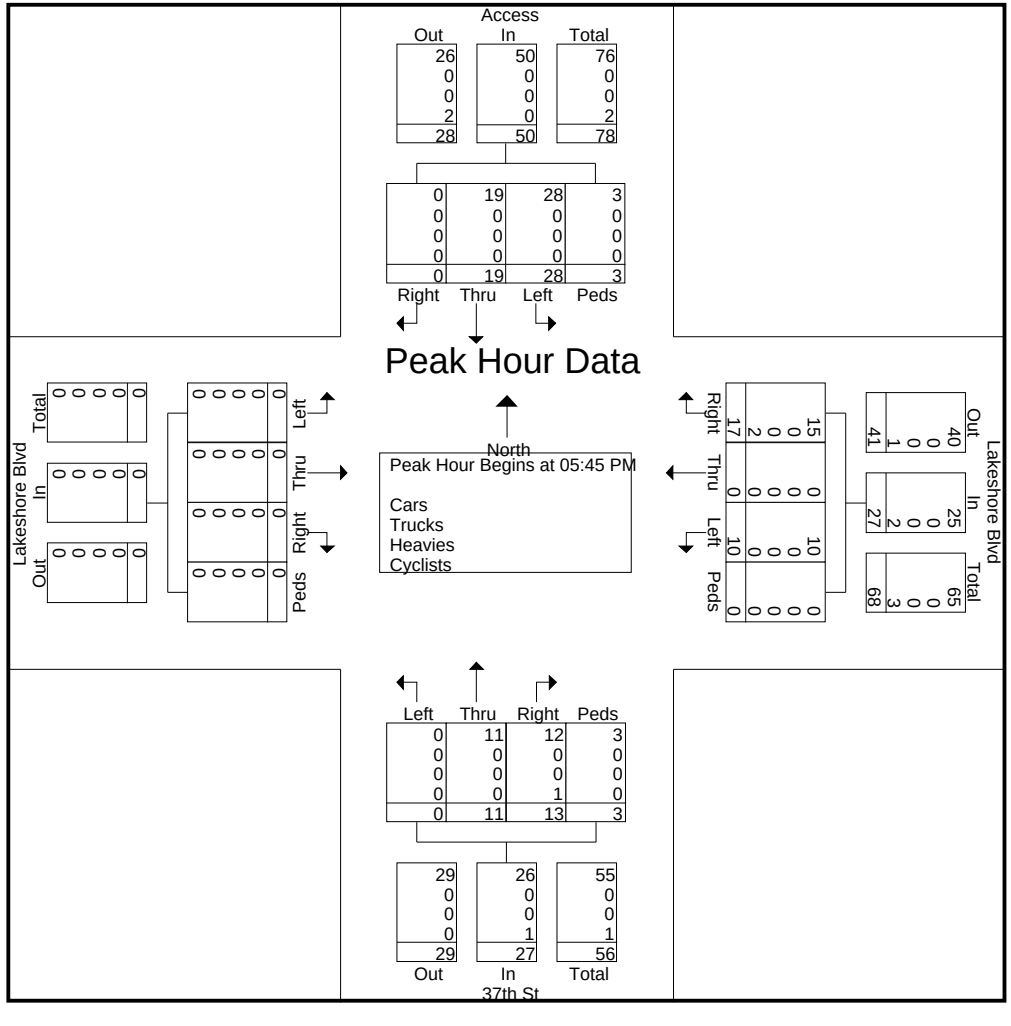
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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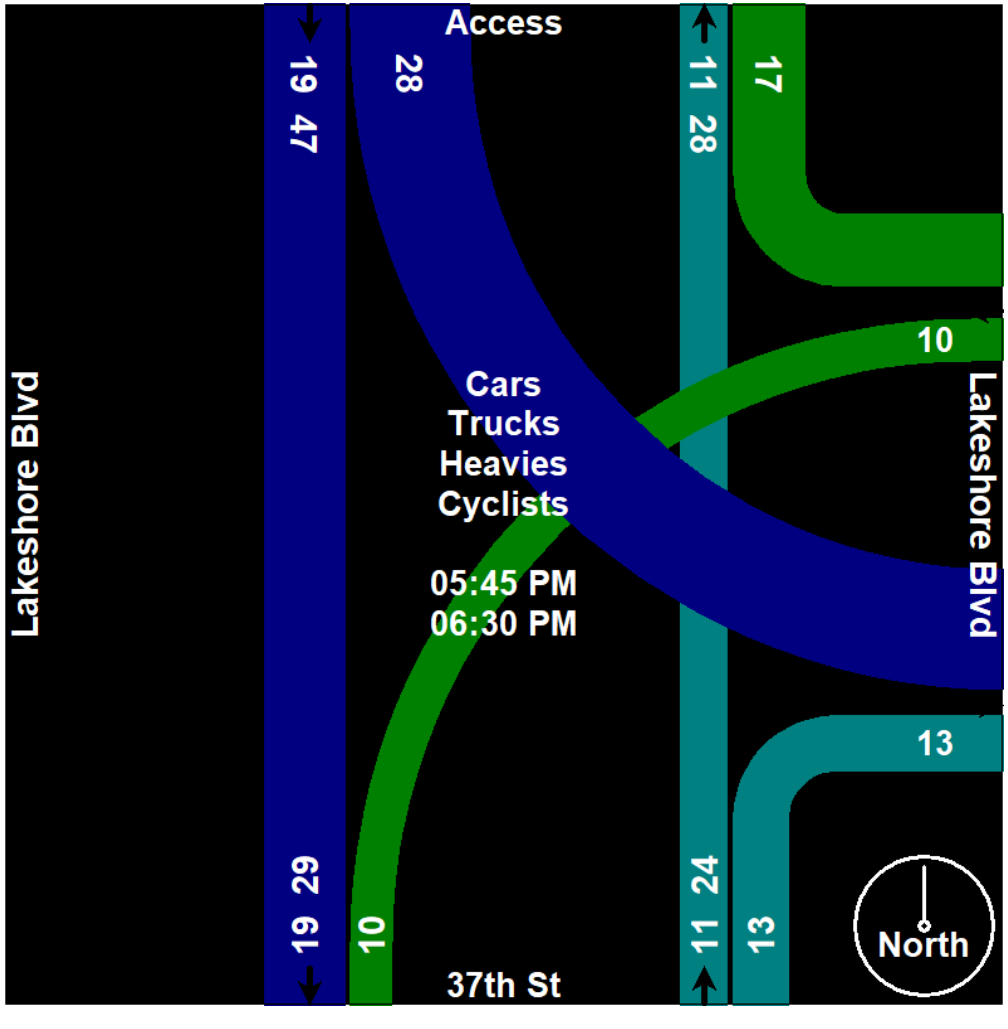
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	33rd St From North					Park Blvd From East					From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	3	1	5	2	5	0	1	8	0	0	0	0	0	0	3	2	0	5	18
07:15 AM	0	0	1	1	2	2	9	0	0	11	0	0	0	0	0	0	6	0	4	10	23
07:30 AM	1	0	1	0	2	2	7	0	0	9	0	0	0	0	0	0	3	2	0	5	16
07:45 AM	3	0	0	0	3	5	18	0	1	24	0	0	0	0	0	0	3	5	1	9	36
Total	5	0	5	2	12	11	39	0	2	52	0	0	0	0	0	0	15	9	5	29	93
08:00 AM	1	0	3	0	4	2	11	0	14	27	0	0	0	0	0	0	7	5	6	18	49
08:15 AM	4	0	5	1	10	5	25	0	12	42	0	0	0	0	0	0	10	6	7	23	75
08:30 AM	2	0	1	0	3	0	13	0	7	20	0	0	0	0	0	0	5	1	3	9	32
08:45 AM	1	0	0	0	1	4	14	0	1	19	0	0	0	0	0	0	1	5	1	7	27
Total	8	0	9	1	18	11	63	0	34	108	0	0	0	0	0	0	23	17	17	57	183
04:00 PM	2	0	0	0	2	5	16	0	5	26	0	0	0	0	0	0	3	1	2	6	34
04:15 PM	1	0	1	1	3	4	20	0	1	25	0	0	0	0	0	0	4	1	4	9	37
04:30 PM	2	0	1	0	3	2	8	0	1	11	0	0	0	0	0	0	2	1	2	5	19
04:45 PM	4	0	1	0	5	3	10	0	5	18	0	0	0	0	0	0	5	1	2	8	31
Total	9	0	3	1	13	14	54	0	12	80	0	0	0	0	0	0	14	4	10	28	121
05:00 PM	5	0	0	3	8	1	20	0	6	27	0	0	0	0	0	0	10	0	1	11	46
05:15 PM	1	0	1	0	2	2	11	0	3	16	0	0	0	0	0	0	4	3	5	12	30
05:30 PM	2	0	5	1	8	1	16	0	1	18	0	0	0	0	0	0	7	2	3	12	38
05:45 PM	4	0	3	0	7	2	12	0	0	14	0	0	0	0	0	0	6	1	2	9	30
Total	12	0	9	4	25	6	59	0	10	75	0	0	0	0	0	0	27	6	11	44	144
06:00 PM	5	0	0	0	5	1	15	0	3	19	0	0	0	0	0	0	8	1	1	10	34
06:15 PM	3	0	2	0	5	1	10	0	1	12	0	0	0	0	0	0	5	1	2	8	25
06:30 PM	1	0	1	0	2	1	7	0	3	11	0	0	0	0	0	0	4	1	4	9	22
06:45 PM	1	0	1	0	2	1	7	0	4	12	0	0	0	0	0	0	10	1	2	13	27
Total	10	0	4	0	14	4	39	0	11	54	0	0	0	0	0	0	27	4	9	40	108
Grand Total	44	0	30	8	82	46	254	0	69	369	0	0	0	0	0	0	106	40	52	198	649
Apprch %	53.7	0	36.6	9.8		12.5	68.8	0	18.7		0	0	0	0		0	53.5	20.2	26.3		
Total %	6.8	0	4.6	1.2	12.6	7.1	39.1	0	10.6	56.9	0	0	0	0	0	0	16.3	6.2	8	30.5	
Cars	41	0	28	8	77	42	241	0	69	352	0	0	0	0	0	0	94	36	52	182	611
% Cars	93.2	0	93.3	100	93.9	91.3	94.9	0	100	95.4	0	0	0	0	0	0	88.7	90	100	91.9	94.1
Trucks	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% Trucks	0	0	6.7	0	2.4	0	0.8	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0.6

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

	33rd St From North					Park Blvd From East					From South					Park Blvd From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	2	0	0	0	2	2	4	0	0	6	0	0	0	0	0	0	3	1	0	4	12
% Heavies	4.5	0	0	0	2.4	4.3	1.6	0	0	1.6	0	0	0	0	0	0	2.8	2.5	0	2	1.8
Cyclists	1	0	0	0	1	2	7	0	0	9	0	0	0	0	0	0	9	3	0	12	22
% Cyclists	2.3	0	0	0	1.2	4.3	2.8	0	0	2.4	0	0	0	0	0	0	8.5	7.5	0	6.1	3.4

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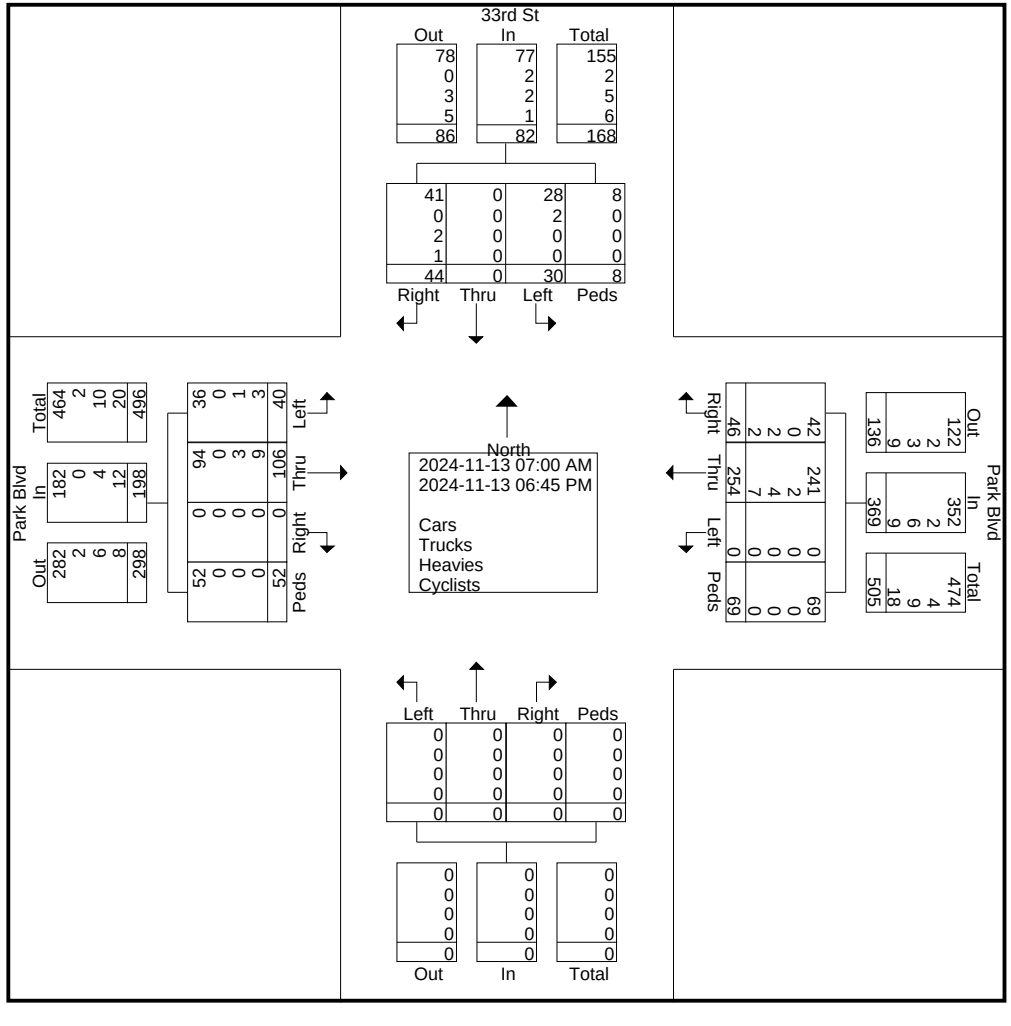
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	33rd St From North					Park Blvd From East					From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	3	0	0	0	3	**5**	18	0	1	24	0	0	0	0	0	0	3	5	1	9	36
08:00 AM	1	0	3	0	4	2	11	0	**14**	27	0	0	0	0	0	0	7	5	6	18	49
08:15 AM	**4**	0	**5**	**1**	**10**	5	**25**	0	12	**42**	0	0	0	0	0	0	**10**	**6**	**7**	**23**	**75**
08:30 AM	2	0	1	0	3	0	13	0	7	20	0	0	0	0	0	0	5	1	3	9	32
Total Volume	10	0	9	1	20	12	67	0	34	113	0	0	0	0	0	0	25	17	17	59	192
% App. Total	50	0	45	5		10.6	59.3	0	30.1		0	0	0	0		0	42.4	28.8	28.8		
PHF	.625	.000	.450	.250	.500	.600	.670	.000	.607	.673	.000	.000	.000	.000	.000	.000	.625	.708	.607	.641	.640
Cars	7	0	8	1	16	12	62	0	34	108	0	0	0	0	0	0	23	13	17	53	177
% Cars	70.0	0	88.9	100	80.0	100	92.5	0	100	95.6	0	0	0	0	0	0	92.0	76.5	100	89.8	92.2
Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	11.1	0	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
Heavies	2	0	0	0	2	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	8
% Heavies	20.0	0	0	0	10.0	0	4.5	0	0	2.7	0	0	0	0	0	0	8.0	5.9	0	5.1	4.2
Cyclists	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	3	0	3	6
% Cyclists	10.0	0	0	0	5.0	0	3.0	0	0	1.8	0	0	0	0	0	0	0	17.6	0	5.1	3.1

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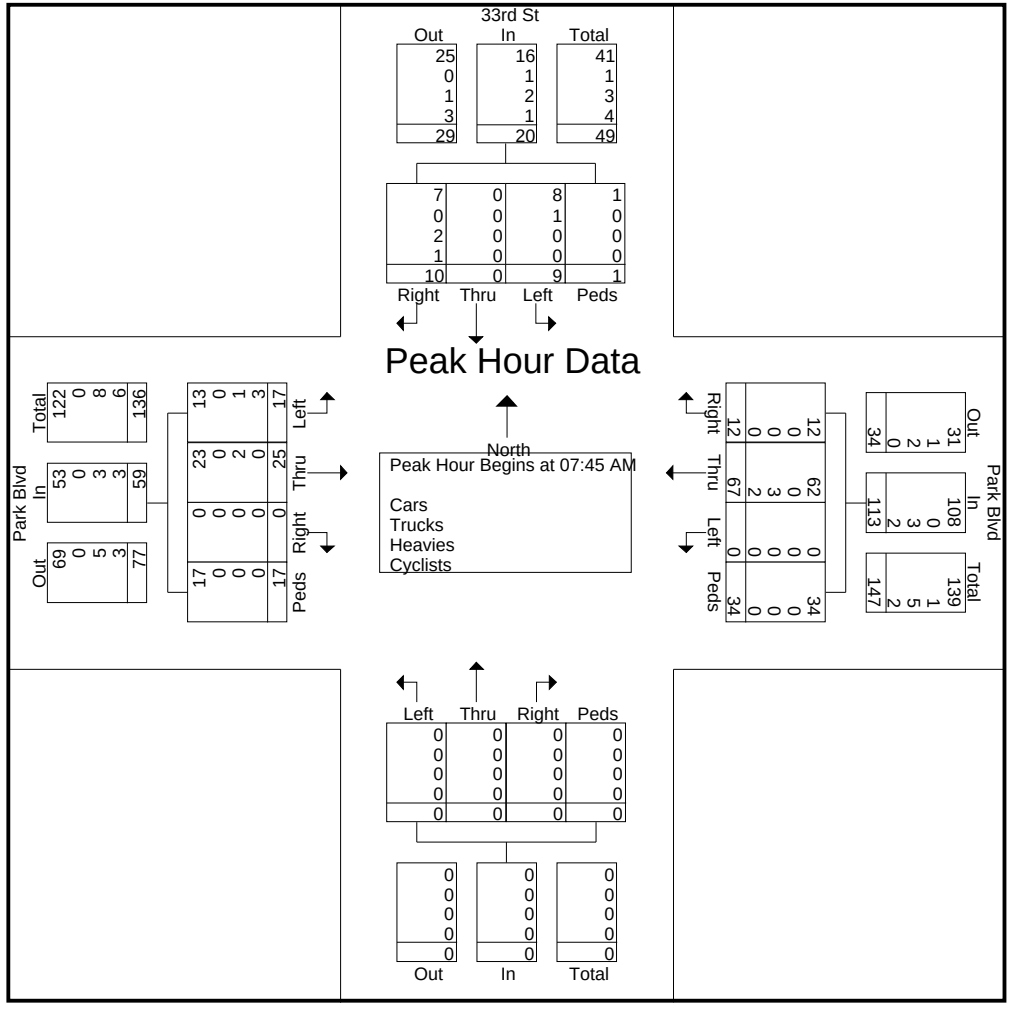
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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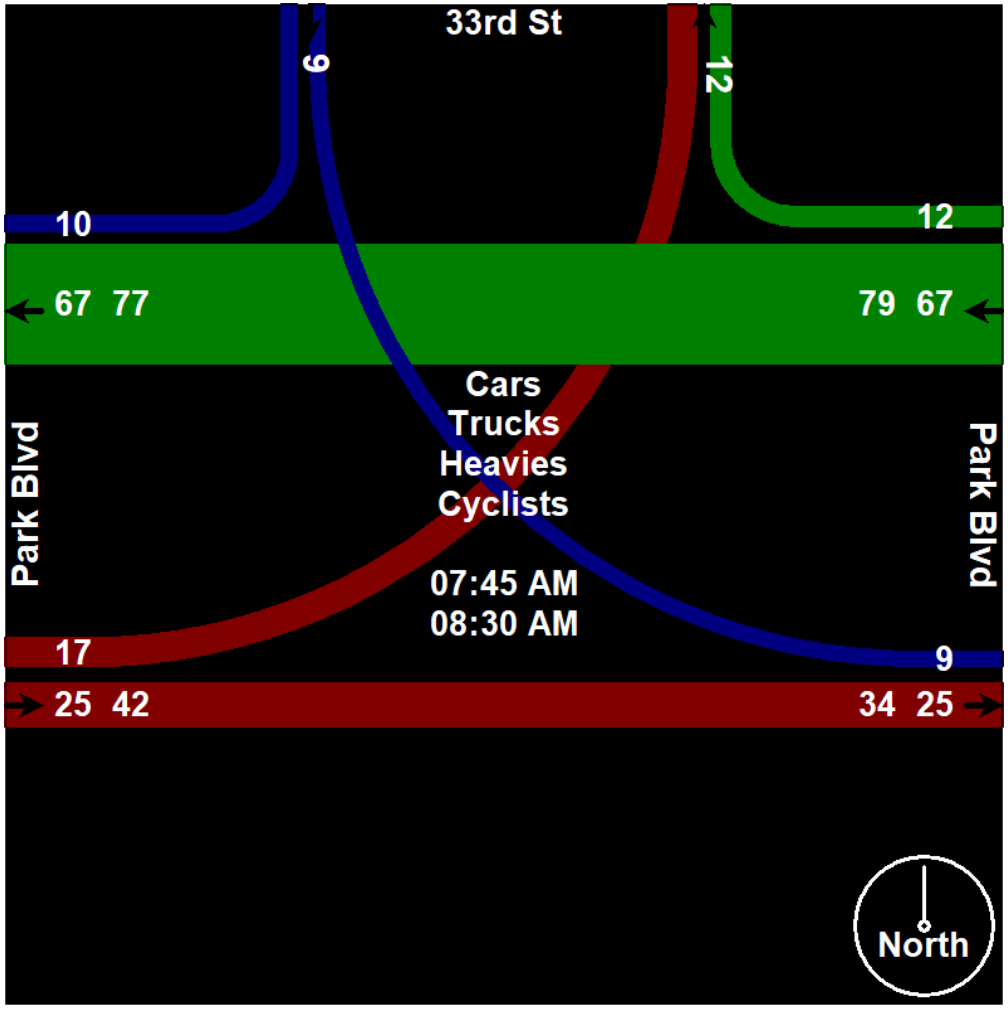
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	33rd St From North					Park Blvd From East					From South					Park Blvd From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	0	1	0	5	**3**	10	0	5	18	0	0	0	0	0	0	5	1	2	8	31
05:00 PM	**5**	0	0	**3**	**8**	1	**20**	0	**6**	**27**	0	0	0	0	0	0	**10**	0	1	11	**46**
05:15 PM	1	0	1	0	2	2	11	0	3	16	0	0	0	0	0	0	4	**3**	**5**	**12**	30
05:30 PM	2	0	**5**	1	8	1	16	0	1	18	0	0	0	0	0	0	7	2	3	12	38
Total Volume	12	0	7	4	23	7	57	0	15	79	0	0	0	0	0	0	26	6	11	43	145
% App. Total	52.2	0	30.4	17.4		8.9	72.2	0	19		0	0	0	0		0	60.5	14	25.6		
PHF	.600	.000	.350	.333	.719	.583	.713	.000	.625	.731	.000	.000	.000	.000	.000	.000	.650	.500	.550	.896	.788
Cars	12	0	7	4	23	7	55	0	15	77	0	0	0	0	0	0	24	6	11	41	141
% Cars	100	0	100	100	100	100	96.5	0	100	97.5	0	0	0	0	0	0	92.3	100	100	95.3	97.2
Trucks	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	0	1.8	0	0	1.3	0	0	0	0	0	0	0	0	0	0	0.7
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
% Cyclists	0	0	0	0	0	0	1.8	0	0	1.3	0	0	0	0	0	0	7.7	0	0	4.7	2.1

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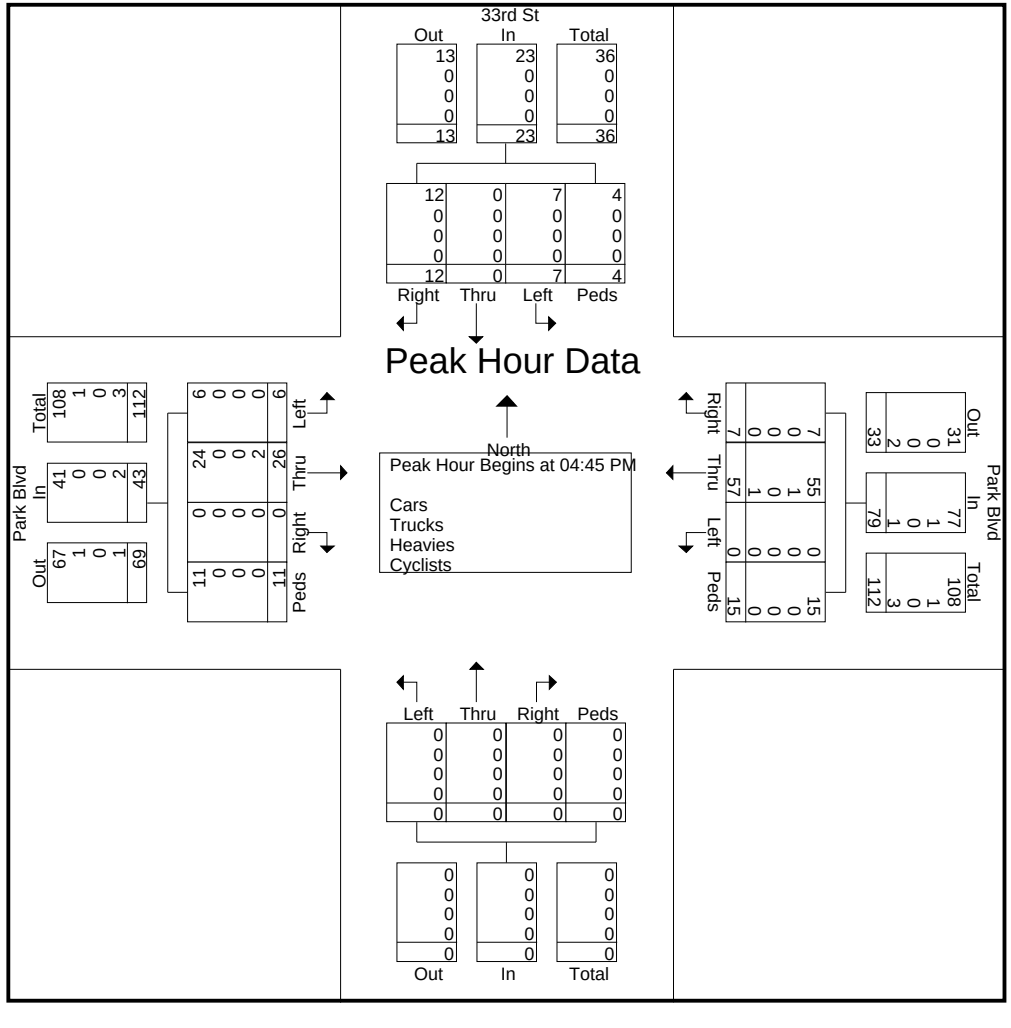
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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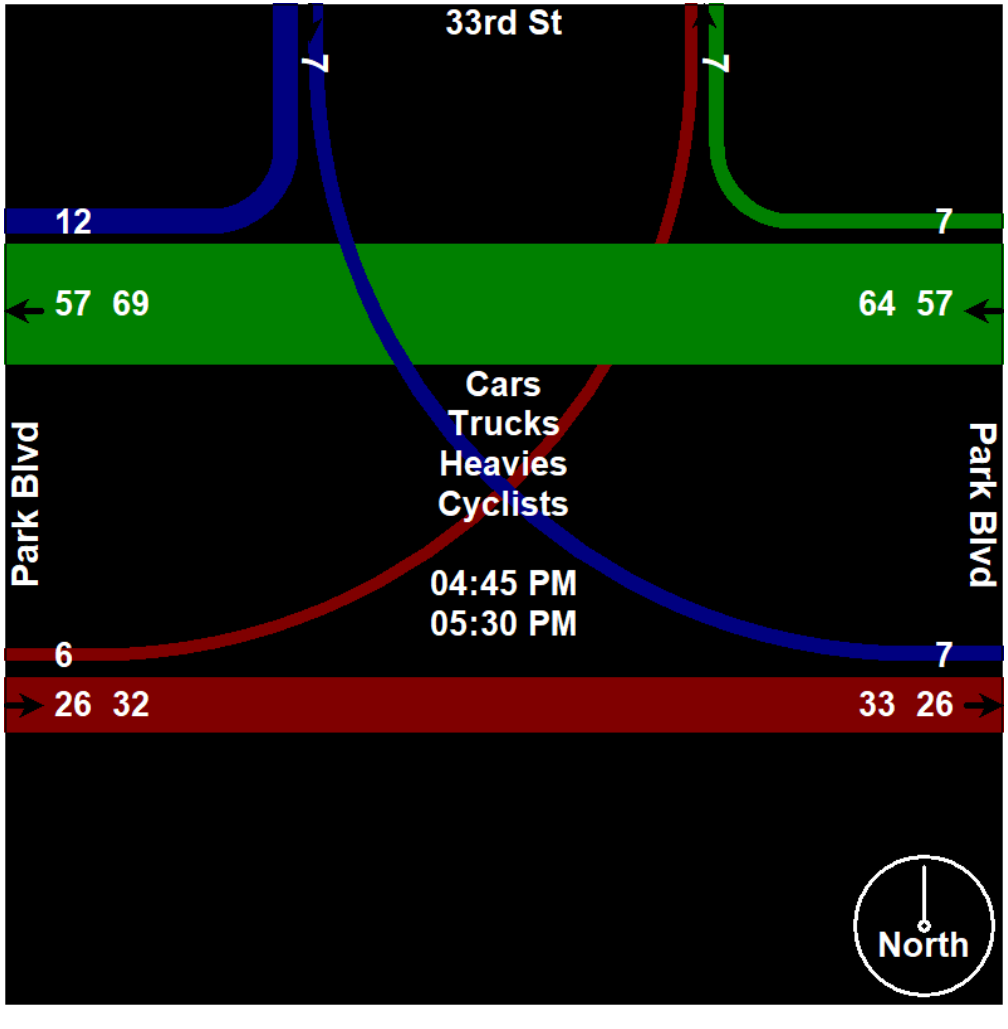
Your Traffic Count Specialist

File Name : Park Boulevard at Thirty Third Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	33rd St From North					Marina Ave From East					33rd St From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	2	0	0	2	0	0	0	0	0	0	9	0	1	10	1	0	1	1	3	15
07:15 AM	3	5	0	0	8	0	0	0	2	2	0	4	0	1	5	0	0	2	0	2	17
07:30 AM	4	6	0	2	12	0	0	0	5	5	0	6	4	1	11	0	1	6	0	7	35
07:45 AM	5	4	0	0	9	1	0	0	3	4	2	10	1	1	14	0	0	3	7	10	37
Total	12	17	0	2	31	1	0	0	10	11	2	29	5	4	40	1	1	12	8	22	104
08:00 AM	7	4	0	4	15	0	1	0	2	3	2	12	2	3	19	0	0	6	3	9	46
08:15 AM	5	5	1	17	28	2	0	1	0	3	2	12	4	18	36	1	2	9	3	15	82
08:30 AM	5	1	0	2	8	0	0	0	6	6	0	3	1	3	7	1	0	2	4	7	28
08:45 AM	5	4	0	0	9	0	0	0	3	3	0	11	0	1	12	0	0	5	3	8	32
Total	22	14	1	23	60	2	1	1	11	15	4	38	7	25	74	2	2	22	13	39	188
04:00 PM	7	10	0	2	19	0	0	0	3	3	0	5	1	1	7	0	0	3	2	5	34
04:15 PM	8	2	1	0	11	0	0	0	6	6	0	4	1	0	5	3	0	0	4	7	29
04:30 PM	9	5	0	1	15	0	0	0	1	1	0	6	1	2	9	1	0	4	6	11	36
04:45 PM	12	12	0	3	27	0	0	0	1	1	0	7	0	3	10	0	0	3	0	3	41
Total	36	29	1	6	72	0	0	0	11	11	0	22	3	6	31	4	0	10	12	26	140
05:00 PM	9	12	1	2	24	0	0	0	3	3	0	7	3	2	12	0	1	2	4	7	46
05:15 PM	7	8	0	2	17	1	1	0	4	6	1	5	0	10	16	0	0	0	3	3	42
05:30 PM	12	14	0	3	29	1	0	0	3	4	1	4	2	0	7	2	0	4	0	6	46
05:45 PM	6	11	1	2	20	0	1	0	2	3	0	5	0	2	7	1	0	2	5	8	38
Total	34	45	2	9	90	2	2	0	12	16	2	21	5	14	42	3	1	8	12	24	172
06:00 PM	7	15	0	3	25	0	0	0	3	3	0	4	2	3	9	0	1	4	0	5	42
06:15 PM	11	6	0	5	22	0	0	0	7	7	0	5	0	0	5	1	0	0	3	4	38
06:30 PM	4	9	0	2	15	1	0	0	3	4	0	3	2	0	5	1	0	3	3	7	31
06:45 PM	5	6	0	3	14	0	0	0	3	3	0	5	0	1	6	0	0	3	2	5	28
Total	27	36	0	13	76	1	0	0	16	17	0	17	4	4	25	2	1	10	8	21	139
Grand Total	131	141	4	53	329	6	3	1	60	70	8	127	24	53	212	12	5	62	53	132	743
Apprch %	39.8	42.9	1.2	16.1		8.6	4.3	1.4	85.7		3.8	59.9	11.3	25		9.1	3.8	47	40.2		
Total %	17.6	19	0.5	7.1	44.3	0.8	0.4	0.1	8.1	9.4	1.1	17.1	3.2	7.1	28.5	1.6	0.7	8.3	7.1	17.8	
Cars	127	134	3	53	317	4	3	0	60	67	5	123	24	53	205	11	4	60	53	128	717
% Cars	96.9	95	75	100	96.4	66.7	100	0	100	95.7	62.5	96.9	100	100	96.7	91.7	80	96.8	100	97	96.5
Trucks	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	9
% Trucks	0	3.5	0	0	1.5	0	0	0	0	0	0	1.6	0	0	0.9	0	0	3.2	0	1.5	1.2

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Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

	33rd St From North					Marina Ave From East					33rd St From South					Marina Ave From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	2	1	1	0	4	2	0	0	0	2	1	1	0	0	2	1	0	0	0	1	9
% Heavies	1.5	0.7	25	0	1.2	33.3	0	0	0	2.9	12.5	0.8	0	0	0.9	8.3	0	0	0	0.8	1.2
Cyclists	2	1	0	0	3	0	0	1	0	1	2	1	0	0	3	0	1	0	0	1	8
% Cyclists	1.5	0.7	0	0	0.9	0	0	100	0	1.4	25	0.8	0	0	1.4	0	20	0	0	0.8	1.1

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Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
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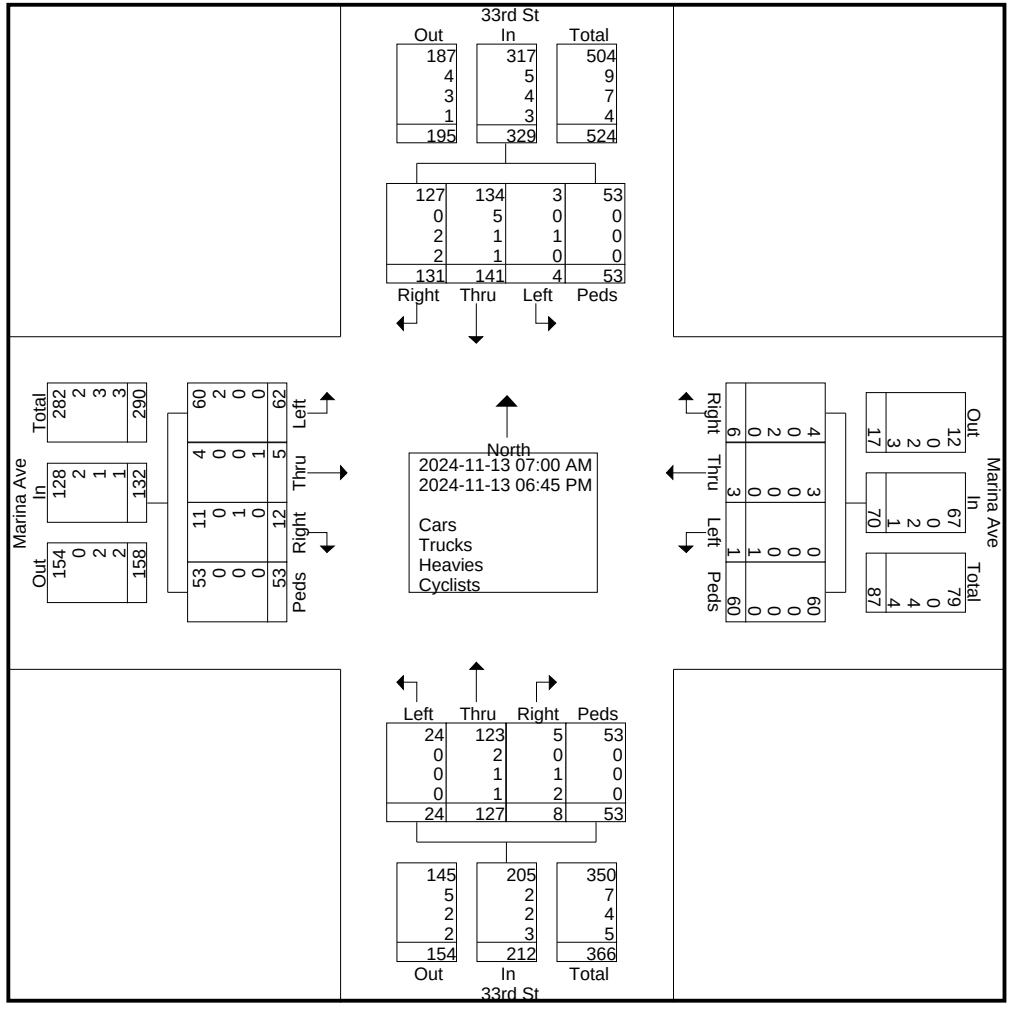

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Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	33rd St From North					Marina Ave From East					33rd St From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	4	**6**	0	2	12	0	0	0	**5**	**5**	0	6	**4**	1	11	0	1	6	0	7	35
07:45 AM	5	4	0	0	9	1	0	0	3	4	**2**	10	1	1	14	0	0	3	**7**	10	37
08:00 AM	**7**	4	0	4	15	0	**1**	0	2	3	2	**12**	2	3	19	0	0	6	3	9	46
08:15 AM	5	5	**1**	**17**	**28**	**2**	0	**1**	0	3	2	12	4	**18**	**36**	**1**	**2**	**9**	3	**15**	**82**
Total Volume	21	19	1	23	64	3	1	1	10	15	6	40	11	23	80	1	3	24	13	41	200
% App. Total	32.8	29.7	1.6	35.9		20	6.7	6.7	66.7		7.5	50	13.8	28.8		2.4	7.3	58.5	31.7		
PHF	.750	.792	.250	.338	.571	.375	.250	.250	.500	.750	.750	.833	.688	.319	.556	.250	.375	.667	.464	.683	.610
Cars	21	17	1	23	62	2	1	0	10	13	3	39	11	23	76	1	2	24	13	40	191
% Cars	100	89.5	100	100	96.9	66.7	100	0	100	86.7	50.0	97.5	100	100	95.0	100	66.7	100	100	97.6	95.5
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	5.3	0	0	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5
Heavies	0	1	0	0	1	1	0	0	0	1	1	1	0	0	2	0	0	0	0	0	4
% Heavies	0	5.3	0	0	1.6	33.3	0	0	0	6.7	16.7	2.5	0	0	2.5	0	0	0	0	0	2.0
Cyclists	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2	0	1	0	0	1	4
% Cyclists	0	0	0	0	0	0	0	100	0	6.7	33.3	0	0	0	2.5	0	33.3	0	0	2.4	2.0

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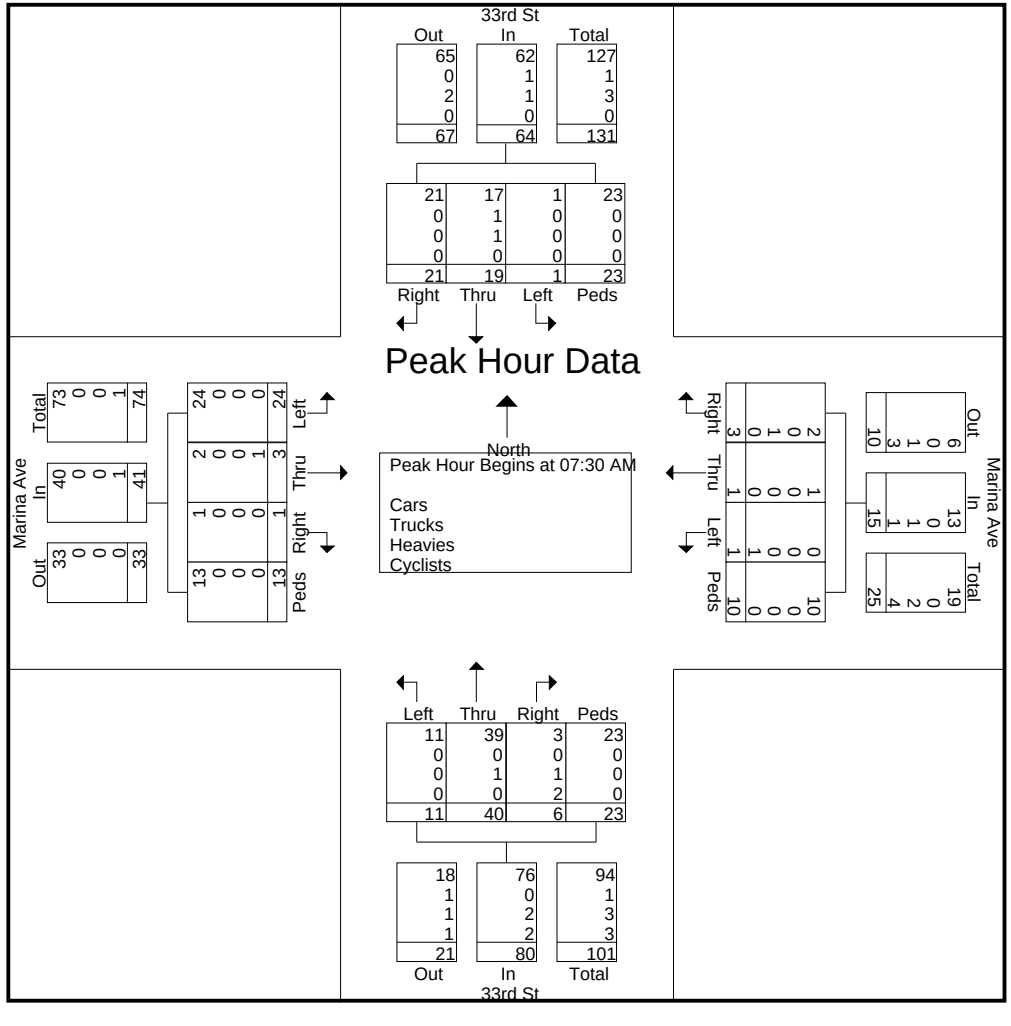
Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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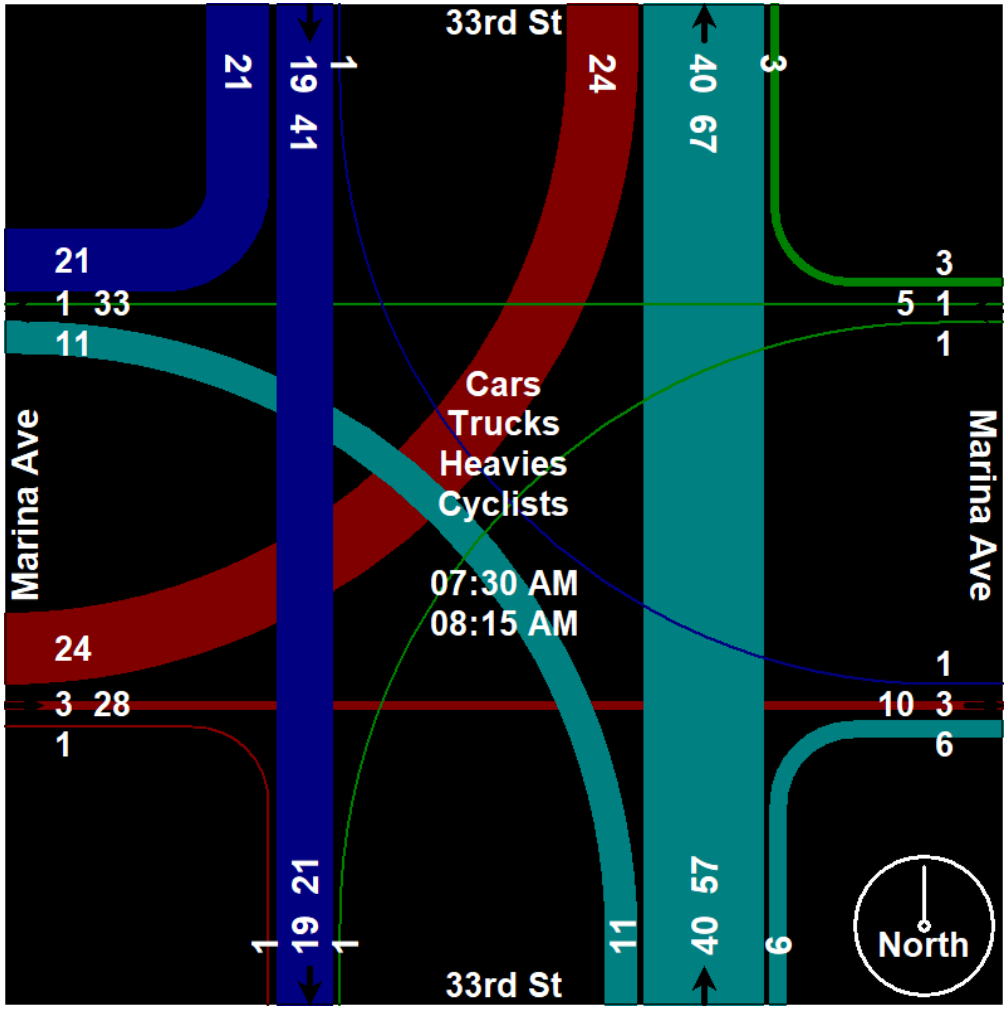
Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 7

	33rd St From North					Marina Ave From East					33rd St From South					Marina Ave From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**12**	12	0	**3**	27	0	0	0	1	1	0	**7**	0	3	10	0	0	3	0	3	41
05:00 PM	9	12	**1**	2	24	0	0	0	3	3	0	7	**3**	2	12	0	**1**	2	**4**	**7**	**46**
05:15 PM	7	8	0	2	17	**1**	**1**	0	**4**	**6**	**1**	5	0	**10**	**16**	0	0	0	3	3	42
05:30 PM	12	**14**	0	3	**29**	1	0	0	3	4	1	4	2	0	7	**2**	0	**4**	0	6	46
Total Volume	40	46	1	10	97	2	1	0	11	14	2	23	5	15	45	2	1	9	7	19	175
% App. Total	41.2	47.4	1	10.3		14.3	7.1	0	78.6		4.4	51.1	11.1	33.3		10.5	5.3	47.4	36.8		
PHF	.833	.821	.250	.833	.836	.500	.250	.000	.688	.583	.500	.821	.417	.375	.703	.250	.250	.563	.438	.679	.951
Cars	39	44	1	10	94	1	1	0	11	13	2	22	5	15	44	2	1	9	7	19	170
% Cars	97.5	95.7	100	100	96.9	50.0	100	0	100	92.9	100	95.7	100	100	97.8	100	100	100	100	100	97.1
Trucks	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Trucks	0	2.2	0	0	1.0	0	0	0	0	0	0	4.3	0	0	2.2	0	0	0	0	0	1.1
Heavies	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Heavies	0	0	0	0	0	50.0	0	0	0	7.1	0	0	0	0	0	0	0	0	0	0	0.6
Cyclists	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Cyclists	2.5	2.2	0	0	2.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1

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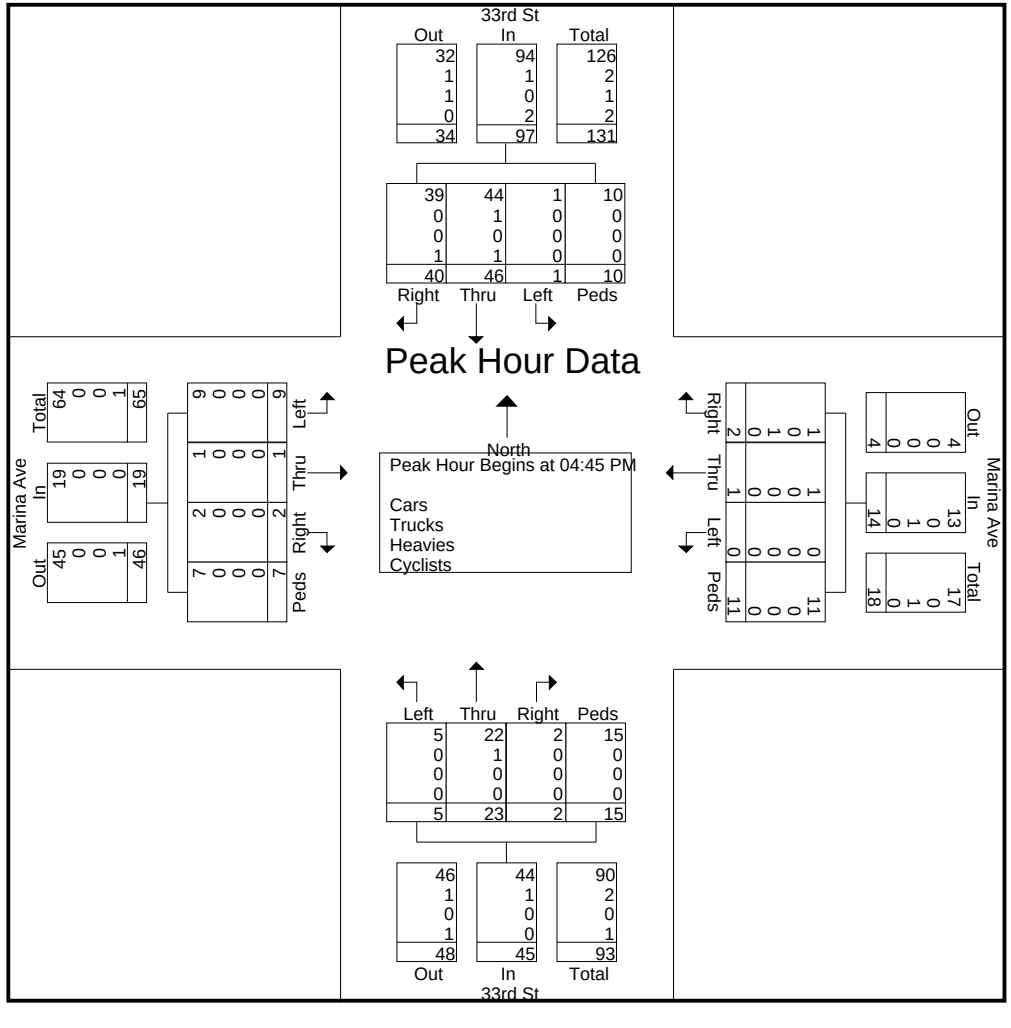
Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8

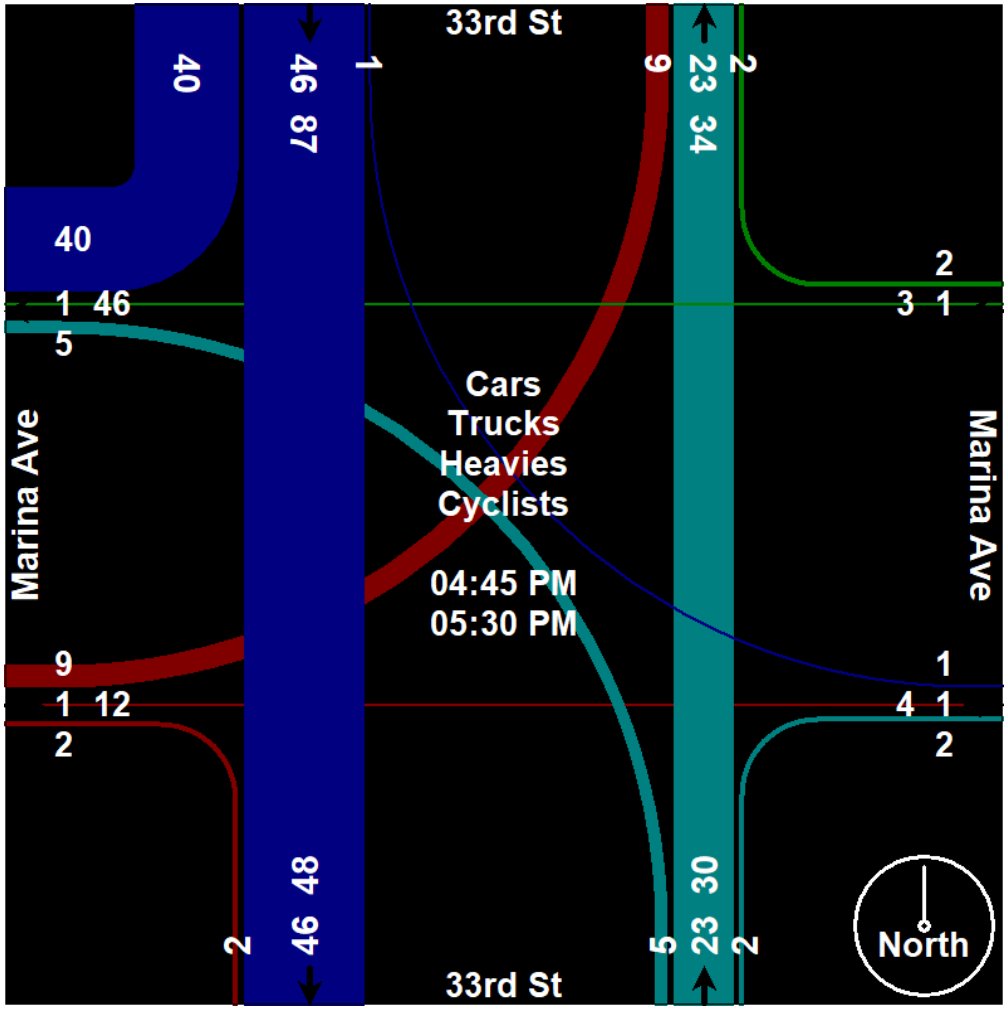


Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Thirty Third Street at Marina Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	Long Branch From North					From East					Lake Promenade From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	1	0	0	2	0	0	0	0	0	0	8	4	0	12	8	0	0	2	10	24
07:15 AM	1	3	0	0	4	0	0	0	0	0	0	7	3	0	10	9	0	0	3	12	26
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	8	7	0	15	7	0	1	4	12	27
07:45 AM	3	2	0	0	5	0	0	0	0	0	0	4	8	1	13	7	0	3	5	15	33
Total	5	6	0	0	11	0	0	0	0	0	0	27	22	1	50	31	0	4	14	49	110
08:00 AM	3	4	0	0	7	0	0	0	0	0	0	10	11	7	28	15	0	2	0	17	52
08:15 AM	2	2	0	0	4	0	0	0	0	0	0	8	19	0	27	17	0	2	1	20	51
08:30 AM	0	8	0	0	8	0	0	0	0	0	0	11	18	0	29	6	0	0	1	7	44
08:45 AM	1	3	0	0	4	0	0	0	0	0	0	3	9	1	13	17	0	0	0	17	34
Total	6	17	0	0	23	0	0	0	0	0	0	32	57	8	97	55	0	4	2	61	181
04:00 PM	2	5	0	0	7	0	0	0	0	0	0	3	8	2	13	9	0	3	1	13	33
04:15 PM	1	3	0	0	4	0	0	0	0	0	0	2	9	0	11	15	0	2	2	19	34
04:30 PM	1	3	0	0	4	0	0	0	0	0	0	5	10	0	15	16	0	5	2	23	42
04:45 PM	2	1	0	0	3	0	0	0	0	0	0	7	11	1	19	17	0	3	4	24	46
Total	6	12	0	0	18	0	0	0	0	0	0	17	38	3	58	57	0	13	9	79	155
05:00 PM	3	6	0	0	9	0	0	0	0	0	0	2	7	0	9	16	0	3	1	20	38
05:15 PM	0	6	0	2	8	0	0	0	0	0	0	8	7	1	16	11	0	1	2	14	38
05:30 PM	3	5	0	0	8	0	0	0	0	0	0	6	11	0	17	7	0	1	7	15	40
05:45 PM	1	3	0	0	4	0	0	0	0	0	0	4	15	0	19	9	0	1	1	11	34
Total	7	20	0	2	29	0	0	0	0	0	0	20	40	1	61	43	0	6	11	60	150
06:00 PM	3	8	0	2	13	0	0	0	0	0	0	5	6	0	11	10	0	1	1	12	36
06:15 PM	2	5	0	0	7	0	0	0	0	0	0	8	8	2	18	9	0	2	2	13	38
06:30 PM	3	4	0	3	10	0	0	0	0	0	0	4	2	3	9	8	0	2	1	11	30
06:45 PM	0	4	0	0	4	0	0	0	0	0	0	4	4	1	9	11	0	2	0	13	26
Total	8	21	0	5	34	0	0	0	0	0	0	21	20	6	47	38	0	7	4	49	130
Grand Total	32	76	0	7	115	0	0	0	0	0	0	117	177	19	313	224	0	34	40	298	726
Apprch %	27.8	66.1	0	6.1		0	0	0	0		0	37.4	56.5	6.1		75.2	0	11.4	13.4		
Total %	4.4	10.5	0	1	15.8	0	0	0	0	0	0	16.1	24.4	2.6	43.1	30.9	0	4.7	5.5	41	
Cars	27	73	0	7	107	0	0	0	0	0	0	114	155	19	288	181	0	32	40	253	648
% Cars	84.4	96.1	0	100	93	0	0	0	0	0	0	97.4	87.6	100	92	80.8	0	94.1	100	84.9	89.3
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	4
% Trucks	0	1.3	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0.9	0	2.9	0	1	0.6

Horizon Data Services Ltd

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Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 2

Groups Printed- Cars - Trucks - Heavies - Cyclists

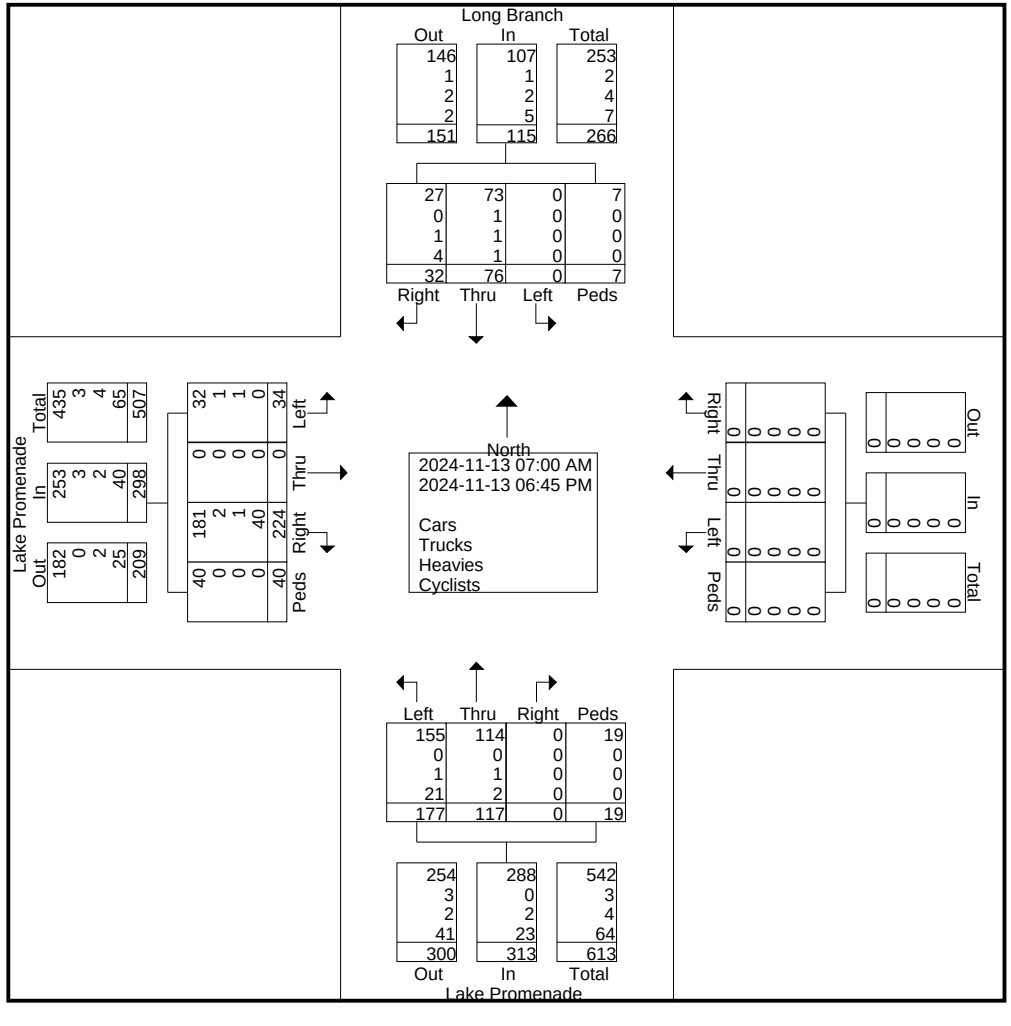
	Long Branch From North					From East					Lake Promenade From South					Lake Promenade From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	1	0	1	0	2	6
% Heavies	3.1	1.3	0	0	1.7	0	0	0	0	0	0	0.9	0.6	0	0.6	0.4	0	2.9	0	0.7	0.8
Cyclists	4	1	0	0	5	0	0	0	0	0	0	2	21	0	23	40	0	0	0	40	68
% Cyclists	12.5	1.3	0	0	4.3	0	0	0	0	0	0	1.7	11.9	0	7.3	17.9	0	0	0	13.4	9.4

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 4

	Long Branch From North					From East					Lake Promenade From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**3**	4	0	0	7	0	0	0	0	0	0	10	11	**7**	28	15	0	**2**	0	17	**52**
08:15 AM	2	2	0	0	4	0	0	0	0	0	0	8	**19**	0	27	**17**	0	2	**1**	**20**	51
08:30 AM	0	**8**	0	0	**8**	0	0	0	0	0	0	**11**	18	0	**29**	6	0	0	1	7	44
08:45 AM	1	3	0	0	4	0	0	0	0	0	0	3	9	1	13	17	0	0	0	17	34
Total Volume	6	17	0	0	23	0	0	0	0	0	0	32	57	8	97	55	0	4	2	61	181
% App. Total	26.1	73.9	0	0		0	0	0	0		0	33	58.8	8.2		90.2	0	6.6	3.3		
PHF	.500	.531	.000	.000	.719	.000	.000	.000	.000	.000	.000	.727	.750	.286	.836	.809	.000	.500	.500	.763	.870
Cars	5	15	0	0	20	0	0	0	0	0	0	31	53	8	92	45	0	3	2	50	162
% Cars	83.3	88.2	0	0	87.0	0	0	0	0	0	0	96.9	93.0	100	94.8	81.8	0	75.0	100	82.0	89.5
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Trucks	0	5.9	0	0	4.3	0	0	0	0	0	0	0	0	0	0	1.8	0	0	0	1.6	1.1
Heavies	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
% Heavies	0	5.9	0	0	4.3	0	0	0	0	0	0	3.1	0	0	1.0	0	0	25.0	0	1.6	1.7
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	9	0	0	0	9	14
% Cyclists	16.7	0	0	0	4.3	0	0	0	0	0	0	0	7.0	0	4.1	16.4	0	0	0	14.8	7.7

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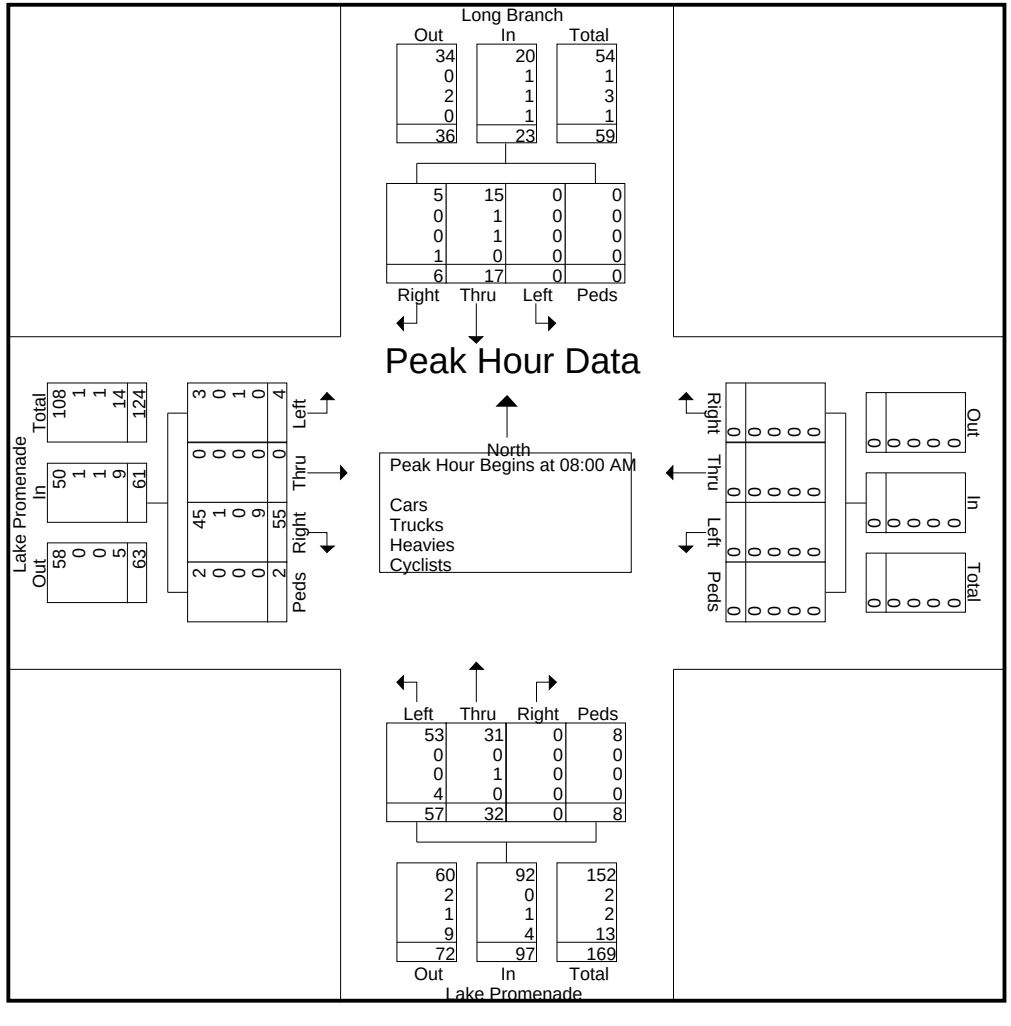
Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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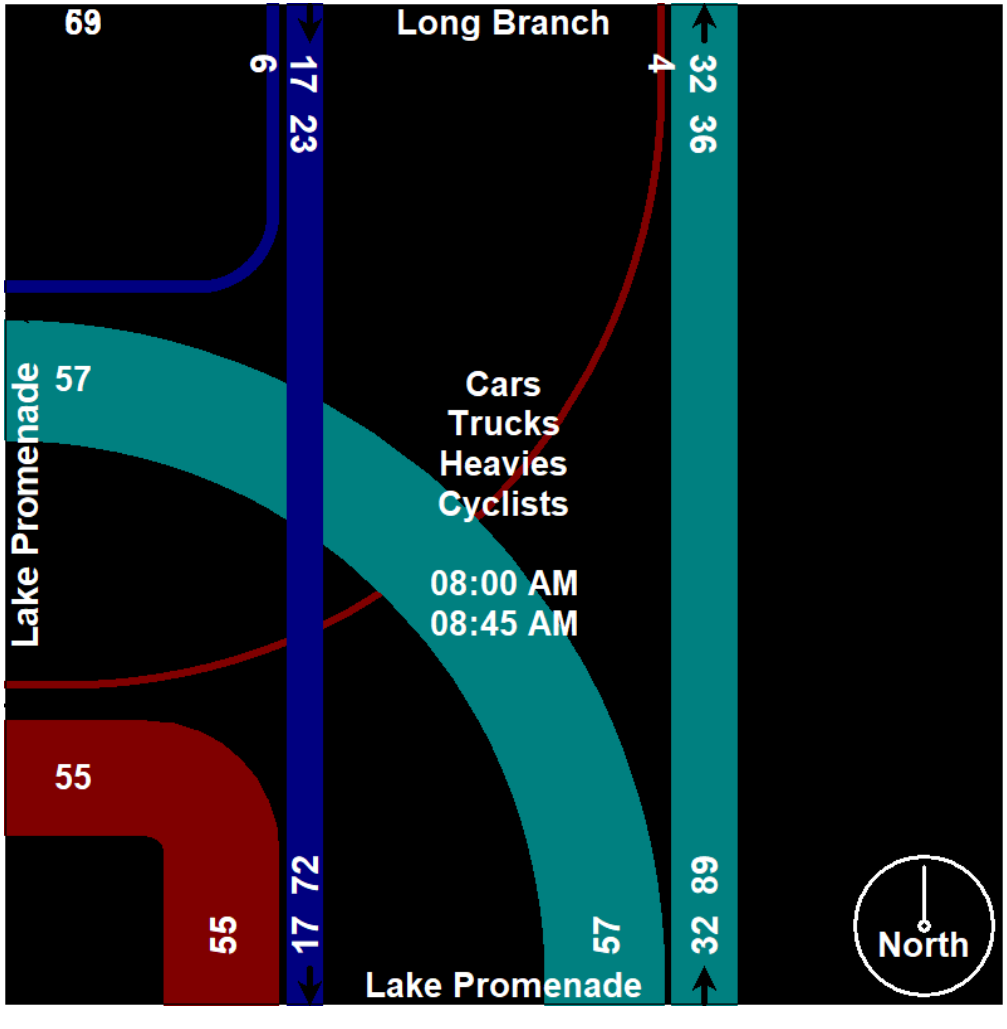
Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13

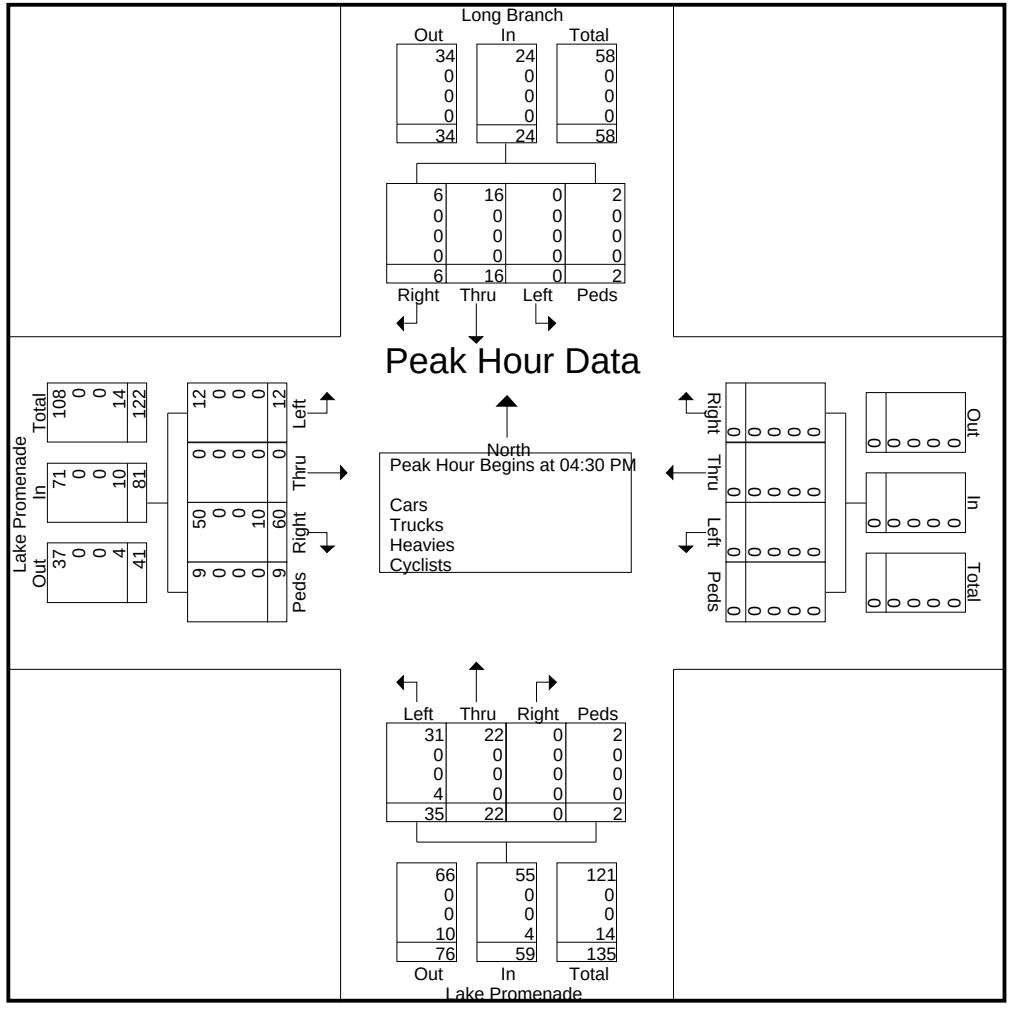
	Long Branch From North					From East					Lake Promenade From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	3	0	0	4	0	0	0	0	0	0	5	10	0	15	16	0	**5**	2	23	42
04:45 PM	2	1	0	0	3	0	0	0	0	0	0	7	**11**	**1**	**19**	**17**	0	3	**4**	**24**	**46**
05:00 PM	**3**	**6**	0	0	**9**	0	0	0	0	0	0	2	7	0	9	16	0	3	1	20	38
05:15 PM	0	6	0	**2**	8	0	0	0	0	0	0	**8**	7	1	16	11	0	1	2	14	38
Total Volume	6	16	0	2	24	0	0	0	0	0	0	22	35	2	59	60	0	12	9	81	164
% App. Total	25	66.7	0	8.3		0	0	0	0		0	37.3	59.3	3.4		74.1	0	14.8	11.1		
PHF	.500	.667	.000	.250	.667	.000	.000	.000	.000	.000	.000	.688	.795	.500	.776	.882	.000	.600	.563	.844	.891
Cars	6	16	0	2	24	0	0	0	0	0	0	22	31	2	55	50	0	12	9	71	150
% Cars	100	100	0	100	100	0	0	0	0	0	0	100	88.6	100	93.2	83.3	0	100	100	87.7	91.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	10	0	0	0	10	14
% Cyclists	0	0	0	0	0	0	0	0	0	0	0	0	11.4	0	6.8	16.7	0	0	0	12.3	8.5

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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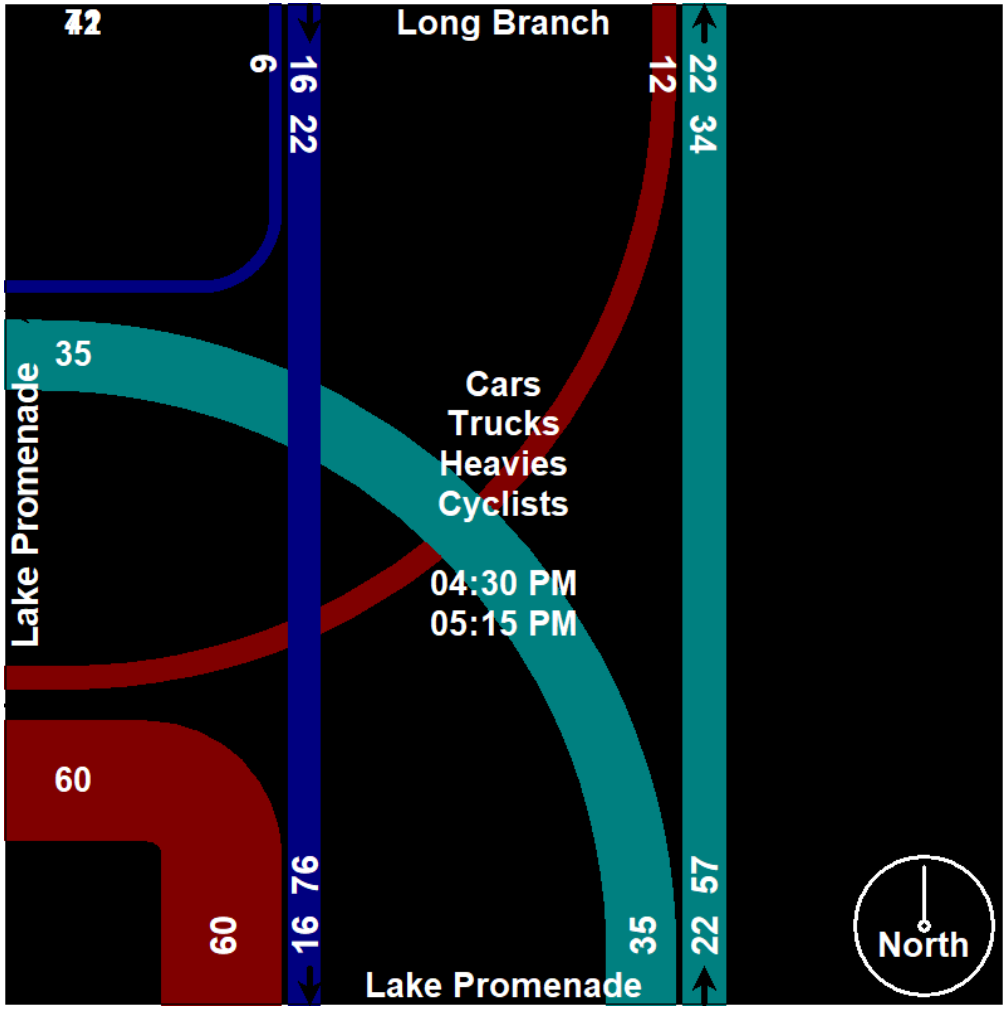
Your Traffic Count Specialist

File Name : Lake Promenade at Long Branch Avenue
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	31st St From North					Lake Promenade From East					From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0	6	1	1	8	11
07:15 AM	0	0	3	1	4	2	3	0	1	6	0	0	0	0	0	0	8	5	1	14	24
07:30 AM	0	0	5	0	5	1	4	0	0	5	0	0	0	0	0	0	9	5	0	14	24
07:45 AM	0	0	0	1	1	6	7	0	0	13	0	0	0	0	0	0	9	2	0	11	25
Total	0	0	9	2	11	10	15	0	1	26	0	0	0	0	0	0	32	13	2	47	84
08:00 AM	3	0	3	1	7	2	11	0	1	14	0	0	0	0	0	0	12	3	0	15	36
08:15 AM	2	0	13	1	16	9	19	0	1	29	0	0	0	0	0	0	21	7	0	28	73
08:30 AM	4	0	4	0	8	4	14	0	2	20	0	0	0	0	0	0	11	3	0	14	42
08:45 AM	2	0	3	2	7	5	8	0	0	13	0	0	0	0	0	0	18	4	1	23	43
Total	11	0	23	4	38	20	52	0	4	76	0	0	0	0	0	0	62	17	1	80	194
04:00 PM	4	0	6	0	10	8	9	0	1	18	0	0	0	0	0	0	7	3	2	12	40
04:15 PM	1	0	2	2	5	4	8	0	0	12	0	0	0	0	0	0	14	2	0	16	33
04:30 PM	2	0	1	2	5	7	9	0	2	18	0	0	0	0	0	0	13	3	0	16	39
04:45 PM	4	0	5	3	12	2	7	0	1	10	0	0	0	0	0	0	14	1	0	15	37
Total	11	0	14	7	32	21	33	0	4	58	0	0	0	0	0	0	48	9	2	59	149
05:00 PM	4	0	4	2	10	5	10	0	0	15	0	0	0	0	0	0	9	2	0	11	36
05:15 PM	2	0	1	0	3	5	8	0	0	13	0	0	0	0	0	0	8	2	0	10	26
05:30 PM	4	0	9	2	15	2	15	0	0	17	0	0	0	0	0	0	6	3	0	9	41
05:45 PM	5	0	6	1	12	0	12	0	0	12	0	0	0	0	0	0	6	1	0	7	31
Total	15	0	20	5	40	12	45	0	0	57	0	0	0	0	0	0	29	8	0	37	134
06:00 PM	1	0	3	2	6	3	11	0	0	14	0	0	0	0	0	0	9	2	2	13	33
06:15 PM	3	0	1	1	5	3	11	0	0	14	0	0	0	0	0	0	4	1	0	5	24
06:30 PM	2	0	2	0	4	3	5	0	0	8	0	0	0	0	0	0	6	3	0	9	21
06:45 PM	1	0	4	1	6	0	6	0	0	6	0	0	0	0	0	0	6	2	0	8	20
Total	7	0	10	4	21	9	33	0	0	42	0	0	0	0	0	0	25	8	2	35	98
Grand Total	44	0	76	22	142	72	178	0	9	259	0	0	0	0	0	0	196	55	7	258	659
Apprch %	31	0	53.5	15.5		27.8	68.7	0	3.5		0	0	0	0		0	76	21.3	2.7		
Total %	6.7	0	11.5	3.3	21.5	10.9	27	0	1.4	39.3	0	0	0	0	0	0	29.7	8.3	1.1	39.2	
Cars	39	0	66	22	127	60	156	0	9	225	0	0	0	0	0	0	155	51	7	213	565
% Cars	88.6	0	86.8	100	89.4	83.3	87.6	0	100	86.9	0	0	0	0	0	0	79.1	92.7	100	82.6	85.7
Trucks	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	4
% Trucks	0	0	1.3	0	0.7	2.8	0	0	0	0.8	0	0	0	0	0	0	0.5	0	0	0.4	0.6

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

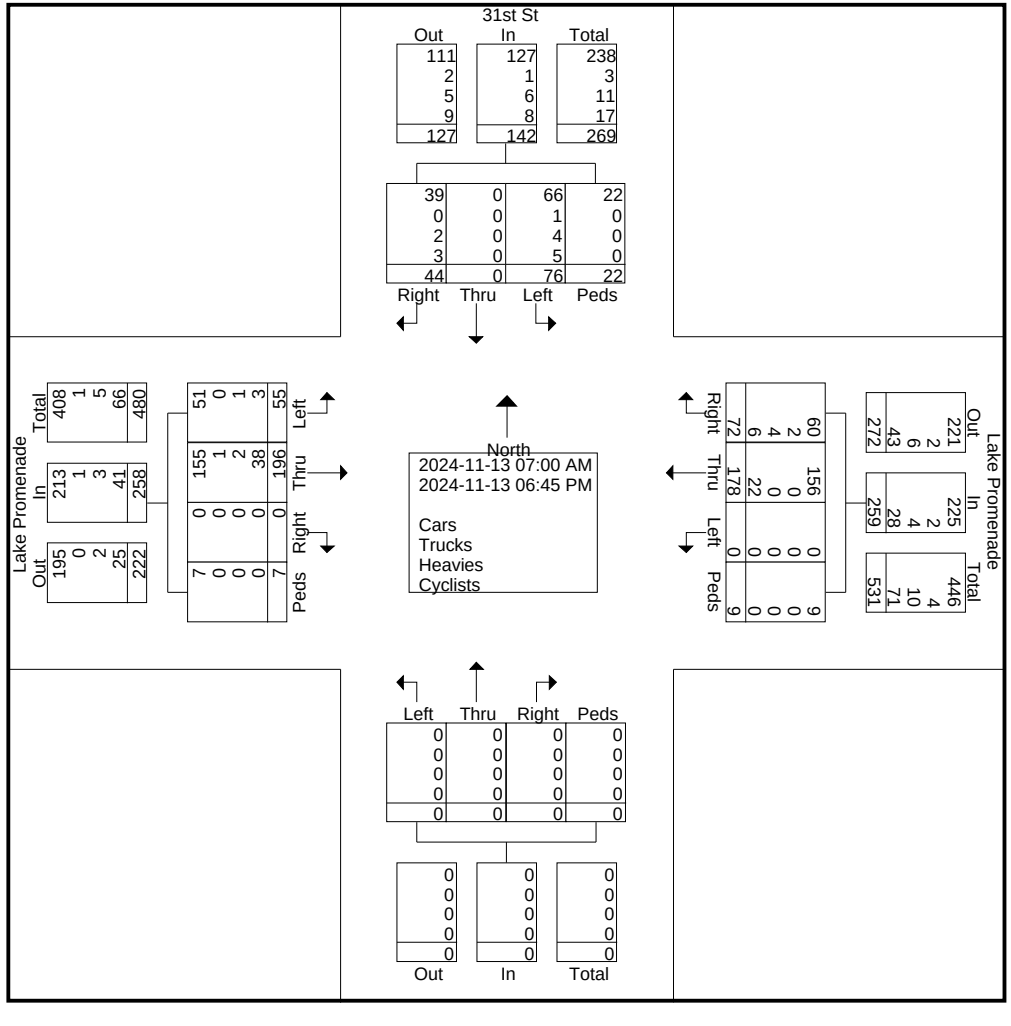
	31st St From North					Lake Promenade From East					From South					Lake Promenade From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	2	0	4	0	6	4	0	0	0	4	0	0	0	0	0	0	2	1	0	3	13
% Heavies	4.5	0	5.3	0	4.2	5.6	0	0	0	1.5	0	0	0	0	0	0	1	1.8	0	1.2	2
Cyclists	3	0	5	0	8	6	22	0	0	28	0	0	0	0	0	0	38	3	0	41	77
% Cyclists	6.8	0	6.6	0	5.6	8.3	12.4	0	0	10.8	0	0	0	0	0	0	19.4	5.5	0	15.9	11.7

Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



Horizon Data Services Ltd

(416) 840-6619

Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13

	31st St From North					Lake Promenade From East					From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	3	0	3	1	7	2	11	0	1	14	0	0	0	0	0	0	12	3	0	15	36
08:15 AM	2	0	**13**	1	**16**	**9**	**19**	0	1	**29**	0	0	0	0	0	0	**21**	**7**	0	**28**	**73**
08:30 AM	**4**	0	4	0	8	4	14	0	**2**	20	0	0	0	0	0	0	11	3	0	14	42
08:45 AM	2	0	3	**2**	7	5	8	0	0	13	0	0	0	0	0	0	18	4	**1**	23	43
Total Volume	11	0	23	4	38	20	52	0	4	76	0	0	0	0	0	0	62	17	1	80	194
% App. Total	28.9	0	60.5	10.5		26.3	68.4	0	5.3		0	0	0	0		0	77.5	21.2	1.2		
PHF	.688	.000	.442	.500	.594	.556	.684	.000	.500	.655	.000	.000	.000	.000	.000	.000	.738	.607	.250	.714	.664
Cars	10	0	21	4	35	19	48	0	4	71	0	0	0	0	0	0	51	16	1	68	174
% Cars	90.9	0	91.3	100	92.1	95.0	92.3	0	100	93.4	0	0	0	0	0	0	82.3	94.1	100	85.0	89.7
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	0	0	1.3	0.5
Heavies	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
% Heavies	9.1	0	8.7	0	7.9	0	0	0	0	0	0	0	0	0	0	0	0	5.9	0	1.3	2.1
Cyclists	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	10	0	0	10	15
% Cyclists	0	0	0	0	0	5.0	7.7	0	0	6.6	0	0	0	0	0	0	16.1	0	0	12.5	7.7

Horizon Data Services Ltd

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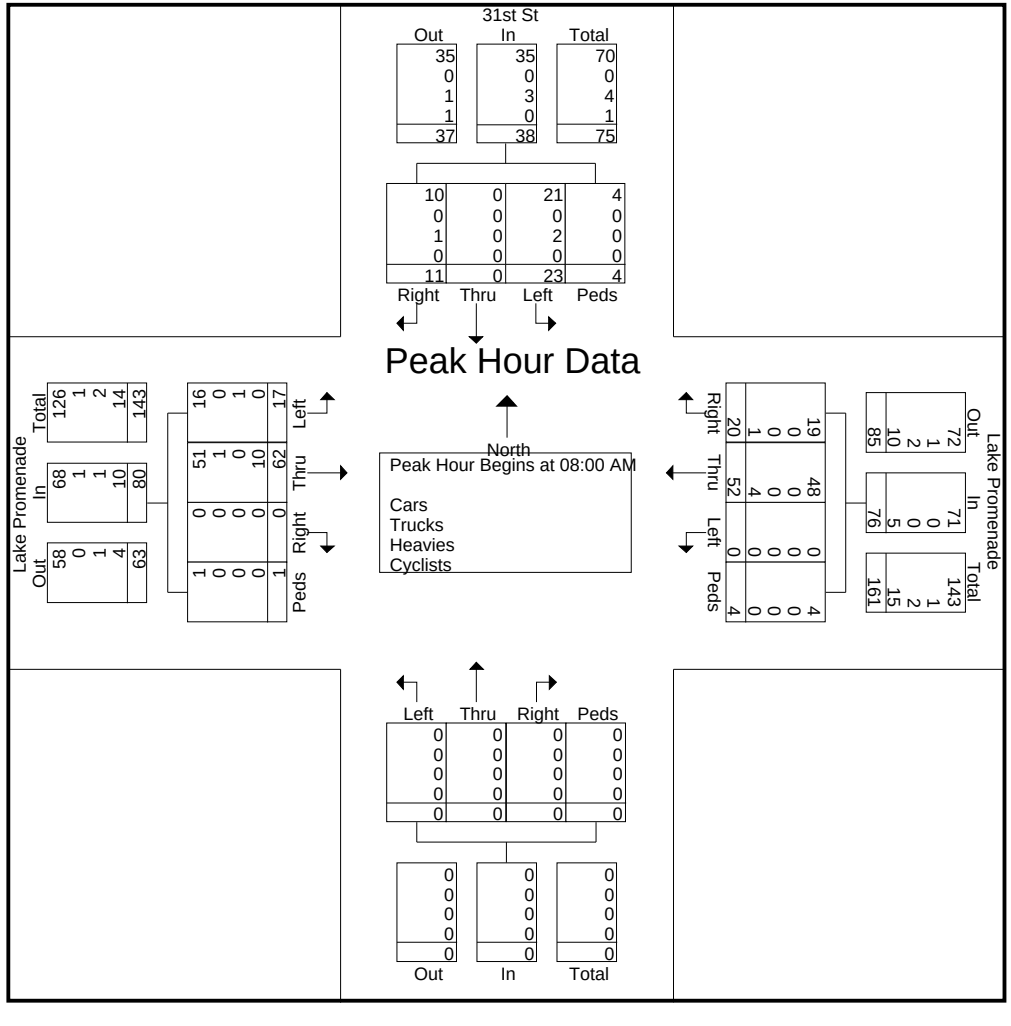
Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 5



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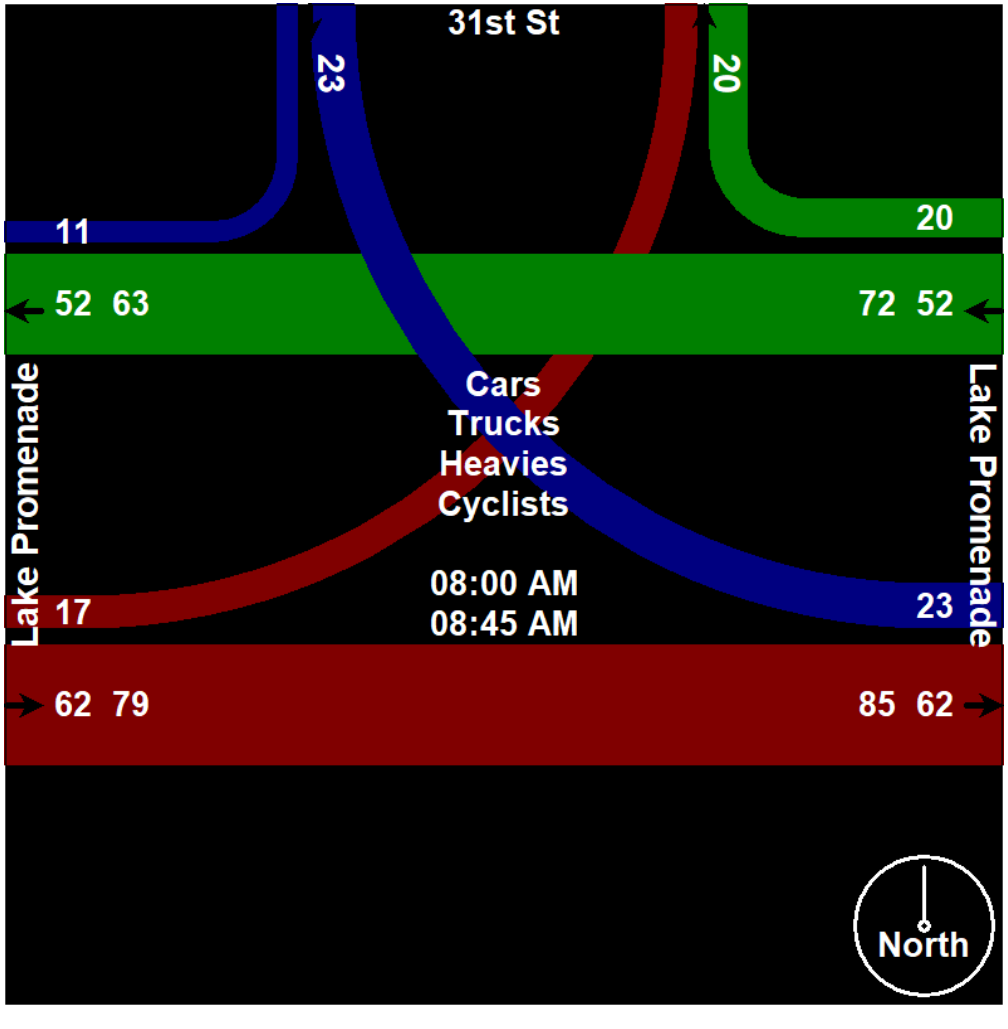
Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 6



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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13

	31st St From North					Lake Promenade From East					From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**4**	0	**6**	0	10	**8**	**9**	0	1	**18**	0	0	0	0	0	0	7	**3**	**2**	12	**40**
04:15 PM	1	0	2	2	5	4	8	0	0	12	0	0	0	0	0	0	**14**	2	0	**16**	33
04:30 PM	2	0	1	2	5	7	9	0	**2**	18	0	0	0	0	0	0	13	3	0	16	39
04:45 PM	4	0	5	**3**	**12**	2	7	0	1	10	0	0	0	0	0	0	14	1	0	15	37
Total Volume	11	0	14	7	32	21	33	0	4	58	0	0	0	0	0	0	48	9	2	59	149
% App. Total	34.4	0	43.8	21.9		36.2	56.9	0	6.9		0	0	0	0		0	81.4	15.3	3.4		
PHF	.688	.000	.583	.583	.667	.656	.917	.000	.500	.806	.000	.000	.000	.000	.000	.000	.857	.750	.250	.922	.931
Cars	10	0	9	7	26	15	27	0	4	46	0	0	0	0	0	0	38	7	2	47	119
% Cars	90.9	0	64.3	100	81.3	71.4	81.8	0	100	79.3	0	0	0	0	0	0	79.2	77.8	100	79.7	79.9
Trucks	0	0	1	0	1	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3
% Trucks	0	0	7.1	0	3.1	9.5	0	0	0	3.4	0	0	0	0	0	0	0	0	0	0	2.0
Heavies	1	0	2	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5
% Heavies	9.1	0	14.3	0	9.4	9.5	0	0	0	3.4	0	0	0	0	0	0	0	0	0	0	3.4
Cyclists	0	0	2	0	2	2	6	0	0	8	0	0	0	0	0	0	10	2	0	12	22
% Cyclists	0	0	14.3	0	6.3	9.5	18.2	0	0	13.8	0	0	0	0	0	0	20.8	22.2	0	20.3	14.8

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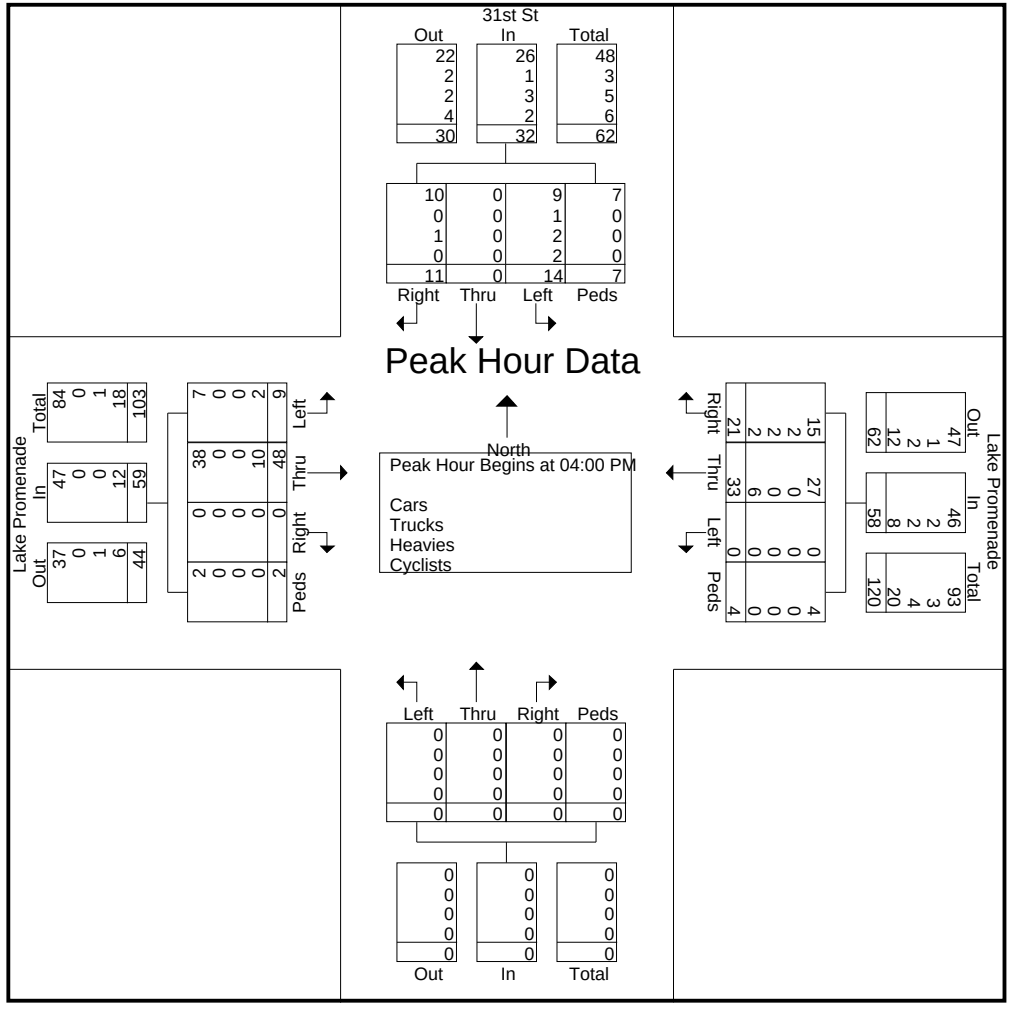
Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 8



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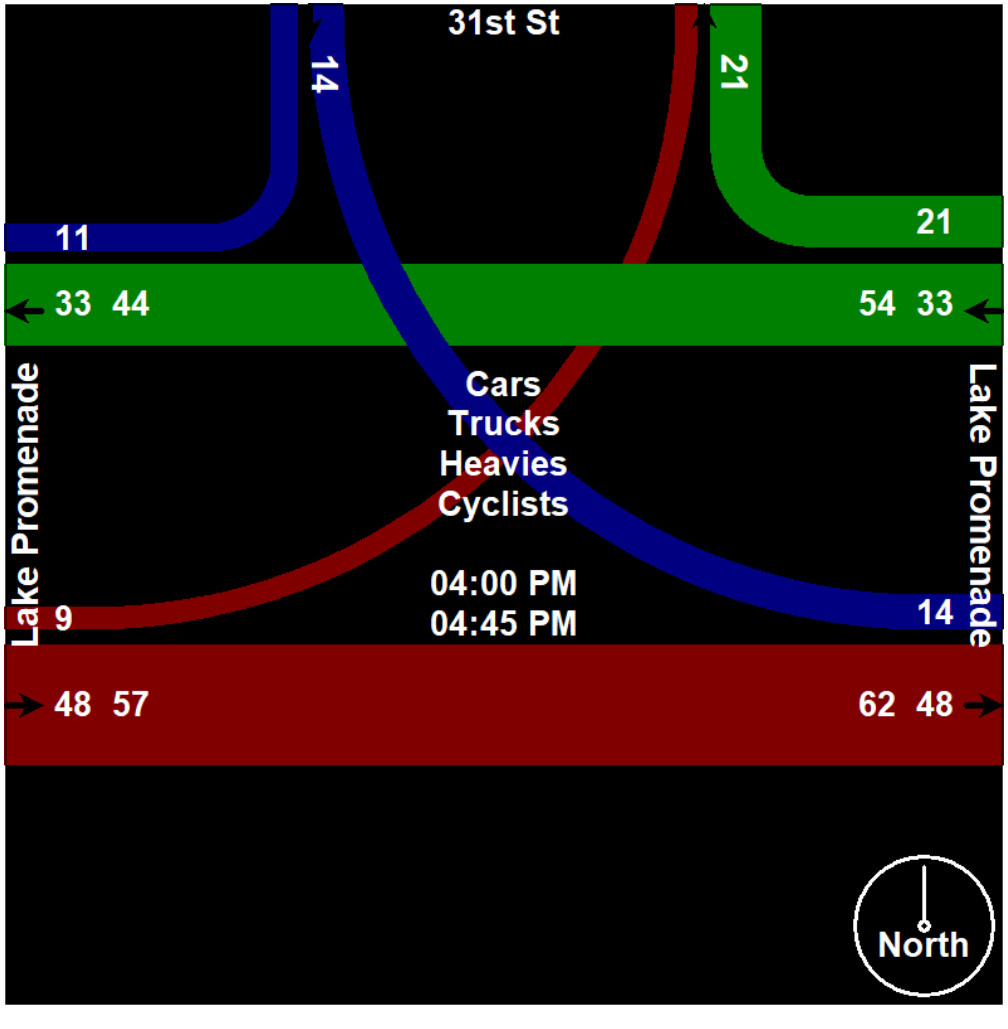
Your Traffic Count Specialist

File Name : Lake Promenade at Thirty First Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 9



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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 1

Groups Printed- Cars - Trucks - Heavies - Cyclists

	37th St From North					Lake Promenade Blvd From East					37th St From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	9	0	1	3	13	20
07:15 AM	3	1	0	0	4	0	0	0	0	0	0	1	1	1	3	7	0	4	3	14	21
07:30 AM	5	0	0	0	5	0	0	0	0	0	0	0	9	0	9	8	0	1	3	12	26
07:45 AM	2	3	0	0	5	0	0	0	0	0	0	5	7	0	12	4	0	0	4	8	25
Total	10	4	0	0	14	0	0	0	0	0	0	7	23	1	31	28	0	6	13	47	92
08:00 AM	8	3	0	0	11	0	0	0	0	0	0	3	9	0	12	13	0	2	3	18	41
08:15 AM	5	4	0	0	9	0	0	0	0	0	0	3	20	0	23	15	0	5	3	23	55
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	19	0	19	6	0	4	1	11	33
08:45 AM	5	3	0	0	8	0	0	0	0	0	0	2	8	0	10	14	0	4	1	19	37
Total	18	13	0	0	31	0	0	0	0	0	0	8	56	0	64	48	0	15	8	71	166
04:00 PM	7	4	0	0	11	0	0	0	0	0	0	1	9	0	10	9	0	4	6	19	40
04:15 PM	4	2	0	1	7	0	0	0	0	0	0	1	7	0	8	20	0	3	2	25	40
04:30 PM	3	0	0	0	3	0	0	0	0	0	0	3	9	0	12	19	0	2	4	25	40
04:45 PM	6	3	0	0	9	0	0	0	0	0	0	2	9	0	11	16	0	4	6	26	46
Total	20	9	0	1	30	0	0	0	0	0	0	7	34	0	41	64	0	13	18	95	166
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	8	0	9	20	0	6	5	31	42
05:15 PM	1	3	0	0	4	0	0	0	0	0	0	2	7	0	9	11	0	3	0	14	27
05:30 PM	1	4	0	0	5	0	0	0	0	0	0	1	11	0	12	8	0	1	4	13	30
05:45 PM	4	5	0	0	9	0	0	0	0	0	0	5	11	0	16	7	0	3	4	14	39
Total	6	14	0	0	20	0	0	0	0	0	0	9	37	0	46	46	0	13	13	72	138
06:00 PM	5	2	0	0	7	0	0	0	0	0	0	3	4	0	7	11	0	4	2	17	31
06:15 PM	2	2	0	0	4	0	0	0	0	0	0	1	7	0	8	9	0	3	3	15	27
06:30 PM	2	6	0	0	8	0	0	0	0	0	0	1	5	0	6	9	0	4	1	14	28
06:45 PM	4	2	0	0	6	0	0	0	0	0	0	1	4	0	5	8	0	2	2	12	23
Total	13	12	0	0	25	0	0	0	0	0	0	6	20	0	26	37	0	13	8	58	109
Grand Total	67	52	0	1	120	0	0	0	0	0	0	37	170	1	208	223	0	60	60	343	671
Apprch %	55.8	43.3	0	0.8		0	0	0	0		0	17.8	81.7	0.5		65	0	17.5	17.5		
Total %	10	7.7	0	0.1	17.9	0	0	0	0	0	0	5.5	25.3	0.1	31	33.2	0	8.9	8.9	51.1	
Cars	61	50	0	1	112	0	0	0	0	0	0	36	148	1	185	187	0	53	60	300	597
% Cars	91	96.2	0	100	93.3	0	0	0	0	0	0	97.3	87.1	100	88.9	83.9	0	88.3	100	87.5	89
Trucks	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Trucks	1.5	1.9	0	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3

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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13

Groups Printed- Cars - Trucks - Heavies - Cyclists

	37th St From North					Lake Promenade Blvd From East					37th St From South					Lake Promenade From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Heavies	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	2	0	3	0	5	9
% Heavies	3	1.9	0	0	2.5	0	0	0	0	0	0	2.7	0	0	0.5	0.9	0	5	0	1.5	1.3
Cyclists	3	0	0	0	3	0	0	0	0	0	0	0	22	0	22	34	0	4	0	38	63
% Cyclists	4.5	0	0	0	2.5	0	0	0	0	0	0	0	12.9	0	10.6	15.2	0	6.7	0	11.1	9.4

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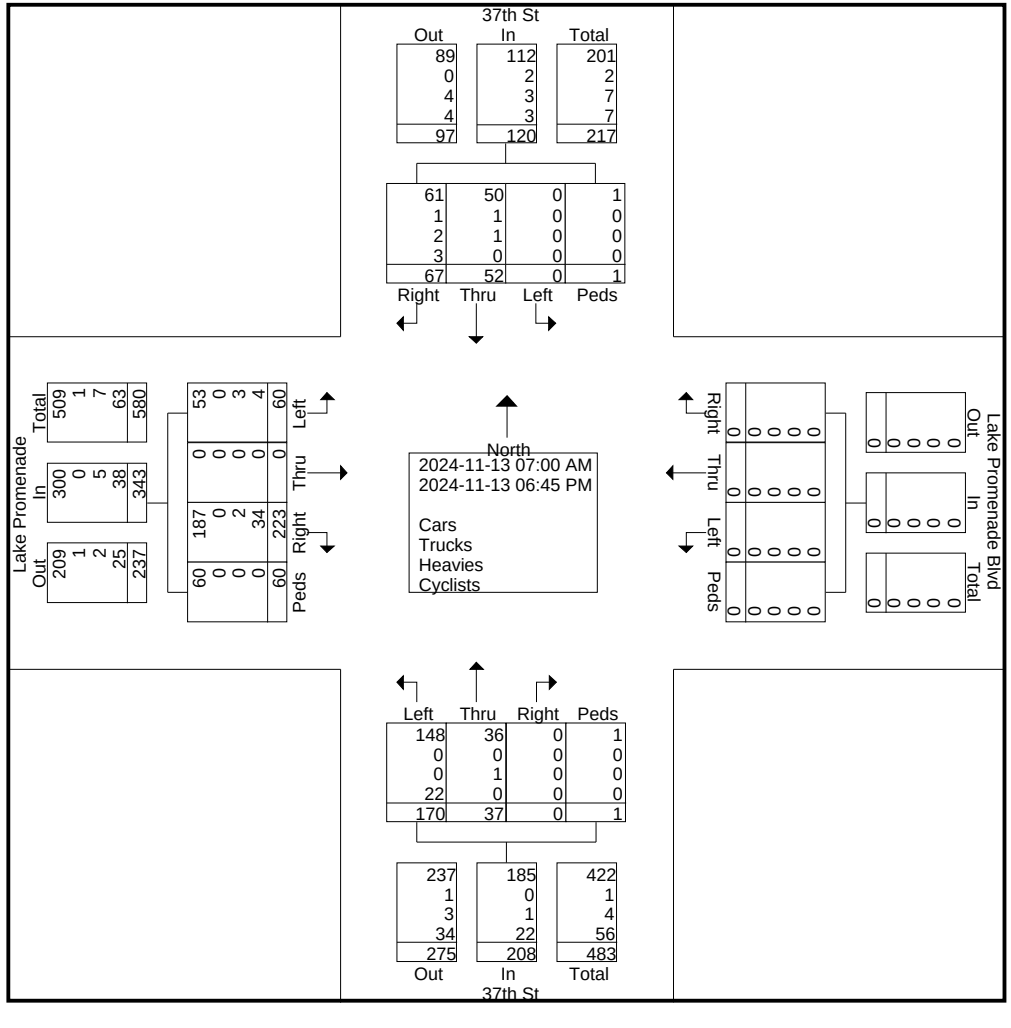
Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13
Page No : 3



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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13

	37th St From North					Lake Promenade Blvd From East					37th St From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**8**	3	0	0	**11**	0	0	0	0	0	0	**3**	9	0	12	13	0	2	**3**	18	41
08:15 AM	5	**4**	0	0	9	0	0	0	0	0	0	3	**20**	0	**23**	**15**	0	**5**	3	**23**	**55**
08:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	19	0	19	6	0	4	1	11	33
08:45 AM	5	3	0	0	8	0	0	0	0	0	0	2	8	0	10	14	0	4	1	19	37
Total Volume	18	13	0	0	31	0	0	0	0	0	0	8	56	0	64	48	0	15	8	71	166
% App. Total	58.1	41.9	0	0		0	0	0	0		0	12.5	87.5	0		67.6	0	21.1	11.3		
PHF	.563	.813	.000	.000	.705	.000	.000	.000	.000	.000	.000	.667	.700	.000	.696	.800	.000	.750	.667	.772	.755
Cars	17	12	0	0	29	0	0	0	0	0	0	8	50	0	58	39	0	12	8	59	146
% Cars	94.4	92.3	0	0	93.5	0	0	0	0	0	0	100	89.3	0	90.6	81.3	0	80.0	100	83.1	88.0
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	7.7	0	0	3.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	1.4	0.6
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	6	0	6	9	0	2	0	11	18
% Cyclists	5.6	0	0	0	3.2	0	0	0	0	0	0	0	10.7	0	9.4	18.8	0	13.3	0	15.5	10.8

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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
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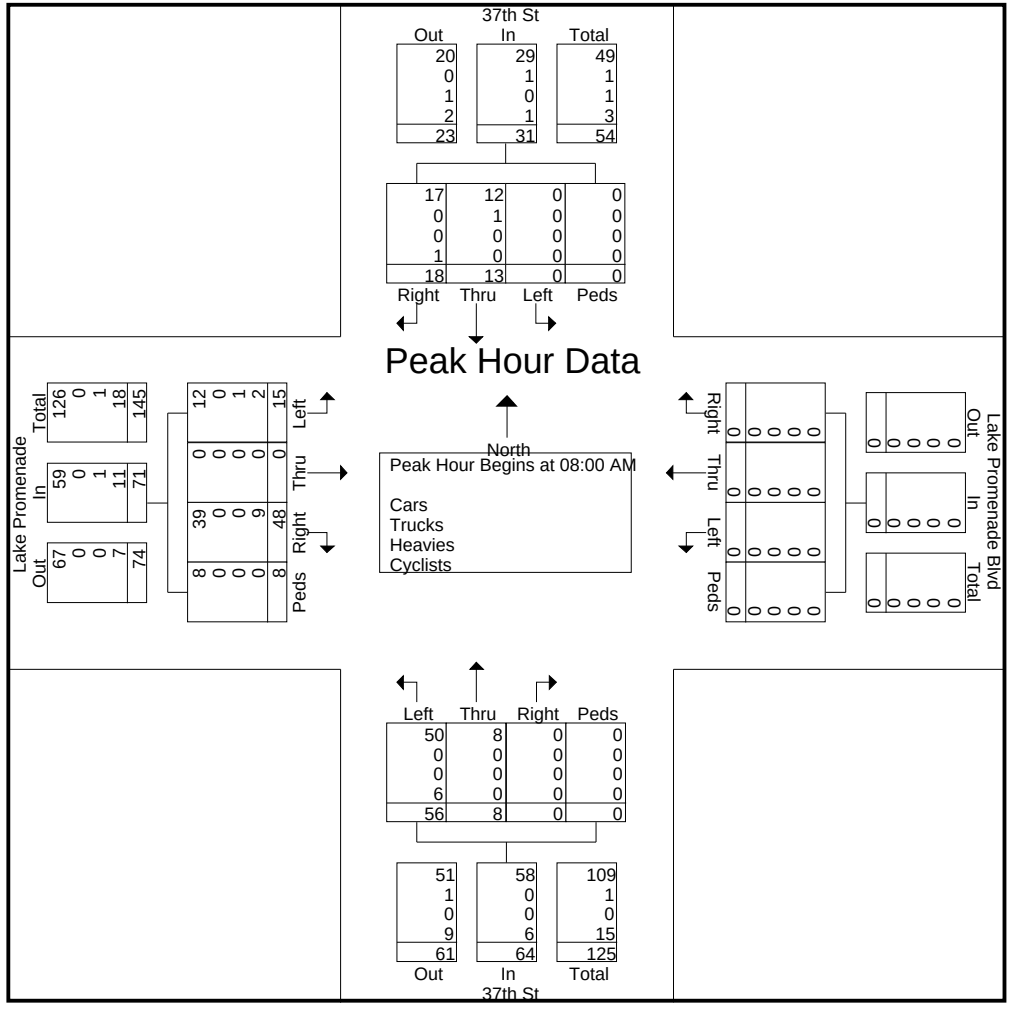
Start Date : 2024-11-13
Page No : 5



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Your Traffic Count Specialist

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Start Date : 2024-11-13
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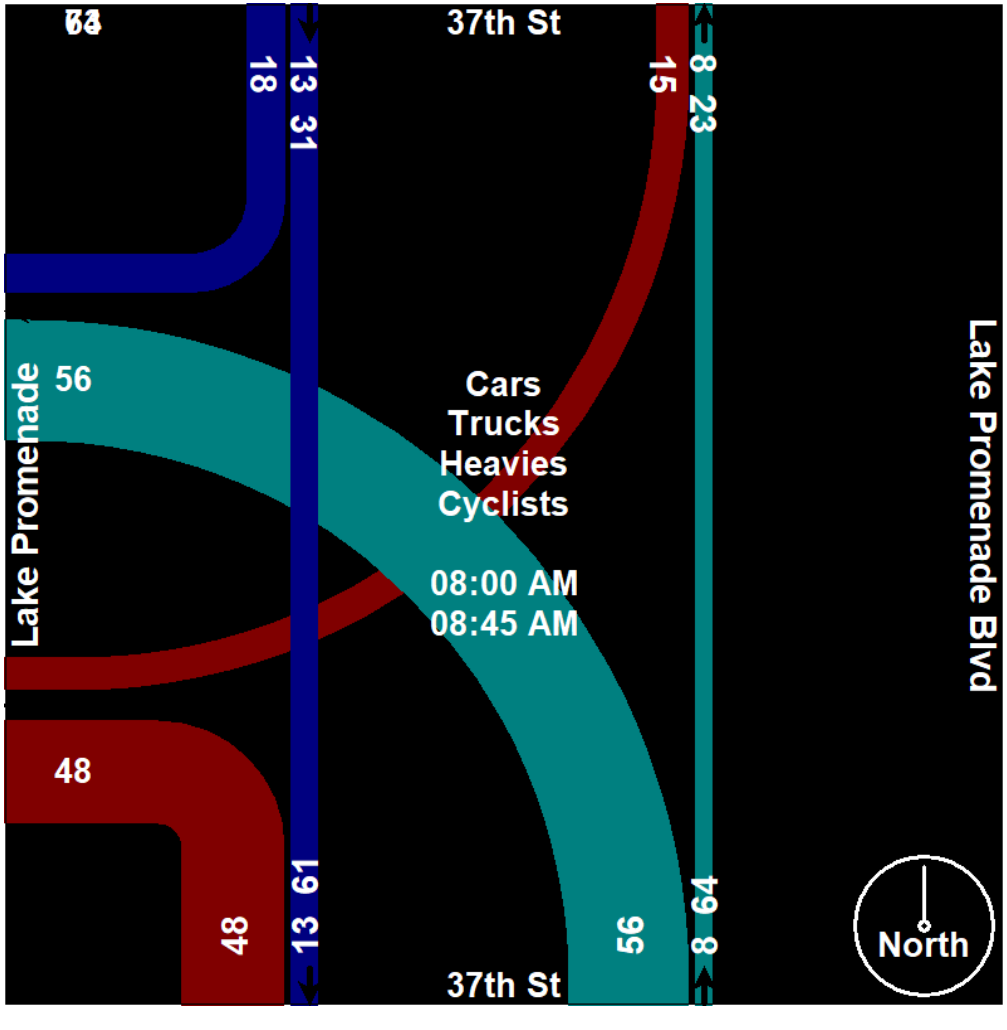

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Your Traffic Count Specialist

File Name : Lake Promenade at Thirty Sixth Street
Site Code : 00000000
Start Date : 2024-11-13

	37th St From North					Lake Promenade Blvd From East					37th St From South					Lake Promenade From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	4	2	0	**1**	7	0	0	0	0	0	0	1	7	0	8	**20**	0	3	2	25	40
04:30 PM	3	0	0	0	3	0	0	0	0	0	0	**3**	**9**	0	**12**	19	0	2	4	25	40
04:45 PM	**6**	**3**	0	0	**9**	0	0	0	0	0	0	2	9	0	11	16	0	4	**6**	26	**46**
05:00 PM	0	2	0	0	2	0	0	0	0	0	0	1	8	0	9	20	0	**6**	5	**31**	42
Total Volume	13	7	0	1	21	0	0	0	0	0	0	7	33	0	40	75	0	15	17	107	168
% App. Total	61.9	33.3	0	4.8		0	0	0	0		0	17.5	82.5	0		70.1	0	14	15.9		
PHF	.542	.583	.000	.250	.583	.000	.000	.000	.000	.000	.000	.583	.917	.000	.833	.938	.000	.625	.708	.863	.913
Cars	12	7	0	1	20	0	0	0	0	0	0	7	29	0	36	65	0	14	17	96	152
% Cars	92.3	100	0	100	95.2	0	0	0	0	0	0	100	87.9	0	90.0	86.7	0	93.3	100	89.7	90.5
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Heavies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.7	0	0.9	0.6
Cyclists	1	0	0	0	1	0	0	0	0	0	0	0	4	0	4	10	0	0	0	10	15
% Cyclists	7.7	0	0	0	4.8	0	0	0	0	0	0	0	12.1	0	10.0	13.3	0	0	0	9.3	8.9

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Your Traffic Count Specialist

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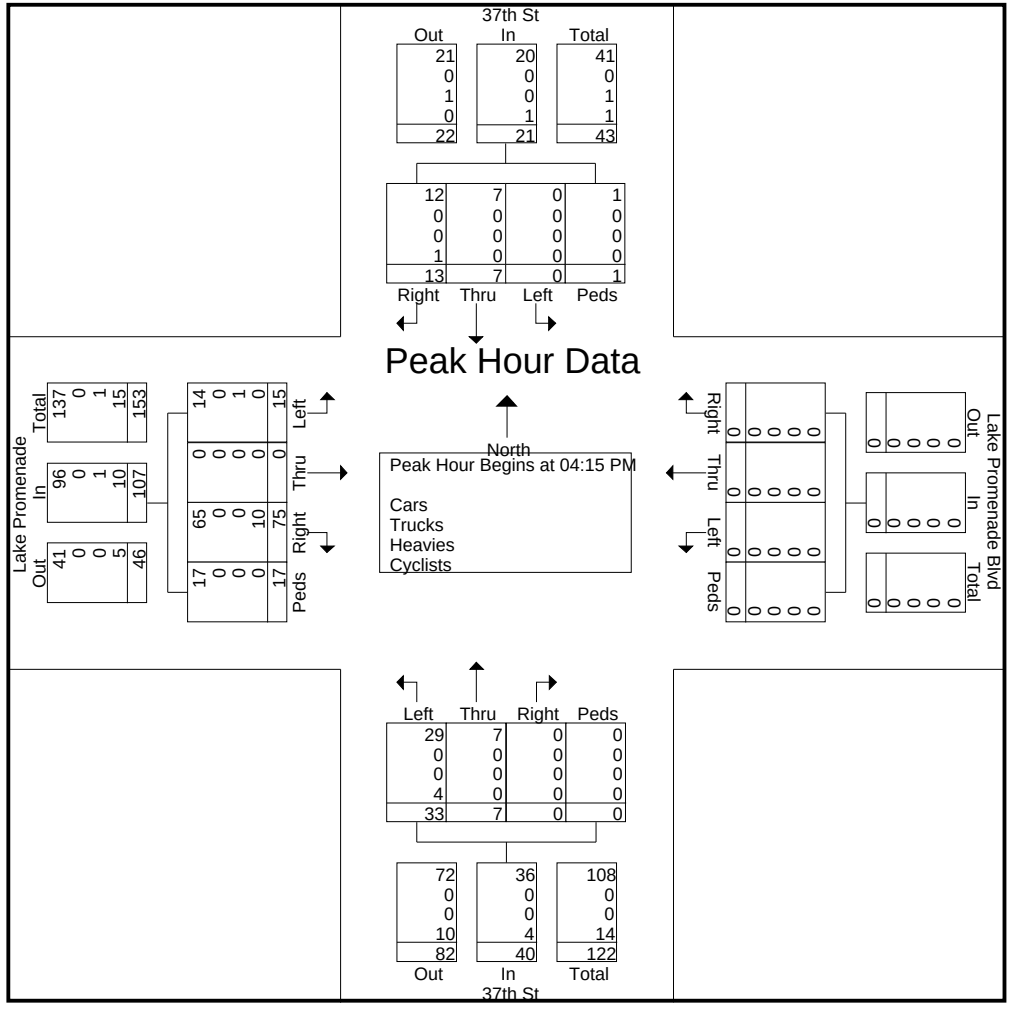
Page No : 8



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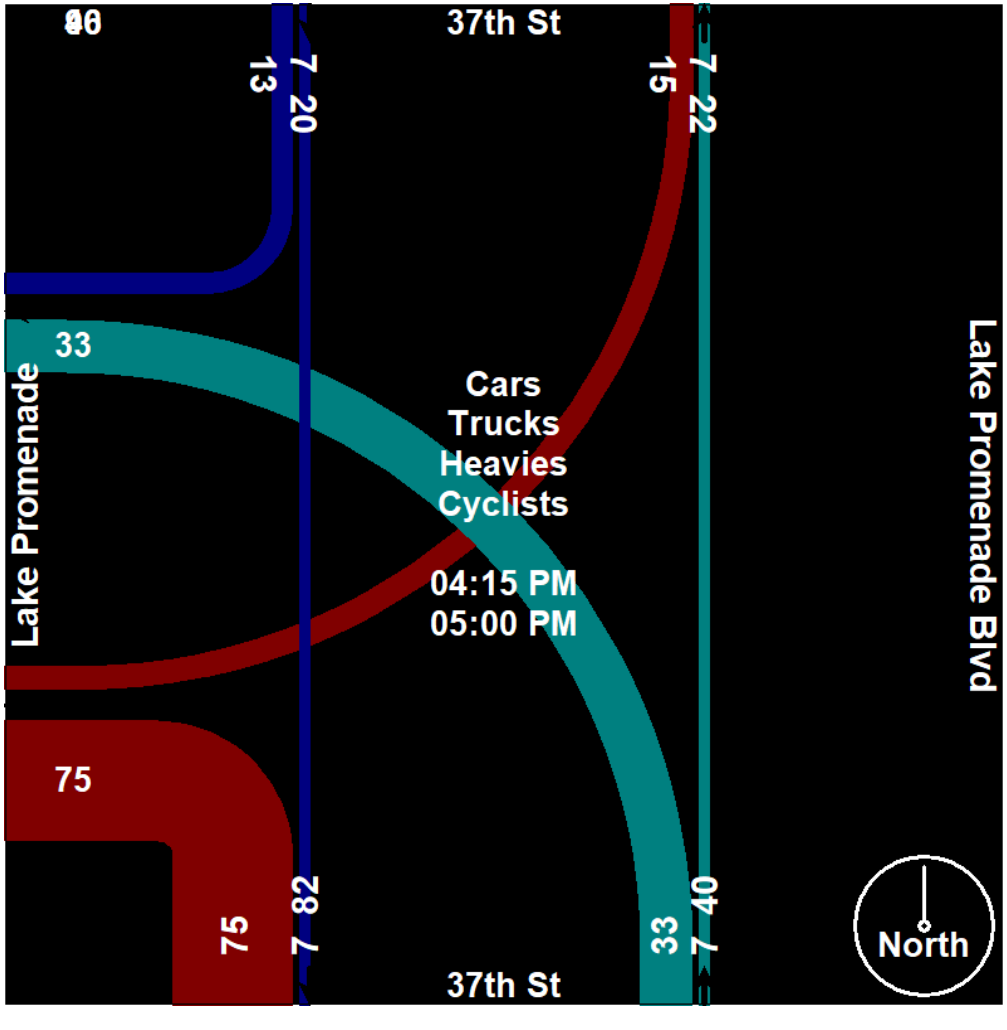
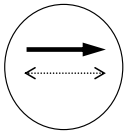
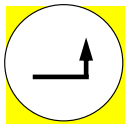
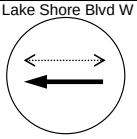
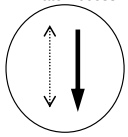


LOCATION:	**Lake Shore Blvd W & Long Branch Ave**	*ATO / DISTRICT / WARD:*	**Area 2 / Etobicoke York / Ward 3**
MODE/COMMENT:	**FT with PR, 2-Wire Polara APS & TSP**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**240**	*CONTROLLER/CABINET TYPE:*	**Peek ATC-1000 / TS2T1**
PREPARED/CHECKED BY:	***MR / IA***	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**June 6, 2018**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**September 7, 2018**	*CHANNEL/DROP:*	**4086/13**
		CONTROLLER FIRMWARE:	**3.018.1.2976**

N

NEMA Phase		OFF	AM	PM	NGHT	WKND	GRDN	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:00-19:00 M-F	22:00-06:30 Daily	10:30-18:30 Sat-Sun	Gardiner Closure	(Fixed/Demanded or Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 16		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5	Split 16		
1 NOT USED	WLK								Pedestrian Minimums: EWWK = 7 sec, EWFD = 12 sec NSWK = 7 sec, NSFD = 19 sec
	FDW								
	MIN								APS on during EWWK & NSWK periods when activated by pushbutton and no arrows are displayed.
	MAX1								
	AMB								Extended Push Activation = 3 secs
	ALR								
	SPLIT								See back for TSP Instructions.
2 Lake Shore Blvd W 	WLK 7								TSP disabled - TSP activation pending new firmware testing & field validation
	FDW 12							Fixed POZ activated by Request Loop (max extension of 30 secs in Green/Walk)	
	MIN 19								
	MAX1 42								
	AMB 4								
	ALR 2								
	SPLIT	48	48	50	42	50	56		
3 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
4 Long Branch Ave 	WLK 7								
	FDW 19							Fixed	
	MIN 26								
	MAX1 27								
	AMB 3								
	ALR 4								
	SPLIT	34	34	34	34	34	34		
5 	WLK								
	FDW								
	MIN 6							Demanded	
	MAX1 7								
	AMB 3								
	ALR 1								
	SPLIT			11					
6 Lake Shore Blvd W 	WLK 7								
	FDW 12							Fixed POZ activated by Request Loop (max extension of 30 secs in Green/Walk)	
	MIN 19								
	MAX1 42								
	AMB 4								
	ALR 2								
	SPLIT	48	48	39	42	50	56		
7 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
8 Private Access 	WLK 7								
	FDW 19							Fixed	
	MIN 26								
	MAX1 27								
	AMB 3								
	ALR 4								
	SPLIT	34	34	34	34	34	34		
	CL	82	82	84	76	84	90		
	OF	3	70	62	38	55	21		

Notes:

LOC: Lake Shore Blvd & Long Branch Ave
MODE: FT with PR, 2-Wire Polara APS & TSP
TCS: 240 **PREPARATION DATE (TIMING CARD):** June 6, 2018

OFFSET CORRECTION PARAMETERS

2.3.4 O.C. Extend / Reduce *(Max. time added & subtracted in sec.)*

		Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	From page 1 [Cycle]	From page 1 [Slop]	2.3.2.x O.C. Thres.
OFF												Pattern 1
Split 1	Ext.	--	15	--	15	--	15	--	15	82	24	[= 21 s.] 25%
	Rdc.	--	23	--	1	--	23	--	1			
AM												Pattern 2
Split 2	Ext.	--	15	--	15	--	15	--	15	82	24	[= 21 s.] 25%
	Rdc.	--	23	--	1	--	23	--	1			
PM												Pattern 3
Split 3	Ext.	--	16	--	16	--	16	--	16	84	15	[= 21 s.] 25%
	Rdc.	--	25	--	1	--	14	--	1			
NGHT												Pattern 4
Split 4	Ext.	--	14	--	14	--	14	--	14	76	18	[= 19 s.] 25%
	Rdc.	--	17	--	1	--	17	--	1			
WKND												Pattern 5
Split 5	Ext.	--	16	--	16	--	16	--	16	84	26	[= 21 s.] 25%
	Rdc.	--	25	--	1	--	25	--	1			
GRDN												Pattern 16
Split 16	Ext.	--	17	--	17	--	17	--	17	90	32	[= 23 s.] 25%
	Rdc.	--	31	--	1	--	31	--	1			

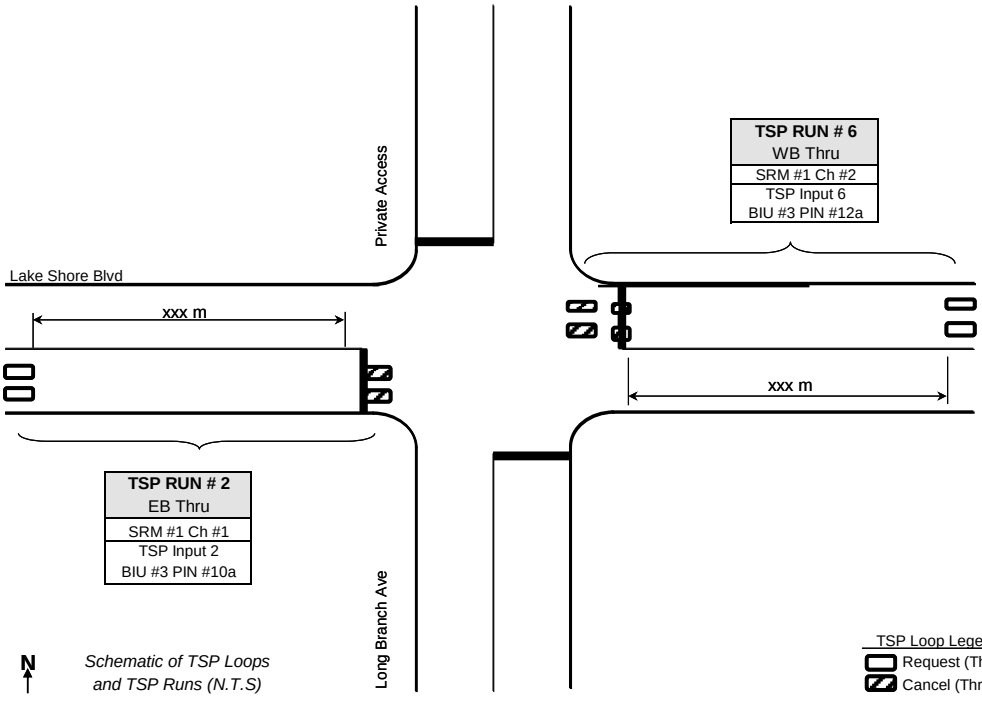
T.S.P. PARAMETERS

PREPARED: MR / IA

	TSP RUN # 2 EB Thru	TSP RUN # 6 WB Thru
2.8.2 Transit Run Parameters		
ATC Green Extend Mode (Equivalent TTC Algorithm)	Mode 2 A	Mode 2 A
2.8.3 Transit Action Plan 1 (Used for all Patterns)		
Run Enable (X = Yes)	X	X
Run Config = **1**	Recovery = 2 (O.C. with delay)	
2.8.4 Transit Run Configuration 1		
Delay / Extend / Fail	-- / -- / 235	-- / -- / 235
CALLS (and Extends)	**Ø 2/6**	**Ø 2/6**
Skips	--	--
Reduces (Truncates)	**Ø 4/8**	**Ø 4/8**

2.8.6 TSP Split Tables: 1, 2, 3, 4, 5, & 16

	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
GRN EXT (SDW Extension)	--	--	--	--	--	--	--	--
GRN RDC (Reduction)	--	--	--	1	--	--	--	1
WLK EXT (Walk Extension)	--	30	--	--	--	30	--	--



Notes:

ATC Mode	0	2	3	4
TTC Algor'm	**B-2**	**A**	**C**	**D**
Extensions	SDW	Walk	W/SDW	W/SDW

TSP SUMMARY

Maximum Green Extensions:
EWG: 30 s Green/Walk

LOCATION:	**Lake Shore Blvd W & Thirty Seventh St/ Private Access**				*DISTRICT:*	**Etobicoke York**	
MODE/COMMENT:	**SAP with PR , TSP, RLC-WB**				*COMPUTER SYSTEM:*	**TransSuite**	
TCS:	**241**				*CONTROLLER/CABINET TYPE:*	**Peek ATC-1000 / TS2T1**	
PREPARED BY / DATE:	**Behnam Amini / October 21, 2019**				*CONFLICT FLASH:*	**Red & Red**	
CHECKED BY / DATE:	**Masoud Ramezani / October 31, 2019**				*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**	
IMPLEMENTATION DATE:	**December 17, 2019**				*CHANNEL/DROP:*	**4086/14**	
					CONTROLLER FIRMWARE:	**3.018.1.2976**	

NEMA Phase		OFF All Other Times	AM 08:00-09:30 M-F	PM 15:00-19:00 M-F	NGHT 22:00-06:30 Daily	WKND 10:30-18:30 Sat-Sun	GRDN Gardiner Closure	Phase Mode (Fixed/Demanded or Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 16		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5	Split 16		
1 NOT USED	WLK								Pedestrian Minimums: EWWK = 7 sec, EWFD = 19 sec NSWK = 7 sec, NSFD = 20 sec NS phase is callable by vehicle or pedestrian actuation. If a vehicle and/or pedestrian call is received, the maximum NSG is served. The NSWK & NSFD are displayed on the pedestrian signal heads if a vehicle and/or pedestrian call is received.
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
2 Lake Shore Blvd W →	WLK 7							Fixed POZ activated by Request Loop (max extension of 30 secs in Green/Walk)	Side Street Passage Time = 3 sec See back for TSP Instructions. TSP disabled - TSP activation pending new firmware testing & field validation Left-Turn Passage Time = 2 sec
	FDW 19								
	MIN 26								
	MAX1 42								
	AMB 3.3								
	ALR 2.5								
	SPLIT	48	48	50	42	50	56		
3 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
4 Thirty Seventh St ↑	WLK 7							Callable by Stopbar loop and/or Pushbutton	
	FDW 20								
	MIN 27								
	MAX1 27								
	AMB 3.0								
	ALR 3.7								
	SPLIT	34	34	34	34	34	34		
5 ↱	WLK							Callable by Wavetronix detector, in shared thru/left-turn lane POZ activated by Request Loop (max extension of 8 secs in EBLA/ Don't Walk)	
	FDW								
	MIN 6								
	MAX1 7								
	AMB 3								
	ALR 1								
	SPLIT	11	11	11		11	11		
6 Lake Shore Blvd W ←	WLK 7							Fixed POZ activated by Request Loop (max extension of 30 secs in Green/Walk)	
	FDW 19								
	MIN 26								
	MAX1 31								
	AMB 3.3								
	ALR 2.5								
	SPLIT	37	37	39	42	39	45		
7 NOT USED	WLK								
	FDW								
	MIN								
	MAX1								
	AMB								
	ALR								
	SPLIT								
8 Thirty Seventh St ↓	WLK 7							Callable by Stopbar loop and/or Pushbutton	
	FDW 20								
	MIN 27								
	MAX1 27								
	AMB 3.0								
	ALR 3.7								
	SPLIT	34	34	34	34	34	34		
	CL	82	82	84	76	84	90		
	OF	8	30	21	63	18	65		

Notes:

LOC: Lake Shore Blvd W & Thirty Seventh St

MODE: SA2-VMG with PR , TSP, RLC-WB

TCS: 241 **PREPARATION DATE (TIMING CARD):** Masoud Ramezani / Oct

OFFSET CORRECTION PARAMETERS

2.3.4 O.C. Extend / Reduce *(Max. time added & subtracted in sec.)* From page 1

		Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8	[Cycle]	[Slop]	**2.3.2.x O.C. Thres.**
OFF												Pattern 1
Split 1	Ext.	--	31	--	--	--	31	--	--	82	6	[= 21 s.]
	Rdc.	--	16	--	--	1	5	--	--			25%
AM												Pattern 2
Split 2	Ext.	--	31	--	--	--	31	--	--	82	6	[= 21 s.]
	Rdc.	--	16	--	--	1	5	--	--			25%
PM												Pattern 3
Split 3	Ext.	--	32	--	--	--	32	--	--	84	8	[= 21 s.]
	Rdc.	--	18	--	--	1	7	--	--			25%
NGHT												Pattern 4
Split 4	Ext.	--	29	--	--	--	29	--	--	76	10	[= 19 s.]
	Rdc.	--	10	--	--	--	10	--	--			25%
WKND												Pattern 5
Split 5	Ext.	--	32	--	--	--	32	--	--	84	8	[= 21 s.]
	Rdc.	--	18	--	--	1	7	--	--			25%
GRDN												Pattern 16
Split 16	Ext.	--	34	--	--	--	34	--	--	90	14	[= 23 s.]
	Rdc.	--	24	--	--	1	13	--	--			25%

T.S.P. PARAMETERS

PREPARED: Behnam Amini / O

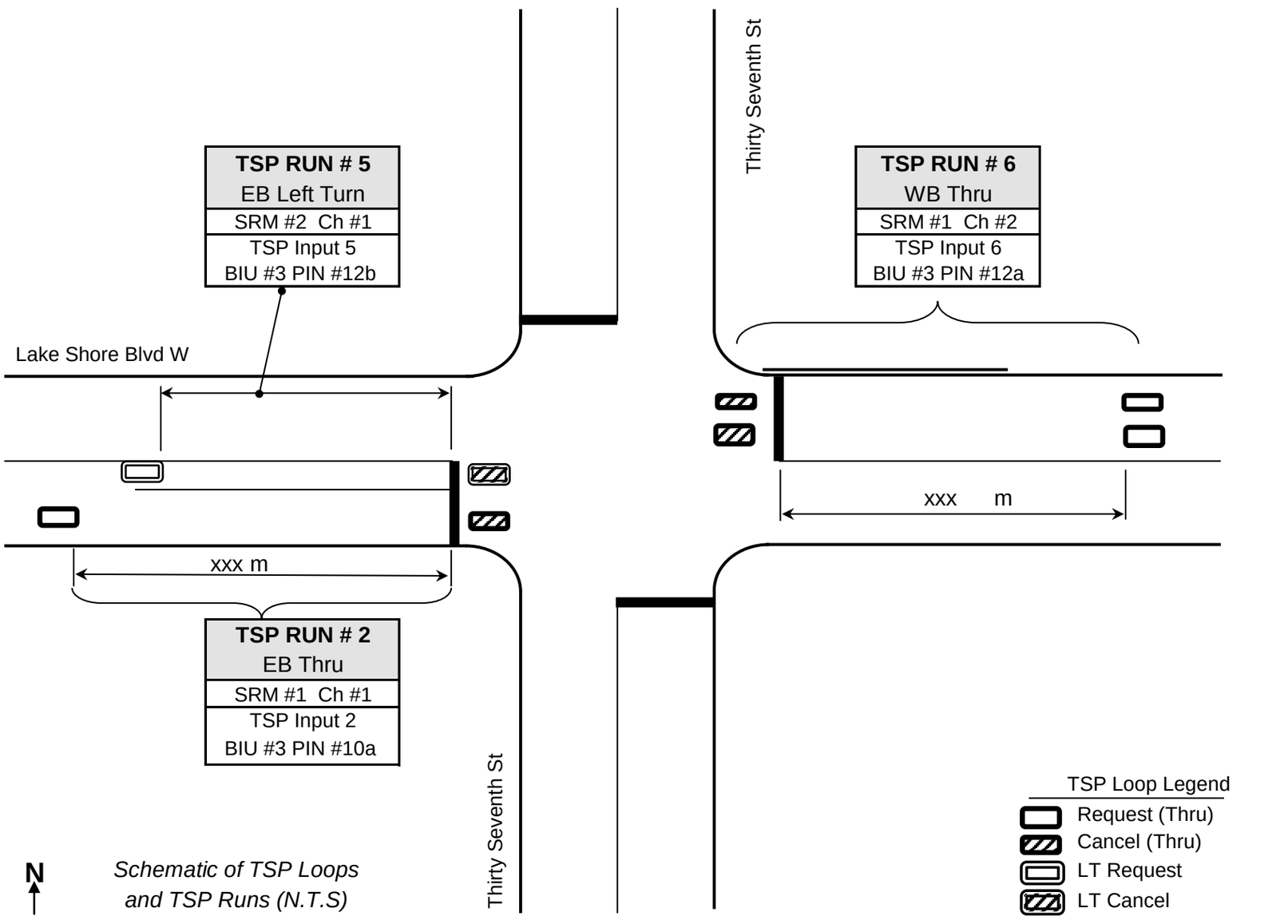
	TSP RUN # 2 EB Thru	**TSP RUN # 6** WB Thru	**TSP RUN # 5** EBLA
2.8.2 Transit Run Parameters			
ATC Green Extend Mode (Equivalent TTC Algorithm)	Mode 2 A	Mode 2 A	Mode 0 B-2
2.8.3 Transit Action Plan 1 (Used for all Patterns)			
Run Enable (X = Yes)	X	X	X
Run Config = **1** Recovery = 2 (O.C. with delay)			
2.8.4 Transit Run Configuration 1			
Delay / Extend / Fail	-- / -- / 235	-- / -- / 235	-- / -- / 235
CALLS (and Extends)	**Ø 2/6**	**Ø 2/6**	**Ø 5**
Skips	--	--	--
Reduces (Truncates)	**Ø 4/8**	**Ø 4/8**	**Ø 4/8**

2.8.6 TSP Split Tables: 1, 2, 3, 5, 16

	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8
GRN EXT (SDW Extension)	--	--	--	--	8	--	--	--
GRN RDC (Reduction)	--	--	--	-1	--	--	--	-1
WLK EXT (Walk Extension)	--	30	--	--	--	30	--	--

2.8.6 TSP Split Tables: 4

	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8
GRN EXT (SDW Extension)	--	--	--	--	--	--	--	--
GRN RDC (Reduction)	--	--	--	-1	--	--	--	-1
WLK EXT (Walk Extension)	--	30	--	--	--	30	--	--



Schematic of TSP Loops and TSP Runs (N.T.S)

Notes:

Left Turn Request Loops should cancel the corresponding thru SRM channel **OR**
Left Turn Cancel Loops should cancel the corresponding thru SRM channel

ATC Mode	0	2	3	4
TTC Algor'm	**B-2**	**A**	**C**	**D**
Extensions	SDW	Walk	W/SDW	W/SDW

TSP SUMMARY

Maximum Green Extensions:
EWG/EWWK: 30 s Green/Walk
EBLA: 8 s EBLA

APPENDIX

C LEVEL OF SERVICE DEFINITIONS

Levels of Service – Highway Capacity Manual

Signalized Intersections

Level of Service	Stopped Delay per Vehicle (sec)	Expected delay to Minor Street traffic from the Major Street
A	< 10	Most vehicles arrive during the green phase and do not stop; traffic progression is extremely favourable.
B	10.1 - 20.0	More vehicles stop than for LOS A; traffic progression is good.
C	20.1 - 35.0	Individual cycle failures may appear and the number of vehicles stopping is significant; traffic progression is fair.
D	35.1 - 55.0	Individual cycle failures are noticeable and many vehicles stop; traffic progression is unfavourable.
E	55.1 - 80.0	Individual cycle failures are frequent; traffic progression is poor; acceptable delay is at its limit.
F	> 80	Many individual cycle failures; arrival flow rate exceeds capacity; delay is unacceptable to most drivers.

Source: Highway Capacity Manual, HCM2000

HIGHWAY LOS Signalized 12-09-18

Levels of Service – Highway Capacity Manual

Unsignalized Intersection

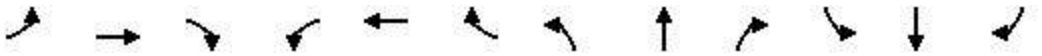
Level of Service	Average Control Delays (s/veh)	Expected delay to Minor Street traffic from the Major Street
A	0 - 10	Little or no delay.
B	> 10 – 15	Short traffic delay.
C	> 15 – 25	Average traffic delay.
D	> 25 – 35	Long traffic delay.
E	> 35 – 50	Very long traffic delay.
F	> 50	Extreme delay encountered with queuing, which may cause severe congestion affecting other traffic movements in the intersection.

Source: Highway Capacity Manual, HCM 2000

UNSIGNALIZED LOS 12-09-18

APPENDIX

D EXISTING TRAFFIC OPERATIONS

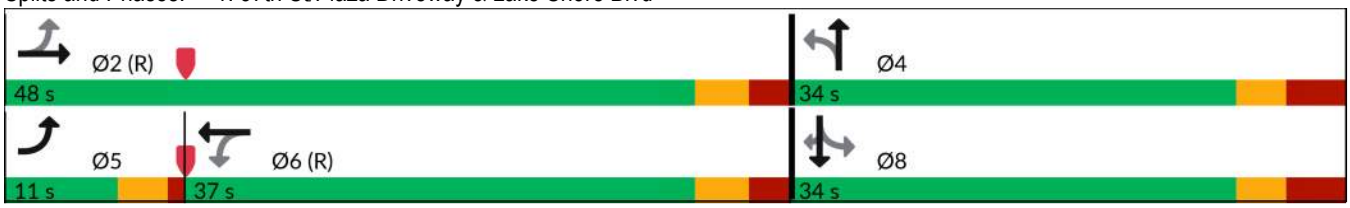


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	595	8	3	615	119	74	15	11	52	9	81
Future Volume (vph)	81	595	8	3	615	119	74	15	11	52	9	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.96			0.96	0.95
Frt		0.998			0.976			0.985				0.850
Flt Protected		0.994						0.964			0.959	
Satd. Flow (prot)	0	3349	0	0	4703	0	0	1732	0	0	1686	1478
Flt Permitted		0.741			0.938			0.739			0.705	
Satd. Flow (perm)	0	2492	0	0	4411	0	0	1291	0	0	1190	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			57			9				93
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		61.7			114.2			124.1			43.8	
Travel Time (s)		4.4			8.2			8.9			3.2	
Confl. Peds. (#/hr)	39		61	61		39	46		61	61		46
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	3%	0%	0%	8%	0%	2%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	93	684	9	3	707	137	85	17	13	60	10	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	786	0	0	847	0	0	115	0	0	70	93
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	48.0		37.0	37.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.4%	58.5%		45.1%	45.1%		41.5%	41.5%		41.5%	41.5%	41.5%
Maximum Green (s)	7.0	42.2		31.2	31.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	5.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		51.2			51.2			28.0			28.0	28.0
Actuated g/C Ratio		0.62			0.62			0.34			0.34	0.34
v/c Ratio		0.51			0.31			0.26			0.17	0.17
Control Delay (s/veh)		13.1			6.4			19.9			20.4	5.4
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		13.1			6.4			19.9			20.4	5.4
LOS		B			A			B			C	A
Approach Delay (s/veh)		13.1			6.4			19.9			11.8	
Approach LOS		B			A			B			B	

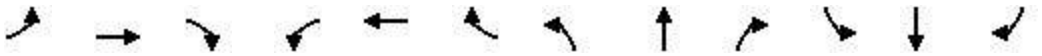
Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 30 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 10.4		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	786	847	115	70	93
v/c Ratio	0.51	0.31	0.26	0.17	0.17
Control Delay (s/veh)	13.1	6.4	19.9	20.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.1	6.4	19.9	20.4	5.4
Queue Length 50th (m)	43.5	19.3	12.3	7.9	0.0
Queue Length 95th (m)	58.3	22.6	24.3	17.0	8.9
Internal Link Dist (m)	37.7	90.2	100.1	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1556	2775	451	410	543
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.31	0.25	0.17	0.17

Intersection Summary

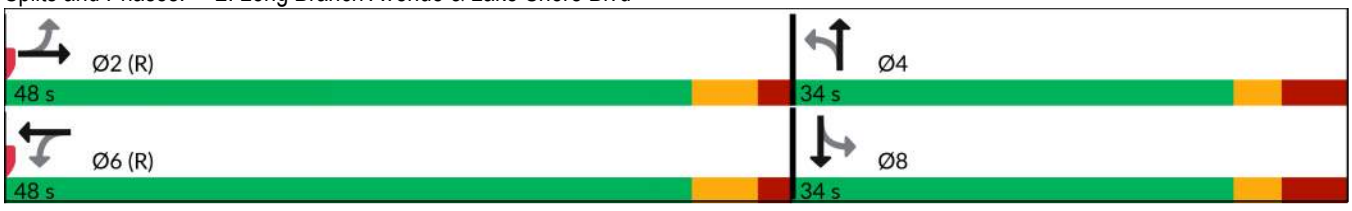


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	588	28	9	580	20	105	4	24	48	0	41
Future Volume (vph)	17	588	28	9	580	20	105	4	24	48	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.94		0.96	0.92	
Frt		0.993			0.995			0.975			0.850	
Flt Protected		0.999			0.999			0.962		0.950		
Satd. Flow (prot)	0	3316	0	0	3316	0	0	1701	0	1604	1477	0
Flt Permitted		0.929			0.943			0.740		0.687		
Satd. Flow (perm)	0	3082	0	0	3129	0	0	1246	0	1113	1477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			6			15			183	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		239.4			133.2			122.7			276.0	
Travel Time (s)		17.2			9.6			8.8			19.9	
Confl. Peds. (#/hr)	34		56	56		34	68		55	55		68
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	8%	0%	5%	0%	1%	0%	9%	5%	0%	0%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	19	653	31	10	644	22	117	4	27	53	0	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	703	0	0	676	0	0	148	0	53	46	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	19.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	48.0	48.0		48.0	48.0		34.0	34.0		34.0	34.0	
Total Split (%)	58.5%	58.5%		58.5%	58.5%		41.5%	41.5%		41.5%	41.5%	
Maximum Green (s)	42.0	42.0		42.0	42.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.0			43.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.52			0.52			0.34		0.34	0.34	
v/c Ratio		0.43			0.41			0.34		0.14	0.07	
Control Delay (s/veh)		17.2			12.7			20.7		20.0	0.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		17.2			12.7			20.7		20.0	0.2	
LOS		B			B			C		B	A	
Approach Delay (s/veh)		17.2			12.7			20.7			10.8	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 70 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay (s/veh): 15.2		Intersection LOS: B	
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Avenue & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	703	676	148	53	46
v/c Ratio	0.43	0.41	0.34	0.14	0.07
Control Delay (s/veh)	17.2	12.7	20.7	20.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.2	12.7	20.7	20.0	0.2
Queue Length 50th (m)	54.9	33.0	15.9	5.9	0.0
Queue Length 95th (m)	75.3	45.6	31.6	14.2	0.0
Internal Link Dist (m)	215.4	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1619	1643	435	380	624
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.41	0.34	0.14	0.07

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	651	20	24	619	11	62
Future Volume (vph)	651	20	24	619	11	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.886	
Flt Protected				0.998	0.992	
Satd. Flow (prot)	3413	0	0	3393	1508	0
Flt Permitted				0.998	0.992	
Satd. Flow (perm)	3413	0	0	3393	1508	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			178.4	121.9	
Travel Time (s)	9.6			12.8	8.8	
Confl. Peds. (#/hr)		56	56			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	10%	5%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	757	23	28	720	13	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	780	0	0	748	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.1%		ICU Level of Service A	
Analysis Period (min) 15			

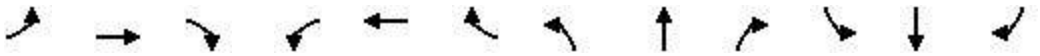
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	651	20	24	619	11	62
Future Volume (Veh/h)	651	20	24	619	11	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	757	23	28	720	13	72
Pedestrians				1	56	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			836		1241	447
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			568		1023	131
tC, single (s)			4.2		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		93	91
cM capacity (veh/h)			838		194	758

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	505	275	268	480	85
Volume Left	0	0	28	0	13
Volume Right	0	23	0	0	72
cSH	1700	1700	838	1700	525
Volume to Capacity	0.30	0.16	0.03	0.28	0.16
Queue Length 95th (m)	0.0	0.0	0.8	0.0	4.6
Control Delay (s/veh)	0.0	0.0	1.3	0.0	13.2
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.5		13.2
Approach LOS					B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	19	2	3	14	15	1	114	8	1	23	2
Future Volume (vph)	5	19	2	3	14	15	1	114	8	1	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.937			0.991			0.988	
Flt Protected		0.991			0.995						0.998	
Satd. Flow (prot)	0	1763	0	0	1752	0	0	1795	0	0	1717	0
Flt Permitted		0.991			0.995						0.998	
Satd. Flow (perm)	0	1763	0	0	1752	0	0	1795	0	0	1717	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			101.5			333.9			122.7	
Travel Time (s)		11.3			7.3			24.0			8.8	
Confl. Peds. (#/hr)	21		26	26		21	31		29	29		31
Confl. Bikes (#/hr)												
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	0%	0%	0%	4%	0%	0%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	6	24	3	4	18	19	1	143	10	1	29	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	41	0	0	154	0	0	33	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

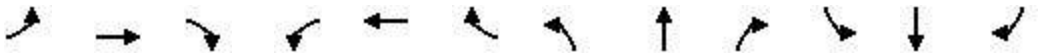
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	19	2	3	14	15	1	114	8	1	23	2
Future Volume (vph)	5	19	2	3	14	15	1	114	8	1	23	2
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	24	2	4	18	19	1	142	10	1	29	2

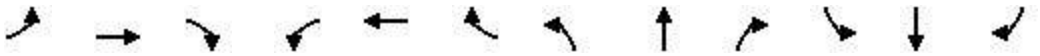
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	32	41	153	32
Volume Left (vph)	6	4	1	1
Volume Right (vph)	2	19	10	2
Hadj (s)	0.08	-0.26	0.03	0.11
Departure Headway (s)	4.4	4.1	4.1	4.3
Degree Utilization, x	0.04	0.05	0.18	0.04
Capacity (veh/h)	775	838	850	810
Control Delay (s/veh)	7.6	7.3	8.0	7.5
Approach Delay (s/veh)	7.6	7.3	8.0	7.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.8			
Level of Service	A			
Intersection Capacity Utilization	26.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	18	1	6	40	40	3	41	8	10	16	3
Future Volume (vph)	4	18	1	6	40	40	3	41	8	10	16	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.937			0.979			0.985	
Flt Protected		0.991			0.997			0.997			0.984	
Satd. Flow (prot)	0	1769	0	0	1655	0	0	1727	0	0	1698	0
Flt Permitted		0.991			0.997			0.997			0.984	
Satd. Flow (perm)	0	1769	0	0	1655	0	0	1727	0	0	1698	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		205.7			139.1			83.9			333.9	
Travel Time (s)		14.8			10.0			6.0			24.0	
Confl. Peds. (#/hr)	6		12	12		6	13		14	14		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	5%	8%	0%	3%	25%	0%	13%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	22	1	7	49	49	4	51	10	12	20	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	0	0	105	0	0	65	0	0	36	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	18	1	6	40	40	3	41	8	10	16	3
Future Volume (vph)	4	18	1	6	40	40	3	41	8	10	16	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	5	22	1	7	49	49	4	51	10	12	20	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	28	105	65	36
Volume Left (vph)	5	7	4	12
Volume Right (vph)	1	49	10	4
Hadj (s)	0.09	-0.16	0.03	0.12
Departure Headway (s)	4.3	4.0	4.2	4.4
Degree Utilization, x	0.03	0.12	0.08	0.04
Capacity (veh/h)	804	876	813	792
Control Delay (s/veh)	7.5	7.5	7.6	7.6
Approach Delay (s/veh)	7.5	7.5	7.6	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	21.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	18	1	6	40	40	3	41	8	10	16	3
Future Vol, veh/h	4	18	1	6	40	40	3	41	8	10	16	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	6	0	0	5	8	0	3	25	0	13	0
Mvmt Flow	5	22	1	7	49	49	4	51	10	12	20	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.4	7.4	7.5	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	17%	7%	34%
Vol Thru, %	79%	78%	47%	55%
Vol Right, %	15%	4%	47%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	23	86	29
LT Vol	3	4	6	10
Through Vol	41	18	40	16
RT Vol	8	1	40	3
Lane Flow Rate	64	28	106	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.073	0.033	0.113	0.042
Departure Headway (Hd)	4.079	4.164	3.829	4.189
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	871	851	928	846
Service Time	2.14	2.232	1.887	2.256
HCM Lane V/C Ratio	0.073	0.033	0.114	0.043
HCM Control Delay, s/veh	7.5	7.4	7.4	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.4	0.1

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	25	67	12	9	10
Future Volume (vph)	17	25	67	12	9	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.979		0.928	
Flt Protected		0.980			0.977	
Satd. Flow (prot)	0	1718	1765	0	1383	0
Flt Permitted		0.980			0.977	
Satd. Flow (perm)	0	1718	1765	0	1383	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		139.1	110.5		337.5	
Travel Time (s)		10.0	8.0		24.3	
Confl. Peds. (#/hr)	1			1	34	17
Confl. Bikes (#/hr)						
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	8%	5%	0%	12%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	27	39	105	19	14	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	124	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	25	67	12	9	10
Future Volume (Veh/h)	17	25	67	12	9	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	27	39	105	19	14	16
Pedestrians		17	34		1	
Lane Width (m)		3.5	3.5		3.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	125				243	133
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	125				243	133
tC, single (s)	4.2				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.5
p0 queue free %	98				98	98
cM capacity (veh/h)	1436				691	858

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	66	124	30
Volume Left	27	0	14
Volume Right	0	19	16
cSH	1436	1700	771
Volume to Capacity	0.02	0.07	0.04
Queue Length 95th (m)	0.5	0.0	1.0
Control Delay (s/veh)	3.2	0.0	9.9
Lane LOS	A		A
Approach Delay (s/veh)	3.2	0.0	9.9
Approach LOS			A

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	23.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	575	63	40	558	20	57
Future Volume (vph)	575	63	40	558	20	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.985				0.900	
Flt Protected				0.997	0.987	
Satd. Flow (prot)	3439	0	0	3463	1563	0
Flt Permitted				0.997	0.987	
Satd. Flow (perm)	3439	0	0	3463	1563	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	178.4			286.6	110.9	
Travel Time (s)	12.8			20.6	8.0	
Confl. Peds. (#/hr)		81	81		52	42
Confl. Bikes (#/hr)						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	3%	4%	5%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	685	75	48	664	24	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	760	0	0	712	92	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	575	63	40	558	20	57
Future Volume (Veh/h)	575	63	40	558	20	57
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	685	75	48	664	24	68
Pedestrians	52			42	81	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	4			4	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	312					
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			841		1284	503
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			754		1214	402
tC, single (s)			4.2		6.9	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			94		82	86
cM capacity (veh/h)			758		136	500

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	457	303	269	443	92
Volume Left	0	0	48	0	24
Volume Right	0	75	0	0	68
cSH	1700	1700	758	1700	295
Volume to Capacity	0.27	0.18	0.06	0.26	0.31
Queue Length 95th (m)	0.0	0.0	1.6	0.0	10.4
Control Delay (s/veh)	0.0	0.0	2.4	0.0	22.7
Lane LOS			A		C
Approach Delay (s/veh)	0.0		0.9		22.7
Approach LOS					C

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	12	15	24	21	57
Future Volume (vph)	27	12	15	24	21	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.901	
Flt Protected	0.967			0.981		
Satd. Flow (prot)	1668	0	0	1722	1665	0
Flt Permitted	0.967			0.981		
Satd. Flow (perm)	1668	0	0	1722	1665	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.5			50.9	68.6	
Travel Time (s)	8.0			3.7	4.9	
Confl. Peds. (#/hr)	1	1	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	0%	7%	9%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	44	20	25	39	34	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	64	127	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	27	12	15	24	21	57
Future Volume (vph)	27	12	15	24	21	57
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	44	20	25	39	34	93

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	64	64	127
Volume Left (vph)	44	25	0
Volume Right (vph)	20	0	93
Hadj (s)	0.04	0.22	-0.39
Departure Headway (s)	4.3	4.4	3.7
Degree Utilization, x	0.08	0.08	0.13
Capacity (veh/h)	793	796	945
Control Delay (s/veh)	7.7	7.7	7.3
Approach Delay (s/veh)	7.7	7.7	7.3
Approach LOS	A	A	A

Intersection Summary			
Delay	7.5		
Level of Service	A		
Intersection Capacity Utilization	19.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	62	52	20	23	11
Future Volume (vph)	17	62	52	20	23	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.963		0.956	
Flt Protected		0.989			0.967	
Satd. Flow (prot)	0	1827	1830	0	1607	0
Flt Permitted		0.989			0.967	
Satd. Flow (perm)	0	1827	1830	0	1607	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		52.5	46.3		52.7	
Travel Time (s)		3.8	3.3		3.8	
Confl. Peds. (#/hr)	4			4	4	1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	2%	0%	0%	9%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	26	94	79	30	35	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	120	109	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	17	62	52	20	23	11
Future Volume (vph)	17	62	52	20	23	11
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	26	94	79	30	35	17

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	120	109	52
Volume Left (vph)	26	0	35
Volume Right (vph)	0	30	17
Hadj (s)	0.09	-0.17	0.10
Departure Headway (s)	4.2	4.0	4.5
Degree Utilization, x	0.14	0.12	0.06
Capacity (veh/h)	835	885	758
Control Delay (s/veh)	7.9	7.5	7.8
Approach Delay (s/veh)	7.9	7.5	7.8
Approach LOS	A	A	A

Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	21.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	4	57	32	17	6
Future Volume (vph)	55	4	57	32	17	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.990				0.965	
Flt Protected	0.956			0.969		
Satd. Flow (prot)	1734	0	0	1815	1684	0
Flt Permitted	0.956			0.969		
Satd. Flow (perm)	1734	0	0	1815	1684	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	254.4			20.9	103.1	
Travel Time (s)	18.3			1.5	7.4	
Confl. Peds. (#/hr)		8	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	0%	4%	12%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	63	5	66	37	20	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	103	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	55	4	57	32	17	6
Future Volume (vph)	55	4	57	32	17	6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	63	5	66	37	20	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	68	103	27
Volume Left (vph)	63	66	0
Volume Right (vph)	5	0	7
Hadj (s)	0.20	0.15	0.00
Departure Headway (s)	4.4	4.2	4.2
Degree Utilization, x	0.08	0.12	0.03
Capacity (veh/h)	793	826	843
Control Delay (s/veh)	7.8	7.8	7.3
Approach Delay (s/veh)	7.8	7.8	7.3
Approach LOS	A	A	A

Intersection Summary			
Delay	7.7		
Level of Service	A		
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	48	58	8	13	18
Future Volume (vph)	15	48	58	8	13	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.898				0.921	
Flt Protected	0.988			0.958		
Satd. Flow (prot)	1658	0	0	1820	1694	0
Flt Permitted	0.988			0.958		
Satd. Flow (perm)	1658	0	0	1820	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.8			82.8	86.6	
Travel Time (s)	7.1			6.0	6.2	
Confl. Peds. (#/hr)			8			8
Confl. Bikes (#/hr)						
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	20	63	76	11	17	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	0	0	87	41	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	48	58	8	13	18
Future Volume (Veh/h)	15	48	58	8	13	18
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	20	63	76	11	17	24
Pedestrians	8					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	200	37	49			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200	37	49			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	97	94	95			
cM capacity (veh/h)	735	1034	1560			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	83	87	41
Volume Left	20	76	0
Volume Right	63	0	24
cSH	942	1560	1700
Volume to Capacity	0.09	0.05	0.02
Queue Length 95th (m)	2.3	1.2	0.0
Control Delay (s/veh)	9.2	6.5	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.2	6.5	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	6.3		
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	12	33	13	9	10	18
Future Volume (vph)	12	33	13	9	10	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901		0.943			
Flt Protected	0.987					0.982
Satd. Flow (prot)	1690	0	1706	0	0	1797
Flt Permitted	0.987					0.982
Satd. Flow (perm)	1690	0	1706	0	0	1797
Link Speed (k/h)	50		50			50
Link Distance (m)	47.9		86.6			84.4
Travel Time (s)	3.4		6.2			6.1
Confl. Peds. (#/hr)	2	4				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	12%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	17	46	18	13	14	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	31	0	0	39
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.4%		ICU Level of Service A	
Analysis Period (min) 15			

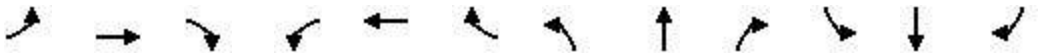
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	33	13	9	10	18
Future Volume (Veh/h)	12	33	13	9	10	18
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	17	46	18	12	14	25
Pedestrians			2			4
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	79	28			30	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	79	28			30	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	96			99	
cM capacity (veh/h)	919	1049			1596	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	63	30	39
Volume Left	17	0	14
Volume Right	46	12	0
cSH	1011	1700	1596
Volume to Capacity	0.06	0.02	0.01
Queue Length 95th (m)	1.6	0.0	0.2
Control Delay (s/veh)	8.8	0.0	2.7
Lane LOS	A		A
Approach Delay (s/veh)	8.8	0.0	2.7
Approach LOS	A		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Future Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.925			0.986			0.931	
Flt Protected		0.959			0.989			0.991			0.999	
Satd. Flow (prot)	0	1811	0	0	1462	0	0	1787	0	0	1682	0
Flt Permitted		0.959			0.989			0.991			0.999	
Satd. Flow (perm)	0	1811	0	0	1462	0	0	1787	0	0	1682	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.3			60.0			337.5			121.9	
Travel Time (s)		2.4			4.3			24.3			8.8	
Confl. Peds. (#/hr)	23		23	23		23	13		10	10		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	34%	0%	3%	17%	0%	11%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	39	5	2	2	2	5	18	66	10	2	31	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	9	0	0	94	0	0	67	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

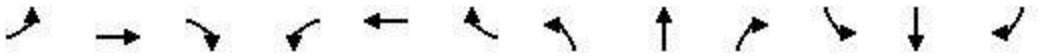
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Future Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	39	5	2	2	2	5	18	66	10	2	31	34

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	9	94	67
Volume Left (vph)	39	2	18	2
Volume Right (vph)	2	5	10	34
Hadj (s)	0.14	0.03	0.04	-0.21
Departure Headway (s)	4.4	4.3	4.1	3.9
Degree Utilization, x	0.06	0.01	0.11	0.07
Capacity (veh/h)	787	795	848	901
Control Delay (s/veh)	7.7	7.4	7.6	7.2
Approach Delay (s/veh)	7.7	7.4	7.6	7.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	26.1%	ICU Level of Service	A	
Analysis Period (min)	15			

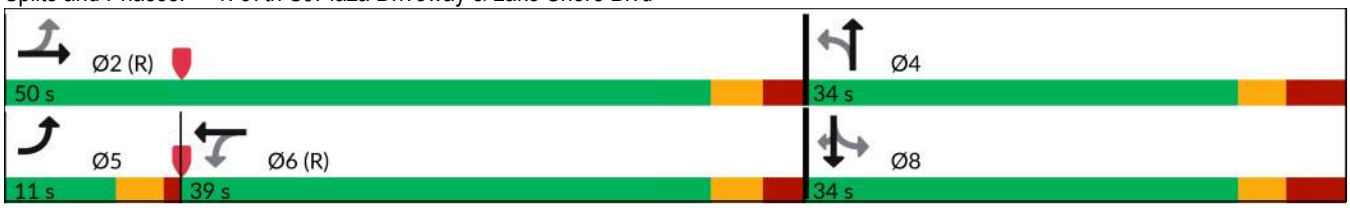


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	544	40	11	642	131	47	25	19	144	18	156
Future Volume (vph)	137	544	40	11	642	131	47	25	19	144	18	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.98			0.94			0.93	0.90
Frt		0.992			0.975			0.972				0.850
Flt Protected		0.991			0.999			0.975			0.957	
Satd. Flow (prot)	0	3358	0	0	4710	0	0	1746	0	0	1782	1492
Flt Permitted		0.653			0.928			0.799			0.687	
Satd. Flow (perm)	0	2199	0	0	4372	0	0	1379	0	0	1195	1346
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			60			17				158
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		61.7			114.2			124.1			43.8	
Travel Time (s)		4.4			8.2			8.9			3.2	
Confl. Peds. (#/hr)	72		91	91		72	94		90	90		94
Confl. Bikes (#/hr)												
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	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	2%	0%	0%	3%	0%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	138	549	40	11	648	132	47	25	19	145	18	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	727	0	0	791	0	0	91	0	0	163	158
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	40.5%
Maximum Green (s)	7.0	44.2		33.2	33.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	5.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		45.5			45.5			28.0			28.0	28.0
Actuated g/C Ratio		0.54			0.54			0.33			0.33	0.33
v/c Ratio		0.61			0.33			0.19			0.41	0.29
Control Delay (s/veh)		15.7			9.8			17.7			25.5	5.1
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		15.7			9.8			17.7			25.5	5.1
LOS		B			A			B			C	A
Approach Delay (s/veh)		15.7			9.8			17.7			15.4	
Approach LOS		B			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 21 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	727	791	91	163	158
v/c Ratio	0.61	0.33	0.19	0.41	0.29
Control Delay (s/veh)	15.7	9.8	17.7	25.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.7	9.8	17.7	25.5	5.1
Queue Length 50th (m)	40.6	32.8	8.7	21.0	0.0
Queue Length 95th (m)	58.8	42.6	19.9	38.8	12.8
Internal Link Dist (m)	37.7	90.2	100.1	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1196	2395	475	402	558
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.33	0.19	0.41	0.28

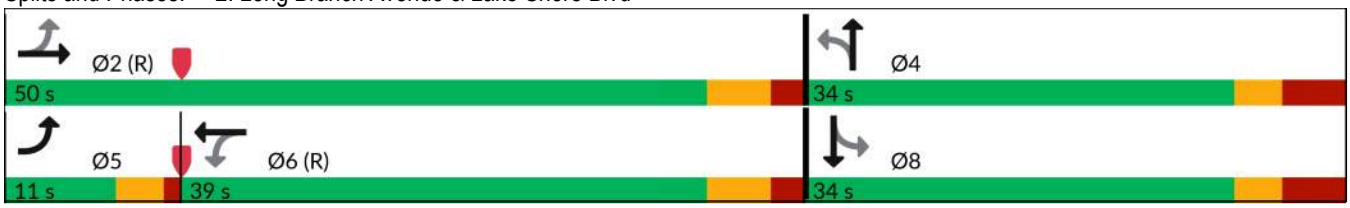
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	556	42	6	678	11	87	12	20	34	8	41
Future Volume (vph)	57	556	42	6	678	11	87	12	20	34	8	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.94		0.94	0.93	
Frt		0.990			0.998			0.978			0.874	
Flt Protected		0.996						0.965		0.950		
Satd. Flow (prot)	0	3352	0	0	3426	0	0	1684	0	1589	1533	0
Flt Permitted		0.832			0.950			0.759		0.708		
Satd. Flow (perm)	0	2795	0	0	3253	0	0	1262	0	1116	1533	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			2			13			42	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		239.4			133.2			122.7			276.0	
Travel Time (s)		17.2			9.6			8.8			19.9	
Confl. Peds. (#/hr)	37		65	65		37	71		72	72		71
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	0%	2%	0%	3%	9%	5%	6%	0%	0%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	58	567	43	6	692	11	89	12	20	35	8	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	668	0	0	709	0	0	121	0	35	50	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	10.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	
Maximum Green (s)	7.0	44.0		33.0	33.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		45.0			45.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.54			0.54			0.33		0.33	0.33	
v/c Ratio		0.44			0.41			0.28		0.09	0.09	
Control Delay (s/veh)		10.0			12.4			20.5		20.3	8.3	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		10.0			12.4			20.5		20.3	8.3	
LOS		A			B			C		C	A	
Approach Delay (s/veh)		10.0			12.4			20.5			13.2	
Approach LOS		A			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 62 (74%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Avenue & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	668	709	121	35	50
v/c Ratio	0.44	0.41	0.28	0.09	0.09
Control Delay (s/veh)	10.0	12.4	20.5	20.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.0	12.4	20.5	20.3	8.3
Queue Length 50th (m)	38.7	34.8	13.2	4.0	0.9
Queue Length 95th (m)	55.2	47.6	26.9	10.8	8.3
Internal Link Dist (m)	215.4	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1503	1743	429	372	539
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.41	0.28	0.09	0.09

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	627	28	53	684	7	31
Future Volume (vph)	627	28	53	684	7	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.993				0.889	
Flt Protected				0.996	0.991	
Satd. Flow (prot)	3446	0	0	3476	1521	0
Flt Permitted				0.996	0.991	
Satd. Flow (perm)	3446	0	0	3476	1521	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			178.4	121.9	
Travel Time (s)	9.6			12.8	8.8	
Confl. Peds. (#/hr)		74	74			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	6%	2%	15%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	640	29	54	698	7	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	669	0	0	752	39	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

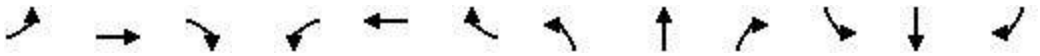
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	627	28	53	684	7	31
Future Volume (Veh/h)	627	28	53	684	7	31
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	640	29	54	698	7	32
Pedestrians				1	74	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	5	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			743		1186	410
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			527		1012	161
tC, single (s)			4.2		7.1	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.3
p0 queue free %			94		96	96
cM capacity (veh/h)			873		174	745

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	427	242	287	465	39
Volume Left	0	0	54	0	7
Volume Right	0	29	0	0	32
cSH	1700	1700	873	1700	469
Volume to Capacity	0.25	0.14	0.06	0.27	0.08
Queue Length 95th (m)	0.0	0.0	1.6	0.0	2.2
Control Delay (s/veh)	0.0	0.0	2.3	0.0	13.4
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.9		13.4
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Future Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.946			0.995			0.977	
Flt Protected		0.974			0.992			0.999			0.997	
Satd. Flow (prot)	0	1821	0	0	1763	0	0	1868	0	0	1830	0
Flt Permitted		0.974			0.992			0.999			0.997	
Satd. Flow (perm)	0	1821	0	0	1763	0	0	1868	0	0	1830	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			101.5			333.9			122.7	
Travel Time (s)		11.3			7.3			24.0			8.8	
Confl. Peds. (#/hr)	9		11	11		9	33		35	35		33
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	13	1	8	22	20	1	80	3	5	55	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	50	0	0	84	0	0	72	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

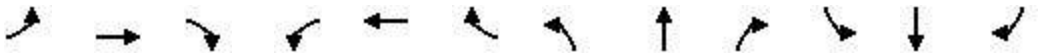
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Future Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	13	1	8	22	20	1	80	3	5	55	12

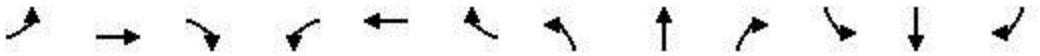
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	30	50	84	72
Volume Left (vph)	16	8	1	5
Volume Right (vph)	1	20	3	12
Hadj (s)	0.09	-0.21	-0.02	-0.09
Departure Headway (s)	4.4	4.1	4.1	4.1
Degree Utilization, x	0.04	0.06	0.10	0.08
Capacity (veh/h)	788	849	844	860
Control Delay (s/veh)	7.5	7.3	7.6	7.4
Approach Delay (s/veh)	7.5	7.3	7.6	7.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	24.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	23	4	7	33	30	1	33	5	14	21	1
Future Volume (vph)	2	23	4	7	33	30	1	33	5	14	21	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.980			0.943			0.982			0.997	
Flt Protected		0.997			0.995			0.999			0.981	
Satd. Flow (prot)	0	1836	0	0	1730	0	0	1843	0	0	1838	0
Flt Permitted		0.997			0.995			0.999			0.981	
Satd. Flow (perm)	0	1836	0	0	1730	0	0	1843	0	0	1838	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		205.7			139.1			83.9			333.9	
Travel Time (s)		14.8			10.0			6.0			24.0	
Confl. Peds. (#/hr)	11		8	8		11	11		29	29		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	26	5	8	38	34	1	38	6	16	24	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	80	0	0	45	0	0	41	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	23	4	7	33	30	1	33	5	14	21	1
Future Volume (vph)	2	23	4	7	33	30	1	33	5	14	21	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	26	5	8	38	34	1	38	6	16	24	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	33	80	45	41
Volume Left (vph)	2	8	1	16
Volume Right (vph)	5	34	6	1
Hadj (s)	-0.08	-0.20	-0.08	0.06
Departure Headway (s)	4.1	3.9	4.1	4.2
Degree Utilization, x	0.04	0.09	0.05	0.05
Capacity (veh/h)	854	894	843	821
Control Delay (s/veh)	7.2	7.3	7.3	7.5
Approach Delay (s/veh)	7.2	7.3	7.3	7.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	25.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	23	4	7	33	30	1	33	5	14	21	1
Future Vol, veh/h	2	23	4	7	33	30	1	33	5	14	21	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	2	26	5	8	38	34	1	38	6	16	24	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.2	7.3	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	7%	10%	39%
Vol Thru, %	85%	79%	47%	58%
Vol Right, %	13%	14%	43%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	29	70	36
LT Vol	1	2	7	14
Through Vol	33	23	33	21
RT Vol	5	4	30	1
Lane Flow Rate	44	33	80	41
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.037	0.085	0.048
Departure Headway (Hd)	4.054	4.038	3.834	4.19
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	877	880	927	849
Service Time	2.108	2.096	1.885	2.243
HCM Lane V/C Ratio	0.05	0.038	0.086	0.048
HCM Control Delay, s/veh	7.3	7.3	7.2	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.3	0.2

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	26	57	7	7	12
Future Volume (vph)	6	26	57	7	7	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.985		0.916	
Flt Protected		0.990			0.982	
Satd. Flow (prot)	0	1860	1818	0	1595	0
Flt Permitted		0.990			0.982	
Satd. Flow (perm)	0	1860	1818	0	1595	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		139.1	110.5		337.5	
Travel Time (s)		10.0	8.0		24.3	
Confl. Peds. (#/hr)	4			4	15	11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	8	33	72	9	9	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	41	81	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	26	57	7	7	12
Future Volume (Veh/h)	6	26	57	7	7	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	33	72	9	9	15
Pedestrians		11	15		4	
Lane Width (m)		3.5	3.5		3.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	85				145	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	85				145	92
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	98
cM capacity (veh/h)	1520				836	960

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	41	81	24
Volume Left	8	0	9
Volume Right	0	9	15
cSH	1520	1700	909
Volume to Capacity	0.01	0.05	0.03
Queue Length 95th (m)	0.1	0.0	0.7
Control Delay (s/veh)	1.5	0.0	9.1
Lane LOS	A		A
Approach Delay (s/veh)	1.5	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	550	56	49	598	20	36
Future Volume (vph)	550	56	49	598	20	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.912	
Flt Protected				0.996	0.983	
Satd. Flow (prot)	3496	0	0	3530	1703	0
Flt Permitted				0.996	0.983	
Satd. Flow (perm)	3496	0	0	3530	1703	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	178.4			286.6	110.9	
Travel Time (s)	12.8			20.6	8.0	
Confl. Peds. (#/hr)		102	102		32	78
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	561	57	50	610	20	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	618	0	0	660	57	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.3%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	550	56	49	598	20	36
Future Volume (Veh/h)	550	56	49	598	20	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	561	57	50	610	20	37
Pedestrians	32			78	102	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	3			7	9	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	312					
pX, platoon unblocked						
vC, conflicting volume			720		1129	489
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			720		1129	489
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		88	92
cM capacity (veh/h)			815		168	454

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	374	244	253	407	57
Volume Left	0	0	50	0	20
Volume Right	0	57	0	0	37
cSH	1700	1700	815	1700	284
Volume to Capacity	0.22	0.14	0.06	0.24	0.20
Queue Length 95th (m)	0.0	0.0	1.6	0.0	5.9
Control Delay (s/veh)	0.0	0.0	2.5	0.0	20.8
Lane LOS			A		C
Approach Delay (s/veh)	0.0		0.9		20.8
Approach LOS					C

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	13	12	11	22	51
Future Volume (vph)	17	13	12	11	22	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.942				0.906	
Flt Protected	0.972			0.975		
Satd. Flow (prot)	1740	0	0	1770	1721	0
Flt Permitted	0.972			0.975		
Satd. Flow (perm)	1740	0	0	1770	1721	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.5			50.9	68.6	
Travel Time (s)	8.0			3.7	4.9	
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	9%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	20	15	14	13	26	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	27	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	17	13	12	11	22	51
Future Volume (vph)	17	13	12	11	22	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	20	15	14	13	26	59

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	35	27	85
Volume Left (vph)	20	14	0
Volume Right (vph)	15	0	59
Hadj (s)	-0.14	0.18	-0.42
Departure Headway (s)	4.0	4.2	3.6
Degree Utilization, x	0.04	0.03	0.08
Capacity (veh/h)	876	829	988
Control Delay (s/veh)	7.1	7.4	6.9
Approach Delay (s/veh)	7.1	7.4	6.9
Approach LOS	A	A	A

Intersection Summary			
Delay	7.1		
Level of Service	A		
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	48	33	21	14	11
Future Volume (vph)	9	48	33	21	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.946		0.940	
Flt Protected		0.992			0.973	
Satd. Flow (prot)	0	1885	1797	0	1490	0
Flt Permitted		0.992			0.973	
Satd. Flow (perm)	0	1885	1797	0	1490	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		52.5	46.3		52.7	
Travel Time (s)		3.8	3.3		3.8	
Confl. Peds. (#/hr)	7			7	4	2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	22%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	10	52	35	23	15	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	62	58	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	9	48	33	21	14	11
Future Volume (vph)	9	48	33	21	14	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	10	52	35	23	15	12

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	62	58	27
Volume Left (vph)	10	0	15
Volume Right (vph)	0	23	12
Hadj (s)	0.03	-0.24	0.13
Departure Headway (s)	4.0	3.8	4.3
Degree Utilization, x	0.07	0.06	0.03
Capacity (veh/h)	876	937	810
Control Delay (s/veh)	7.3	7.0	7.4
Approach Delay (s/veh)	7.3	7.0	7.4
Approach LOS	A	A	A

Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	20.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	60	35	22	16	6
Future Volume (vph)	12	60	35	22	16	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.887				0.962	
Flt Protected	0.992			0.970		
Satd. Flow (prot)	1672	0	0	1843	1828	0
Flt Permitted	0.992			0.970		
Satd. Flow (perm)	1672	0	0	1843	1828	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	254.4			20.9	103.1	
Travel Time (s)	18.3			1.5	7.4	
Confl. Peds. (#/hr)	2	2	9			9
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	13	67	39	25	18	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	64	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	12	60	35	22	16	6
Future Volume (vph)	12	60	35	22	16	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	13	67	39	25	18	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	80	64	25
Volume Left (vph)	13	39	0
Volume Right (vph)	67	0	7
Hadj (s)	-0.47	0.12	-0.17
Departure Headway (s)	3.6	4.2	4.0
Degree Utilization, x	0.08	0.07	0.03
Capacity (veh/h)	965	830	886
Control Delay (s/veh)	6.9	7.5	7.1
Approach Delay (s/veh)	6.9	7.5	7.1
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
Level of Service	A		
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	75	33	7	7	13
Future Volume (vph)	15	75	33	7	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.887				0.914	
Flt Protected	0.992			0.961		
Satd. Flow (prot)	1653	0	0	1826	1737	0
Flt Permitted	0.992			0.961		
Satd. Flow (perm)	1653	0	0	1826	1737	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.8			82.8	86.6	
Travel Time (s)	7.1			6.0	6.2	
Confl. Peds. (#/hr)		1	17			17
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	16	82	36	8	8	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	0	0	44	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	75	33	7	7	13
Future Volume (Veh/h)	15	75	33	7	7	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	82	36	8	8	14
Pedestrians	17			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	112	33	39			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112	33	39			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	98	92	98			
cM capacity (veh/h)	841	1031	1562			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	98	44	22
Volume Left	16	36	0
Volume Right	82	0	14
cSH	994	1562	1700
Volume to Capacity	0.10	0.02	0.01
Queue Length 95th (m)	2.6	0.6	0.0
Control Delay (s/veh)	9.0	6.1	0.0
Lane LOS	A	A	
Approach Delay (s/veh)	9.0	6.1	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	21.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	17	11	13	28	19
Future Volume (vph)	10	17	11	13	28	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.913		0.928			
Flt Protected	0.983					0.971
Satd. Flow (prot)	1705	0	1763	0	0	1845
Flt Permitted	0.983					0.971
Satd. Flow (perm)	1705	0	1763	0	0	1845
Link Speed (k/h)	50		50			50
Link Distance (m)	47.9		86.6			84.4
Travel Time (s)	3.4		6.2			6.1
Confl. Peds. (#/hr)	3	3				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	11	20	13	15	32	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	28	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.2%		ICU Level of Service A	
Analysis Period (min) 15			

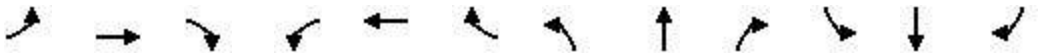
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	17	11	13	28	19
Future Volume (Veh/h)	10	17	11	13	28	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	11	20	13	15	32	22
Pedestrians			3			3
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	110	24			28	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	110	24			28	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	98			98	
cM capacity (veh/h)	872	1056			1599	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	31	28	54
Volume Left	11	0	32
Volume Right	20	15	0
cSH	983	1700	1599
Volume to Capacity	0.03	0.02	0.02
Queue Length 95th (m)	0.8	0.0	0.5
Control Delay (s/veh)	8.8	0.0	4.4
Lane LOS	A		A
Approach Delay (s/veh)	8.8	0.0	4.4
Approach LOS	A		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Future Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977			0.910			0.991			0.938	
Flt Protected		0.964						0.992			0.999	
Satd. Flow (prot)	0	1789	0	0	1297	0	0	1798	0	0	1753	0
Flt Permitted		0.964						0.992			0.999	
Satd. Flow (perm)	0	1789	0	0	1297	0	0	1798	0	0	1753	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.3			60.0			337.5			121.9	
Travel Time (s)		2.4			4.3			24.3			8.8	
Confl. Peds. (#/hr)	10		15	15		10	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	50%	0%	5%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	1	2	0	1	2	5	24	2	1	48	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	3	0	0	31	0	0	91	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Future Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	1	2	0	1	2	5	24	2	1	48	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	12	3	31	91
Volume Left (vph)	9	0	5	1
Volume Right (vph)	2	2	2	42
Hadj (s)	0.05	0.17	0.06	-0.25
Departure Headway (s)	4.2	4.3	4.1	3.7
Degree Utilization, x	0.01	0.00	0.04	0.09
Capacity (veh/h)	828	805	865	959
Control Delay (s/veh)	7.3	7.3	7.2	7.1
Approach Delay (s/veh)	7.3	7.3	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	23.9%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX

E GROWTH RATE CALCULATIONS

Lakeshore Blvd & 37th St

2015

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	53	11	37	11	23	75	68	664	3	12	978	50
PM	139	28	112	13	17	47	124	798	14	28	693	152

2015

	EB	WB	E-W
AM	1040	735	1775
PM	873	936	1809

2019

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	45	6	23	8	6	71	71	748	2	14	704	43
PM	151	27	125	23	32	57	118	764	16	45	673	140

2019

	EB	WB	E-W
AM	761	821	1582
PM	858	898	1756

2024

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	81	9	52	11	15	74	119	615	3	8	595	81
PM	156	18	144	19	25	47	131	642	11	40	544	137

2024

	EB	WB	E-W
AM	684	737	1421
PM	721	784	1505

Annual Rate

AM	-2.75%
PM	-2.29%

Lakeshore Blvd & Long Branch

2016

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	6	0	1	47	0	115	2	558	17	27	755	11
PM	12	0	6	25	1	80	1	814	11	50	688	2

2016

	EB	WB	E-W
AM	793	577	1370
PM	740	826	1566

2020

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	75	1	52	34	0	117	13	530	7	19	815	12
PM	37	7	26	37	10	58	13	797	20	55	630	60

2020

	EB	WB	E-W
AM	846	550	1396
PM	745	830	1575

2024

Total Vehicles	SBR	SBT	SBL	NBR	NBT	NBL	WBR	WBT	WBL	EBR	EBT	EBL
AM	41	0	48	24	4	105	20	580	9	28	588	17
PM	41	8	34	20	12	87	11	678	6	42	556	57

2024

	EB	WB	E-W
AM	633	609	1242
PM	655	695	1350

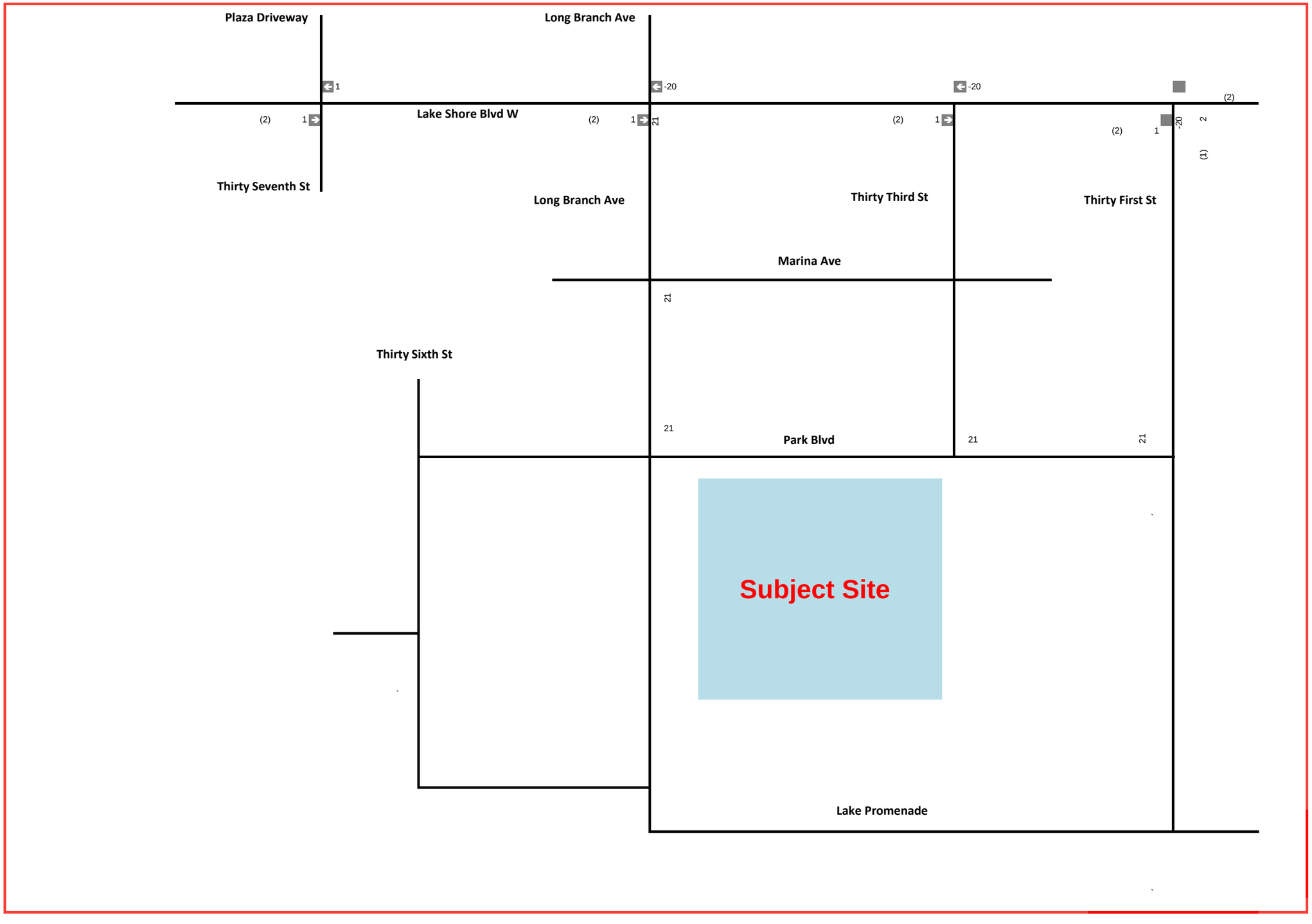
Annual Rate

AM	-1.20%
PM	-1.84%

APPENDIX

F BACKGROUND DEVELOPMENT TRAFFIC

DEVELOPMENTS			
Development Type/Names	**3560-3600 Lake Shore Residential**	**3560-3600 Lake Shore Retail**	**62 & 68 Long Branch**
ITE Code	221	822	220
ITE Category	Multifamily Housing (Mid-Rise)	Strip Retail Plaza (<40k)	Multifamily Housing (Low-Rise)
UNITS			
Unit Type	Units	1000 ft2	Units
# of	**525.00**	**25.49**	**28.00**
TRIP RATES			
AM Peak (Trip Rate)	**0.42**	**2.36**	**0.40**
Type of Rate	Equation	Average	Average
Average Rate		2.36	0.40
Equation Type	T		
Rate from Eq.	0.42		
# of Trips	219.39		
Equation	T = 0.44 X - 11.61		
Multiplier	0.44	0.72	
Constant	-11.61	12.09	
PM Peak (Trip Rate)	**0.39**	**6.59**	**0.51**
Type of Rate	Equation	Average	Average
Average Rate		6.59	0.51
Equation Type	T		
Rate from Eq.	0.39		
# of Trips	205.09		
Equation	T = 0.39 X + 0.34		
Multiplier	0.39	0.69	
Constant	0.34	0.90	
SAT Peak (Trip Rate)	**which rate?**	**which rate?**	**which rate?**
Type of Rate			
Average Rate			
Equation Type			
Rate from Eq.			
# of Trips			
Equation			
Multiplier			
Constant			
INBOUND & OUTBOUND SPLIT %			
AM (IN)	23%	60%	24%
AM (OUT)	77%	40%	76%
PM (IN)	61%	50%	63%
PM (OUT)	39%	50%	37%
SAT (IN)			
SAT (OUT)			
MULTI-USE SHARE FACTOR			
AM (IN)			
AM (OUT)			
PM (IN)			
PM (OUT)			
SAT (IN)			
SAT (OUT)			
NON-AUTOMOBILE TRIP REDUCTION FACTOR (Transit Modal Split %)			
AM (IN)	31%	12%	31%
AM (OUT)	38%	12%	38%
PM (IN)	31%	12%	31%
PM (OUT)	38%	12%	38%
SAT (IN)			
SAT (OUT)			
PASS-BY %			
AM (IN)			
AM (OUT)			
PM (IN)		40%	
PM (OUT)		40%	
SAT (IN)			
SAT (OUT)			
INBOUND & OUTBOUND TRIP RATES			
AM (IN)	0.10	1.42	0.10
AM (OUT)	0.32	0.94	0.30
PM (IN)	0.24	3.30	0.32
PM (OUT)	0.15	3.30	0.19
SAT (IN)	0.00	0.00	0.00
SAT (OUT)	0.00	0.00	0.00
TOTAL SITE GENERATED TRIPS			
AM (IN)	50	36	3
AM (OUT)	169	24	9
PM (IN)	125	84	9
PM (OUT)	80	84	5
SAT (IN)	0	0	0
SAT (OUT)	0	0	0
MULTI-USE FACTOR TRIP REDUCTIONS			
AM (IN)	0	0	0
AM (OUT)	0	0	0
PM (IN)	0	0	0
PM (OUT)	0	0	0
SAT (IN)	0	0	0
SAT (OUT)	0	0	0
NON-AUTOMOBILE TRIP REDUCTIONS (Transit Modal Split %)			
AM (IN)	15	4	1
AM (OUT)	64	3	3
PM (IN)	38	10	3
PM (OUT)	30	10	2
SAT (IN)	0	0	0
SAT (OUT)	0	0	0
PASS-BY TRIPS			
AM (IN)	0	0	0
AM (OUT)	0	0	0
PM (IN)	0	29	0
PM (OUT)	0	29	0
SAT (IN)	0	0	0
SAT (OUT)	0	0	0
PURE NEW SITE GENERATED TRIPS			
AM (IN)	35	32	2
AM (OUT)	105	21	5
PM (IN)	87	44	6
PM (OUT)	50	45	3
SAT (IN)	0	0	0
SAT (OUT)	0	0	0



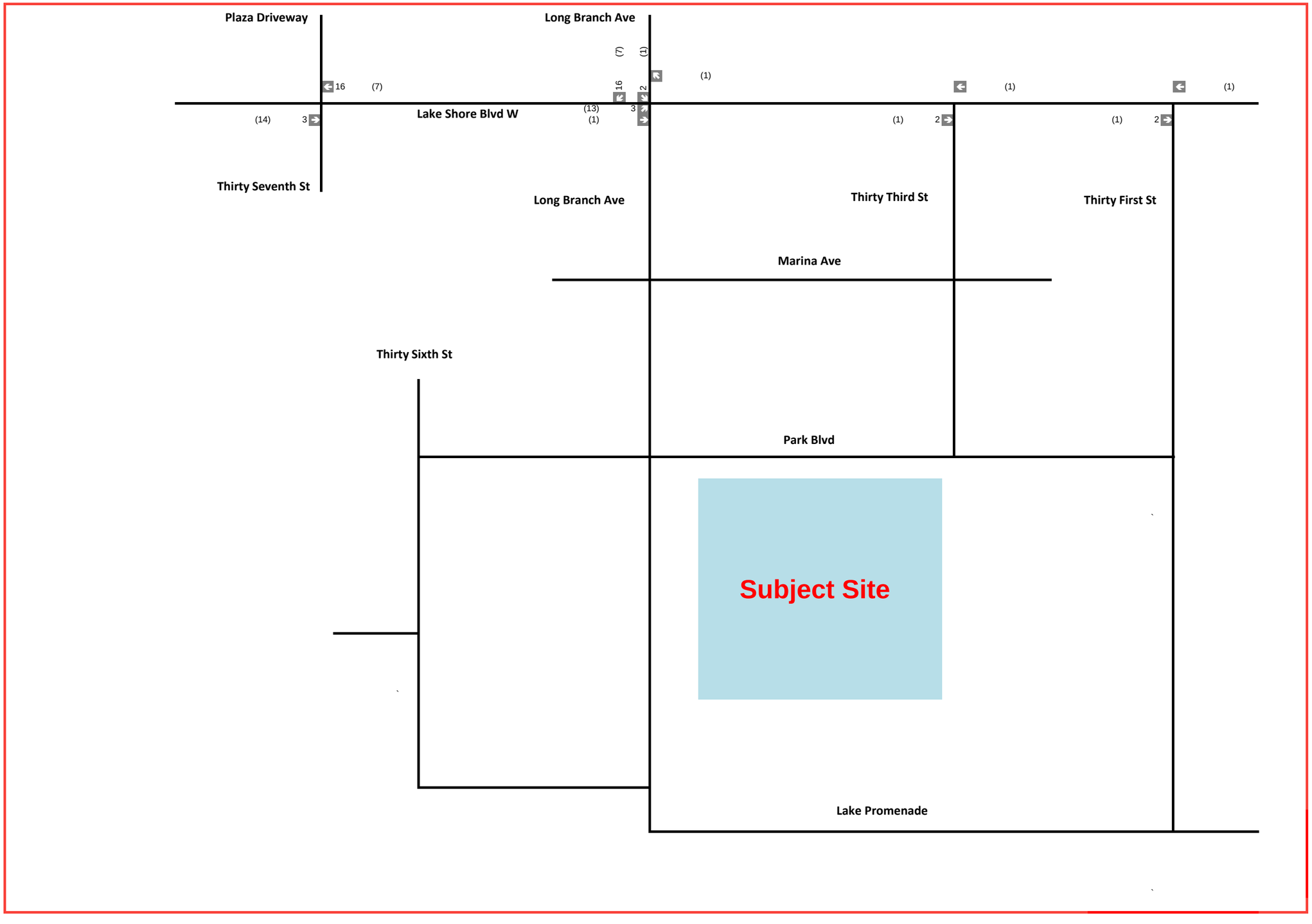
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 1

3471 Lakeshore Blvd & 105 Thirty First St Traffic



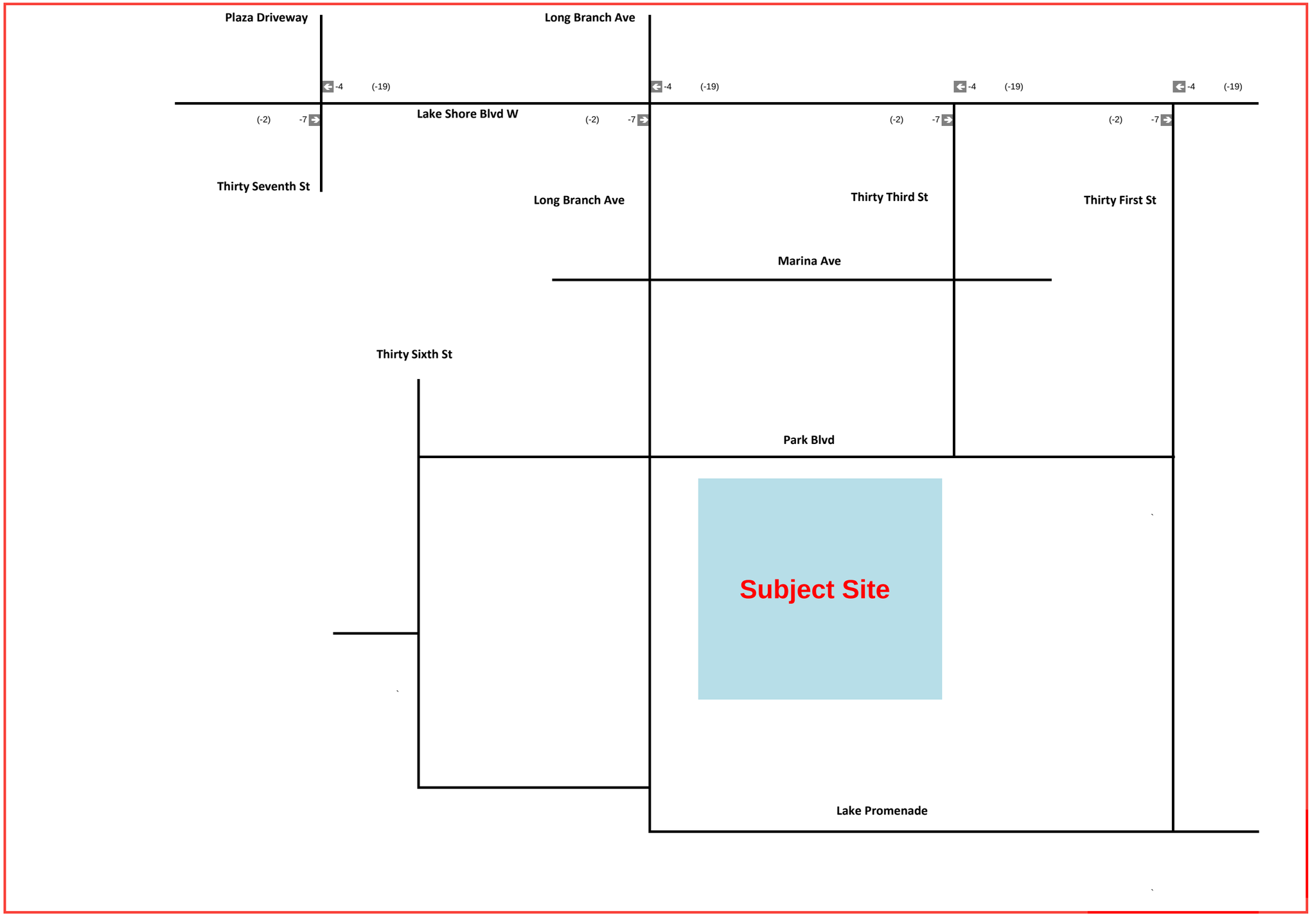
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 2

3526 Lakeshore Blvd Traffic



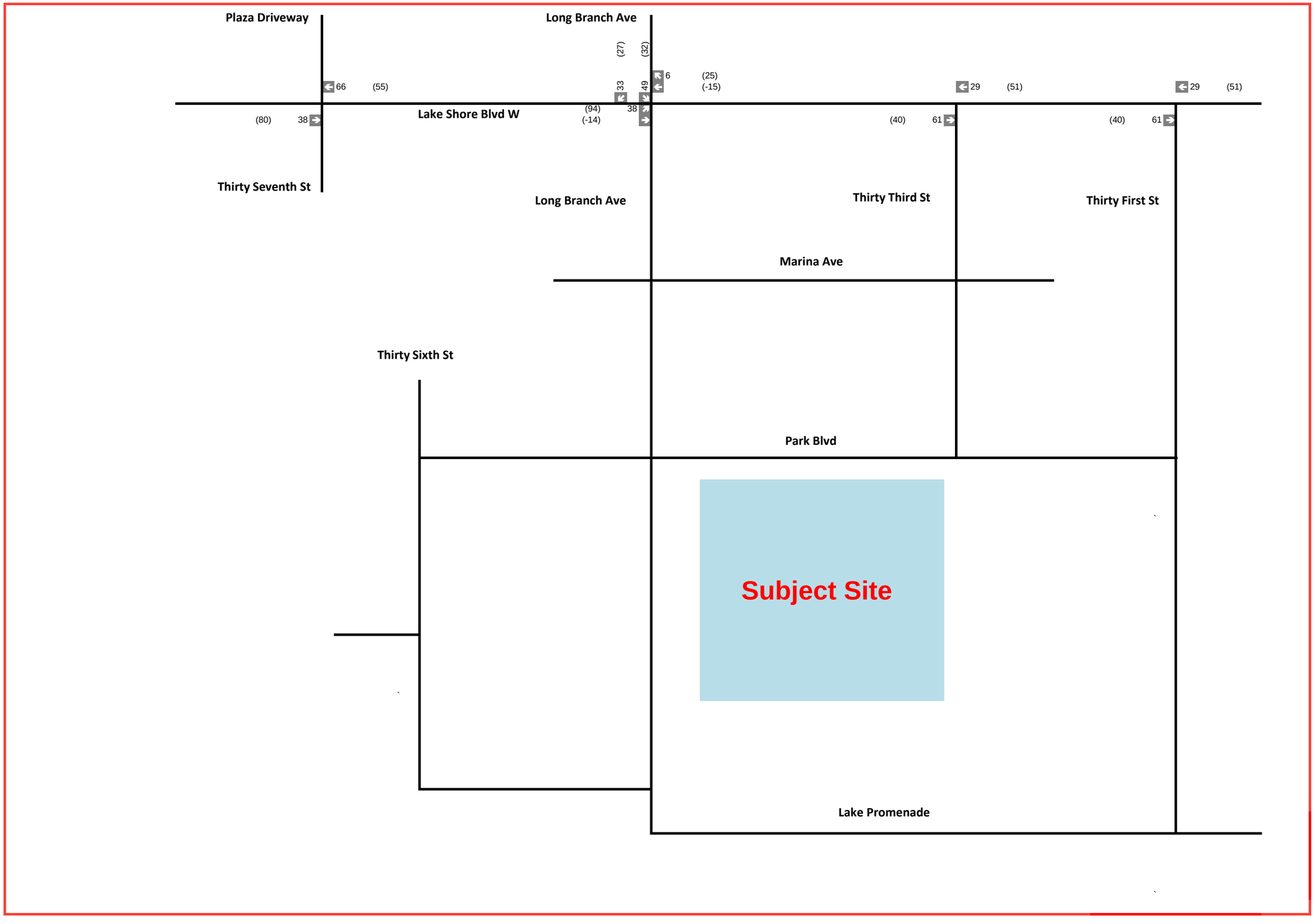
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 3

3199 Lakeshore Blvd Traffic



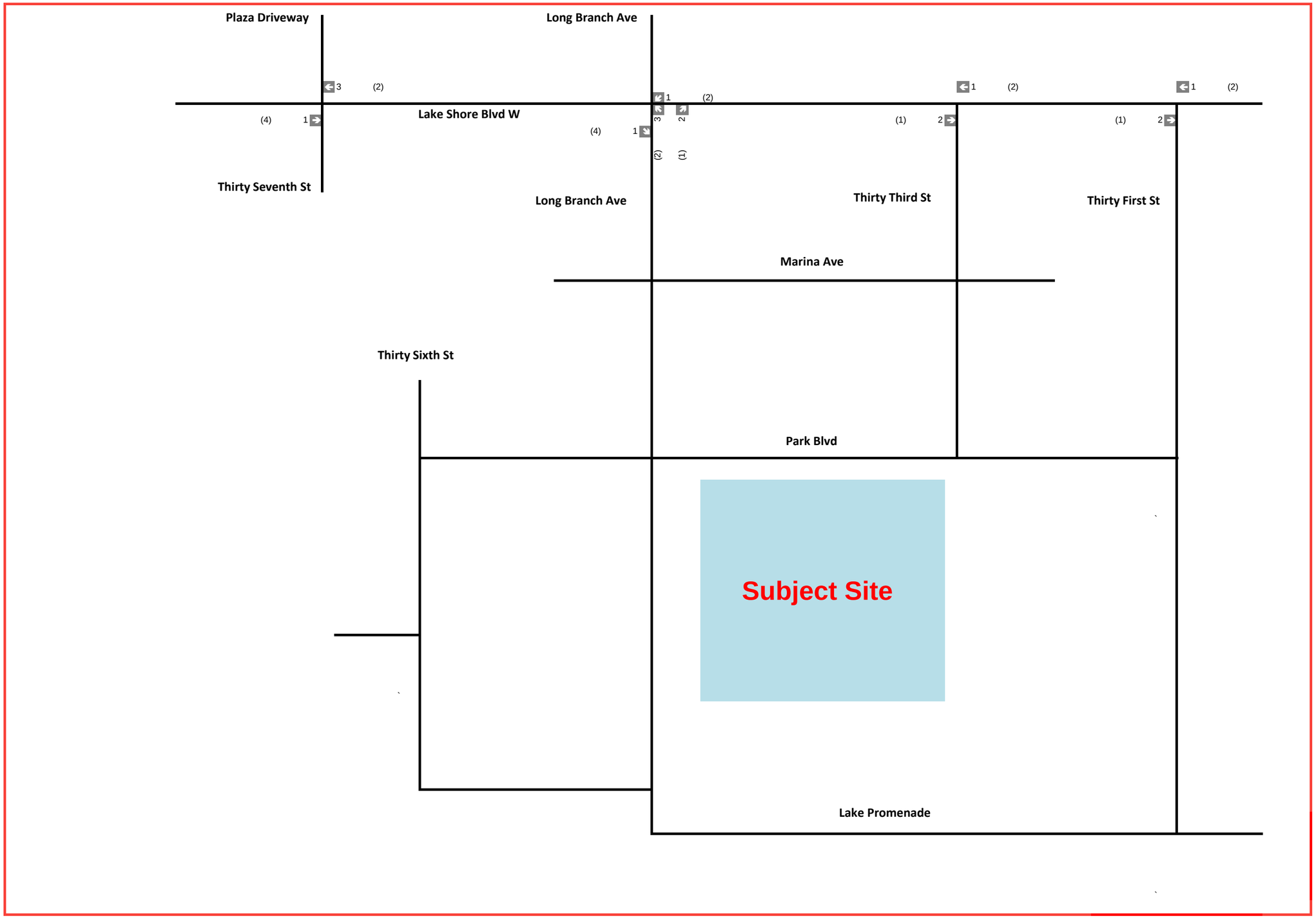
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 4

3560, 3580, 3600 Lakeshore Blvd Traffic



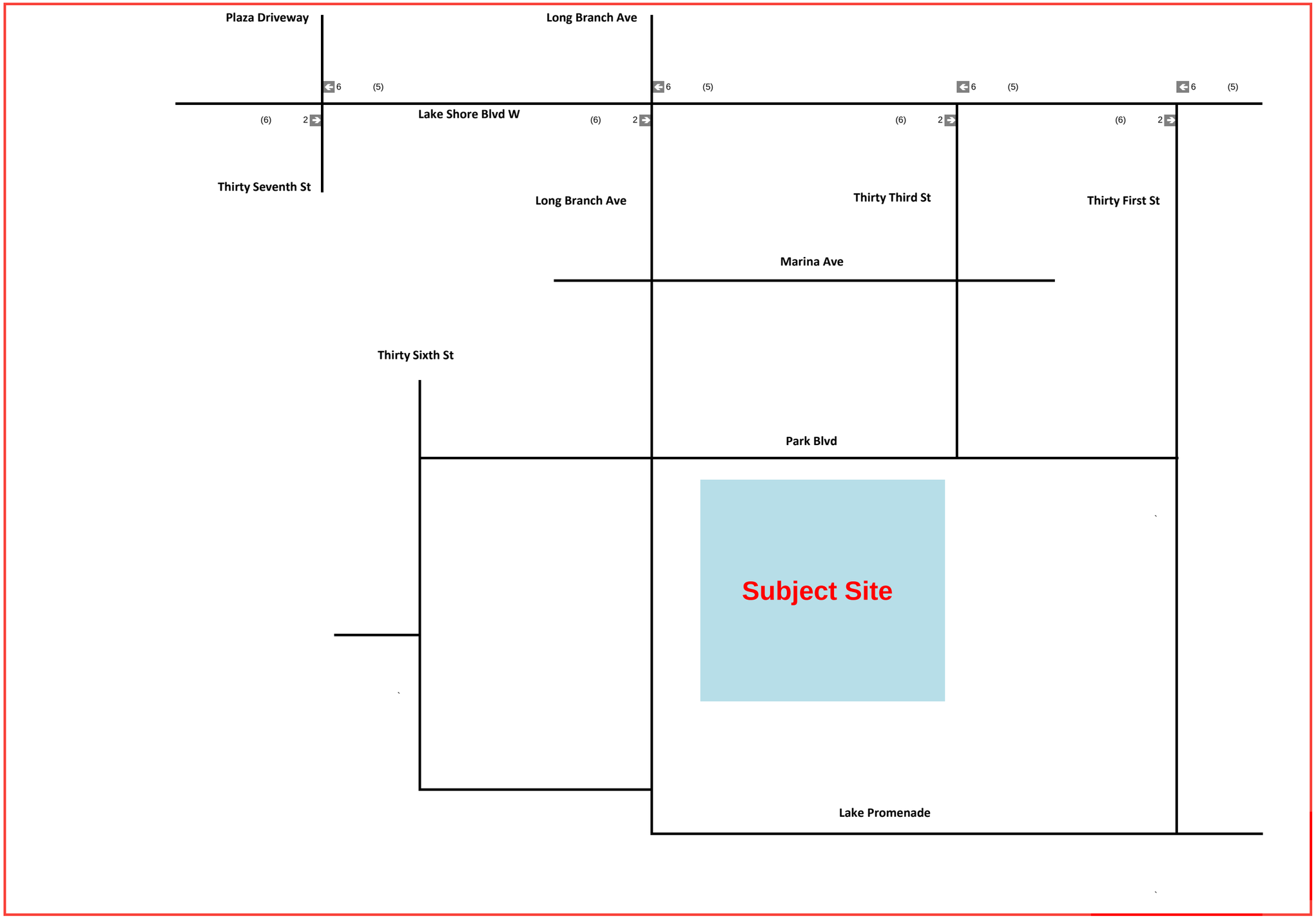
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 5

62 & 68 Long Branch Ave and 28 Marina Ave Traffic



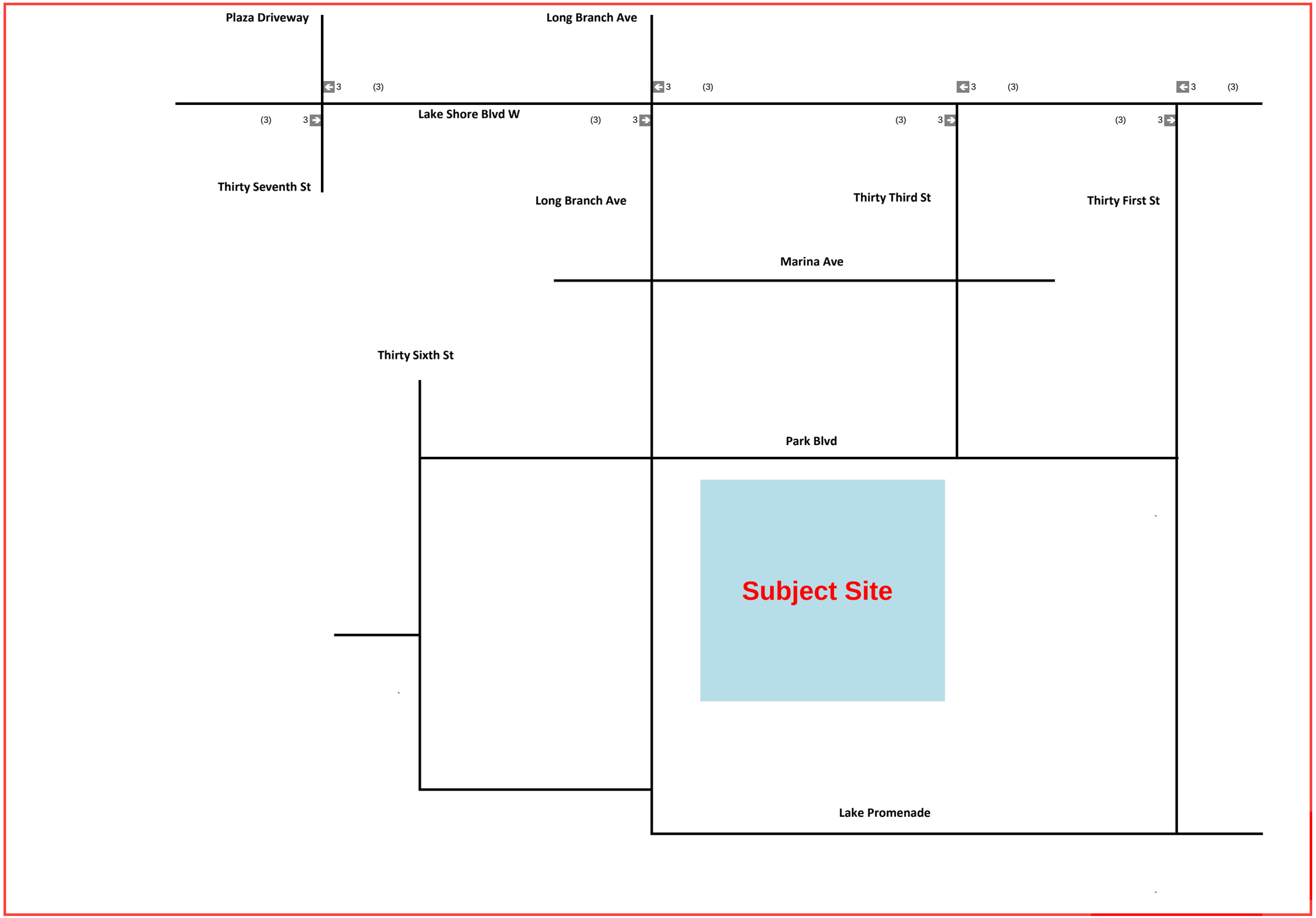
Legend

xx A.M. Peak Hour Traffic Volumes

xx P.M. Peak Hour Traffic Volumes

Appen F Fig 6

3353-3359 Lake Shore Blvd Traffic



Legend

xx A.M. Peak Hour Traffic Volumes

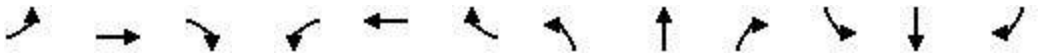
xx P.M. Peak Hour Traffic Volumes

Appen F Fig 7

3418 Lake Shore Blvd Traffic

APPENDIX

G FUTURE BACKGROUND TRAFFIC OPERATIONS

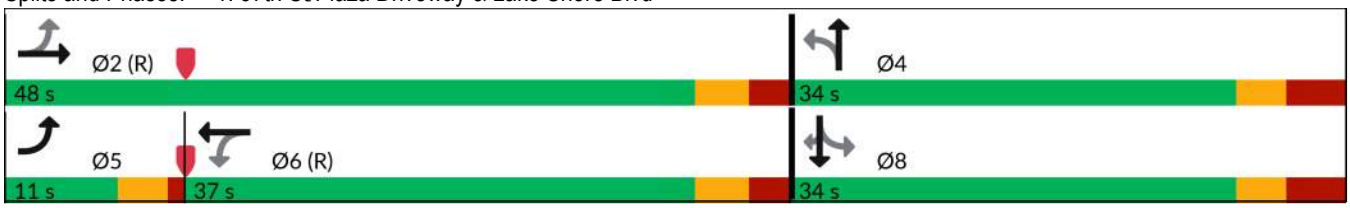


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	636	8	3	706	119	74	15	11	52	9	81
Future Volume (vph)	81	636	8	3	706	119	74	15	11	52	9	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.96			0.96	0.95
Frt		0.998			0.978			0.985				0.850
Flt Protected		0.994						0.964			0.959	
Satd. Flow (prot)	0	3348	0	0	4724	0	0	1732	0	0	1686	1478
Flt Permitted		0.727			0.938			0.739			0.705	
Satd. Flow (perm)	0	2445	0	0	4430	0	0	1291	0	0	1190	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			47			9				93
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		61.7			114.2			124.1			43.8	
Travel Time (s)		4.4			8.2			8.9			3.2	
Confl. Peds. (#/hr)	39		61	61		39	46		61	61		46
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	3%	0%	0%	8%	0%	2%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	93	731	9	3	811	137	85	17	13	60	10	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	833	0	0	951	0	0	115	0	0	70	93
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	48.0		37.0	37.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.4%	58.5%		45.1%	45.1%		41.5%	41.5%		41.5%	41.5%	41.5%
Maximum Green (s)	7.0	42.2		31.2	31.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	5.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		51.2			51.2			28.0			28.0	28.0
Actuated g/C Ratio		0.62			0.62			0.34			0.34	0.34
v/c Ratio		0.55			0.34			0.26			0.17	0.17
Control Delay (s/veh)		13.8			8.1			19.9			20.4	5.4
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		13.8			8.1			19.9			20.4	5.4
LOS		B			A			B			C	A
Approach Delay (s/veh)		13.8			8.1			19.9			11.8	
Approach LOS		B			A			B			B	

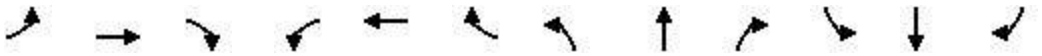
Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 30 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay (s/veh): 11.4		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	833	951	115	70	93
v/c Ratio	0.55	0.34	0.26	0.17	0.17
Control Delay (s/veh)	13.8	8.1	19.9	20.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.8	8.1	19.9	20.4	5.4
Queue Length 50th (m)	47.8	35.4	12.3	7.9	0.0
Queue Length 95th (m)	64.1	37.1	24.3	17.0	8.9
Internal Link Dist (m)	37.7	90.2	100.1	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1527	2784	451	410	543
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.34	0.25	0.17	0.17

Intersection Summary

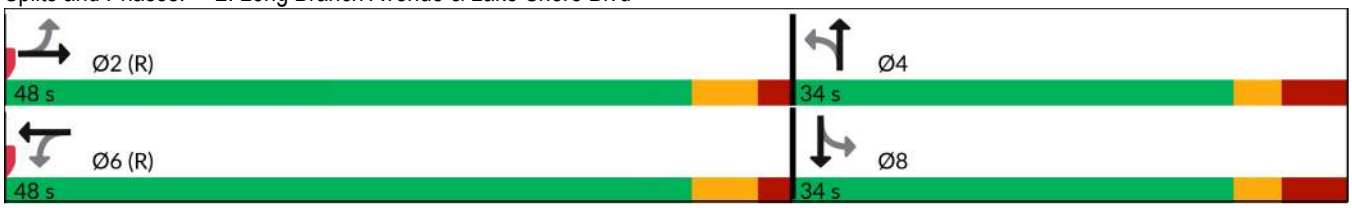


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	587	29	10	565	26	129	4	26	99	0	90
Future Volume (vph)	58	587	29	10	565	26	129	4	26	99	0	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			0.94		0.96	0.92	
Frt		0.994			0.993			0.978			0.850	
Flt Protected		0.996			0.999			0.961		0.950		
Satd. Flow (prot)	0	3307	0	0	3308	0	0	1708	0	1604	1477	0
Flt Permitted		0.835			0.941			0.699		0.672		
Satd. Flow (perm)	0	2766	0	0	3114	0	0	1186	0	1091	1477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			13			191	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		239.4			133.2			122.7			276.0	
Travel Time (s)		17.2			9.6			8.8			19.9	
Confl. Peds. (#/hr)	34		56	56		34	68		55	55		68
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	8%	0%	5%	0%	1%	0%	9%	5%	0%	0%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	64	652	32	11	628	29	143	4	29	110	0	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	748	0	0	668	0	0	176	0	110	100	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	19.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	48.0	48.0		48.0	48.0		34.0	34.0		34.0	34.0	
Total Split (%)	58.5%	58.5%		58.5%	58.5%		41.5%	41.5%		41.5%	41.5%	
Maximum Green (s)	42.0	42.0		42.0	42.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.0			43.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.52			0.52			0.34		0.34	0.34	
v/c Ratio		0.51			0.41			0.43		0.30	0.16	
Control Delay (s/veh)		18.6			12.6			23.1		22.5	0.5	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		18.6			12.6			23.1		22.5	0.5	
LOS		B			B			C		C	A	
Approach Delay (s/veh)		18.6			12.6			23.1			12.1	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 70 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay (s/veh): 16.1		Intersection LOS: B	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Avenue & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	748	668	176	110	100
v/c Ratio	0.51	0.41	0.43	0.30	0.16
Control Delay (s/veh)	18.6	12.6	23.1	22.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.6	12.6	23.1	22.5	0.5
Queue Length 50th (m)	61.9	32.4	20.3	13.0	0.0
Queue Length 95th (m)	82.5	45.1	38.8	26.5	0.0
Internal Link Dist (m)	215.4	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1454	1636	413	372	630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.41	0.43	0.30	0.16

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	715	20	24	634	11	62
Future Volume (vph)	715	20	24	634	11	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.886	
Flt Protected				0.998	0.992	
Satd. Flow (prot)	3414	0	0	3393	1508	0
Flt Permitted				0.998	0.992	
Satd. Flow (perm)	3414	0	0	3393	1508	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			178.4	121.9	
Travel Time (s)	9.6			12.8	8.8	
Confl. Peds. (#/hr)		56	56			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	10%	5%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	831	23	28	737	13	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	854	0	0	765	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.5%		ICU Level of Service A	
Analysis Period (min) 15			

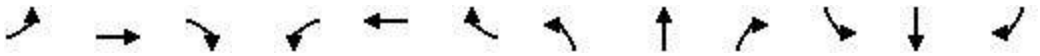
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	715	20	24	634	11	62
Future Volume (Veh/h)	715	20	24	634	11	62
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	831	23	28	737	13	72
Pedestrians				1	56	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			910		1323	484
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			643		1108	162
tC, single (s)			4.2		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		92	90
cM capacity (veh/h)			782		170	722

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	554	300	274	491	85
Volume Left	0	0	28	0	13
Volume Right	0	23	0	0	72
cSH	1700	1700	782	1700	483
Volume to Capacity	0.33	0.18	0.04	0.29	0.18
Queue Length 95th (m)	0.0	0.0	0.9	0.0	5.1
Control Delay (s/veh)	0.0	0.0	1.4	0.0	14.0
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.5		14.0
Approach LOS					B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	19	2	3	14	15	1	135	8	1	23	2
Future Volume (vph)	5	19	2	3	14	15	1	135	8	1	23	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.937			0.992			0.988	
Flt Protected		0.991			0.995						0.998	
Satd. Flow (prot)	0	1763	0	0	1752	0	0	1796	0	0	1717	0
Flt Permitted		0.991			0.995						0.998	
Satd. Flow (perm)	0	1763	0	0	1752	0	0	1796	0	0	1717	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			101.5			333.9			122.7	
Travel Time (s)		11.3			7.3			24.0			8.8	
Confl. Peds. (#/hr)	21		26	26		21	31		29	29		31
Confl. Bikes (#/hr)												
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	0%	0%	0%	4%	0%	0%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	6	24	3	4	18	19	1	169	10	1	29	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	41	0	0	180	0	0	33	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.1%		ICU Level of Service A	
Analysis Period (min) 15			



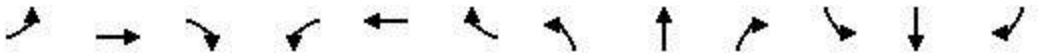
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	19	2	3	14	15	1	135	8	1	23	2
Future Volume (vph)	5	19	2	3	14	15	1	135	8	1	23	2
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	24	2	4	18	19	1	169	10	1	29	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	32	41	180	32
Volume Left (vph)	6	4	1	1
Volume Right (vph)	2	19	10	2
Hadj (s)	0.08	-0.26	0.03	0.11
Departure Headway (s)	4.5	4.1	4.1	4.4
Degree Utilization, x	0.04	0.05	0.21	0.04
Capacity (veh/h)	760	822	849	803
Control Delay (s/veh)	7.7	7.4	8.2	7.5
Approach Delay (s/veh)	7.7	7.4	8.2	7.5
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.9			
Level of Service	A			
Intersection Capacity Utilization	27.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	102	0	6	149	93	3	9	8	26	0	3
Future Volume (vph)	4	102	0	6	149	93	3	9	8	26	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.949			0.946			0.985	
Flt Protected		0.998			0.999			0.992			0.957	
Satd. Flow (prot)	0	1773	0	0	1680	0	0	1584	0	0	1771	0
Flt Permitted		0.998			0.999			0.992			0.957	
Satd. Flow (perm)	0	1773	0	0	1680	0	0	1584	0	0	1771	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		205.7			139.1			83.9			333.9	
Travel Time (s)		14.8			10.0			6.0			24.0	
Confl. Peds. (#/hr)	6		12	12		6	13		14	14		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	5%	8%	0%	3%	25%	0%	13%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	126	0	7	184	115	4	11	10	32	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	0	0	306	0	0	25	0	0	36	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	102	0	6	149	93	3	9	8	26	0	3
Future Volume (vph)	4	102	0	6	149	93	3	9	8	26	0	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	5	126	0	7	184	115	4	11	10	32	0	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	131	306	25	36
Volume Left (vph)	5	7	4	32
Volume Right (vph)	0	115	10	4
Hadj (s)	0.11	-0.12	-0.02	0.11
Departure Headway (s)	4.5	4.1	4.9	5.0
Degree Utilization, x	0.16	0.35	0.03	0.05
Capacity (veh/h)	782	857	668	654
Control Delay (s/veh)	8.3	9.2	8.1	8.3
Approach Delay (s/veh)	8.3	9.2	8.1	8.3
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.9			
Level of Service	A			
Intersection Capacity Utilization	32.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	102	0	6	149	93	3	9	8	26	0	3
Future Vol, veh/h	4	102	0	6	149	93	3	9	8	26	0	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	6	0	0	5	8	0	3	25	0	13	0
Mvmt Flow	5	126	0	7	184	115	4	11	10	32	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.9	7.8	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	4%	2%	90%
Vol Thru, %	45%	96%	60%	0%
Vol Right, %	40%	0%	38%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	106	248	29
LT Vol	3	4	6	26
Through Vol	9	102	149	0
RT Vol	8	0	93	3
Lane Flow Rate	25	131	306	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.158	0.33	0.049
Departure Headway (Hd)	4.654	4.348	3.884	4.966
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	773	830	909	724
Service Time	2.662	2.352	1.974	2.974
HCM Lane V/C Ratio	0.032	0.158	0.337	0.05
HCM Control Delay, s/veh	7.8	8.2	8.9	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.6	1.4	0.2

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	125	223	12	9	10
Future Volume (vph)	17	125	223	12	9	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.993		0.928	
Flt Protected		0.994			0.977	
Satd. Flow (prot)	0	1733	1781	0	1383	0
Flt Permitted		0.994			0.977	
Satd. Flow (perm)	0	1733	1781	0	1383	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		139.1	110.5		337.5	
Travel Time (s)		10.0	8.0		24.3	
Confl. Peds. (#/hr)	1			1	34	17
Confl. Bikes (#/hr)						
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	8%	5%	0%	12%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	27	195	348	19	14	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	222	367	0	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	17	125	223	12	9	10
Future Volume (Veh/h)	17	125	223	12	9	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	27	195	348	19	14	16
Pedestrians		17	34		1	
Lane Width (m)		3.5	3.5		3.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	368				642	376
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	368				642	376
tC, single (s)	4.2				6.5	6.4
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.5
p0 queue free %	98				97	97
cM capacity (veh/h)	1168				402	624

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	222	367	30
Volume Left	27	0	14
Volume Right	0	19	16
cSH	1168	1700	496
Volume to Capacity	0.02	0.22	0.06
Queue Length 95th (m)	0.6	0.0	1.5
Control Delay (s/veh)	1.2	0.0	12.7
Lane LOS	A		B
Approach Delay (s/veh)	1.2	0.0	12.7
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	638	64	40	593	0	59
Future Volume (vph)	638	64	40	593	0	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.865	
Flt Protected				0.997		
Satd. Flow (prot)	3444	0	0	3463	1508	0
Flt Permitted				0.997		
Satd. Flow (perm)	3444	0	0	3463	1508	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	178.4			286.6	110.9	
Travel Time (s)	12.8			20.6	8.0	
Confl. Peds. (#/hr)		81	81		52	42
Confl. Bikes (#/hr)						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	3%	4%	5%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	760	76	48	706	0	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	836	0	0	754	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.5%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	638	64	40	593	0	59
Future Volume (Veh/h)	638	64	40	593	0	59
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	760	76	48	706	0	70
Pedestrians	52			42	81	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	4			4	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	312					
pX, platoon unblocked			0.97		0.97	0.97
vC, conflicting volume			917		1380	541
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			841		1321	452
tC, single (s)			4.2		6.9	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			93		100	85
cM capacity (veh/h)			705		116	466

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	507	329	283	471	70
Volume Left	0	0	48	0	0
Volume Right	0	76	0	0	70
cSH	1700	1700	705	1700	466
Volume to Capacity	0.30	0.19	0.07	0.28	0.15
Queue Length 95th (m)	0.0	0.0	1.7	0.0	4.2
Control Delay (s/veh)	0.0	0.0	2.5	0.0	14.1
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.9		14.1
Approach LOS					B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	112	139	24	10	89
Future Volume (vph)	27	112	139	24	10	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.891				0.878	
Flt Protected	0.990			0.959		
Satd. Flow (prot)	1650	0	0	1698	1631	0
Flt Permitted	0.990			0.959		
Satd. Flow (perm)	1650	0	0	1698	1631	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.5			50.9	68.6	
Travel Time (s)	8.0			3.7	4.9	
Confl. Peds. (#/hr)	1	1	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	0%	7%	9%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	44	184	228	39	16	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	0	0	267	162	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	27	112	139	24	10	89
Future Volume (vph)	27	112	139	24	10	89
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	44	184	228	39	16	146

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	228	267	162
Volume Left (vph)	44	228	0
Volume Right (vph)	184	0	146
Hadj (s)	-0.42	0.29	-0.50
Departure Headway (s)	4.5	4.9	4.3
Degree Utilization, x	0.28	0.37	0.19
Capacity (veh/h)	740	699	782
Control Delay (s/veh)	9.3	10.8	8.3
Approach Delay (s/veh)	9.3	10.8	8.3
Approach LOS	A	B	A

Intersection Summary			
Delay	9.6		
Level of Service	A		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	161	112	0
Future Volume (vph)	0	0	0	161	112	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.865			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1644	0	1656	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1644	0	1656	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		52.5	46.3		52.7	
Travel Time (s)		3.8	3.3		3.8	
Confl. Peds. (#/hr)	4			4	4	1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	2%	0%	0%	9%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	244	170	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	244	0	170	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	161	112	0
Future Volume (vph)	0	0	0	161	112	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	0	0	0	244	170	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	0	244	170
Volume Left (vph)	0	0	170
Volume Right (vph)	0	244	0
Hadj (s)	0.00	-0.60	0.35
Departure Headway (s)	4.6	3.7	4.7
Degree Utilization, x	0.00	0.25	0.22
Capacity (veh/h)	758	928	723
Control Delay (s/veh)	7.6	8.0	9.1
Approach Delay (s/veh)	0.0	8.0	9.1
Approach LOS	A	A	A

Intersection Summary			
Delay	8.5		
Level of Service	A		
Intersection Capacity Utilization	23.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	0	0	0	0	6
Future Volume (vph)	55	0	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	1827	1644	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	1827	1644	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	254.4			20.9	103.1	
Travel Time (s)	18.3			1.5	7.4	
Confl. Peds. (#/hr)		8	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	0%	4%	12%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	63	0	0	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	55	0	0	0	0	6
Future Volume (vph)	55	0	0	0	0	6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	63	0	0	0	0	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	63	0	7
Volume Left (vph)	63	0	0
Volume Right (vph)	0	0	7
Hadj (s)	0.23	0.00	-0.60
Departure Headway (s)	4.1	4.0	3.4
Degree Utilization, x	0.07	0.00	0.01
Capacity (veh/h)	860	881	1022
Control Delay (s/veh)	7.5	7.0	6.5
Approach Delay (s/veh)	7.5	0.0	6.5
Approach LOS	A	A	A

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	16.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	98	44	58	8	13	127
Future Volume (vph)	98	44	58	8	13	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.958				0.877	
Flt Protected	0.967			0.958		
Satd. Flow (prot)	1679	0	0	1820	1654	0
Flt Permitted	0.967			0.958		
Satd. Flow (perm)	1679	0	0	1820	1654	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.8			82.8	86.6	
Travel Time (s)	7.1			6.0	6.2	
Confl. Peds. (#/hr)			8			8
Confl. Bikes (#/hr)						
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	129	58	76	11	17	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	0	87	184	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	98	44	58	8	13	127
Future Volume (Veh/h)	98	44	58	8	13	127
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	129	58	76	11	17	167
Pedestrians	8					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	272	109	192			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272	109	192			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	81	94	95			
cM capacity (veh/h)	664	944	1384			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	187	87	184
Volume Left	129	76	0
Volume Right	58	0	167
cSH	731	1384	1700
Volume to Capacity	0.26	0.05	0.11
Queue Length 95th (m)	8.1	1.4	0.0
Control Delay (s/veh)	11.6	6.8	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	11.6	6.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	6.0		
Intersection Capacity Utilization	32.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	121	33	13	92	10	18
Future Volume (vph)	121	33	13	92	10	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.971		0.882			
Flt Protected	0.962					0.982
Satd. Flow (prot)	1775	0	1516	0	0	1797
Flt Permitted	0.962					0.982
Satd. Flow (perm)	1775	0	1516	0	0	1797
Link Speed (k/h)	50		50			50
Link Distance (m)	47.9		86.6			84.4
Travel Time (s)	3.4		6.2			6.1
Confl. Peds. (#/hr)	2	4				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	12%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	168	46	18	128	14	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	214	0	146	0	0	39
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.2%		ICU Level of Service A	
Analysis Period (min) 15			

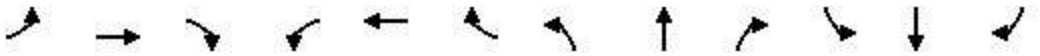
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	121	33	13	92	10	18
Future Volume (Veh/h)	121	33	13	92	10	18
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	168	46	18	128	14	25
Pedestrians			2			4
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	137	86			146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	137	86			146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	95			99	
cM capacity (veh/h)	851	975			1448	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	214	146	39
Volume Left	168	0	14
Volume Right	46	128	0
cSH	875	1700	1448
Volume to Capacity	0.24	0.09	0.01
Queue Length 95th (m)	7.7	0.0	0.2
Control Delay (s/veh)	10.4	0.0	2.7
Lane LOS	B		A
Approach Delay (s/veh)	10.4	0.0	2.7
Approach LOS	B		

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Future Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.925			0.986			0.931	
Flt Protected		0.959			0.989			0.991			0.999	
Satd. Flow (prot)	0	1811	0	0	1462	0	0	1787	0	0	1682	0
Flt Permitted		0.959			0.989			0.991			0.999	
Satd. Flow (perm)	0	1811	0	0	1462	0	0	1787	0	0	1682	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.3			60.0			337.5			121.9	
Travel Time (s)		2.4			4.3			24.3			8.8	
Confl. Peds. (#/hr)	23		23	23		23	13		10	10		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	34%	0%	3%	17%	0%	11%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	39	5	2	2	2	5	18	66	10	2	31	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	9	0	0	94	0	0	67	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Future Volume (vph)	24	3	1	1	1	3	11	40	6	1	19	21
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	39	5	2	2	2	5	18	66	10	2	31	34

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	9	94	67
Volume Left (vph)	39	2	18	2
Volume Right (vph)	2	5	10	34
Hadj (s)	0.14	0.03	0.04	-0.21
Departure Headway (s)	4.4	4.3	4.1	3.9
Degree Utilization, x	0.06	0.01	0.11	0.07
Capacity (veh/h)	787	795	848	901
Control Delay (s/veh)	7.7	7.4	7.6	7.2
Approach Delay (s/veh)	7.7	7.4	7.6	7.2
Approach LOS	A	A	A	A

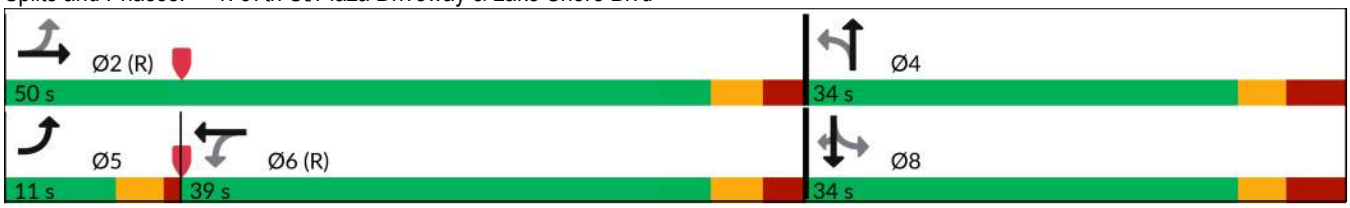
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	26.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	651	40	11	695	131	47	25	19	144	18	156
Future Volume (vph)	137	651	40	11	695	131	47	25	19	144	18	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			0.94			0.93	0.90
Frt		0.993			0.977			0.972				0.850
Flt Protected		0.992			0.999			0.975			0.957	
Satd. Flow (prot)	0	3368	0	0	4725	0	0	1746	0	0	1782	1492
Flt Permitted		0.653			0.927			0.799			0.687	
Satd. Flow (perm)	0	2206	0	0	4382	0	0	1379	0	0	1195	1346
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			54			17				158
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		61.7			114.2			124.1			43.8	
Travel Time (s)		4.4			8.2			8.9			3.2	
Confl. Peds. (#/hr)	72		91	91		72	94		90	90		94
Confl. Bikes (#/hr)												
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	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	2%	0%	0%	3%	0%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	138	658	40	11	702	132	47	25	19	145	18	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	836	0	0	845	0	0	91	0	0	163	158
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	40.5%
Maximum Green (s)	7.0	44.2		33.2	33.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	5.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		45.5			45.5			28.0			28.0	28.0
Actuated g/C Ratio		0.54			0.54			0.33			0.33	0.33
v/c Ratio		0.70			0.35			0.19			0.41	0.29
Control Delay (s/veh)		17.9			15.8			17.7			25.5	5.1
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		17.9			15.8			17.7			25.5	5.1
LOS		B			B			B			C	A
Approach Delay (s/veh)		17.9			15.8			17.7			15.4	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 30 (36%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay (s/veh): 16.7		Intersection LOS: B	
Intersection Capacity Utilization 80.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	836	845	91	163	158
v/c Ratio	0.70	0.35	0.19	0.41	0.29
Control Delay (s/veh)	17.9	15.8	17.7	25.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	17.9	15.8	17.7	25.5	5.1
Queue Length 50th (m)	50.5	40.1	8.7	21.0	0.0
Queue Length 95th (m)	72.8	50.5	19.9	38.8	12.8
Internal Link Dist (m)	37.7	90.2	100.1	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1199	2398	475	402	558
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.35	0.19	0.41	0.28

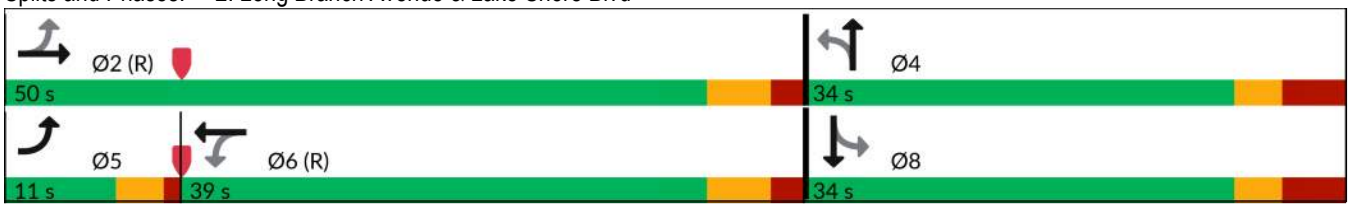
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	552	46	8	652	37	89	12	21	67	8	75
Future Volume (vph)	164	552	46	8	652	37	89	12	21	67	8	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.94		0.94	0.93	
Frt		0.991			0.992			0.977			0.864	
Flt Protected		0.989			0.999			0.965		0.950		
Satd. Flow (prot)	0	3334	0	0	3392	0	0	1681	0	1589	1507	0
Flt Permitted		0.634			0.946			0.737		0.706		
Satd. Flow (perm)	0	2127	0	0	3210	0	0	1227	0	1113	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			8			13			77	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		239.4			133.2			122.7			276.0	
Travel Time (s)		17.2			9.6			8.8			19.9	
Confl. Peds. (#/hr)	37		65	65		37	71		72	72		71
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	0%	2%	0%	3%	9%	5%	6%	0%	0%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	167	563	47	8	665	38	91	12	21	68	8	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	0	711	0	0	124	0	68	85	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	10.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	
Maximum Green (s)	7.0	44.0		33.0	33.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		45.0			45.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.54			0.54			0.33		0.33	0.33	
v/c Ratio		0.68			0.41			0.30		0.18	0.15	
Control Delay (s/veh)		13.8			12.4			20.9		21.6	6.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		13.8			12.4			20.9		21.6	6.7	
LOS		B			B			C		C	A	
Approach Delay (s/veh)		13.8			12.4			20.9			13.3	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 62 (74%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay (s/veh): 13.7		Intersection LOS: B	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Avenue & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	777	711	124	68	85
v/c Ratio	0.68	0.41	0.30	0.18	0.15
Control Delay (s/veh)	13.8	12.4	20.9	21.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.8	12.4	20.9	21.6	6.7
Queue Length 50th (m)	57.6	34.7	13.6	8.0	0.9
Queue Length 95th (m)	73.4	47.6	27.8	18.0	10.5
Internal Link Dist (m)	215.4	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1145	1723	417	371	553
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.41	0.30	0.18	0.15

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	678	28	53	727	7	31
Future Volume (vph)	678	28	53	727	7	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.994				0.889	
Flt Protected				0.997	0.991	
Satd. Flow (prot)	3449	0	0	3480	1521	0
Flt Permitted				0.997	0.991	
Satd. Flow (perm)	3449	0	0	3480	1521	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			178.4	121.9	
Travel Time (s)	9.6			12.8	8.8	
Confl. Peds. (#/hr)		74	74			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	6%	2%	15%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	692	29	54	742	7	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	721	0	0	796	39	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

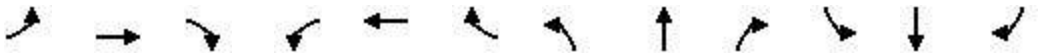
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	678	28	53	727	7	31
Future Volume (Veh/h)	678	28	53	727	7	31
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	692	29	54	742	7	32
Pedestrians				1	74	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	5	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			795		1260	436
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			584		1093	191
tC, single (s)			4.2		7.1	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.3
p0 queue free %			93		95	96
cM capacity (veh/h)			831		153	714

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	461	260	301	495	39
Volume Left	0	0	54	0	7
Volume Right	0	29	0	0	32
cSH	1700	1700	831	1700	431
Volume to Capacity	0.27	0.15	0.07	0.29	0.09
Queue Length 95th (m)	0.0	0.0	1.7	0.0	2.4
Control Delay (s/veh)	0.0	0.0	2.3	0.0	14.2
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.9		14.2
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Future Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.946			0.995			0.977	
Flt Protected		0.974			0.992			0.999			0.997	
Satd. Flow (prot)	0	1821	0	0	1763	0	0	1868	0	0	1830	0
Flt Permitted		0.974			0.992			0.999			0.997	
Satd. Flow (perm)	0	1821	0	0	1763	0	0	1868	0	0	1830	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			101.5			333.9			122.7	
Travel Time (s)		11.3			7.3			24.0			8.8	
Confl. Peds. (#/hr)	9		11	11		9	33		35	35		33
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	13	1	8	22	20	1	80	3	5	55	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	50	0	0	84	0	0	72	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

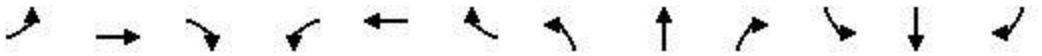
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Future Volume (vph)	15	12	1	7	20	18	1	73	3	5	50	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	13	1	8	22	20	1	80	3	5	55	12

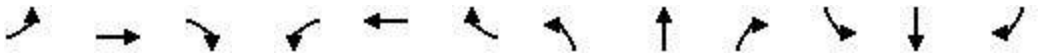
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	30	50	84	72
Volume Left (vph)	16	8	1	5
Volume Right (vph)	1	20	3	12
Hadj (s)	0.09	-0.21	-0.02	-0.09
Departure Headway (s)	4.4	4.1	4.1	4.1
Degree Utilization, x	0.04	0.06	0.10	0.08
Capacity (veh/h)	788	849	844	860
Control Delay (s/veh)	7.5	7.3	7.6	7.4
Approach Delay (s/veh)	7.5	7.3	7.6	7.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	24.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	144	0	7	101	52	1	11	5	35	0	1
Future Volume (vph)	2	144	0	7	101	52	1	11	5	35	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.956			0.959			0.997	
Flt Protected		0.999			0.998			0.998			0.953	
Satd. Flow (prot)	0	1877	0	0	1748	0	0	1798	0	0	1785	0
Flt Permitted		0.999			0.998			0.998			0.953	
Satd. Flow (perm)	0	1877	0	0	1748	0	0	1798	0	0	1785	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		205.7			139.1			83.9			333.9	
Travel Time (s)		14.8			10.0			6.0			24.0	
Confl. Peds. (#/hr)	11		8	8		11	11		29	29		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	164	0	8	115	59	1	13	6	40	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	166	0	0	182	0	0	20	0	0	41	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	144	0	7	101	52	1	11	5	35	0	1
Future Volume (vph)	2	144	0	7	101	52	1	11	5	35	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	164	0	8	115	59	1	12	6	40	0	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	166	182	19	41
Volume Left (vph)	2	8	1	40
Volume Right (vph)	0	59	6	1
Hadj (s)	0.00	-0.14	-0.18	0.18
Departure Headway (s)	4.2	4.1	4.5	4.9
Degree Utilization, x	0.20	0.21	0.02	0.06
Capacity (veh/h)	830	864	730	682
Control Delay (s/veh)	8.3	8.1	7.6	8.1
Approach Delay (s/veh)	8.3	8.1	7.6	8.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.2			
Level of Service	A			
Intersection Capacity Utilization	30.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	144	0	7	101	52	1	11	5	35	0	1
Future Vol, veh/h	2	144	0	7	101	52	1	11	5	35	0	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	2	164	0	8	115	59	1	13	6	40	0	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8	7.6	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	1%	4%	97%
Vol Thru, %	65%	99%	63%	0%
Vol Right, %	29%	0%	33%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	146	160	36
LT Vol	1	2	7	35
Through Vol	11	144	101	0
RT Vol	5	0	52	1
Lane Flow Rate	19	166	182	41
Geometry Grp	1	1	1	1
Degree of Util (X)	0.024	0.191	0.199	0.055
Departure Headway (Hd)	4.527	4.145	3.943	4.841
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	854	895	744
Service Time	2.529	2.229	2.033	2.842
HCM Lane V/C Ratio	0.024	0.194	0.203	0.055
HCM Control Delay, s/veh	7.6	8.2	8	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.7	0.2

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	168	149	7	7	12
Future Volume (vph)	6	168	149	7	7	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.916	
Flt Protected		0.998			0.982	
Satd. Flow (prot)	0	1875	1833	0	1595	0
Flt Permitted		0.998			0.982	
Satd. Flow (perm)	0	1875	1833	0	1595	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		139.1	110.5		337.5	
Travel Time (s)		10.0	8.0		24.3	
Confl. Peds. (#/hr)	4			4	15	11
Confl. Bikes (#/hr)						
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	8	213	189	9	9	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	221	198	0	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	168	149	7	7	12
Future Volume (Veh/h)	6	168	149	7	7	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	213	189	9	9	15
Pedestrians		11	15		4	
Lane Width (m)		3.5	3.5		3.0	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		1	1		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	202				442	209
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202				442	209
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	1378				565	827

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	221	198	24
Volume Left	8	0	9
Volume Right	0	9	15
cSH	1378	1700	705
Volume to Capacity	0.01	0.12	0.03
Queue Length 95th (m)	0.1	0.0	0.8
Control Delay (s/veh)	0.3	0.0	10.3
Lane LOS	A		B
Approach Delay (s/veh)	0.3	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	26.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	599	58	51	641	20	37
Future Volume (vph)	599	58	51	641	20	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.987				0.912	
Flt Protected				0.996	0.983	
Satd. Flow (prot)	3499	0	0	3530	1703	0
Flt Permitted				0.996	0.983	
Satd. Flow (perm)	3499	0	0	3530	1703	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	178.4			286.6	110.9	
Travel Time (s)	12.8			20.6	8.0	
Confl. Peds. (#/hr)		102	102		32	78
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	611	59	52	654	20	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	670	0	0	706	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	599	58	51	641	20	37
Future Volume (Veh/h)	599	58	51	641	20	37
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	611	59	52	654	20	38
Pedestrians	32			78	102	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	3			7	9	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	312					
pX, platoon unblocked						
vC, conflicting volume			772		1206	515
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			772		1206	515
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		87	91
cM capacity (veh/h)			780		149	436

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	407	263	270	436	58
Volume Left	0	0	52	0	20
Volume Right	0	59	0	0	38
cSH	1700	1700	780	1700	262
Volume to Capacity	0.24	0.15	0.07	0.26	0.22
Queue Length 95th (m)	0.0	0.0	1.7	0.0	6.6
Control Delay (s/veh)	0.0	0.0	2.5	0.0	22.6
Lane LOS			A		C
Approach Delay (s/veh)	0.0		1.0		22.6
Approach LOS					C

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	155	93	11	11	62
Future Volume (vph)	17	155	93	11	11	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.878				0.886	
Flt Protected	0.995			0.957		
Satd. Flow (prot)	1660	0	0	1683	1683	0
Flt Permitted	0.995			0.957		
Satd. Flow (perm)	1660	0	0	1683	1683	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	110.5			50.9	68.6	
Travel Time (s)	8.0			3.7	4.9	
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	9%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	20	180	108	13	13	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	0	0	121	85	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	17	155	93	11	11	62
Future Volume (vph)	17	155	93	11	11	62
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	20	180	108	13	13	72

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	200	121	85
Volume Left (vph)	20	108	0
Volume Right (vph)	180	0	72
Hadj (s)	-0.52	0.32	-0.51
Departure Headway (s)	3.9	4.7	4.0
Degree Utilization, x	0.21	0.16	0.09
Capacity (veh/h)	892	726	850
Control Delay (s/veh)	7.9	8.6	7.4
Approach Delay (s/veh)	7.9	8.6	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	111	145	0
Future Volume (vph)	0	0	0	111	145	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.865			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1644	0	1480	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1644	0	1480	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		52.5	46.3		52.7	
Travel Time (s)		3.8	3.3		3.8	
Confl. Peds. (#/hr)	7			7	4	2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	22%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	0	0	119	156	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	119	0	156	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	111	145	0
Future Volume (vph)	0	0	0	111	145	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	0	0	119	156	0

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total (vph)	0	119	156
Volume Left (vph)	0	0	156
Volume Right (vph)	0	119	0
Hadj (s)	0.00	-0.60	0.57
Departure Headway (s)	4.4	3.7	4.7
Degree Utilization, x	0.00	0.12	0.20
Capacity (veh/h)	790	934	741
Control Delay (s/veh)	7.4	7.2	8.9
Approach Delay (s/veh)	0.0	7.2	8.9
Approach LOS	A	A	A

Intersection Summary			
Delay	8.2		
Level of Service	A		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	0	0	0	0	6
Future Volume (vph)	12	0	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1805	0	0	1900	1644	0
Flt Permitted	0.950					
Satd. Flow (perm)	1805	0	0	1900	1644	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	254.4			20.9	103.1	
Travel Time (s)	18.3			1.5	7.4	
Confl. Peds. (#/hr)	2	2	9			9
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	13	0	0	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.6%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	12	0	0	0	0	6
Future Volume (vph)	12	0	0	0	0	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	13	0	0	0	0	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	13	0	7
Volume Left (vph)	13	0	0
Volume Right (vph)	0	0	7
Hadj (s)	0.20	0.00	-0.60
Departure Headway (s)	4.1	3.9	3.3
Degree Utilization, x	0.01	0.00	0.01
Capacity (veh/h)	867	900	1071
Control Delay (s/veh)	7.2	6.9	6.4
Approach Delay (s/veh)	7.2	0.0	6.4
Approach LOS	A	A	A

Intersection Summary			
Delay	6.9		
Level of Service	A		
Intersection Capacity Utilization	16.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	132	15	33	7	7	81
Future Volume (vph)	132	15	33	7	7	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.987				0.876	
Flt Protected	0.957			0.961		
Satd. Flow (prot)	1688	0	0	1826	1664	0
Flt Permitted	0.957			0.961		
Satd. Flow (perm)	1688	0	0	1826	1664	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	98.8			82.8	86.6	
Travel Time (s)	7.1			6.0	6.2	
Confl. Peds. (#/hr)		1	17			17
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	145	16	36	8	8	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	161	0	0	44	97	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	132	15	33	7	7	81
Future Volume (Veh/h)	132	15	33	7	7	81
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	145	16	36	8	8	89
Pedestrians	17			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	150	71	114			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	150	71	114			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	82	98	98			
cM capacity (veh/h)	799	983	1467			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	161	44	97
Volume Left	145	36	0
Volume Right	16	0	89
cSH	814	1467	1700
Volume to Capacity	0.20	0.02	0.06
Queue Length 95th (m)	5.9	0.6	0.0
Control Delay (s/veh)	10.5	6.2	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	10.5	6.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	78	17	11	130	28	19
Future Volume (vph)	78	17	11	130	28	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.975		0.876			
Flt Protected	0.961					0.971
Satd. Flow (prot)	1780	0	1664	0	0	1845
Flt Permitted	0.961					0.971
Satd. Flow (perm)	1780	0	1664	0	0	1845
Link Speed (k/h)	50		50			50
Link Distance (m)	47.9		86.6			84.4
Travel Time (s)	3.4		6.2			6.1
Confl. Peds. (#/hr)	3	3				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	90	20	13	149	32	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	0	162	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.1%		ICU Level of Service A	
Analysis Period (min) 15			

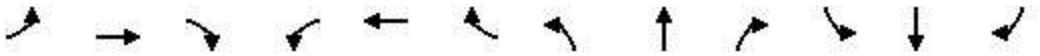
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	78	17	11	130	28	19
Future Volume (Veh/h)	78	17	11	130	28	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	90	20	13	149	32	22
Pedestrians			3			3
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	177	91			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177	91			162	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	98			98	
cM capacity (veh/h)	798	970			1429	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	110	162	54
Volume Left	90	0	32
Volume Right	20	149	0
cSH	824	1700	1429
Volume to Capacity	0.13	0.10	0.02
Queue Length 95th (m)	3.7	0.0	0.5
Control Delay (s/veh)	10.0	0.0	4.6
Lane LOS	B		A
Approach Delay (s/veh)	10.0	0.0	4.6
Approach LOS	B		

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Future Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977			0.910			0.991			0.938	
Flt Protected		0.964						0.992			0.999	
Satd. Flow (prot)	0	1789	0	0	1297	0	0	1798	0	0	1753	0
Flt Permitted		0.964						0.992			0.999	
Satd. Flow (perm)	0	1789	0	0	1297	0	0	1798	0	0	1753	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		33.3			60.0			337.5			121.9	
Travel Time (s)		2.4			4.3			24.3			8.8	
Confl. Peds. (#/hr)	10		15	15		10	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	50%	0%	5%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	1	2	0	1	2	5	24	2	1	48	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	3	0	0	31	0	0	91	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Future Volume (vph)	9	1	2	0	1	2	5	23	2	1	46	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	1	2	0	1	2	5	24	2	1	48	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	12	3	31	91
Volume Left (vph)	9	0	5	1
Volume Right (vph)	2	2	2	42
Hadj (s)	0.05	0.17	0.06	-0.25
Departure Headway (s)	4.2	4.3	4.1	3.7
Degree Utilization, x	0.01	0.00	0.04	0.09
Capacity (veh/h)	828	805	865	959
Control Delay (s/veh)	7.3	7.3	7.2	7.1
Approach Delay (s/veh)	7.3	7.3	7.2	7.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	23.9%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX

H TTS DATA

Outbound Retail Modal Splits

Mon Jun 13 2022 12:50:06 GMT-0400 (Eastern Daylight Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of origin - gta06_orig 295 296
and
Trip purpose of origin - purp_orig In M

Table: Trip 2016

Row:	Count:	Expanded:		Percentage
Transit excluding GO rail	1	60		2.9%
Cycle	5	85		4.1%
Auto driver	91	1397		67.6%
GO rail only	1	8		0.4%
Auto passenger	20	416		20.1%
Walk	4	101		4.9%
Total:	122	2067		100.0%
			Non-Auto	**12.3%**

Inbound Retail Modal Splits

Mon Jun 13 2022 13:35:13 GMT-0400 (Eastern Daylight Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of destination - gta0 295 296
and
Trip purpose of destination - purp_dest In M

Table: Trip 2016

Row:	Count:	Expanded:		Percentage
Transit excluding GO rail	1	60		2.9%
Cycle	5	85		4.1%
Auto driver	92	1402		67.8%
Auto passenger	21	425		20.6%
Walk	3	95		4.6%
Total:	122	2067		100.0%
			Non-Auto	**11.6%**

Outbound Residential Modal Splits

Thu Jun 23 2022 11:05:06 GMT-0400 (Eastern Daylight Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of origin - gta06_orig 295 296
and
Trip purpose of origin - purp_orig In H
and
Start time of trip - start_time In 630-930

Table: Trip 2016

Row:	Count:	Expanded:		Percentage
Transit excluding GO rail	48	942		18.7%
Cycle	3	39		0.8%
Auto driver	155	2810		55.8%
GO rail only	29	485		9.6%
Joint GO rail and local transit	7	84		1.7%
Auto passenger	17	289		5.7%
School bus	1	12		0.2%
Paid rideshare	2	43		0.9%
Walk	16	334		6.6%
Total:	278	5036		100.0%
			Non-Auto	**37.6%**

Inbound Residential Modal Splits

Thu Jun 23 2022 11:07:48 GMT-0400 (Eastern Daylight Time)

Frequency Distribution Query Form - Trip - 2016 v1.1

Field: Primary travel mode of trip - mode_prime

Filters:
2006 GTA zone of destination - gta0 295 296
and
Trip purpose of destination - purp_dest In H
and
Start time of trip - start_time In 1530-1830

Table: Trip 2016

Row:	Count:	Expanded:		Percentage
Transit excluding GO rail	29	527		12.5%
Cycle	2	25		0.6%
Auto driver	143	2546		60.2%
GO rail only	24	438		10.4%
Joint GO rail and local transit	4	85		2.0%
Auto passenger	17	350		8.3%
Taxi passenger	1	31		0.7%
Paid rideshare	1	14		0.3%
Walk	10	212		5.0%
Total:	231	4229		100.0%
			Non-Auto	**30.5%**

TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, informaton about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarizes the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2016 trip origin and destination data. Trips were grouped under cardinal directions based on the relative angle between trip origin and destination, and appropriate adjustments were made to the calculation to conform to local geography and street grid.

The "TTS Directional Distribution Summary" on the next page presents a summary of the calculations described above, along with notes on any details specific to the analysis in this report. The table shows the total number of trips to and from the subject site categorized into general directions (North, Northeast, East etc.) and the percentage share of trips in each general direction in all directions.

The pages after show graphical illustrations of the categorizations for all Traffic Analysis Zones (TAZ) in the TTS survey area. Note that the latest survey zones were last updated in 2006.

These results are used as reference information for the trip assignment. They do not directly determine the trip assignment on the study network. The final trip assignments are completed based on a combination of local context, engineering experience, and engineering judgement, with the trip distribution information presented here to illustrate general travel behaviour.

TTS Directional Distribution Summary: Test Project

Notes:

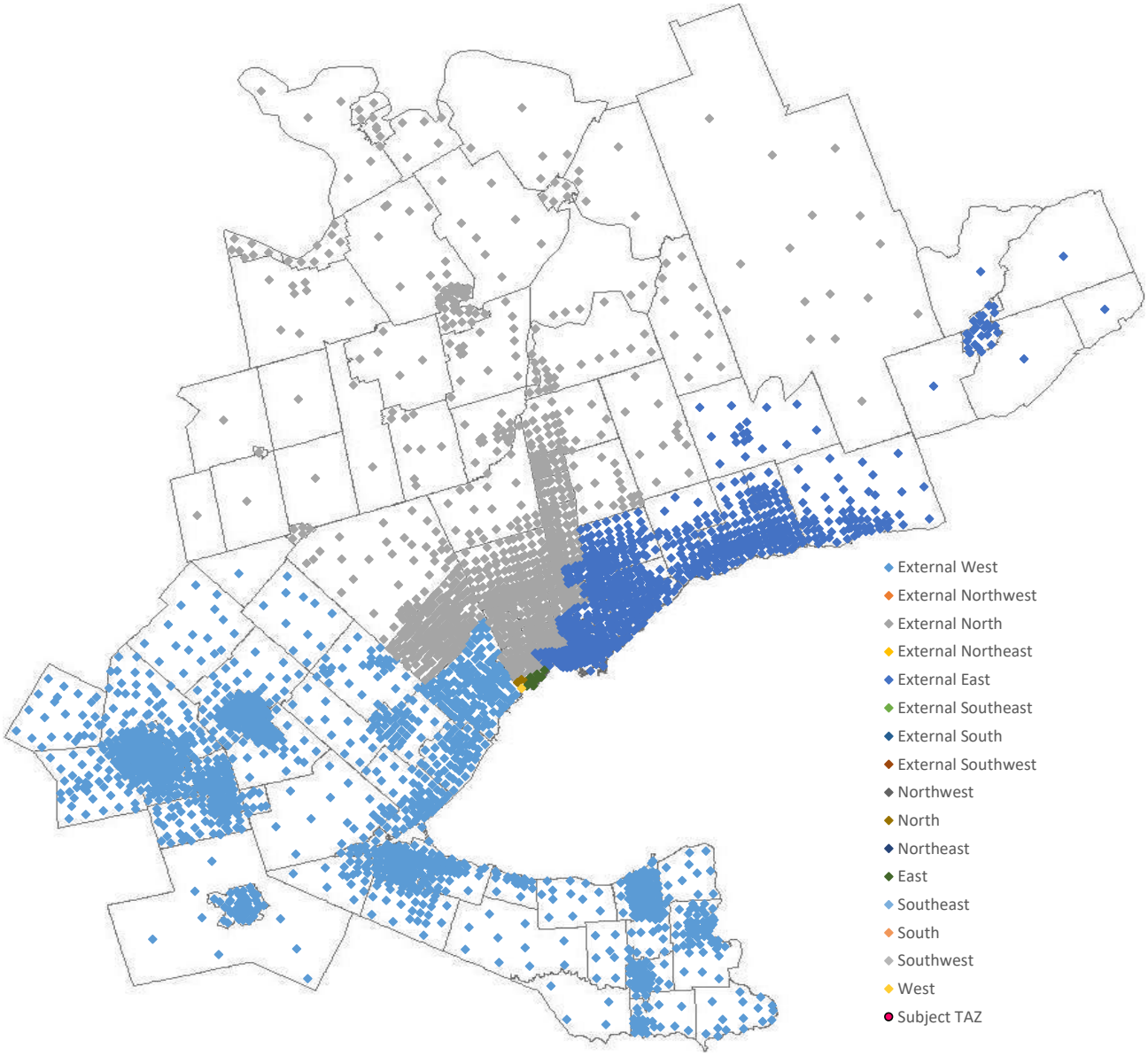
1. Directions determined based on centroid coordinates of destination/origin planning districts.

2. 'Internal' refers to local trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

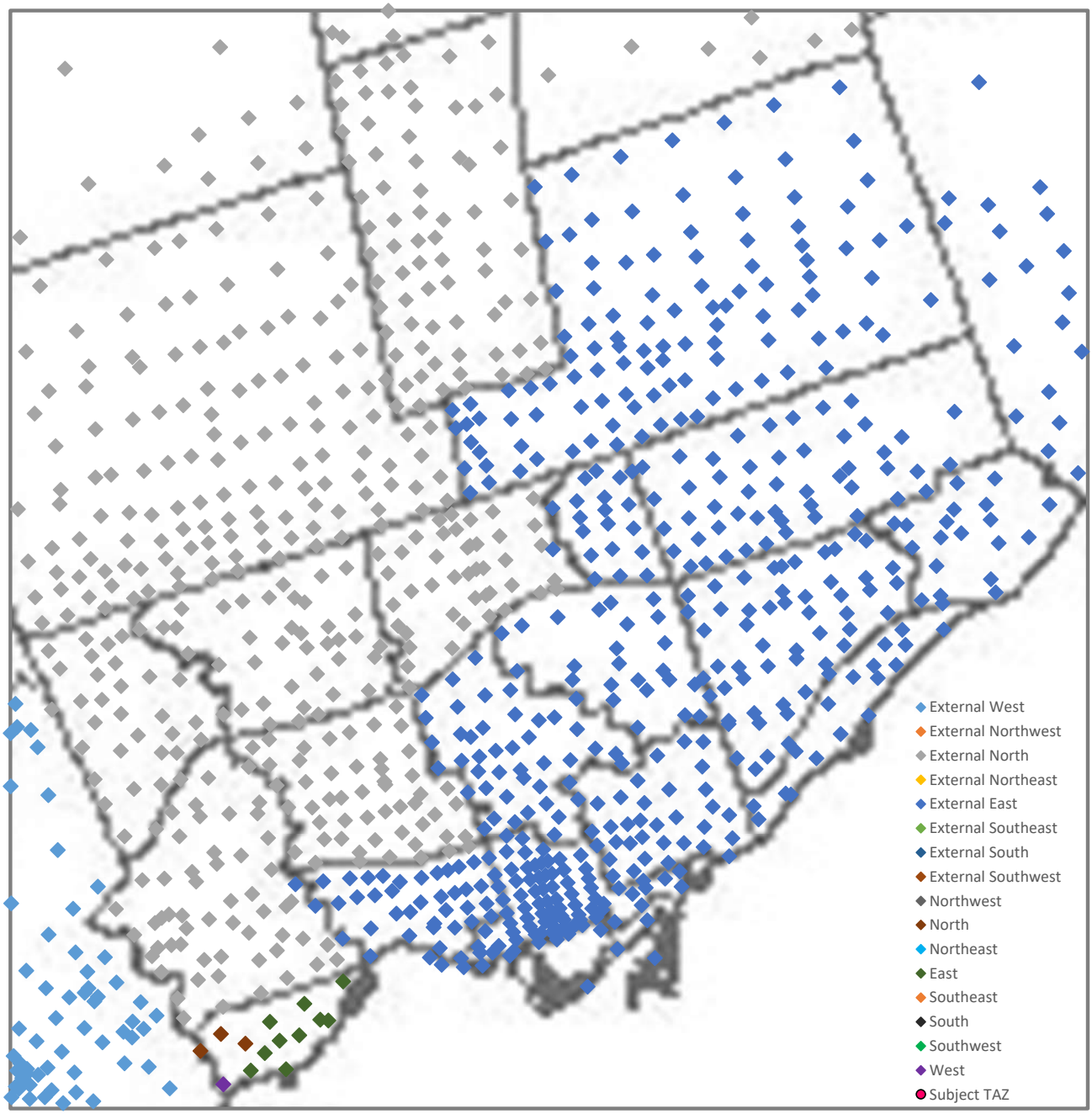
3. 'I' refers to local trips made within the subject TAZ that do not have a cardinal direction assigned to them. These trips are excluded from the analysis.

			Internal										External								
	Time Period	Direction	I	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
Trips	A.M.	Inbound	0	0	0	0	85	0	0	0	18	103	0	125	0	33	0	0	0	92	250
		Outbound	0	0	83	0	815	0	0	0	108	1006	0	1428	0	1755	0	0	0	763	3946
	P.M.	Inbound	0	0	69	0	453	0	0	0	322	844	0	1287	0	1145	0	0	0	876	3308
		Outbound	0	0	54	0	255	0	0	0	185	494	0	331	0	97	0	0	0	192	620
Percentage	A.M.	Inbound	0.0%	0.0%	0.0%	0.0%	24.1%	0.0%	0.0%	0.0%	5.1%	29.2%	0.0%	35.4%	0.0%	9.3%	0.0%	0.0%	0.0%	26.1%	70.8%
		Outbound	0.0%	0.0%	1.7%	0.0%	16.5%	0.0%	0.0%	0.0%	2.2%	20.3%	0.0%	28.8%	0.0%	35.4%	0.0%	0.0%	0.0%	15.4%	79.7%
	P.M.	Inbound	0.0%	0.0%	1.7%	0.0%	10.9%	0.0%	0.0%	0.0%	7.8%	20.3%	0.0%	31.0%	0.0%	27.6%	0.0%	0.0%	0.0%	21.1%	79.7%
		Outbound	0.0%	0.0%	4.8%	0.0%	22.9%	0.0%	0.0%	0.0%	16.6%	44.3%	0.0%	29.7%	0.0%	8.7%	0.0%	0.0%	0.0%	17.2%	55.7%

TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)

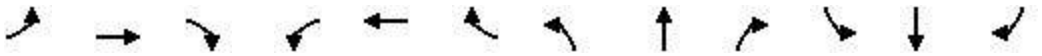


TAZ Directional Categorisation Visualisation (City of Toronto)



APPENDIX

I FUTURE TOTAL TRAFFIC OPERATIONS

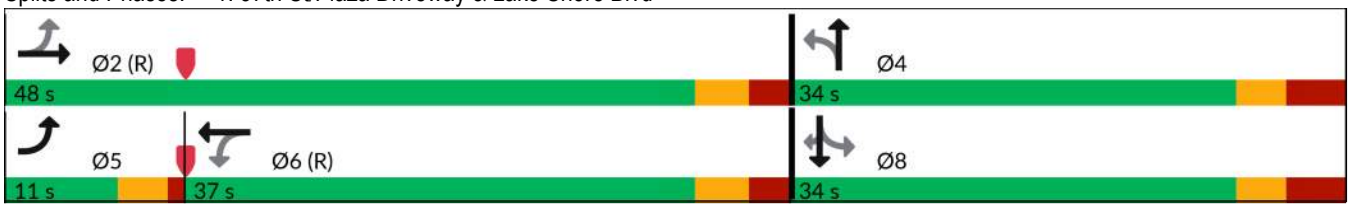


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	658	12	3	797	119	91	15	11	52	9	81
Future Volume (vph)	81	658	12	3	797	119	91	15	11	52	9	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.96			0.96	0.95
Frt		0.998			0.981			0.987				0.850
Flt Protected		0.995						0.963			0.959	
Satd. Flow (prot)	0	3350	0	0	4747	0	0	1734	0	0	1686	1478
Flt Permitted		0.710			0.938			0.727			0.725	
Satd. Flow (perm)	0	2388	0	0	4452	0	0	1270	0	0	1226	1399
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			40			7				93
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		63.3			114.2			538.5			43.8	
Travel Time (s)		4.6			8.2			38.8			3.2	
Confl. Peds. (#/hr)	39		61	61		39	46		61	61		46
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	3%	0%	0%	8%	0%	2%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	93	756	14	3	916	137	105	17	13	60	10	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	863	0	0	1056	0	0	135	0	0	70	93
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	48.0		37.0	37.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.4%	58.5%		45.1%	45.1%		41.5%	41.5%		41.5%	41.5%	41.5%
Maximum Green (s)	7.0	42.2		31.2	31.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	0.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	6.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		51.2			51.2			28.0			28.0	27.0
Actuated g/C Ratio		0.62			0.62			0.34			0.34	0.33
v/c Ratio		0.58			0.38			0.31			0.17	0.18
Control Delay (s/veh)		14.5			9.8			21.2			20.3	5.6
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		14.5			9.8			21.2			20.3	5.6
LOS		B			A			C			C	A
Approach Delay (s/veh)		14.5			9.8			21.2			11.9	
Approach LOS		B			A			C			B	

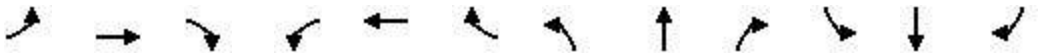
Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 30 (37%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay (s/veh): 12.5		Intersection LOS: B	
Intersection Capacity Utilization 81.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	863	1056	135	70	93
v/c Ratio	0.58	0.38	0.31	0.17	0.18
Control Delay (s/veh)	14.5	9.8	21.2	20.3	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.5	9.8	21.2	20.3	5.6
Queue Length 50th (m)	51.3	46.1	15.2	7.9	0.0
Queue Length 95th (m)	68.5	47.3	28.6	16.9	9.1
Internal Link Dist (m)	39.3	90.2	514.5	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1492	2794	442	423	527
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.38	0.31	0.17	0.18

Intersection Summary

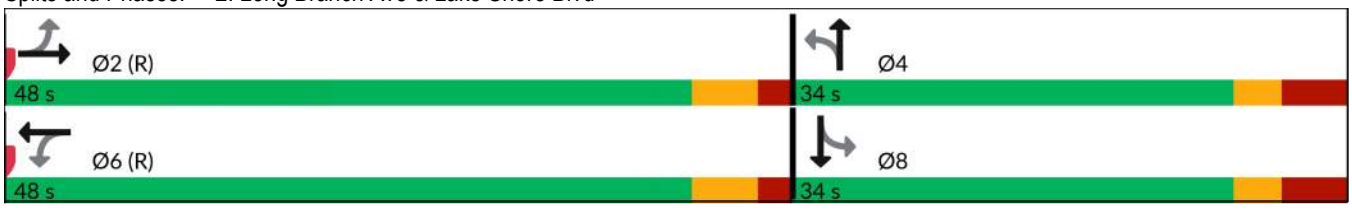


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	587	42	35	565	26	202	4	81	99	0	90
Future Volume (vph)	58	587	42	35	565	26	202	4	81	99	0	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			0.94		0.97	0.92	
Frt		0.991			0.994			0.962			0.850	
Flt Protected		0.996			0.997			0.966		0.950		
Satd. Flow (prot)	0	3286	0	0	3311	0	0	1661	0	1604	1477	0
Flt Permitted		0.832			0.876			0.728		0.610		
Satd. Flow (perm)	0	2739	0	0	2904	0	0	1202	0	1001	1477	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			8			26			191	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		239.4			133.2			122.7			276.0	
Travel Time (s)		17.2			9.6			8.8			19.9	
Confl. Peds. (#/hr)	34		56	56		34	68		55	55		68
Confl. Bikes (#/hr)												
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	4%	8%	0%	5%	0%	1%	0%	9%	5%	0%	0%
Bus Blockages (#/hr)	9	9	9	9	9	9	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	64	652	47	39	628	29	224	4	90	110	0	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	763	0	0	696	0	0	318	0	110	100	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	19.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	48.0	48.0		48.0	48.0		34.0	34.0		34.0	34.0	
Total Split (%)	58.5%	58.5%		58.5%	58.5%		41.5%	41.5%		41.5%	41.5%	
Maximum Green (s)	42.0	42.0		42.0	42.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	12.0	12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		43.0			43.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.52			0.52			0.34		0.34	0.34	
v/c Ratio		0.53			0.46			0.74		0.32	0.16	
Control Delay (s/veh)		18.5			13.2			34.6		23.3	0.5	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		18.5			13.2			34.6		23.3	0.5	
LOS		B			B			C		C	A	
Approach Delay (s/veh)		18.5			13.2			34.6			12.5	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 82			
Actuated Cycle Length: 82			
Offset: 70 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 18.6		Intersection LOS: B	
Intersection Capacity Utilization 74.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Ave & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	763	696	318	110	100
v/c Ratio	0.53	0.46	0.74	0.32	0.16
Control Delay (s/veh)	18.5	13.2	34.6	23.3	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	18.5	13.2	34.6	23.3	0.5
Queue Length 50th (m)	63.8	34.8	42.0	13.2	0.0
Queue Length 95th (m)	83.9	48.6	#82.9	27.0	0.0
Internal Link Dist (m)	215.4	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1442	1526	427	341	630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.46	0.74	0.32	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

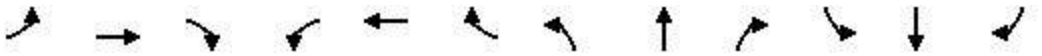
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	770	20	28	659	11	99
Future Volume (vph)	770	20	28	659	11	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.996				0.879	
Flt Protected				0.998	0.995	
Satd. Flow (prot)	3414	0	0	3393	1497	0
Flt Permitted				0.998	0.995	
Satd. Flow (perm)	3414	0	0	3393	1497	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			176.5	123.9	
Travel Time (s)	9.6			12.7	8.9	
Confl. Peds. (#/hr)		56	56			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	10%	5%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	895	23	33	766	13	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	918	0	0	799	128	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	770	20	28	659	11	99
Future Volume (Veh/h)	770	20	28	659	11	99
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	895	23	33	766	13	115
Pedestrians				1	56	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	4	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.89		0.89	0.89
vC, conflicting volume			974		1412	516
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			711		1205	193
tC, single (s)			4.2		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		91	83
cM capacity (veh/h)			735		146	688

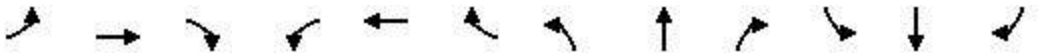
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	597	321	288	511	128
Volume Left	0	0	33	0	13
Volume Right	0	23	0	0	115
cSH	1700	1700	735	1700	499
Volume to Capacity	0.35	0.19	0.04	0.30	0.26
Queue Length 95th (m)	0.0	0.0	1.1	0.0	8.1
Control Delay (s/veh)	0.0	0.0	1.6	0.0	14.7
Lane LOS			A		B
Approach Delay (s/veh)	0.0		0.6		14.7
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	19	4	3	14	15	5	263	8	1	61	2
Future Volume (vph)	5	19	4	3	14	15	5	263	8	1	61	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.981			0.937			0.996			0.995	
Flt Protected		0.992			0.995			0.999			0.999	
Satd. Flow (prot)	0	1756	0	0	1752	0	0	1801	0	0	1721	0
Flt Permitted		0.992			0.995			0.999			0.999	
Satd. Flow (perm)	0	1756	0	0	1752	0	0	1801	0	0	1721	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			133.6			333.9			122.7	
Travel Time (s)		11.3			9.6			24.0			8.8	
Confl. Peds. (#/hr)	21		26	26		21	31		29	29		31
Confl. Bikes (#/hr)												
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	0%	0%	0%	4%	0%	0%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	6	24	5	4	18	19	6	329	10	1	76	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	35	0	0	41	0	0	345	0	0	80	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

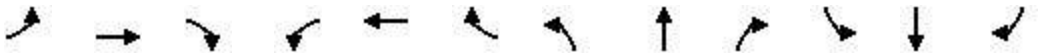
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	19	4	3	14	15	5	263	8	1	61	2
Future Volume (vph)	5	19	4	3	14	15	5	263	8	1	61	2
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	6	24	5	4	18	19	6	329	10	1	76	2

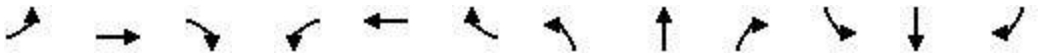
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	35	41	345	79
Volume Left (vph)	6	4	6	1
Volume Right (vph)	5	19	10	2
Hadj (s)	0.02	-0.26	0.05	0.13
Departure Headway (s)	4.9	4.6	4.2	4.6
Degree Utilization, x	0.05	0.05	0.41	0.10
Capacity (veh/h)	663	701	834	751
Control Delay (s/veh)	8.2	7.9	10.1	8.1
Approach Delay (s/veh)	8.2	7.9	10.1	8.1
Approach LOS	A	A	B	A

Intersection Summary				
Delay	9.5			
Level of Service	A			
Intersection Capacity Utilization	33.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	106	3	6	165	133	13	101	8	50	16	3
Future Volume (vph)	4	106	3	6	165	133	13	101	8	50	16	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996			0.941			0.991			0.994	
Flt Protected		0.998			0.999			0.995			0.965	
Satd. Flow (prot)	0	1768	0	0	1663	0	0	1779	0	0	1749	0
Flt Permitted		0.998			0.999			0.995			0.965	
Satd. Flow (perm)	0	1768	0	0	1663	0	0	1779	0	0	1749	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		254.6			139.1			85.7			333.9	
Travel Time (s)		22.9			12.5			6.2			24.0	
Confl. Peds. (#/hr)	6		12	12		6	13		14	14		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	0%	0%	5%	8%	0%	3%	25%	0%	13%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	5	131	4	7	204	164	16	125	10	62	20	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	375	0	0	151	0	0	86	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	106	3	6	165	133	13	101	8	50	16	3
Future Volume (vph)	4	106	3	6	165	133	13	101	8	50	16	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Hourly flow rate (vph)	5	131	4	7	204	164	16	125	10	62	20	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	140	375	151	86
Volume Left (vph)	5	7	16	62
Volume Right (vph)	4	164	10	4
Hadj (s)	0.09	-0.15	0.05	0.17
Departure Headway (s)	5.1	4.6	5.4	5.6
Degree Utilization, x	0.20	0.48	0.23	0.13
Capacity (veh/h)	646	746	602	574
Control Delay (s/veh)	9.4	11.8	9.9	9.5
Approach Delay (s/veh)	9.4	11.8	9.9	9.5
Approach LOS	A	B	A	A

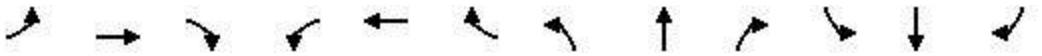
Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	37.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	106	3	6	165	133	13	101	8	50	16	3
Future Vol, veh/h	4	106	3	6	165	133	13	101	8	50	16	3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	0	6	0	0	5	8	0	3	25	0	13	0
Mvmt Flow	5	131	4	7	204	164	16	125	10	62	20	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

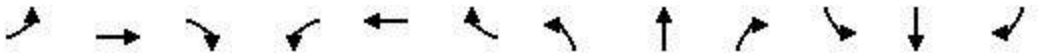
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	11.3	9.7	9.3
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	4%	2%	72%
Vol Thru, %	83%	94%	54%	23%
Vol Right, %	7%	3%	44%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	113	304	69
LT Vol	13	4	6	50
Through Vol	101	106	165	16
RT Vol	8	3	133	3
Lane Flow Rate	151	140	375	85
Geometry Grp	1	1	1	1
Degree of Util (X)	0.216	0.191	0.462	0.128
Departure Headway (Hd)	5.169	4.936	4.43	5.406
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	720	807	656
Service Time	3.255	3.012	2.487	3.499
HCM Lane V/C Ratio	0.22	0.194	0.465	0.13
HCM Control Delay, s/veh	9.7	9.2	11.3	9.3
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.8	0.7	2.5	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	125	37	20	223	12	73	49	64	9	5	10
Future Volume (vph)	17	125	37	20	223	12	73	49	64	9	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.972			0.994			0.954			0.943	
Flt Protected		0.995			0.996			0.981			0.982	
Satd. Flow (prot)	0	1712	0	0	1782	0	0	1758	0	0	1542	0
Flt Permitted		0.995			0.996			0.981			0.982	
Satd. Flow (perm)	0	1712	0	0	1782	0	0	1758	0	0	1542	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		139.1			112.9			85.1			335.6	
Travel Time (s)		12.5			10.2			6.1			24.2	
Confl. Peds. (#/hr)	1					1				34		17
Confl. Bikes (#/hr)												
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	8%	0%	0%	5%	0%	0%	0%	0%	12%	0%	20%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	27	195	58	31	348	19	114	77	100	14	8	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	0	398	0	0	291	0	0	38	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	125	37	20	223	12	73	49	64	9	5	10
Future Volume (Veh/h)	17	125	37	20	223	12	73	49	64	9	5	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Hourly flow rate (vph)	27	195	58	31	348	19	114	77	100	14	8	16
Pedestrians		17			34						1	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		1			3						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	368			253			735	708	258	871	728	376
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368			253			735	708	258	871	728	376
tC, single (s)	4.2			4.1			7.1	6.5	6.2	7.2	6.5	6.4
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.0	3.3	3.6	4.0	3.5
p0 queue free %	98			98			63	78	87	92	98	97
cM capacity (veh/h)	1168			1324			308	345	764	176	336	624

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	280	398	291	38
Volume Left	27	31	114	14
Volume Right	58	19	100	16
cSH	1168	1324	402	295
Volume to Capacity	0.02	0.02	0.72	0.13
Queue Length 95th (m)	0.6	0.6	44.9	3.5
Control Delay (s/veh)	1.0	0.8	34.2	19.0
Lane LOS	A	A	D	C
Approach Delay (s/veh)	1.0	0.8	34.2	19.0
Approach LOS			D	C

Intersection Summary				
Average Delay	11.2			
Intersection Capacity Utilization	37.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	730	64	44	622	0	74
Future Volume (vph)	730	64	44	622	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.988				0.865	
Flt Protected				0.997		
Satd. Flow (prot)	3452	0	0	3463	1508	0
Flt Permitted				0.997		
Satd. Flow (perm)	3452	0	0	3463	1508	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	176.5			288.5	223.6	
Travel Time (s)	12.7			20.8	16.1	
Confl. Peds. (#/hr)		81	81		52	42
Confl. Bikes (#/hr)						
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	7%	3%	4%	5%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	869	76	52	740	0	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	945	0	0	792	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	730	64	44	622	0	74
Future Volume (Veh/h)	730	64	44	622	0	74
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	869	76	52	740	0	88
Pedestrians	52			42	81	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	4			4	7	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	310					
pX, platoon unblocked			0.96		0.96	0.96
vC, conflicting volume			1026		1514	596
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			951		1458	504
tC, single (s)			4.2		6.9	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			92		100	79
cM capacity (veh/h)			639		92	429

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	579	366	299	493	88
Volume Left	0	0	52	0	0
Volume Right	0	76	0	0	88
cSH	1700	1700	639	1700	429
Volume to Capacity	0.34	0.22	0.08	0.29	0.21
Queue Length 95th (m)	0.0	0.0	2.1	0.0	6.1
Control Delay (s/veh)	0.0	0.0	2.8	0.0	15.5
Lane LOS			A		C
Approach Delay (s/veh)	0.0		1.1		15.5
Approach LOS					C

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	146	151	24	10	93
Future Volume (vph)	42	146	151	24	10	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895				0.878	
Flt Protected	0.989			0.959		
Satd. Flow (prot)	1652	0	0	1699	1631	0
Flt Permitted	0.989			0.959		
Satd. Flow (perm)	1652	0	0	1699	1631	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	112.9			118.2	97.1	
Travel Time (s)	8.1			8.5	7.0	
Confl. Peds. (#/hr)	1	1	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	0%	7%	9%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	69	239	248	39	16	152
Shared Lane Traffic (%)						
Lane Group Flow (vph)	308	0	0	287	168	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	42	146	151	24	10	93
Future Volume (vph)	42	146	151	24	10	93
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	69	239	248	39	16	152

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	308	287	168
Volume Left (vph)	69	248	0
Volume Right (vph)	239	0	152
Hadj (s)	-0.39	0.30	-0.50
Departure Headway (s)	4.6	5.2	4.6
Degree Utilization, x	0.40	0.41	0.21
Capacity (veh/h)	724	662	727
Control Delay (s/veh)	10.7	11.8	8.8
Approach Delay (s/veh)	10.7	11.8	8.8
Approach LOS	B	B	A

Intersection Summary			
Delay	10.7		
Level of Service	B		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	173	0	0	146	0
Future Volume (vph)	0	173	0	0	146	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.865					
Flt Protected						0.950
Satd. Flow (prot)	1644	0	0	0	0	1656
Flt Permitted						0.950
Satd. Flow (perm)	1644	0	0	0	0	1656
Link Speed (k/h)	50		50			50
Link Distance (m)	118.2		25.0			118.2
Travel Time (s)	8.5		1.8			8.5
Confl. Peds. (#/hr)		4			4	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	9%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	262	0	0	221	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	262	0	0	0	0	221
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	173	0	0	146	0
Future Volume (vph)	0	173	0	0	146	0
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	0	262	0	0	221	0

Direction, Lane #	WB 1	SB 1
Volume Total (vph)	262	221
Volume Left (vph)	0	221
Volume Right (vph)	262	0
Hadj (s)	-0.60	0.35
Departure Headway (s)	3.9	4.8
Degree Utilization, x	0.28	0.29
Capacity (veh/h)	879	718
Control Delay (s/veh)	8.4	9.8
Approach Delay (s/veh)	8.4	9.8
Approach LOS	A	A

Intersection Summary				
Delay	9.0			
Level of Service	A			
Intersection Capacity Utilization	26.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	89	0	0	0	0	54
Future Volume (vph)	89	0	0	0	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	1644	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	1644	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	251.7			22.4	87.5	
Travel Time (s)	18.1			1.6	6.3	
Confl. Peds. (#/hr)		8	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	0%	4%	12%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	102	0	0	0	0	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	0	0	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	89	0	0	0	0	54
Future Volume (vph)	89	0	0	0	0	54
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	102	0	0	0	0	62

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	102	62
Volume Left (vph)	102	0
Volume Right (vph)	0	62
Hadj (s)	0.23	-0.60
Departure Headway (s)	4.3	3.5
Degree Utilization, x	0.12	0.06
Capacity (veh/h)	830	981
Control Delay (s/veh)	7.8	6.8
Approach Delay (s/veh)	7.8	6.8
Approach LOS	A	A

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	102	78	106	8	13	139
Future Volume (vph)	102	78	106	8	13	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.941				0.876	
Flt Protected	0.973			0.956		
Satd. Flow (prot)	1673	0	0	1816	1653	0
Flt Permitted	0.973			0.956		
Satd. Flow (perm)	1673	0	0	1816	1653	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	95.5			83.7	85.5	
Travel Time (s)	6.9			6.0	6.2	
Confl. Peds. (#/hr)			8			8
Confl. Bikes (#/hr)						
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	134	103	139	11	17	183
Shared Lane Traffic (%)						
Lane Group Flow (vph)	237	0	0	150	200	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.5%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	78	106	8	13	139
Future Volume (Veh/h)	102	78	106	8	13	139
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.76	0.76	0.76	0.76	0.76	0.76
Hourly flow rate (vph)	134	103	139	11	17	183
Pedestrians	8					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	406	117	208			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406	117	208			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	75	89	90			
cM capacity (veh/h)	528	935	1366			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	237	150	200
Volume Left	134	139	0
Volume Right	103	0	183
cSH	651	1366	1700
Volume to Capacity	0.36	0.10	0.12
Queue Length 95th (m)	13.3	2.7	0.0
Control Delay (s/veh)	13.7	7.4	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	13.7	7.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

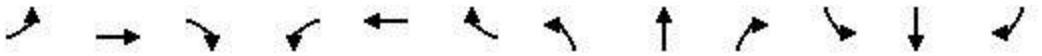
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	133	47	13	92	17	18
Future Volume (vph)	133	47	13	92	17	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.965		0.882			
Flt Protected	0.964					0.976
Satd. Flow (prot)	1767	0	1516	0	0	1799
Flt Permitted	0.964					0.976
Satd. Flow (perm)	1767	0	1516	0	0	1799
Link Speed (k/h)	50		50			50
Link Distance (m)	254.6		85.5			56.2
Travel Time (s)	18.3		6.2			4.0
Confl. Peds. (#/hr)	2	4				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	12%	0%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	185	65	18	128	24	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	250	0	146	0	0	49
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	133	47	13	92	17	18
Future Volume (Veh/h)	133	47	13	92	17	18
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	185	65	18	128	24	25
Pedestrians			2			4
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	157	86			146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	157	86			146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	93			98	
cM capacity (veh/h)	824	975			1448	

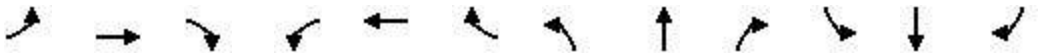
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	250	146	49
Volume Left	185	0	24
Volume Right	65	128	0
cSH	858	1700	1448
Volume to Capacity	0.29	0.09	0.02
Queue Length 95th (m)	9.7	0.0	0.4
Control Delay (s/veh)	10.9	0.0	3.8
Lane LOS	B		A
Approach Delay (s/veh)	10.9	0.0	3.8
Approach LOS	B		

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	1	1	1	3	11	77	6	1	23	21
Future Volume (vph)	24	3	1	1	1	3	11	77	6	1	23	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.925			0.991			0.938	
Flt Protected		0.959			0.989			0.994			0.999	
Satd. Flow (prot)	0	1811	0	0	1462	0	0	1807	0	0	1685	0
Flt Permitted		0.959			0.989			0.994			0.999	
Satd. Flow (perm)	0	1811	0	0	1462	0	0	1807	0	0	1685	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		133.6			59.6			335.6			123.9	
Travel Time (s)		9.6			4.3			24.2			8.9	
Confl. Peds. (#/hr)	23		23	23		23	13		10	10		13
Confl. Bikes (#/hr)												
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	34%	0%	3%	17%	0%	11%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	39	5	2	2	2	5	18	126	10	2	38	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	46	0	0	9	0	0	154	0	0	74	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	3	1	1	1	3	11	77	6	1	23	21
Future Volume (vph)	24	3	1	1	1	3	11	77	6	1	23	21
Peak Hour Factor	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Hourly flow rate (vph)	39	5	2	2	2	5	18	126	10	2	38	34

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	9	154	74
Volume Left (vph)	39	2	18	2
Volume Right (vph)	2	5	10	34
Hadj (s)	0.14	0.03	0.04	-0.17
Departure Headway (s)	4.5	4.5	4.1	4.0
Degree Utilization, x	0.06	0.01	0.18	0.08
Capacity (veh/h)	751	749	846	876
Control Delay (s/veh)	7.8	7.5	8.0	7.4
Approach Delay (s/veh)	7.8	7.5	8.0	7.4
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.8			
Level of Service	A			
Intersection Capacity Utilization	27.4%	ICU Level of Service	A	
Analysis Period (min)	15			

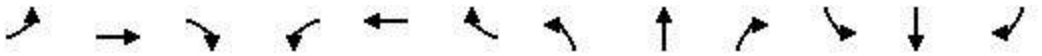
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	134	52	45	25	23
Future Volume (vph)	63	134	52	45	25	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.908		0.937			
Flt Protected	0.984					0.975
Satd. Flow (prot)	1584	0	1761	0	0	1832
Flt Permitted	0.984					0.975
Satd. Flow (perm)	1584	0	1761	0	0	1832
Link Speed (k/h)	50		50			50
Link Distance (m)	137.5		87.5			85.7
Travel Time (s)	9.9		6.3			6.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	70	149	58	50	28	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	108	0	0	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	63	134	52	45	25	23
Future Volume (Veh/h)	63	134	52	45	25	23
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	70	149	58	50	28	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	165	83			108	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	165	83			108	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	85			98	
cM capacity (veh/h)	815	982			1495	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	219	108	54
Volume Left	70	0	28
Volume Right	149	50	0
cSH	922	1700	1495
Volume to Capacity	0.24	0.06	0.02
Queue Length 95th (m)	7.4	0.0	0.5
Control Delay (s/veh)	10.1	0.0	3.9
Lane LOS	B		A
Approach Delay (s/veh)	10.1	0.0	3.9
Approach LOS	B		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	27.7%	ICU Level of Service	A
Analysis Period (min)	15		

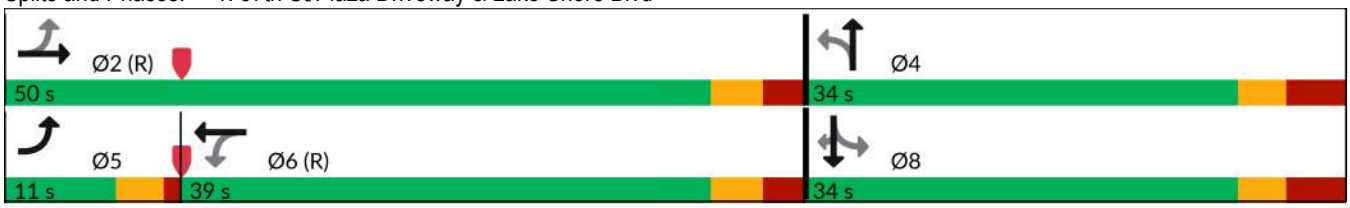


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	698	49	11	743	131	56	25	19	144	18	156
Future Volume (vph)	137	698	49	11	743	131	56	25	19	144	18	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	0.95	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			0.94			0.94	0.90
Frt		0.992			0.978			0.975				0.850
Flt Protected		0.992			0.999			0.973			0.957	
Satd. Flow (prot)	0	3354	0	0	4728	0	0	1751	0	0	1782	1492
Flt Permitted		0.646			0.927			0.774			0.711	
Satd. Flow (perm)	0	2175	0	0	4385	0	0	1338	0	0	1239	1346
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			49			15				158
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		64.0			113.6			538.5			43.8	
Travel Time (s)		4.6			8.2			38.8			3.2	
Confl. Peds. (#/hr)	72		91	91		72	94		90	90		94
Confl. Bikes (#/hr)												
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	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	2%	0%	0%	3%	0%	0%	0%	0%	1%	0%	1%
Bus Blockages (#/hr)	10	10	10	10	10	10	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	138	705	49	11	751	132	57	25	19	145	18	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	892	0	0	894	0	0	101	0	0	163	158
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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.03	1.01	1.01	1.01	1.01	1.01	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	2.0
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Detector Phase	5	2		6	6		4	4		8	8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	26.0		26.0	26.0		27.0	27.0		27.0	27.0	27.0
Minimum Split (s)	10.5	31.8		31.8	31.8		33.7	33.7		33.7	33.7	33.7
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	34.0
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	40.5%
Maximum Green (s)	7.0	44.2		33.2	33.2		27.3	27.3		27.3	27.3	27.3
Yellow Time (s)	3.0	3.3		3.3	3.3		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.5		2.5	2.5		3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)		-1.0			-1.0			-1.0			-1.0	0.0
Total Lost Time (s)		4.8			4.8			5.7			5.7	6.7
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Don't Walk (s)		19.0		19.0	19.0		20.0	20.0		20.0	20.0	20.0
Pedestrian Calls (#/hr)		0		0	0		15	15		15	15	15
Act Effct Green (s)		45.5			45.5			28.0			28.0	27.0
Actuated g/C Ratio		0.54			0.54			0.33			0.33	0.32
v/c Ratio		0.75			0.37			0.22			0.39	0.29
Control Delay (s/veh)		19.8			3.9			18.7			25.1	5.3
Queue Delay		0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)		19.8			3.9			18.7			25.1	5.3
LOS		B			A			B			C	A
Approach Delay (s/veh)		19.8			3.9			18.7			15.3	
Approach LOS		B			A			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 21 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 12.7		Intersection LOS: B	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: 37th St/Plaza Driveway & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	892	894	101	163	158
v/c Ratio	0.75	0.37	0.22	0.39	0.29
Control Delay (s/veh)	19.8	3.9	18.7	25.1	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.8	3.9	18.7	25.1	5.3
Queue Length 50th (m)	56.7	8.6	10.2	20.9	0.0
Queue Length 95th (m)	82.6	12.4	22.1	38.4	13.1
Internal Link Dist (m)	40.0	89.6	514.5	19.8	
Turn Bay Length (m)					
Base Capacity (vph)	1183	2397	460	417	544
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.37	0.22	0.39	0.29

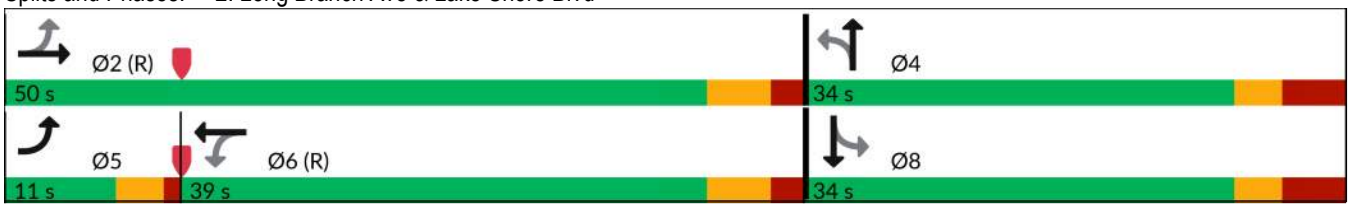
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	552	74	60	652	37	127	12	50	67	8	75
Future Volume (vph)	164	552	74	60	652	37	127	12	50	67	8	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	25.0		0.0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (m)	7.5			7.5			7.5			45.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			0.94		0.95	0.93	
Frt		0.986			0.993			0.964			0.864	
Flt Protected		0.990			0.996			0.967		0.950		
Satd. Flow (prot)	0	3294	0	0	3384	0	0	1650	0	1589	1507	0
Flt Permitted		0.576			0.815			0.746		0.653		
Satd. Flow (perm)	0	1909	0	0	2759	0	0	1220	0	1039	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			8			23			77	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		240.1			133.2			122.7			276.0	
Travel Time (s)		17.3			9.6			8.8			19.9	
Confl. Peds. (#/hr)	37		65	65		37	71		72	72		71
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	0%	2%	0%	3%	9%	5%	6%	0%	0%
Bus Blockages (#/hr)	10	10	10	10	10	10	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	167	563	76	61	665	38	130	12	51	68	8	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	806	0	0	764	0	0	193	0	68	85	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(m)		0.0			0.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.04	1.01	1.01	1.04	1.01	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		6	6		4	4		8	8	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	19.0		19.0	19.0		26.0	26.0		26.0	26.0	
Minimum Split (s)	10.0	25.0		25.0	25.0		33.0	33.0		33.0	33.0	
Total Split (s)	11.0	50.0		39.0	39.0		34.0	34.0		34.0	34.0	
Total Split (%)	13.1%	59.5%		46.4%	46.4%		40.5%	40.5%		40.5%	40.5%	
Maximum Green (s)	7.0	44.0		33.0	33.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0			5.0			6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)		12.0		12.0	12.0		19.0	19.0		19.0	19.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)		45.0			34.0			28.0		28.0	28.0	
Actuated g/C Ratio		0.54			0.40			0.33		0.33	0.33	
v/c Ratio		0.71			0.68			0.46		0.20	0.15	
Control Delay (s/veh)		12.3			24.1			23.5		22.0	6.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay (s/veh)		12.3			24.1			23.5		22.0	6.7	
LOS		B			C			C		C	A	
Approach Delay (s/veh)		12.3			24.1			23.5			13.5	
Approach LOS		B			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 84			
Actuated Cycle Length: 84			
Offset: 62 (74%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 18.2		Intersection LOS: B	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Long Branch Ave & Lake Shore Blvd



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	806	764	193	68	85
v/c Ratio	0.71	0.68	0.46	0.20	0.15
Control Delay (s/veh)	12.3	24.1	23.5	22.0	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.3	24.1	23.5	22.0	6.7
Queue Length 50th (m)	40.5	53.7	22.1	8.1	0.9
Queue Length 95th (m)	46.3	74.6	42.2	18.1	10.5
Internal Link Dist (m)	216.1	109.2	98.7		252.0
Turn Bay Length (m)				25.0	
Base Capacity (vph)	1130	1121	422	346	553
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.68	0.46	0.20	0.15

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	707	28	62	779	7	51
Future Volume (vph)	707	28	62	779	7	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.994				0.881	
Flt Protected				0.996	0.994	
Satd. Flow (prot)	3449	0	0	3476	1526	0
Flt Permitted				0.996	0.994	
Satd. Flow (perm)	3449	0	0	3476	1526	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	133.2			182.0	121.1	
Travel Time (s)	9.6			13.1	8.7	
Confl. Peds. (#/hr)		74	74			1
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	6%	2%	15%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	721	29	63	795	7	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	750	0	0	858	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.9%		ICU Level of Service B	
Analysis Period (min) 15			

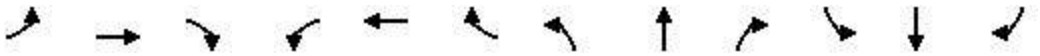
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	707	28	62	779	7	51
Future Volume (Veh/h)	707	28	62	779	7	51
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	721	29	63	795	7	52
Pedestrians				1	74	
Lane Width (m)				3.5	3.0	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	5	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	133					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			824		1333	450
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			623		1179	214
tC, single (s)			4.2		7.1	6.9
tC, 2 stage (s)						
tF (s)			2.3		3.6	3.3
p0 queue free %			92		95	92
cM capacity (veh/h)			805		132	692

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	481	269	328	530	59
Volume Left	0	0	63	0	7
Volume Right	0	29	0	0	52
cSH	1700	1700	805	1700	461
Volume to Capacity	0.28	0.16	0.08	0.31	0.13
Queue Length 95th (m)	0.0	0.0	2.0	0.0	3.5
Control Delay (s/veh)	0.0	0.0	2.6	0.0	14.0
Lane LOS			A		B
Approach Delay (s/veh)	0.0		1.0		14.0
Approach LOS					B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	12	5	7	20	18	3	140	3	5	130	11
Future Volume (vph)	15	12	5	7	20	18	3	140	3	5	130	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.980			0.946			0.997			0.990	
Flt Protected		0.977			0.992			0.999			0.998	
Satd. Flow (prot)	0	1799	0	0	1763	0	0	1871	0	0	1856	0
Flt Permitted		0.977			0.992			0.999			0.998	
Satd. Flow (perm)	0	1799	0	0	1763	0	0	1871	0	0	1856	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		157.5			134.7			333.9			122.7	
Travel Time (s)		11.3			9.7			24.0			8.8	
Confl. Peds. (#/hr)	9		11	11		9	33		35	35		33
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	16	13	5	8	22	20	3	154	3	5	143	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	0	50	0	0	160	0	0	160	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

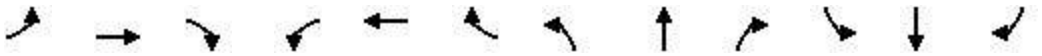
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	12	5	7	20	18	3	140	3	5	130	11
Future Volume (vph)	15	12	5	7	20	18	3	140	3	5	130	11
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	16	13	5	8	22	20	3	154	3	5	143	12

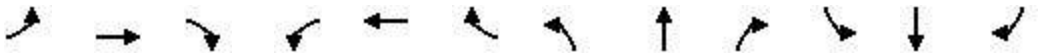
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	34	50	160	160
Volume Left (vph)	16	8	3	5
Volume Right (vph)	5	20	3	12
Hadj (s)	0.01	-0.21	-0.01	-0.04
Departure Headway (s)	4.7	4.4	4.3	4.2
Degree Utilization, x	0.04	0.06	0.19	0.19
Capacity (veh/h)	707	744	818	829
Control Delay (s/veh)	7.9	7.7	8.3	8.2
Approach Delay (s/veh)	7.9	7.7	8.3	8.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.1			
Level of Service	A			
Intersection Capacity Utilization	26.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	153	6	7	109	73	7	59	5	85	34	1
Future Volume (vph)	2	153	6	7	109	73	7	59	5	85	34	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.948			0.990			0.999	
Flt Protected		0.999			0.998			0.995			0.966	
Satd. Flow (prot)	0	1868	0	0	1738	0	0	1851	0	0	1813	0
Flt Permitted		0.999			0.998			0.995			0.966	
Satd. Flow (perm)	0	1868	0	0	1738	0	0	1851	0	0	1813	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		256.4			139.1			85.7			333.9	
Travel Time (s)		23.1			12.5			6.2			24.0	
Confl. Peds. (#/hr)	11		8	8		11	11		29	29		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	174	7	8	124	83	8	67	6	97	39	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	183	0	0	215	0	0	81	0	0	137	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	153	6	7	109	73	7	59	5	85	34	1
Future Volume (vph)	2	153	6	7	109	73	7	59	5	85	34	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	174	7	8	124	83	8	67	6	97	39	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	183	215	81	137
Volume Left (vph)	2	8	8	97
Volume Right (vph)	7	83	6	1
Hadj (s)	-0.02	-0.18	-0.02	0.14
Departure Headway (s)	4.7	4.5	5.0	5.1
Degree Utilization, x	0.24	0.27	0.11	0.19
Capacity (veh/h)	715	750	650	647
Control Delay (s/veh)	9.2	9.2	8.7	9.3
Approach Delay (s/veh)	9.2	9.2	8.7	9.3
Approach LOS	A	A	A	A

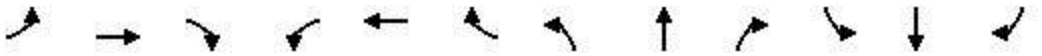
Intersection Summary				
Delay	9.1			
Level of Service	A			
Intersection Capacity Utilization	35.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	153	6	7	109	73	7	59	5	85	34	1
Future Vol, veh/h	2	153	6	7	109	73	7	59	5	85	34	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	2	174	7	8	124	83	8	67	6	97	39	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

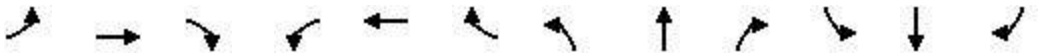
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	9.1	8.7	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	1%	4%	71%
Vol Thru, %	83%	95%	58%	28%
Vol Right, %	7%	4%	39%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	161	189	120
LT Vol	7	2	7	85
Through Vol	59	153	109	34
RT Vol	5	6	73	1
Lane Flow Rate	81	183	215	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.111	0.237	0.265	0.191
Departure Headway (Hd)	4.967	4.671	4.441	5.045
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	767	805	708
Service Time	3.03	2.718	2.485	3.102
HCM Lane V/C Ratio	0.113	0.239	0.267	0.192
HCM Control Delay, s/veh	8.7	9.2	9.1	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.9	1.1	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	168	77	47	149	7	38	26	33	7	12	12
Future Volume (vph)	6	168	77	47	149	7	38	26	33	7	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.959			0.995			0.954			0.948	
Flt Protected		0.999			0.989			0.981			0.989	
Satd. Flow (prot)	0	1800	0	0	1822	0	0	1758	0	0	1762	0
Flt Permitted		0.999			0.989			0.981			0.989	
Satd. Flow (perm)	0	1800	0	0	1822	0	0	1758	0	0	1762	0
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		139.1			125.8			84.7			338.3	
Travel Time (s)		12.5			11.3			6.1			24.4	
Confl. Peds. (#/hr)	4					4				15		11
Confl. Bikes (#/hr)												
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	8	213	97	59	189	9	48	33	42	9	15	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	318	0	0	257	0	0	123	0	0	39	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	168	77	47	149	7	38	26	33	7	12	12
Future Volume (Veh/h)	6	168	77	47	149	7	38	26	33	7	12	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	213	97	59	189	9	48	33	42	9	15	15
Pedestrians		11			15						4	
Lane Width (m)		3.5			3.5						3.5	
Walking Speed (m/s)		1.2			1.2						1.2	
Percent Blockage		1			1						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	202			310			623	598	277	667	642	209
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	202			310			623	598	277	667	642	209
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			87	92	94	97	96	98
cM capacity (veh/h)	1377			1262			363	396	758	313	373	827

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	318	257	123	39
Volume Left	8	59	48	9
Volume Right	97	9	42	15
cSH	1377	1262	454	448
Volume to Capacity	0.01	0.05	0.27	0.09
Queue Length 95th (m)	0.1	1.2	8.7	2.3
Control Delay (s/veh)	0.2	2.2	15.9	13.8
Lane LOS	A	A	C	B
Approach Delay (s/veh)	0.2	2.2	15.9	13.8
Approach LOS			C	B

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	44.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	648	58	61	702	20	45
Future Volume (vph)	648	58	61	702	20	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)		0.0	0.0		0.0	0.0
Storage Lanes		0	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt	0.988				0.906	
Flt Protected				0.996	0.985	
Satd. Flow (prot)	3502	0	0	3531	1696	0
Flt Permitted				0.996	0.985	
Satd. Flow (perm)	3502	0	0	3531	1696	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	182.0			283.1	121.4	
Travel Time (s)	13.1			20.4	8.7	
Confl. Peds. (#/hr)		102	102		32	78
Confl. Bikes (#/hr)						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	661	59	62	716	20	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	720	0	0	778	66	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	648	58	61	702	20	45
Future Volume (Veh/h)	648	58	61	702	20	45
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	661	59	62	716	20	46
Pedestrians	32			78	102	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	3			7	9	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	315					
pX, platoon unblocked						
vC, conflicting volume			822		1307	540
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			822		1307	540
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		84	89
cM capacity (veh/h)			747		126	420

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	441	279	301	477	66
Volume Left	0	0	62	0	20
Volume Right	0	59	0	0	46
cSH	1700	1700	747	1700	246
Volume to Capacity	0.26	0.16	0.08	0.28	0.27
Queue Length 95th (m)	0.0	0.0	2.2	0.0	8.4
Control Delay (s/veh)	0.0	0.0	2.9	0.0	24.9
Lane LOS			A		C
Approach Delay (s/veh)	0.0		1.1		24.9
Approach LOS					C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	172	119	11	11	72
Future Volume (vph)	25	172	119	11	11	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.882				0.883	
Flt Protected	0.994			0.956		
Satd. Flow (prot)	1666	0	0	1678	1678	0
Flt Permitted	0.994			0.956		
Satd. Flow (perm)	1666	0	0	1678	1678	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	125.8			116.5	110.6	
Travel Time (s)	9.1			8.4	8.0	
Confl. Peds. (#/hr)		2	2			2
Confl. Bikes (#/hr)						
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	9%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	29	200	138	13	13	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	229	0	0	151	97	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	25	172	119	11	11	72
Future Volume (vph)	25	172	119	11	11	72
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	29	200	138	13	13	84

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	229	151	97
Volume Left (vph)	29	138	0
Volume Right (vph)	200	0	84
Hadj (s)	-0.50	0.32	-0.52
Departure Headway (s)	4.0	4.8	4.1
Degree Utilization, x	0.25	0.20	0.11
Capacity (veh/h)	859	710	824
Control Delay (s/veh)	8.3	9.0	7.6
Approach Delay (s/veh)	8.3	9.0	7.6
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	137	0	0	162	0
Future Volume (vph)	0	137	0	0	162	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	0	1		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.865				
Flt Protected						0.950
Satd. Flow (prot)	0	1644	0	0	0	1480
Flt Permitted						0.950
Satd. Flow (perm)	0	1644	0	0	0	1480
Link Speed (k/h)	50		50			50
Link Distance (m)	100.1		33.6			116.5
Travel Time (s)	7.2		2.4			8.4
Confl. Peds. (#/hr)		7			4	
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	22%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	0	147	0	0	174	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	147	0	0	0	174
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	0.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.1%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Traffic Volume (vph)	0	137	0	0	162	0
Future Volume (vph)	0	137	0	0	162	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	147	0	0	174	0

Direction, Lane #	WB 1	SB 1
Volume Total (vph)	147	174
Volume Left (vph)	0	174
Volume Right (vph)	147	0
Hadj (s)	-0.60	0.57
Departure Headway (s)	3.7	4.8
Degree Utilization, x	0.15	0.23
Capacity (veh/h)	919	730
Control Delay (s/veh)	7.4	9.2
Approach Delay (s/veh)	7.4	9.2
Approach LOS	A	A

Intersection Summary				
Delay	8.4			
Level of Service	A			
Intersection Capacity Utilization	21.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	85	0	0	0	0	32
Future Volume (vph)	85	0	0	0	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected	0.950					
Satd. Flow (prot)	1805	0	0	0	1644	0
Flt Permitted	0.950					
Satd. Flow (perm)	1805	0	0	0	1644	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	254.5			23.7	98.9	
Travel Time (s)	18.3			1.7	7.1	
Confl. Peds. (#/hr)	2	2	9			9
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	96	0	0	0	0	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	0	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	85	0	0	0	0	32
Future Volume (vph)	85	0	0	0	0	32
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	96	0	0	0	0	36

Direction, Lane #	EB 1	SB 1
Volume Total (vph)	96	36
Volume Left (vph)	96	0
Volume Right (vph)	0	36
Hadj (s)	0.20	-0.60
Departure Headway (s)	4.2	3.5
Degree Utilization, x	0.11	0.04
Capacity (veh/h)	851	986
Control Delay (s/veh)	7.7	6.6
Approach Delay (s/veh)	7.7	6.6
Approach LOS	A	A

Intersection Summary			
Delay	7.4		
Level of Service	A		
Intersection Capacity Utilization	17.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	88	59	7	7	87
Future Volume (vph)	140	88	59	7	7	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			0.0
Storage Lanes	1	0	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.948				0.875	
Flt Protected	0.970			0.957		
Satd. Flow (prot)	1675	0	0	1818	1662	0
Flt Permitted	0.970			0.957		
Satd. Flow (perm)	1675	0	0	1818	1662	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	91.4			85.1	85.4	
Travel Time (s)	6.6			6.1	6.1	
Confl. Peds. (#/hr)		1	17			17
Confl. Bikes (#/hr)						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	154	97	65	8	8	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	251	0	0	73	104	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	140	88	59	7	7	87
Future Volume (Veh/h)	140	88	59	7	7	87
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	154	97	65	8	8	96
Pedestrians	17			1		
Lane Width (m)	3.6			3.6		
Walking Speed (m/s)	1.2			1.2		
Percent Blockage	1			0		
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	211	74	121			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211	74	121			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	79	90	96			
cM capacity (veh/h)	722	978	1458			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	251	73	104
Volume Left	154	65	0
Volume Right	97	0	96
cSH	803	1458	1700
Volume to Capacity	0.31	0.04	0.06
Queue Length 95th (m)	10.7	1.1	0.0
Control Delay (s/veh)	11.5	6.8	0.0
Lane LOS	B	A	
Approach Delay (s/veh)	11.5	6.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

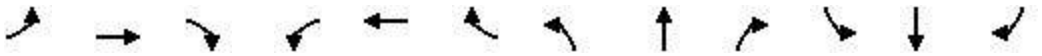
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	84	25	11	130	43	19
Future Volume (vph)	84	25	11	130	43	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.969		0.876			
Flt Protected	0.963					0.967
Satd. Flow (prot)	1773	0	1664	0	0	1837
Flt Permitted	0.963					0.967
Satd. Flow (perm)	1773	0	1664	0	0	1837
Link Speed (k/h)	50		50			50
Link Distance (m)	256.4		85.4			75.6
Travel Time (s)	18.5		6.1			5.4
Confl. Peds. (#/hr)	3	3				
Confl. Bikes (#/hr)						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	97	29	13	149	49	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	0	162	0	0	71
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	84	25	11	130	43	19
Future Volume (Veh/h)	84	25	11	130	43	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	97	29	13	149	49	22
Pedestrians			3			3
Lane Width (m)			3.6			3.6
Walking Speed (m/s)			1.2			1.2
Percent Blockage			0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	211	91			162	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211	91			162	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	97			97	
cM capacity (veh/h)	754	970			1429	

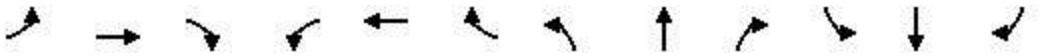
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	126	162	71
Volume Left	97	0	49
Volume Right	29	149	0
cSH	794	1700	1429
Volume to Capacity	0.16	0.10	0.03
Queue Length 95th (m)	4.5	0.0	0.9
Control Delay (s/veh)	10.4	0.0	5.3
Lane LOS	B		A
Approach Delay (s/veh)	10.4	0.0	5.3
Approach LOS	B		

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	28.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1	2	0	1	2	5	43	2	1	55	40
Future Volume (vph)	9	1	2	0	1	2	5	43	2	1	55	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977			0.910			0.995			0.944	
Flt Protected		0.964						0.995				
Satd. Flow (prot)	0	1789	0	0	1297	0	0	1803	0	0	1763	0
Flt Permitted		0.964						0.995				
Satd. Flow (perm)	0	1789	0	0	1297	0	0	1803	0	0	1763	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		134.7			63.4			338.3			121.1	
Travel Time (s)		9.7			4.6			24.4			8.7	
Confl. Peds. (#/hr)	10		15	15		10	7		11	11		7
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	50%	0%	5%	0%	0%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	9	1	2	0	1	2	5	45	2	1	58	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	12	0	0	3	0	0	52	0	0	101	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(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
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 (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	1	2	0	1	2	5	43	2	1	55	40
Future Volume (vph)	9	1	2	0	1	2	5	43	2	1	55	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	9	1	2	0	1	2	5	45	2	1	58	42

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	12	3	52	101
Volume Left (vph)	9	0	5	1
Volume Right (vph)	2	2	2	42
Hadj (s)	0.05	0.17	0.07	-0.22
Departure Headway (s)	4.3	4.4	4.1	3.8
Degree Utilization, x	0.01	0.00	0.06	0.11
Capacity (veh/h)	811	788	861	945
Control Delay (s/veh)	7.3	7.4	7.3	7.2
Approach Delay (s/veh)	7.3	7.4	7.3	7.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	24.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	71	39	96	52	32
Future Volume (vph)	34	71	39	96	52	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.0	3.5	3.5	3.5	3.5
Grade (%)	0%		0%			0%
Storage Length (m)	0.0	0.0		0.0	0.0	
Storage Lanes	1	0		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.909		0.904			
Flt Protected	0.984					0.970
Satd. Flow (prot)	1586	0	1699	0	0	1823
Flt Permitted	0.984					0.970
Satd. Flow (perm)	1586	0	1699	0	0	1823
Link Speed (k/h)	50		50			50
Link Distance (m)	139.2		98.9			85.7
Travel Time (s)	10.0		7.1			6.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	38	79	43	107	58	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	150	0	0	94
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.0		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.01	1.01	1.01	1.01
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	34	71	39	96	52	32
Future Volume (Veh/h)	34	71	39	96	52	32
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	38	79	43	107	58	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	249	97			150	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	249	97			150	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	95	92			96	
cM capacity (veh/h)	714	965			1444	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	117	150	94
Volume Left	38	0	58
Volume Right	79	107	0
cSH	867	1700	1444
Volume to Capacity	0.14	0.09	0.04
Queue Length 95th (m)	3.7	0.0	1.0
Control Delay (s/veh)	9.8	0.0	4.8
Lane LOS	A		A
Approach Delay (s/veh)	9.8	0.0	4.8
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

J TDM LITERATURE

HOUSING NOW
TRANSPORTATION DEMAND MANAGEMENT FRAMEWORK

City of Toronto

Prepared For: CreateTO

November 2021

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TABLE OF APPENDICES

1.0 INTRODUCTION

BA Group is retained by CreateTO to provide transportation advisory services in support of the *Housing Now* initiative. *Housing Now* is an initiative to activate 17 sites (11 sites in phase one, 6 sites in phase two) owned by the City of Toronto for the development of affordable housing within mixed-income, mixed-use, transit-oriented communities. City Council launched the first phase of *Housing Now* in 2019.

The result of a collaborative effort by CreateTO and BA Group, in consultation with City of Toronto staff, it is the purpose of this memorandum to establish a *Housing Now* transportation demand management (TDM) framework. The intention is for the proponents of development proposals for *Housing Now* sites to work within the framework to develop site-specific TDM Plans that are intended to reduce vehicle trips and in turn, reduce parking demand. The TDM Framework has been established with a specific target of achieving the requirement of the *Toronto Green Standard (TGS), Version 3 (Mid to High-Rise Residential and All Non-Residential)* to utilize TDM measures to directly reduce single occupant auto vehicle trips.

As part of the Zoning By-law Amendment stage of the development application process for each site, TDM will be integrated within the Transportation Impact Study (TIS) through the TDM Framework. At the Site Plan Application stage, The TDM Framework will be established within each site plan and incorporated into each site agreement (Ground Lease / Project Agreement).

It is noted that the proposed TDM Framework is representative of a “theory-based approach” due to a lack of industry research regarding the effectiveness of individual TDM measures. As a result, the various TDM measures that are listed as part of the TDM Framework have been weighted based upon perceived effectiveness. The perceptions of effectiveness are based upon BA Group’s experience in recommending and assessing TDM Plans, and based upon consultation with City of Toronto Transportation Services and Transportation Planning staff.

A comprehensive monitoring program is recommended to assess the effectiveness of site-specific TDM Plans and to potentially refine the TDM Framework. Elements of the monitoring program include extensive on-site data collection at *Housing Now* sites to assess general program effectiveness, specific monitoring strategies for individual TDM measures, and annual transportation behaviour surveys at all *Housing Now* sites.

It is acknowledged that the aforementioned “theory-based approach” that has informed the initial assessment of TDM measures for effectiveness may ultimately prove to be inaccurate at some or all sites; part of the role of the monitoring program will be for its results to be used to “recalibrate” the TDM Framework based upon observed data. The intent of the TDM Framework is to provide a living document that can be refined over time based on confirmed, real-world data to help guide the City of Toronto and developers with established links between TDM measures and evolving travel patterns.

2.0 APPLICATION TO *HOUSING NOW*

It should be noted that BA Group and CreateTO have conceptually developed the TDM Framework to be uniquely applicable to *Housing Now* sites. Key considerations that have informed the development of the framework include the characteristics that are inherent to the *Housing Now* project: affordable housing is being developed on City of Toronto owned sites to foster mixed-income, mixed-use, and transit-oriented communities. Each *Housing Now* site will be a transit-oriented development (TOD) and will contain a mix of affordable rental, market rental and ownership housing options to serve Toronto residents.

As such, the TDM Framework contained within this memorandum pertains to the 21 *Housing Now* sites (and any future additions to the project) exclusively. Proponents of development proposals for each site will be required to support the overall transportation objectives of each project with a TDM Plan that is developed in adherence to the TDM Framework established within this memorandum.

3.0 TDM PRIMER

Within **Appendix A**, a TDM Primer is provided outlining TDM, as a concept, in detail, and the various TDM measures that are included in the TDM Framework.

4.0 *HOUSING NOW* TDM FRAMEWORK

CreateTO and BA Group have collaboratively worked to establish a standardized TDM framework, attached in **Appendix B**. It is the purpose and intention of the TDM framework that the proponents of development proposals for *Housing Now* sites will work within the framework to development site-specific TDM Plans. As part of the Zoning By-law Amendment stage of the development application process for each site, TDM will be integrated within the Transportation Impact Study (TIS) through the TDM Framework (which will be included as an Appendix in the TIS). At the Site Plan Application stage, The TDM Framework will be established within each site plan and incorporated into each site agreement (Ground Lease / Project Agreement).

Importantly, the TDM Framework has been established with a specific target of achieving the requirement of the *Toronto Green Standard (TGS), Version 3 (Mid to High-Rise Residential and All Non-Residential)* to utilize TDM measures to directly reduce single occupant auto vehicle trips. Specifically, requirement "AQ 1.1 Transportation Demand Management (TDM) and Multimodal Infrastructure" states the following:

> *Reduce single occupancy auto vehicle trips from generated by proposed development by 15% through a variety of multimodal infrastructure strategies and TDM measures.*

The above is stated to be the "Tier 1" requirement; the "Tier 2" requirement is similarly to reduce vehicle trips by 30%, as per requirement "AQ 1.4 Single-Occupant Auto Vehicle Trips (Optional)":

> *Reduce single occupancy vehicle trips generated by proposed development by 30% through a variety of multimodal infrastructure strategies and TDM measures.*

It is notable that research has been conducted regarding the general effectiveness of TDM programming in reducing automobile travel. A well managed and supported TDM program has been estimated to have the potential to cumulatively reduce overall vehicle by 10%-30%.[1] As such, the proposed TDM Framework has been developed to have the ability to achieve vehicle trip reductions within this range, which is comparable to the range between the TGS Tier 1 requirement (15%) and the TGS Optional Tier 2 target (30%).

[1] Litman, T. (2016). "Transportation Management Programs: An Institutional Framework for Implementing TDM". Victoria Transport Policy Institute. DOI: https://www.vtpi.org/tdm/tdm42.htm

Toronto Green Standard, Version 4 (May 2022)
TGS Version 4 (V4) was adopted by Toronto City Council on July 14, 2021 and will come into effect in May 2022 for all new planning applications. TGS V4 includes updated performance measures and requirements to further advance the City's goals and commitments around climate change.

Of note, requirement AQ 1.1 (now "AQ 1.1 Single-Occupant Vehicle Trips"), under Tier 1, has been revised:

> *Reduce single occupancy auto vehicle trips generated by the proposed development by 25% through a variety of multimodal infrastructure strategies and Transportation Demand Management (TDM) measures.*

There is no longer an optional Tier 2 requirement as part of TGS V4.

In advance of May 2022, the TDM Framework (**Appendix B**) will be revised in order to require Housing Now sites to meet the new TGS Tier 1 requirement of 25% vehicle trip reduction.

4.1 GUIDELINES TABLE

TDM Measures have been described in detail and categorized based upon effectiveness within the "Guidelines Table" included in the TDM Framework (**Appendix B**). Specific TDM Measures have been placed within each tier based upon their general ability to directly reduce single occupant vehicle trips. Each specific TDM measure has been further categorized based upon the level to which it is applied as part of site-specific TDM programming.

- Tier 1A: Parking Management TDM Measures
- Tier 1B: Elevated TDM Measures
- Tier 2: Effective TDM Measures
- Tier 3: Supplementary TDM Measures

- Level 0: Do Nothing (i.e. the TDM measure is not included in the TDM Plan)
- Level 1: Minimal Application
- Level 2: General Application
- Level 3: Comprehensive Application

Based upon the aforementioned two types of categorization – the effectiveness tier and the level of application – each TDM measure that is included within the TDM Programming Framework is associated with a vehicular trip reduction percentage. It is intended that the base of the vehicular trip reductions (i.e. 0% vehicle trip reduction) are what the vehicular trip generation for a project would be if the TDM measures were not implemented.

It is noted that while research has been conducted regarding the general effectiveness of a TDM program, insufficient research is available on the effectiveness of individual TDM measures. The vehicular trip reduction that is associated with each TDM measure in the TDM Programming Framework is representative of a "theory-based approach."

As a result, the various TDM measures that are listed as part of the TDM Framework have been weighted based upon perceived effectiveness. The perceptions of effectiveness are based upon BA Group's experience in recommending, proposing, and assessing TDM Plans, and based upon consultation with City of Toronto Transportation Services and Transportation Planning staff. As is noted in **Section 6.0** of this document, part of the role of the proposed TDM monitoring program will be for its results to be used to "recalibrate" the TDM Framework based upon observed data. It is acknowledged that the aforementioned "theory-based approach" that has informed the initial assessment of TDM measures for effectiveness may ultimately prove to be inaccurate at some or all sites.

It is also acknowledged that area-specific and building-specific factors can influence the effectiveness of individual TDM measures. The convenience of access to parking facilities on- or off-site and the proximity and quality of connections to a multi-use path or rapid transit station are examples of factors that can be have effect, primarily based upon the travel time (usually walking time) required to access the facilities.

The level of application has been factored into the TDM Framework for each TDM measure. This is intended to further assess the potential impact of each TDM measure based upon the intensity of its application. For example, there is likely to be a larger effect on travel behaviour if each resident is provided with a PRESTO card pre-loaded with $50 in comparison to a PRESTO card pre-loaded with the equivalent of a monthly transit pass or more. The inclusion of level of application facilitates a more thorough and comprehensive assessment of the TDM Plan proposed for each *Housing Now* site.

4.2 TRIP REDUCTION CHECKLIST

The "Trip Reduction Checklist" included in **Appendix B** is intended to be completed for each *Housing Now* development based upon the descriptions of each TDM measure included in the "Guidelines Table". If a TDM measure is to be included in the TDM Plan for a given site, then the TDM Measure is to be toggled to "Yes", to the extent of its application. Site-specific description (e.g. the number of car-share vehicles) must be entered into the checklist. The "Trip Reduction Checklist" automatically tabulates points directly correlate to vehicular trip reduction percentages (i.e. 1 point = 1% vehicular trip reduction). It is important to note that the purpose of the Trip Reduction Checklist is to assess the theoretical impact of the TDM Plan on vehicular trip reduction; it is not the TDM Plan for each site.

Each Tier is qualified before a total points tally is taken to ensure that a sufficient TDM program has been developed within each tier. For example, if the Tier 2 points tally does not meet or exceed 5 points, no vehicular trip reduction is recognized by the checklist. The points tally for each tier is recalibrated prior to the calculation of the total vehicular trip reduction percentage associated with the TDM Plan.

This mechanism is intended to impose a philosophy recognizing that TDM measures are more effective when collectively implemented than rather than if TDM measures are minimally and individually applied. For example, if a bicycle repair station is implemented within a site plan but without additional TDM measures, it is unlikely to be associated within any vehicular trip reduction. Rather, it can be effective when combined with other TDM measures as part of a comprehensive TDM plan.

Lastly, it is noted that the calibration of each tier is intended to ensure that the TDM plan adds to a sum of 15 points, equivalent to a 15% vehicular trip reduction. In this manner, the proposed TDM Framework has been

developed to facilitate *Housing Now* sites meeting the TGS 15% vehicular trip reduction requirement and potentially, the TGS Optional Tier 2 (30%) vehicular trip reduction target.

5.0 ILLUSTRATIVE EXAMPLE – SAMPLE SITE TDM PLAN

The *Housing Now* TDM Programming Framework has been utilized to develop a sample TDM Plan, attached as **Appendix C**.

At the sample site, the TDM measures included in the sample TDM Plan would be submitted to the City of Toronto for review and approval through the City's Site Plan Control process.

6.0 RECOMMENDED *HOUSING NOW* TDM MONITORING PROGRAM

As is noted above, while research has been conducted regarding the general effectiveness of a TDM program, insufficient research is available on the effectiveness of individual TDM measures. As a result, the vehicular trip reduction that is associated with each TDM measure in the TDM Programming Framework is representative of a “theory-based approach.”

It is inevitable that some TDM measures at *Housing Now* sites will be more effective than others at reducing vehicular trips and that the relative efficacy of each TDM measure may not necessarily reflect the vehicle trip reduction stated in the Guidelines Table and Trip Reduction Checklist, as outlined in **Appendix A**. It would be beneficial to the long-term success of the *Housing Now* TDM Framework if a comprehensive monitoring program was included to assess the effectiveness of site-specific TDM Plans and to potentially refine the TDM Framework.

A TDM Monitoring Program is recommended, inclusive of three general types of monitoring:

1. Extensive on-site data collection at all *Housing Now* sites to assess general program effectiveness.
In order to assess the general effectiveness of the site specific TDM Plan for each *Housing Now* site, empirical data collection studies will be conducted by a transportation engineering consultant. Three types of studies are recommended:

a) Parking utilization surveys; three days from 7:00am to 12:00am, and 3:00 am
b) Vehicle “ins & outs” at site driveway(s); three days from 7:00am to 12:00am
c) Person counts (i.e. person tracing); three days from 7:00am to 12:00am

Please note: the timeframes outlined above are conceptual. Closer to the implementation of the TDM Monitoring Program, further work will be conducted to identify appropriate timeframes for study. For example, it is known that during the COVID-19 global pandemic, the morning peak period for essential workers (e.g. when they leave for work or arrive home from work) is often earlier than 7:00am). Contemporary factors will be perpetually monitored to ensure ideal data collection is conducted.

Baseline data collection is recommended to be conducted at initial complete building occupancy to determine an empirical baseline and follow-up surveys are recommended to be conducted on an annual basis. The annual changes in empirical measures are intended to assess whether transportation behaviour evolves over time.

2. Specific monitoring strategies for individual TDM measures.
As is outlined in the Guidelines Table in **Appendix A**, monitoring actions and benchmarks have been identified for specific TDM measures. The monitoring strategies consist of qualitative and quantitative assessments, dependant on the nature of each measure.

3. Annual Transportation Behaviour Surveys at all *Housing Now* sites.
Surveys are to be conducted of building residents and daytime parking occupants at each *Housing Now* site. The style and format of each survey would resemble *Smart Commute* transportation behaviour surveys; the surveys would be focussed upon determining transportation modal splits and to ask survey participants about "why" engage in their chosen transportation behaviour and "what" could make them alter their behaviour.

A baseline transportation behaviour survey is recommended to be conducted at initial complete building occupancy to determine an empirical baseline and follow-up surveys are recommended to be conducted on an annual basis. It is recommended to make the survey mandatory for building residents and daytime parking occupants (with assurance of identity protection). The annual changes in empirical measures are intended to assess whether transportation behaviour evolves over time.

Collectively, the three study types that are recommended will provide sufficient data that can be analyzed to determine the effectiveness of the site specific TDM Plan on an ongoing basis.

It is the intent of the TDM Monitoring Program for it's effectiveness to be monitored (both individual measures and comprehensively) and for adjustments to be made to site-specific TDM Plans through mitigation of issues, introduction of new TDM measures, or deepening the extent of application for TDM measures that were already included in Plan. The goal of the TDM Program for each *Housing Now* site is to consistently and measurably reduce vehicle trips; the monitoring program is the proposed mechanism to ensure continued reduction in vehicle trips and continued uptake of TDM measures.

7.0 CONCLUSION

BA Group is retained by CreateTO to establish a *Housing Now* transportation demand management (TDM) framework. The intention is for the proponents of development proposals for *Housing Now* sites to work within the framework to develop site-specific TDM Plans that are intended to reduce vehicle trips and in turn, reduce parking demand. The TDM Framework has been established with a specific target of achieving the requirement of the Toronto Green Standard (TGS), Version 3 (Mid to High-Rise Residential and All Non-Residential) to utilize TDM measures to directly reduce single occupant auto vehicle trips.

As part of the Zoning By-law Amendment stage of the development application process for each site, TDM will be integrated within the Transportation Impact Study (TIS) through the TDM Framework. At the Site Plan Application stage, The TDM Framework will be established within each site plan and incorporated into each site agreement (Ground Lease / Project Agreement).

As part of the TDM Framework, the *Housing Now* development proponents are to use the TDM Measures – Guideline Table to develop a TDM Plan for their site. The TDM measures are categorized as part of the framework based upon their effectiveness and the level of application for each TDM Measure. A “theory-based approach” was utilized to assess the effectiveness of each TDM measure due to the insufficient research available on the effectiveness of individual TDM Measures.

A comprehensive monitoring program is recommended to assess the effectiveness of site-specific TDM Plans and to potentially refine the TDM Framework. Elements of the monitoring program include extensive on-site data collection at Housing Now sites to assess general program effectiveness, specific monitoring strategies for individual TDM measures, and annual transportation behaviour surveys at all Housing Now sites. Part of the role of the monitoring program will be for its results to be used to “recalibrate” the TDM Framework based upon observed data.

Overall, it is our opinion that the recommended TDM Framework, the result of a collaborative effort by CreateTO and BA Group, in consultation with City of Toronto staff, will provide the tools to the proponents of development proposals for Housing Now sites to work within the Framework to develop site-specific TDM Plans that will reduce vehicle trips and in turn, reduce parking demand.

APPENDIX A:
TDM Measures Primer

TDM PRIMER

Transportation (or Travel) Demand Management (TDM) is defined in the City of Toronto Official Plan (February 2019 Consolidation) as follows on Page 2-35:

> *TDM measures are aimed at encouraging people to take fewer and shorter vehicle trips to reduce congestion, energy consumption and pollution. In the past, transportation planning has often focused on supply-side solutions by identifying where additional transportation capacity is needed to satisfy forecast travel demands. TDM, in contrast, puts the emphasis on changing travel behaviour to modify and reduce our demand for vehicular travel in cities. TDM is most effective when supported by complementary actions in the key areas of land use planning and public transit improvements. Typical TDM measures include:*

Primary objectives of TDM measures include:

- reducing demand on road infrastructure, thereby minimizing road and parking capital expenditures;
- increasing travel efficiency;
- reducing emissions that cause climate change;
- improving air quality; and
- improving overall health.

The City of Toronto Official Plan embraces a range of TDM measures and the TDM Framework provided herein outlines TDM strategies that are recommended as options for *Housing Now* sites to align with the operational and functional needs of the developments.

TDM Measures included in the TDM Framework are outlined in detail herein.

REDUCED VEHICULAR PARKING SUPPLY

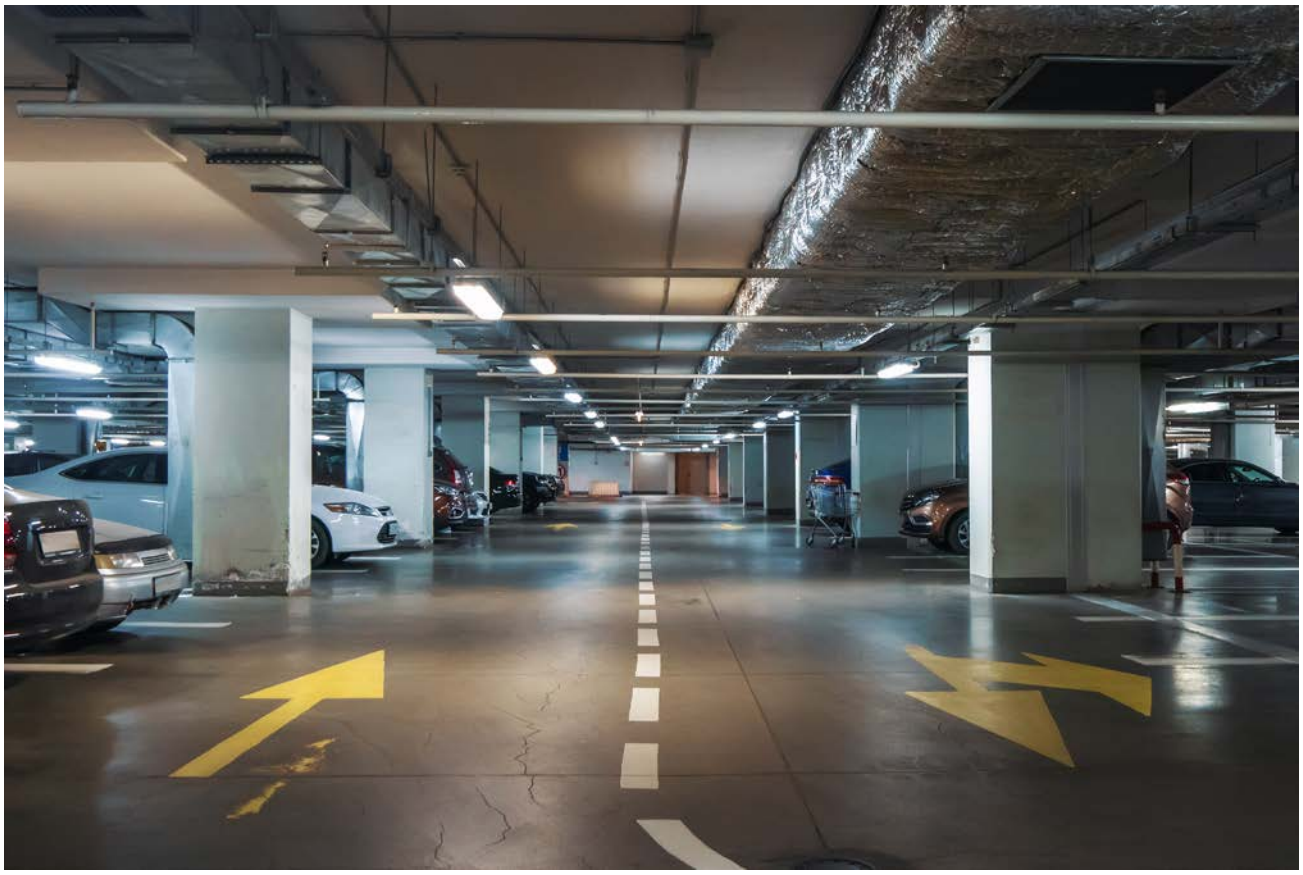
The reduction of parking supply (compared to the applicable Zoning By-law requirements) is itself a TDM measure as it will force potential parkers to consider alternative travel modes. All developments require a minimum number of parking spots based on their size or unit make-up (as stipulated by the Zoning By-law). If the number of spots available is reduced, people accessing a site will be more inclined to seek-out alternative modes of transportation to and from the site.

Sensible vehicular parking management and the provision of an extensive suite of TDM measures are mutually supportive. *Housing Now* sites are favourably located with good access to existing non-auto travel options. These options will be enhanced as part of the application of the TDM Framework. If vehicular parking is easily available on the site, residents and visitors would have less incentive to utilize these non-auto options. A reduced on-site parking supply, if not accompanied by appropriate TDM measures, will negatively affect local traffic and increase parking demand in the surrounding area.

STRATEGIC PARKING PRICING

Research conducted on parking pricing has found that, generally, the price elasticity of vehicle trips, as they relate to parking pricing, is typically -0.1 to -0.3 (ie. a 10% increase in parking fees can reduce trips by 1-3%).[2] It has been noted that this decrease in parking demand is best achieved if implemented as part of a comprehensive TDM program. Similar to a vehicle parking reduction, people using a site will be more inclined to seek-out alternative modes of transportation if the cost of parking is prohibitive, particularly in comparison to alternative transportation options.

A specific example of a parking pricing measure that is explicitly TDM-oriented is to ensure that vehicle parking permits (i.e. vehicle parking leasing) are kept at rates that are higher than a monthly transit pass. This type of direct, strategic parking pricing is intended to directly influence residents to consider transit over vehicle ownership.



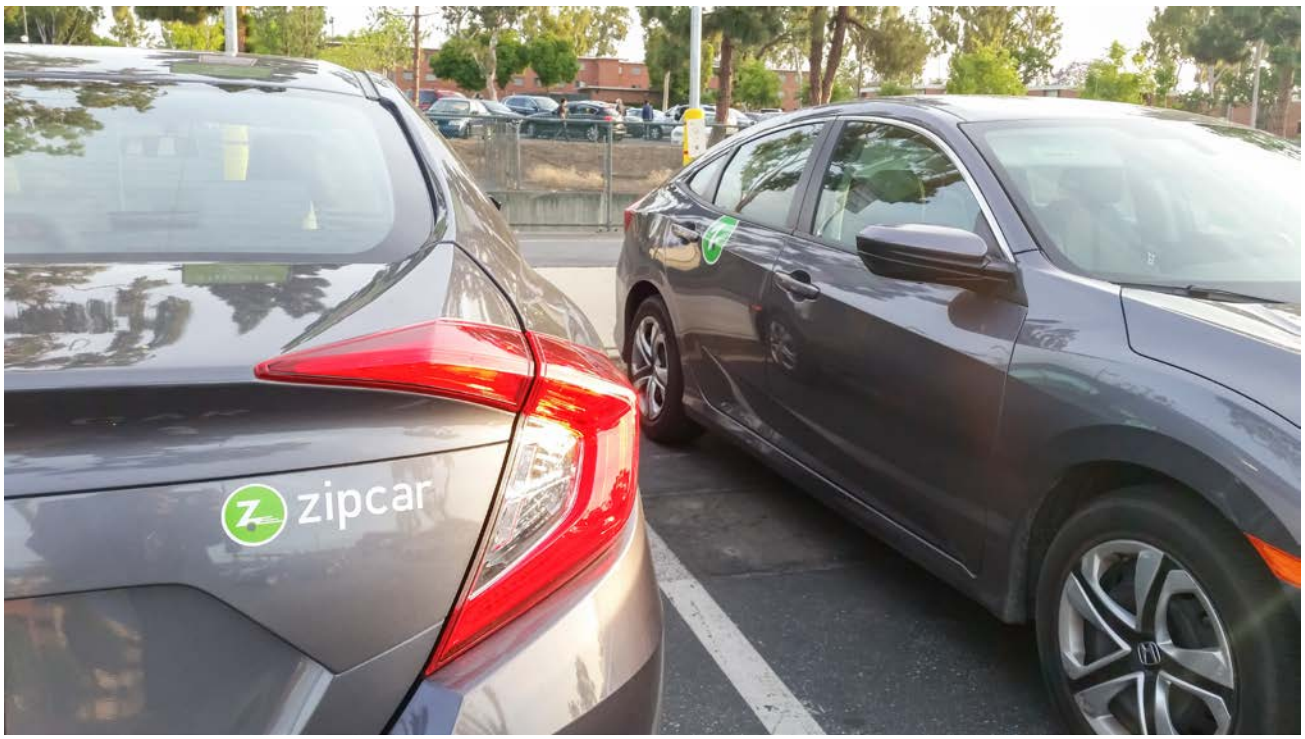
[2] [2] Litman, T. (2016). “Transportation Management Programs: An Institutional Framework for Implementing TDM”. Victoria Transport Policy Institute. DOI: https://www.vtpi.org/tdm/tdm42.htm

CAR-SHARE

Car-share vehicles offer an on-site vehicle for a resident to use if they forego car ownership, but need an automobile for a small number of trips. As such, the presence of car-share vehicles reduces on-site parking demand. All residents / employees are given membership with the on-site car-share vehicle provider (e.g. Enterprise Car Share, Zipcar, etc.).

Car-sharing programs should be introduced through third-party providers at each *Housing Now* site. It should be noted that the provision of a car-share program on-site is contingent on a service provider agreeing to locate car-share spaces on the site.

Zipcar is the world's largest car sharing program and entered into the Toronto market in 2006 with approximately 100 vehicles; it has since grown the fleet to approximately 700 vehicles. Enterprise CarShare (formerly AutoShare) was founded in 1998 and currently has over 12,000 members and 400 vehicles at over 150 locations across the City.



FREE BICYCLE

The initial purchasers of a condominium unit and/or initial lessees of are given vouchers to purchase a free bicycle. Alternatively, if a deal can be reached with a bicycle manufacturer, a bicycle will be provided directly to building occupants. The provision of a free bicycle removes the cost barrier of accessing a bicycle and would encourage the use of bicycle infrastructure around the site. Bicycles can limit the number of auto trips because they allow riders to travel further and carry more than a pedestrian.

An added benefit to the provision of a free bicycle is that it can be utilized as a marketing tactic to present the *Housing Now* site as being environmentally conscious and forward thinking. In addition, every resident owning a bicycle at building occupancy assists in the establishment of a “cycling culture” at the *Housing Now* site.

PRE-LOADED PUBLIC TRANSIT FARE CARD (E.G. PRESTO)

Considering the location of *Housing Now* sites relative to existing rapid transit service, it is recommended that pre-loaded PRESTO fare cards be provided to all buyers and renters during the initial purchase / leasing period for all buildings to encourage the use of transit to travel to and from the site. A pre-loaded public transit fare card is provided as a method of allowing people to "try" transit for free.

Transit cards can easily be distributed along with the material given to new residents and employees when they move in or start a new job. The cards are loaded with a pre-set amount and can encourage transit ridership beyond the period when the initial fares run out.

CARPOOL PARKING

Priority carpool parking spots (in support of commercial land uses, primarily office use) can incentivize carpooling and reduce single occupant vehicle trips. These spots will only be available to employees that travel to and from work with two or more occupants in their automobile. As such, for every commuter in the same vehicle, one less vehicle trip is taken and thus, demand for one less parking space occurs.

Preferred locations of the spots (e.g. near the elevator or front door) and parking discounts can increase the effectiveness of carpool parking. Carpool participants are afforded convenience and their activity is given prominence given that other commuters see the parking space on the way in or out of the building. As such, carpool can be influential to other commuters.

To facilitate usage of the carpool parking spaces, Housing Now sites with commercial land uses should explore opportunities to offer ride-sharing (carpooling) programs originating within the buildings through property management. Free online ride-matching (with potential to upgrade to location-only matching services at cost) are widely available.

BICYCLE PARKING

Easily accessible and secure bicycle parking within and around a development can encourage bicycle use. The minimum bicycle parking requirements stipulated by City of Toronto comprehensive Zoning By-law 569-2013 and Toronto Green Standard, Version 3 (TGS V3), Tier 1 must be met. To help reduce the vehicular parking requirement, TGS V3 Tier 2 requirements should be considered at each *Housing Now* site, or a higher bicycle parking supply.

In addition to supply provisions, bicycle parking facilities should be considered within each site plan to increase the attractiveness of cycling as a commuting option. All long-term bicycle parking should be located in secure bicycle parking areas and all short-term bicycle parking should be conveniently located.

BIKE SHARE TORONTO INCLUSION / CONTRIBUTION

The Bike Share Toronto program provides flexible cycling options within the City of Toronto with bicycles that can be used on a short term basis and picked up/dropped off at different stations across the City. The system underwent an expansion in 2020 which expanded the network to include 6,850 bicycles and 625 stations. There is a continued effort to expand the network further outwards from the city's downtown area and locate new stations along major corridors in conjunction with other investments in cycling infrastructure.

At each Housing Now site, as part of site plan design, space will be allocated for a future Bike Share Toronto station. Alternatively, if the Site Plan cannot accommodate a future Bike Share Toronto station, the development proponent will make a financial contribution to the City for the provision a Bike Share Toronto station for the local area. Generally, the City asks for $50,000 per station in cash contribution when this option is taken.

PRIVATE BIKE FLEET

In areas of Toronto where Bike Share Toronto has yet to expand, a private bike fleet operator is contracted to provide a similar service at a site. With a private bike fleet initiative, the intention is to provide a shared bicycle service that does not compete with Bike Share Toronto; as Bike Share Toronto expands its service area to a *Housing Now* site, the private bike fleet contract would be stipulated to end, and the site would be serviced by Bike Share Toronto on-site or in the local area.

CHANGE AND SHOWER FACILITIES

City of Toronto Zoning By-law 569-2013 requires new, non-residential developments (if long-term bicycle parking is required) to have change and shower facilities for active transit users. These facilities encourage biking, walking, running and other active transportation modes as commuting options because employees can wear appropriate clothing while active, shower upon reaching the office, and change into and out of work attire as needed at the beginning and end of the work day, respectively. Change and shower facilities facilitate active transportation in this manner because they provide comfort that all the facilities that would be helpful on-site are present.

BICYCLE REPAIR STATION

An on-site bicycle repair station (like those seen at TTC subway stations) can be provided so that cyclists can make on-site repairs. A bicycle repair station provides bicyclists with basic tools (e.g. wrenches, pumps, screwdrivers) to help repair and maintain their bicycles. These repair stations can either be in public areas or residential/employee bike locker rooms.

TRANSIT INFORMATION SCREENS

Building lobby has a television displaying real-time transit information to assist residents / employees in taking transit. Transit Information Screens provide residents and employees with up-to-date transit times for nearby transit stops and stations. These screens usually tell users when the next transit vehicle is arriving at a nearby stop or station and how far that transit stop or station is from the site.

It should be maintained by the property manager of each building in tandem with the TTC. The objective of providing real-time transit information is to enhance the convenience and comfort of using public transit. Bus arrival times, transit route information, and transit service advisory notices should be included among the information provided at these stations. Some information screens may also have information on nearby car-share and Bike Share Toronto facilities.

TRAVEL MODE INFORMATION PACKAGES

Travel Mode Information Packages are sheets or emails provided to new residents and employees (or sent out periodically) that detail all of the non-driving transportations options around the site.

Marketing programs aimed at new residential unit purchasers/lessees should be implemented to ensure that new residents have comprehensive information on modal choices in the area now and in the future. These programs should be made available to residents of *Housing Now* sites once occupied. Residents should have the option to opt-in to emailing lists dedicated to updates regarding their travel options and printed materials should also be available.

COMMUNITY MARKETING OUTREACH

Community marketing events are usually held around the time of building launches. These events provide initial residents and employees with information about sustainable transit options including information on pedestrian, cycling and transit routes. Highly successful events also give residents and employees the option to sign-up for other TDM initiatives like car- and bike-share.

APPENDIX B:
Housing Now TDM Programming Framework

Transportation Demand Management (TDM) Programming Framework - Version 6
Housing Now

Produced by: BA Group
November 2021

TDM Measures - Guidelines Table

TDM Measure	Description	Land Use Applicability	Implementation Timing	Implementation Extent				Monitoring Program - Recommended TDM Measure-specific Monitoring Strategies
				Level 0 - Do Nothing	Level 1 - Minimal Application	Level 2 - General Application	Level 3 - Comprehensive Application	
Tier 1A - Parking Management TDM Measures				**Estimated Vehicular Trip Reduction: 0%**	**Estimated Vehicular Trip Reduction: 2%**	**Estimated Vehicular Trip Reduction: 4%**	**Estimated Vehicular Trip Reduction: 6%**	
Reduced Vehicular Parking Supply	The reduction of parking supply (compared to the applicable requirements) is itself a TDM measure as it will force potential parkers to consider alternative travel modes.	Any land use	A reduced vehicular parking supply generally must be approved prior to the construction of a project.	Meet the applicable minimum parking requirements stipulated by zoning	Provide 15% less parking than what is stipulated by the applicable zoning minimum parking requirements	Provide 30% less parking than what is stipulated by the applicable zoning minimum parking requirements	Provide at least 50% less parking than what is stipulated by the applicable zoning minimum parking requirements	- Annual parking utilization studies to be undertaken to determine parking occupancy.
Strategic Parking Pricing	Research conducted on parking pricing has found that, generally, the price elasticity of vehicle trips, as they relate to parking pricing, is typically -0.1 to -0.3 (ie. a 10% increase in parking fees can reduce trips by 1-3%).	Any land use	For a condominium building, parking pricing must be determined at the beginning of the sales program. For a rental building, institutional, or other commercial use, parking pricing can be changed at any time as a method of managing traffic and parking demand.	Parking is free.	The cost of parking is noticeable to the user and is "market price" or somewhat higher.	The cost of parking is approximately double the "market price".	The cost of parking to the user is directly equal to the "per parking space" cost of the developer constructing the parking.	- Ongoing effort by property management to enforce strategic parking pricing to reflect on-site demand and market effects.
Tier 1B - Elevated TDM Measures				**Estimated Vehicular Trip Reduction: 0%**	**Estimated Vehicular Trip Reduction: 2%**	**Estimated Vehicular Trip Reduction: 4%**	**Estimated Vehicular Trip Reduction: 6%**	
Car-Share	Car-share vehicles offer an on-site vehicle for a resident to use if they forego car ownership. As such, the presence of car-share vehicles reduces vehicular trips. All residents / employees are given membership with the on-site car-share vehicle provider (e.g. Enterprise Car Share, Zipcar, Maven, etc.)	Any land use (usually residential or office)	Can be implemented at any time.	No car-share vehicle provided on site.	1 car share vehicle is provided on site.	At least 1 car share vehicle is provided on site and all residents / employees are given free membership with the on-site provider.	At least 2 car share vehicles are provided on site and all residents / employees are given free membership with the on-site provider.	- Annual parking utilization studies to include occupancy study of car-share vehicles provided on-site. - In agreement with car-share providers, detailed usage data to be provided to CreateTO to assess marketing needs. - Coordinated ongoing effort to convert commuter/commercial parking spaces to dedicated car-share parking spaces if on-site demand is high in relation to supply.
Free Bicycle	Initial purchasers of condominium dwelling units are given a voucher to purchase a bicycle.	Residential (Condominium only)	This is an expensive strategy and therefore, must be decided prior to the construction of the project.	No bicycle voucher is provided.	A bicycle voucher is provided to all initial purchasers of condo units worth up to $500.	A bicycle voucher is provided to all initial purchasers of condo units worth up to $1,000.	A bicycle voucher is provided to all initial purchasers of condo units worth up to $1,000 and an agreement is sought with a local cycling store to subsidize bicycle maintenance for a year.	- Annual transportation behaviour survey to ask question about the effectiveness of free bicycle provision in increasing cycling activity and decreasing driving activity / car ownership.
Tier 2 - Effective TDM Measures				**Estimated Vehicular Trip Reduction: 0%**	**Estimated Vehicular Trip Reduction: 1%**	**Estimated Vehicular Trip Reduction: 2%**	**Estimated Vehicular Trip Reduction: 3%**	
Pre-loaded Public Transit Fare Card (e.g. PRESTO)	A pre-loaded public transit fare card is provided as a method of allowing people to "try" transit for free. For residential developments, the card is given to first time buyers or each new lessee for a specified period of time. For office developments, new employees are provided with a fare card.	Any land use (usually residential or office)	The fare card should be distributed along with all materials related to the building and/or employer.	No fare card is provided.	Pre-loaded fare card with a value of $50-$100 is provided.	Pre-loaded fare card with a value equivalent to a monthly transit pass is provided.	Pre-loaded fare card with a value that exceeds a monthly transit pass is provided. For a rental apartment building, all new tenants receive the public transit fare card in perpetuity. For an office, all new employees receive the public transit fare card in perpetuity.	- Annual transportation behaviour survey to ask question about the effectiveness of pre-loaded public transit fare card in increasing transit usage and decreasing driving activity / car ownership.
Carpool Parking	Priority parking spaces are allocated to employees who carpool to and from work. Carpooling directly reduces vehicular trips by placing two or more employees in the same commuting vehicle.	Office or other employment uses, and daytime commuter parking occupants	Can be implemented at any time.	No carpool parking is allocated.	Carpool parking is provided on site in a preferential location (i.e. near the elevator or front door).	Carpool parking is provided on site in a preferential location (i.e. near the elevator or front door) and if a fee is charged for parking on site, a discount is provided to those who carpool.	A substantial amount of carpool parking is provided on site (2-5% of total parking supply) in a preferential location (i.e. near the elevator or front door) and if a fee is charged for parking on site, a discount is provided to those who carpool.	- Annual parking utilization studies to include occupancy study of carpool parking provided on-site. - Annual transportation behaviour survey to ask question about the effectiveness of carpool parking in increasing carpooling activity and decreasing driving singe occupant vehicle driving. - Coordinated ongoing effort to convert commuter/commercial parking spaces to carpool parking if on-site demand is high in relation to supply.
Bicycle Parking	The minimum bicycle parking requirements stipulated by Zoning By-law 569-2013 and Toronto Green Standard, Version 3 (TGS V3), Tier 1 must be met. To help reduce the vehicular parking requirement, TGS V3 Tier 2 requirements should be considered.	Any land use	On-site bicycle parking supply is generally allocated prior to the construction of a project although in some cases, bicycle racks can be added or unused space can be converted to a secure bicycle parking room.	The minimum bicycle parking requirements stipulated by Zoning By-law 569-2013 and Toronto Green Standard, Version 3 (TGS V3), Tier 1 are met.	The minimum bicycle parking requirements stipulated by Zoning By-law 569-2013 and Toronto Green Standard, Version 3 (TGS V3), Tier 1 are met and additional infrastructure is provided to aid navigation to the bicycle parking (e.g. dedicated bicycle ramp, bicycle elevator, etc.).	Bicycle parking is provided at least 20% in excess of the minimum requirements.	Bicycle parking is provided at least 20% in excess of the minimum requirements and additional infrastructure is provided to aid navigation to the bicycle parking (e.g. dedicated bicycle ramp, bicycle elevator, etc.).	- Annual parking utilization studies to include bicycle parking counts to determine demand. - Ongoing property management effort to find space for additional secure or non-secure parking, if demand is determined to exceed supply.
Bike Share Toronto Inclusion / Contribution	An official Bike Share Toronto station is provided on-site to facilitate cycling in the area without the need to own a bicycle. Alternatively, if the Site Plan cannot accommodate a future Bike Share Toronto station, the development proponent will make a financial contribution to the City for the provision a Bike Share Toronto station for the local area.	Any land use	Implemented during building construction or at a later date if site space allocated. Alternatively, financial contribution to be made at Site Plan Agreement stage of development process.	No Bike Share Station is provided on site.	A Bike Share Toronto Station with at least 6 bicycle parking spaces is provided on-site.	A Bike Share Toronto Station with at least 12 bicycle parking spaces is provided on-site.	A Bike Share Toronto Station with at least 12 bicycle parking spaces is provided on-site and all residents or employees are given free membership with Bike Share Toronto.	- Bike Share Toronto to share detailed ridership data with CreateTO pertaining to stations located at Housing Now sites. - Opportunities to expand on-site Bike Share Toronto stations (or add a station) to be explored if on-site demand exceeds supply.
Private Bike Fleet	In areas of Toronto where Bike Share Toronto has yet to expand, a private bike fleet operator is contracted to provide a similar service at a site.	Any land use (usually commercial)	Can be implemented at any time.	No bike fleet provider is constracted to provide service on site.	A private bike fleet operator provides bicycles to a site for use by residents / employees.	A private bike fleet operator provides bicycles to a site for use by residents / employees, with enough bicycles for 1% of residents / employees.	A private bike fleet operator provides bicycles to a site for use by residents / employees, with enough bicycles for 1% of residents / employees. The operator has a mobile app that facilitates easy check in and check out of bicycles.	- On-site property management to keep detailed record of private bike fleet program utilization. - Ongoing property management effort to increase bicycle fleet if it is determined that demand exceeds supply.
Change and Shower Facilities	City of Toronto Zoning By-law 569-2013 has a requirement for change and shower facilities for non-residential uses to promote active transportation.	Office or other employment uses	Facilities should be built during building construction but can be retrofitted at a later date.	No change and shower facilities available on site.	City of Toronto Zoning By-law 569-2013 minimum change and shower facilities requirements are met.	Change and Shower Facilities are provided in excess of the minimum requirements of City of Toronto Zoning By-law 569-2013.	Change and Shower Facilities are provided to meet LEED minimum requirements.	- Annual transportation behaviour survey to ask question about the effectiveness of on-site change and shower facilities in increasing active transportation and decreasing driving activity / car ownership.
Tier 3 - Supplementary TDM Measures				**Estimated Vehicular Trip Reduction: 0%**	**Estimated Vehicular Trip Reduction: 0.2%**	**Estimated Vehicular Trip Reduction: 0.5%**	**Estimated Vehicular Trip Reduction: 1%**	
Bicycle Repair Station	An on-site bicycle repair station (like those seen at TTC subway stations) can be provided so that cyclists can make on-site repairs.	Any land use	Can be implemented at any time; space can be allocated during construction with a indoor bicycle parking area/room.	No bicycle repair station is provided on site.	A bicycle repair station is provided in a publicly accessible area.	A bicycle repair station is provided in a secure bicycle parking room for the use of long term users (residents or employees).	A bicycle repair station is provided in a secure bicycle parking room for the use of long term users (residents or employees) and an additional bicycle repair station is provided in a publicly accessible area.	- Annual transportation behaviour survey to ask question about the effectiveness of on-site bicycle repair station in increasing cycling activity and decreasing driving activity / car ownership. - Ongoing property management effort to upgrade and/or increase on-site bicycle repair equipment if it is determined that demand exceeds supply.
Transit Information Screens	Building lobby has a television displaying real-time transit information to assist residents / employees in taking transit.	Any land use (must be located in common area)	Can be implemented at any time.	No transit screen provided on site.	A television providing real-time transit information to residents or building patrons is included in a common area.	A television providing real-time transit information to residents or building patrons is included in a common area. The television does not rotate information off the screen; transit information remains on the screen at all times.	A television providing real-time transit information to residents or building patrons is included in a common area within more than one building on the site. The television does not rotate information off the screen; transit information remains on the screen at all times.	- Annual transportation behaviour survey to ask question about the effectiveness of transit information screen in increasing transit usage and decreasing driving activity / car ownership. - Ongoing property management effort to upgrade and/or increase transit information (s) if it is determined annual transportation behaviour survey determines high effectiveness.
Travel Mode Information Package	Each new resident or employee receives a package and/or receives regular email communications informing them of the different available travel options aside from driving a personal vehicle. For entertainment venues, transportation options are communicated to all potential guests.	Any land use	Program to distribute packages should be determined prior to the launch or opening of a development project.	No travel mode information package is provided to new residents, guests, or emplyees.	Packages are available from a lobby area but are not given to all residents, guests, or employees.	Packages are distributed to all residents and employees upon moving in or starting new employment.	In addition to printed packages, all residents and employees are added to a emailing list that regularly informs of transportation options.	- Annual transportation behaviour survey to ask question about the effectiveness of transit information screen in increasing transit usage and decreasing driving activity / car ownership. - Ongoing property management effort to continually provide custom transportation information to residents and daytime commuter parkers via e-mailing lists and newsletters.
Community Marketing Outreach	An event is held around the time of building launch focused on disseminating information about sustainable travel options.	Any land use	Event should be held at the time of building launch.	No community event is held.	An event is held with the purpose of disseminating transportation information.	An event is held that is widely promoted within the building to new residents and/or employees.	An event is held that is widely promoted within the building to new residents and/or employees. The event features assistance for signing up for various TDM initiatives (i.e. car share membership).	- Annual transportation behaviour survey to ask question about the effectiveness of community marketing outreach in increasing general non-automobile activity and decreasing driving activity / car ownership. - Ongoing property management effort to schedule more community marketing outreach events for residents and daytime commuter parkers to promote non-automobile transportation options.

Notes:
1. Litman, T. (2018). Parking Pricing Implementation Guidelines: How More Efficient Parking Pricing Can Help Solve Parking and TrafficProblems, Increase Revenue, and Achieve Other Planning Objectives. Victoria Transport Policy Institute.

DISCLAIMER: The vehicular trip reduction that is associated with each TDM measure in the Guidelines Table is representative of a "theory-based approach."

Transportation Demand Management (TDM) Programming Framework - Version 6
Housing Now

Produced by: BA Group
November 2021

TDM Measures - Trip Reduction Checklist

TDM Measure	Implementation Extent			
	Level 0 - Do Nothing	Level 1 - Minimal Application	Level 2 - General Application	Level 3 - Comprehensive Application
Tier 1A - Parking Management TDM Measures AND Tier 1B - Elevated TDM Measures	**Estimated Vehicular Trip Reduction: 0% = 0 points**	**Estimated Vehicular Trip Reduction: 2% = 2 points**	**Estimated Vehicular Trip Reduction: 4% = 4 points**	**Estimated Vehicular Trip Reduction: 6% = 6 points**
Reduced Vehicular Parking Supply (Tier 1A)		No	No	No
Number of Points:	0	0	0	0
Describe:				
Strategic Parking Pricing (Tier 1A)		No	No	No
Number of Points:	0	0	0	0
Describe:				
Car-Share (Tier 1B)		No	No	No
Number of Points:	0	0	0	0
Describe:				
Free Bicycle (Tier 1B)		No	No	No
Number of Points:	0	0	0	0
Describe:				
Tiers 1A and 1B Combined Points Tally	**0**	**0**	**0**	**0**
	0			
Tier 2 - Effective TDM Measures	**Estimated Vehicular Trip Reduction: 0% = 0 points**	**Estimated Vehicular Trip Reduction: 1% = 1 point**	**Estimated Vehicular Trip Reduction: 2% = 2 points**	**Estimated Vehicular Trip Reduction: 3% = 3 points**
"Unbundle" Parking		No	No	No
Number of Points:	0	0	0	0
Describe:				
Pre-loaded Public Transit Fare Card (e.g. PRESTO)		No	No	No
Number of Points:	0	0	0	0
Describe:				
Carpool Parking		No	No	No
Number of Points:	0	0	0	0
Describe:				
Bicycle Parking		No	No	No
Number of Points:	0	0	0	0
Describe:				
Bike Share Toronto Inclusion / Contribution		No	No	No
Number of Points:	0	0	0	0
Describe:				
Private Bike Fleet		No	No	No
Number of Points:	0	0	0	0
Describe:				
Change and Shower Facilities		No	No	No
Number of Points:	0	0	0	0
Describe:				
Tier 2 Points Tally	**0**	**0**	**0**	**0**
	0			
Tier 3 - Supplementary TDM Measures	**Estimated Vehicular Trip Reduction: 0% = 0 points**	**Estimated Vehicular Trip Reduction: 0.2% = 0.2 points**	**Estimated Vehicular Trip Reduction: 0.5% = 0.5 points**	**Estimated Vehicular Trip Reduction: 1% = 1 point**
Bicycle Repair Station		No	No	No
Number of Points:	0	0	0	0
Describe:				
Transit Information Screens		No	No	No
Number of Points:	0	0	0	0
Describe:				
Travel Mode Information Package		No	No	No
Number of Points:	0	0	0	0
Describe:				
Community Marketing Outreach		No	No	No
Number of Points:	0	0	0	0
Describe:				
Tier 3 Points Tally	**0**	**0**	**0**	**0**
	0			
Does Tier 1A and 1B Combined Tally meet or exceed 8 points?	No			
Does Tier 2 Tally meet or exceed 5 points?	No			
Does Tier 3 Tally meet or exceed 2 points?	No			
Tier 1A and 1B Combined Recalibrated Points Tally (Qualified Points)	**0**			
Tier 2 Recalibrated Points Tally (Qualified Points)	**0**			
Tier 3 Recalibrated Points Tally (Qualified Points)	**0**			
TOTAL Points Tally (Qualified Points)	**0**			

RESULT

TDM Plan Vehicle Trip Reduction:
0.0%

1 point = 1% Vehicle Trip Reduction

DISCLAIMER: The vehicular trip reduction that is associated with each TDM measure in the Trip Reduction Checklist is representative of a "theory-based approach.

APPENDIX C:
Illustrative Example – Sample Site TDM Plan

SAMPLE SITE TDM PLAN (*HOUSING NOW* TDM PROGRAMMING FRAMEWORK)

TDM Measure	Description/Detail	Application Level	Number of Points
Reduced Vehicular Parking Supply	351 spaces required, 239 spaces provided = 32% parking reduction compared to By-law.	Level 2	4
Strategic Parking Pricing	Potential for "market price" commuter parking.	Level 1	2
Car-Share	2 car-share spaces provided on site, but no membership offered to residents	Level 1	2
Tier 1 – Highly Effective TDM Measures	**Does Tier 1 Tally meet or exceed 8 points?**		**8**
	Yes		
Public Transit Fare Card (e.g. PRESTO)	Pre-loaded fare card with a value equivalent to a monthly transit pass is provided.	Level 2	2
"Unbundle" Parking	Parking is unbundled from unit sales regardless of unit type.	Level 3	3
Bicycle Parking	364 spaces provided, 352 required = Requirement met and some extra facilities on site	Level 1	1
Tier 2 – Very Effective TDM Measures	**Does Tier 2 Tally meet or exceed 5 points?**		**6**
	Yes		
Bicycle Repair Station	Repair stations in each area as appropriate to achieve Level 2 reduction	Level 2	0.5
Transit Information Screens	Real-time transit screen in common area	Level 1	0.2
Travel Mode Information Package	High-quality brochures etc. promoting sustainable transport	Level 3	1
Community Marketing Outreach	TDM event upon site opening to promote initiatives	Level 2	0.5
Tier 3 - Effective TDM Measures	**Does Tier 3 Tally meet or exceed 2 points?**		**2.2**
	Yes		
TOTAL Points Tally:			**16.2 points**
TDM Plan Vehicle Trip Reduction:			**16.2%**

Through the application of the Housing Now TDM Programming Framework, it is proposed that the TDM Plan for (the sample site) will contain ten (10) TDM measures, together achieving 16.2% vehicle trip reduction.

TRANSPORTATION DEMAND MANAGEMENT

POLICY GUIDE

Prepared for
The City of Buffalo
Mayor's Office of Strategic Planning
Mayor Byron W. Brown

Adopted March 27, 2017

Produced by

FISHER
ASSOC

3.5 TDM Strategies and Objectives

In accordance with Section 8.4 of the UDO, a TDM plan must include strategies that are employed to reduce single-occupancy vehicle trips, reduce vehicle miles traveled by site users, and promote transportation alternatives such as walking, cycling, ridesharing, and transit.

A. Strategies. TDM Strategies listed in the UDO are detailed in Table 1 and include specific implementation requirements and credits. Strategies not included in Table 1 may be considered if sufficient information is included in the TDM plan to determine the effect/impact on the estimated final vehicular travel demand and adjusted parking demand.

B. Target. To meet the purpose and intent of Section 8.4 of the UDO, each TDM plan must, at a minimum, include TDM strategies that demonstrate a reduction in the estimated final vehicular travel demand and adjusted parking demand.

1. Proposed projects within the N-1D, N-1C, C-M zone, or within ¼ mile (1,320 feet) of a Metro Rail Station must reduce by 20%.
2. Proposed projects for all other zones, respective of the above, must reduce by 10%.

C. Credits. The credits in Table 1 represent the estimated reduction each strategy will have on the estimated final vehicular travel demand and adjusted parking demand. These credits are based on a review of published literature, a survey of TDM policies and ordinances, and guidance published by professional transportation experts.

1. For the purposes of this Policy Guide it is assumed that the credits included in Table 1 equally reduce both the estimated final vehicular travel demand (step 5 of the Policy Guide) and adjusted parking demand (step 8 of the Policy Guide). If the TDM plan estimated travel demand and/or parking demand using the alternative methods, the credits are applied to the result of those methods.
2. Where a credit in Table 1 is listed as a range or a limit, the amount of credit that can be applied is dependent on the degree of implementation and the geographic transportation context of the proposed project. This determination will be at the discretion of the City Planning Board based on the information provided in the TDM plan.
3. Each TDM Plan may propose to use a different credit than the credit associated with each TDM strategy in Table 1. The TDM plan must provide a justification for the proposed credit which including information or data validating the estimated impact on travel demand and/or parking demand.

D. Modal Share Objectives. Based on the chosen TDM strategies to reduce the estimated final vehicular travel demand and adjusted parking demand, the TDM plan must detail the modal share objectives for the proposed project. The modal share objective is the result of the credits associated with each TDM strategy on the estimated final vehicular travel demand (step 5 of the Policy Guide)**Error! Reference source not found.** and adjusted parking demand (step 8 of the Policy Guide). Alternatively, if the TDM plan estimated travel demand and/or parking demand using the alternative methods, the modal share objective is the result of the credits on those methods.

E. Requirements. To evaluate the level of effect/impact of TDM strategies on the estimated final vehicular travel demand and adjusted parking demand, the following is required to be included in the TDM plan:

1. The strategy or strategies chosen to reduce the estimated final vehicular travel demand and adjusted parking demand.
2. The degree of implementation for each strategy. The plan must include sufficient information to determine how the strategy adheres to the requirements listed in Table 1.
3. The amount of credit the applicant determined is appropriate for the degree of implementation of each chosen strategy.
4. The anticipated implementation timeframe for each chosen strategy.
5. The result of each credit on the estimated final vehicular travel demand and adjusted parking demand.

Table 1: TDM Strategy Options

Category	Strategy	Requirements	Credit
Share Programs	**1. Car-share** Car-sharing is an automobile rental service that can be used as a substitute to private car ownership. Generally, car-sharing programs have more of an impact when associated with residential projects.	**Stations.** Car-share stations must be located on the same zone lot of the proposed project site. Consider partnering with existing car-share service providers in Buffalo.	**2 trips** for each **1 car-share space**
		Membership. Employee, tenant, or resident memberships to existing car-share service providers located within ¼ mile (1,320 feet).	**1 trip** for each **1 car-share membership**
	2. Bike-share Bike-sharing is a bicycle rental service for short convenient trips and is often associated with popular destinations/neighborhoods, major bicycle transit corridors, or transportation centers. Bike-share strategies include providing direct access through a bike-share station or through a bike-share membership to an existing local service.	**Stations.** Bike-share stations must be located in the same building, on the same proposed project site, or in the public right-of-way abutting the site. Consider partnering with existing bike-share service providers in Buffalo.	**1 trip** for each **5 bike-share spaces**
		Membership. Employee, tenant, or resident memberships to existing bike-share service providers located within ¼ mile (1,320 feet).	**1 trip** for each **5 bike-share memberships**
Promotion and Outreach	**3. Promotion and Education** Providing direct information regarding TDM opportunities and incentives to increase awareness and participation.	Promotion and education material must be tailored to the TDM opportunities and incentives available at the project site and include all available information associated with those opportunities and incentives. This information must be kept up-to-date, be made available in a highly visible location, and be provided directly to any new employee, resident, or tenant.	**Up to 2%**
Employee Incentives and Programs	**4. Alternative/flexible work schedules** Alternative/flexible work schedules aids the distribution of travel demand from peak periods. They are often referred to as flextime, compressed work week, or staggered shifts. Telecommuting is also considered as part of this strategy.	Information regarding the availability of these options must be made available in a highly visible location and provided directly to any new employee.	**Up to 2%**

Category	Strategy	Requirements	Credit
Employee Incentives and Programs (continued)	**5. Transit Pass** Subsidies offer free or reduced price transit passes to employees of the project site and provide a direct incentive to use an alternative mode.	A transit pass subsidy can be for a 7-day pass, 30-day pass, monthly pass, or Paratransit Access Line (PAL) pass. Passes must be renewed monthly. Use of the pass is at the discretion of the employee.	**Number of trips =** number of passes multiplied by % of subsidy (Example: 5 passes @ 20% subsidy = 1 trip)
	6. "Live near your work" programs "Live near your work' programs consist of financial incentives for an employee to buy or rent a home close to their place of work.	Incentives and benefits offered to employees must consist of financial assistance for closing costs, moving expenses, or an adjustment in base compensation. Any home or rental unit within 1 mile of the employee's place of work qualifies for a "live near your work" program.	**1 trip** for each employee that utilizes program
	7. Guaranteed ride home (GRH) A guaranteed ride home (GRH) program provides the opportunity for an employee to travel home after working unexpectedly late or due to a family emergency.	The guaranteed ride home program can be implemented through car-share membership, taxi service, or on-demand ride-share. The program is intended to be used by employees that already use an alternative mode but need a guarantee for a ride home. The program must be free-of-charge to any employee, but can be capped per employee at 5 times/uses per year.	**Up to 2%**
Enhanced Design Amenities	**8. Roadway Improvements** Roadway improvements adjacent to the site that help encourage transportation alternatives. Improvements include additional streetscape elements or infrastructure improvements within the public right-of-way that would increase the safety, accessibility, convenience, or attractiveness for a person walking.	Roadway improvements must comply with UDO Article 10, Transportation Network, and any other applicable standards in the UDO and other local, state, and federal regulations. These improvements must be for encouraging transportation alternatives for transit riders, pedestrians, and bicyclists.	**Up to 4%**

Category	Strategy	Requirements	Credit
Enhanced Design Amenities (continued)	**9. Bicycle Facilities and Services** Providing bicycle facilities and services increases the convenience, security, and appeal of bicycle use. Strategies for bicycle facilities and services should be considered together to enhance their effectiveness and should be consistent with the UDO and Buffalo Bicycle Master Plan.	**Parking.** Only bicycle parking spaces in excess of the minimum required Section 8.2 of the UDO qualify for the TDM Credit.	**1 trip** for each **5 bike spaces**
		Shower facilities and lockers. Shower facilities and lockers must be conveniently located to bicycle parking facilities.	**Up to 4%**
		Repair station. A bicycle repair station must be located in a designated and secure location with bicycle maintenance tools and supplies that could be used for emergency repair or maintenance. These tools and supplies include a bicycle tire pump, wrenches, chain tool, lubricants, hex keys, Allen wrenches, torx keys, screwdrivers, spoke wrenches, etc.	**1%**
	10. Transit Facilities Enhanced transit facilities can increase the comfort, convenience, accessibility, or safety of transit riders. These improvements increase the appeal of using transit and should be considered in conjunction with bicycle parking strategies.	Enhanced transit facilities can consist of bus shelters, seating, lighting, or other improvements. Transit facility improvements must be coordinated with the NFTA and may require appropriate right-of-way approvals found in Section 11.4 of the UDO.	**Up to 4%**
High Occupancy	**11. Shuttles (Buspool)** Transit-to-work shuttles provide the project site's residents, tenants, and/or employees transit service to local residential areas, commercial centers, or transit hubs.	Shuttles must be provided free-of-charge, not replicate any NFTA transit route, operate during peak travel times from 7AM-9AM and 4PM-6PM with a 15-minute headways, and during off-peak times until at least 8PM with a 30-minute headways. Shuttle routes, stop locations, and schedules must be posted in highly visible locations. A shuttle program would require a designated TDM Coordinator. The amount of credit to be applied to the site's estimated travel demand is based on the frequency and quality of service provided.	**Up to 10%**
	12. Vanpool A vanpool program provides employees of the project site with direct service from the site to their place of residence.	Vanpool service may not replicate any NFTA transit route and requires a designated TDM Coordinator (specified below).	**Up to 5%**

Category	Strategy	Requirements	Credit
High Occupancy (continued)	**13. Carpool** Carpool programs generally operate using employees own cars to pick up fellow employees while traveling to work. These programs offer ease of implementation but can incur direct costs to employees.	Employee vehicles associated with a carpool program should be given preferred parking located close to the main entrance of the principal building and/or be offered parking discounts if the site has unbundled parking. Information regarding the availability of carpool must be made available in a highly visible location and provided directly to any new employee. The financial cost of the carpool is the responsibility of the employees in the carpool. A carpool program would require a designated TDM Coordinator (specified below).	**2%**
Parking Management	**14. Shared-Parking** Shared parking facilities are used by multiple users, destinations, and/or land uses.	Shared parking facilities must be located within ¼ mile (1,320 feet). Other requirements for shared-parking arrangements are included in section 3.6.1 of this Policy Guide.	**Up to 10%**
	15. Parking Cash-out Parking cash-out programs offer cash alternatives to subsidized parking for employees.	Any employer that subsidizes for its employee's parking space shall provide the employee the option of forgoing the subsidy for a cash payment equivalent to the cost associated with the parking space. The cash-out value associated with the parking space can be up to one-year in duration.	**Up to 10%**
	16. Unbundled Parking Parking sold or rented separately from building space for the life of the property.	Unbundled spaces would be required to be sold or rented separately from the building space at market-rate. The rental or purchase of a parking space would be at the discretion and direct cost of the employee, tenant, or resident.	**Up to 10%**

Category	Strategy	Requirements	Credit
TDM Management	**17. TDM Coordinator** The TDM Coordinator has the responsibility of coordinating and implementing the strategies within the TDM plan.	The coordinator may be an employee or a contracted third-party (transportation brokerage service).	**2%**
	18. Membership in a Transportation Management Association (TMA) Transportation Management Associations (TMAs) are non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center or industrial park. They are often public-private partnerships and generally consist of area businesses, organizations, and government agencies.	Requirements of the TMA would be determined by the public-private partnership and should include the institutional structure to implement various TDM strategies. To receive credits, active participation in the TMA and coordination with TMA partners in pursuing TDM strategies for the area and the project site, is required.	**2%**

APPENDIX

K COMPREHENSIVE EXISTING, FB AND FT LOS SUMMARY TABLE

Intersection (Movement)	Scenario	Storage Length (m)	AM Peak Hour					PM Peak Hour				
			LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)	LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)
Lake Shore Blvd & 37th St / Plaza Driveway (Signalized)	Existing	-	B	10.4	-	-	-	B	13.3	-	-	-
	Future Background	-	B	11.4	-	-	-	B	16.7	-	-	-
	Future Total	-	B	12.5	-	-	-	B	12.7	-	-	-
EB-LTR	Existing	-	B	13.1	0.51	-	-	B	15.7	0.61	-	-
	Future Background	-	B	13.8	0.55	-	-	B	17.9	0.70	-	-
	Future Total	-	B	14.5	0.58	-	-	B	19.8	0.75	-	-
WB-LTR	Existing	-	A	6.4	0.31	-	-	A	9.8	0.33	-	-
	Future Background	-	A	8.1	0.34	-	-	B	15.8	0.35	-	-
	Future Total	-	A	9.8	0.38	-	-	A	3.9	0.37	-	-
NB-LTR	Existing	-	B	19.9	0.26	-	-	B	17.7	0.19	-	-
	Future Background	-	B	19.9	0.26	-	-	B	17.7	0.19	-	-
	Future Total	-	C	21.2	0.31	-	-	B	18.7	0.22	-	-
SB-LT	Existing	-	C	20.4	0.17	-	-	C	25.5	0.41	-	-
	Future Background	-	C	20.4	0.17	-	-	C	25.5	0.41	-	-
	Future Total	-	C	20.3	0.17	-	-	C	25.1	0.39	-	-
SB-R	Existing	-	A	5.4	0.17	-	-	A	5.1	0.29	-	-
	Future Background	-	A	5.4	0.17	-	-	A	5.1	0.29	-	-
	Future Total	-	A	5.6	0.18	-	-	A	5.3	0.29	-	-
Lake Shore Blvd & Long Branch Ave (Signalized)	Existing	-	B	15.2	-	-	-	B	12.0	-	-	-
	Future Background	-	B	16.1	-	-	-	B	13.7	-	-	-
	Future Total	-	B	18.6	-	-	-	B	18.2	-	-	-
EB-LTR	Existing	120	B	17.2	0.43	75	55	A	10.0	0.44	55	39
	Future Background	120	B	18.6	0.51	83	62	B	13.8	0.68	73	58
	Future Total	120	B	18.5	0.53	84	64	B	12.3	0.71	46	41
WB-LTR	Existing	116	B	12.7	0.41	46	33	B	12.4	0.41	48	35
	Future Background	116	B	12.6	0.41	45	32	B	12.4	0.41	48	35
	Future Total	116	B	13.2	0.46	49	35	C	24.1	0.68	75	54
NB-LTR	Existing	93	C	20.7	0.34	32	16	C	20.5	0.28	27	13
	Future Background	93	C	23.1	0.43	39	20	C	20.9	0.30	28	14
	Future Total	93	C	34.6	0.74	#83	42	C	23.5	0.46	42	22
SB-L	Existing	25	B	20.0	0.14	14	6	C	20.3	0.09	11	4
	Future Background	25	C	22.5	0.30	27	13	C	21.6	0.18	18	8
	Future Total	25	C	23.3	0.32	27	13	C	22.0	0.20	18	8
SB-TR	Existing	71	A	0.2	0.07	0	0	A	8.3	0.09	8	1
	Future Background	71	A	0.5	0.16	0	0	A	6.7	0.15	11	1
	Future Total	71	A	0.5	0.16	0	0	A	6.7	0.15	11	1
Lake Shore Blvd & 33rd St (Unsignalized)	Existing	-	B	13.2	-	-	-	B	13.4	-	-	-
	Future Background	-	B	14.0	-	-	-	B	14.2	-	-	-
	Future Total	-	B	14.7	-	-	-	B	14.0	-	-	-
EB-T	Existing	-	A	0.0	0.30	-	-	A	0.0	0.25	-	-
	Future Background	-	A	0.0	0.33	-	-	A	0.0	0.27	-	-
	Future Total	-	A	0.0	0.35	-	-	A	0.0	0.28	-	-
EB-TR	Existing	-	A	0.0	0.16	-	-	A	0.0	0.14	-	-
	Future Background	-	A	0.0	0.18	-	-	A	0.0	0.15	-	-
	Future Total	-	A	0.0	0.19	-	-	A	0.0	0.16	-	-
WB-LT	Existing	-	A	1.3	0.03	-	-	A	2.3	0.06	-	-
	Future Background	-	A	1.4	0.04	-	-	A	2.3	0.07	-	-
	Future Total	-	A	1.6	0.04	-	-	A	2.6	0.08	-	-
WB-T	Existing	-	A	0.0	0.28	-	-	A	0.0	0.27	-	-
	Future Background	-	A	0.0	0.29	-	-	A	0.0	0.29	-	-
	Future Total	-	A	0.0	0.30	-	-	A	0.0	0.31	-	-
NB-L	Existing	-	B	13.2	0.16	-	-	B	13.4	0.08	-	-
	Future Background	-	B	14.0	0.18	-	-	B	14.2	0.09	-	-
	Future Total	-	B	14.7	0.26	-	-	B	14.0	0.13	-	-

Intersection (Movement)	Scenario	Storage Length (m)	AM Peak Hour					PM Peak Hour				
			LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)	LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)
Lake Shore Blvd & 31st St (Unsignalized)	Existing	-	C	22.7	-	-	-	C	20.8	-	-	-
	Future Background	-	B	14.1	-	-	-	C	22.6	-	-	-
	Future Total	-	C	15.5	-	-	-	C	24.9	-	-	-
EB-T	Existing	42	A	0.0	0.18	0	-	A	0.0	0.14	0	-
	Future Background	42	A	0.0	0.19	0	-	A	0.0	0.15	0	-
	Future Total	42	A	0.0	0.22	0	-	A	0.0	0.16	0	-
WB-T	Existing	30	A	0.0	0.26	2	-	A	0.0	0.24	2	-
	Future Background	30	A	0.0	0.28	2	-	A	0.0	0.26	2	-
	Future Total	30	A	0.0	0.29	2	-	A	0.0	0.28	2	-
NB-L	Existing	74	C	22.7	0.31	10	-	C	20.8	0.20	6	-
	Future Background	74	B	14.1	0.15	4	-	C	22.6	0.22	7	-
	Future Total	74	C	15.5	0.21	6	-	C	24.9	0.27	8	-
Park Blvd & 31st St (Unsignalized)	Existing	-	A	7.5	-	-	-	A	7.1	-	-	-
	Future Background	-	A	9.6	-	-	-	A	8.0	-	-	-
	Future Total	-	B	10.7	-	-	-	A	8.4	-	-	-
EB-L	Existing	-	A	7.7	0.08	-	-	A	7.1	0.04	-	-
	Future Background	-	A	9.3	0.28	-	-	A	7.9	0.21	-	-
	Future Total	-	B	10.7	0.40	-	-	A	8.3	0.25	-	-
NB-LT	Existing	-	A	7.7	0.08	-	-	A	7.4	0.03	-	-
	Future Background	-	B	10.8	0.37	-	-	A	8.6	0.16	-	-
	Future Total	-	B	11.8	0.41	-	-	A	9.0	0.20	-	-
SB-TR	Existing	-	A	7.3	0.13	-	-	A	6.9	0.08	-	-
	Future Background	-	A	8.3	0.19	-	-	A	7.4	0.09	-	-
	Future Total	-	A	8.8	0.21	-	-	A	7.6	0.11	-	-
Lake Promenade & 31st St (Unsignalized)	Existing	-	A	7.7	-	-	-	A	7.2	-	-	-
	Future Background	-	A	8.5	-	-	-	A	8.2	-	-	-
	Future Total	-	A	9.0	-	-	-	A	8.4	-	-	-
EB-LT	Existing	-	A	7.9	0.14	-	-	A	7.3	0.07	-	-
	Future Background	-	A	7.6	0.00	-	-	A	7.4	0.00	-	-
WB-L	Future Total	-	A	8.4	0.28	-	-				-	-
WB-TR	Existing	-	A	7.5	0.12	-	-	A	7.0	0.06	-	-
	Future Background	-	A	8.0	0.25	-	-	A	7.2	0.12	-	-
SB-L	Existing	-	A	7.8	0.06	-	-	A	7.4	0.03	-	-
	Future Background	-	A	9.1	0.22	-	-	A	8.9	0.20	-	-
SB-LT	Future Total	-	A	9.8	0.29	-	-	A	9.2	0.23	-	-
Lake Promenade & Long Branch Ave (Unsignalized)	Existing	-	A	7.7	-	-	-	A	7.2	-	-	-
	Future Background	-	A	7.4	-	-	-	A	6.9	-	-	-
	Future Total	-	A	7.4	-	-	-	A	7.4	-	-	-
EB-L	Existing	-	A	7.8	0.08	-	-	A	6.9	0.08	-	-
	Future Background	-	A	7.5	0.07	-	-	A	7.2	0.01	-	-
	Future Total	-	A	7.8	0.12	-	-	A	7.7	0.11	-	-
NB-LT	Existing	-	A	7.8	0.12	-	-	A	7.5	0.07	-	-
	Future Background	-	A	7.0	0.00	-	-	A	6.9	0.00	-	-
SB-TR	Existing	-	A	7.3	0.03	-	-	A	7.1	0.03	-	-
	Future Background	-	A	6.5	0.01	-	-	A	6.4	0.01	-	-
	Future Total	-	A	6.8	0.06	-	-	A	6.6	0.04	-	-

Intersection (Movement)	Scenario	Storage Length (m)	AM Peak Hour					PM Peak Hour				
			LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)	LOS	Delay (sec)	V/C Ratio	95th Queue (m)	50th Queue (m)
Lake Promenade & 36th St (Unsignalized)	Existing	-	A	9.2	-	-	-	A	9.0	-	-	-
	Future Background	-	B	11.6	-	-	-	B	10.5	-	-	-
	Future Total	-	B	13.7	-	-	-	B	11.5	-	-	-
EB-L	Existing	-	A	9.2	0.09	-	-	A	9.0	0.10	-	-
	Future Background	-	B	11.6	0.26	-	-	B	10.5	0.20	-	-
	Future Total	-	B	13.7	0.36	-	-	B	11.5	0.31	-	-
NB-LT	Existing	-	A	6.5	0.05	-	-	A	6.1	0.02	-	-
	Future Background	-	A	6.8	0.05	-	-	A	6.2	0.02	-	-
	Future Total	-	A	7.4	0.10	-	-	A	6.8	0.04	-	-
SB-TR	Existing	-	A	0.0	0.02	-	-	A	0.0	0.01	-	-
	Future Background	-	A	0.0	0.11	-	-	A	0.0	0.06	-	-
	Future Total	-	A	0.0	0.12	-	-	A	0.0	0.06	-	-
Park Blvd & 36th St (Unsignalized)	Existing	-	A	8.8	-	-	-	A	8.8	-	-	-
	Future Background	-	B	10.4	-	-	-	A	10.0	-	-	-
	Future Total	-	B	10.9	-	-	-	B	10.4	-	-	-
WB-L	Existing	-	A	8.8	0.06	-	-	A	8.8	0.03	-	-
	Future Background	-	B	10.4	0.24	-	-	A	10.0	0.13	-	-
	Future Total	-	B	10.9	0.29	-	-	B	10.4	0.16	-	-
NB-TR	Existing	-	A	0.0	0.02	-	-	A	0.0	0.02	-	-
	Future Background	-	A	0.0	0.09	-	-	A	0.0	0.10	-	-
	Future Total	-	A	0.0	0.09	-	-	A	0.0	0.10	-	-
SB-LT	Existing	-	A	2.7	0.01	-	-	A	4.4	0.02	-	-
	Future Background	-	A	2.7	0.01	-	-	A	4.6	0.02	-	-
	Future Total	-	A	3.8	0.02	-	-	A	5.3	0.03	-	-
Marina Ave & 33rd St (Unsignalized)	Existing	-	A	7.5	-	-	-	A	7.1	-	-	-
	Future Background	-	A	7.5	-	-	-	A	7.1	-	-	-
	Future Total	-	A	7.8	-	-	-	A	7.3	-	-	-
EB-LTR	Existing	-	A	7.7	0.06	-	-	A	7.3	0.01	-	-
	Future Background	-	A	7.7	0.06	-	-	A	7.3	0.01	-	-
	Future Total	-	A	7.8	0.06	-	-	A	7.3	0.01	-	-
WB-LTR	Existing	-	A	7.4	0.01	-	-	A	7.3	0.00	-	-
	Future Background	-	A	7.4	0.01	-	-	A	7.3	0.00	-	-
	Future Total	-	A	7.5	0.01	-	-	A	7.4	0.00	-	-
NB-LTR	Existing	-	A	7.6	0.11	-	-	A	7.2	0.04	-	-
	Future Background	-	A	7.6	0.11	-	-	A	7.2	0.04	-	-
	Future Total	-	A	8.0	0.18	-	-	A	7.3	0.06	-	-
SB-LTR	Existing	-	A	7.2	0.07	-	-	A	7.1	0.09	-	-
	Future Background	-	A	7.2	0.07	-	-	A	7.1	0.09	-	-
	Future Total	-	A	7.4	0.08	-	-	A	7.2	0.11	-	-

*Queues which appear in **bolded red** are those which are exceeding the available storage length.*

*V/C Ratios which appear in **bolded red** are those which are exceeding capacity.*

For side-street stop-controlled intersections the level of service is based on the movement with the highest delay.

The ~ footnote indicates that the approach is above capacity and the queue length could be much longer. The queue length is theoretically infinite and blocking problems may occur. The value shown for the 50th percentile queue is sufficient to hold one cycle of traffic. This will prevent capacity problems from being compounded by insufficient storage space.

The # footnote indicates that the volume for the 95th percentile cycle exceeds capacity. The traffic was simulated for two complete cycles of 95th percentile traffic to account for the effects of spillover between cycles. If the reported v/c < 1 for this movement, the methods used represent a valid method for estimating the 95th percentile queue. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the # footnote are acceptable for the design of storage bays.

The m footnote indicates that volume for the 95th percentile queue is metered by an upstream signal.

As queueing results for all-way stop controlled intersections are not available in HCM 2000, the 95th percentile queues for the intersection of Long Branch Avenue & Park Boulevard were taken from HCM 7th edition results, with an assumed conversion of 7 metres per vehicle.