



**TRAFFIC IMPACT ASSESSMENT
RESIDENTIAL DEVELOPMENT
183 MAIN STREET E
KINGSVILLE, ONTARIO**

PROJECT NO. 19-098

DATED: OCTOBER 15, 2019

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1. INTRODUCTION

BairdAE has been retained to prepare a Traffic Impact Assessment in support of proposed residential development for lands known municipally as 183 Main Street East in the Town of Kingsville. The subject lands are approximately 0.42 hectares (ha) in size and are bounded by Main Street E. to the north, agriculture land to the east and south, and residential development to the west.

The proposed development includes five (5) row townhouses and twenty-eight (28) unit condominium apartment building. A total of 47 parking spaces will be provided on site. The development will generate additional 233 daily, 17 morning peak and 21 evening peak traffic. The access to the development will be provided via Main Street East. The development location is shown in Exhibit 1 and Appendix A provides a proposed concept site plan.



Exhibit 1 - Location Plan

1.1 Scope

It is anticipated that the development will be built by 2021 and as a result, the following future horizon periods (conditions) are established as part of this study:

- 2021 Future Condition;
- 2026 Future Condition; and
- 2031 Future Condition

This study has considered impacts of the proposed development's generated traffic at the following intersections:

- Main Street East and Access Road/Kingsville School Access;
- Main Street East and Remark/Wigle Avenue; and
- Main Street East and Jasperson Drive/Kingsville Square Access.

1.2 Analysis Methodology

A transportation analysis was completed to determine the existing and future operation conditions of intersection and individual turning movements. The operational analyses were primarily based on procedures set out in the Highway Capacity Manual (2010) with the assistance of Synchro 10. Several performance measures are used in the analysis of signalized and unsignalized intersections including the following:

- Level of Service (LOS) – a measure of the average vehicle delay experienced by the motorists attempting to travel through the intersection. LOS is measured from “A” to “F” with peak hour LOS in the “A” to “D” range being considered acceptable by most and a LOS of F representing unacceptable delays;
- Delay – the additional travel time experienced by a driver compared to free-flow conditions; and
- Queue Lengths – the Synchro Software measures both the 50th percentile and 95th percentile maximum queue lengths. The 50th percentile queue (the median) is the maximum back of queue length during a typical traffic cycle. The 95th percentile queue is the maximum back of queue length during a typical traffic cycle with 95th percentile traffic volumes. The 95th percentile queue measures the queue length that 95 percent of the sample lies below. The 95th percentile critical queue lengths were identified for movements where the queue surpassed the estimated length of the storage bay.

Taken together, these measures provide an indication of delay and the number of vehicles that can be accommodated through an intersection.

2.0 EXISTING CONDITION

2.1 Road Network Characteristics

Main Street East is an east-west arterial road with a posted speed of 50km/h within the vicinity of the proposed development. Main Street East has a three-lane cross section with dedicated left-turning lanes with central medians on the eastbound and westbound approaches.

Remark Drive/Wigle Avenue is the north-south minor collector road with a posted speed of 50km/h. Remark Drive has two-lane cross section with share turning lanes for the northbound and southbound approaches.

Jasperson Drive is the north-south collector road with a posted speed of 50km/h. Jasperson Dr has a three-lane cross section with dedicated turning lanes for the northbound and southbound approaches.

1.2 Key Intersections

The intersection of Main Street E. with Jasperson Drive/Square Access Road is a 4-leg signalized intersection. The intersection has the following configuration:

- Eastbound and westbound lane have one left turn lane and one through-right shared lane.
- Southbound lane has one left turn land and one through-right shared lane.
- Northbound lane is private driveway and has one left-through-right shared lane.

The intersection Main Street E. with Wigle Avenue/Remark Drive is a 4-leg signalized intersection. The intersection has the following configuration:

- Eastbound and westbound lane has one left turn lane and one through-right shared lane.
- Northbound and Southbound lane has one left-through-right shared lane.

The intersection of Main Street E. with Kingsville School Access is a 3-leg unsignalized intersection. The north leg has limited access and use to enter the school to drop-off. The westbound and eastbound approach has one left turn lane and one through-right shared lane.

2.3 Existing Traffic Volumes

Traffic counts were obtained from RC Spencer Associated Inc traffic report dated 2019. Counts were taken on November 1, 2018 and recorded during a.m. peak, afternoon peak and p.m. peak hour. The existing traffic volumes and other relevant data are included in Appendix A.

3.0 DEVELOPMENT TRAFFIC

This section will describe the development accesses, trip generation, and trip distribution and assignment.

3.1 Development Access

The intersection of Main Street E with Access Road/Kingsville School Access will be a 4-leg unsignalized intersection with stop control access road. The intersection has the following configuration:

- Eastbound and westbound lane will have one left turn lane and one through-right shared lane.
- Northbound and Southbound approach has one left-through-right shared lane.

It is noted that the north leg will be utilized as limited access until 2026. Once the school site is redeveloped into residential development, the north leg will have full access. A site plan is provided in Appendix D.

3.2 Trip Generation

The number of vehicle trips anticipated to be generated by the proposed development was calculated based on trip generation rates published by The Institution of Transportation Engineers (ITE) Trip Generation 9th Edition.

The trip generation of townhouse can be calculated from ITE 224. However, it is assumed that trip generated for townhouses are calculated from worst case scenario i.e. ITE 210 (Single Family Homes). The trip generation of condominium apartment units are based on ITE 221 (Low Rise Apartment) category.

Description of Land use, ITE codes, unit sizes, trip generation rate and trip generation for daily and peak hours are provided in Table 1. Appendix B provides all the relevant charts.

Table 1: Trip Generation

Use	ITE	UNITS	AADT	Trip Generated			
				AM Hour		PM Hour	
				In	Out	In	Out
183 Main Street							
Row Townhouses	210	5	48	1	3	3	2
Condominium Building	221	28	185	3	10	11	6
Total Trips			233	4	13	14	8

Note: *Italic font and underlined* – constructed

3.3 Trip Distribution and Assignment

The trip distribution of development traffic is based on the traffic study prepared by RC Spencer Associates Inc dated April 2019. It is assumed that the 52 percent of volume generated from the proposed development will travel to/from west of Main Street and 48 percent from/to east of Main Street E. The site development traffic distribution is shown in figures 1.2, 2.2 and 3.2 in Appendix B.

4.0 FUTURE CONDITION

4.1 Growth Rate

For this study, a conservative growth rate of 2% per year was assumed to reflect growth in background traffic volumes. Similar growth rate is applied in the RC Spencer Associates Inc. traffic study. The projected traffic volumes are provided in Appendix B.

4.2 Future Background Development

In accordance with Town of Kingsville staff, the traffic study prepared by RC Spencer Associated Inc. dated April 2019 should be used as reference. Further, the selected horizon period in the report for analysis generally coincides with the full built-out of proposed development. The estimated future development traffic including expected construction are provided in Table 2:

Table 2: Future Development - Trip Generation

Use	ITE	UNITS	Trip Generated 1			
			AM Hour		PM Hour	
			In	Out	In	Out
Constructed 2021						
Kingsville K-12 School	520	See Report	304	162	84	226
Van Minnen Development	221, 720	120, 1k sqft	89	54	67	110
Petretta Development	820, 221	24, 1k sqft	6	10	20	19
Royal Oak Development	210	106	20	58	66	39
OTIS – Ph1 Development	934, 820	1k sqft each	108	99	133	131
Constructed 2026						
Remark Farms Development	210	59	11	33	37	21
OTIS – Ph2 Development	934, 820	1k sqft each	56	49	90	91
Petretta Development	221	36	3	10	10	6
Constructed 2031						
School Re-development	221	250	23	67	67	43
Youssef Development	210	84	16	46	52	31
Moavro Development	820, 221	95; 10k sqft	17	30	50	43
Total Trips			236	735	811	470

Note: 1- Trips obtained from RC Spencer Traffic Report

A trip distribution of future development traffic is obtained from Traffic Impact Report prepared by RC Spencer Associates Inc. dated January 2019. Appendix B contain detailed development traffic in figures 1.2, 2.2 and 3.2.

There are no planned improvements to the transportation system that may impact traffic in the study area, within the considered horizon periods. Hence, it is expected that improvements to the cyclist/pedestrian infrastructure will occur in the near future.

4.3 Future Condition

Development traffic volumes were added to the forecasted (2021, 2026 and 2031) background traffic volumes to obtain corresponding total traffic volumes at intersections. The projected total future volumes are shown in figures 1.3, 2.3 and 3.3 (see Appendix B).

5.0 INTERSECTION OPERATIONS

The forecasted 2021, 2026 and 2031 traffic volumes for the study intersections are evaluated using the Synchro/Sim Traffic software which automates the procedures contained in the Highway Capacity Manual 2010.

The existing and future peak hours analysis results are included in Table 3, Table 4 and Table 5 and corresponding worksheets are included in Appendix C.

Table 3: 2021 Background Conditions – Level of Service

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
Main Street E. and Access Road/School (Unsignalized)						
EB L	A	0.16	8.9	A	0.06	9.8
EB TR	A	0.37	0.0	A	0.38	0.0
WB L	A	0.0	9.7	A	0.01	9.9
WB TR	A	0.31	0.0	A	0.44	0.0
NB LTR	C	0.05	17.0	C	0.02	15.5
Overall LOS	A			A		
Main Street E. and Wigle Ave/Remark Dr (Signalized)						
EB L	A	0.02	4.6	A	0.06	4.0
EB TR	C	0.45	25.7	B	0.73	19.7
WB L	A	0.15	5.8	A	0.17	4.4
WB TR	B	0.48	12.6	B	0.66	15.1
NB LTR	B	0.25	13.9	C	0.56	24.5
SB LTR	B	0.10	14.6	B	0.17	19.4
Overall LOS	B			B		
Main Street E. and Jasperson Dr/Square Access (Signalized)						
EB L	C	0.46	23.6	D	0.65	40.3
EB TR	C	0.73	21.8	B	0.64	15.8
WB L	B	0.08	10.8	A	0.08	9.3
WB TR	C	0.82	26.0	C	0.87	26.6
NB LTR	B	0.08	11.8	B	0.14	15.6
SB L	B	0.32	17.7	C	0.48	24.0
SB TR	A	0.16	6.2	A	0.27	5.6
Overall LOS	C			C		

Table 4: 2026 Background Conditions – Level of Service

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
Main Street E. and Access Road/School (Unsignalized)						
EB L	A	0.17	9.2	B	0.07	10.4
EB TR	A	0.42	0.0	A	0.44	0.0
WB L	B	0.0	10.2	B	0.01	10.4
WB TR	A	0.35	0.0	A	0.53	0.0
NB LTR	C	0.05	18.9	C	0.03	17.6A
Overall LOS	A			A		
Main Street E. and Wigle Ave/Remark Dr (Signalized)						
EB L	A	0.02	3.4	A	0.08	4.5
EB TR	B	0.71	17.9	C	0.86	28.6
WB L	A	0.14	3.9	A	0.24	5.4
WB TR	A	0.48	8.8	C	0.78	20.2
NB LTR	B	0.45	18.9	C	0.60	25.6
SB LTR	B	0.20	17.0	B	0.18	18.9
Overall LOS	B			C		
Main Street E. and Jasperson Dr/Square Access (Signalized)						
EB L	C	0.56	31.2	F	0.93	93.4
EB TR	C	0.77	22.5	B	0.68	16.4
WB L	B	0.10	11.0	A	0.09	10.0
WB TR	C	0.86	28.1	C	0.92	32.3
NB LTR	B	0.09	12.1	B	0.20	16.2
SB L	B	0.36	19.2	C	0.68	32.8
SB TR	A	0.18	6.4	A	0.36	8.3
Overall LOS	C			C		

During 2026 condition, the westbound turning movement at the intersection Talbot Street with Ure Street operate at LOS F in pm peak hour and no reserve found for this movement therefore mitigation measures are required. The intersection operates at overall acceptable LOS.

All other intersection with Main Street E operates at acceptable level of service.

Table 5: 2031 Background Conditions – Level of Service

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
Main Street E. and Access Road/Future Access (Unsignalized)						
EB L	A	0.02	9.4	B	0.06	11.1
EB TR	A	0.46	0.0	A	0.50	0.0
WB L	B	0.0	10.5	B	0.01	10.9
WB TR	A	0.40	0.0	A	0.60	0.0
NB LTR	C	0.05	16.7	C	0.03	20.4
SB LTR	C	0.23	19.4	D	0.21	25.4
Overall LOS	A			B		
Main Street E. and Wigle Ave/Remark Dr (Signalized)						
EB L	A	0.02	3.4	A	0.13	5.5
EB TR	C	0.82	23.5	D	1.0	51.6
WB L	A	0.18	4.2	A	0.34	7.5
WB TR	A	0.50	9.4	C	0.92	31.6
NB LTR	C	0.50	20.3	C	0.63	26.8
SB LTR	B	0.24	17.5	B	0.19	18.2
Overall LOS	B			D		
Main Street E. and Jasperson Dr/Square Access (Signalized)						
EB L	D	0.67	44.8	F	1.12	148.3
EB TR	C	0.86	27.6	C	0.79	22.1
WB L	B	0.16	13.3	B	0.14	12.5
WB TR	C	0.89	30.0	F	1.11	84.5
NB LTR	B	0.10	12.3	B	0.22	15.7
SB L	C	0.49	22.2	C	0.72	33.1
SB TR	A	0.23	5.9	B	0.41	12.9
Overall LOS	C			D		

During 2031 condition, the eastbound and westbound turning movement at the intersection Main Street E. with Jasperson Drive operate at LOS F in pm peak hour and no reserve found for this movement, therefore mitigation measures are required. It is noted that numerous future developments are contributing to the need for improvements and not solely this proposed development. Further, Intersection improvements are mentioned in the RC Spencer Associates Inc. traffic study dated April 2019. With these improvements in place, the intersection will operate at acceptable level of service. Details of improvement and results are found in the Spencer report.

All other intersection with Main Street E. operates at acceptable level of service.

6.0 CONCLUSION

Based on our review, we provide the following comments for the proposed development:

- The development is expected to generate 17 two-ways trips during morning peak hour and 21 two-way trips during evening peak hour.
- The background growth rate of 2 percent is considered in the modelling as it represents worst case scenario.
- One access road is provided from Main Street E. for the development. The intersection is 4-leg intersection with “Stop” control on access road. Intersection northbound approaches will have one left-through-right shared lane and southbound will have limited access until 2026. In 2031, intersection will be full access consisting of one left-through-right shared lane.
- Under future conditions, the intersections of Main Street E. with Access Road/Kingsville School Access operate at acceptable level of service during 2021, 2026 and 2031 future conditions.
- Under future conditions, the intersections of Main Street with Wigle Avenue/Remark Drive operate at acceptable level of service during 2021, 2026 and 2031 future conditions.
- Under future conditions, the intersections of Main Street E. with Jasperson Dr/Square Mall Access road operate at acceptable level of service during 2021 condition. The level of service deteriorates in 2026 and 2031 future conditions. Intersection improvement are required and mentioned in RC Spencer Associate Traffic Study. With improvement in place intersection operate at actable level of service.

In conclusion, the intersections of Main Street E. with Access Road/Kingsville School Access remain unsignalized without further improvements.

All of which is respectfully submitted.

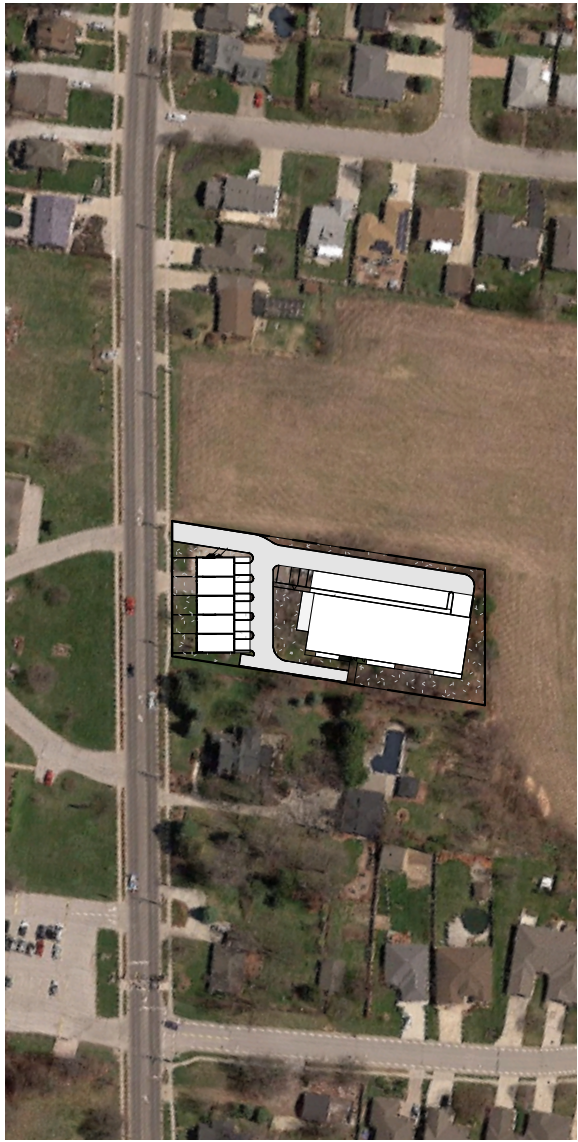
BAIRD AE INC.
267 PELISSIER STREET, UNIT 1000
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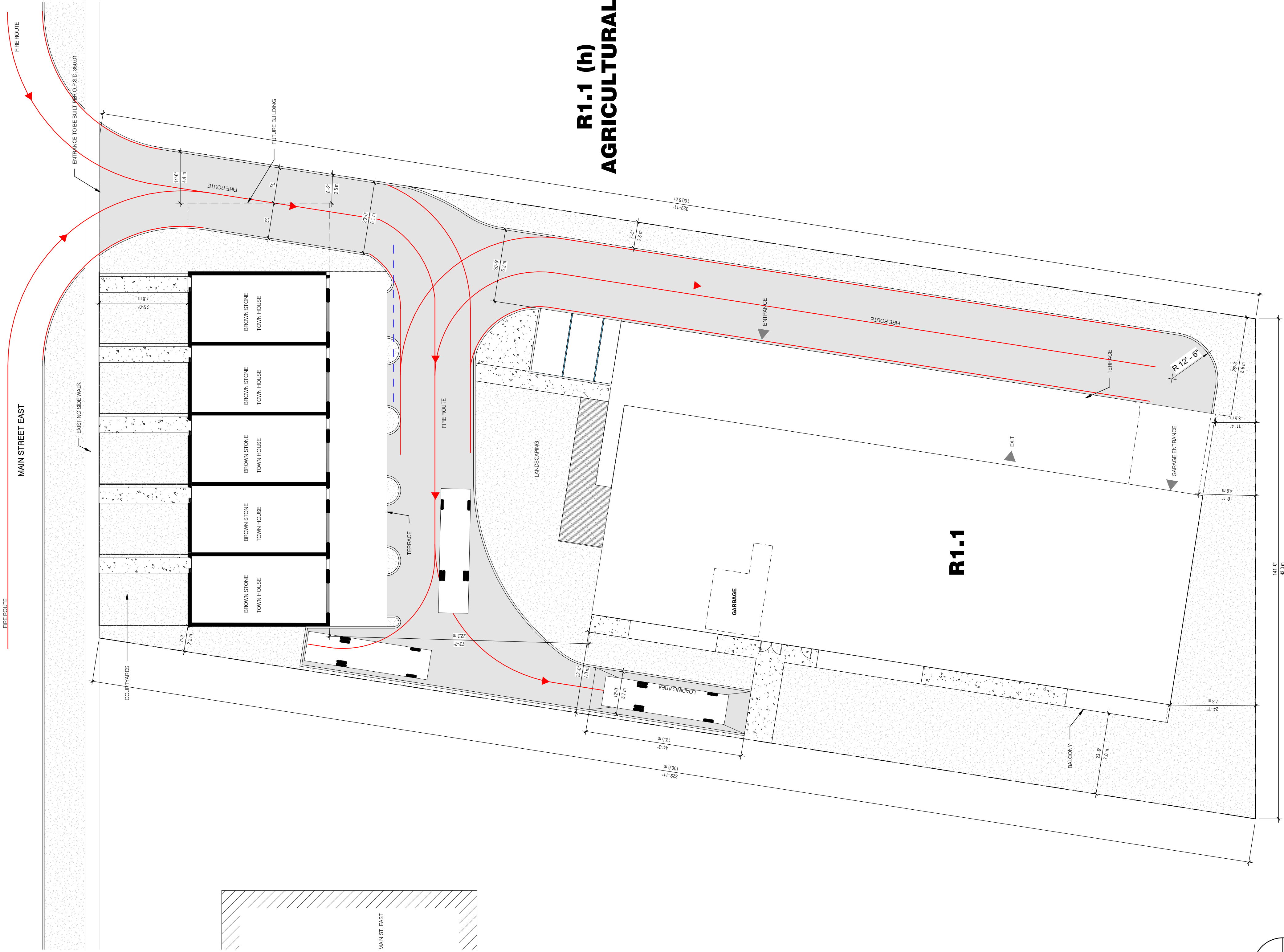


Appendix A

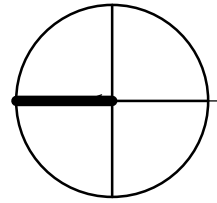
BACKGROUND TRAFFIC DATA AND OTHER RELATED INFORMATION



KEY PLAN



SITE
SCALE: 1 : 200



R1.1

R1.1

R1.1 (h)
AGRICULTURAL

SITE DATA MATRIX			OBC REFERENCE					
PROJECT DESCRIPTION: 6 STOREY CONDOMINIUM - 28 UNITS & 5 UNIT ROW HOUSING	☒ NEW ☐ ADDITION ☐ ALTERATION ☐ CHANGE OF USE		☒ PART 3 ☐ PART 9 ☐ PART 11					
	R1.1							
	RESIDENTIAL							
	GROUP C, 3.2.2.43, UP TO 6 STOREYS, SPRINKLERED, NONCOMBUSTIBLE CONSTRUCTION							
SITE AREA	BUILDING AREA		GROSS AREA					
	EXISTING:	N/A	EXISTING:	N/A				
	PROPOSED:	1,200m ² (CONDO) + 353m ² (TOWN)	PROPOSED:	5,800m ²				
TOTAL:		1,643m ²	TOTAL:	5,800m ²				
LOT COVERAGE	MINIMUM LOT FRONTAGE		BUILDING HEIGHT					
	REQUIRED:	15m (50 ft)	MAXIMUM:	11m				
	PROVIDED:	42.4m (139'-3")	PROVIDED:	18m				
MINIMUM FRONT YARD DEPTH	MINIMUM REAR YARD DEPTH		MINIMUM SIDE YARD DEPTH (INTERIOR YARD)					
	REQUIRED:	7.5m	REQUIRED:	1.5m				
	PROVIDED:	7.6m	PROVIDED:	2.2m				
PARKING	BICYCLE SPACES		LOADING SPACES					
	EXISTING:	0	EXISTING:	0				
	PROPOSED:	4	PROPOSED:	1				
USE CLASSIFICATION	EXISTING:		REQUIRED:					
	0	4	4	1				
	47	4	4	1				
REQUIRED:		TOTAL:						
45		1						
TOTAL:								
47								
MINIMUM LANDSCAPE AREA			SCREENING FENCE LENGTH					
REQUIRED:	30%	N/A	EXISTING:	N/A				
PROPOSED:	1,000m ²	374m	PROPOSED:	243m				
TOTAL:		374m	TOTAL:	243m				
PARKING TYPE	ZONING PROVISIONS		PROVIDED PARKING					
	(1.25 SPACES/UNIT) x 28 UNITS = 35		37					
	(2 SPACES/UNIT) x 5 UNITS = 10 SPACES		10					
ACCESSIBLE PARKING	1 SPACE FOR 8 - 50 PARKING SPACES = 1 SPACE REQUIRED		INCLUDED IN PARKING TOTAL					
	0.25 SPACES OF THE REQUIRED SPACES SHALL BE DEDICATED FOR VISITOR PARKING = 35 x .25 = 9 SPACES		INCLUDED IN PARKING TOTAL					
	VISITOR PARKING							
TOTAL PARKING		45	47					
BICYCLE PARKING	1 SPACE /400m ² TO A MAXIMUM OF 10 SPACES = 1643m ² / 400m ² = 4 SPACES		26					
	LOADING SPACES		1					
NOTE:								
1. ALL EXTERIOR PATHS OF TRAVEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 80.23 OF ONTARIO REGULATION 191/11 TO THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT AND SECTIONS 3.8.1.3 AND 3.8.3.2 OF THE ONTARIO BUILDING CODE								
2. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 80.26(1) OF THE ONTARIO REGULATION 191/11 TO THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT AND SECTION 3.8.3.18 OF THE ONTARIO BUILDING CODE.								





MAIN ST. KINGSVILLE CONDOMINIUMS
183 Main Street East



1-9-088

A2-15



MAIN ST. KINGSVILLE CONDOMINIUMS
183 Main Street East

Main St @ Remark Dr

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Kingsville

Site #: 0000000007

Intersection: Main St & Remark Dr

TFR File #: 7

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

**** Signalized Intersection ****

Major Road: Main St runs W/E

North Leg Total: 53

North Entering: 34

North Peds: 2

Peds Cross: $\times$

Heavys	1	0	1	2
Trucks	0	0	0	0
Cars	24	2	6	32
Totals	25	2	7	



Heavys 0

Trucks 0

Cars 19

Totals 19

East Leg Total: 870

East Entering: 388

East Peds: 0

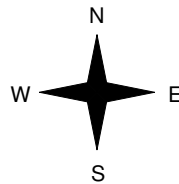
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
7	2	383	392



Main St

Heavys	Trucks	Cars	Totals
0	0	11	11
8	2	404	414
1	1	27	29
9	3	442	



Remark Dr

Cars	Trucks	Heavys	Totals
5	0	0	5
322	2	6	330
47	1	5	53
374	3	11	

Main St



Cars	Trucks	Heavys	Totals
466	4	12	482

Peds Cross: $\times$

West Peds: 0

West Entering: 454

West Leg Total: 846

Cars	76	Cars	37	3	56	96
Trucks	2	Trucks	0	0	2	2
Heavys	6	Heavys	0	0	3	3
Totals	84	Totals	37	3	61	



Wigle Ave

Peds Cross: $\times$

South Peds: 2

South Entering: 101

South Leg Total: 185

Comments

Main St @ Remark Dr

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 13:00:00

One Hour Peak

From: 11:45:00

To: 12:45:00

Municipality: Kingsville

Site #: 0000000007

Intersection: Main St & Remark Dr

TFR File #: 7

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs W/E

North Leg Total: 79

North Entering: 33

North Peds: 6

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	13	11	9	33
Totals	13	11	9	



Heavys 0

Trucks 1

Cars 45

Totals 46

East Leg Total: 1111

East Entering: 571

East Peds: 3

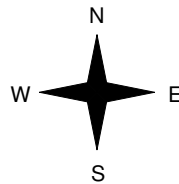
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
6	6	508	520



Main St

Heavys	Trucks	Cars	Totals
0	1	17	18
7	6	424	437
1	0	37	38
8	7	478	



Remark Dr

Cars	Trucks	Heavys	Totals
17	0	0	17
460	5	6	471
77	2	4	83
554	7	10	

Main St



Cars	Trucks	Heavys	Totals
521	10	9	540

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 493

West Leg Total: 1013

Cars	125
Trucks	2
Heavys	5
Totals	132



Cars	35	11	88	134
Trucks	1	0	4	5
Heavys	0	0	2	2
Totals	36	11	94	

Peds Cross: $\nlessgtr$

South Peds: 2

South Entering: 141

South Leg Total: 273

Comments

Main St @ Remark Dr

Afternoon Peak Diagram

Specified Period

From: 14:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Kingsville

Site #: 0000000007

Intersection: Main St & Remark Dr

TFR File #: 7

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs W/E

North Leg Total: 79

North Entering: 31

North Peds: 2

Peds Cross: $\bowtie$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	17	7	7	31
Totals	17	7	7	



Heavys 0

Trucks 2

Cars 46

Totals 48

East Leg Total: 1230

East Entering: 639

East Peds: 1

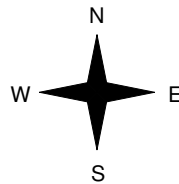
Peds Cross: $\bowtie$

Heavys	Trucks	Cars	Totals
2	2	624	628



Main St

Heavys	Trucks	Cars	Totals
0	0	24	24
2	1	502	505
0	1	43	44
2	2	569	



Remark Dr

Cars	Trucks	Heavys	Totals
7	0	0	7
561	1	1	563
67	1	1	69
635	2	2	

Main St



Cars	Trucks	Heavys	Totals
586	2	3	591

Peds Cross: $\bowtie$

West Peds: 2

West Entering: 573

West Leg Total: 1201

Cars	117
Trucks	2
Heavys	1
Totals	120



Cars	46	15	77	138
Trucks	1	2	1	4
Heavys	1	0	1	2
Totals	48	17	79	

Peds Cross: $\bowtie$

South Peds: 0

South Entering: 144

South Leg Total: 264

Comments

Main St @ Remark Dr

Total Count Diagram

Municipality: Kingsville
Site #: 0000000007
Intersection: Main St & Remark Dr
TFR File #: 7
Count date: 1-Nov-2018

Weather conditions:
 Rain
Person(s) who counted:
 Cam

**** Signalized Intersection ****

Major Road: Main St runs W/E

North Leg Total: 553
 North Entering: 261
 North Peds: 107
 Peds Cross: $\nlessgtr$

	1	2	2	5
Heavys	1	2	2	5
Trucks	1	0	0	1
Cars	144	51	60	255
Totals	146	53	62	



	2	3	287
Heavys	2		
Trucks	3		
Cars			287
Totals			292

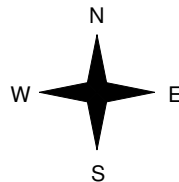
East Leg Total: 8405
 East Entering: 4100
 East Peds: 9
 Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
47	30	3914	3991



Main St

Heavys	Trucks	Cars	Totals
1	1	135	137
42	26	3517	3585
7	4	318	329
50	31	3970	



Wigle Ave



Cars	Trucks	Heavys	Totals
67	0	1	68
3444	24	38	3506
489	13	24	526
4000	37	63	

Main St



Cars	Trucks	Heavys	Totals
4195	41	69	4305

Peds Cross: $\nlessgtr$
 West Peds: 30
 West Entering: 4051
 West Leg Total: 8042

Cars	Trucks	Heavys	Totals
858	17	33	908



Cars	Trucks	Heavys	Totals
326	5	8	339
85	2	0	87
618	15	25	658
1029	22	33	

Peds Cross: $\nlessgtr$
 South Peds: 59
 South Entering: 1084
 South Leg Total: 1992

Comments

Jasperson Dr @ Main St

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 8:00:00

To: 9:00:00

Municipality: Kingsville

Site #: 0000000005

Intersection: Main St & Jasperson Dr

TFR File #: 5

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

**** Signalized Intersection ****

Major Road: Main St runs W/E

North Leg Total: 219

North Entering: 150

North Peds: 2

Peds Cross: $\nlessgtr$

Heavys	0	0	0	0
Trucks	1	0	0	1
Cars	45	18	86	149
Totals	46	18	86	

Heavys	3
Trucks	1
Cars	65
Totals	69

East Leg Total: 888

East Entering: 401

East Peds: 2

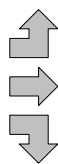
Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
11	5	389	405

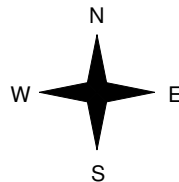


Main St

Heavys	Trucks	Cars	Totals
2	0	16	18
8	2	377	387
2	2	40	44
12	4	433	



East Kingsville Square



Jasperson Dr



Main St

Cars	Trucks	Heavys	Totals
45	1	1	47
326	2	11	339
15	0	0	15
386	3	12	

Cars	Trucks	Heavys	Totals
474	3	10	487

Peds Cross: $\nlessgtr$

West Peds: 0

West Entering: 449

West Leg Total: 854

Cars	73	Cars	18	4	11	33
Trucks	2	Trucks	2	0	1	3
Heavys	2	Heavys	0	0	2	2
Totals	77	Totals	20	4	14	

Peds Cross: $\nlessgtr$

South Peds: 6

South Entering: 38

South Leg Total: 115

Comments

Jasperson Dr @ Main St

Mid-day Peak Diagram

Specified Period

From: 11:00:00

To: 13:00:00

One Hour Peak

From: 12:00:00

To: 13:00:00

Municipality: Kingsville

Site #: 0000000005

Intersection: Main St & Jasperson Dr

TFR File #: 5

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs W/E

North Leg Total: 305

North Entering: 150

North Peds: 1

Peds Cross: $\times$

Heavys	2	0	0	2
Trucks	0	1	1	2
Cars	37	22	87	146
Totals	39	23	88	

Heavys 2

Trucks 4

Cars 149

Totals 155

East Leg Total: 1162

East Entering: 591

East Peds: 0

Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
13	7	513	533

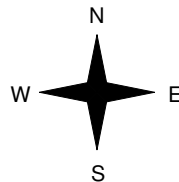


Main St

Heavys	Trucks	Cars	Totals
0	1	18	19
9	5	435	449
1	4	31	36
10	10	484	



East Kingsville Square



Jasperson Dr



Cars	Trucks	Heavys	Totals
105	2	1	108
444	4	11	459
21	2	1	24
570	8	13	

Main St



Cars	Trucks	Heavys	Totals
554	8	9	571

Peds Cross: $\times$

West Peds: 5

West Entering: 504

West Leg Total: 1037

Cars	74	Cars	32	26	32	90
Trucks	7	Trucks	3	1	2	6
Heavys	2	Heavys	0	1	0	1
Totals	83	Totals	35	28	34	



Peds Cross: $\times$

South Peds: 9

South Entering: 97

South Leg Total: 180

Comments

Jasperson Dr @ Main St

Afternoon Peak Diagram

Specified Period

From: 14:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Kingsville

Site #: 0000000005

Intersection: Main St & Jasperson Dr

TFR File #: 5

Count date: 1-Nov-2018

Weather conditions:

Rain

Person(s) who counted:

Cam

** Signalized Intersection **

Major Road: Main St runs W/E

North Leg Total: 387

North Entering: 189

North Peds: 2

Peds Cross: $\times$

	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	0	0	0	0
South	75	12	102	189
West	75	12	102	189



	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	0	0	0	0
South	198	0	0	198
West	198	0	0	198

East Leg Total: 1191

East Entering: 633

East Peds: 1

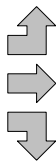
Peds Cross: $\times$

Heavys	Trucks	Cars	Totals
3	3	586	592

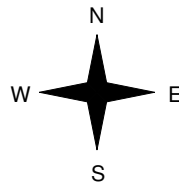


Main St

Heavys	Trucks	Cars	Totals
0	0	56	56
4	2	439	445
0	0	37	37
4	2	532	532



East Kingsville Square



Cars	Trucks	Heavys	Totals
127	0	0	127
481	3	3	487
19	0	0	19
627	3	3	633

Main St



Cars	Trucks	Heavys	Totals
552	2	4	558

Peds Cross: $\times$

West Peds: 3

West Entering: 538

West Leg Total: 1130

Cars	Trucks	Cars	Trucks	Cars	Trucks	Totals
68	0	30	0	15	11	56
0	0	0	0	0	0	0
0	0	0	0	0	0	0
68	0	30	0	15	11	56



Peds Cross: $\times$

South Peds: 4

South Entering: 56

South Leg Total: 124

Comments

Jasperson Dr @ Main St

Total Count Diagram

Municipality: Kingsville
Site #: 0000000005
Intersection: Main St & Jasperson Dr
TFR File #: 5
Count date: 1-Nov-2018

Weather conditions:
 Rain
Person(s) who counted:
 Cam

**** Signalized Intersection ****

Major Road: Main St runs W/E

North Leg Total: 2354
 North Entering: 1255
 North Peds: 18
 Peds Cross: $\nlessgtr$

	Heavys	Trucks	Cars	Totals
North	6	0	4	10
East	5	2	6	13
South	389	129	714	1232
Totals	400	131	724	



	Heavys	Trucks	Cars	Totals
North	9	8	1082	1099
East	5	2	6	13
South	389	129	714	1232
Totals	400	131	724	

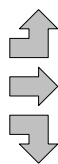
East Leg Total: 8516
 East Entering: 4172
 East Peds: 9
 Peds Cross: $\nlessgtr$

Heavys	Trucks	Cars	Totals
65	43	3815	3923

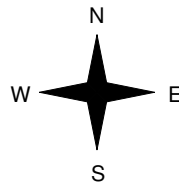


Main St

Heavys	Trucks	Cars	Totals
4	2	235	241
62	30	3378	3470
5	9	250	264
71	41	3863	



East Kingsville Square



Cars	Trucks	Heavys	Totals
734	5	3	742
3220	32	58	3310
115	4	1	120
4069	41	62	

Main St



Cars	Trucks	Heavys	Totals
4234	42	68	4344

Peds Cross: $\nlessgtr$
 West Peds: 37
 West Entering: 3975
 West Leg Total: 7898

	Cars	Trucks	Heavys	Totals
West	494	15	6	515
East	206	6	1	213
South	113	1	2	116
North	142	6	2	150
Totals	461	13	5	

Peds Cross: $\nlessgtr$
 South Peds: 123
 South Entering: 479
 South Leg Total: 994

Comments

Appendix B

FUTURE TRAFFIC, DEVELOPMENT TRAFFIC AND TOTAL TRAFFIC VOLUMES

183 Main Street Residential Development

Highschool Access

Refer to Spencer Traffic Report

IN	304	84
AM		
PM		

Remark Dr

19	8	8	8
29	2	8	8

Jasper

86	14	116
52	21	98

Access Road

183 MAIN ST E

44	158	0	0	0
576	518	0	0	0
0	0	0	0	0

UN SIGNALIZED

27.36	12.54
575.7	472
50.16	33.06

SIGNALIZED

6	8
376	642
60	79

SIGNALIZED

54	144.8
386	555.2
17	21.66

MAIN STREET E

Wigle Ave

42	3	70
55	19	90

Square Mall Access

LEGEND		
AM	XX	XX
PM		

PROJEC T NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2026 BACKGROUND TRAFFIC

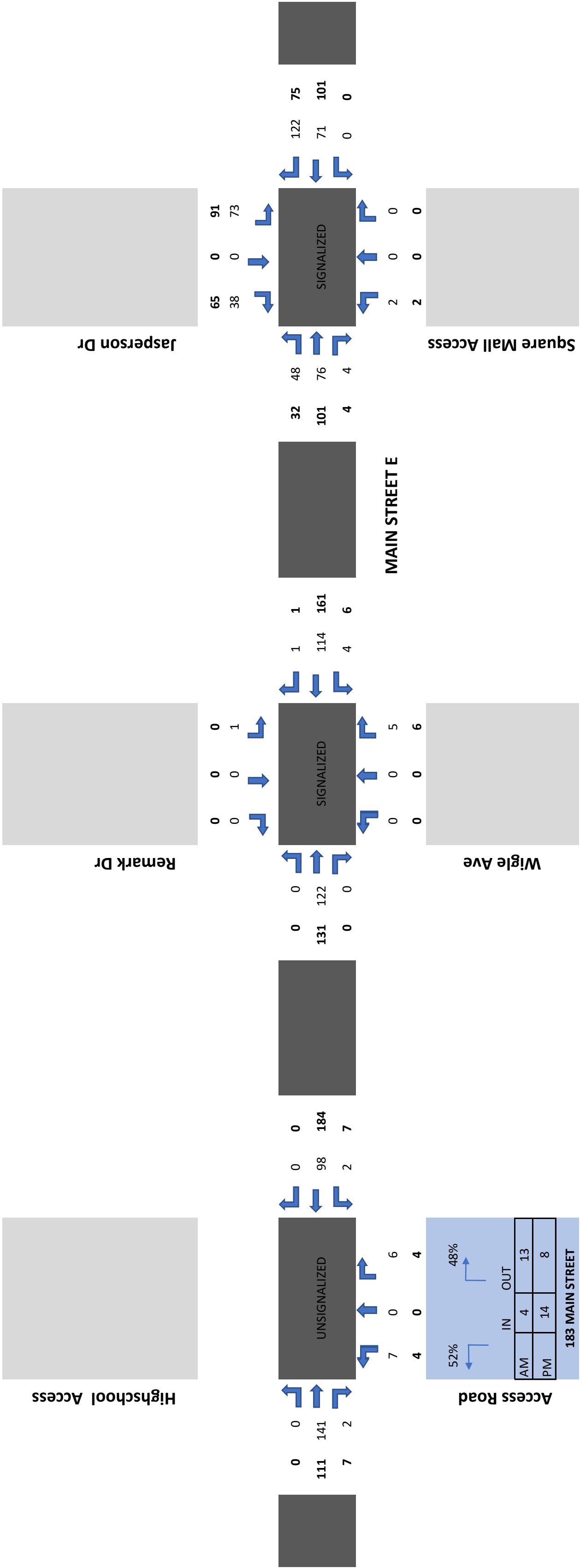
DATE: 11-Oct-19

PROJECT NO: 19-098

FIGURE NO: Figure 2



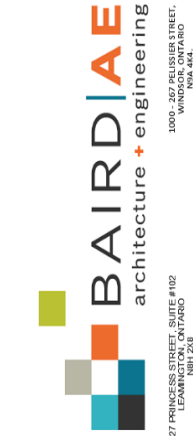
183 Main Street Residential Development



LEGEND			
AM	PM	XX	XX

PROJECT NAME 183 Main Street E (Townhouses/Condominium)

SHEET TITLE 2026 DEVELOPMENT TRAFFIC

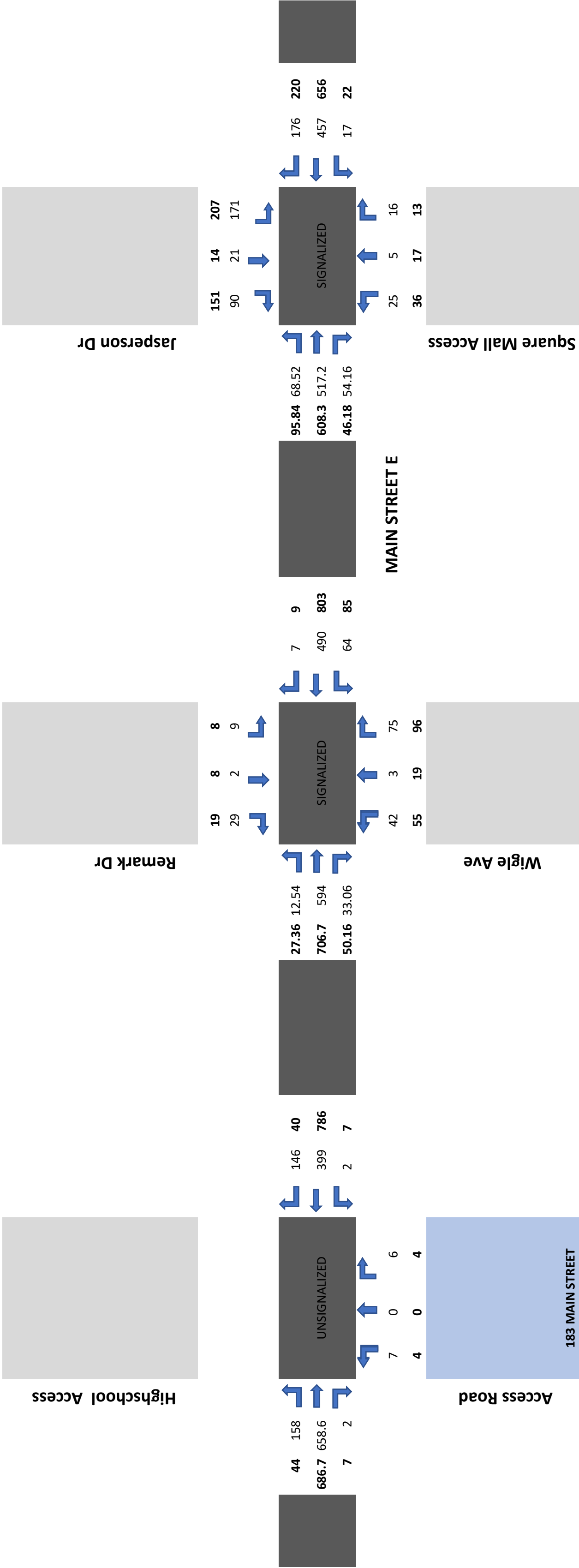


DATE: 11-Oct-19

PROJECT NO: 19-098

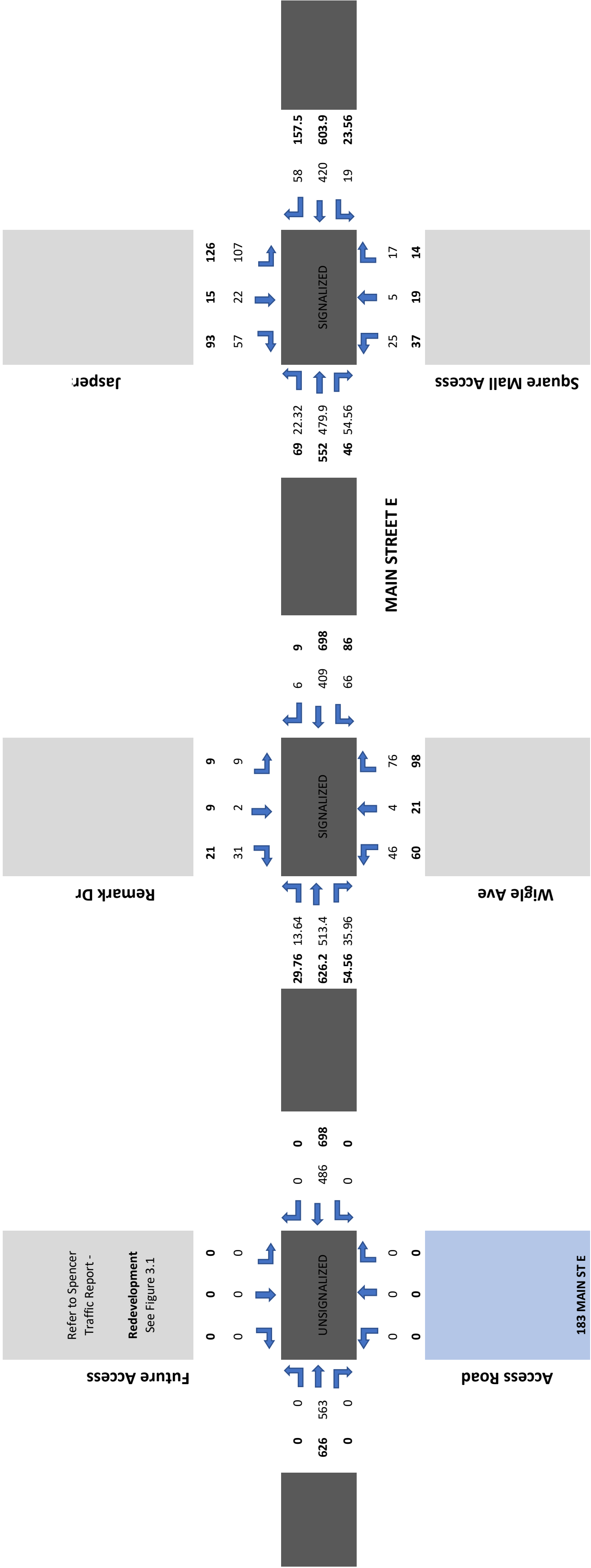
FIGURE NO: Figure 2.1

183 Main Street Residential Development



PROJECT NAME	183 Main Street E (Townhouses/Condominium)	DATE:	11-Oct-19
SHEET TITLE	2026 TOTAL TRAFFIC	PROJECT NO:	19-098
		FIGURE NO:	Figure 2.2

183 Main Street Residential Development

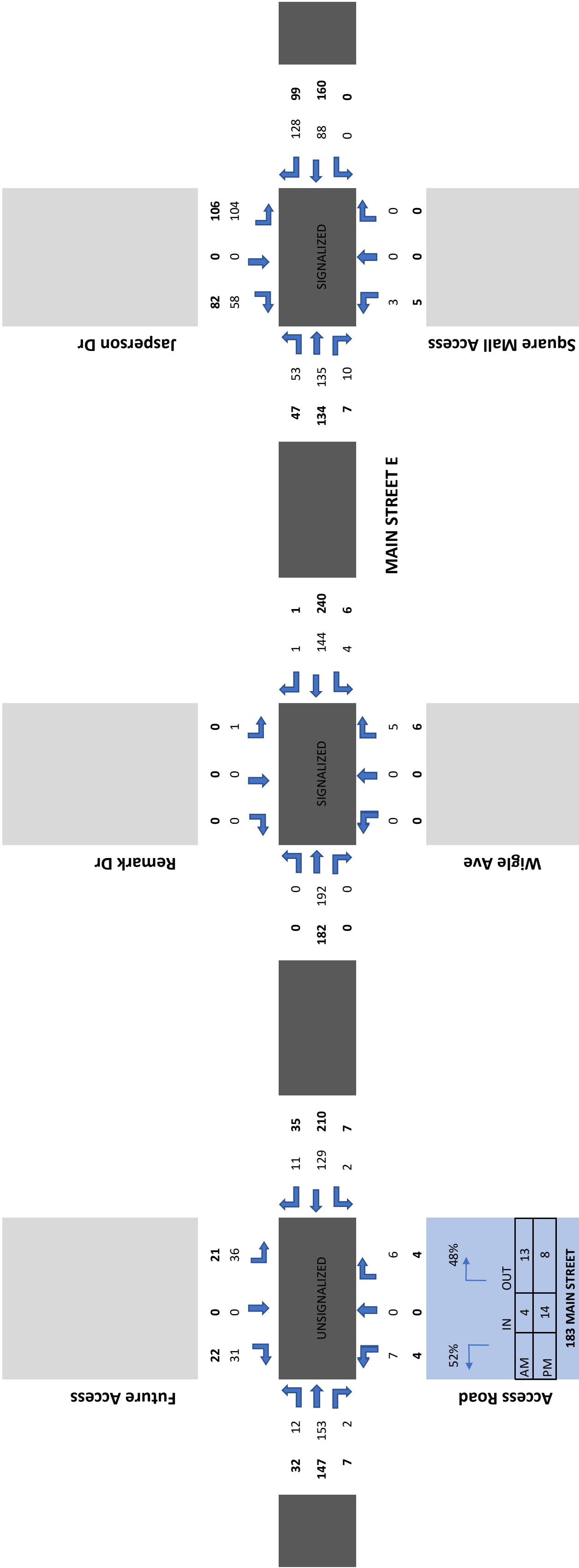


LEGEND			
AM	XX		
PM	XX		

PROJECT NAME 183 Main Street E (Townhouses/Condominium)		DATE: 11-Oct-19
SHEET TITLE 2031 BACKGROUND TRAFFIC		PROJECT NO: 19-098
		FIGURE NO: Figure 3



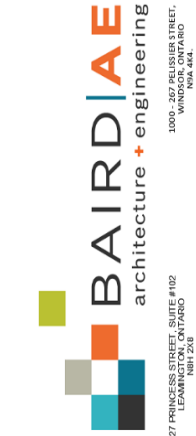
183 Main Street Residential Development



LEGEND
AM
PM
XX
XX

PROJECT NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2031 DEVELOPMENT TRAFFIC

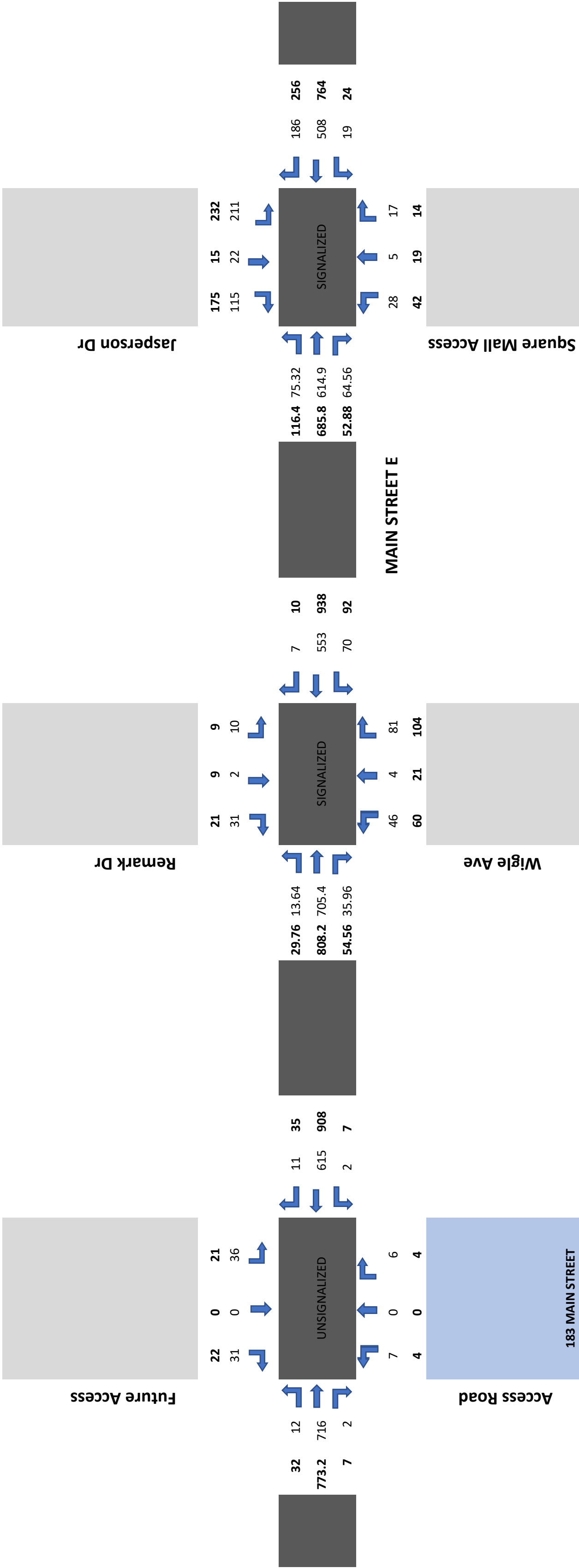


DATE: 11-Oct-19

PROJECT NO: 19-098

FIGURE NO: Figure 3.1

183 Main Street Residential Development



LEGEND			
AM	XX		
PM			
			XX

PROJECT NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2031 TOTAL TRAFFIC



DATE: 11-Oct-19

PROJECT NO: 19-098

FIGURE NO: Figure 3.2

183 Main Street Residential Development

Highschool Access

Refer to Spencer Traffic Report

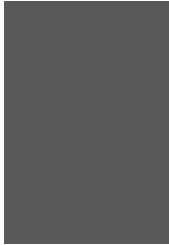
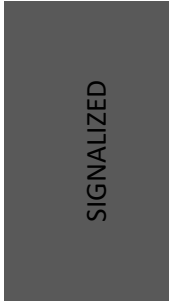
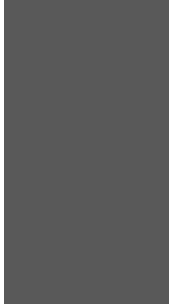
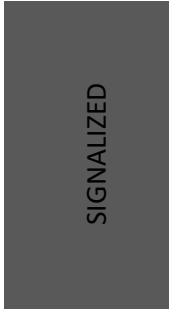
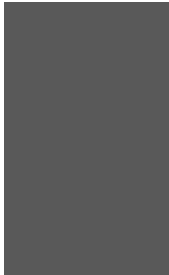
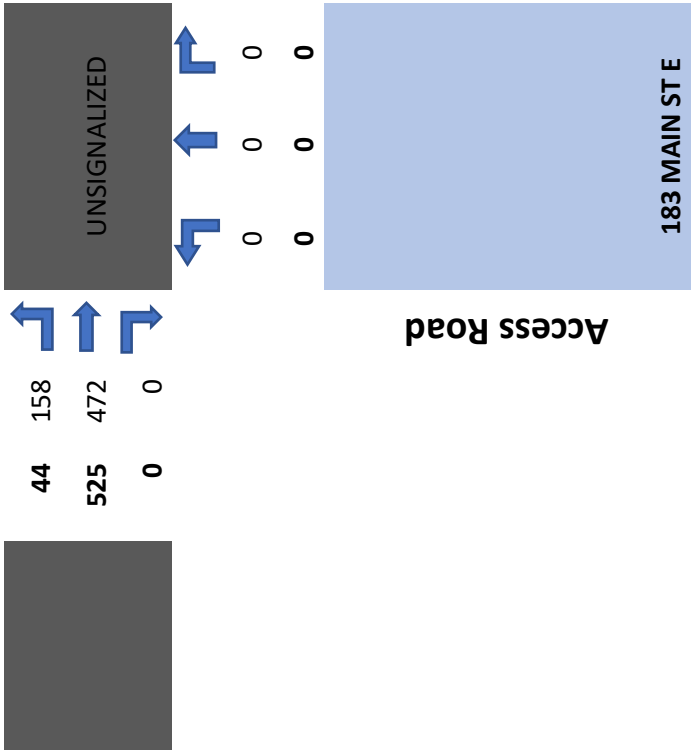
IN	304	84
AM		
PM		

Remark Dr

18	7	7
26	2	7

Jasperson Dr

78	12	106
48	19	89



MAIN STREET E



LEGEND			
AM	XX		
PM	XX		

PROPIECT NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2021 BACKGROUND TRAFFIC

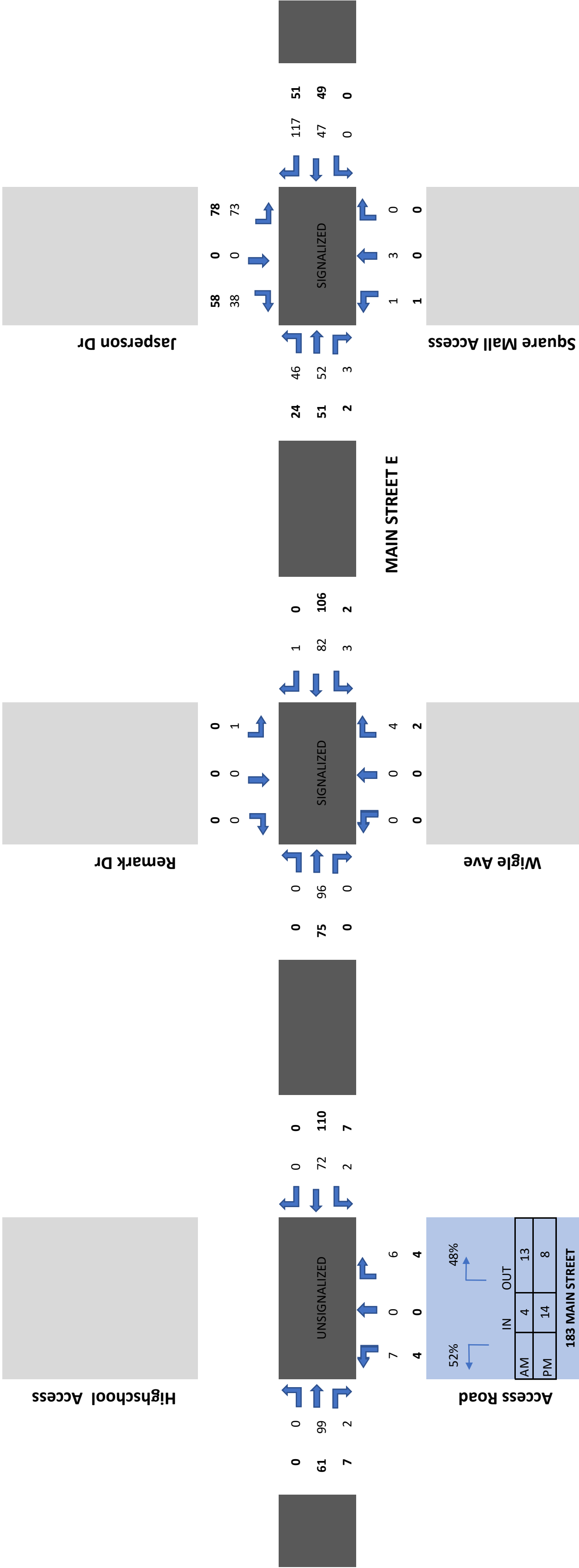
DATE: 11-Oct-19

PROJECT NO: 19-098

FIGURE NO: Figure 1



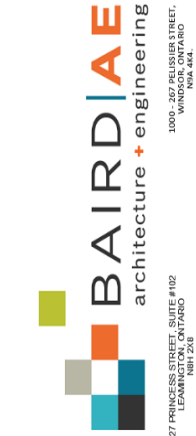
183 Main Street Residential Development



LEGEND
AM
PM
XX

PROJECT NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2021 DEVELOPMENT TRAFFIC

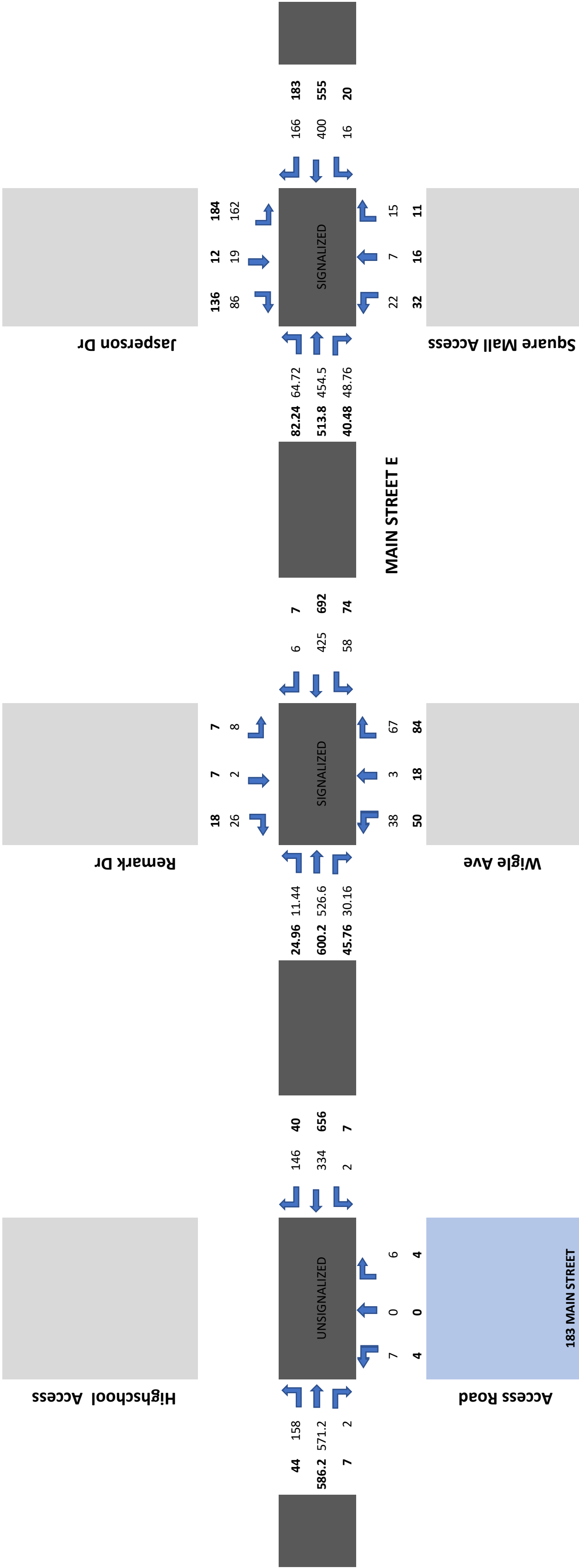


DATE: 11-Oct-19

PROJECT NO: 19-098

FIGURE NO: Figure 1.1

183 Main Street Residential Development



LEGEND			
AM	PM	XX	XX

PROJECT NAME 183 Main Street E
(Townhouses/Condominium)

SHEET TITLE 2021 TOTAL TRAFFIC



DATE: 11-Oct-19
PROJECT NO: 19-098
FIGURE NO: Figure 1.2

Appendix C

CAPACITY ANALYSIS

HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/School & Main

183 MAIN STREET E
2021 TOTAL AM TRAFFIC VOLUMES

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	571	2	2	334	146	7	0	6	0	0	0
Future Volume (Veh/h)	158	571	2	2	334	146	7	0	6	0	0	0
Sign Control	Free				Free				Stop		Stop	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	172	621	2	2	363	159	8	0	7	0	0	0
Pedestrians												2
Lane Width (m)												0.0
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage (veh)	2			2								
Upstream signal (m)				310								
pX, platoon unblocked												
vC, conflicting volume	365			623			1333	1335	622	1420	1416	444
vC1, stage 1 conf vol							966	966			448	448
vC2, stage 2 conf vol							367	369			972	967
vCu, unblocked vol	365			623			1333	1335	622	1420	1416	444
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)							6.1	5.5			6.3	5.5
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	84			100			97	100	99	100	100	100
cM capacity (veh/h)	1096			764			240	256	490	213	260	597
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	172	623	2	522	15							
Volume Left	172	0	2	0	8							
Volume Right	0	2	0	159	7							
cSH	1096	1700	764	1700	315							
Volume to Capacity	0.16	0.37	0.00	0.31	0.05							
Queue Length 95th (m)	4.4	0.0	0.1	0.0	1.2							
Control Delay (s)	8.9	0.0	9.7	0.0	17.0							
Lane LOS	A			A			C					
Approach Delay (s)	1.9			0.0			17.0					
Approach LOS						C						
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			48.6%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main

183 MAIN STREET E
2021 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	527	30	58	425	6	38	3	67	8	2	26
Future Volume (vph)	11	527	30	58	425	6	38	3	67	8	2	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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	1.00	1.00			1.00							
Frt		0.992			0.998			0.916			0.903	
Flt Protected	0.950			0.950				0.983			0.989	
Satd. Flow (prot)	1755	1653	0	1825	1792	0	0	1730	0	0	1437	0
Flt Permitted	0.469			0.257				0.880			0.929	
Satd. Flow (perm)	865	1653	0	494	1792	0	0	1549	0	0	1350	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			73			28	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	12	573	33	63	462	7	41	3	73	9	2	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	606	0	63	469	0	0	117	0	0	39	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	45.4	37.4		47.9	44.1			21.0			21.0	
Actuated g/C Ratio	0.57	0.47		0.60	0.55			0.26			0.26	
v/c Ratio	0.02	0.78		0.15	0.48			0.25			0.10	

Lanes, Volumes, Timings
9: Wigle Ave/Remark Dr & Main

183 MAIN STREET E
2021 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	4.6	25.7		5.8	12.6			13.9			14.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.6	25.7		5.8	12.6			13.9			14.6	
LOS	A	C		A	B			B			B	
Approach Delay		25.3			11.8			13.9			14.6	
Approach LOS		C			B			B			B	
Queue Length 50th (m)	0.7	81.3		3.7	38.8			5.4			1.3	
Queue Length 95th (m)	1.8	103.5		5.6	67.4			20.7			9.9	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	628	775		465	987			554			459	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.78		0.14	0.48			0.21			0.08	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 18.4

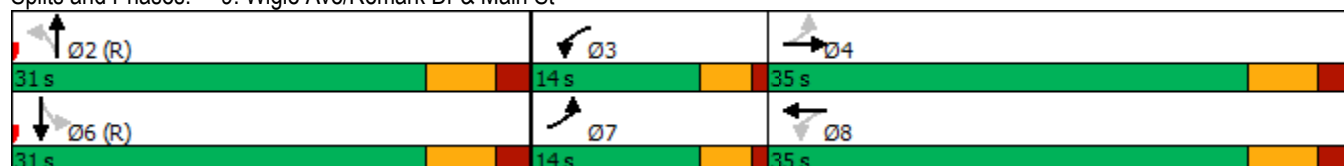
Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Wigle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main

183 MAIN STREET E
2021 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	454	49	16	400	166	22	7	15	162	19	86
Future Volume (vph)	65	454	49	16	400	166	22	7	15	162	19	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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	1.00	1.00		1.00	0.99			1.00		1.00		
Frt		0.985			0.956			0.955			0.878	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1789	1850	0	1789	1788	0	0	1747	0	1789	1654	0
Flt Permitted	0.202			0.272				0.863		0.726		
Satd. Flow (perm)	380	1850	0	510	1788	0	0	1545	0	1365	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			40			16			93	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	493	53	17	435	180	24	8	16	176	21	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	546	0	17	615	0	0	48	0	176	114	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	27.1	27.1		27.1	27.1			27.3		27.3	27.3	
Actuated g/C Ratio	0.40	0.40		0.40	0.40			0.41		0.41	0.41	
v/c Ratio	0.46	0.73		0.08	0.82			0.08		0.32	0.16	
Control Delay	23.6	21.8		10.8	26.0			11.8		17.7	6.2	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main

183 MAIN STREET E
2021 TOTAL AM TRAFFIC VOLUMES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	23.6	21.8		10.8	26.0			11.8		17.7	6.2	
LOS	C	C		B	C			B		B	A	
Approach Delay		22.0			25.6			11.8			13.2	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	6.5	56.2		1.3	64.4			2.5		15.4	1.6	
Queue Length 95th (m)	15.7	72.5		4.0	84.8			10.1		35.3	12.5	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	174	853		234	841			662		577	753	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.41	0.64		0.07	0.73			0.07		0.31	0.15	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 21.5

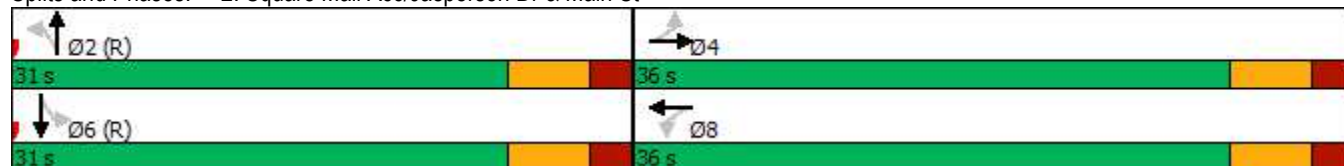
Intersection LOS: C

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/School & Main St

183 MAIN STREET E
2021 TOTAL PM TRAFFIC VOLUMES

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	586	7	7	656	40	4	0	4	0	0	0
Future Volume (Veh/h)	44	586	7	7	656	40	4	0	4	0	0	0
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	637	8	8	713	43	4	0	4	0	0	0
Pedestrians												2
Lane Width (m)												0.0
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage (veh)	2			2								
Upstream signal (m)				310								
pX, platoon unblocked												
vC, conflicting volume	715			645			1466	1468	641	1490	1494	736
vC1, stage 1 conf vol							737	737			752	752
vC2, stage 2 conf vol							729	731			737	741
vCu, unblocked vol	715			645			1466	1468	641	1490	1494	736
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)							6.1	5.5			6.3	5.5
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	94			99			99	100	99	100	100	100
cM capacity (veh/h)	804			748			278	292	478	258	300	406
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	48	645	8	756	8							
Volume Left	48	0	8	0	4							
Volume Right	0	8	0	43	4							
cSH	804	1700	748	1700	351							
Volume to Capacity	0.06	0.38	0.01	0.44	0.02							
Queue Length 95th (m)	1.5	0.0	0.3	0.0	0.6							
Control Delay (s)	9.8	0.0	9.9	0.0	15.5							
Lane LOS	A			A			C					
Approach Delay (s)	0.7			0.1			15.5					
Approach LOS							C					
Intersection Summary												
Average Delay				0.5								
Intersection Capacity Utilization				47.0%		ICU Level of Service				A		
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2021 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	600	46	74	692	7	50	18	84	7	7	18
Future Volume (vph)	25	600	46	74	692	7	50	18	84	7	7	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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		1.00			1.00							
Frt		0.989			0.998			0.926			0.925	
Flt Protected	0.950			0.950				0.984			0.989	
Satd. Flow (prot)	1755	1651	0	1825	1792	0	0	1750	0	0	1512	0
Flt Permitted	0.287			0.267				0.877			0.863	
Satd. Flow (perm)	530	1651	0	513	1792	0	0	1560	0	0	1320	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			1			80			20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	27	652	50	80	752	8	54	20	91	8	8	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	702	0	80	760	0	0	165	0	0	36	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	54.8	46.8		56.7	51.3			11.6			11.6	
Actuated g/C Ratio	0.68	0.58		0.71	0.64			0.14			0.14	
v/c Ratio	0.06	0.73		0.17	0.66			0.56			0.17	

Lanes, Volumes, Timings
9: Wigle Ave/Remark Dr & Main St

183 MAIN STREET E
2021 TOTAL PM TRAFFIC VOLUMES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	4.0	19.7		4.4	15.1			24.5			19.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.0	19.7		4.4	15.1			24.5			19.4	
LOS	A	B		A	B			C			B	
Approach Delay		19.1			14.1			24.5			19.4	
Approach LOS		B			B			C			B	
Queue Length 50th (m)	0.9	74.6		2.7	49.0			12.8			2.3	
Queue Length 95th (m)	3.5	#163.5		7.8	#170.0			29.6			9.9	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	531	966		534	1150			536			421	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.05	0.73		0.15	0.66			0.31			0.09	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 17.3

Intersection LOS: B

Intersection Capacity Utilization 70.7%

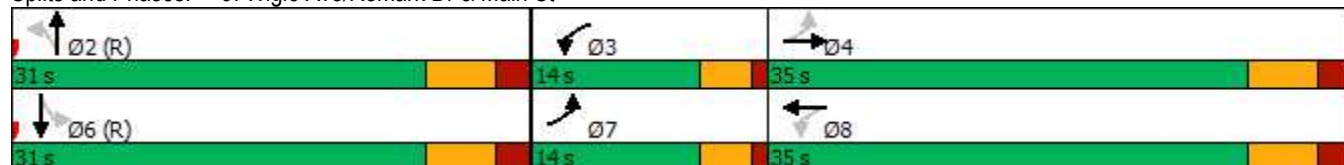
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Wigle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2021 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	514	40	20	555	183	32	16	11	184	12	136
Future Volume (vph)	82	514	40	20	555	183	32	16	11	184	12	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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		1.00		1.00	0.99			1.00		1.00		
Frt		0.989			0.963			0.975			0.862	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	1859	0	1789	1803	0	0	1782	0	1789	1624	0
Flt Permitted	0.144			0.303				0.798		0.715		
Satd. Flow (perm)	271	1859	0	569	1803	0	0	1462	0	1344	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			32			12			148	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	559	43	22	603	199	35	17	12	200	13	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	602	0	22	802	0	0	64	0	200	161	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	33.8	33.8		33.8	33.8			20.6		20.6	20.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.31		0.31	0.31	
v/c Ratio	0.65	0.64		0.08	0.87			0.14		0.48	0.27	
Control Delay	40.3	15.8		9.3	26.6			15.6		24.0	5.6	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2021 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	40.3	15.8		9.3	26.6			15.6		24.0	5.6	
LOS	D	B		A	C			B		C	A	
Approach Delay		18.9			26.1			15.6			15.8	
Approach LOS		B			C			B			B	
Queue Length 50th (m)	7.7	50.8		1.3	79.4			5.0		21.8	1.2	
Queue Length 95th (m)	#32.8	89.2		5.1	#161.5			12.7		38.8	12.9	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	136	940		286	924			546		495	692	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.65	0.64		0.08	0.87			0.12		0.40	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 21.3

Intersection LOS: C

Intersection Capacity Utilization 94.9%

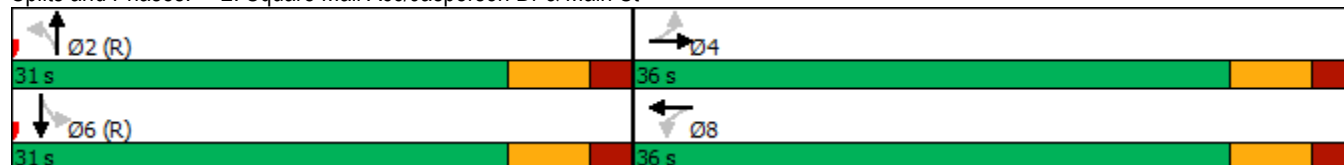
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/School & Main St

183 MAIN STREET E
2026 TOTAL AM TRAFFIC VOLUMES

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	158	659	2	2	399	146	7	0	6	0	0	0	
Future Volume (Veh/h)	158	659	2	2	399	146	7	0	6	0	0	0	
Sign Control	Free				Free				Stop		Stop		
Grade	0%				0%				0%		0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	172	716	2	2	434	159	8	0	7	0	0	0	
Pedestrians												2	
Lane Width (m)												0.0	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)													
Median type	TWLTL			TWLTL									
Median storage (veh)	2			2									
Upstream signal (m)				310									
pX, platoon unblocked													
vC, conflicting volume	436			718			1499	1501	717	1586	1582	516	
vC1, stage 1 conf vol							1061	1061			520	520	
vC2, stage 2 conf vol							438	440			1067	1062	
vCu, unblocked vol	436			718			1499	1501	717	1586	1582	516	
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3	
tC, 2 stage (s)							6.1	5.5			6.3	5.5	
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4	
p0 queue free %	83			100			96	100	98	100	100	100	
cM capacity (veh/h)	1030			699			208	226	433	184	231	544	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1								
Volume Total	172	718	2	593	15								
Volume Left	172	0	2	0	8								
Volume Right	0	2	0	159	7								
cSH	1030	1700	699	1700	274								
Volume to Capacity	0.17	0.42	0.00	0.35	0.05								
Queue Length 95th (m)	4.8	0.0	0.1	0.0	1.4								
Control Delay (s)	9.2	0.0	10.2	0.0	18.9								
Lane LOS	A			B	C								
Approach Delay (s)	1.8			0.0	18.9								
Approach LOS						C							
Intersection Summary													
Average Delay			1.3										
Intersection Capacity Utilization			52.0%		ICU Level of Service				A				
Analysis Period (min)			15										

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2026 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	594	33	64	490	7	42	3	75	9	2	29
Future Volume (vph)	13	594	33	64	490	7	42	3	75	9	2	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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	1.00	1.00			1.00							
Frt		0.992			0.998			0.915			0.902	
Flt Protected	0.950			0.950				0.983			0.989	
Satd. Flow (prot)	1755	1653	0	1825	1792	0	0	1728	0	0	1435	0
Flt Permitted	0.455			0.280				0.866			0.886	
Satd. Flow (perm)	839	1653	0	538	1792	0	0	1522	0	0	1285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			82			32	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	14	646	36	70	533	8	46	3	82	10	2	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	682	0	70	541	0	0	131	0	0	44	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	54.7	46.7		57.3	53.4			11.7			11.7	
Actuated g/C Ratio	0.68	0.58		0.72	0.67			0.15			0.15	
v/c Ratio	0.02	0.71		0.14	0.45			0.45			0.20	

Lanes, Volumes, Timings
9: Wigle Ave/Remark Dr & Main St

183 MAIN STREET E
2026 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	3.4	17.9		3.9	8.8			18.9			17.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	3.4	17.9		3.9	8.8			18.9			17.0	
LOS	A	B		A	A			B			B	
Approach Delay		17.6			8.3			18.9			17.0	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	0.5	73.6		2.5	30.4			7.1			1.7	
Queue Length 95th (m)	2.0	128.0		6.2	82.2			22.5			10.5	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	713	966		549	1195			526			418	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.71		0.13	0.45			0.25			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.9

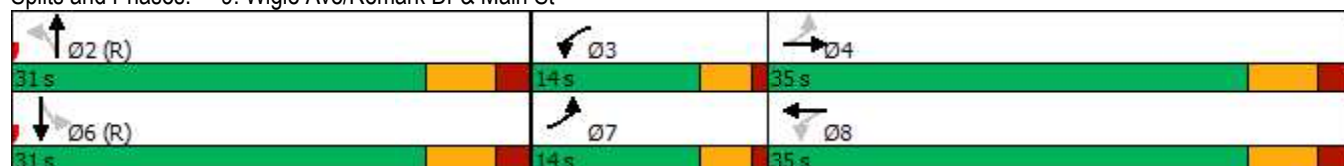
Intersection LOS: B

Intersection Capacity Utilization 64.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Wigle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2026 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	517	54	17	457	176	25	5	16	171	21	90
Future Volume (vph)	69	517	54	17	457	176	25	5	16	171	21	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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	1.00	1.00		1.00	0.99			0.99		1.00		
Frt		0.986			0.958			0.953			0.879	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	1852	0	1789	1792	0	0	1732	0	1789	1656	0
Flt Permitted	0.164			0.226				0.840		0.725		
Satd. Flow (perm)	309	1852	0	424	1792	0	0	1495	0	1361	1656	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			37			17			98	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	562	59	18	497	191	27	5	17	186	23	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	621	0	18	688	0	0	49	0	186	121	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.0	29.0		29.0	29.0			25.4		25.4	25.4	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.38		0.38	0.38	
v/c Ratio	0.56	0.77		0.10	0.86			0.09		0.36	0.18	
Control Delay	31.2	22.5		11.0	28.1			12.1		19.2	6.4	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2026 TOTAL AM TRAFFIC VOLUMES

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	31.2	22.5		11.0	28.1			12.1		19.2	6.4	
LOS	C	C		B	C			B		B	A	
Approach Delay		23.4			27.6			12.1			14.1	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	6.8	62.7		1.3	71.5			2.7		17.6	1.9	
Queue Length 95th (m)	#21.7	89.4		4.4	104.9			9.9		36.8	12.8	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	142	862		195	848			605		541	718	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.53	0.72		0.09	0.81			0.08		0.34	0.17	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 74.4%

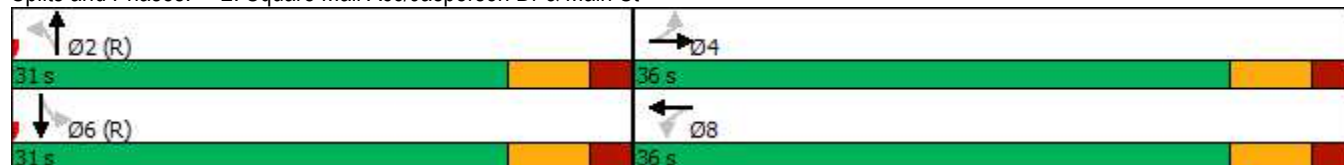
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/School & Main St

183 MAIN STREET E
2026 TOTAL PM TRAFFIC VOLUMES

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	687	7	7	786	40	4	0	4	0	0	0
Future Volume (Veh/h)	44	687	7	7	786	40	4	0	4	0	0	0
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	747	8	8	854	43	4	0	4	0	0	0
Pedestrians												2
Lane Width (m)												0.0
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage veh	2			2								
Upstream signal (m)				310								
pX, platoon unblocked												
vC, conflicting volume	856			755			1717	1719	751	1740	1744	878
vC1, stage 1 conf vol							847	847			894	894
vC2, stage 2 conf vol							870	872			847	851
vCu, unblocked vol	856			755			1717	1719	751	1740	1744	878
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)							6.1	5.5			6.3	5.5
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	93			99			98	100	99	100	100	100
cM capacity (veh/h)	709			675			226	245	414	212	255	336
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1							
Volume Total	48	755	8	897	8							
Volume Left	48	0	8	0	4							
Volume Right	0	8	0	43	4							
cSH	709	1700	675	1700	293							
Volume to Capacity	0.07	0.44	0.01	0.53	0.03							
Queue Length 95th (m)	1.7	0.0	0.3	0.0	0.7							
Control Delay (s)	10.4	0.0	10.4	0.0	17.6							
Lane LOS	B		B		C							
Approach Delay (s)	0.6		0.1		17.6							
Approach LOS					C							
Intersection Summary												
Average Delay				0.4								
Intersection Capacity Utilization				53.8%	ICU Level of Service				A			
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2026 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	707	50	85	803	9	55	19	96	8	8	19
Future Volume (vph)	27	707	50	85	803	9	55	19	96	8	8	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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		1.00			1.00							
Frt		0.990			0.998			0.924			0.927	
Flt Protected	0.950			0.950				0.984			0.989	
Satd. Flow (prot)	1755	1652	0	1825	1792	0	0	1747	0	0	1516	0
Flt Permitted	0.204			0.188				0.877			0.846	
Satd. Flow (perm)	377	1652	0	361	1792	0	0	1557	0	0	1297	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			1			84			21	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	29	768	54	92	873	10	60	21	104	9	9	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	822	0	92	883	0	0	185	0	0	39	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	54.0	46.0		56.2	50.7			12.2			12.2	
Actuated g/C Ratio	0.68	0.58		0.70	0.63			0.15			0.15	
v/c Ratio	0.08	0.86		0.24	0.78			0.60			0.18	

Lanes, Volumes, Timings
9: Wigle Ave/Remark Dr & Main St

183 MAIN STREET E
2026 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	4.5	28.6		5.4	20.2			25.6			18.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.5	28.6		5.4	20.2			25.6			18.9	
LOS	A	C		A	C			C			B	
Approach Delay		27.8			18.8			25.6			18.9	
Approach LOS		C			B			C			B	
Queue Length 50th (m)	1.0	102.5		3.3	67.6			15.2			2.6	
Queue Length 95th (m)	3.9	#214.3		9.3	#220.9			33.0			10.3	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	438	952		440	1136			538			414	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.07	0.86		0.21	0.78			0.34			0.09	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 23.2

Intersection LOS: C

Intersection Capacity Utilization 77.9%

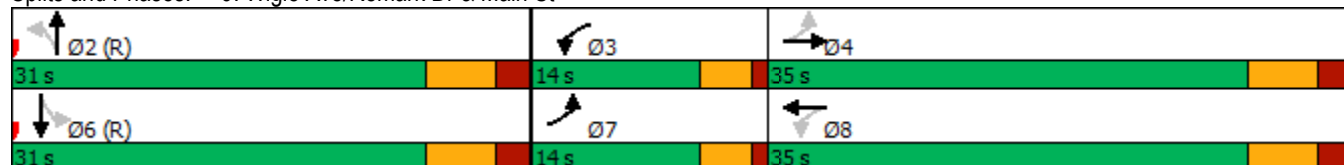
ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Wigle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2026 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	608	46	22	656	220	36	17	13	207	14	151
Future Volume (vph)	96	608	46	22	656	220	36	17	13	207	14	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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		1.00			0.99			1.00		1.00		
Frt		0.989			0.962			0.973			0.863	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	1859	0	1789	1801	0	0	1775	0	1789	1625	0
Flt Permitted	0.106			0.262				0.764		0.711		
Satd. Flow (perm)	200	1859	0	493	1801	0	0	1394	0	1335	1625	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			32			14			129	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	661	50	24	713	239	39	18	14	225	15	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	711	0	24	952	0	0	71	0	225	179	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	37.8	37.8		37.8	37.8			16.6		16.6	16.6	
Actuated g/C Ratio	0.56	0.56		0.56	0.56			0.25		0.25	0.25	
v/c Ratio	0.93	0.68		0.09	0.92			0.20		0.68	0.36	
Control Delay	93.4	16.4		10.0	32.3			16.2		32.8	8.3	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2026 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	93.4	16.4		10.0	32.3			16.2		32.8	8.3	
LOS	F	B		A	C			B		C	A	
Approach Delay		26.3			31.7			16.2			21.9	
Approach LOS		C			C			B			C	
Queue Length 50th (m)	11.2	58.7		1.3	99.8			5.9		26.7	5.1	
Queue Length 95th (m)	#33.0	#138.8		5.9	#214.5			13.3		42.2	16.7	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	112	1052		278	1030			522		492	680	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.93	0.68		0.09	0.92			0.14		0.46	0.26	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 27.5

Intersection LOS: C

Intersection Capacity Utilization 103.8%

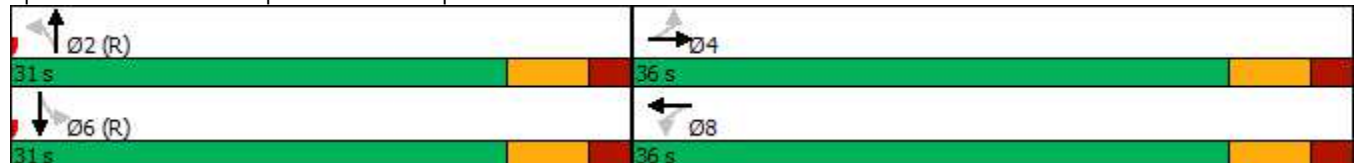
ICU Level of Service G

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/FUT ACC & Main St

183 MAIN STREET E
2031 TOTAL AM TRAFFIC VOLUMES

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	716	2	2	615	11	7	0	6	36	0	31
Future Volume (Veh/h)	12	716	2	2	615	11	7	0	6	36	0	31
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	778	2	2	668	12	8	0	7	39	0	34
Pedestrians												2
Lane Width (m)												3.7
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage (veh)	2			2								
Upstream signal (m)				310								
pX, platoon unblocked												
vC, conflicting volume	670			780			1511	1479	779	1491	1486	676
vC1, stage 1 conf vol							805	805			680	680
vC2, stage 2 conf vol							706	674			811	806
vCu, unblocked vol	670			780			1511	1479	779	1491	1486	676
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)							6.1	5.5			6.3	5.5
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	98			100			97	100	98	85	100	92
cM capacity (veh/h)	836			659			275	310	399	262	311	439
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	13	780	2	680	15	73						
Volume Left	13	0	2	0	8	39						
Volume Right	0	2	0	12	7	34						
cSH	836	1700	659	1700	322	323						
Volume to Capacity	0.02	0.46	0.00	0.40	0.05	0.23						
Queue Length 95th (m)	0.4	0.0	0.1	0.0	1.2	6.8						
Control Delay (s)	9.4	0.0	10.5	0.0	16.7	19.4						
Lane LOS	A			B			C			C		
Approach Delay (s)	0.2			0.0			16.7			19.4		
Approach LOS							C			C		
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			49.3%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2031 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	705	36	70	553	7	46	4	81	10	2	31
Future Volume (vph)	14	705	36	70	553	7	46	4	81	10	2	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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		1.00			1.00							
Frt		0.993			0.998			0.916			0.902	
Flt Protected	0.950			0.950				0.983			0.988	
Satd. Flow (prot)	1755	1654	0	1825	1792	0	0	1730	0	0	1432	0
Flt Permitted	0.412			0.214				0.864			0.863	
Satd. Flow (perm)	761	1654	0	411	1792	0	0	1520	0	0	1251	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			1			88			34	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	15	766	39	76	601	8	50	4	88	11	2	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	805	0	76	609	0	0	142	0	0	47	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	55.5	47.5		58.2	54.2			10.9			10.9	
Actuated g/C Ratio	0.69	0.59		0.73	0.68			0.14			0.14	
v/c Ratio	0.02	0.82		0.18	0.50			0.50			0.24	

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2031 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	3.4	23.5		4.2	9.4			20.3			17.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	3.4	23.5		4.2	9.4			20.3			17.5	
LOS	A	C		A	A			C			B	
Approach Delay		23.1			8.8			20.3			17.5	
Approach LOS		C			A			C			B	
Queue Length 50th (m)	0.5	96.0		2.5	34.1			8.0			1.9	
Queue Length 95th (m)	2.2	#194.2		6.9	99.6			23.8			11.0	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	675	983		477	1215			530			409	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.82		0.16	0.50			0.27			0.11	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.0

Intersection LOS: B

Intersection Capacity Utilization 71.3%

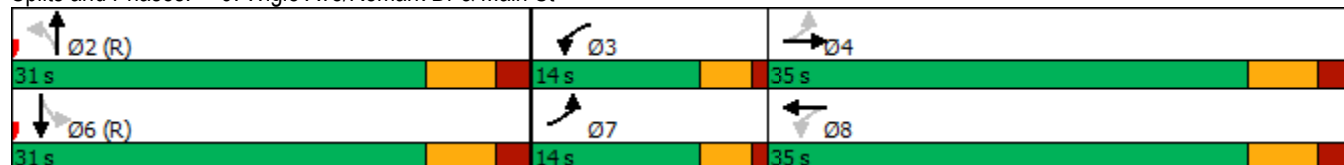
ICU Level of Service C

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Wgle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2031 TOTAL AM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	615	65	19	508	186	28	5	17	211	22	115
Future Volume (vph)	75	615	65	19	508	186	28	5	17	211	22	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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		1.00			0.99			0.99		1.00		
Frt		0.986			0.960			0.954			0.874	
Flt Protected	0.950			0.950				0.972		0.950		
Satd. Flow (prot)	1789	1852	0	1789	1797	0	0	1732	0	1789	1646	0
Flt Permitted	0.141			0.153				0.815		0.722		
Satd. Flow (perm)	266	1852	0	288	1797	0	0	1453	0	1355	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			35			18			125	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	668	71	21	552	202	30	5	18	229	24	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	739	0	21	754	0	0	53	0	229	149	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	31.1	31.1		31.1	31.1			23.3		23.3	23.3	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.35		0.35	0.35	
v/c Ratio	0.67	0.86		0.16	0.89			0.10		0.49	0.23	
Control Delay	44.8	27.6		13.3	30.0			12.3		22.2	5.9	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2031 TOTAL AM TRAFFIC VOLUMES

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	44.8	27.6		13.3	30.0			12.3		22.2	5.9	
LOS	D	C		B	C			B		C	A	
Approach Delay		29.3			29.5			12.3			15.8	
Approach LOS		C			C			B			B	
Queue Length 50th (m)	7.6	77.3		1.5	78.3			3.1		23.9	2.1	
Queue Length 95th (m)	#30.9	#147.4		5.9	#152.2			9.9		42.8	13.0	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	125	883		136	870			562		514	701	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.66	0.84		0.15	0.87			0.09		0.45	0.21	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 26.4

Intersection LOS: C

Intersection Capacity Utilization 89.8%

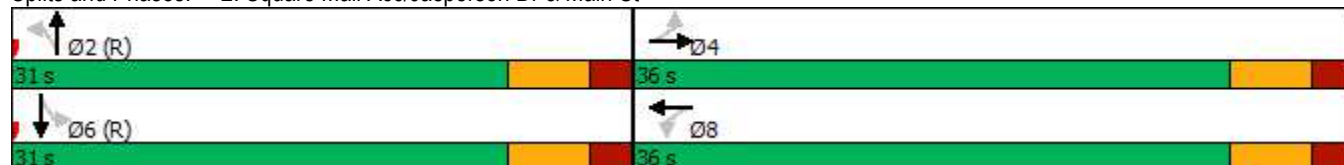
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



HCM Unsignalized Intersection Capacity Analysis

3: Access Rd/FUT ACC & Main St

183 MAIN STREET E
2031 TOTAL PM TRAFFIC VOLUMES

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	773	7	7	908	35	4	0	4	21	0	22
Future Volume (Veh/h)	32	773	7	7	908	35	4	0	4	21	0	22
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	840	8	8	987	38	4	0	4	23	0	24
Pedestrians												2
Lane Width (m)												3.7
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)												
Median type	TWLTL			TWLTL								
Median storage (veh)	2			2								
Upstream signal (m)				310								
pX, platoon unblocked												
vC, conflicting volume	989			848			1941	1919	844	1938	1942	1008
vC1, stage 1 conf vol							914	914			1024	1024
vC2, stage 2 conf vol							1027	1005			914	918
vCu, unblocked vol	989			848			1941	1919	844	1938	1942	1008
tC, single (s)	4.3			4.6			7.1	6.5	6.2	7.3	6.5	6.3
tC, 2 stage (s)							6.1	5.5			6.3	5.5
tF (s)	2.4			2.7			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	94			99			98	100	99	87	100	91
cM capacity (veh/h)	628			618			180	219	366	183	227	281
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	35	848	8	1025	8	47						
Volume Left	35	0	8	0	4	23						
Volume Right	0	8	0	38	4	24						
cSH	628	1700	618	1700	242	223						
Volume to Capacity	0.06	0.50	0.01	0.60	0.03	0.21						
Queue Length 95th (m)	1.4	0.0	0.3	0.0	0.8	6.2						
Control Delay (s)	11.1	0.0	10.9	0.0	20.4	25.4						
Lane LOS	B			B			C			D		
Approach Delay (s)	0.4			0.1			20.4			25.4		
Approach LOS							C			D		
Intersection Summary												
Average Delay				0.9								
Intersection Capacity Utilization				59.9%		ICU Level of Service			B			
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Wgle Ave/Remark Dr & Main St

183 MAIN STREET E
2031 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	808	55	92	938	10	60	21	104	9	9	21
Future Volume (vph)	30	808	55	92	938	10	60	21	104	9	9	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	60.0		0.0	55.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	10.0			15.0			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		1.00			1.00							
Frt		0.990			0.998			0.924			0.928	
Flt Protected	0.950			0.950				0.984			0.989	
Satd. Flow (prot)	1755	1652	0	1825	1792	0	0	1747	0	0	1518	0
Flt Permitted	0.102			0.110				0.875			0.838	
Satd. Flow (perm)	188	1652	0	211	1792	0	0	1553	0	0	1286	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			1			84			23	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.1			237.0			215.7			227.2	
Travel Time (s)		12.2			17.1			15.5			16.4	
Confl. Peds. (#/hr)	2		2	2		2						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	16%	0%	0%	7%	3%	0%	0%	0%	28%	0%	18%
Adj. Flow (vph)	33	878	60	100	1020	11	65	23	113	10	10	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	938	0	100	1031	0	0	201	0	0	43	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	25.0		11.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	14.0	35.0		14.0	35.0		31.0	31.0		31.0	31.0	
Total Split (%)	17.5%	43.8%		17.5%	43.8%		38.8%	38.8%		38.8%	38.8%	
Maximum Green (s)	10.0	28.6		10.0	28.6		24.7	24.7		24.7	24.7	
Yellow Time (s)	3.0	4.1		3.0	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	1.0	2.3		1.0	2.3		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	6.4		4.0	6.4			6.3			6.3	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	53.3	45.3		55.7	50.1			12.8			12.8	
Actuated g/C Ratio	0.67	0.57		0.70	0.63			0.16			0.16	
v/c Ratio	0.13	1.00		0.34	0.92			0.63			0.19	

Lanes, Volumes, Timings
9: Wigle Ave/Remark Dr & Main St

183 MAIN STREET E
2031 TOTAL PM TRAFFIC VOLUMES

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	5.5	51.6		7.5	31.6			26.8			18.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.5	51.6		7.5	31.6			26.8			18.2	
LOS	A	D		A	C			C			B	
Approach Delay		50.1			29.4			26.8			18.3	
Approach LOS		D			C			C			B	
Queue Length 50th (m)	1.2	~146.0		3.8	98.8			17.6			2.8	
Queue Length 95th (m)	4.5	#263.1		10.5	#280.1			35.8			10.8	
Internal Link Dist (m)		146.1			213.0			191.7			203.2	
Turn Bay Length (m)	60.0			55.0								
Base Capacity (vph)	326	937		350	1122			537			412	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.10	1.00		0.29	0.92			0.37			0.10	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 37.5

Intersection LOS: D

Intersection Capacity Utilization 86.3%

ICU Level of Service E

Analysis Period (min) 15

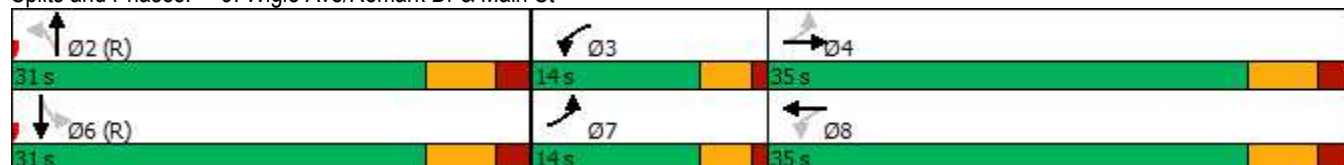
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 9: Wigle Ave/Remark Dr & Main St



Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2031 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	686	53	24	764	256	42	19	14	232	15	175
Future Volume (vph)	116	686	53	24	764	256	42	19	14	232	15	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	75.0		0.0	15.0		0.0	0.0		15.0	15.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	10.0			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		1.00			0.99			1.00		1.00		
Frt		0.989			0.962			0.975			0.862	
Flt Protected	0.950			0.950				0.973		0.950		
Satd. Flow (prot)	1789	1859	0	1789	1801	0	0	1779	0	1789	1624	0
Flt Permitted	0.110			0.180				0.746		0.704		
Satd. Flow (perm)	207	1859	0	339	1801	0	0	1364	0	1322	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			32			15			89	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		237.0			120.3			154.3			215.0	
Travel Time (s)		17.1			8.7			11.1			15.5	
Confl. Peds. (#/hr)	2		6	6		2			2	2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	746	58	26	830	278	46	21	15	252	16	190
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	804	0	26	1108	0	0	82	0	252	206	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	36.0	36.0		36.0	36.0		31.0	31.0		31.0	31.0	
Total Split (%)	53.7%	53.7%		53.7%	53.7%		46.3%	46.3%		46.3%	46.3%	
Maximum Green (s)	29.7	29.7		29.7	29.7		24.7	24.7		24.7	24.7	
Yellow Time (s)	4.1	4.1		4.1	4.1		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.2	2.2		2.2	2.2		2.2	2.2		2.2	2.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3			6.3		6.3	6.3	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	36.5	36.5		36.5	36.5			17.9		17.9	17.9	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.27		0.27	0.27	
v/c Ratio	1.12	0.79		0.14	1.11			0.22		0.72	0.41	
Control Delay	148.3	22.1		12.5	84.5			15.7		33.1	12.9	

Lanes, Volumes, Timings
2: Square Mall Acc/Jasperson Dr & Main St

183 MAIN STREET E
2031 TOTAL PM TRAFFIC VOLUMES

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	148.3	22.1		12.5	84.5			15.7		33.1	12.9	
LOS	F	C		B	F			B		C	B	
Approach Delay		39.2			82.9			15.7			24.0	
Approach LOS		D			F			B			C	
Queue Length 50th (m)	~19.6	76.9		1.6	~170.6			6.7		29.7	12.0	
Queue Length 95th (m)	#42.4	#173.9		7.1	#268.3			14.3		46.1	24.3	
Internal Link Dist (m)		213.0			96.3			130.3			191.0	
Turn Bay Length (m)	75.0			15.0						15.0		
Base Capacity (vph)	112	1017		184	996			512		487	654	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	1.13	0.79		0.14	1.11			0.16		0.52	0.31	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 54.8

Intersection LOS: D

Intersection Capacity Utilization 113.0%

ICU Level of Service H

Analysis Period (min) 15

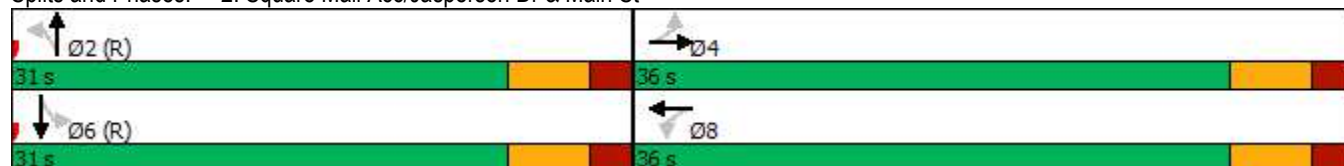
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 2: Square Mall Acc/Jasperson Dr & Main St



Appendix D

SITE PLANS, REPORTS AND PHOTOS



LOOKING EAST TOWARD DEVELOPMENT
ACCESS FROM MAIN STREET



LOOKING WEST TOWARD ACCESS RD FROM
MAIN STREET

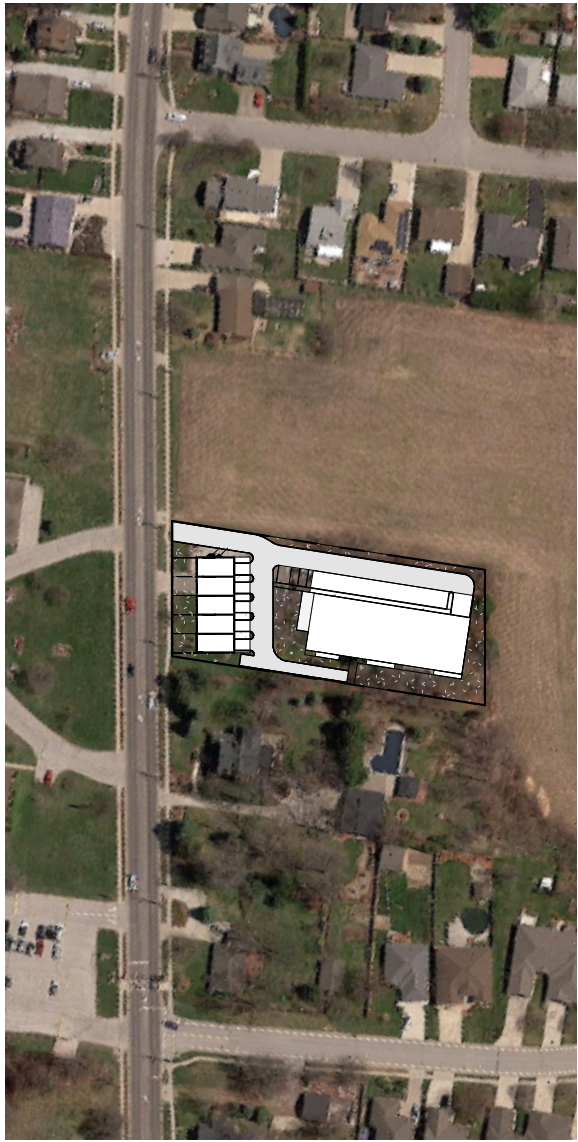


LOOKING EAST TOWARD WIGLE FROM MAIN ST

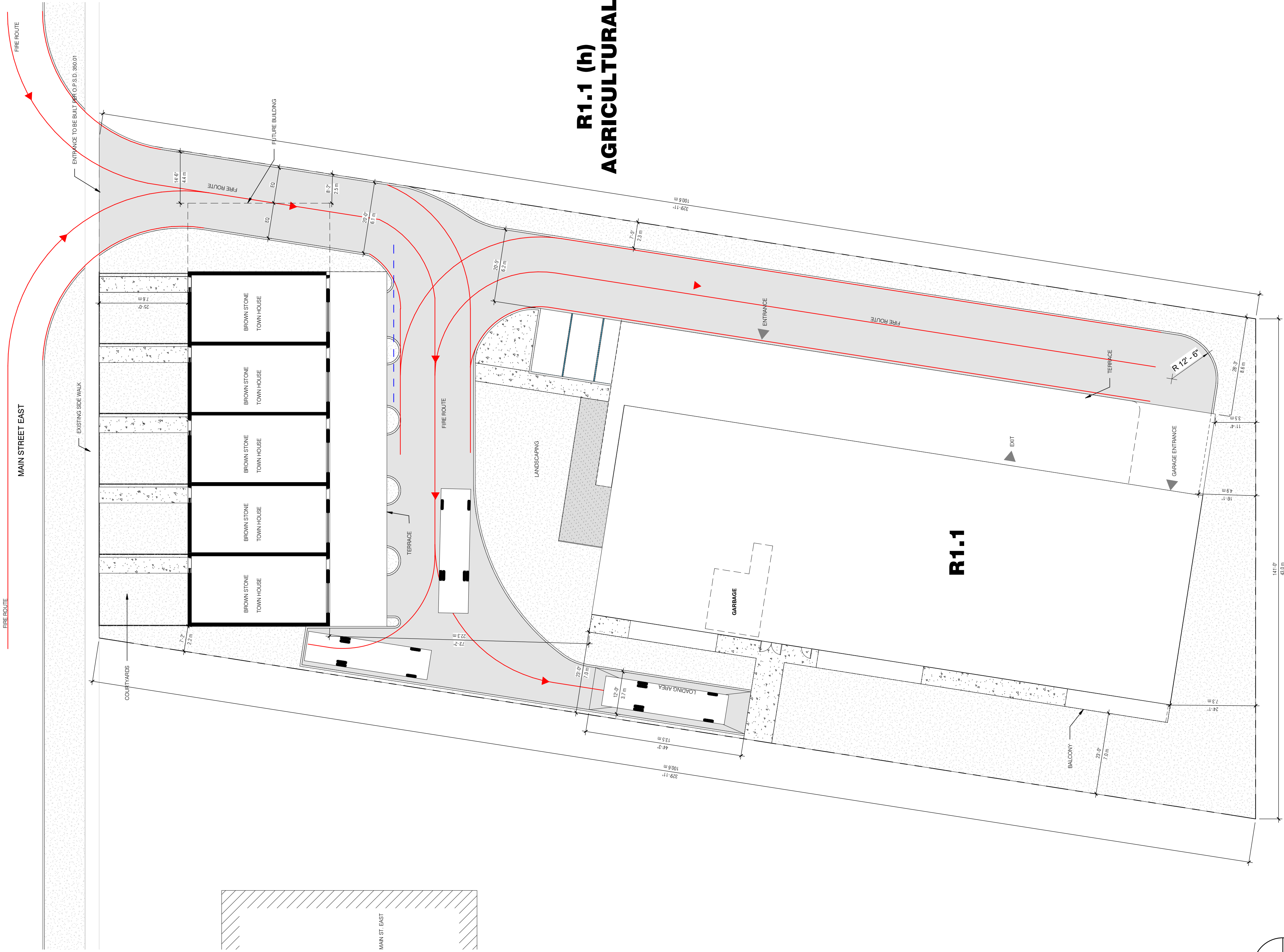


LOOKING EAST TOWARD JASPERSON RD FROM
MAIN ST

PROJECT TITLE: 183 MAIN STREET EAST (ROW TOWNHOUSES/CONDO DEVELOPMENT)	DATE: OCTOBER 11, 2019	 27 PRINCESS STREET, SUITE #102 LEAMINGTON, ONTARIO N8H 2X8 1000 - 267 PELLISSIER STREET, WINDSOR, ONTARIO N9A 4K4
	SCALE: NTS	
	PROJECT NO: 19-098	
	FIGURE NO: EXHIBIT 3	
SHEET TITLE: PHOTOS		



KEY PLAN



SITE
SCALE: 1 : 200

SITE DATA MATRIX			OBC REFERENCE	
PROJECT DESCRIPTION: 6 STOREY CONDOMINIUM - 28 UNITS & 5 UNIT ROW HOUSING	☒ NEW ☐ ADDITION ☐ ALTERATION ☐ CHANGE OF USE		☒ PART 3 ☐ PART 9 ☐ PART 11	
ZONING DESIGNATION:		R1.1		
MAJOR OCCUPANCY:		RESIDENTIAL		
BUILDING CLASSIFICATION:		GROUP C, 3,2,2,4,3, UP TO 6 STOREYS, SPRINKLERED, NONCOMBUSTIBLE CONSTRUCTION		
SITE AREA	BUILDING AREA		GROSS AREA	
	EXISTING:	N/A	EXISTING:	N/A
	PROPOSED:	1,200m ² (CONDO) + 353m ² (TOWN)	PROPOSED:	5,800m ²
TOTAL:		1,643m ²	TOTAL:	5,800m ²
LOT COVERAGE	MINIMUM LOT FRONTAGE		BUILDING HEIGHT	
	MAXIMUM:	40%	REQUIRED:	11m
	PROVIDED:	38%	PROVIDED:	18m
MINIMUM FRONT YARD DEPTH	MINIMUM REAR YARD DEPTH		MINIMUM SIDE YARD DEPTH (INTERIOR YARD)	
	REQUIRED:	7.5m	REQUIRED:	1.5m
	PROVIDED:	7.6m	PROVIDED:	2.2m
PARKING	BICYCLE SPACES		LOADING SPACES	
	EXISTING:	0	EXISTING:	0
	PROPOSED:	4	PROPOSED:	1
USE CLASSIFICATION	EXISTING:		REQUIRED:	
	0	4	4	1
	47	4	4	1
REQUIRED:	TOTAL:		TOTAL:	
	45	4	4	1
	TOTAL:	47		
MINIMUM LANDSCAPE AREA	CURBING LENGTH		SCREENING FENCE LENGTH	
	REQUIRED:	30%	EXISTING:	N/A
	PROPOSED:	1,000m ²	PROPOSED:	243m
TOTAL:		40%	TOTAL:	243m
PARKING TYPE	ZONING PROVISIONS		PROVIDED PARKING	
	VEHICLE PARKING - CONDOMINIUM (1.25 SPACES/UNIT) x 28 UNITS = 35		37	
	VEHICLE PARKING - ROW HOUSING (2 SPACES/UNIT) x 5 UNITS = 10 SPACES		10	
ACCESSIBLE PARKING	1 SPACE FOR 8 - 50 PARKING SPACES = 1 SPACE REQUIRED		INCLUDED IN PARKING TOTAL	
	0.25 SPACES OF THE REQUIRED SPACES SHALL BE DEDICATED FOR VISITOR PARKING = 35 x .25 = 9 SPACES		INCLUDED IN PARKING TOTAL	
	VISITOR PARKING			
TOTAL PARKING		45	47	
BICYCLE PARKING	1 SPACE /400m ² TO A MAXIMUM OF 10 SPACES = 1643m ² / 400m ² = 4 SPACES		26	
	LOADING SPACES		1	
NOTE:				
1. ALL EXTERIOR PATHS OF TRAVEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 80.23 OF ONTARIO REGULATION 191/11 TO THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT AND SECTIONS 3.8.1.3 AND 3.8.3.2 OF THE ONTARIO BUILDING CODE				
2. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 80.26(1) OF THE ONTARIO REGULATION 191/11 TO THE ACCESSIBILITY FOR ONTARIANS WITH DISABILITIES ACT AND SECTION 3.8.3.18 OF THE ONTARIO BUILDING CODE.				

R1.1

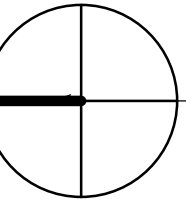
R1.1

R1.1 (h)
AGRICULTURAL

183 MAIN ST.E. CONDOMINIUMS

183 MAIN STREET EAST
KINGSVILLE ON, N9Y 1A5

SITE PLAN CONCEPT



PROJECT TITLE
JOB NUMBER
SHEET NUMBER
19-069

A2.1

2015-05-30 12:28:04 PM

PARTNER/CONSULTANTS

architect + engineering
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