

# **Retail/Commercial Center**

**2 Don Rose Boulevard, Town of East Gwillimbury**  
**Traffic Impact Assessment**

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**Prepared for:**

**Skarn Resources Inc**  
**Mount Albert, Ontario**

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EW090023  
March, 2019

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## 1. INTRODUCTION

### 1.1 Background

Edgeweir Consulting was retained to carry out a Traffic Impact Assessment (TIA) for the proposed Commercial/Retail Centre in the Town of East Gwillimbury. The site is approximately 1.68 acres (0.68 hectares) of land and is bounded by residential development to the south, Mount Albert Road to the north, grass land to the west and Don Rose Boulevard to the east.

The existing land is vacant and will be replaced with three new buildings of 6,155 square foot, 8,349 square foot and 5,333 square foot in size. Accesses will be provided through Mount Albert Road and Don Rose Boulevard.

The location of the subject site is shown in Exhibit 1.



Exhibit 1: Location Map

### 1.2 Study Objective

The objectives of this study are:

- To estimate the number of additional trips that will be generated by the planned 2019 development and to distribute generated trips to the Study Area;
- To evaluate the impacts of site generated traffic on capacity and level of service of the site entrances;
- To evaluate the need for an exclusive turning lanes; and

- To evaluate impacts on the existing Mount Albert Road/Don Rose Boulevard unsignalized intersection.

### 1.3 Horizon Years

The developer anticipates the construction for the development will be completed by 2020. As such, the following existing and future horizon periods (conditions) were established as part of this study:

- Existing (2018) Traffic Condition;
- 2020 Future Condition
- 2025 Future Condition; and
- 2030 Future Condition.

### 1.4 Analysis Methodology

The transportation analysis was completed to determine the existing and future operation conditions of intersection and individual turning movement. The operational analyses were primarily based on procedures set out in the Highway Capacity Manual (2000) with the assistance of Synchro 7. Several performance measures are used in the analysis of 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 95<sup>th</sup> 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. EXISTING CONDITIONS

### 2.1 Existing Road

Mount Albert Road is a two-lane roadway primarily running in the east-west direction. The posted speed is 60km/h and reduces to 50km/h just before the intersection with Don Rose Boulevard. Upon approaching Don Rose Boulevard, the road is relatively straight and flat; however, it curves to the north at approximately 140m east of Don Rose Boulevard.

Don Rose Boulevard is a two-lane roadway primarily running in the north-south direction. The posted speed is 50km/h.

### 2.2 Study Area Intersection

Mount Albert Road with Don Rose Boulevard/King Street intersection is a four-leg intersection and which is unsignalized. The intersection has following lane configuration:

- Westbound approach - one left-turning lane and one through-right shared lane;
- Eastbound approach – one left-turning lane and one through-right shared lane;
- Northbound approach – one left-turning lane and one through-right shared lane;
- Southbound approach –one left-through-right shared lane.

### 2.3 Existing Traffic Volumes

Intersection peak hour traffic counts were undertaken by Pyramid Traffic Inc on December 11, 2018. Counts were recorded in 15 minutes increments from 7:00am to 9:00am, 12:00pm to 2:00pm and 4:00pm to 6:00pm. Details are provided in Appendix A.

Further, the existing turning movement counts for Highway 48 and Mount Albert Road were obtained from York Region, including eight (8) hour volumes, and morning (a.m.) and afternoon (p.m.) peak hour volumes. The traffic counts were conducted in 2010. The existing traffic volumes and other data are included in Appendix A.

### 2.4 Background Traffic Growth

The Turning movement diagram obtained from York Region for intersection of Highway 48 and Mount Albert Road is provided in Appendix A. The region does not have information regarding the growth rate. However, this TIA applies conservative 2.5% growth rate on Mt Albert Road to calculate 2020, 2025 and 2030 projected traffic.

The projected (2020, 2025 and 2030) background peak hour traffic is included in Appendix B.

### 3. PROPOSED DEVELOPMENT TRAFFIC

The development will comprise of three buildings; both buildings have shared commercial and retail uses. The gross floor area is approximately 6,170 square foot, 8349 square foot and 5,338 square foot.

#### 3.1 Proposed Roads

The following accesses are proposed for development:

- Full access will be provided from Mount Albert Road.
- A new access road with 'T' intersection on Don Rose Blvd.

The distance from centerline to centerline of Access 1 from Mt Albert Rd is approximately 114m and distance from stop bar to centerline of Access 2 is approximately 45m. The proposed accesses will be controlled by a "STOP" sign.

#### 3.2 Trip Generation

The Institution of Transportation Engineers (ITE) *Trip Generation 9th Edition* is used to determine the number of trips generated for the proposed development. The manual also provides percentage of inbound (entering) and outbound (exiting) vehicles from the site for a.m. peak and p.m. peak.

Based on discussion with the Architect, the proposed buildings will have clinic, medical and dental offices, restaurant, pharmacy, coffee shop, dance studio and insurance office and pet training center. Description of Land use, ITE codes, unit sizes, trip generation rate and trip generation for AADT and peak hour for individual uses are provided in Table 1.

**Table 1: Site Trip Generation**

Parameters	ITE	Size <sup>1</sup> (1000 sq.ft)	AADT	Trip Generated AM Hour		Trip Generated PM Hour	
				In	Out	In	Out
<b>Recreational/Retail</b>							
Health/Fitness (Dance Studio) (A1, A2, A3)	492	3.02	99	2	2	6	5
Quality Restaurant (C1)	931	2.05	184	1	1	6	3
Pharmacy (B1, B2)	880	2.30	207	2	1	4	5
Pet Supply (Dog Training) <sup>3</sup> (A4)	866	0.94	-	1	1	2	2
Coffee Shop (no drive through) B3	936	0.94	-	52	50	19	19
<b>Professional</b>							
Daycare (C2, C3)	565	1.94	61	5	4	4	5
Medical Office (A5)	720	2.20	79	4	1	2	6
Single tenant Office (Insurance) (C4)	715	1.19	14	2	1	1	2
Bank (Walk-in) (B6) <sup>2</sup>	911	2.89	-	5 <sup>2</sup>	3 <sup>2</sup>	15	20
Dental Office (B4, B5)	720	1.87	68	4	1	2	5
<b>Total Trips for Land Use for Phases</b>			<b>712</b>	<b>78</b>	<b>65</b>	<b>61</b>	<b>72</b>

- Note: 1. Average land use in size of "1000 sq. feet Gross Floor Area (GFA)" as per ITE  
 2. ITE 912 Drive-in Bank Data is assumed as no data available for AM hour of walk-in bank.  
 3. Pet supply store data is used as there is no data available for Dog Training center  
 4. All above uses are for analysis only. It may change with time.

This site is in a rural/urban setting therefore Pass-by trips are included in the trip generated by site's pharmacy and restaurant. Pass-by trips are those in which vehicle made subsequent stop while passing by the site on an adjacent street. It is assumed that the 50 percent of Pass-by trip will travel into the site and 50% will travel out from site. The resulting trips are shown in Table 2.

**Table 2: Estimated New Trips**

Parameters	Trip Generation Rates			
	AM Peak		PM Peak	
	In	Out	In	Out
Percent Pass-by	50%	50%	50%	50%
ITE 880	2	2	5	5
ITE 931	0	0	4	4
Total Trips	78	65	61	72
<b>Estimated new trips</b>	<b>80</b>	<b>67</b>	<b>70</b>	<b>81</b>



### 3.3 Trip Distribution and Assignment

Site traffic is equally distributed among two accesses. Further, to match the existing turning movement patterns, the generated traffic resulting from the development will have split of 55% to the west and 45% to the east. Similar traffic pattern is assumed for vehicle coming into the site. The trip distribution and traffic assignment are shown in figures 1.1, 2.1 and 3.1.

### 3.4 Future Condition

Site traffic volumes were added to the background traffic volumes to obtain corresponding future traffic volumes at the intersections of Don Rose Blvd with Mt Albert Rd and site driveway. Background and total forecasted (2020, 2025 and 2030) traffic condition for the peak hours are provided in Appendix B.

## 4. CAPACITY ANALYSIS

Intersection Level of Service (LOS) is evaluated using the Synchro/Sim Traffic software which automates the procedures contained in the Highway Capacity Manual 2000. The layout of the intersections of Mt Albert Rd with Don Rose Blvd and Access 1, and Don Rose Blvd with Access 2 as described in Section 2.2 and 3.1 are used for the analysis.

### 4.1 2020 Traffic Volume Analysis

The 2020 Background Conditions traffic analysis results are included in Table 3. Details are included in Appendix C.

**Table 3: 2020 Existing Conditions – Level of Service**

Intersection		A.M. Peak Hour			P.M. Peak Hour		
		LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd &amp; Don Rose Blvd./King St. (Unsignalized)</b>							
EB	L	A	0.03	8.2	A	0.15	8.0
EB	TR	A	0.09	0.0	A	0.18	0.0
WB	L	A	0.01	7.6	A	0.01	8.0
WB	TR	A	0.22	0.0	A	0.10	0.0
NB	LTR	C	0.11	17.8	C	0.05	16.3
SB	LTR	B	0.30	13.3	B	0.14	12.4
<b>Overall LOS</b>		<b>A</b>			<b>A</b>		

Note: NB – Northbound SB – Southbound EB – Eastbound WB – Westbound  
 L – Left turn; T – Through traffic; R – Right turn

Without the site traffic, the intersection operates at an overall acceptable LOS.

The 2020 Total Future Condition traffic analysis results are included in Table 4. Detailed analysis summaries are included in Appendix C.

**Table 4: 2020 Total Future Conditions – Level of Service**

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd. &amp; Don Rose Blvd/King St. (Unsignalized)</b>						
EB L	A	0.03	8.3	A	0.15	8.0
EB TR	A	0.10	0.0	A	0.19	0.0
WB L	A	0.02	7.7	A	0.02	8.1
WB TR	A	0.22	0.0	A	0.11	0.0
NB LTR	C	0.17	17.0	C	0.12	16.5
SB LTR	B	0.31	13.8	B	0.15	13.0
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		
<b>Mt Albert Rd. &amp; Access 1 (Unsignalized)</b>						
EB LTR	A	0.00	0.2	A	0.01	0.2
WB LTR	A	0.01	0.2	A	0.01	0.3
NB LTR	C	0.11	16.6	C	0.14	18.1
SB LTR	B	0.02	14.5	B	0.02	13.7
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		
<b>Don Rose Blvd. &amp; Access 2 (Unsignalized)</b>						
EB LR	A	0.04	9.0	A	0.05	9.0
NB LT	A	0.00	0.0	A	0.00	0.0
SB TR	A	0.03	0.0	A	0.03	0.0
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		

As shown in above tables, the intersection of Mt Albert Rd with Don Rose Blvd/King St operated at overall acceptable LOS during peak hours.

The intersections of Mt Albert Rd with Access 1 and Don Rose Blvd with Access 2 are projected to operate at an acceptable LOS during peak hours. Thus, no improvements related to intersection operations are required.

## 4.2 2025 Traffic Volume Analysis

The 2025 Background Future Condition traffic analysis results are included in Table 5. Detailed analysis summaries are included in Appendix C.

**Table 5: 2025 Background Future Conditions – Level of Service**

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd. &amp; Don Rose Blvd/King St. (Unsignalized)</b>						
EB L	A	0.03	8.4	A	0.16	8.1
EB TR	A	0.10	0.0	A	0.20	0.0
WB L	A	0.01	7.7	A	0.01	8.1
WB TR	A	0.24	0.0	A	0.11	0.0
NB LTR	C	0.13	20.0	C	0.05	18.0
SB LTR	B	0.35	14.4	B	0.17	13.3
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		

The 2025 Total Future Condition traffic analysis results are included in Table 6. Detailed analysis summaries are included in Appendix C.

**Table 6: 2025 Total Future Conditions – Level of Service**

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd. &amp; Don Rose Blvd/King St. (Unsignalized)</b>						
EB L	A	0.03	8.4	A	0.17	8.1
EB TR	A	0.11	0.0	A	0.21	0.0
WB L	A	0.02	7.7	A	0.02	8.2
WB TR	A	0.24	0.0	A	0.11	0.0
NB LTR	C	0.20	19.0	C	0.15	18.3
SB LTR	B	0.36	15.0	B	0.18	14.1
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		
<b>Mt Albert Rd. &amp; Access 1 (Unsignalized)</b>						
EB LTR	A	0.01	0.2	A	0.01	0.2
WB LTR	A	0.01	0.2	A	0.01	0.3
NB LTR	C	0.12	17.9	C	0.15	19.8
SB LTR	C	0.02	15.4	B	0.03	14.6
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		
<b>Don Rose Blvd. &amp; Access 2 (Unsignalized)</b>						
EB LR	A	0.04	9.0	A	0.05	9.0
NB LT	A	0.00	0.0	A	0.00	0.0
SB TR	A	0.03	0.0	A	0.03	0.0
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		

As shown in above tables, the intersection of Mt Albert Rd with Don Rose Blvd/King St operated at overall acceptable LOS during peak hours.

The intersections of Mt Albert Rd with Access 1 and Don Rose Blvd with Access 2 are projected to operate at an acceptable LOS during peak hours. Thus, no improvements related to intersection operations are required.

### 4.3 2030 Traffic Volume Analysis

The 2030 Background Future Condition traffic analysis results are included in Table 7. Detailed analysis summaries are included in Appendix C.

**Table 7: 2030 Background Future Conditions – Level of Service**

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd. &amp; Don Rose Blvd/King St. (Unsignalized)</b>						
EB L	A	0.04	8.5	A	0.18	8.2
EB TR	A	0.11	0.0	A	0.21	0.0
WB L	A	0.01	7.7	A	0.01	8.2
WB TR	A	0.26	0.0	A	0.12	0.0
NB LTR	C	0.15	22.8	C	0.06	20.1
SB LTR	C	0.39	15.5	B	0.20	14.5
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		

The 2030 Total Future Condition traffic analysis results are included in Table 8. Detailed analysis summaries are included in Appendix C.

**Table 8: 2030 Total Future Conditions – Level of Service**

Intersection	A.M. Peak Hour			P.M. Peak Hour		
	LOS	v/c	Delay (sec)	LOS	v/c	Delay (sec)
<b>Mt Albert Rd. &amp; Don Rose Blvd/King St. (Unsignalized)</b>						
EB L	A	0.04	8.5	A	0.18	8.2
EB TR	A	0.12	0.0	A	0.22	0.0
WB L	A	0.02	7.8	A	0.2	8.2
WB TR	A	0.27	0.0	A	0.12	0.0
NB LTR	C	0.23	21.8	C	0.17	20.6
SB LTR	C	0.41	16.4	C	0.22	15.5
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		
<b>Mt Albert Rd. &amp; Access 1 (Unsignalized)</b>						
EB LTR	A	0.01	0.2	A	0.01	0.2
WB LTR	A	0.01	0.2	A	0.01	0.3
NB LTR	C	0.13	19.4	C	0.17	21.7
SB LTR	C	0.02	16.4	C	0.03	15.5
<b>Overall LOS</b>	<b>A</b>			<b>A</b>		

Don Rose Blvd. & Access 2 (Unsignalized)							
EB	LR	A	0.04	9.0	A	0.05	9.0
NB	LT	A	0.00	0.0	A	0.00	0.0
SB	TR	A	0.03	0.0	A	0.03	0.0
<b>Overall LOS</b>		<b>A</b>			<b>A</b>		

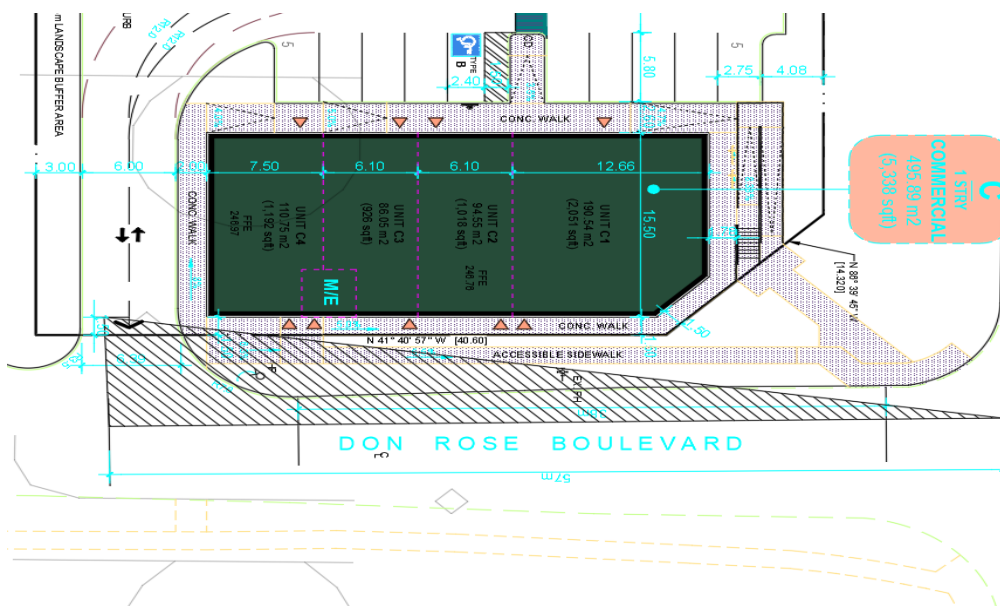
As shown in above tables, the intersection of Mt Albert Rd with Don Rose Blvd/King St operated at overall acceptable LOS during peak hours.

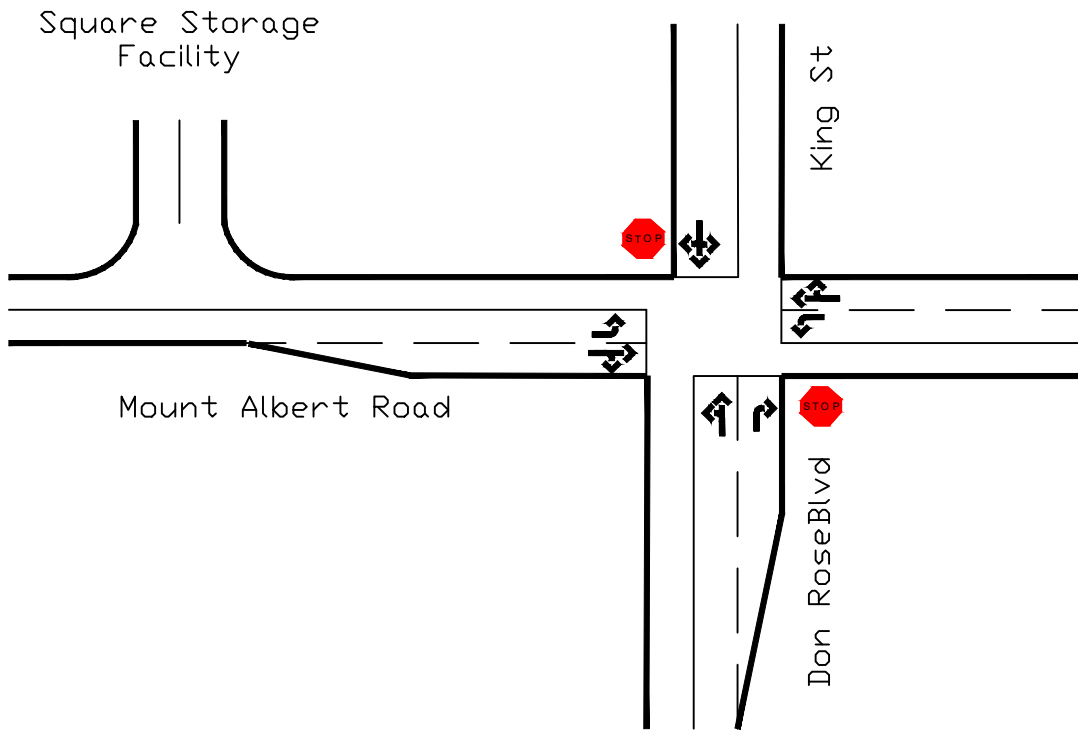
The intersections of Mt Albert Rd with Access 1 and Don Rose Blvd with Access 2 are projected to operate at an acceptable LOS during peak hours. Thus, no improvements related to intersection operations are required.

## 5. STOPPING DISTANCE INVESTIGATION

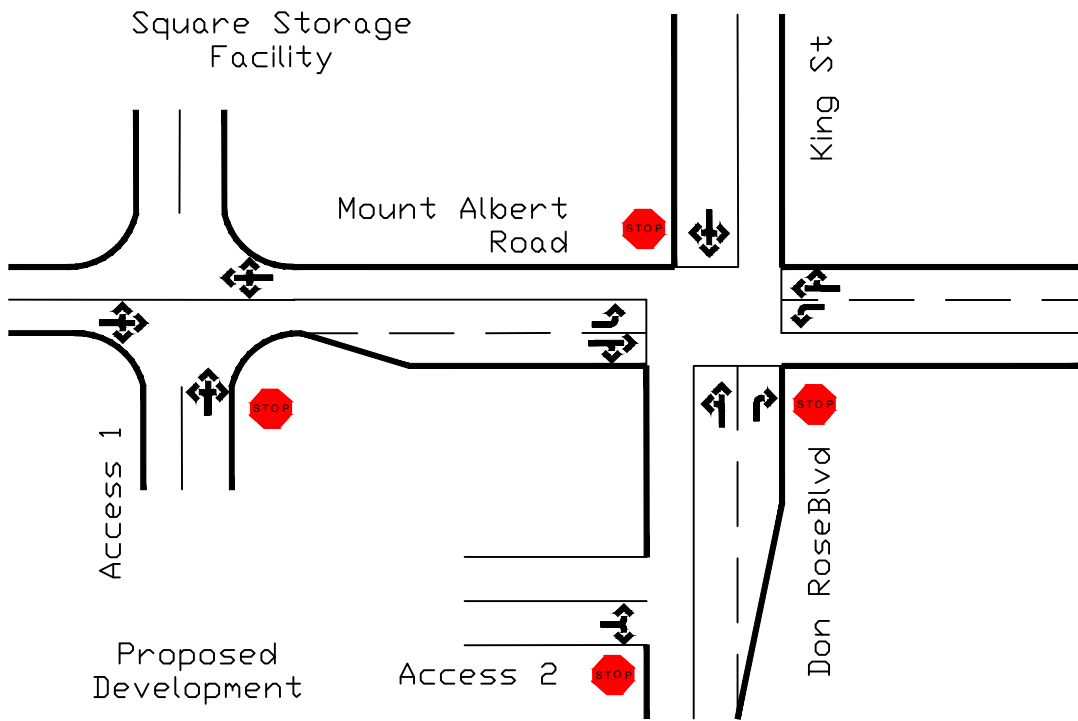
Sufficient stopping sight distance is available for access from Mount Albert Road. And for Mount Albert Road, a detail investigation is carried out and explained below.

Due to close proximity of school within development on Don Rose Boulevard, the design speed of 40 kilometer per hour (km/h) is chosen to finding sight distance instead of posted speed limit of 50km/h. The minimum stopping sight distance as described by Transportation Association of Canada (TAC) is 50m (Table 9.9.4) for a 40km/h design speed. The available stopping sight distances for a vehicle traveling Don Rose Boulevard was measured in the field to be approximately 57 meters. This measurement was taken from Mount Albert Road edge of pavement. The available stopping sight distances for a vehicle approaching the site driveway at a design speed of 40 km/h is considered sufficient.





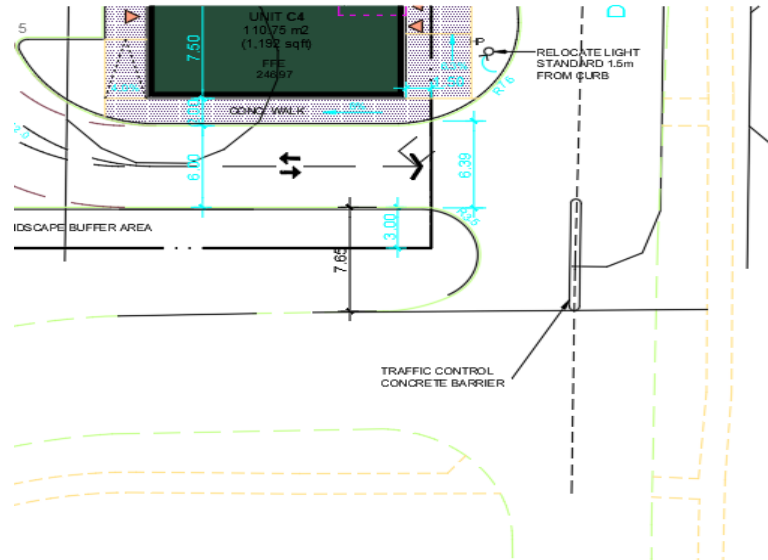
EXISTING ROADWAY LANE CONFIGURATION



RECOMMENDED LANE CONFIGURATION

## 6. ACCESS ROAD INVESTIGATION

The access from Don Rose Boulevard is investigated to avoid potential conflict between traffic coming in and out from development and Arthur Case Crescent.



It is recommended to place a traffic control concrete barrier or island on Don Rose to avoid turning movement conflict.

## 7. CONCLUSION AND RECOMMENDATION

Utilizing the traffic data, the operating conditions were evaluated for three scenarios: 2020 traffic conditions; 2025 traffic conditions, and 2030 traffic conditions. The findings from these evaluations are summarized below.

- The intersection of Mt Albert Road with Don Rose Blvd operated at acceptable level of service in background existing conditions.
- With construction of development, the unsignalized intersection of Mt Albert Road and Don Rose Blvd operate at overall acceptable level of service in 2020, 2025 and 2030 conditions.
- The unsignalized intersection of Mt Albert Rd with Access 1 and Don Rose Blvd with Access 2 operates at acceptable level of service in post construction condition in 2020, 2025 and 2030 conditions.
- No further intersection improvements are required. Intersections configuration are provided in Section 2.2 and Section 3.1.

Based on evaluation and findings contained within this report the proposed is expected to have a minimal impact on the conditions at the Mt Albert Rd and Don Rose Blvd/King St intersection. It should be noted that the existing intersection is performing well under the projected traffic volumes and no improvements to both Mt Albert Rd and Don Rose Blvd/King St is required during the peak hours.

Sight distance for the passenger vehicles turning left onto two-lane Don Rose Boulevard meets the minimum criteria of stopping sight distance of 50m for 40km/h design speed.

A traffic control barrier or island is recommended on the Don Rose Boulevard for vehicles turning into development from Arthur Case Crescent.

Should you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

**EDGEWEIR CONSULTING**

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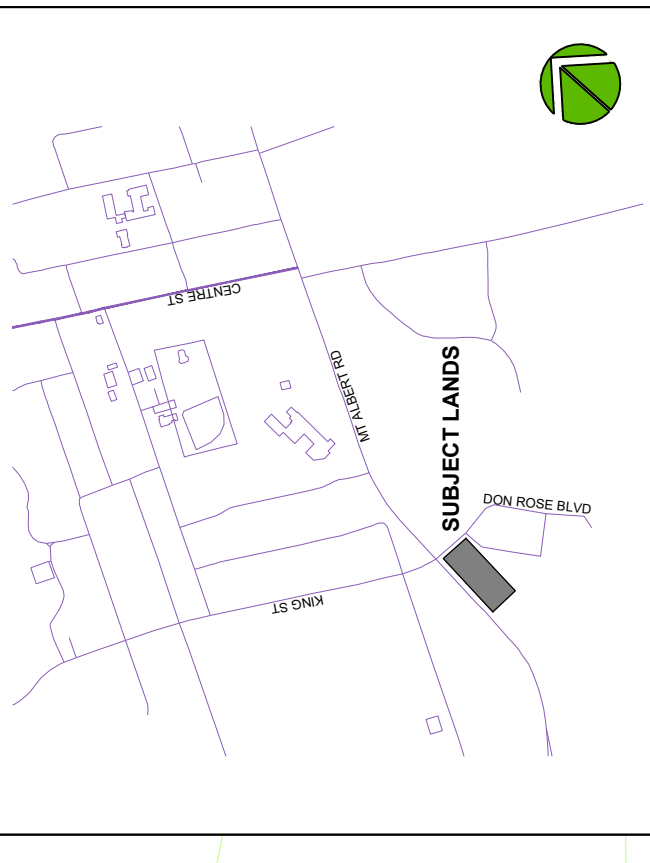




## Appendix A

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KEY PLAN



LEGAL DESCRIPTION

SURVEYOR'S REAL PROPERTY REPORT - PART 1  
 PLAN OF LOT 5

REGISTERED PLAN 65M-2070

TOWN OF EAST GWILLIMBURY  
 REGIONAL MUNICIPALITY OF YORK  
 FROM LEGAL SURVEY PREPARED BY:  
 ERTL SURVEYORS 2014, Ontario Land Surveyors

SITE STATISTICS

ZONING	INDUSTRIAL RESTRICTED (M1-2)
SITE AREA	6,806.11 m <sup>2</sup> or 1.68 Acres
REQUIRED	PROVIDED
LOT FRONTAGE (DON ROSE BLVD)	30.0 m
FRONT YARD (EAST)	1.50 m
EXTERIOR SIDE YARD (NORTH)	6.0 m MIN
REAR YARD (WEST)	11.0 m MIN
INTERIOR SIDE YARD (SOUTH)	6.0 m MIN
BUILDING 'A'	573.24 m <sup>2</sup> or 6,170 sqft
BUILDING 'B'	775.69 m <sup>2</sup> or 8,349 sqft
BUILDING 'C'	495.89 m <sup>2</sup> or 5,338 sqft
TOTAL GFA	1,844.82 m <sup>2</sup> or 19,857 sqft
REQUIRED	PROVIDED
BUILDING HEIGHT	11.0 m MAX
SITE COVERAGE	50 % MAX
LANDSCAPE AREA	1,627.48 m <sup>2</sup> or 23.91 %
PAVED AREA	3,290.75 m <sup>2</sup> or 48.35 %
MEDICAL OFFICES	667.97 m <sup>2</sup> / 20 = 33.4
BUSINESS OFFICE USES	230.40 m <sup>2</sup> / 30 = 7.7
FINANCIAL INSTITUTION	288.01 m <sup>2</sup> / 25 = 10.7
RESTAURANT	190.54 m <sup>2</sup> / 25 = 7.6
OTHER USES PERMITTED	367.63 m <sup>2</sup> / 30 = 12.3
TOTAL PARKING REQUIRED	71.7 spaces
TOTAL PARKING PROVIDED	93.0 spaces
ACCESSIBLE PARKING REQUIRED	4% of Total Provided = 4 spaces
ACCESSIBLE PARKING PROVIDED	4 spaces

SYMBOL LEGEND

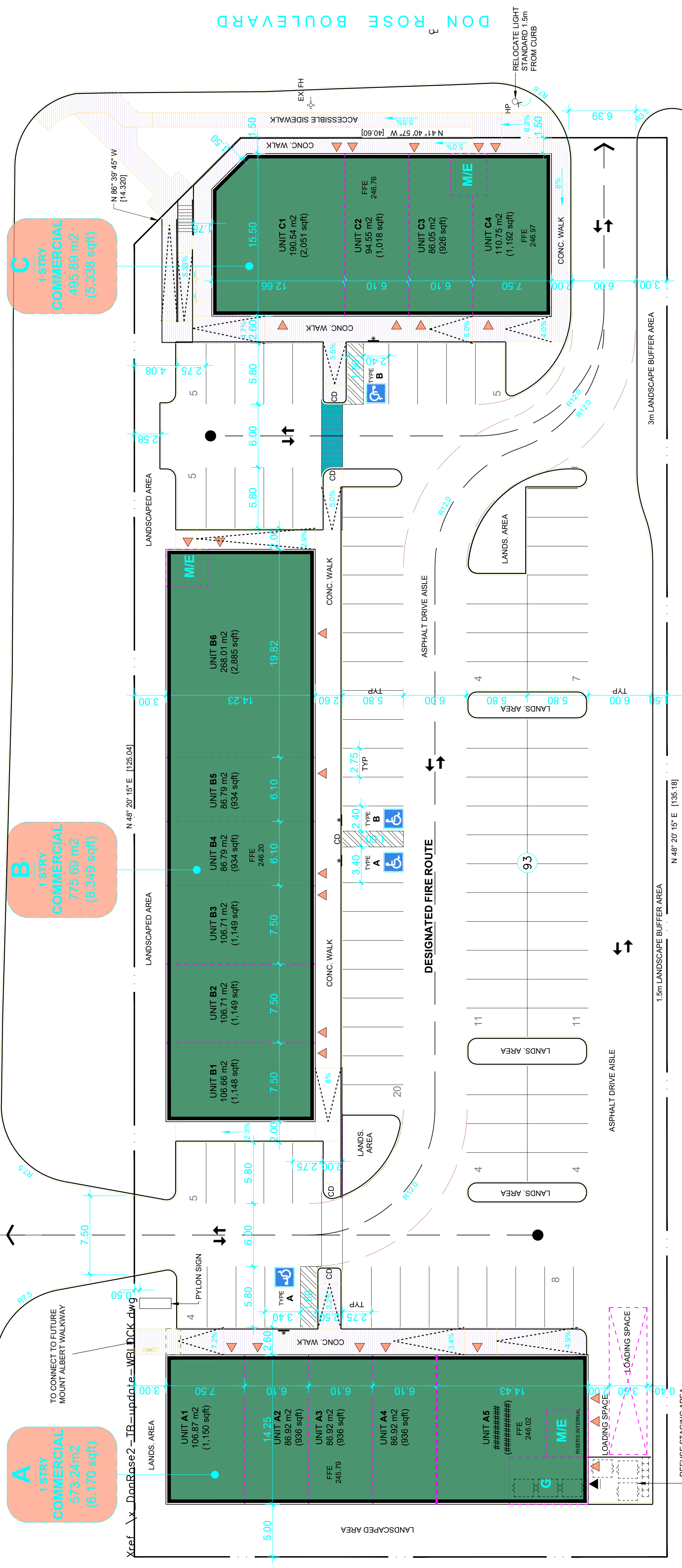
MAN DOOR LOCATIONS	LOADING DOCK LOCATIONS	DRIVE-IN OR OVERHEAD DOORS	HYDRANT-VALVE	CATCH BASIN	DOUBLE CATCH BASIN	SANITARY MANHOLE	CATCH BASIN / MANHOLE	STORM MANHOLE	HYDRO POLE STANDARD / UTILITY POLE	BICYCLE RING (0.6m x 1.8m x 1.8m H.)	DIRECTION OF TRAFFIC FLOW	PAD MOUNTED HYDRO TRANSFORMER	GAS METERS / PIPES TO BE SCREEN FROM VIEW	ACCESSIBLE PARKING SPACE	REFUSE STORAGE ROOM & BIN	LIGHT STANDARD (TYP)	MECHANICAL / ELECTRICAL ROOM	CURB DEPRESSION / BARRIER FREE ACCESS	LOADING SPACE (8m x 3.5m x 4m H)	CONC. FILLED STEEL BOLLARD	FIRE DEPARTMENT CONNECTION / SAMESIDE CONNECTION	HANDICAP SIGNAGE AS PER MUNICIPAL BY-LAW	BENCH & WASTE RECEPTACLE (BEE LANDS)	FIRE ROUTE SIGN @ < 30' / 45' to fire parallel to traffic flow	STOP SIGN	PAINTED STOP BAR	PROPOSED LANDSCAPED ISLAND W/ CONC. CURB
--------------------	------------------------	----------------------------	---------------	-------------	--------------------	------------------	-----------------------	---------------	------------------------------------	--------------------------------------	---------------------------	-------------------------------	---	--------------------------	---------------------------	----------------------	------------------------------	---------------------------------------	----------------------------------	----------------------------	--	--	--------------------------------------	--	-----------	------------------	--

Centreline of Road (BY PLAN 65R-2781)

MOUNT ALBERT ROAD

DON ROSE BOULEVARD

EXIST. SWM POND



**A**  
 1 STRY COMMERCIAL  
 573.24m<sup>2</sup>  
 (6,170 sqft)

**B**  
 1 STRY COMMERCIAL  
 775.69 m<sup>2</sup>  
 (8,349 sqft)

**C**  
 1 STRY COMMERCIAL  
 495.89 m<sup>2</sup>  
 (5,338 sqft)

SEE LANDSCAPE DRAWINGS  
 OWNER TO PROVIDE. MUNICIPALITY TO MAINTAIN AS IT IS OUTSIDE OF  
 OWNERS PROPERTY

# Mt Albert Rd @ Don Rose Blvd

## Morning Peak Diagram

### Specified Period

**From:** 7:00:00

**To:** 9:00:00

### One Hour Peak

**From:** 7:15:00

**To:** 8:15:00

**Municipality:** East Gwillimbury  
**Site #:** 000000001  
**Intersection:** Mt Albert Rd & Don Rose Blvd  
**TFR File #:** 2  
**Count date:** 11-Dec-2018

**Weather conditions:**  
 Cloudy/Dry  
**Person(s) who counted:**  
 Les

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Mt Albert Rd runs W/E

North Leg Total: 211  
 North Entering: 163  
 North Peds: 0  
 Peds Cross:  $\times$

Heavys	4	0	1	5
Trucks	1	0	0	1
Cars	135	1	21	157
Totals	140	1	22	



Heavys	3
Trucks	1
Cars	44
Totals	48

East Leg Total: 496  
 East Entering: 336  
 East Peds: 5  
 Peds Cross:  $\times$

Heavys	10
Trucks	6
Cars	458
Totals	474

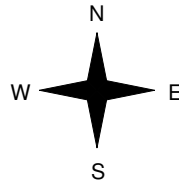


King St

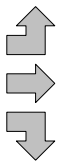
Cars	18	Trucks	1	Heavys	0	Totals	19
Cars	298	Trucks	5	Heavys	6	Totals	309
Cars	7	Trucks	1	Heavys	0	Totals	8
Cars	323	Trucks	7	Heavys	6	Totals	



Mt Albert Rd



Heavys	3
Trucks	0
Cars	25
Totals	28
Heavys	11
Trucks	5
Cars	113
Totals	129
Heavys	2
Trucks	1
Cars	5
Totals	8
Heavys	16
Trucks	6
Cars	143
Totals	



Mt Albert Rd



Don Rose Blvd



Cars	142	Trucks	5	Heavys	13	Totals	160
------	-----	--------	---	--------	----	--------	-----

Peds Cross:  $\times$   
 West Peds: 1  
 West Entering: 165  
 West Leg Total: 639

Cars	13
Trucks	2
Heavys	2
Totals	17



Cars	25	1	8	34
Trucks	0	0	0	0
Heavys	0	0	1	1
Totals	25	1	9	

Peds Cross:  $\times$   
 South Peds: 0  
 South Entering: 35  
 South Leg Total: 52

## Comments

# Mt Albert Rd @ Don Rose Blvd

## Mid-day Peak Diagram

### Specified Period

**From:** 11:00:00

**To:** 14:00:00

### One Hour Peak

**From:** 12:30:00

**To:** 13:30:00

**Municipality:** East Gwillimbury  
**Site #:** 000000001  
**Intersection:** Mt Albert Rd & Don Rose Blvd  
**TFR File #:** 2  
**Count date:** 11-Dec-2018

**Weather conditions:**  
 Cloudy/Dry  
**Person(s) who counted:**  
 Les

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Mt Albert Rd runs W/E

North Leg Total: 133  
 North Entering: 65  
 North Peds: 0  
 Peds Cross:  $\times$

Heavys	2	0	0	2
Trucks	2	0	0	2
Cars	51	1	9	61
Totals	55	1	9	



Heavys	0
Trucks	4
Cars	64
Totals	68

East Leg Total: 266  
 East Entering: 129  
 East Peds: 0  
 Peds Cross:  $\times$

Heavys	8
Trucks	8
Cars	163
Totals	179

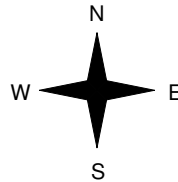


King St

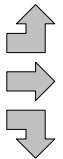
Cars	9	Trucks	1	Heavys	0	Totals	10
Cars	106	Trucks	6	Heavys	6	Totals	118
Cars	1	Trucks	0	Heavys	0	Totals	1
Cars	116	Trucks	7	Heavys	6	Totals	



Mt Albert Rd



Heavys	0
Trucks	2
Cars	55
Totals	57
Heavys	4
Trucks	3
Cars	118
Totals	125
Heavys	1
Trucks	2
Cars	10
Totals	13
Heavys	5
Trucks	7
Cars	183
Totals	



Mt Albert Rd



Don Rose Blvd

Cars	130
Trucks	3
Heavys	4
Totals	137

Peds Cross:  $\times$   
 West Peds: 0  
 West Entering: 195  
 West Leg Total: 374

Cars	12
Trucks	2
Heavys	1
Totals	15



Cars	6	0	3	9
Trucks	0	1	0	1
Heavys	0	0	0	0
Totals	6	1	3	

Peds Cross:  $\times$   
 South Peds: 0  
 South Entering: 10  
 South Leg Total: 25

## Comments

# Mt Albert Rd @ Don Rose Blvd

## Afternoon Peak Diagram

### Specified Period

**From:** 15:00:00

**To:** 18:00:00

### One Hour Peak

**From:** 16:30:00

**To:** 17:30:00

**Municipality:** East Gwillimbury  
**Site #:** 000000001  
**Intersection:** Mt Albert Rd & Don Rose Blvd  
**TFR File #:** 2  
**Count date:** 11-Dec-2018

**Weather conditions:**  
 Cloudy/Dry  
**Person(s) who counted:**  
 Les

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Mt Albert Rd runs W/E

North Leg Total: 271  
 North Entering: 72  
 North Peds: 0  
 Peds Cross:  $\bowtie$

Heavys	2	0	0	2
Trucks	1	0	0	1
Cars	55	3	11	69
<b>Totals</b>	<b>58</b>	<b>3</b>	<b>11</b>	



Heavys	0
Trucks	0
Cars	199
<b>Totals</b>	<b>199</b>

East Leg Total: 433  
 East Entering: 159  
 East Peds: 2  
 Peds Cross:  $\bowtie$

Heavys	Trucks	Cars	Totals
6	4	194	204

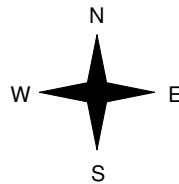


King St

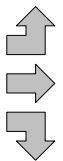
Cars	Trucks	Heavys	Totals
13	0	0	13
132	3	4	139
6	1	0	7
<b>151</b>	<b>4</b>	<b>4</b>	



Mt Albert Rd



Heavys	Trucks	Cars	Totals
0	0	185	185
7	2	244	253
0	0	18	18
<b>7</b>	<b>2</b>	<b>447</b>	



Mt Albert Rd



Peds Cross:  $\bowtie$   
 West Peds: 0  
 West Entering: 456  
 West Leg Total: 660

Cars	27
Trucks	1
Heavys	0
<b>Totals</b>	<b>28</b>



Cars	7	1	10	18
Trucks	0	0	0	0
Heavys	0	0	0	0
<b>Totals</b>	<b>7</b>	<b>1</b>	<b>10</b>	

Peds Cross:  $\bowtie$   
 South Peds: 1  
 South Entering: 18  
 South Leg Total: 46

## Comments

# Mt Albert Rd @ Don Rose Blvd

## Total Count Diagram

**Municipality:** East Gwillimbury  
**Site #:** 000000001  
**Intersection:** Mt Albert Rd & Don Rose Blvd  
**TFR File #:** 2  
**Count date:** 11-Dec-2018

**Weather conditions:**  
 Cloudy/Dry  
**Person(s) who counted:**  
 Les

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Mt Albert Rd runs W/E

North Leg Total: 1436  
 North Entering: 673  
 North Peds: 0  
 Peds Cross:  $\bowtie$

Heavys	24	2	1	27
Trucks	7	1	1	9
Cars	540	14	83	637
Totals	571	17	85	



Heavys	18
Trucks	17
Cars	728
Totals	763

East Leg Total: 2820  
 East Entering: 1447  
 East Peds: 14  
 Peds Cross:  $\bowtie$

Heavys	Trucks	Cars	Totals
64	50	1869	1983

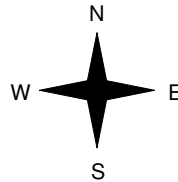


King St

Cars	Trucks	Heavys	Totals
75	5	4	84
1256	41	38	1335
25	2	1	28
1356	48	43	



Mt Albert Rd



Heavys	Trucks	Cars	Totals
11	11	644	666
46	34	1163	1243
5	4	61	70
62	49	1868	



Mt Albert Rd



Peds Cross:  $\bowtie$   
 West Peds: 1  
 West Entering: 1979  
 West Leg Total: 3962

Cars	100
Trucks	7
Heavys	8
Totals	115



Don Rose Blvd

Cars	73	9	38	120
Trucks	2	1	3	6
Heavys	2	3	4	9
Totals	77	13	45	

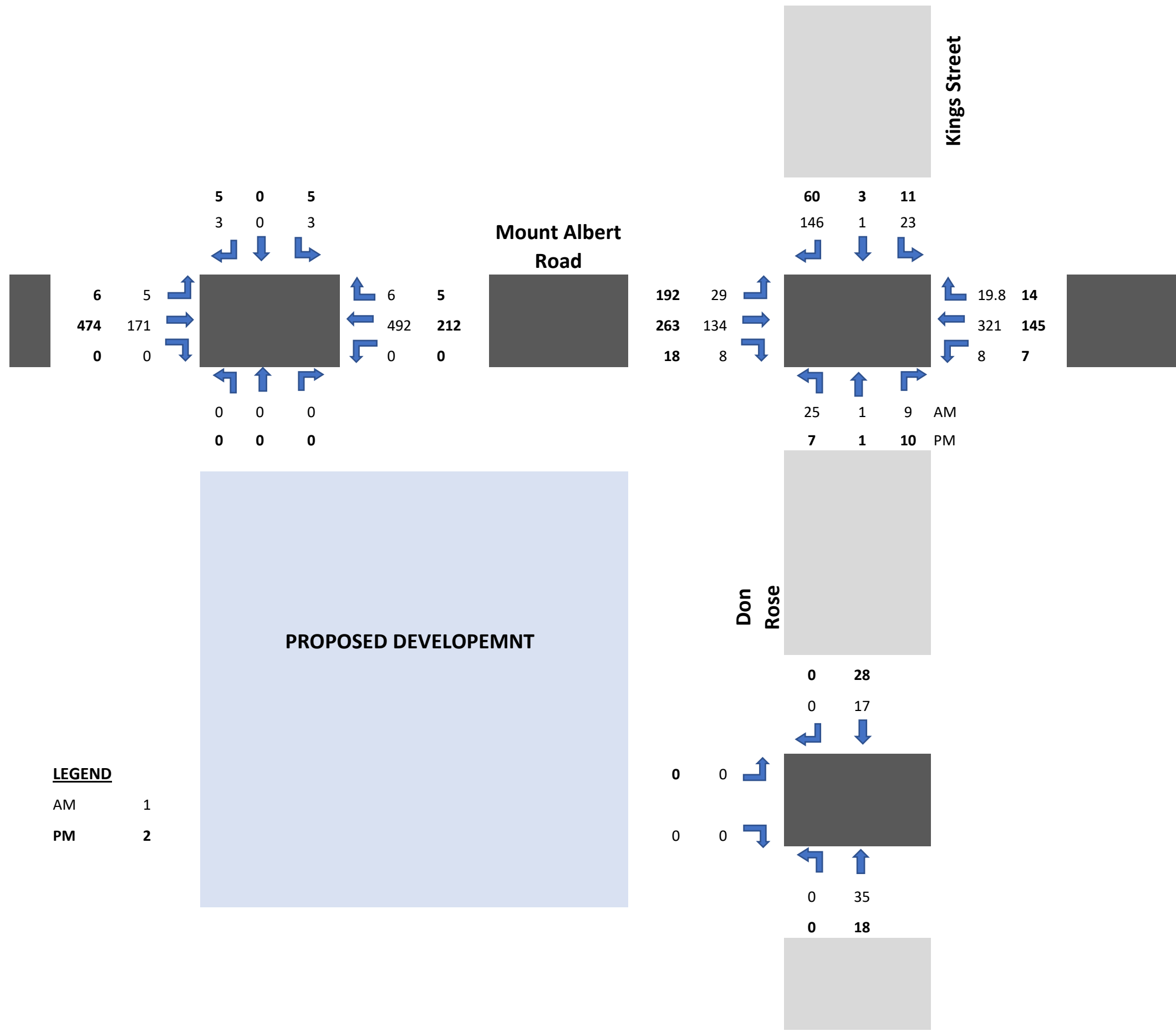
Peds Cross:  $\bowtie$   
 South Peds: 1  
 South Entering: 135  
 South Leg Total: 250

### Comments

## Appendix B

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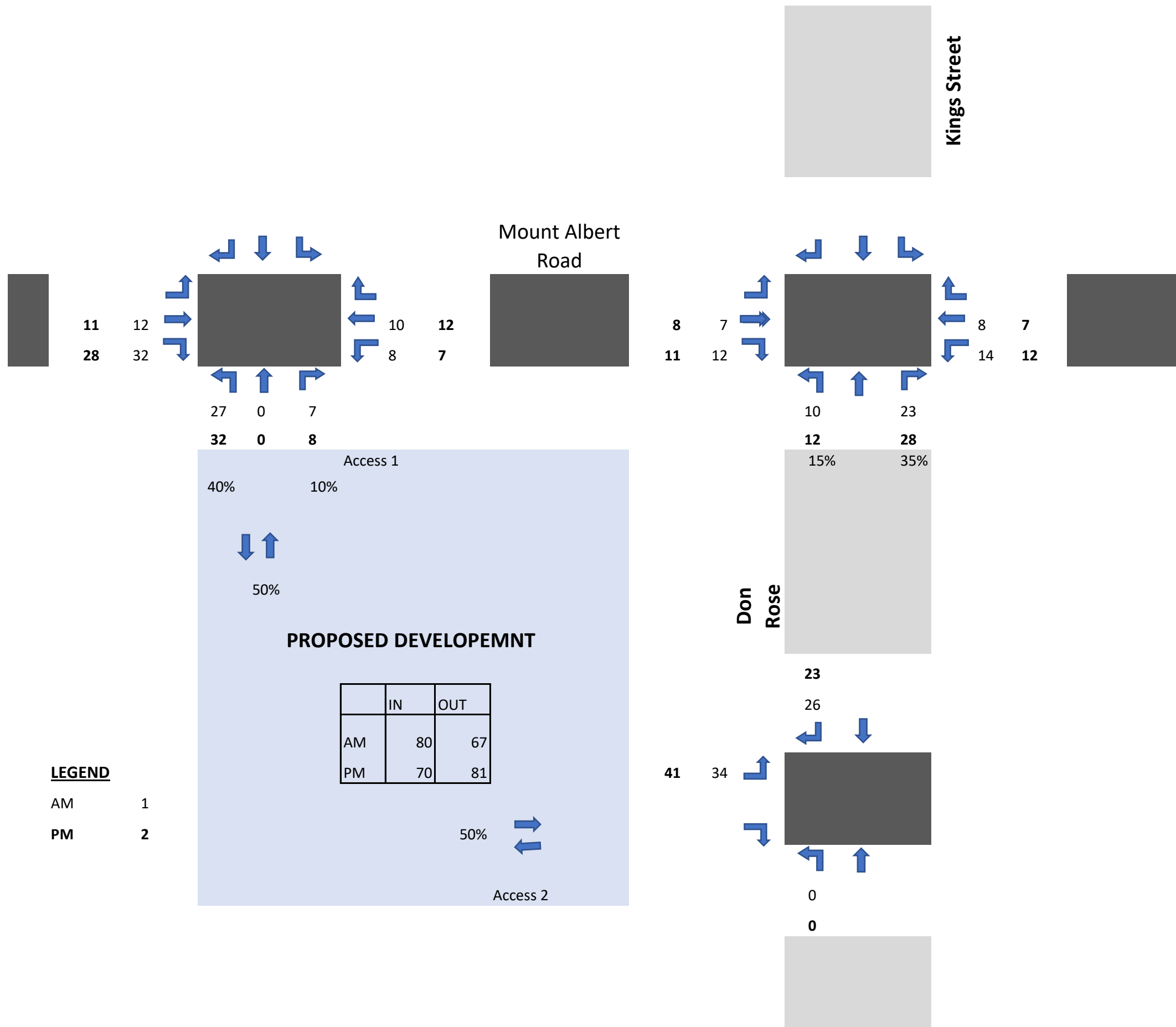
# RETAIL/COMMERICAL CENTER



<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2020 BACKGROUND TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 1

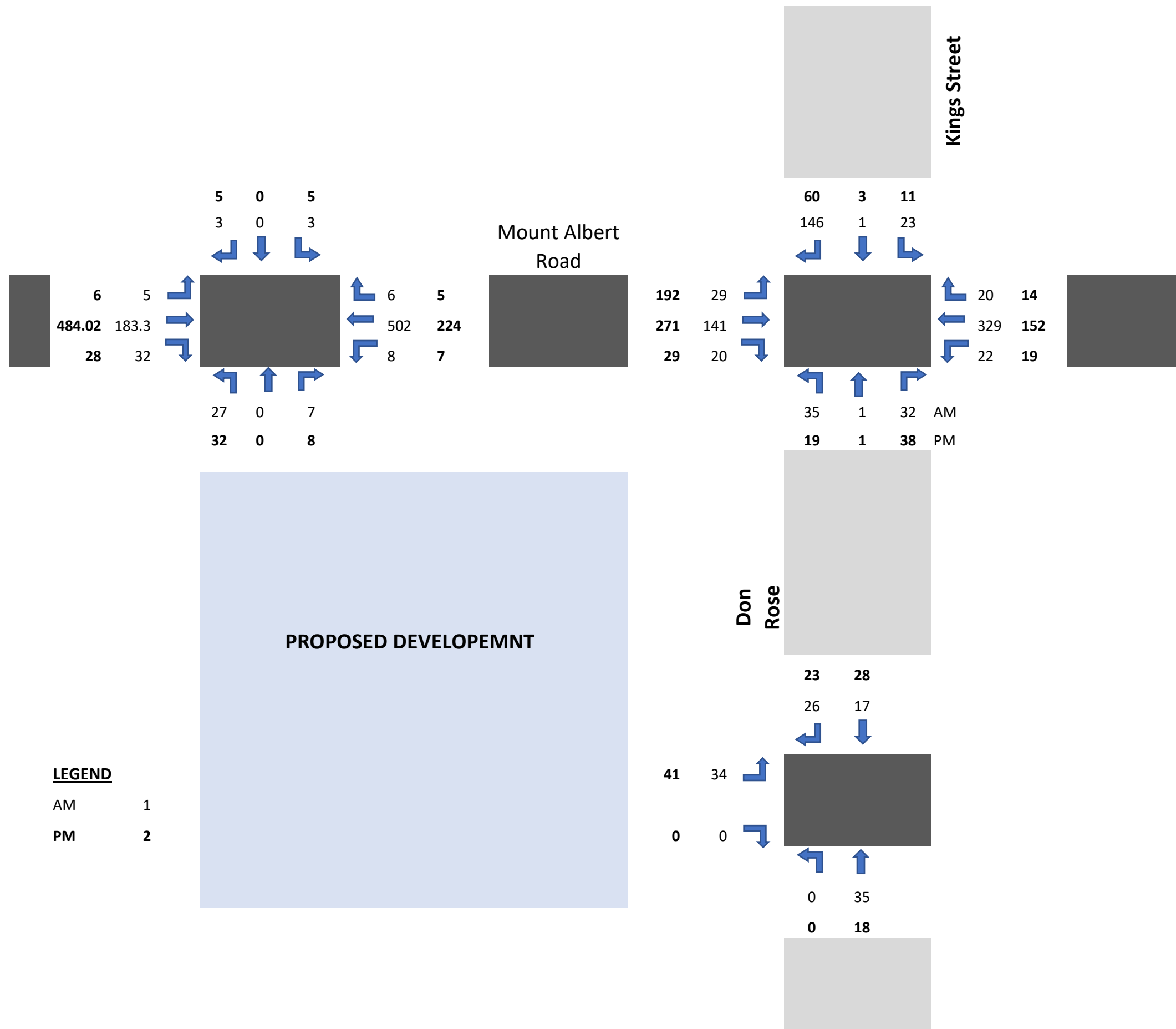


# RETAIL/COMMERICAL CENTER



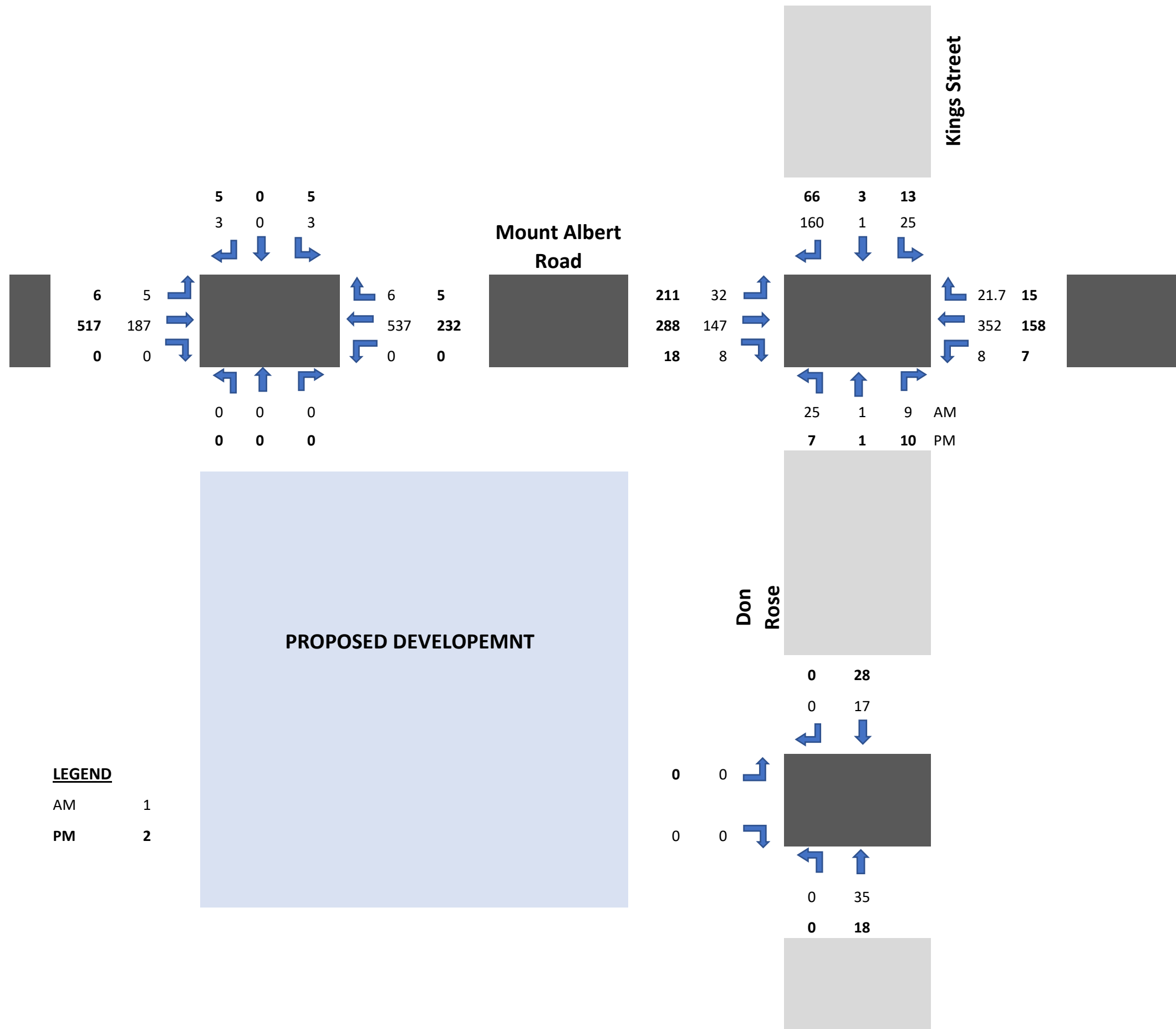
<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2020 DEVELOPMENT TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 1.1

# RETAIL/COMMERICAL CENTER



<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2020 TOTAL TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 1.2

# RETAIL/COMMERICAL DEVELOPMENT



**PROJECT NAME** 2 Don Rose Blvd, East Gwillimbury

**SHEET TITLE** 2025 BACKGROUND TRAFFIC

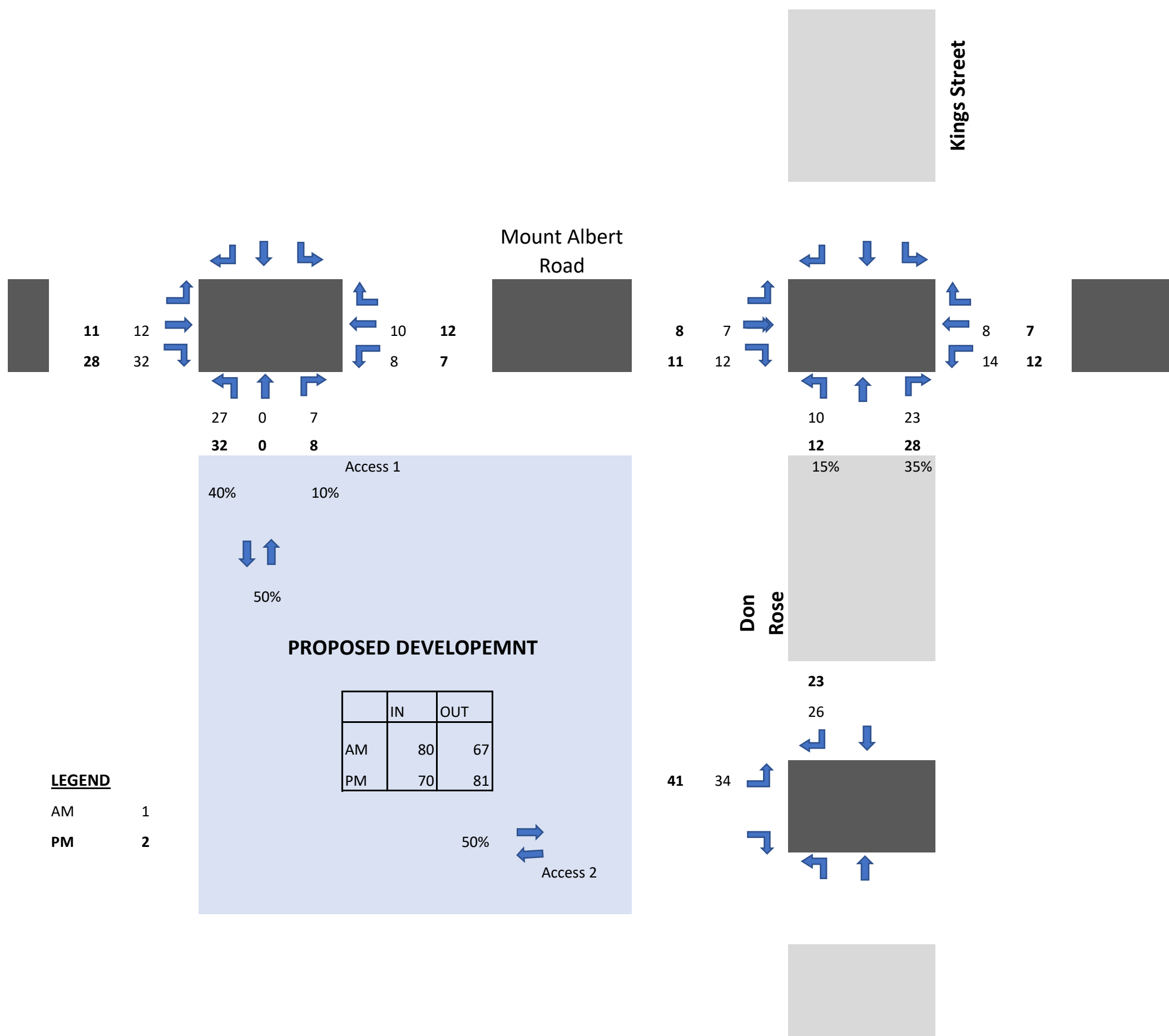


**DATE:** 01-Mar-19

**PROJECT NO:** 18-167

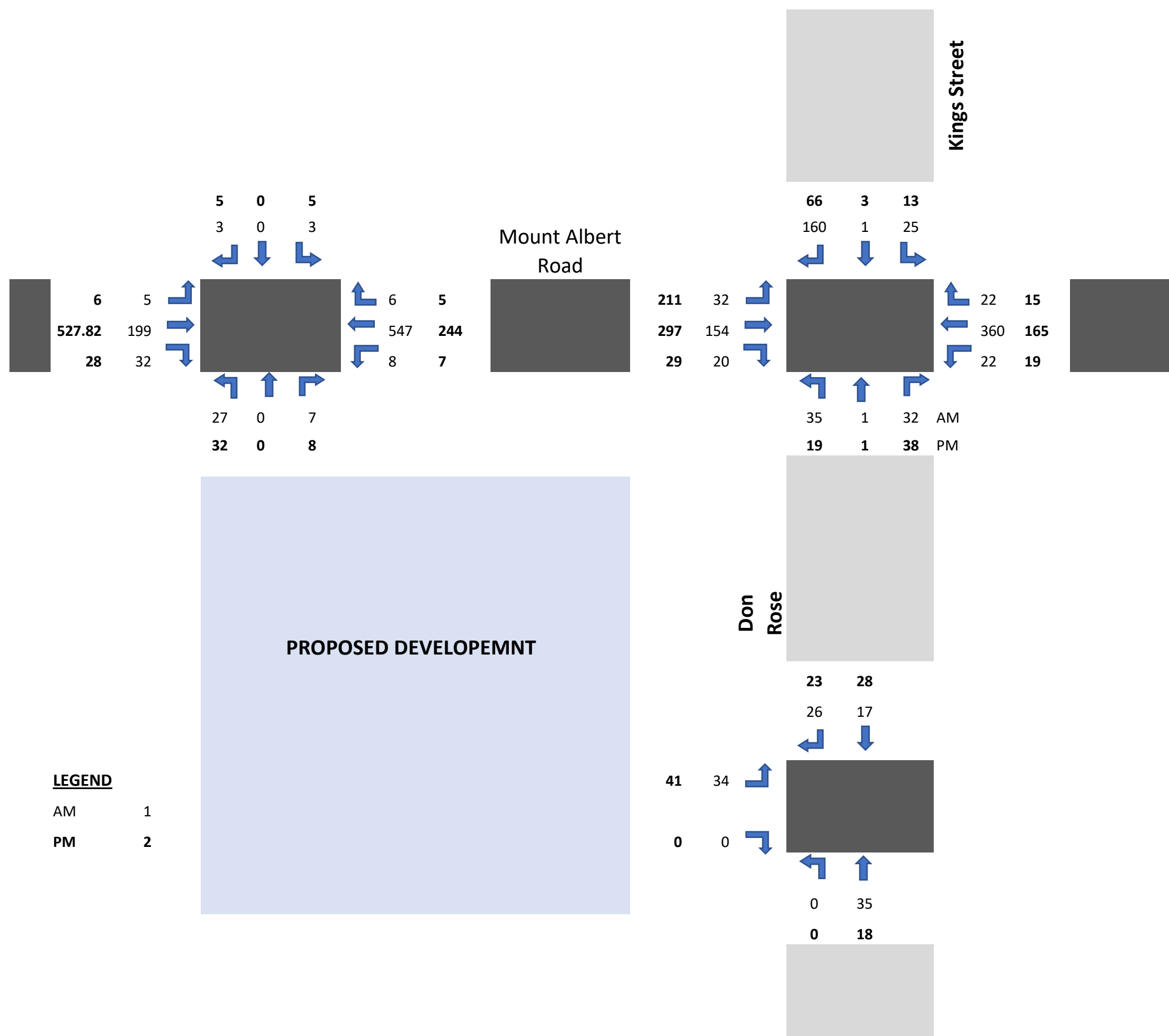
**FIGURE NO:** Figure 2

## RETAIL/COMMERICAL DEVELOPMENT



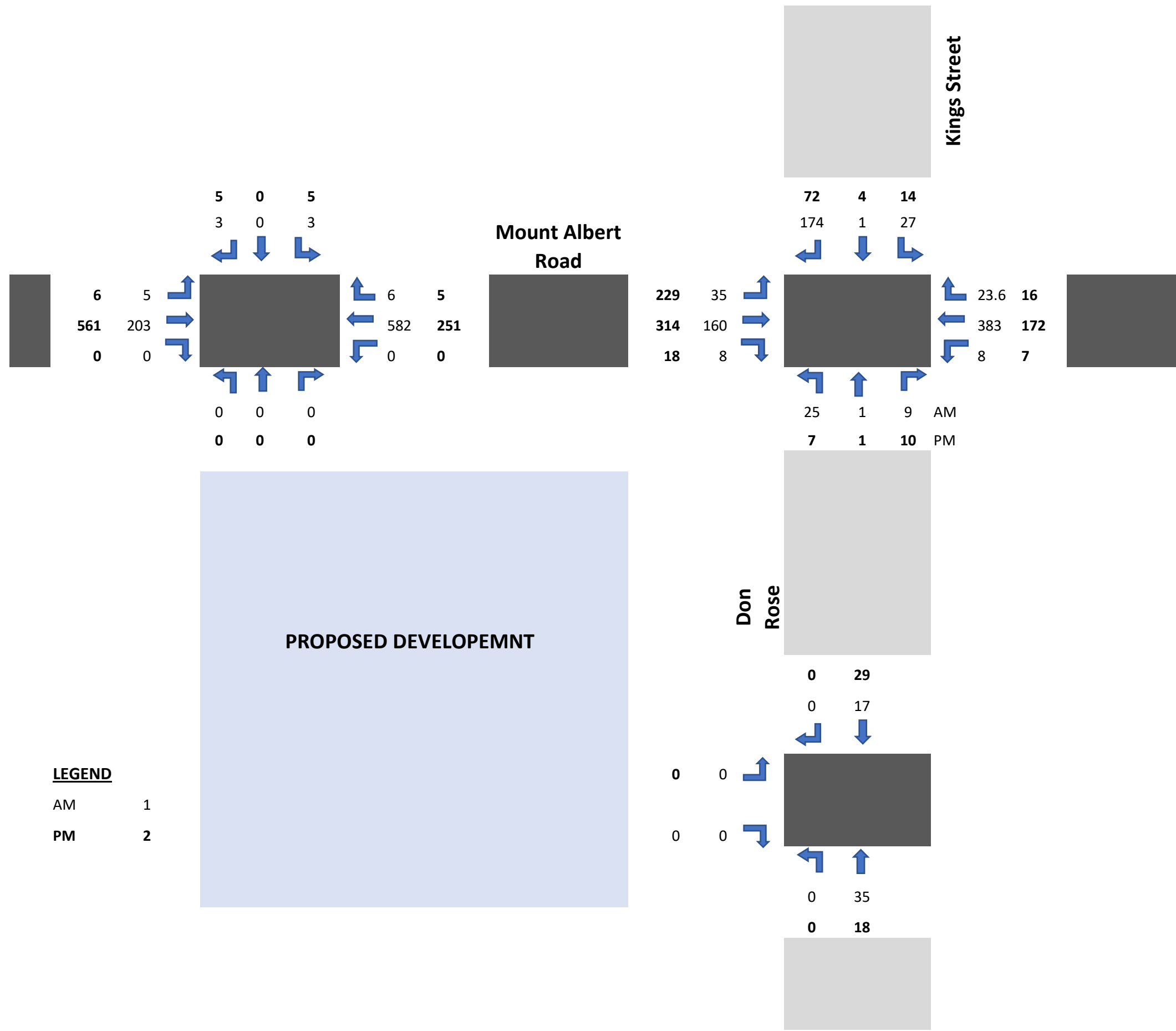
<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2020 DEVELOPMENT TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 2.1

## RETAIL/COMMERICAL DEVELOPMENT



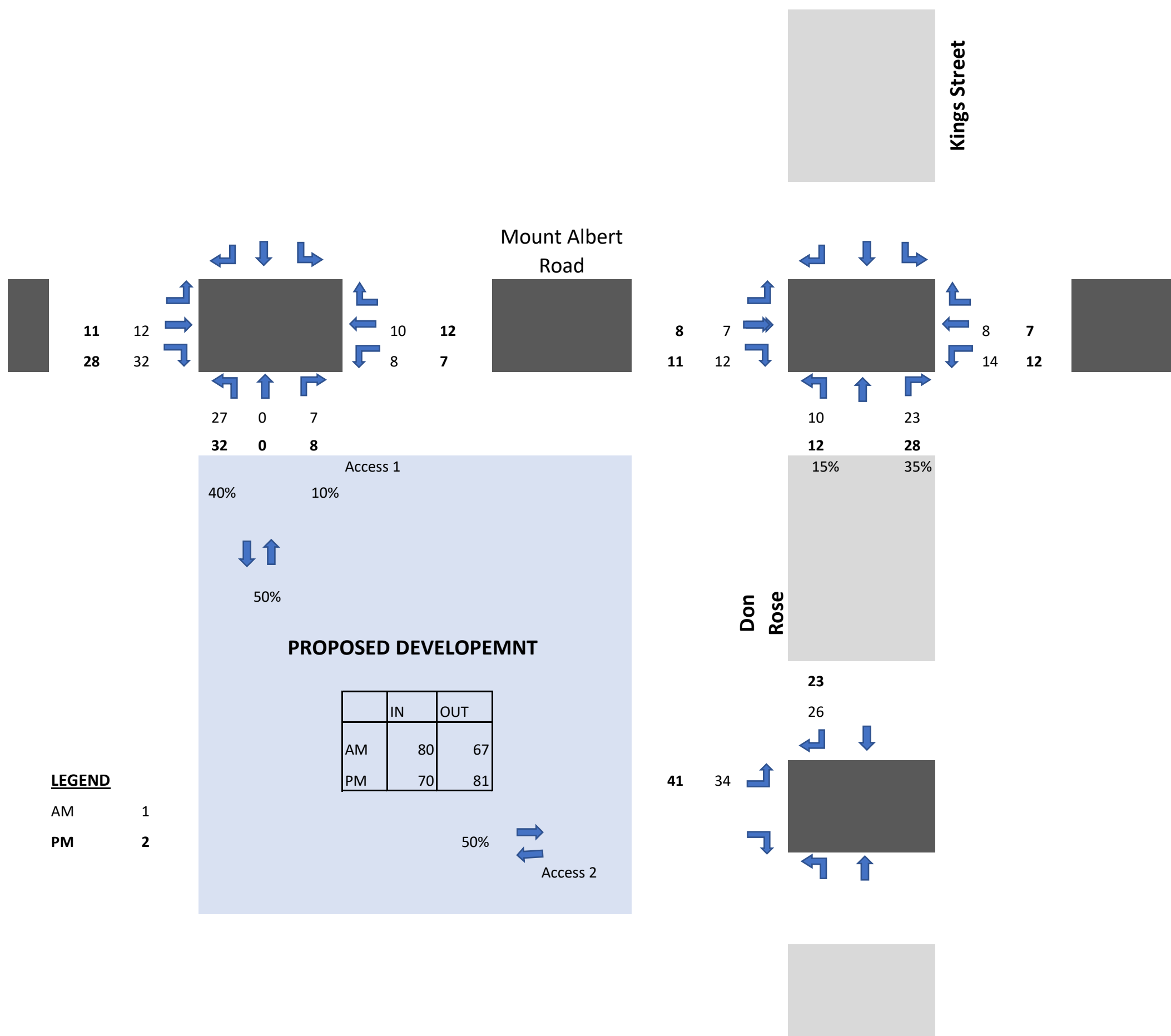
<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2025 TOTAL TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 2.2

# RETAIL/COMMERICAL DEVELOPMENT



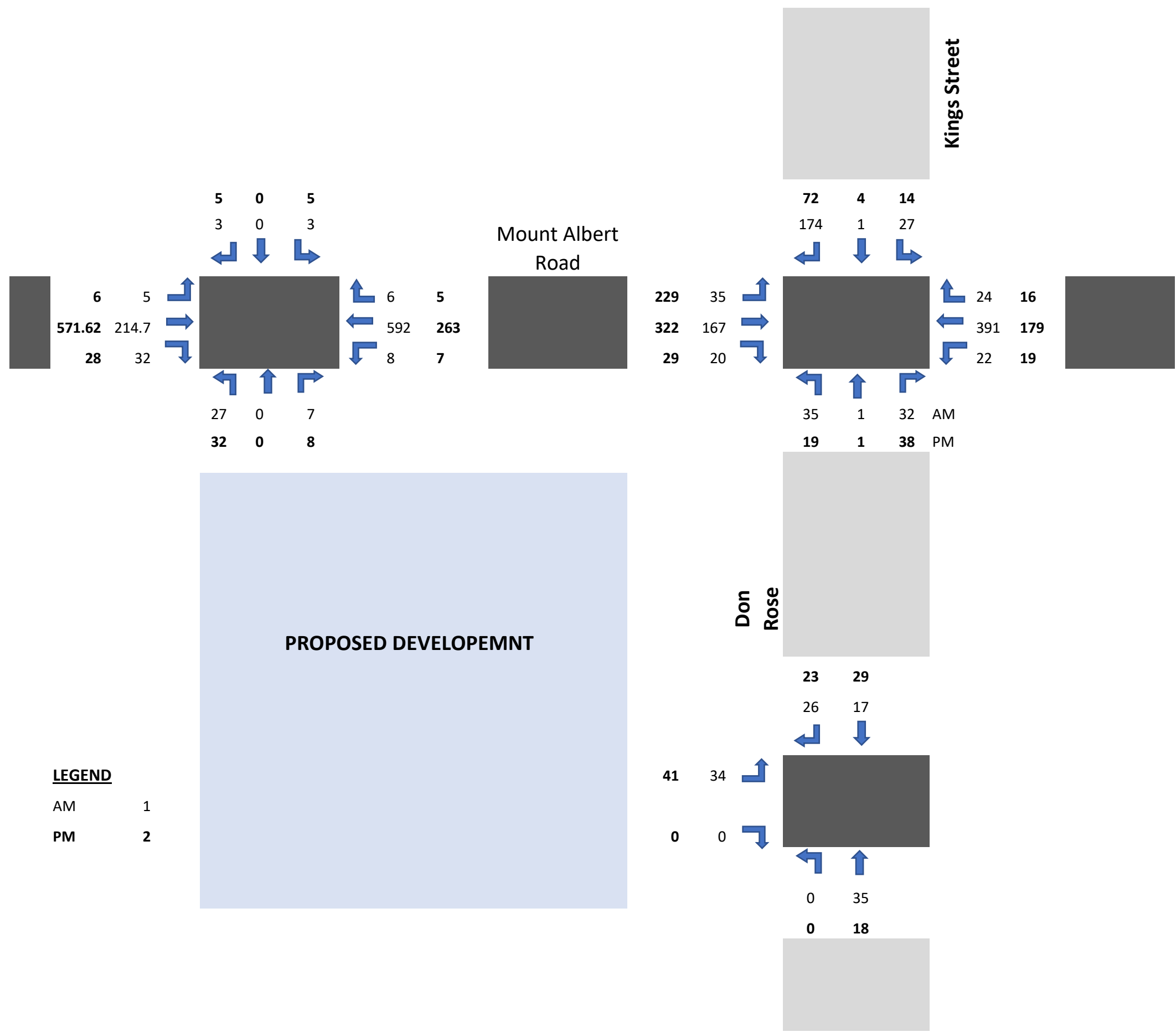
<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE: 01-Mar-19
<b>SHEET TITLE</b>	2030 BACKGROUND TRAFFIC		PROJECT NO: 18-167
			FIGURE NO: Figure 3

# RETAIL/COMMERICAL DEVELOPMENT



<b>PROJECT NAME</b>	2 Don Rose Blvd, East Gwillimbury	<b>EDGEWEIR</b> CONSULTING	DATE:	01-Mar-19
<b>SHEET TITLE</b>	2030 DEVELOPMENT TRAFFIC		PROJECT NO:	18-167
			FIGURE NO:	Figure 3.1

# RETAIL/COMMERICAL DEVELOPMENT



**PROJECT NAME** 2 Don Rose Blvd, East Gwillimbury

**SHEET TITLE** 2030 TOTAL TRAFFIC



**DATE:** 01-Mar-19

**PROJECT NO:** 18-167

**FIGURE NO:** Figure 3.2



## Appendix C

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HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2020 TOTAL AM TRAFFIC  
02-06-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	141	20	22	329	20	35	1	32	23	1	146
Future Volume (Veh/h)	29	141	20	22	329	20	35	1	32	23	1	146
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)	32	153	22	24	358	22	38	1	35	25	1	159
Pedestrians					5			1			1	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	381			176			794	658	170	658	658	370
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	381			176			794	658	170	658	658	370
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			83	100	96	93	100	76
cM capacity (veh/h)	1134			1352			226	369	869	344	369	671
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	32	175	24	380	74	185						
Volume Left	32	0	24	0	38	25						
Volume Right	0	22	0	22	35	159						
cSH	1134	1700	1352	1700	436	592						
Volume to Capacity	0.03	0.10	0.02	0.22	0.17	0.31						
Queue Length 95th (m)	0.7	0.0	0.4	0.0	4.8	10.5						
Control Delay (s)	8.3	0.0	7.7	0.0	17.0	13.8						
Lane LOS	A		A		C	B						
Approach Delay (s)	1.3		0.5		17.0	13.8						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.9									
Intersection Capacity Utilization			47.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2020 TOTAL AM TRAFFIC  
02-06-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	183	32	8	502	6	27	0	7	3	0	3
Future Volume (Veh/h)	5	183	32	8	502	6	27	0	7	3	0	3
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)	5	199	35	9	546	7	29	0	8	3	0	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	553			234			797	798	216	794	812	550
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	553			234			797	798	216	794	812	550
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			90	100	99	99	100	99
cM capacity (veh/h)	1017			1333			300	315	823	300	310	535
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	239	562	37	6								
Volume Left	5	9	29	3								
Volume Right	35	7	8	3								
cSH	1017	1333	348	385								
Volume to Capacity	0.00	0.01	0.11	0.02								
Queue Length 95th (m)	0.1	0.2	2.8	0.4								
Control Delay (s)	0.2	0.2	16.6	14.5								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.2	16.6	14.5								
Approach LOS			C	B								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			40.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
8: Access Rd 2 & Don Rose Blvd

2020 TOTAL AM TRAFFIC  
02-06-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	35	17	26
Future Volume (Veh/h)	34	0	0	35	17	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	0	38	18	28
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	70	32	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	32	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	934	1042	1562			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	37	38	46			
Volume Left	37	0	0			
Volume Right	0	0	28			
cSH	934	1562	1700			
Volume to Capacity	0.04	0.00	0.03			
Queue Length 95th (m)	1.0	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			2.8			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2020 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	271	29	19	152	14	19	1	38	11	3	60
Future Volume (Veh/h)	192	271	29	19	152	14	19	1	38	11	3	60
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)	209	295	32	21	165	15	21	1	41	12	3	65
Pedestrians		1			1			2			2	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	182			329			1006	955	314	952	964	176
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			329			1006	955	314	952	964	176
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			98			88	100	94	94	99	92
cM capacity (veh/h)	1403			1185			177	217	724	197	214	860
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	209	327	21	180	63	80						
Volume Left	209	0	21	0	21	12						
Volume Right	0	32	0	15	41	65						
cSH	1403	1700	1185	1700	511	532						
Volume to Capacity	0.15	0.19	0.02	0.11	0.12	0.15						
Queue Length 95th (m)	4.1	0.0	0.4	0.0	3.3	4.2						
Control Delay (s)	8.0	0.0	8.1	0.0	16.5	13.0						
Lane LOS	A		A		C	B						
Approach Delay (s)	3.1		0.8		16.5	13.0						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.5									
Intersection Capacity Utilization			40.9%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2020 TOTAL PM TRAFFIC  
02-08-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	484	28	7	224	5	32	0	8	5	0	5
Future Volume (Veh/h)	6	484	28	7	224	5	32	0	8	5	0	5
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)	7	526	30	8	243	5	35	0	9	5	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	248			556			822	819	541	816	832	246
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	248			556			822	819	541	816	832	246
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	98	98	100	99
cM capacity (veh/h)	1318			1015			288	306	541	288	301	793
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	563	256	44	10								
Volume Left	7	8	35	5								
Volume Right	30	5	9	5								
cSH	1318	1015	319	422								
Volume to Capacity	0.01	0.01	0.14	0.02								
Queue Length 95th (m)	0.1	0.2	3.7	0.6								
Control Delay (s)	0.2	0.3	18.1	13.7								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.3	18.1	13.7								
Approach LOS			C	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			39.9%	ICU Level of Service		A						
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
8: Access Rd 2 & Don Rose Blvd

2020 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	0	0	18	29	23
Future Volume (Veh/h)	41	0	0	18	29	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	20	32	25
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	64	44	57			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	44	57			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	941	1025	1547			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	45	20	57			
Volume Left	45	0	0			
Volume Right	0	0	25			
cSH	941	1547	1700			
Volume to Capacity	0.05	0.00	0.03			
Queue Length 95th (m)	1.2	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.3			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

2025 BKGD AM TRAFFIC  
02-06-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	147	8	8	352	22	25	1	9	25	1	160
Future Volume (Veh/h)	32	147	8	8	352	22	25	1	9	25	1	160
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	160	9	9	383	24	27	1	10	27	1	174
Pedestrians					5			1			1	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	408			170			811	662	170	654	654	396
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	408			170			811	662	170	654	654	396
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			87	100	99	92	100	73
cM capacity (veh/h)	1108			1359			212	370	869	359	373	648
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	35	169	9	407	38	202						
Volume Left	35	0	9	0	27	27						
Volume Right	0	9	0	24	10	174						
cSH	1108	1700	1359	1700	296	583						
Volume to Capacity	0.03	0.10	0.01	0.24	0.13	0.35						
Queue Length 95th (m)	0.8	0.0	0.2	0.0	3.4	12.2						
Control Delay (s)	8.4	0.0	7.7	0.0	20.0	14.4						
Lane LOS	A		A		C	B						
Approach Delay (s)	1.4		0.2		20.0	14.4						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.7									
Intersection Capacity Utilization			51.2%		ICU Level of Service				A			
Analysis Period (min)			15									



HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

2025 BKGD PM TRAFFIC  
02-08-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	288	18	7	158	15	7	1	10	13	3	66
Future Volume (Veh/h)	211	288	18	7	158	15	7	1	10	13	3	66
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)	229	313	20	8	172	16	8	1	11	14	3	72
Pedestrians	1			1			2			2		
Lane Width (m)	3.7			3.7			3.7			3.7		
Walking Speed (m/s)	1.2			1.2			1.2			1.2		
Percent Blockage	0			0			0			0		
Right turn flare (veh)										3		
Median type	None			None								
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	190			335			1046	989	326	976	991	183
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	190			335			1046	989	326	976	991	183
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	84			99			95	100	98	93	99	92
cM capacity (veh/h)	1394			1179			163	206	713	197	205	852
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	229	333	8	188	20	89						
Volume Left	229	0	8	0	8	14						
Volume Right	0	20	0	16	11	72						
cSH	1394	1700	1179	1700	373	523						
Volume to Capacity	0.16	0.20	0.01	0.11	0.05	0.17						
Queue Length 95th (m)	4.6	0.0	0.2	0.0	1.3	4.8						
Control Delay (s)	8.1	0.0	8.1	0.0	18.0	13.3						
Lane LOS	A		A		C	B						
Approach Delay (s)	3.3		0.3		18.0	13.3						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.0									
Intersection Capacity Utilization			42.8%		ICU Level of Service			A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2025 TOTAL AM TRAFFIC  
02-06-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	154	20	22	360	22	35	1	32	25	1	160
Future Volume (Veh/h)	32	154	20	22	360	22	35	1	32	25	1	160
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	167	22	24	391	24	38	1	35	27	1	174
Pedestrians					5			1			1	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	416			190			862	713	184	712	712	404
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	416			190			862	713	184	712	712	404
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			98			80	100	96	91	100	73
cM capacity (veh/h)	1100			1336			194	341	854	315	342	642
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	35	189	24	415	74	202						
Volume Left	35	0	24	0	38	27						
Volume Right	0	22	0	24	35	174						
cSH	1100	1700	1336	1700	375	562						
Volume to Capacity	0.03	0.11	0.02	0.24	0.20	0.36						
Queue Length 95th (m)	0.8	0.0	0.4	0.0	5.7	12.8						
Control Delay (s)	8.4	0.0	7.7	0.0	19.0	15.0						
Lane LOS	A		A		C	B						
Approach Delay (s)	1.3		0.4		19.0	15.0						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			5.2									
Intersection Capacity Utilization			51.2%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2025 TOTAL AM TRAFFIC  
02-06-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	199	32	8	547	6	27	0	7	3	0	3
Future Volume (Veh/h)	5	199	32	8	547	6	27	0	7	3	0	3
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)	5	216	35	9	595	7	29	0	8	3	0	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	602			251			863	864	234	860	878	598
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602			251			863	864	234	860	878	598
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			89	100	99	99	100	99
cM capacity (veh/h)	975			1314			271	289	806	271	283	502
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	256	611	37	6								
Volume Left	5	9	29	3								
Volume Right	35	7	8	3								
cSH	975	1314	316	352								
Volume to Capacity	0.01	0.01	0.12	0.02								
Queue Length 95th (m)	0.1	0.2	3.1	0.4								
Control Delay (s)	0.2	0.2	17.9	15.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.2	17.9	15.4								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			43.1%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
8: Access Rd 2 & Don Rose Blvd

2025 TOTAL AM TRAFFIC  
02-06-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	35	17	26
Future Volume (Veh/h)	34	0	0	35	17	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	0	38	18	28
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	70	32	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	32	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	934	1042	1562			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	37	38	46			
Volume Left	37	0	0			
Volume Right	0	0	28			
cSH	934	1562	1700			
Volume to Capacity	0.04	0.00	0.03			
Queue Length 95th (m)	1.0	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			2.8			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2025 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	297	29	19	165	15	19	1	38	13	3	66
Future Volume (Veh/h)	211	297	29	19	165	15	19	1	38	13	3	66
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)	229	323	32	21	179	16	21	1	41	14	3	72
Pedestrians	1		1				2				2	
Lane Width (m)	3.7		3.7				3.7				3.7	
Walking Speed (m/s)	1.2		1.2				1.2				1.2	
Percent Blockage	0		0				0				0	
Right turn flare (veh)									3			
Median type	None		None									
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	197			357			1094	1038	342	1034	1046	190
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	197			357			1094	1038	342	1034	1046	190
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	83			98			86	99	94	92	98	91
cM capacity (veh/h)	1385			1157			149	190	699	171	188	845
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	229	355	21	195	63	89						
Volume Left	229	0	21	0	21	14						
Volume Right	0	32	0	16	41	72						
cSH	1385	1700	1157	1700	433	485						
Volume to Capacity	0.17	0.21	0.02	0.11	0.15	0.18						
Queue Length 95th (m)	4.7	0.0	0.4	0.0	4.0	5.2						
Control Delay (s)	8.1	0.0	8.2	0.0	18.3	14.1						
Lane LOS	A		A		C	B						
Approach Delay (s)	3.2		0.8		18.3	14.1						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.7									
Intersection Capacity Utilization			43.2%		ICU Level of Service						A	
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2025 TOTAL PM TRAFFIC  
02-08-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	528	28	7	244	5	32	0	8	5	0	5
Future Volume (Veh/h)	6	528	28	7	244	5	32	0	8	5	0	5
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)	7	574	30	8	265	5	35	0	9	5	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	270			604			892	889	589	886	902	268
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	270			604			892	889	589	886	902	268
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	100	98	98	100	99
cM capacity (veh/h)	1293			974			258	279	508	258	274	771
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	611	278	44	10								
Volume Left	7	8	35	5								
Volume Right	30	5	9	5								
cSH	1293	974	287	386								
Volume to Capacity	0.01	0.01	0.15	0.03								
Queue Length 95th (m)	0.1	0.2	4.2	0.6								
Control Delay (s)	0.2	0.3	19.8	14.6								
Lane LOS	A	A	C	B								
Approach Delay (s)	0.2	0.3	19.8	14.6								
Approach LOS			C	B								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			42.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
8: Access Rd 2 & Don Rose Blvd

2025 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	0	0	18	29	23
Future Volume (Veh/h)	41	0	0	18	29	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	20	32	25
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	64	44	57			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	44	57			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	941	1025	1547			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	45	20	57			
Volume Left	45	0	0			
Volume Right	0	0	25			
cSH	941	1547	1700			
Volume to Capacity	0.05	0.00	0.03			
Queue Length 95th (m)	1.2	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.3			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 3: Don Rose Blvd/King St & Mount Albert Rd

2030 BKGD AM TRAFFIC  
 02-06-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	160	8	8	383	24	25	1	9	25	1	174
Future Volume (Veh/h)	35	160	8	8	383	24	25	1	9	25	1	174
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)	38	174	9	9	416	26	27	1	10	27	1	189
Pedestrians					5			1			1	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	443			184			879	716	184	708	708	430
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	443			184			879	716	184	708	708	430
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			99			85	100	99	92	100	70
cM capacity (veh/h)	1075			1343			181	342	853	329	346	620
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	38	183	9	442	38	217						
Volume Left	38	0	9	0	27	27						
Volume Right	0	9	0	26	10	189						
cSH	1075	1700	1343	1700	254	557						
Volume to Capacity	0.04	0.11	0.01	0.26	0.15	0.39						
Queue Length 95th (m)	0.9	0.0	0.2	0.0	4.1	14.5						
Control Delay (s)	8.5	0.0	7.7	0.0	22.8	15.5						
Lane LOS	A		A		C	C						
Approach Delay (s)	1.5		0.2		22.8	15.5						
Approach LOS					C	C						
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			53.8%		ICU Level of Service				A			
Analysis Period (min)			15									



HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

2030 BKGD PM TRAFFIC  
02-08-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	314	18	7	172	16	7	1	10	14	4	72
Future Volume (Veh/h)	229	314	18	7	172	16	7	1	10	14	4	72
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)	249	341	20	8	187	17	8	1	11	15	4	78
Pedestrians		1			1			2			2	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	206			363			1135	1073	354	1060	1074	198
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			363			1135	1073	354	1060	1074	198
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	82			99			94	99	98	91	98	91
cM capacity (veh/h)	1375			1151			138	180	688	170	180	835
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	249	361	8	204	20	97						
Volume Left	249	0	8	0	8	15						
Volume Right	0	20	0	17	11	78						
cSH	1375	1700	1151	1700	316	476						
Volume to Capacity	0.18	0.21	0.01	0.12	0.06	0.20						
Queue Length 95th (m)	5.2	0.0	0.2	0.0	1.6	6.0						
Control Delay (s)	8.2	0.0	8.2	0.0	20.1	14.5						
Lane LOS	A		A		C	B						
Approach Delay (s)	3.3		0.3		20.1	14.5						
Approach LOS					C	B						
<b>Intersection Summary</b>												
Average Delay			4.2									
Intersection Capacity Utilization			45.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2030 TOTAL AM TRAFFIC  
02-06-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	167	20	22	391	24	35	1	32	27	1	174
Future Volume (Veh/h)	35	167	20	22	391	24	35	1	32	27	1	174
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)	38	182	22	24	425	26	38	1	35	29	1	189
Pedestrians					5			1			1	
Lane Width (m)					3.7			3.7			3.7	
Walking Speed (m/s)					1.2			1.2			1.2	
Percent Blockage					0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	452			205			932	770	199	768	768	439
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	452			205			932	770	199	768	768	439
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			98			77	100	96	90	100	69
cM capacity (veh/h)	1067			1319			164	315	838	288	316	613
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	38	204	24	451	74	219						
Volume Left	38	0	24	0	38	29						
Volume Right	0	22	0	26	35	189						
cSH	1067	1700	1319	1700	319	531						
Volume to Capacity	0.04	0.12	0.02	0.27	0.23	0.41						
Queue Length 95th (m)	0.9	0.0	0.4	0.0	7.0	15.8						
Control Delay (s)	8.5	0.0	7.8	0.0	21.8	16.4						
Lane LOS	A		A		C	C						
Approach Delay (s)	1.3		0.4		21.8	16.4						
Approach LOS					C	C						
<b>Intersection Summary</b>												
Average Delay			5.7									
Intersection Capacity Utilization			54.3%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2030 TOTAL AM TRAFFIC  
02-06-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	215	32	8	592	6	27	0	7	3	0	3
Future Volume (Veh/h)	5	215	32	8	592	6	27	0	7	3	0	3
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)	5	234	35	9	643	7	29	0	8	3	0	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	650			269			929	930	252	926	944	646
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	650			269			929	930	252	926	944	646
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			88	100	99	99	100	99
cM capacity (veh/h)	936			1295			244	264	787	244	259	471
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	274	659	37	6								
Volume Left	5	9	29	3								
Volume Right	35	7	8	3								
cSH	936	1295	287	322								
Volume to Capacity	0.01	0.01	0.13	0.02								
Queue Length 95th (m)	0.1	0.2	3.5	0.4								
Control Delay (s)	0.2	0.2	19.4	16.4								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.2	19.4	16.4								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			45.6%	ICU Level of Service						A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
 8: Access Rd 2 & Don Rose Blvd

2030 TOTAL AM TRAFFIC  
 02-06-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	0	0	35	17	26
Future Volume (Veh/h)	34	0	0	35	17	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	0	0	38	18	28
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	70	32	46			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	32	46			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	100			
cM capacity (veh/h)	934	1042	1562			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	37	38	46			
Volume Left	37	0	0			
Volume Right	0	0	28			
cSH	934	1562	1700			
Volume to Capacity	0.04	0.00	0.03			
Queue Length 95th (m)	1.0	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			2.8			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
3: Don Rose Blvd/King St & Mount Albert Rd

















2030 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	322	29	19	179	16	19	1	38	14	4	72
Future Volume (Veh/h)	229	322	29	19	179	16	19	1	38	14	4	72
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)	249	350	32	21	195	17	21	1	41	15	4	78
Pedestrians		1			1			2			2	
Lane Width (m)		3.7			3.7			3.7			3.7	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			0			0	
Right turn flare (veh)									3			
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	214			384			1184	1122	369	1118	1130	206
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214			384			1184	1122	369	1118	1130	206
tC, single (s)	4.1			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	82			98			83	99	94	90	98	91
cM capacity (veh/h)	1366			1130			126	166	675	147	164	827
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	249	382	21	212	63	97						
Volume Left	249	0	21	0	21	15						
Volume Right	0	32	0	17	41	78						
cSH	1366	1700	1130	1700	365	439						
Volume to Capacity	0.18	0.22	0.02	0.12	0.17	0.22						
Queue Length 95th (m)	5.3	0.0	0.4	0.0	4.9	6.6						
Control Delay (s)	8.2	0.0	8.2	0.0	20.6	15.5						
Lane LOS	A		A		C	C						
Approach Delay (s)	3.2		0.7		20.6	15.5						
Approach LOS					C	C						
<b>Intersection Summary</b>												
Average Delay			4.9									
Intersection Capacity Utilization			45.4%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
5: Access Rd 1 & Mount Albert Rd

2030 TOTAL PM TRAFFIC  
02-08-2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	572	28	7	263	5	32	0	8	5	0	5
Future Volume (Veh/h)	6	572	28	7	263	5	32	0	8	5	0	5
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)	7	622	30	8	286	5	35	0	9	5	0	5
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	291			652			960	958	637	956	970	288
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	291			652			960	958	637	956	970	288
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			85	100	98	98	100	99
cM capacity (veh/h)	1271			935			232	254	477	231	249	751
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	659	299	44	10								
Volume Left	7	8	35	5								
Volume Right	30	5	9	5								
cSH	1271	935	259	353								
Volume to Capacity	0.01	0.01	0.17	0.03								
Queue Length 95th (m)	0.1	0.2	4.7	0.7								
Control Delay (s)	0.2	0.3	21.7	15.5								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.2	0.3	21.7	15.5								
Approach LOS			C	C								
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			44.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis  
8: Access Rd 2 & Don Rose Blvd

2030 TOTAL PM TRAFFIC  
02-08-2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	0	0	18	29	23
Future Volume (Veh/h)	41	0	0	18	29	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	0	0	20	32	25
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	64	44	57			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	44	57			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	100	100			
cM capacity (veh/h)	941	1025	1547			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	45	20	57			
Volume Left	45	0	0			
Volume Right	0	0	25			
cSH	941	1547	1700			
Volume to Capacity	0.05	0.00	0.03			
Queue Length 95th (m)	1.2	0.0	0.0			
Control Delay (s)	9.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	3.3					
Intersection Capacity Utilization	13.3%			ICU Level of Service	A	
Analysis Period (min)	15					